

PRODUCT NEWS

PN-E-020

SERIES EXPANSION



The Evolution of High Performance Shoulder Milling

SIC-EVO



NEW

SSVL type

- Bore type : $\varnothing 50 \sim \varnothing 63$
- Shank type : $\varnothing 32 \sim \varnothing 40$



SSV type

- Bore type : $\varnothing 40 \sim \varnothing 125$
- Modular type : $\varnothing 25 \sim \varnothing 40$
- Shank type : $\varnothing 25 \sim \varnothing 40$



DIJET GmbH

www.dijet.de

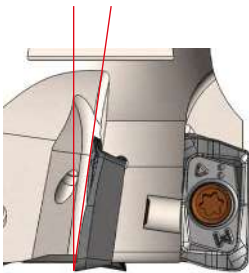
Feature 1 Arc Geometry on Peripheral Cutting Edge



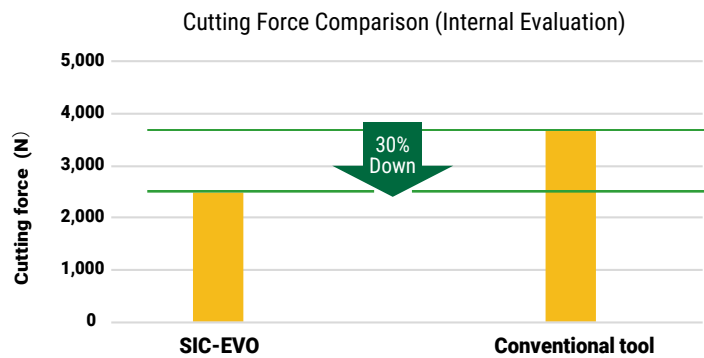
The arc-shaped peripheral cutting edge minimizes cusp height even at large depth of cut (a_p), enabling high-efficiency, high-precision machining of vertical walls.

Max. depth of cut (a_p) = 15mm is possible.

Feature 2 Low Cutting Force with High-Positive Geometry



Optimized Cutting Edge Geometry



Work Material : 1.1213
 Tool dia : $\phi 25$
 Cutting Conditions : $V_c=200\text{m/min}$, $f_z=0.1\text{mm/t}$, $a_p=15\text{mm}$, $a_e=1\text{mm}$

Feature 3 Multi-functional indexable cutter

Usable for a wide range of applications such as face milling, slotting, pocket milling & side milling.



Shoulder Milling



Radius Milling



Slotting



Side Milling



Pocket Milling



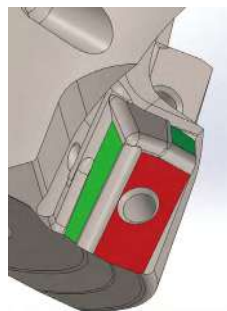
Copy Milling



Face Milling



Helical Interpolation

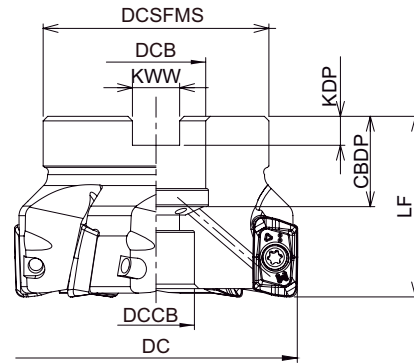
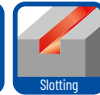


Three-face insert clamping ensures stable ramping and helical interpolation.

SSV TYPE

Bore Type

Through coolant hole



Cat.No.	Stock	No. of inserts	Dimensions (mm)								Max. spindle speed (min ⁻¹)	Arbor set bolt	Weight (kg)	Insert
			DC	LF	DCSFMS	DCB	DCCB	KWW	KDP	CBDP				
SSV-4040R-16	●	4	40	40	35	16	14	8.4	5.6	18	19,000	M8	0.20	ZOMT1605**ZER-PM ZOET1605**ZFR-NL
SSV-5050R-22	●	5	50	40	47	22	17	10.4	6.3	20	16,000	M10	0.33	
SSV-6063R-22	●	6	63	40	50	22	17	10.4	6.3	20	14,000	M10	0.52	
SSV-6063R-27	●	6	63	50	60	27	20	12.4	7	22	14,000	M12X1.75X30*	0.75	
SSV-7080R-27	●	7	80	50	60	27	20	12.4	7	22	12,000	M12X1.75X30*	1.08	
SSV-8100R-32	●	8	100	50	85	32	26	14.4	8	25	11,000	M16X2X30*	1.95	
SSV-8125R-40	●	8	125	63	100	40	32	16.4	9	32	9,600	M20X2.5X40*	3.73	

Note) 1. All cutter bodies are supplied without inserts or wrenches.

● : Stocked Items

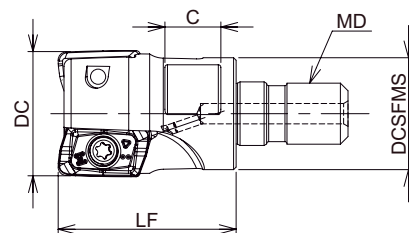
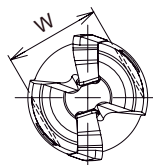
2. When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

Screw	Torque(N.m)	Wrench
DSW-4075H	3.6	A-15T

SSV TYPE

Modular Type

Through coolant hole



Cat.No.	Stock	No. of inserts	Dimensions (mm)						Max. spindle speed (min ⁻¹)	Insert
			DC	LF	DCSFMS	MD	C	W		
SSV-2025-M12	●	2	25	35	22	M12	11	19	26,000	ZOMT1605**ZER-PM ZOET1605**ZFR-NL
SSV-2028-M12	○	2	28	35	22	M12	11	19	24,000	
SSV-3030-M16	○	3	30	43	29	M16	12	22	23,000	
SSV-3032-M16	●	3	32	43	29	M16	12	22	22,000	
SSV-3035-M16	●	3	35	43	29	M16	12	22	20,000	
SSV-4040-M16	●	4	40	43	29	M16	12	22	19,000	

Note) 1. All cutter bodies are supplied without inserts or wrenches.

● : Stocked Items

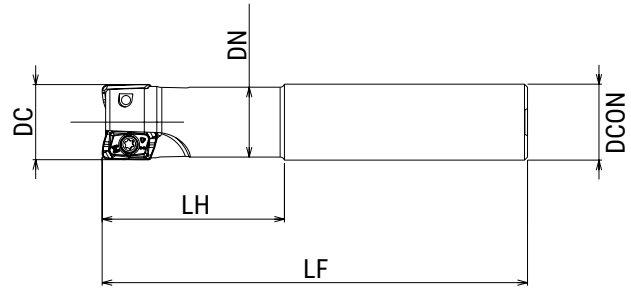
○ : Stock in Japan

2. When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

Screw	Torque(N.m)	Wrench
DSW-4075H	3.6	A-15

**SSV
TYPE**

Shank Type

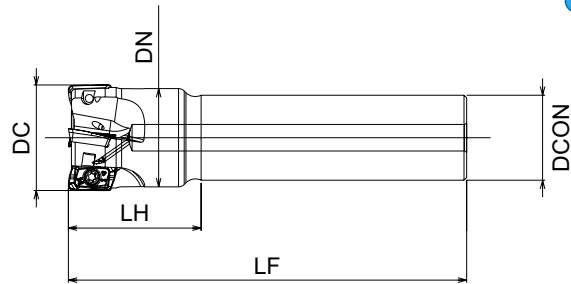


Cat.No.	Stock	No. of inserts	Dimensions (mm)					Insert
			DC	LH	LF	DN	DCON	
SSV-2025-60-S25+A	●	2	25	60	140	23	25	ZOMT1605**ZER-PM ZOET1605**ZFR-NL
SSV-2025-100-S25+A	●	2	25	100	180	23	25	
SSV-3032-70-S32+A	●	3	32	70	150	29	32	
SSV-3032-120-S32+A	●	3	32	120	200	29	32	
SSV-4040-50-S32+A	※	4	40	50	150	37	32	
SSV-4040-50L-S32+A	●	4	40	50	200	37	32	

Note) 1.All cutter bodies are supplied without inserts or wrenches.
2.When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

● : Stocked Items
※ : Discontinued

Through coolant hole



Cat.No.	Stock	No. of inserts	Dimensions (mm)					Insert
			DC	LH	LF	DN	DCON	
SSV-4040-50-S32	●	4	40	50	150	37	32	ZOMT1605**ZER-PM ZOET1605**ZFR-NL

Note) 1.All cutter bodies are supplied without inserts or wrenches.
2.When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

● : Stocked Items

Screw	Torque(N.m)	Wrench
DSW-4075H	3.6	A-15

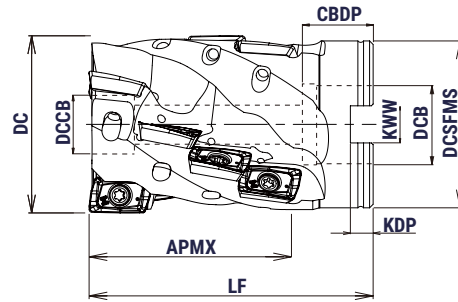
SSVL TYPE

Bore Type

LONG CUTTING EDGE

NEW

Through coolant hole



Cat.No.	Stock	No. of Flutes	No. of inserts	Dimensions (mm)									Arbor set bolt	Weight (kg)	Insert
				DC	LF	DCSFMS	DCB	DCCB	KWW	KDP	CBDP	APMX			
SSVL-3050R-57-22	●	3	12	50	80	47	22	16.5	10.4	6.3	20	57	ASB-M10065	0.75	ZOMT1605**ZER-PM
SSVL-4063R-57-27	●	4	16	63	80	60	27	20	12.4	7	22	57	ASB-M12065	1.27	ZOET1605**ZFR-NL

Note) 1. All cutter bodies are supplied without inserts or wrenches.

2. When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

3. Corner radius RE0.8 is recommended for peripheral cutting edges, excluding the bottom cutting edge.

Inserts with corner radius RE0.4 can also be used.



● : Stocked Items

Screw	Torque(N.m)	Wrench
DSW-4075H	3.6	A-15T

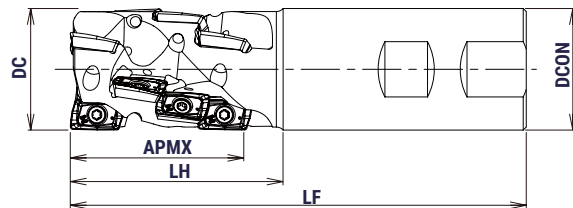
SSVL TYPE

Shank Type

LONG CUTTING EDGE

NEW

Through coolant hole



Cat.No.	Stock	No. of Flutes	No. of inserts	Dimensions (mm)					Insert
				DC	LF	DCON	LH	APMX	
SSVL-2032-43-S32	●	2	6	32	140	32	60	43	ZOMT1605**ZER-PM
SSVL-3040-57-S40	●	3	12	40	150	40	70	57	ZOET1605**ZFR-NL

Note) 1. All cutter bodies are supplied without inserts or wrenches.

2. When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

3. Corner radius RE0.8 is recommended for peripheral cutting edges, excluding the bottom cutting edge.

Inserts with corner radius RE0.4 can also be used.

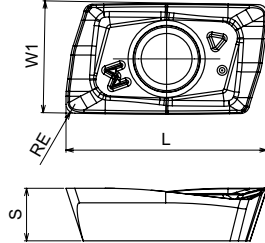


● : Stocked Items

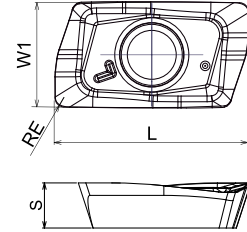
Screw	Torque(N.m)	Wrench
DSW-4075H	3.6	A-15T

Insert

For Steel



For Aluminium alloy



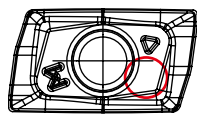
Cat.No.	Tolerance	PVD Coating		Uncoated	Dimensions (mm)			
		JC8050	JC8118	FC18	RE	L	W1	S
ZOMT160504ZER-PM	M	●	●		0.4	18	10	4.7
ZOMT160508ZER-PM	M	●	●		0.8	18	10	4.7
ZOMT160516ZER-PM	M	●	●		1.6	18	10	4.7
ZOMT160520ZER-PM	M	●	●		2.0	18	10	4.7
ZOMT160530ZER-PM	M	●	●		3.0	18	10	4.7
ZOMT160540ZER-PM	M	●	●		4.0	17	10	4.7
ZOMT160550ZER-PM	M	●	●		5.0	17	9.9	4.7
ZOET160504ZFR-NL	E			●	0.4	18	10	4.7
ZOET160508ZFR-NL	E			●	0.8	18	10	4.7
ZOET160516ZFR-NL	E			●	1.6	18	10	4.7
ZOET160520ZFR-NL	E			●	2.0	18	10	4.7
ZOET160530ZFR-NL	E			●	3.0	18	10	4.7
ZOET160532ZFR-NL	E			○	3.2	18	10	4.7

Note) 10 inserts per case.

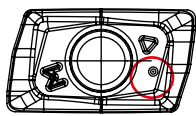


● : Stocked Items
○ : Stock in Japan

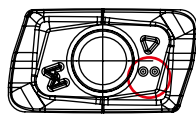
GRADE MARKINGS



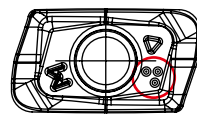
ZO*T160504Z*R**



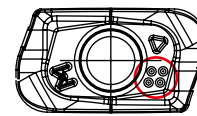
ZO*T160508Z*R**



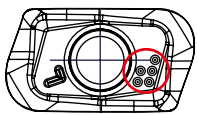
ZO*T160516Z*R**



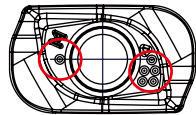
ZO*T160520Z*R**



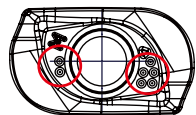
ZO*T160530Z*R**



ZOET160532ZFR-NL

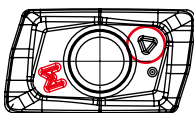


ZOMT160540ZER-PM

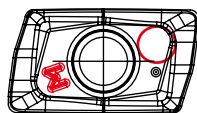


ZOMT160550ZER-PM

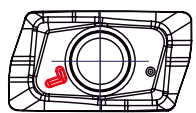
JC8050



JC8118



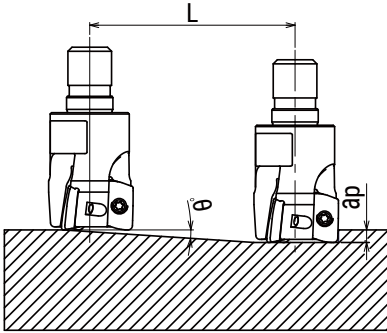
FC18



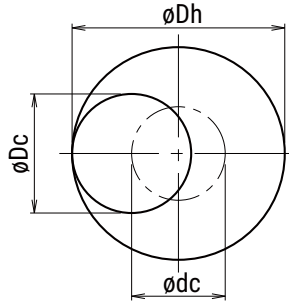
SSV TYPE

Recommended Data for Profile Milling

Ramping



Helical interpolation



- Calculation of tool pass dia.

$$\phi_{dc} = \phi_{Dh} - \phi_{Dc}$$

Tool pass dia. Bore dia. Tool Dia.

- Depth of cut per one circuit should not exceed max. depth of cut ap.
- Down cutting is recommended, tool pass rotation should be counterclockwise.

- In case of ramping and helical interpolation, apply 80% or less feed (Vf) from standard cutting condition table.
- In case of drilling, apply 50% or less feed (Vf) from standard cutting condition table.
- In case of helical interpolation, recommend wet cutting by coolant through the tool.
- Long chips may come out in case of drilling, confirm safe operating conditions.

Tool dia. (mm)	Effective Cutting dia. (mm)	Ramping				Helical Interpolation		Max. Drilling Depth: Z (mm)	
		Max. ramping angle θ	Max Depth of Cut : ap (mm)		Total Cutting Length at Max ap : L(mm)		Min. Bore dia. Dh min (mm)		Max. Bore dia. Dh max (mm)
			STEELS	ALUMINIUM	STEELS	ALUMINIUM			
25	24.7 - 2×R	6.2	1.5	7	13.8	64.5	31	49.2 - 2×R	1.4
28	27.7 - 2×R	5.3	1.5	7	16.2	75.5	37	55.2 - 2×R	1.4
30	29.7 - 2×R	4.8	1.5	7	17.9	83.4	41	59.2 - 2×R	1.4
32	31.7 - 2×R	4.4	1.5	7	19.5	91.0	45	63.2 - 2×R	1.4
35	34.7 - 2×R	4.3	1.5	7	19.9	93.1	51	69.2 - 2×R	1.4
40	39.7 - 2×R	3.6	1.5	7	23.8	111.3	61	79.2 - 2×R	1.4
50	49.7 - 2×R	2.4	1.5	7	35.8	167.1	81	99.2 - 2×R	1.4
63	62.7 - 2×R	1.7	1.5	7	50.5	235.9	107	125.2 - 2×R	1.4
80	79.7 - 2×R	1.2	1.5	7	71.6	334.2	141	159.2 - 2×R	1.4
100	99.7 - 2×R	0.9	1.5	7	95.5	445.6	181	199.2 - 2×R	1.4
125	124.7 - 2×R	0.65	1.5	7	132.2	617.0	231	249.2 - 2×R	1.4

SSV TYPE
Recommended Cutting Conditions - Shoulder Milling -

Material	Grade	Vc (m/min)	fz (mm/t)		Tool dia. (mm)							
					25	32	40	50	63	80	100	125
Carbon Steel below 250HB	JC8050	160 - 200	0.20 - 0.35	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Cast Steel below 285HB	JC8050	140 - 180	0.20 - 0.30	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Tool & Die Steel below 255HB	JC8050	160 - 200	0.20 - 0.35	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Mold Steel 30-36HRC	JC8118	120 - 150	0.20 - 0.35	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Mold Steel 38-43HRC	JC8118	90 - 120	0.15 - 0.25	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~12	~18	~20	~30	~30	~45	~45	~45
Hardened Die Steel 42-52HRC	JC8118	80 - 100	0.10 - 0.20	ap	~10.0	~12.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~8	~12	~12	~18	~25	~45	~45	~45
Grey Cast Iron below 160-260HB	JC8118	210 - 250	0.20 - 0.35	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Nodular Cast Iron below 170-300HB	JC8118	110 - 150	0.15 - 0.30	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Austenitic Stainless Steel	JC8050	100 - 120	0.10 - 0.20	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Martensitic Stainless Steel	JC8118	140 - 180	0.15 - 0.30	ap	~10.0	~12.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~15	~24	~30	~40	~45	~45	~45	~45
Aluminium	FC18	700 - 900	0.07 - 0.20	ap	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0	~15.0
				ap x ae	~75	~75	~75	~75	~75	~75	~75	~75

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce ap or rpm and keep feed per tooth.
3. ap should be reduced when using on low rigidity machine.
4. Use airflow. (For Aluminium machining Wet cutting is recommended.)

SSV TYPE

Recommended Cutting Conditions - Face Milling -

Material	Grade	Vc (m/min)	fz (mm/t)		Tool dia. (mm)							
					25	32	40	50	63	80	100	125
Carbon Steel below 250HB	JC8050	110 - 150	0.20 - 0.35	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Cast Steel below 285HB	JC8050	110 - 150	0.20 - 0.35	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Tool & Die Steel below 255HB	JC8050	110 - 150	0.15 - 0.30	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Mold Steel 30-36HRC	JC8118	110 - 130	0.15 - 0.30	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Mold Steel 38-43HRC	JC8118	90 - 110	0.15 - 0.25	ap	~2.0	~2.5	~2.5	~3.0	~3.0	~3.0	~3.0	~3.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Hardened Die Steel 42-52HRC	JC8118	70 - 90	0.10 - 0.20	ap	~1.5	~2.0	~2.0	~2.5	~2.5	~2.5	~2.5	~2.5
				ae	~20	~26	~32	~40	~55	~65	~80	~100
Grey Cast Iron below 160-260HB	JC8118	130 - 200	0.20 - 0.35	ap	~5.0	~5.5	~5.5	~6.0	~6.0	~6.0	~6.0	~6.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Nodular Cast Iron below 170-300HB	JC8118	110 - 130	0.15 - 0.30	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Austenitic Stainless Steel	JC8050	90 - 110	0.10 - 0.20	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~20	~26	~32	~40	~55	~65	~80	~100
Martensitic Stainless Steel	JC8118	110 - 150	0.15 - 0.30	ap	~3.0	~3.5	~3.5	~4.0	~4.0	~4.0	~4.0	~4.0
				ae	~25	~32	~40	~50	~63	~80	~100	~125
Aluminium	FC18	700 - 900	0.07 - 0.20	ap	~7.0	~7.0	~7.0	~7.0	~7.0	~7.0	~7.0	~7.0
				ae	~18	~22	~28	~35	~44	~56	~70	~87

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce ap or rpm and keep feed per tooth.
3. ap should be reduced when using on low rigidity machine.
4. Use airflow. (For Aluminium machining Wet cutting is recommended.)

SSVL TYPE
Recommended Cutting Conditions - Shoulder Milling -

Material	Grade	Vc (m/min)	Tool dia. (mm)					
			32			40		
			ap(mm)	ap x ae(mm ²)	fz (mm/t)	ap(mm)	ap x ae(mm ²)	fz (mm/t)
Carbon Steel below 250HB	JC8050	160	~43	~86	0.23 - 0.27	~57	~171	0.23 - 0.27
Cast Steel below 285HB	JC8050	140	~43	~86	0.23 - 0.27	~57	~171	0.23 - 0.27
Tool & Die Steel below 255HB	JC8050	160	~43	~86	0.23 - 0.27	~57	~171	0.23 - 0.27
Mold Steel 30-36HRC	JC8118	120	~43	~86	0.18 - 0.23	~57	~171	0.18 - 0.23
Mold Steel 38-43HRC	JC8118	90	~43	~65	0.18 - 0.23	~57	~85	0.18 - 0.23
Hardened Die Steel 42-52HRC	JC8118	90	~43	~43	0.14 - 0.18	~57	~57	0.14 - 0.18
Grey Cast Iron below 160-260HB	JC8118	210	~43	~129	0.23 - 0.27	~57	~228	0.23 - 0.27
Nodular Cast Iron below 170-300HB	JC8118	130	~43	~129	0.18 - 0.23	~57	~228	0.18 - 0.23
Austenitic Stainless Steel	JC8050	100	~43	~86	0.14 - 0.18	~57	~171	0.14 - 0.18
Martensitic Stainless Steel	JC8118	150	~43	~86	0.18 - 0.23	~57	~171	0.18 - 0.23

Material	Grade	Vc (m/min)	Tool dia. (mm)					
			50			63		
			ap(mm)	ap x ae(mm ²)	fz (mm/t)	ap(mm)	ap x ae(mm ²)	fz (mm/t)
Carbon Steel below 250HB	JC8050	160	~57	~342	0.20 - 0.30	~57	~433	0.25 - 0.35
Cast Steel below 285HB	JC8050	140	~57	~342	0.20 - 0.30	~57	~433	0.25 - 0.35
Tool & Die Steel below 255HB	JC8050	160	~57	~239	0.20 - 0.30	~57	~302	0.25 - 0.35
Mold Steel 30-36HRC	JC8118	120	~57	~239	0.20 - 0.30	~57	~302	0.25 - 0.35
Mold Steel 38-43HRC	JC8118	90	~57	~199	0.15 - 0.25	~57	~256	0.15 - 0.25
Hardened Die Steel 42-52HRC	JC8118	90	~57	~68	0.10 - 0.20	~57	~85	0.10 - 0.20
Grey Cast Iron below 160-260HB	JC8118	210	~57	~342	0.20 - 0.30	~57	~433	0.25 - 0.35
Nodular Cast Iron below 170-300HB	JC8118	130	~57	~342	0.15 - 0.25	~57	~433	0.20 - 0.30
Austenitic Stainless Steel	JC8050	100	~57	~239	0.10 - 0.20	~57	~302	0.10 - 0.20
Martensitic Stainless Steel	JC8118	150	~57	~342	0.15 - 0.25	~57	~433	0.20 - 0.30

- Note) 1. Please adjust cutting conditions according to machine rigidity or work rigidity.
 2. In case of chatter occurring, recommended to reduce ap or rpm and keep feed per tooth.
 3. ap should be reduced when using on low rigidity machine.
 4. Use airblow.

HEADQUARTERS
DIJET Industrial Co.Ltd.
2-1-18, Kami-Higashi,
Hirano-ku, Osaka 547-0002, Japan
www.dijet.co.jp

DIJET GmbH (EUROPE)
Immermannstraße 9
40210 Düsseldorf, Germany
PHONE +49-211-5008820

 **YouTube | DIJET EUROPE**



Official website | www.dijet.de

