

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

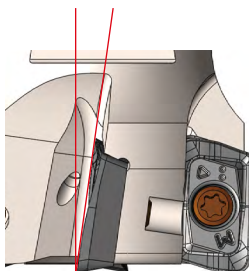


The arc-shaped peripheral cutting edge minimizes cusp height even at large depth of cut (a_p), enabling high-efficiency, high-precision machining of vertical walls.

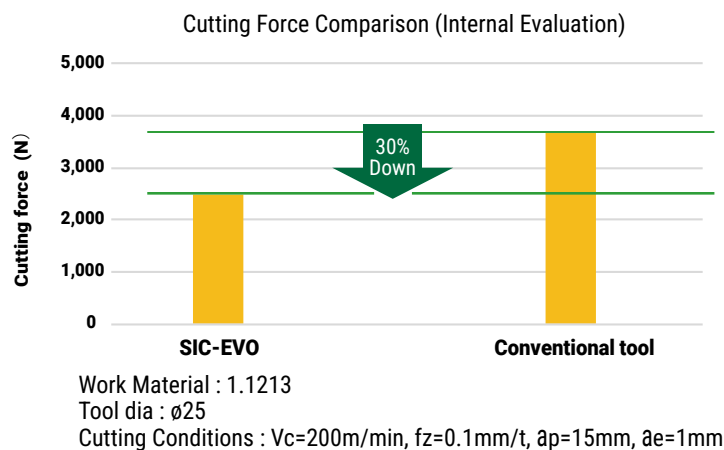
Max. depth of cut (a_p) = 15mm is possible.

Feature 2

Low Cutting Force with High-Positive Geometry



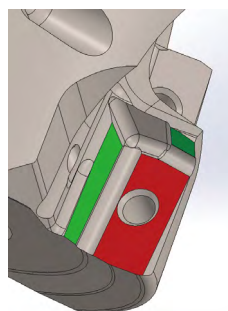
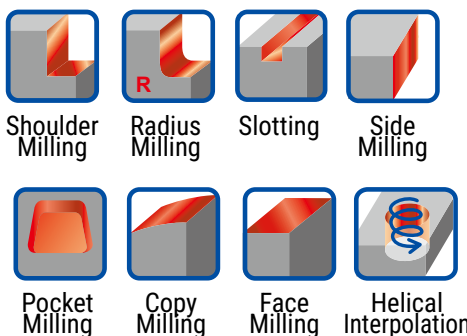
Optimized Cutting Edge Geometry



Feature 3

Multi-functional indexable cutter

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



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

Feature 4

Now Available: Long Cutting Edge Cutter Body

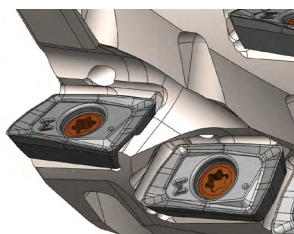
New long-edge cutter body lineup enables deeper shoulder milling in both bore and shank type holders.



NEW

Long Cutting Edge Cutter Lineup

- Bore type
 - ø50 mm → Max. Depth of Cut(ap) : 57mm
 - ø63 mm → Max. Depth of Cut(ap) : 57mm
- Shank type
 - ø32 mm → Max. Depth of Cut(ap) : 43mm
 - ø40 mm → Max. Depth of Cut(ap) : 57mm



- **Wide pocket geometry** enhances chip evacuation.
- **Coolant holes in every pocket** improve chip evacuation and prevent chip welding.

Feature 5

Insert Line-up



- For Steel

ZOMT1605...ZER-PM

(R0.4, R0.8, R1.6, R2.0, R3.0, **R4.0, R5.0**)

NEW



- For Aluminium alloy
- High precision periphery ground insert.

ZOET1605...ZFR-NL

(R0.4, R0.8, R1.6, R2.0, R3.0, R3.2)



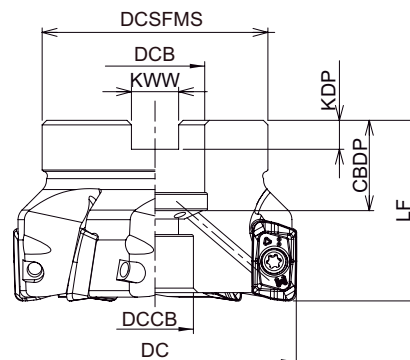
Application

ISO	P					M					K				H			N			
	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	H01	H10	H20	N01	N10	N20	N30
Range	JC8118					JC8118					JC8118				JC8118			FC18			
					JC8050					JC8050											

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

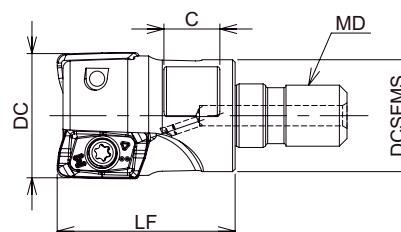
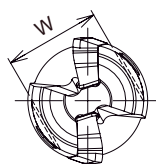
2. When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

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

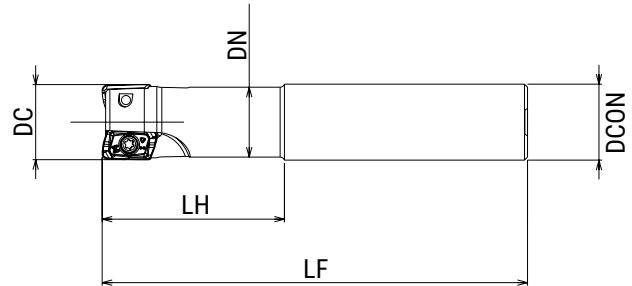
2. When using inserts with corner radius RE4 or RE5, please machine the cutter body to R4 or C4.5.

○ : Stock in Japan

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	

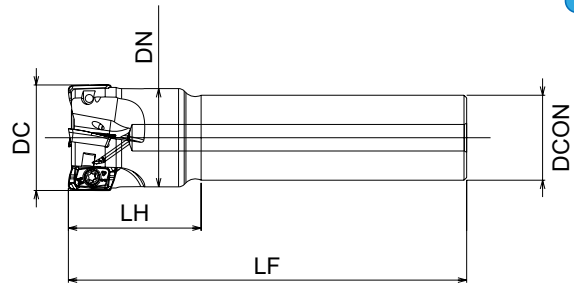
Note) 1.All cutter bodies are supplied without inserts or wrenches.

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

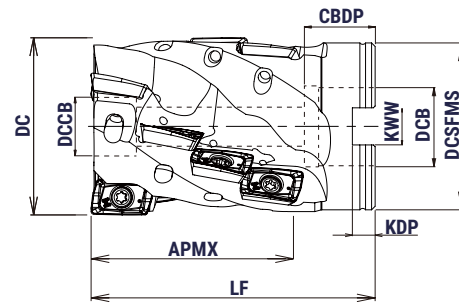
SSVL
TYPE

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

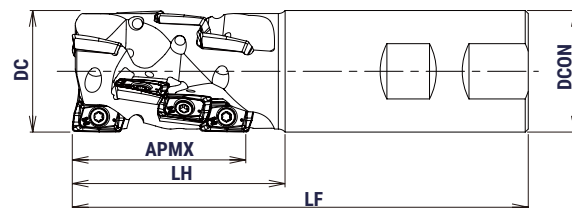
SSVL
TYPE

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 bodiess 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.

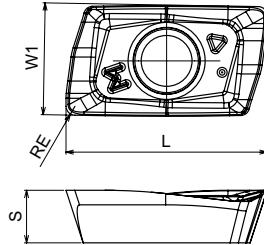


● : Stocked Items

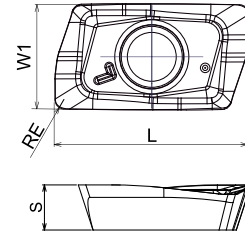
Screw	Torque(N.m)	Wrench
DSW-4075H	3.6	A-15T

Insert

For Steel



For Aluminium alloy



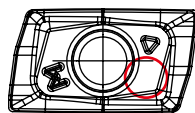
Cat.No.	Tolerance	PVD Coating		Uncoated	Dimensions (mm)			
		JC8050	JC8118		RE	L	W1	S
ZOMT160504ZER-PM	M	●	●		0.4	18	10	4.7
ZOMT160508ZER-PM	M	●	●		0.8	18	10	4.7
ZOMT160516ZER-PM	M	●	●		1.6	18	10	4.7
ZOMT160520ZER-PM	M	●	●		2.0	18	10	4.7
ZOMT160530ZER-PM	M	●	●		3.0	18	10	4.7
ZOMT160540ZER-PM	M	●	●		4.0	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.

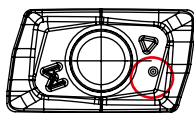


● : Stocked Items
○ : Stock in Japan

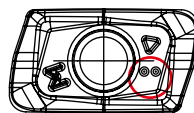
GRADE MARKINGS



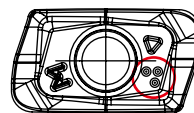
Z0*T160504Z*R-**



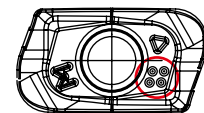
Z0*T160508Z*R-**



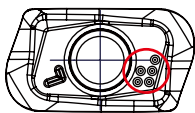
Z0*T160516Z*R-**



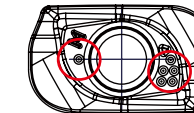
Z0*T160520Z*R-**



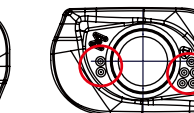
Z0*T160530Z*R-**



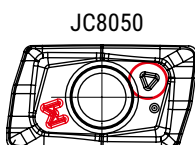
ZOET160532ZFR-NL



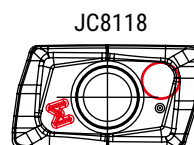
ZOMT160540ZER-PM



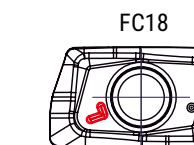
ZOMT160550ZER-PM



JC8050



JC8118

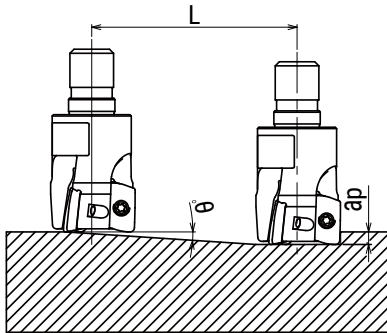


FC18

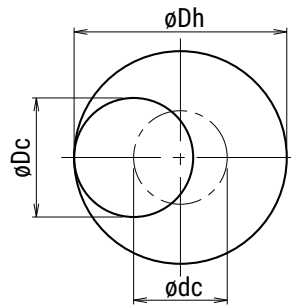
SSV TYPE

Recommended Data for Profile Milling

Ramping



Helical interpolation



- Calculation of tool pass dia.

$$\phi d_c = \phi D_h - \phi D_c$$

Tool pass dia. Bore dia. Tool Dia.

- Depth of cut per one circuit should not exceed max. depth of cut a_p .
- 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 : a_p (mm)		Total Cutting Length at Max a_p : 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.

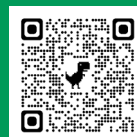
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