



Leading Through Innovation

SOLID CARBIDE

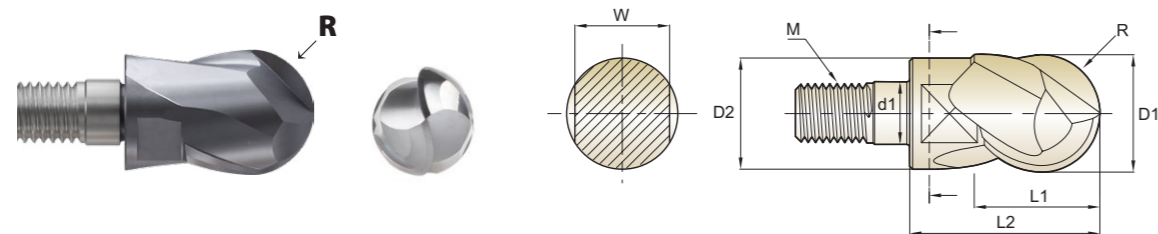
***i* - SMART MODULAR TYPE
END MILL**

i-Smart, Schafffräser mit auswechselbaren VHM Schneidköpfen

- For General Steels, Hardened Steels and Cast Iron
- Für allgemeine Stähle, gehärtete Stähle und Gusseisen

CARBIDE MODULAR HEAD, 2 FLUTE BALL NOSE

- Vollhartmetall, 2 Schneiden mit Stirnradius (Schneiden Mittelpunkt)
- CARBURE TÊTE MODULAIRE, 2 DENTS À BOUT HÉMISPHERIQUE (Coupe au Centre)
- TESTINA MODULARE IN MD, 2 TAGLIENTI, SEMISFERICA



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEMD98100	R5.0	10.0	9.2	10	17.5	8	6.5	M6
XSEMD98120	R6.0	12.0	11.2	12	20.5	10	6.5	M6
XSEMD98160	R8.0	16.0	15.0	16	25.5	13	8.5	M8
XSEMD98200	R10.0	20.0	19.0	20	30.0	17	10.5	M10
XSEMD98250	R12.5	25.0	24.0	25	37.0	22	12.5	M12
XSEMD98300	R15.0	30.0	29.0	30	43.0	27	17.0	M16
XSEMD98320	R16.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm)	Mill Dia. Tolerance(mm)
± 0.01	0 ~ - 0.02

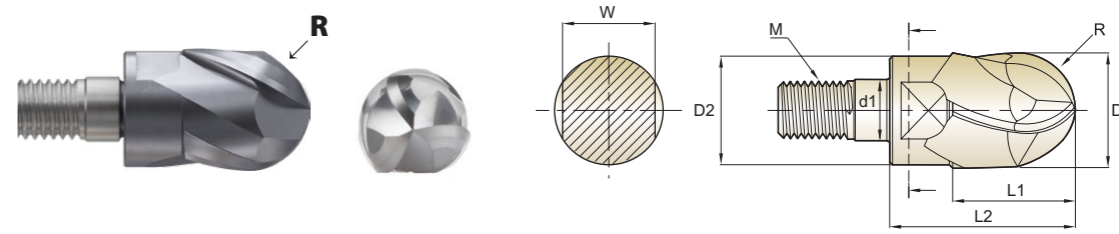
◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	10	29	32	38	45	15	23	26	30	15	26	3	25	10	21	
HB	125	190	250	270	300	180	275	300	350	400	200	240	180	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○	

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE MODULAR HEAD, 3 FLUTE BALL NOSE (Center Match)

- Vollhartmetall, 3 Schneiden mit Stirnradius (Schneiden Mittelpunkt)
- CARBURE TÊTE MODULAIRE, 3 DENTS À BOUT HÉMISPHERIQUE (Coupe au Centre)
- TESTINA MODULARE IN MD, 3 TAGLIENTI, SEMISFERICA



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME59100	R5.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME59120	R6.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME59160	R8.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME59200	R10.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME59250	R12.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME59300	R15.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME59320	R16.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm)	Mill Dia. Tolerance(mm)
± 0.01	0 ~ - 0.02

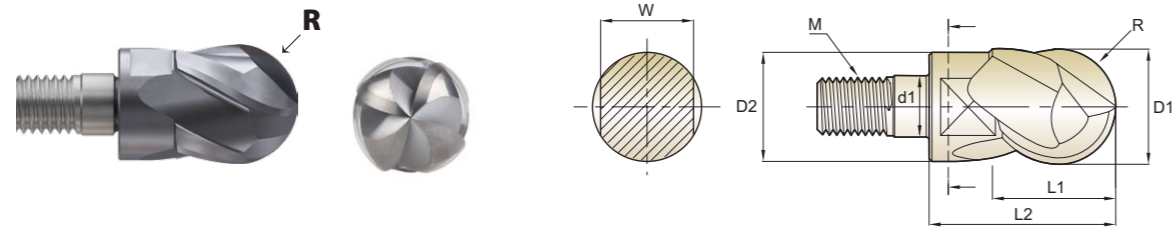
◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	10	29	32	38	45	15	23	26	30	15	26	3	25	10	21	
HB	125	190	250	270	300	180	275	300	350	400	200	240	180	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○	

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE MODULAR HEAD, 4 FLUTE BALL NOSE (Center Match)

- Vollhartmetall, 4 Schneiden mit Stirnradius (Schneiden Mittelpunkt)
- CARBURE TÊTE MODULAIRE, 4 DENTS À BOUT HÉMISPHERIQUE (Coupe au Centre)
- TESTINA MODULARE IN MD, 4 TAGLIENTI, SEMISFERICA



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME60100	R5.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME60120	R6.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME60160	R8.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME60200	R10.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME60250	R12.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME60300	R15.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME60320	R16.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm)	Mill Dia. Tolerance(mm)
± 0.01	0 ~ - 0.02

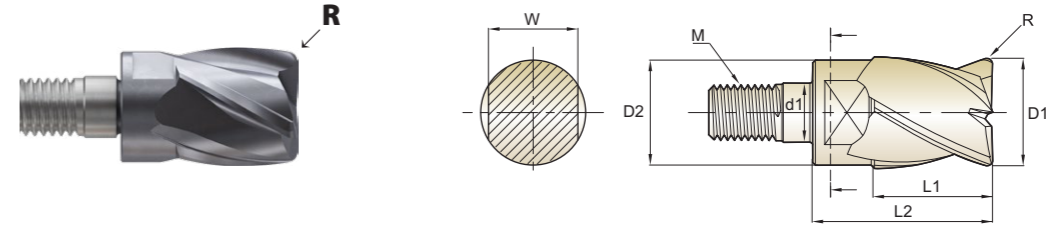
◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	23	23	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX CORNER RADIUS

- Vollhartmetall, 4 Schneiden mit M-Helix und Eckradius
- CARBURE TÊTE MODULAIRE, 4 DENTS TORIQUE, HÉLICE MULTIPLE
- TESTINA MODULARE IN MD, 4 TAGLIENTI, ELICA VARIABILE, TORICA



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME01100 020	R0.2	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 030	R0.3	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 050	R0.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 100	R1.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 200	R2.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 250	R2.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 300	R3.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 400	R4.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01120 010	R0.1	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 020	R0.2	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 050	R0.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 100	R1.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 150	R1.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 200	R2.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 250	R2.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 300	R3.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 400	R4.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 500	R5.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01160 050	R0.5	16.0	15.0	16	25.5	13	8.5	M8
XSEME01160 150	R1.5	16.0	15.0	16	25.5	13	8.5	M8
XSEME01160 200	R2.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME01200 050	R0.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME01200 100	R1.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME01200 150	R1.5	20.0	19.0	20	30.0	17	10.5	M10

Radius Tolerance(mm)	Mill Dia. Tolerance(mm)
± 0.02	0 ~ - 0.03

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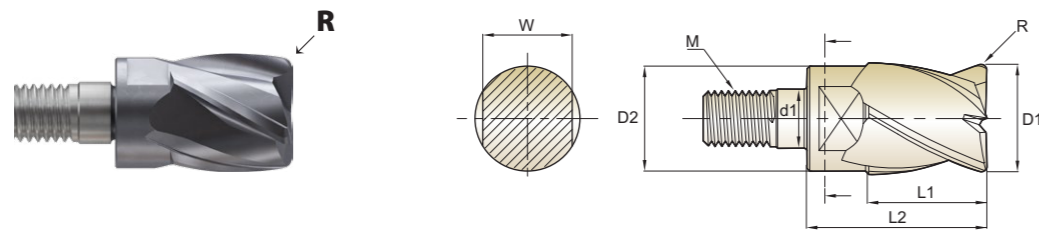
◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	23	23	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX CORNER RADIUS

- Vollhartmetall, 4 Schneiden mit M-Helix und Eckradius
- CARBURE TÊTE MODULAIRE, 4 DENTS TORIQUE, HÉLICE MULTIPLE
- TESTINA MODULARE IN MD, 4 TAGLIENTI, ELICA VARIABILE, TORICA



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME01200 200	R2.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME01250 050	R0.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME01250 100	R1.0	25.0	24.0	25	37.0	22	12.5	M12
XSEME01250 150	R1.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME01250 200	R2.0	25.0	24.0	25	37.0	22	12.5	M12
XSEME01300 050	R0.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME01300 100	R1.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME01300 150	R1.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME01300 200	R2.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME01320 050	R0.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME01320 100	R1.0	32.0	31.0	32	45.0	27	17.0	M16
XSEME01320 150	R1.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME01320 200	R2.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm)	Mill Dia. Tolerance(mm)
± 0.02	0 ~ - 0.03

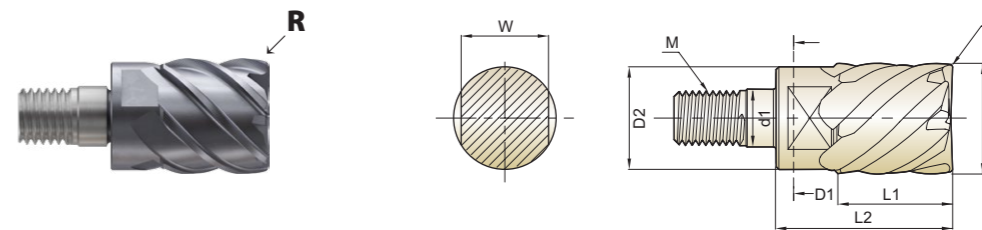
◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100														
Recommend																		○	○	◎	○	

CARBIDE MODULAR HEAD, 6 FLUTE 45° HELIX CORNER RADIUS

- Vollhartmetall, 6 Schneiden mit 45° und Eckradius
- CARBURE TÊTE MODULAIRE, 6 DENTS TORIQUE, HÉLICE À 45°
- TESTINA MODULARE IN MD, 6 TAGLIENTI, ELICA 45°, TORICA



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME68100 030	R0.3	10.0	9.2	10	17.5	8	6.5	M6
XSEME68100 050	R0.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME68100 100	R1.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME68120 030	R0.3	12.0	11.2	12	20.5	10	6.5	M6
XSEME68120 100	R1.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME68160 100	R1.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME68160 150	R1.5	16.0	15.0	16	25.5	13	8.5	M8
XSEME68160 200	R2.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME68200 050	R0.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME68200 100	R1.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME68200 150	R1.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME68250 150	R1.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME68300 050	R0.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME68300 150	R1.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME68300 200	R2.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME68320 050	R0.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME68320 100	R1.0	32.0	31.0	32	45.0	27	17.0	M16
XSEME68320 150	R1.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME68320 200	R2.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm)	Mill Dia. Tolerance(mm)
± 0.015	0 ~ - 0.03

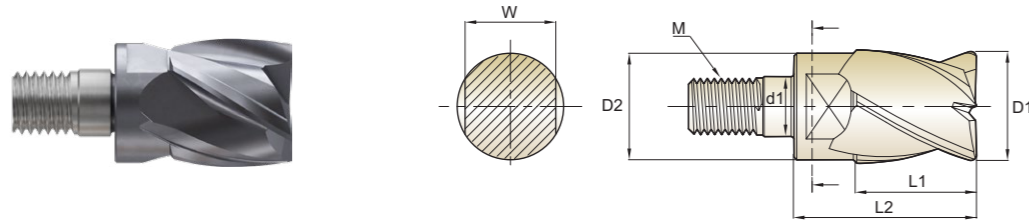
◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100														
Recommend																		○	○	◎	○	

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX

- Vollhartmetall, 4 Schneiden mit M-Helix
- CARBURE TÊTE MODULAIRE, 4 DENTS HÉLICE MULTIPLE
- TESTINA MODULARE IN MD, 4 TAGLIENTI, ELICA VARIABILE



Unit : mm

EDP No.	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	D1	D2	L1	L2	W	d1	M
XSEME36100	10.0	9.2	10	17.5	8	6.5	M6
XSEME36120	12.0	11.2	12	20.5	10	6.5	M6
XSEME36160	16.0	15.0	16	25.5	13	8.5	M8
XSEME36200	20.0	19.0	20	30.0	17	10.5	M10
XSEME36250	25.0	24.0	25	37.0	22	12.5	M12
XSEME36300	30.0	29.0	30	43.0	27	17.0	M16
XSEME36320	32.0	31.0	32	45.0	27	17.0	M16

Mill Dia. Tolerance(mm)
0 ~ -0.03

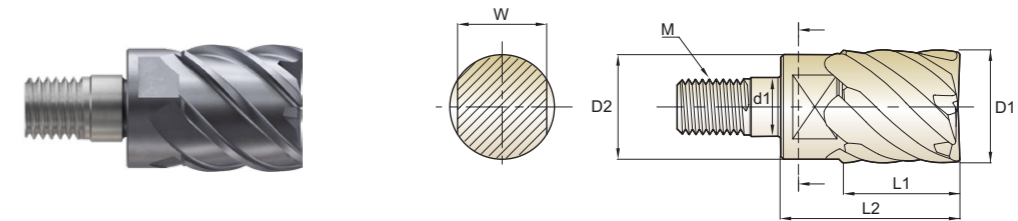
◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	3	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100								400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○

CARBIDE MODULAR HEAD, 6 FLUTE 45° HELIX

- Vollhartmetall, 6 Schneiden mit 45°
- CARBURE TÊTE MODULAIRE, 6 DENTS HÉLICE À 45°
- TESTINA MODULARE IN MD, 6 TAGLIENTI, ELICA 45°



Unit : mm

EDP No.	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	D1	D2	L1	L2	W	d1	M
XSEME75100	10.0	9.2	10	17.5	8	6.5	M6
XSEME75120	12.0	11.2	12	20.5	10	6.5	M6
XSEME75160	16.0	15.0	16	25.5	13	8.5	M8
XSEME75200	20.0	19.0	20	30.0	17	10.5	M10
XSEME75250	25.0	24.0	25	37.0	22	12.5	M12
XSEME75300	30.0	29.0	30	43.0	27	17.0	M16
XSEME75320	32.0	31.0	32	45.0	27	17.0	M16

Mill Dia. Tolerance(mm)
0 ~ -0.03

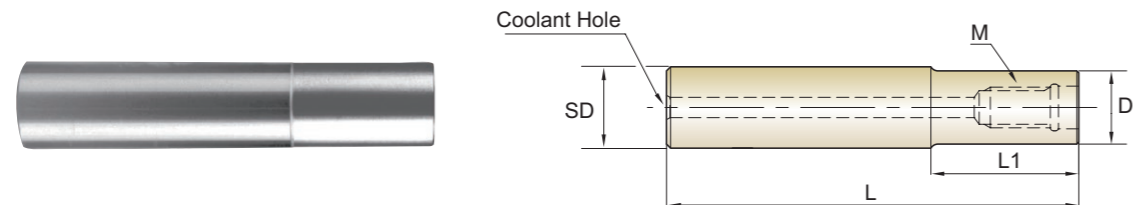
◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	3	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100								400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○

CARBIDE HOLDER - STRAIGHT NECK TYPE

- Vollhartmetallschaft - zylindrisch
- PORTE-OUTIL CARBURE - Entrée Droite
- STELO IN MD, SCARICO CILINDRICO



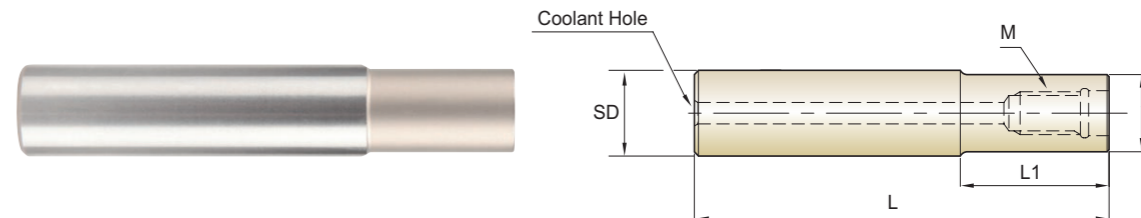
Unit : mm

EDP No.	Mill Diameter D	Shank Diameter SD	Overall Length L	Neck Length L1	Neck Diameter D	Thread Size M	Wrench No.	Coolant Hole
ZMC1001100	10.0	10	70	20	9.5	M6	SPIS0810	2
ZMC1002100	10.0	10	100	40	9.5	M6	SPIS0810	2
ZMC1003100	10.0	10	130	70	9.5	M6	SPIS0810	2
ZMC1202120	12.0	12	100	40	11.5	M6	SPIS0810	2
ZMC1203120	12.0	12	130	70	11.5	M6	SPIS0810	2
ZMC1601160	16.0	16	100	40	15.5	M8	SPIS1300	3
ZMC1602160	16.0	16	150	80	15.5	M8	SPIS1300	3
ZMC1603160	16.0	16	200	120	15.5	M8	SPIS1300	3
ZMC2001200	20.0	20	100	40	19.5	M10	SPIS1700	4
ZMC2002200	20.0	20	150	80	19.5	M10	SPIS1700	4
ZMC2003200	20.0	20	200	120	19.5	M10	SPIS1700	4
ZMC2004200	20.0	20	250	160	19.5	M10	SPIS1700	4
ZMC2501250	25.0	25	150	70	24.3	M12	SPIS2200	5
ZMC2502250	25.0	25	200	100	24.3	M12	SPIS2200	5
ZMC2503250	25.0	25	250	150	24.3	M12	SPIS2200	5
ZMC2504250	25.0	25	300	200	24.3	M12	SPIS2200	5
ZMC3001320	30.0 / 32.0	32	150	70	29.0	M16	SPIS2700	6
ZMC3002320	30.0 / 32.0	32	200	120	29.0	M16	SPIS2700	6
ZMC3003320	30.0 / 32.0	32	250	150	29.0	M16	SPIS2700	6
ZMC3004320	30.0 / 32.0	32	300	200	29.0	M16	SPIS2700	6
ZMC3005320	30.0 / 32.0	32	350	250	29.0	M16	SPIS2700	6

- ▶ The wrench (1pc) for the relevant item is included. More items are available for sale upon request.
- ▶ Please refer to the wrench table on the page C79.

STEEL HOLDER - STRAIGHT NECK TYPE

- Stahlschaft - zylindrisch
- PORTE-OUTIL ACIER - Entrée Droite
- STELO IN ACCIAIO, SCARICO CILINDRICO






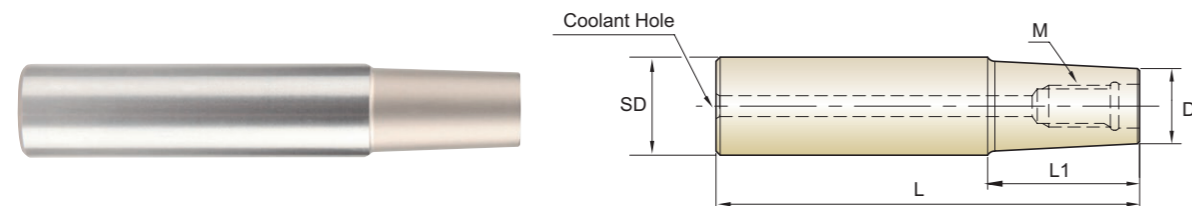
Unit : mm

EDP No.	Mill Diameter D	Shank Diameter SD	Overall Length L	Neck Length L1	Neck Diameter D	Thread Size M	Wrench No.	Coolant Hole
ZMS1001100	10.0	10	70	20	9	M6	SPIS0810	3
ZMS1201120	12.0	12	90	30	11	M6	SPIS0810	3
ZMS1601160	16.0	16	100	30	15	M8	SPIS1300	4
ZMS2001200	20.0	20	100	30	19	M10	SPIS1700	5
ZMS2501250	25.0	25	115	40	24	M12	SPIS2200	5
ZMS3001320	30.0 / 32.0	32	125	40	29	M16	SPIS2700	6

- ▶ The wrench (1pc) for the relevant item is included. More items are available for sale upon request.
- ▶ Please refer to the wrench table on the page C79.

STEEL HOLDER - TAPER NECK TYPE

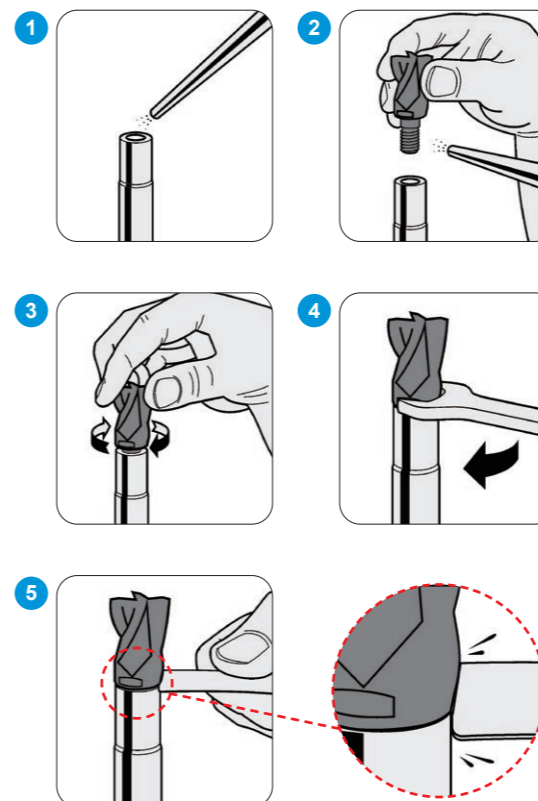
-  **Stahlschaft - konisch**
 **PORTE-OUTIL ACIER - Entrée Conique**
 **STELO IN ACCIAIO, SCARICO CONICO**



EDP No.	Mill Diameter D	Shank Diameter SD	Overall Length L	Neck Length L1	Neck Diameter D	Thread Size M	Wrench No.	Coolant Hole
ZMT1001120	10.0	12	100	50	9	M6	SPIS0810	3
ZMT1201160	12.0	16	130	70	11	M6	SPIS0810	3
ZMT1601200	16.0	20	150	90	15	M8	SPIS1300	4
ZMT2001250	20.0	25	170	100	19	M10	SPIS1700	5
ZMT3001320	30.0 / 32.0	32	200	110	29	M16	SPIS2700	6

Unit : mm

- ▶ The wrench (1pc) for the relevant item is included. More items are available for sale upon request.
 ▶ Please refer to the wrench table on the page C79.

**Instruction Manual
BEDIENUNGSAMLEITUNG**

Step 1, 2 : Clean

Please be sure to remove dirt and debris on all adjoining surfaces before assembling. (air preferred) **Schritt 1, 2: Reinigen**
Achten Sie darauf, Schmutz und Verunreinigungen an allen angrenzenden Flächen vor dem Zusammenbau zu entfernen. (bevorzugt durch Luft)

Step 3, 4 : Assembly

Mount the modular head onto the shank by hand until it fits then use the supplied wrench to tighten. **Schritt 3, 4: Zusammenbau**
Montieren Sie den modularen Kopf von Hand auf den Schaft, bis er passt. Benutzen Sie dann den mitgelieferten Schraubenschlüssel.

Step 5 : Final Check

Re-check that there is no gap. **Schritt 5, 6: Endkontrolle**
Überprüfen Sie, dass es kein mehr Spalt sichtbar ist.






Notice

Please tighten the screw with designated torque, too much torque will damage the screw.

Achtung

Ziehen Sie die Schraube mit dem vorgesehenen Drehmoment an, zu viel Drehmoment wird die Schraube beschädigen.

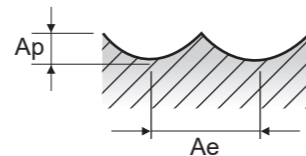
Wrench

Model	Wrench No.	Wrench Width	Mill Diameter (D)	Clamping Torque [N·m]
	SPIS0810	8	10.0	6.5
		10	12.0	6.5
	SPIS1300	13	16.0	10
	SPIS1700	17	20.0	12
	SPIS2200	22	25.0	15
	SPIS2700	27	30.0 32.0	20

XSEMD98 SERIES 2 FLUTE BALL NOSE

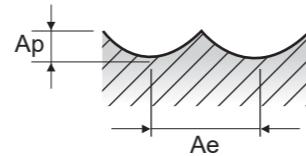
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.08D	0.03D	Vc	175	170	168	168	167	167	167
					fz	0.199	0.212	0.238	0.264	0.270	0.299	0.300
	RPM	5580	4510	3340	2670	2130	1770	1660				
	FEED	2220	1910	1590	1410	1150	1060	995				
	9	Low alloy steel	0.08D	0.03D	Vc	168	165	162	162	162	162	162
					fz	0.174	0.188	0.206	0.227	0.231	0.250	0.250
	RPM	5340	4380	3220	2580	2060	1720	1610				
	FEED	1860	1645	1320	1170	950	860	805				
	10-11.1	High alloyed steel, and tool steel	0.08D	0.03D	Vc	175	170	168	168	167	167	167
					fz	0.199	0.212	0.238	0.264	0.270	0.299	0.300
	RPM	5580	4510	3340	2670	2130	1770	1660				
	FEED	2220	1910	1590	1410	1150	1060	995				
11.2	High alloyed steel, and tool steel	0.08D	0.03D	Vc	168	165	162	162	162	162	162	
				fz	0.174	0.188	0.206	0.227	0.231	0.250	0.250	
RPM	5340	4380	3220	2580	2060	1720	1610					
FEED	1860	1645	1320	1170	950	860	805					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.03D	Vc	175	170	168	168	167	167	167
					fz	0.199	0.212	0.238	0.264	0.270	0.299	0.300
					RPM	5580	4510	3340	2670	2130	1770	1660
					FEED	2220	1910	1590	1410	1150	1060	995
H	38.1 - 38.2	Hardened steel	0.08D	0.03D	Vc	141	138	136	136	136	136	136
					fz	0.160	0.170	0.189	0.208	0.211	0.229	0.230
	RPM	4500	3660	2700	2160	1730	1440	1350				
	FEED	1440	1245	1020	900	730	660	620				
	40	Chilled Cast Iron	0.08D	0.03D	Vc	168	165	162	162	162	162	162
					fz	0.174	0.188	0.206	0.227	0.231	0.250	0.250
	RPM	5340	4380	3220	2580	2060	1720	1610				
	FEED	1860	1645	1320	1170	950	860	805				
	41	Hardened Cast Iron	0.08D	0.03D	Vc	141	138	136	136	136	136	136
					fz	0.160	0.170	0.189	0.208	0.211	0.229	0.230
	RPM	4500	3660	2700	2160	1730	1440	1350				
	FEED	1440	1245	1020	900	730	660	620				



XSEME59 SERIES 3 FLUTE BALL NOSE

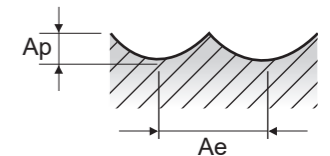
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	0.02D	Vc	307	307	307	307	307	307	307
					fz	0.201	0.225	0.234	0.238	0.248	0.259	0.268
	RPM	9770	8150	6100	4880	3910	3260	3050				
	FEED	5890	5490	4280	3490	2910	2530	2450				
	9	Low alloy steel	0.05D	0.02D	Vc	257	257	257	257	257	257	257
					fz	0.168	0.187	0.199	0.209	0.219	0.230	0.234
	RPM	8190	6830	5110	4090	3270	2730	2560				
	FEED	4130	3830	3050	2560	2150	1880	1800				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc	307	307	307	307	307	307	307
					fz	0.201	0.225	0.234	0.238	0.248	0.259	0.268
	RPM	9770	8150	6100	4880	3910	3260	3050				
	FEED	5890	5490	4280	3490	2910	2530	2450				
11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	257	257	257	257	257	257	257	
				fz	0.168	0.187	0.199	0.209	0.219	0.230	0.234	
RPM	8190	6830	5110	4090	3270	2730	2560					
FEED	4130	3830	3050	2560	2150	1880	1800					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.02D	Vc	307	307	307	307	307	307	307
					fz	0.201	0.225	0.234	0.238	0.248	0.259	0.268
					RPM	9770	8150	6100	4880	3910	3260	3050
					FEED	5890	5490	4280	3490	2910	2530	2450
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	208	208	208	208	208	208	208
					fz	0.156	0.173	0.180	0.190	0.200	0.210	0.221
	RPM	6620	5520	4140	3310	2650	2210	2070				
	FEED	3100	2870	2240	1890	1590	1390	1370				
	40	Chilled Cast Iron	0.05D	0.02D	Vc	257	257	257	257	257	257	257
					fz	0.168	0.187	0.199	0.209	0.219	0.230	0.234
	RPM	8190	6830	5110	4090	3270	2730	2560				
	FEED	4130	3830	3050	2560	2150	1880	1800				
	41	Hardened Cast Iron	0.05D	0.02D	Vc	208	208	208	208	208	208	208
					fz	0.156	0.173	0.180	0.190	0.200	0.210	0.221
	RPM	6620	5520	4140	3310	2650	2210	2070				
	FEED	3100	2870	2240	1890	1590	1390	1370				



XSEME60 SERIES 4 FLUTE BALL NOSE

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	0.02D	Vc	341	341	341	341	341	341	341
					fz	0.148	0.165	0.175	0.179	0.186	0.194	0.201
	RPM	10850	9050	6780	5430	4340	3620	3390				
	FEED	6430	5960	4750	3880	3230	2810	2720				
	9	Low alloy steel	0.05D	0.02D	Vc	286	286	286	286	286	286	286
					fz	0.126	0.140	0.149	0.156	0.164	0.172	0.176
	RPM	9100	7500	5680	4550	3640	3030	2840				
	FEED	4590	4260	3390	2840	2390	2090	2000				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc	341	341	341	341	341	341	341
					fz	0.148	0.165	0.175	0.179	0.186	0.194	0.201
	RPM	10850	9050	6780	5430	4340	3620	3390				
	FEED	6430	5960	4750	3880	3230	2810	2720				
11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	286	286	286	286	286	286	286	
				fz	0.126	0.140	0.149	0.156	0.164	0.172	0.176	
RPM	9100	7500	5680	4550	3640	3030	2840					
FEED	4590	4260	3390	2840	2390	2090	2000					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.02D	Vc	341	341	341	341	341	341	341
					fz	0.148	0.165	0.175	0.179	0.186	0.194	0.201
					RPM	10850	9050	6780	5430	4340	3620	3390
					FEED	6430	5960	4750	3880	3230	2810	2720
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	231	231	231	231	231	231	231
					fz	0.117	0.130	0.135	0.143	0.150	0.157	0.165
	RPM	7350	6130	4600	3680	2940	2450	2300				
	FEED	3450	3190	2490	2100	1760	1540	1520				
	40	Chilled Cast Iron	0.05D	0.02D	Vc	286	286	286	286	286	286	286
					fz	0.126	0.140	0.149	0.156	0.164	0.172	0.176
	RPM	9100	7500	5680	4550	3640	3030	2840				
	FEED	4590	4260	3390	2840	2390	2090	2000				
	41	Hardened Cast Iron	0.05D	0.02D	Vc	231	231	231	231	231	231	231
					fz	0.117	0.130	0.135	0.143	0.150	0.157	0.165
	RPM	7350	6130	4600	3680	2940	2450	2300				
	FEED	3450	3190	2490	2100	1760	1540	1520				



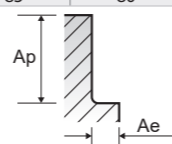
XSEME01 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	0.8D	Vc	156	156	156	156	156	156	156
					fz	0.023	0.023	0.023	0.023	0.023	0.023	0.023
	RPM	4970	4140	3100	2480	1990	1650	1550				
	FEED	455	380	280	230	180	150	140				
	9	Low alloy steel	0.05D	0.8D	Vc	105	105	105	105	105	105	105
					fz	0.027	0.027	0.027	0.027	0.027	0.027	0.026
	RPM	3340	2780	2090	1670	1340	1110	1040				
	FEED	360	300	225	180	145	120	110				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.8D	Vc	156	156	156	156	156	156	156
					fz	0.023	0.023	0.023	0.023	0.023	0.023	0.023
	RPM	4970	4140	3100	2480	1990	1650	1550				
	FEED	455	380	280	230	180	150	140				
11.2	High alloyed steel, and tool steel	0.05D	0.8D	Vc								

XSEME68 SERIES 6 FLUTE CORNER RADIUS - SIDE CUTTING

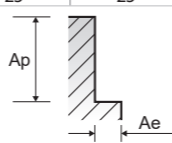
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
	RPM	9600	8010	6000	4800	3850	3200	3000				
	FEED	2940	2790	2400	2010	1615	1440	1350				
	9	Low alloy steel	0.05D	1.0D	Vc	294	294	294	294	294	294	294
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
	RPM	9360	7800	5850	4680	3740	3120	2920				
	FEED	1400	1170	880	690	600	540	525				
	10-11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
	RPM	9600	8010	6000	4800	3850	3200	3000				
	FEED	2940	2700	2400	2010	1615	1440	1350				
11.2	High alloyed steel, and tool steel	0.05D	1.0D	Vc	294	294	294	294	294	294	294	
				fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030	
RPM	9360	7800	5850	4680	3740	3120	2920					
FEED	1400	1170	880	690	600	540	525					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	302	302	302	302	302	302	
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
RPM	9600	8010	6000	4800	3850	3200	3000					
FEED	2940	2790	2400	2010	1615	1440	1350					
H	38.1 - 38.2	Hardened steel	0.02D	1.0D	Vc	181	181	181	181	181	181	
					fz	0.006	0.006	0.006	0.006	0.007	0.007	0.007
	RPM	5760	4800	3600	2880	2305	1920	1800				
	FEED	210	180	130	110	90	85	80				
	40	Chilled Cast Iron	0.05D	1.0D	Vc	294	294	294	294	294	294	
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
RPM	9360	7800	5850	4680	3740	3120	2920					
FEED	1400	1170	880	690	600	540	525					
41	Hardened Cast Iron	0.02D	1.0D	Vc	181	181	181	181	181	181		
				fz	0.006	0.006	0.006	0.006	0.007	0.007	0.007	
RPM	5760	4800	3600	2880	2305	1920	1800					
FEED	210	180	130	110	90	85	80					



XSEME36 SERIES 4 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.040	0.040	0.040	0.040	0.040	0.040	0.040
	RPM	4080	3430	2590	2100	1700	1420	1330				
	FEED	650	545	415	335	270	230	215				
	9	Low alloy steel	0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
	RPM	2500	2100	1590	1300	1050	870	820				
	FEED	300	250	190	155	130	110	105				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.040	0.040	0.040	0.040	0.040	0.040	0.040
	RPM	4080	3430	2590	2100	1700	1420	1330				
	FEED	650	545	415	335	270	230	215				
11.2	High alloyed steel, and tool steel	0.05D	0.6D	Vc	79	79	80	82	82	82	82	
				fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032	
RPM	2500	2100	1590	1300	1050	870	820					
FEED	300	250	190	155	130	110	105					
M	12-14	Stainless steel	0.05D	0.6D	Vc	66	66	66	66	67	67	67
					fz	0.035	0.035	0.035	0.035	0.035	0.035	0.035
RPM	2100	1750	1310	1050	850	710	670					
FEED	300	245	180	150	120	100	95					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.039	0.040	0.040	0.040	0.040	0.040	0.040
RPM	4080	3430	2590	2100	1700	1420	1330					
FEED	640	545	415	335	270	230	215					
H	38.1 - 38.2	Hardened steel	0.05D	0.6D	Vc	53	53	53	53	53	53	53
					fz	0.013	0.013	0.013	0.012	0.011	0.011	0.011
	RPM	1700	1400	1050	850	680	560	530				
	FEED	90	70	55	40	30	25	25				
	40	Chilled Cast Iron	0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
RPM	2500	2100	1590	1300	1050	870	820					
FEED	300	250	190	155	130	110	105					
41	Hardened Cast Iron	0.05D	0.6D	Vc	53	53	53	53	53	53	53	
				fz	0.013	0.013	0.013	0.012	0.011	0.011	0.011	
RPM	1700	1400	1050	850	680	560	530					
FEED	90	70	55	40	30	25	25					



XSEME75 SERIES 6 FLUTE - SIDE CUTTING

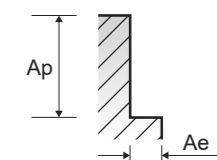
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

NORMAL SPEED

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
	RPM	3530	2945	2205	1765	1410	1180	1100				
	FEED	2100	1750	1325	1060	845	710	660				
	9	Low alloy steel	0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
	RPM	2450	2040	1530	1220	980	815	765				
	FEED	1380	1150	860	690	555	460	430				
	10-11.1	High alloyed steel, and tool steel	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
	RPM	3530	2945	2205	1765	1410	1180	1100				
	FEED	2100	1750	1325	1060	845	710	660				
11.2	High alloyed steel, and tool steel	0.05D	0.8D	Vc	77	77	77	77	77	77	77	
				fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094	
RPM	2450	2040	1530	1220	980	815	765					
FEED	1380	1150	860	690	555	460	430					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
RPM	3530	2940	2205	1765	1410	1180	1100					
FEED	2100	1765	1325	1060	845	710	660					
H	38.1 - 38.2	Hardened steel	0.05D	0.6D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.034	0.034	0.035	0.035	0.036	0.036
	RPM	1050	880	655	525	420	350	330				
	FEED	210	180	130	110	85	75	70				
	40	Chilled Cast Iron	0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
RPM	2450	2040	1530	1220	980	815	765					
FEED	1380	1150	860	690	555	460	430					
41	Hardened Cast Iron	0.05D	0.6D	Vc	33	33	33	33	33	33	33	
				fz	0.033	0.034	0.034	0.035	0.035	0.036	0.036	
RPM	1050	880	655	525	420	350	330					
FEED	210	180	130	110	85	75	70					

HIGH SPEED

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						10	12	16	20	25	30	32
P	11.2	High alloyed steel, and tool steel	0.05D	0.6D	Vc	332	332	332	332	332	332	332
					fz	0.095	0.095	0.095	0.095	0.095	0.095	0.095
RPM	10570	8810	6600	5290	4230	3520	3300					
FEED	6020	5020	3765	3050	2400	2000	1890					
H	38.1 - 38.2	Hardened steel	0.05D	0.4D	Vc	166	166	166	166	166	166	166
					fz	0.096	0.095	0.095	0.095	0.095	0.095	0.095
	RPM	5290	4410	3300	2645	2114	1761	1651				
	FEED	3050	2520	1880	1470	1200	1000	940				
	40	Chilled Cast Iron	0.05D	0.6D	Vc	332	332	332	332	332	332	332
					fz	0.095	0.095	0.095	0.095	0.095	0.095	0.095
RPM	10570	8810	6600	5290	4230	3520	3300					
FEED	6020	5020	3765	3050	2400	2000	1890					
41	Hardened Cast Iron	0.05D	0.4D	Vc	166	166	166	166	166	166	166	
				fz	0.096	0.095	0.095	0.095	0.095	0.095	0.095	
RPM	5290	4410	3300	2645	2114	1761	1651					
FEED	3050	2520	1880	1470	1200	1000	940					





Global Cutting Tool Leader **YG-1**



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