

415SD

FRAISE À GRANDE AVANCE POUR LES ALLIAGES
DE TITANE



*M*plus...

415SD

FRAISE À GRANDE AVANCE POUR L'INOX ET LE TITANE



HAUTE PERFORMANCE ET STABILITÉ VIBRATOIRE

- Le pas variable atténue les vibrations, spécialement dans les applications à grand porte-à-faux.
- Des outils à pas fin et extra-fin assurent une grande productivité.
- L'acier spécifique des corps de fraise assure une grande fiabilité et longévité des outils. Le nickelage augmente la résistance à la corrosion et à l'usure.
- Le logement de plaquette de haute précision et les buses d'arrosage contribuent largement aux performances d'usinage.

GRANDE PRODUCTIVITÉ

L'angle d'attaque de 15° permet de grandes profondeurs de passe tout en réduisant les efforts en direction radiale.

ARROSAGE PERFORMANT

Les différents diamètres de buses d'arrosage permettent de s'adapter de manière optimale aux pressions et débits d'arrosage disponibles sur la machine. L'arrosage performant assure fiabilité et durée de vie.

SÉCURITÉ, PRÉCISION ET FIABILITÉ

Le positionnement précis et le serrage fiable des plaquettes permettent d'obtenir de grandes performances de coupe et une forte productivité en toute fiabilité.



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PLAQUETTES À GRANDE AVANCE

LA NUANCE PVD À HAUTES PERFORMANCES MP9130 EST OPTIMISÉE POUR L'USINAGE DU TITANE

- Polyvalence des opérations (surfâçage, ramping, interpolation hélicoïdale, poches, ...)
- Optimale pour les opérations à grand porte-à-faux
- Faible prise de puissance



BRISE-COPEAUX L

Efforts de coupe réduits, pour les pièces de faible raideur et les machines à faible puissance.



BRISE-COPEAUX M

Première préconisation - équilibre optimal entre acuité et résistance d'arête.



BRISE-COPEAUX R

Grande résistance d'arête - pour les applications à forte interruption de coupe ou les croûtes de forge et de fonderie.



Haute productivité et faible prise de puissance

- Prise de puissance réduite
- Réduction des efforts de coupe radiaux
- Grande fiabilité et durée de vie dans les inox et titane
- Plaquette épaisse à 4 arêtes pour une grande efficacité

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FRAISE À GRANDE AVANCE

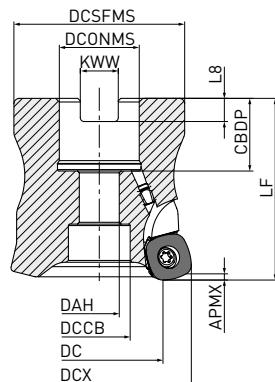
P K S



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GAMP: 9°
GAMF: 5° – 6°

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DCX	Vis d'attachement	Géométrie
Ø 50, Ø 52	HSC10035	1
Ø 63, Ø 66	HSC12035	

Corps à droite uniquement.

ATTACHEMENT PAR ALÉSAGE

Référence	Stock	APMX	DC	DCONMS	DCX	LF	RMPX	WT	ZEFP	Type	SDMT12
415SD-050A04AR-E	●	2	33.4	22	50	50	3°	0.4	4	●	1
415SD-050A05AR-E	●	2	33.4	22	50	50	3°	0.4	5	●	1
415SD-052A04AR-E	●	2	35.4	22	52	50	3°	0.4	4	●	1
415SD-052A06AR-E	●	2	35.4	22	52	50	3°	0.4	6	●	1
415SD-063X05AR-E	●	2	46.5	27	63	50	2°	0.7	5	●	1
415SD-063X07AR-E	●	2	46.5	27	63	50	2°	0.7	7	●	1
415SD-066X05AR-E	●	2	49.4	27	66	50	1.9°	0.7	5	●	1
415SD-066X07AR-E	●	2	49.4	27	66	50	1.9°	0.7	7	●	1

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1. Veuillez vous référer à 7 pour la profondeur de coupe maximale (APMX).



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DIMENSIONS DE MONTAGE

Référence	CBDP	DAH	DCCB	DCONMS	DCSFMS	DCX	KWW	L8	Type
415SD-050A04AR-E	20	11	17	22	47	50	10.4	6.3	1
415SD-050A05AR-E	20	11	17	22	47	50	10.4	6.3	1
415SD-052A04AR-E	20	11	17	22	47	52	10.4	6.3	1
415SD-052A06AR-E	20	11	17	22	47	52	10.4	6.3	1
415SD-063X05AR-E	22	13	19	27	60	63	12.4	7.0	1
415SD-063X07AR-E	22	13	19	27	60	63	12.4	7.0	1
415SD-066X05AR-E	22	13	19	27	60	66	12.4	7.0	1
415SD-066X07AR-E	22	13	19	27	60	66	12.4	7.0	1

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PLAQUETTES

Référence	Brise-copeaux	MP9130	NEW MV1020	NEW MV1030	IC	S	RE	Visuel
SDMT125530ZEN-L	L	●	●	●	12.25	5.56	3.0	
SDMT125530ZEN-M	M	●	●	●	12.25	5.56	3.0	
SDMT125530ZSN-R	R	●	●	●	12.25	5.56	3.0	

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FRAISE À GRANDE AVANCE

PIÈCES DÉTACHÉES

Référence porte-outil	Vis de plaquette	Clé drapeau	Buse d'arrosage	Clé allen	Antigrippant
415SD	TPS43	TIP15W-E	HSD04004H12	HKY20R	MK1KS

1. Couple de serrage [Nm] : TPS43 = 3.5

DES BUSES D'ARROSAGE DE DIFFÉRENTS DIAMÈTRES SONT DISPONIBLES POUR S'ADAPTER À LA PRESSION D'ARROSAGE DISPONIBLE

← Standard →			
	≤ 1 Mpa (≤ 20 l/min.)	≥ 3 Mpa (≥ 25 l/min.)	≥ 5 Mpa (≥ 30 l/min.)
Diam.de buse	Ø 0.6 mm	Ø 0.8 mm	Ø 1.2 mm
Référence	HSD04004H06	HSD04004H08	HSD04004H12
			HSD04004H16

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CONDITIONS DE COUPE

COEFFICIENT DE CORRECTION DU PORTE-À-FAUX

	DCX	Porte-à-faux	Valeur de réglage		
			Vc	ap	fz
Attachement par alésage	50 – 66	<2.5xDCX	100%	100%	100%
		3.0xDCX	85%	100%	90%
		4.0xDCX	80%	80%	80%
		5.0xDCX	75%	75%	60%
		6.0xDCX	70%	70%	40%

COUPE LUBRIFIÉE

Matière	Propriétés	Conditions d'utilisation	Nuance	APMX	Vc		
					ae ≤ 0.5 DC	ae ≤ 0.75 DC	ae = DC
S Alliages de titane	—	● ● ✖	MP9130	≤ 1	55 [40 – 70]	50 [35 – 65]	45 [30 – 60]
			MP9130	≤ 2	55 [40 – 70]	50 [35 – 65]	45 [30 – 60]
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USINAGE À SEC

Matière	Propriétés	Conditions d'utilisation	Nuance	APMX	Vc		
					ae ≤ 0.5 DC	ae ≤ 0.75 DC	ae = DC
P Acier doux	< 180 HB	● ● ✖	MV1020	≤ 2	220 [170 – 270]	220 [170 – 270]	220 [170 – 270]
			MV1030	≤ 2	140 [80 – 200]	140 [80 – 200]	140 [80 – 200]
P Acier carbone, Acier allié	180 – 280 HB	● ● ✖	MV1020	≤ 2	200 [150 – 250]	200 [150 – 250]	200 [150 – 250]
			MV1030	≤ 2	120 [60 – 180]	120 [60 – 180]	120 [60 – 180]
	280 – 350 HB	● ● ✖	MV1020	≤ 2	150 [100 – 200]	150 [100 – 200]	150 [100 – 200]
			MV1030	≤ 2	90 [30 – 150]	90 [30 – 150]	90 [30 – 150]
K Fonte ductile	Résistance à la traction ≤ 450 MPa	● ● ✖	MV1020	≤ 2	200 [150 – 250]	200 [150 – 250]	200 [150 – 250]
			MV1030	≤ 2	140 [80 – 200]	140 [80 – 200]	140 [80 – 200]
	Résistance à la traction ≤ 800 MPa	● ● ✖	MV1020	≤ 2	180 [130 – 230]	180 [130 – 230]	180 [130 – 230]
			MV1030	≤ 2	140 [80 – 200]	140 [80 – 200]	140 [80 – 200]
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CONDITIONS DE COUPE

PROFONDEUR DE PASSE / AVANCE PAR DENT

Matière	Propriétés	Conditions d'utilisation	Arrosage	Nuance	ae ≤ 0.5 DC		ae ≤ 0.75 DC		ae = DC		
						ap		ap		ap	
P	Acier doux ≤ 180 HB			●	MV1020	L	≤ 1	0.9 [0.4 – 1.2]	L	≤ 1	0.8 [0.4 – 1.1]
				●	MV1030	L	≤ 1	0.9 [0.4 – 1.2]	L	≤ 1	0.8 [0.4 – 1.1]
				●	MV1020	L	≤ 2	0.8 [0.4 – 1.2]	L	≤ 2	0.7 [0.4 – 1.1]
				●	MV1030	L	≤ 2	0.8 [0.4 – 1.2]	L	≤ 2	0.7 [0.4 – 1.0]
				●	MV1020	L	≤ 1	—	L	≤ 1	—
				●	MV1030	L	≤ 1	—	L	≤ 1	—
				●	MV1020	L	≤ 2	—	L	≤ 2	—
				●	MV1030	L	≤ 2	—	L	≤ 2	—
				●	MV1020	M	≤ 1	1.2 [0.4 – 1.8]	M	≤ 1	1.1 [0.4 – 1.6]
				●	MV1030	M	≤ 1	1.2 [0.4 – 1.8]	M	≤ 1	1.1 [0.4 – 1.6]
				●	MV1020	M	≤ 2	1.1 [0.4 – 1.8]	M	≤ 2	1.0 [0.4 – 1.6]
				●	MV1030	M	≤ 2	1.1 [0.4 – 1.8]	M	≤ 2	1.0 [0.4 – 1.6]
				●	MV1020	M	≤ 1	1.0 [0.4 – 1.7]	M	≤ 1	1.0 [0.4 – 1.5]
				●	MV1030	M	≤ 1	1.0 [0.4 – 1.7]	M	≤ 1	1.0 [0.4 – 1.5]
				●	MV1020	M	≤ 2	0.9 [0.4 – 1.7]	M	≤ 2	0.9 [0.4 – 1.5]
				●	MV1030	M	≤ 2	0.9 [0.4 – 1.7]	M	≤ 2	0.9 [0.4 – 1.5]
				●	MV1020	M	≤ 1	1.0 [0.4 – 1.7]	M	≤ 1	1.0 [0.4 – 1.5]
				●	MV1030	M	≤ 1	1.0 [0.4 – 1.7]	M	≤ 1	1.0 [0.4 – 1.5]
				●	MV1020	M	≤ 1	1.0 [0.4 – 1.7]	M	≤ 1	1.0 [0.4 – 1.5]
				●	MV1030	M	≤ 2	0.9 [0.4 – 1.7]	M	≤ 2	0.9 [0.4 – 1.5]
				●	MV1020	M	≤ 2	0.9 [0.4 – 1.7]	M	≤ 2	0.9 [0.4 – 1.5]
				●	MV1030	M	≤ 1	1.0 [0.4 – 1.7]	M	≤ 1	1.0 [0.4 – 1.5]
				●	MV1020	R	≤ 1	1.5 [0.4 – 2.1]	R	≤ 1	1.4 [0.4 – 1.9]
				●	MV1030	R	≤ 1	1.5 [0.4 – 2.1]	R	≤ 1	1.4 [0.4 – 1.9]
				●	MV1020	R	≤ 2	1.4 [0.4 – 2.1]	R	≤ 2	1.3 [0.4 – 1.9]
				●	MV1030	R	≤ 2	1.4 [0.4 – 2.1]	R	≤ 2	1.3 [0.4 – 1.9]
				●	MV1020	R	≤ 1	1.4 [0.4 – 2.0]	R	≤ 1	1.2 [0.4 – 1.8]
				●	MV1030	R	≤ 1	1.4 [0.4 – 2.0]	R	≤ 1	1.2 [0.4 – 1.8]
				●	MV1020	R	≤ 2	1.3 [0.4 – 2.0]	R	≤ 2	1.1 [0.4 – 1.8]
				●	MV1030	R	≤ 2	1.3 [0.4 – 2.0]	R	≤ 2	1.1 [0.4 – 1.8]
				●	MV1020	R	≤ 1	1.4 [0.4 – 2.0]	R	≤ 1	1.2 [0.4 – 1.7]
				●	MV1030	R	≤ 1	1.4 [0.4 – 2.0]	R	≤ 1	1.2 [0.4 – 1.7]
				●	MV1020	R	≤ 2	1.3 [0.4 – 2.0]	R	≤ 2	1.1 [0.4 – 1.7]
				●	MV1030	R	≤ 2	1.3 [0.4 – 2.0]	R	≤ 2	1.1 [0.4 – 1.7]

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415SD – PROFONDEUR DE PASSE / AVANCE PAR DENT

Matière	Propriétés	Conditions d'utilisation Arrosage	Nuance	ae ≤ 0.5 DC		ae ≤ 0.75 DC		ae = DC	
					ap fz		ap fz		ap fz
P	Acier carbone, Acier allié 180 – 280 HB		● ✗ MV1020 L ≤1 0.7 [0.4 – 1.1]	L	≤1 0.7 [0.4 – 1.0]	L	≤1 0.7 [0.4 – 1.0]	L	≤1 0.7 [0.4 – 1.0]
			● ✗ MV1030 L ≤1 0.7 [0.4 – 1.1]	L	≤1 0.7 [0.4 – 1.0]	L	≤1 0.7 [0.4 – 1.0]	L	≤1 0.7 [0.4 – 1.0]
			● ✗ MV1020 L ≤2 –	L	≤2 –	L	≤2 –	L	≤2 –
			● ✗ MV1030 L ≤2 –	L	≤2 –	L	≤2 –	L	≤2 –
			● ✗ MV1020 L ≤1 –	L	≤1 –	L	≤1 –	L	≤1 –
			● ✗ MV1030 L ≤1 –	L	≤1 –	L	≤1 –	L	≤1 –
			● ✗ MV1020 L ≤2 –	L	≤2 –	L	≤2 –	L	≤2 –
			● ✗ MV1030 L ≤2 –	L	≤2 –	L	≤2 –	L	≤2 –
			● ✗ MV1020 M ≤1 1.0 [0.4 – 1.7]	M	≤1 1.0 [0.4 – 1.5]	M	≤1 1.0 [0.4 – 1.5]	M	≤1 1.0 [0.4 – 1.5]
			● ✗ MV1030 M ≤1 1.0 [0.4 – 1.7]	M	≤1 1.0 [0.4 – 1.5]	M	≤1 1.0 [0.4 – 1.5]	M	≤1 1.0 [0.4 – 1.5]
			● ✗ MV1020 M ≤2 0.9 [0.4 – 1.7]	M	≤2 0.9 [0.4 – 1.5]	M	≤2 0.9 [0.4 – 1.5]	M	≤2 0.9 [0.4 – 1.5]
			● ✗ MV1030 M ≤2 0.9 [0.4 – 1.7]	M	≤2 0.9 [0.4 – 1.5]	M	≤2 0.9 [0.4 – 1.5]	M	≤2 0.9 [0.4 – 1.5]
			● ✗ MV1020 M ≤1 0.9 [0.4 – 1.5]	M	≤1 0.8 [0.4 – 1.4]	M	≤1 0.8 [0.4 – 1.3]	M	≤1 0.8 [0.4 – 1.3]
			● ✗ MV1030 M ≤1 0.9 [0.4 – 1.5]	M	≤1 0.8 [0.4 – 1.4]	M	≤1 0.8 [0.4 – 1.3]	M	≤1 0.8 [0.4 – 1.3]
			● ✗ MV1020 M ≤2 0.8 [0.4 – 1.5]	M	≤2 0.7 [0.4 – 1.4]	M	≤2 0.7 [0.4 – 1.3]	M	≤2 0.7 [0.4 – 1.3]
			● ✗ MV1030 M ≤2 0.8 [0.4 – 1.5]	M	≤2 0.7 [0.4 – 1.4]	M	≤2 0.7 [0.4 – 1.3]	M	≤2 0.7 [0.4 – 1.3]
			● ✗ MV1020 M ≤1 0.9 [0.4 – 1.5]	M	≤1 0.8 [0.4 – 1.4]	M	≤1 0.8 [0.4 – 1.3]	M	≤1 0.8 [0.4 – 1.3]
			● ✗ MV1030 M ≤1 0.9 [0.4 – 1.5]	M	≤1 0.8 [0.4 – 1.4]	M	≤1 0.8 [0.4 – 1.3]	M	≤1 0.8 [0.4 – 1.3]
			● ✗ MV1020 M ≤2 0.8 [0.4 – 1.5]	M	≤2 0.7 [0.4 – 1.4]	M	≤2 0.7 [0.4 – 1.3]	M	≤2 0.7 [0.4 – 1.3]
			● ✗ MV1030 M ≤2 0.8 [0.4 – 1.5]	M	≤2 0.7 [0.4 – 1.4]	M	≤2 0.7 [0.4 – 1.3]	M	≤2 0.7 [0.4 – 1.3]
			● ✗ MV1020 R ≤1 1.4 [0.4 – 2.0]	R	≤1 1.2 [1.0 – 1.8]	R	≤1 1.2 [1.0 – 1.8]	R	≤1 1.2 [0.4 – 1.7]
			● ✗ MV1030 R ≤1 1.4 [0.4 – 2.0]	R	≤1 1.2 [1.0 – 1.8]	R	≤1 1.2 [1.0 – 1.8]	R	≤1 1.2 [0.4 – 1.7]
			● ✗ MV1020 R ≤2 1.3 [0.4 – 2.0]	R	≤2 1.1 [1.0 – 1.8]	R	≤2 1.1 [1.0 – 1.8]	R	≤2 1.1 [0.4 – 1.7]
			● ✗ MV1030 R ≤2 1.3 [0.4 – 2.0]	R	≤2 1.1 [1.0 – 1.8]	R	≤2 1.1 [1.0 – 1.8]	R	≤2 1.1 [0.4 – 1.7]
			● ✗ MV1020 R ≤1 1.2 [0.4 – 1.8]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.4 – 1.6]
			● ✗ MV1030 R ≤1 1.2 [0.4 – 1.8]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.4 – 1.6]
			● ✗ MV1020 R ≤2 1.1 [0.4 – 1.8]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.4 – 1.6]
			● ✗ MV1030 R ≤2 1.1 [0.4 – 1.8]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.4 – 1.6]
			● ✗ MV1020 R ≤1 1.2 [0.4 – 1.8]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.4 – 1.6]
			● ✗ MV1030 R ≤1 1.2 [0.4 – 1.8]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.8 – 1.6]	R	≤1 1.1 [0.4 – 1.6]
			● ✗ MV1020 R ≤2 1.1 [0.4 – 1.8]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.4 – 1.6]
			● ✗ MV1030 R ≤2 1.1 [0.4 – 1.8]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.8 – 1.6]	R	≤2 1.0 [0.4 – 1.6]

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415SD – PROFONDEUR DE PASSE / AVANCE PAR DENT

Matière	Propriétés	Conditions d'utilisation Arrosage	Nuance	ae ≤ 0.5 DC		ae ≤ 0.75 DC		ae = DC	
					ap fz		ap fz		ap fz
P	Acier carbone, Acier allié	280 – 350 HB	● MV1020	L	≤ 1 0.6 [0.4 – 0.9]	L	≤ 1 0.6 [0.4 – 0.8]	L	≤ 1 0.6 [0.4 – 0.8]
			● MV1030	L	≤ 1 0.6 [0.4 – 0.9]	L	≤ 1 0.6 [0.4 – 0.8]	L	≤ 1 0.6 [0.4 – 0.8]
			● MV1020	L	≤ 2 0.5 [0.4 – 0.9]	L	≤ 2 0.5 [0.4 – 0.8]	L	≤ 2 0.5 [0.4 – 0.8]
			● MV1030	L	≤ 2 0.5 [0.4 – 0.9]	L	≤ 2 0.5 [0.4 – 0.8]	L	≤ 2 0.5 [0.4 – 0.8]
			● MV1020	L	≤ 1 –	L	≤ 1 –	L	≤ 1 –
			● MV1030	L	≤ 1 –	L	≤ 1 –	L	≤ 1 –
			● MV1020	L	≤ 2 –	L	≤ 2 –	L	≤ 2 –
			● MV1030	L	≤ 2 –	L	≤ 2 –	L	≤ 2 –
			● MV1020	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.8 [0.4 – 1.3]
			● MV1030	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.8 [0.4 – 1.3]
			● MV1020	M	≤ 2 0.8 [0.4 – 1.5]	M	≤ 2 0.7 [0.4 – 1.4]	M	≤ 2 0.7 [0.4 – 1.3]
			● MV1030	M	≤ 2 0.8 [0.4 – 1.5]	M	≤ 2 0.7 [0.4 – 1.4]	M	≤ 2 0.7 [0.4 – 1.3]
			● MV1020	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.7 [0.4 – 1.2]
			● MV1030	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.7 [0.4 – 1.2]
			● MV1020	M	≤ 2 0.8 [0.4 – 1.5]	M	≤ 2 0.7 [0.4 – 1.4]	M	≤ 2 0.6 [0.4 – 1.2]
			● MV1030	M	≤ 2 0.8 [0.4 – 1.5]	M	≤ 2 0.7 [0.4 – 1.4]	M	≤ 2 0.6 [0.4 – 1.2]
			● MV1020	M	≤ 2 0.8 [0.4 – 1.5]	M	≤ 2 0.7 [0.4 – 1.4]	M	≤ 2 0.6 [0.4 – 1.2]
			● MV1030	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.7 [0.4 – 1.2]
			● MV1020	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.7 [0.4 – 1.2]
			● MV1030	M	≤ 1 0.9 [0.4 – 1.5]	M	≤ 1 0.8 [0.4 – 1.4]	M	≤ 1 0.7 [0.4 – 1.2]
			● MV1020	R	≤ 1 1.2 [0.4 – 1.8]	R	≤ 1 1.1 [0.4 – 1.6]	R	≤ 1 1.1 [0.8 – 1.6]
			● MV1030	R	≤ 1 1.2 [0.4 – 1.8]	R	≤ 1 1.1 [0.4 – 1.6]	R	≤ 1 1.1 [0.8 – 1.6]
			● MV1020	R	≤ 2 1.1 [0.4 – 1.8]	R	≤ 2 1.0 [0.4 – 1.6]	R	≤ 2 1.0 [0.8 – 1.6]
			● MV1030	R	≤ 2 1.1 [0.4 – 1.8]	R	≤ 2 1.0 [0.4 – 1.6]	R	≤ 2 1.0 [0.8 – 1.6]
			● MV1020	R	≤ 1 1.1 [0.4 – 1.8]	R	≤ 1 1.0 [0.4 – 1.6]	R	≤ 1 1.0 [0.4 – 1.5]
			● MV1030	R	≤ 1 1.1 [0.4 – 1.8]	R	≤ 1 1.0 [0.4 – 1.6]	R	≤ 1 1.0 [0.4 – 1.5]
			● MV1020	R	≤ 2 1.0 [0.4 – 1.8]	R	≤ 2 0.9 [0.4 – 1.6]	R	≤ 2 0.9 [0.4 – 1.5]
			● MV1030	R	≤ 1 1.1 [0.4 – 1.8]	R	≤ 1 1.0 [0.4 – 1.6]	R	≤ 1 1.0 [0.4 – 1.5]
			● MV1020	R	≤ 2 1.0 [0.4 – 1.8]	R	≤ 2 0.9 [0.4 – 1.6]	R	≤ 2 0.9 [0.4 – 1.5]
			● MV1030	R	≤ 2 1.0 [0.4 – 1.8]	R	≤ 2 0.9 [0.4 – 1.6]	R	≤ 2 0.9 [0.4 – 1.5]

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415SD – PROFONDEUR DE PASSE / AVANCE PAR DENT

Matière	Propriétés	Conditions d'utilisation Arrosage	Nuance	ae ≤ 0.5 DC		ae ≤ 0.75 DC		ae = DC	
					ap fz		ap fz		ap fz
K	Fonte ductile Résistance à la traction ≤ 350 MPa		● ✗ MV1020	L	≤ 1 0.9 [0.4 - 1.2]	L	≤ 1 0.8 [0.4 - 1.1]	L	≤ 1 0.8 [0.4 - 1.1]
			● ✗ MV1030	L	≤ 1 0.9 [0.4 - 1.2]	L	≤ 1 0.8 [0.4 - 1.1]	L	≤ 1 0.8 [0.4 - 1.1]
			● ✗ MV1020	L	≤ 2 0.8 [0.4 - 1.2]	L	≤ 2 0.7 [0.4 - 1.1]	L	≤ 2 0.7 [0.4 - 1.1]
			● ✗ MV1030	L	≤ 2 0.8 [0.4 - 1.2]	L	≤ 2 0.7 [0.4 - 1.1]	L	≤ 2 0.7 [0.4 - 1.1]
			● ✗ MV1020	L	≤ 1 —	L	≤ 1 —	L	≤ 1 —
			● ✗ MV1030	L	≤ 1 —	L	≤ 1 —	L	≤ 1 —
			● ✗ MV1020	L	≤ 2 —	L	≤ 2 —	L	≤ 2 —
			● ✗ MV1030	L	≤ 2 —	L	≤ 2 —	L	≤ 2 —
			● ✗ MV1020	M	≤ 1 1.2 [0.4 - 1.8]	M	≤ 1 1.1 [0.4 - 1.6]	M	≤ 1 1.1 [0.4 - 1.6]
			● ✗ MV1030	M	≤ 1 1.2 [0.4 - 1.8]	M	≤ 1 1.1 [0.4 - 1.6]	M	≤ 1 1.1 [0.4 - 1.6]
			● ✗ MV1020	M	≤ 2 1.1 [0.4 - 1.8]	M	≤ 2 1.0 [0.4 - 1.6]	M	≤ 2 1.0 [0.4 - 1.6]
			● ✗ MV1030	M	≤ 2 1.1 [0.4 - 1.8]	M	≤ 2 1.0 [0.4 - 1.6]	M	≤ 2 1.0 [0.4 - 1.6]
			● ✗ MV1020	M	≤ 1 1.1 [0.4 - 1.7]	M	≤ 1 1.0 [0.4 - 1.5]	M	≤ 1 0.9 [0.4 - 1.5]
			● ✗ MV1030	M	≤ 1 1.1 [0.4 - 1.7]	M	≤ 1 1.0 [0.4 - 1.5]	M	≤ 1 0.9 [0.4 - 1.5]
			● ✗ MV1020	M	≤ 2 1.0 [0.4 - 1.7]	M	≤ 2 0.9 [0.4 - 1.5]	M	≤ 2 0.8 [0.4 - 1.5]
			● ✗ MV1030	M	≤ 2 1.0 [0.4 - 1.7]	M	≤ 2 0.9 [0.4 - 1.5]	M	≤ 2 0.8 [0.4 - 1.5]
			● ✗ MV1020	M	≤ 1 1.1 [0.4 - 1.7]	M	≤ 1 1.0 [0.4 - 1.5]	M	≤ 1 0.9 [0.4 - 1.5]
			● ✗ MV1030	M	≤ 1 1.1 [0.4 - 1.7]	M	≤ 1 1.0 [0.4 - 1.5]	M	≤ 1 0.9 [0.4 - 1.5]
			● ✗ MV1020	M	≤ 2 1.0 [0.4 - 1.7]	M	≤ 2 0.9 [0.4 - 1.5]	M	≤ 2 0.8 [0.4 - 1.5]
			● ✗ MV1030	M	≤ 2 1.0 [0.4 - 1.7]	M	≤ 2 0.9 [0.4 - 1.5]	M	≤ 2 0.8 [0.4 - 1.5]
			● ✗ MV1020	R	≤ 1 1.5 [0.4 - 2.1]	R	≤ 1 1.4 [0.4 - 1.9]	R	≤ 1 1.3 [1.1 - 1.9]
			● ✗ MV1030	R	≤ 1 1.5 [0.4 - 2.1]	R	≤ 1 1.4 [0.4 - 1.9]	R	≤ 1 1.3 [1.1 - 1.9]
			● ✗ MV1020	R	≤ 2 1.4 [0.4 - 2.1]	R	≤ 2 1.3 [0.4 - 1.9]	R	≤ 2 1.2 [1.1 - 1.9]
			● ✗ MV1030	R	≤ 2 1.4 [0.4 - 2.1]	R	≤ 2 1.3 [0.4 - 1.9]	R	≤ 2 1.2 [1.1 - 1.9]
			● ✗ MV1020	R	≤ 1 1.4 [1.0 - 2.0]	R	≤ 1 1.2 [0.4 - 1.8]	R	≤ 1 1.2 [0.4 - 1.7]
			● ✗ MV1030	R	≤ 1 1.4 [1.0 - 2.0]	R	≤ 1 1.2 [0.4 - 1.8]	R	≤ 1 1.2 [0.4 - 1.7]
			● ✗ MV1020	R	≤ 2 1.3 [1.0 - 2.0]	R	≤ 2 1.1 [0.4 - 1.8]	R	≤ 2 1.1 [0.4 - 1.7]
			● ✗ MV1030	R	≤ 1 1.4 [1.0 - 2.0]	R	≤ 1 1.2 [0.4 - 1.8]	R	≤ 1 1.2 [0.4 - 1.7]
			● ✗ MV1020	R	≤ 2 1.3 [1.0 - 2.0]	R	≤ 2 1.1 [0.4 - 1.8]	R	≤ 2 1.1 [0.4 - 1.7]
			● ✗ MV1030	R	≤ 2 1.3 [1.0 - 2.0]	R	≤ 2 1.1 [0.4 - 1.8]	R	≤ 2 1.1 [0.4 - 1.7]

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NEW

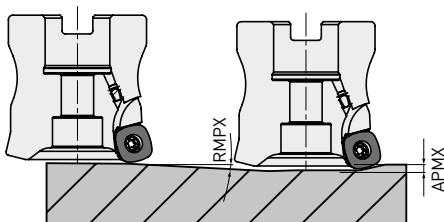
415SD – PROFONDEUR DE PASSE / AVANCE PAR DENT

Matière	Propriétés	Conditions d'utilisation Arrosage	Nuance	ae ≤ 0.5 DC		ae ≤ 0.75 DC		ae = DC	
					ap		ap		ap
K	Fonte ductile Résistance à la traction ≤ 800 MPa		●	MV1020	L ≤ 1 0.9 [0.4 - 1.2]	L ≤ 1 0.8 [0.4 - 1.1]			
			●	MV1030	L ≤ 1 0.9 [0.4 - 1.2]	L ≤ 1 0.8 [0.4 - 1.1]			
			●	MV1020	L ≤ 2 0.8 [0.4 - 1.2]	L ≤ 2 0.7 [0.4 - 1.1]			
			●	MV1030	L ≤ 2 0.8 [0.4 - 1.2]	L ≤ 2 0.7 [0.4 - 1.1]			
			●	MV1020	L ≤ 1 —				
			●	MV1030	L ≤ 1 —				
			●	MV1020	L ≤ 2 —				
			●	MV1030	L ≤ 2 —				
			●	MV1020	M ≤ 1 1.2 [0.4 - 1.8]	M ≤ 1 1.1 [0.4 - 1.6]			
			●	MV1030	M ≤ 1 1.2 [0.4 - 1.8]	M ≤ 1 1.1 [0.4 - 1.6]			
			●	MV1020	M ≤ 2 1.1 [0.4 - 1.8]	M ≤ 2 1.0 [0.4 - 1.6]			
			●	MV1030	M ≤ 2 1.1 [0.4 - 1.8]	M ≤ 2 1.0 [0.4 - 1.6]			
			●	MV1020	M ≤ 1 1.1 [0.4 - 1.7]	M ≤ 1 1.0 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]
			●	MV1030	M ≤ 1 1.1 [0.4 - 1.7]	M ≤ 1 1.0 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]
			●	MV1020	M ≤ 2 1.0 [0.4 - 1.7]	M ≤ 2 0.9 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]
			●	MV1030	M ≤ 2 1.0 [0.4 - 1.7]	M ≤ 2 0.9 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]
			●	MV1020	M ≤ 1 1.1 [0.4 - 1.7]	M ≤ 1 1.0 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]
			●	MV1030	M ≤ 1 1.1 [0.4 - 1.7]	M ≤ 1 1.0 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]	M ≤ 1 0.9 [0.4 - 1.5]
			●	MV1020	M ≤ 2 1.0 [0.4 - 1.7]	M ≤ 2 0.9 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]
			●	MV1030	M ≤ 2 1.0 [0.4 - 1.7]	M ≤ 2 0.9 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]	M ≤ 2 0.8 [0.4 - 1.5]
			●	MV1020	R ≤ 1 1.5 [0.4 - 2.1]	R ≤ 1 1.4 [0.4 - 1.9]	R ≤ 1 1.3 [0.4 - 1.9]	R ≤ 1 1.3 [0.4 - 1.9]	R ≤ 1 1.3 [0.4 - 1.9]
			●	MV1030	R ≤ 1 1.5 [0.4 - 2.1]	R ≤ 1 1.4 [0.4 - 1.9]	R ≤ 1 1.3 [0.4 - 1.9]	R ≤ 1 1.3 [0.4 - 1.9]	R ≤ 1 1.3 [0.4 - 1.9]
			●	MV1020	R ≤ 2 1.4 [0.4 - 2.1]	R ≤ 2 1.3 [0.4 - 1.9]	R ≤ 2 1.2 [0.4 - 1.9]	R ≤ 2 1.2 [0.4 - 1.9]	R ≤ 2 1.2 [0.4 - 1.9]
			●	MV1030	R ≤ 2 1.4 [0.4 - 2.1]	R ≤ 2 1.3 [0.4 - 1.9]	R ≤ 2 1.2 [0.4 - 1.9]	R ≤ 2 1.2 [0.4 - 1.9]	R ≤ 2 1.2 [0.4 - 1.9]
			●	MV1020	R ≤ 1 1.4 [1.0 - 2.0]	R ≤ 1 1.2 [0.4 - 1.8]			
			●	MV1030	R ≤ 1 1.4 [1.0 - 2.0]	R ≤ 1 1.2 [0.4 - 1.8]			
			●	MV1020	R ≤ 2 1.3 [1.0 - 2.0]	R ≤ 2 1.1 [0.4 - 1.8]			
			●	MV1030	R ≤ 2 1.3 [1.0 - 2.0]	R ≤ 2 1.1 [0.4 - 1.8]			
			●	MV1020	R ≤ 1 1.4 [1.0 - 2.0]	R ≤ 1 1.2 [0.4 - 1.8]			
			●	MV1030	R ≤ 1 1.4 [1.0 - 2.0]	R ≤ 1 1.2 [0.4 - 1.8]			
			●	MV1020	R ≤ 2 1.3 [1.0 - 2.0]	R ≤ 2 1.1 [0.4 - 1.8]			
			●	MV1030	R ≤ 2 1.3 [1.0 - 2.0]	R ≤ 2 1.1 [0.4 - 1.8]			
S	Alliages de titane		●	MP9130	L ≤ 1 0.7 [0.5 - 0.9]	L ≤ 1 0.6 [0.4 - 0.7]	L ≤ 1 0.5 [0.3 - 0.6]	L ≤ 1 0.5 [0.3 - 0.6]	L ≤ 1 0.5 [0.3 - 0.6]
			●	MP9130	L ≤ 2 0.6 [0.4 - 0.8]	L ≤ 2 0.5 [0.3 - 0.6]	L ≤ 2 0.4 [0.2 - 0.5]	L ≤ 2 0.4 [0.2 - 0.5]	L ≤ 2 0.4 [0.2 - 0.5]
			●	MP9130	M ≤ 1 0.7 [0.5 - 0.9]	M ≤ 1 0.6 [0.4 - 0.7]	M ≤ 1 0.5 [0.3 - 0.6]	M ≤ 1 0.5 [0.3 - 0.6]	M ≤ 1 0.5 [0.3 - 0.6]
			●	MP9130	M ≤ 2 0.6 [0.4 - 0.8]	M ≤ 2 0.5 [0.3 - 0.6]	M ≤ 2 0.4 [0.2 - 0.5]	M ≤ 2 0.4 [0.2 - 0.5]	M ≤ 2 0.4 [0.2 - 0.5]
			●	MP9130	R ≤ 1 0.8 [0.6 - 1.0]	R ≤ 1 0.7 [0.4 - 0.9]	R ≤ 1 0.6 [0.4 - 0.8]	R ≤ 1 0.6 [0.4 - 0.8]	R ≤ 1 0.6 [0.4 - 0.8]
			●	MP9130	R ≤ 2 0.7 [0.5 - 0.9]	R ≤ 2 0.6 [0.3 - 0.8]	R ≤ 2 0.5 [0.3 - 0.7]	R ≤ 2 0.5 [0.3 - 0.7]	R ≤ 2 0.5 [0.3 - 0.7]
			●	MP9130	R ≤ 1 0.7 [0.5 - 0.9]	R ≤ 1 0.6 [0.4 - 0.7]	R ≤ 1 0.5 [0.3 - 0.6]	R ≤ 1 0.5 [0.3 - 0.6]	R ≤ 1 0.5 [0.3 - 0.6]
			●	MP9130	R ≤ 2 0.6 [0.4 - 0.8]	R ≤ 2 0.5 [0.3 - 0.6]	R ≤ 2 0.4 [0.2 - 0.5]	R ≤ 2 0.4 [0.2 - 0.5]	R ≤ 2 0.4 [0.2 - 0.5]

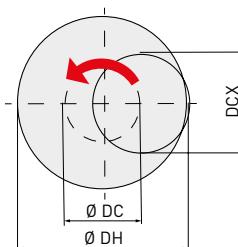
415SD

CAPACITÉS D'USINAGE

RAMPING



PERÇAGE HÉLICOÏDAL



- Comment calculer l'interpolation hélicoïdale.

$$\emptyset_{DC} = \emptyset_{DH} - DCX$$

Diamètre d'interpolation

Diamètre de trou désiré

Diamètre de coupe max.

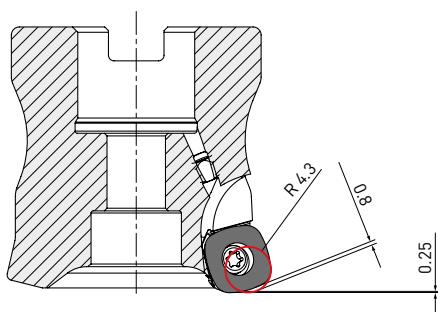
- Pour la profondeur de coupe par passe, consultez les conditions de coupe pour perçage hélicoïdal ci-dessus.
- Réglez la vitesse de l'axe de la machine de sorte que l'outil tourne et coupe en avalant.

- Au cours des opérations de ramping et de plongée, diminuer l'avance d'au moins 60 % par rapport au taux calculé.
- Les longs copeaux engendrés peuvent se disperser, assurez-vous que des mesures de sécurité adéquates sont prises.

Porte-outil Type	DCX	DC	APMX	Ramping		Perçage hélicoïdal	
				RMPX	Min.	Max.	
ATTACHEMENT PAR ALÉSAGE							
41SD-050A04AR-E	50	33.4	2	3	84	97	
41SD-050A05AR-E	50	33.4	2	3	84	97	
41SD-052A04AR-E	52	35.4	2	3	88	101	
41SD-052A06AR-E	52	35.4	2	3	88	101	
41SD-063A05AR-E	63	46.5	2	2	110	123	
41SD-063A07AR-E	63	46.5	2	2	110	123	
41SD-066A05AR-E	66	49.4	2	1.9	116	129	
41SD-066A07AR-E	66	49.4	2	1.9	116	129	

NOTE POUR LA PROGRAMMATION

Lorsque vous utilisez 415SD (Mplus), veuillez programmer le rayon d'outil comme suit : Les segments résiduels approximatifs pour le programme sont les suivants.



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MÉMO



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