



# SE 60

- For general machining
- Cost efficiency

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For material application between  
53 HRC to 68 HRC



# PLUNGE-MILL



## Plunge-Mill Endmills

				EDP	Ø	N°Z	Helix Angle	G6110	B0909	RC	Weldon	Operation			Page
	Plunge-Mill Fräser				1-20	3	40°	•				•	•		254
	Frese Plunge-Mill														
	Fraises 2 tailles Plunge-Mill														
	Plunge-Mill 系列 立铣刀														
				G10											
				G12				•	√			•	•		254

# SE 60

## SE 60 Short Flutes Endmills



				EDP	Ø	N°Z	Helix Angle	B0909	RC	Weldon	Operation			Page	
	SE 60 Fräser mit kurzen Nuten				3-16	4	45°	•				•			268
	Frese SE 60 con gole corte														
	Fraises SE 60 - standard														
	SE 60 系列 立铣刀 - 短刃														

## SE 60 Endmills - Standard

				EDP	Ø	N°Z	Helix Angle	B0909	RC	Weldon	Operation			Page	
	SE 60 Fräser - Standard Nuten				1-25	4	40°	•				•			260
	Frese SE 60 - Standard														
	Fraises 2 tailles SE 60 standard														
	SE 60 系列 立铣刀														

## SE 60 Endmills - Long

				EDP	Ø	N°Z	Helix Angle	B0909	RC	Weldon	Operation			Page	
	SE 60 Fräser - lang				3-20	4	40°	•							261
	Frese SE 60 - lunghe														
	Fraises SE 60 longues														
	SE 60 系列 密齿 立铣刀 - 中长														

## SE 60 Endmills - Extra-Long

				EDP	Ø	N°Z	Helix Angle	B0909	RC	Weldon	Operation			Page	
	SE 60 Fräser - extra-lang				3-20	4	40°	•							262
	Frese SE 60 - extra-lunghe														
	Fraises SE 60 extra-longues														
	SE 60 系列 密齿 立铣刀 - 加长														

## SE 60 Short-Flutes LONG REACH Endmills, Long

**H**

							Operation					
				EDP	Ø	N° Z	Helix Angle	B0909	RC	Weidon		Page
	SE 60 LONG REACH Fräser lang - mit kurzen Nuten											
	Frese SE 60 LONG REACH lunghe con gole corte											
	Fraises SE 60 LONG REACH longues avec goujures courtes											
	SE 60 系列 短刃 立铣刀 - 中长											
				A38	3 - 20	4	40°	•	√			263
				A39								263

## SE 60 Short-Flutes LONG REACH Endmills, Extra-Long

							Operation					
				EDP	Ø	N° Z	Helix Angle	B0909	RC	Weidon		Page
	SE 60 LONG REACH Fräser extra-lang - mit kurzen Nuten											
	Frese SE 60 LONG REACH extra-lunghe con gole corte											
	Fraises SE 60 LONG REACH extra-longues avec goujures courtes											
	SE 60 系列 短刃 立铣刀 - 加长											
				A40	3 - 20	4	40°	•	√			264
				A41								264

## SE 60 MultiFlute Endmills

							Operation					
				EDP	Ø	N° Z	Helix Angle	B0909	RC	Weidon		Page
	SE 60 Mehrzahnfräser											
	Frese SE 60 multi-taglienti											
	Fraises SE 60 multi-dents											
	SE 60 系列 密齿 立铣刀											
				A42	3 - 20	6/8	50°	•	√			265
				A43								265

## SE 60 MultiFlute Endmills - Long

							Operation					
				EDP	Ø	N° Z	Helix Angle	B0909	RC	Weidon		Page
	SE 60 Mehrzahnfräser - Lang											
	Frese SE 60 multi-taglienti Lunghe											
	Fraises SE 60 multidents - long											
	SE 60 系列 密齿 立铣刀 - 中长											
				A44	3 - 20	6/8	50°	•	√			266
				A45								266

## SE 60 MultiFlute Endmills - Extra-Long

							Operation					
				EDP	Ø	N° Z	Helix Angle	B0909	RC	Weidon		Page
	SE 60 Mehrzahnfräser - Extra-Long											
	Frese SE 60 multi-taglienti Extra-Lunghe											
	Fraises SE 60 multidents Extra-Longues											
	SE 60 系列 密齿 立铣刀 - 加长											
				A46	3 - 20	6/8	50°	•	√			267
				A47								267

## SE 60 Miniature Endmills

**H**

<div style="display: flex; align-items: center;">  SE 60 Kleinstfräser                 </div>			EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon	Operation			Page
<div style="display: flex; align-items: center;">  Micro-frese SE 60                 </div>													
<div style="display: flex; align-items: center;">  Micro-fraises SE 60                 </div>													
<div style="display: flex; align-items: center;">  SE 60 系列 微型 立铣刀                 </div>													
			A55	0.2 - 0.9	2	40°	•					278	

## SE 60 Miniature Endmills with Long Neck

<div style="display: flex; align-items: center;">  SE 60 Kleinstfräser mit langem Hals                 </div>			EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon	Operation			Page
<div style="display: flex; align-items: center;">  Micro-frese SE 60 con collo lungo                 </div>													
<div style="display: flex; align-items: center;">  Micro-fraises SE 60 avec cou long                 </div>													
<div style="display: flex; align-items: center;">  SE 60 系列 长颈短刃 立铣刀 - 加长                 </div>													
			A56	0.2 - 4	2	40°	•		•			279	

## SE 60R Miniature Torus Endmills with Long Neck

<div style="display: flex; align-items: center;">  SE 60R Torus-Kleinstfräser mit langem Hals                 </div>			EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon	Operation			Page
<div style="display: flex; align-items: center;">  Micro-frese SE 60R toroidali con collo lungo                 </div>													
<div style="display: flex; align-items: center;">  Micro-fraises SE 60R 2 tailles toriques avec cou long                 </div>													
<div style="display: flex; align-items: center;">  SE 60R 系列 长颈短刃 立铣刀                 </div>													
			A80	0.2 - 4	2	40°	•		•			284	

## SE 60R Short Flutes Torus Endmills Standard

<div style="display: flex; align-items: center;">  SE 60R Standard Torusfräser - mit kurzen Nuten                 </div>			EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon	Operation			Page
<div style="display: flex; align-items: center;">  Frese SE 60R toroidali Standard, gole corte                 </div>													
<div style="display: flex; align-items: center;">  Fraises toriques SE 60R - Standard, goujures courtes                 </div>													
<div style="display: flex; align-items: center;">  SE 60R 系列 圆鼻 立铣刀                 </div>													
			A48	3 - 16	4	40°	•	√				269	
			A49						269				

## SE 60R Torus Endmills Standard

<div style="display: flex; align-items: center;">  SE 60R Standard Torusfräser                 </div>			EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon	Operation			Page
<div style="display: flex; align-items: center;">  Frese SE 60R toroidali Standard                 </div>													
<div style="display: flex; align-items: center;">  Fraises toriques SE 60R Standard                 </div>													
<div style="display: flex; align-items: center;">  SE 60R 系列 圆鼻 立铣刀                 </div>													
			A50	1 - 20	4	40°	•		•			270	

## SE 60R Short Flutes LONG REACH Torus Endmills, Long

**H**

										Operation			Page							
										EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon				
	SE 60R LONG REACH lange Torusfräser mit kurzen Nuten										A51	2 - 16	4	40°	•	√				274
	Frese toroidali SE 60R LONG REACH lunghe con gole corte										A52									274
	Fraises toriques SE 60R LONG REACH longues avec goujures courtes																			
	SE 60R 系列 圆鼻短刀 立铣刀 - 中长																			

## SE 60R Short Flutes LONG REACH Torus Endmills, Extra-Long

										Operation			Page							
										EDP	Ø	N° Z	Helix Angle	B0909	RC	Weldon				
	SE 60R LONG REACH extra-langge Torusfräser mit kurzen Nuten										A53	2 - 16	4	40°	•	√				276
	Frese toroidali SE 60R LONG REACH extra-lunghe con gole corte										A54									276
	Fraises toriques SE 60R LONG REACH extra-longues avec goujures courtes																			
	SE 60R 系列 圆鼻短刀 立铣刀 - 加长																			

# SE 60



01

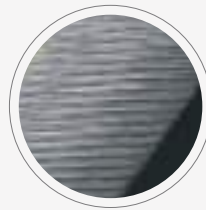
## GASH LAND DESIGN

Significantly improves strength and provide great chipping resistance

02

## ECCENTRIC GRINDING

Optimum eccentric grinding in order to avoid rubbing, while maintaining maximum cutting tool strength.

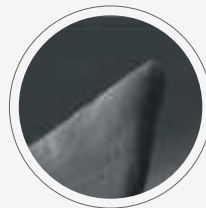


03

## CUTTING EDGE PREPARATION

### Enhances Tool Life

- Less material adhere on the cutting edge
- For stable machining



04

## SUPERIOR COATING TO REDUCE FRICTION

- Increases hardness and higher abrasive wear resistance
- Higher thermal resistance
- Smoother chip evacuation



05

## SUITABLE FOR MATERIAL GROUPS

**H**



DEUTSCH

- 01 **STIRNSCHLIFF DESIGN**  
Verbessert die Leistung deutlich und bietet Schutz gegen Ausbrüche
- 02 **EXZENTRISCHER SCHLIFF**  
Optimaler exzentrischer Schliff zur Reduzierung der Reibung unter Beibehaltung der maximalen Schneidenstabilität
- 03 **SCHNEIDKANTENBEHANDLUNG**  
**Verbessert die Werkzeuglebensdauer**
  - Weniger Materialanhaftungen an der Schneide
  - Für stabile Bearbeitung
- 04 **AUSGEZEICHNETE BESCHICHTUNG ZUR VERRINGERUNG DER REIBUNG**
  - Erhöht die Härte und bietet bessere Verschleißfestigkeit
  - Höhere Temperaturbeständigkeit
  - Glatte Oberfläche für besseren Spänefluß
- 05 **GEEIGNET FÜR DIE MATERIALIGRUPPEN H**



FRANÇAIS

- 01 **CONCEPTION DE FRAISE POUR L'USINAGE GENERAL**  
Améliore considérablement la solidité et apporte
- 02 **MEULAGE EXCENTRIQUE**  
Meulage optimal diminuant le coefficient de friction tout en maintenant une bonne acuité de l'arête de coupe
- 03 **PRÉPARATION DES ARÊTES DE COUPES**  
**Améliore la durée de vie de l'outil**
  - Moins de matériau adhère à l'arête tranchante
  - Pour un usinage stable
- 04 **REVÊTEMENT SUPÉRIEUR POUR RÉDUIRE LA FRICTION**
  - Augmente la dureté et la résistance à l'abrasion
  - Résistance thermique supérieure
  - Évacuation des copeaux plus fluide
- 05 **ADAPTÉ AUX MATÉRIAUX H**



ITALIANO

- 01 **STRUTTURA AREA SGROSSATURA**  
Migliora notevolmente la potenza e offre un'eccellente resistenza alle scheggiature
- 02 **LEVIGATURA ORBITALE**  
Levigatura orbitale ottimale per evitare sfregatura, garantendo la massima resistenza dello strumento di taglio
- 03 **PREPARAZIONE DELL'ANGOLO DI TAGLIO**  
**Migliora la durata dello strumento**
  - Meno materiale che aderisce sull'angolo di taglio
  - Per una lavorazione stabile
- 04 **RIVESTIMENTO SUPERIORE PER RIDURRE LA FRIZIONE**
  - Aumenta la durezza e una maggiore resistenza all'usura abrasiva
  - Resistenza termica superiore
  - Evacuazione dei trucioli più semplice
- 05 **ADATTO PER IL MATERIALE H**



中文

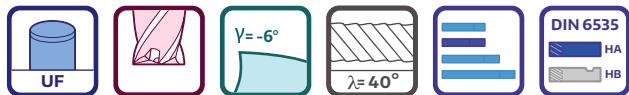
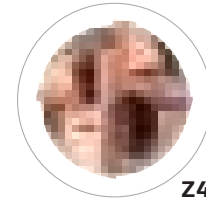
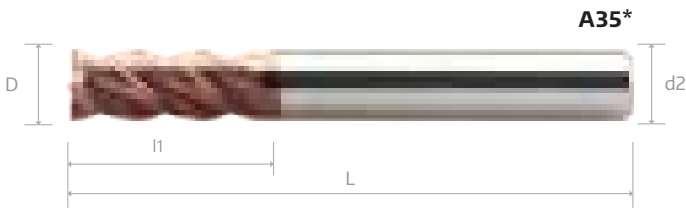
- 01 **刀具底刃的设计**  
强化刀具, 并降低崩刃的几率
- 02 **偏心研磨**  
最佳偏心研磨, 可避免加工时摩擦, 同时保持刀具的最高刚性
- 03 **刃部钝化处理**  
提高刀具寿命和切削过程的稳定性
- 04 **卓越的涂层**
  - 强化刀具的硬度和抗热性
  - 降低积屑瘤并拥有更顺畅的排屑
- 05 **超合金和钛的材料 H**

# SE 60 STANDARD ENDMILLS

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM SE 60 Standard Fräser, 4 Zähne	Fraises 2 tailles SE 60 Standard en carbure monobloc, 4 dents
Frese SE 60 Standard in metallo duro integrale, 4 taglienti	整体硬质合金 SE 60 系列 立铣刀 4 刃 - 标准长度

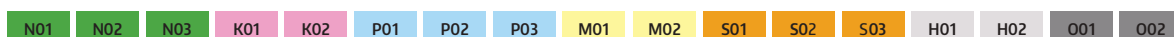


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A35 *
	D	l1	l2	L	d2 ( h6 )	B0909
= * + Ø data						
0100 050 04	1	3		50	4	•
0100 050 06	1	3		50	6	•
0150 050 04	1.5	4.5		50	4	•
0150 050 06	1.5	4.5		50	6	•
0200 050 04	2	6.5		50	4	•
0200 050 06	2	6.5		50	6	•
0250 050 04	2.5	6.5		50	4	•
0250 050 06	2.5	6.5		50	4	•
0300 050 04	3	9		50	4	•
0300 050 06	3	9		50	6	•
0400	4	12		50	4	•
0400 050 06	4	12		50	6	•
0500	5	15		50	5	•
0500 050 06	5	15		50	6	•
0600 050	6	16		50	6	•
0600 060	6	20		60	6	•
0800	8	20		64	8	•
1000 070	10	22		70	10	•
1000 075	10	22		75	10	•
1200	12	25		75	12	•
1400	14	32		90	14	•
1600	16	32		90	16	•
1800	18	38		100	18	•
2000	20	38		100	20	•
2200	22	40		100	22	•
2500	25	40		100	25	•

SE 60

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter



289



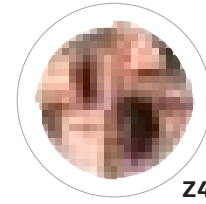
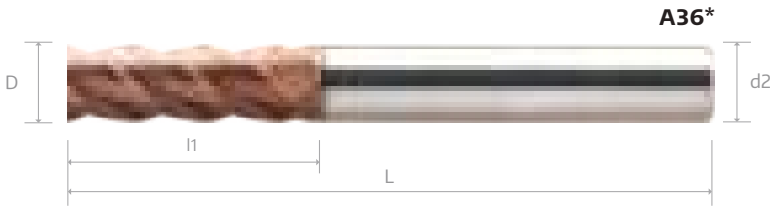
# SE 60

## ENDMILLS - Long

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM Fräser SE 60 Long, 4 Zähne	Fraises 2 tailles SE60 Longue - 4 dents, en carbure monobloc
Frese SE 60 in metallo duro integrale, 4 taglienti	整体硬质合金 SE 60 系列 立铣刀 4 刃 - 中长

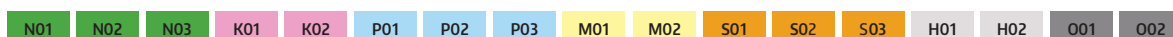


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A36 *
	D	l 1	l 2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 075 06	3	19		75	6	•
0400 075 06	4	19		75	6	•
0500	5	19		60	5	•
0500 075 06	5	19		75	6	•
0600	6	31		75	6	•
0800	8	31		75	8	•
1000 075	10	31		75	10	•
1000 100	10	50		100	10	•
1200	12	50		100	12	•
1400	14	57		125	14	•
1600	16	57		125	16	•
1800	18	57		125	18	•
2000	20	57		125	20	•

SE 60

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter



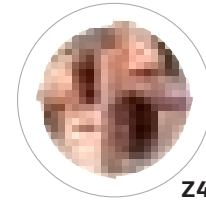
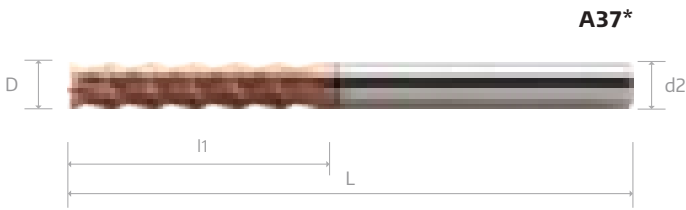
290

# SE 60 ENDMILLS - Extra Long

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM SE 60 Extra-Long Fräser, 4 Zähne	Fraises 2 tailles SE60 Extra-Longue- 4 dents, en carbure monobloc
Frese SE 60 Extra-Lunga in metallo duro integrale, 4 taglienti	整体硬质合金 SE 60 系列 立铣刀 4 刃 - 加长

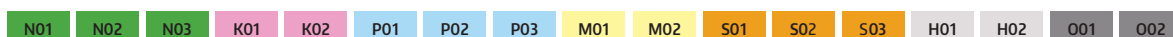


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A37 *
	D	l 1	l 2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 100 06	3	25		100	6	o
0400 100 06	4	31		100	6	o
0500 100 06	5	31		100	6	o
0600	6	38		100	6	•
0800	8	41		100	8	•
1000	10	57		125	10	•
1200	12	75		150	12	•
1400	14	75		150	14	o
1600	16	75		150	16	•
1800	18	75		150	18	o
2000	20	75		150	20	o

SE 60

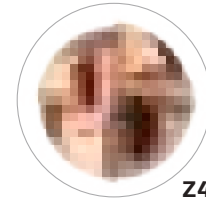
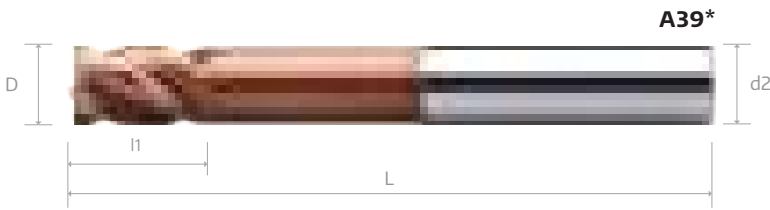
Material Group | Material-Gruppe | Groupe Matiere | Gruppo Materiali | 材质主类

Cutting Parameter



290

VHM SE 60 lange LONG REACH Fräser mit kurzen Nuten, 4 Zähne	Fraises 2 tailles SE 60 LONG REACH longues à hélices courtes en carbure monobloc, 4 dents
Frese SE 60 LONG REACH lunghe in metallo duro integrale, con gole corte, 4 taglienti	整体硬质合金 SE 60 系列 短刃 立铣刀 4 刃 - 中长

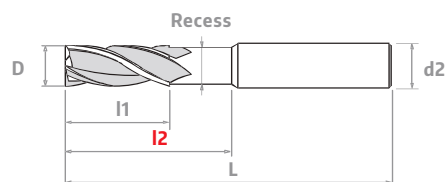


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A38 *
	D	l1	l2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 075 06	3	5	30	75	6	•
0400 075 06	4	8	32	75	6	•
0500 075 06	5	9	32	75	6	•
0600	6	10	40	75	6	•
0800	8	12	40	75	8	•
1000 075	10	14	40	75	10	•
1000 100	10	14	60	100	10	•
1200	12	16	60	100	12	•
1400	14	22	85	125	14	•
1600	16	22	85	125	16	•
1800	18	26	85	125	18	•
2000	20	26	85	125	20	•

A39 \*

### Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensili con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



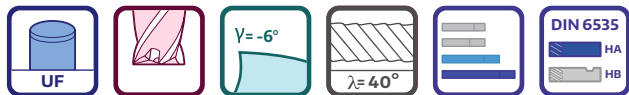
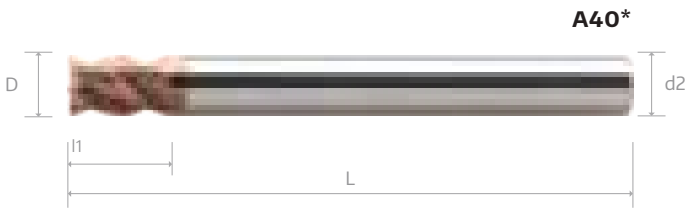
### Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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Cutting Parameter

291
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VHM SE 60 extra-lange LONG REACH Fräser mit kurzen Nuten, 4 Zähne	Fraises 2 tailles SE 60 LONG REACH extra-longues à hélices courtes en carbure monobloc, 4 dents
Frese SE 60 LONG REACH extra-lunghe in metallo duro integrale, con gole corte, 4 taglienti	整体硬质合金 SE 60 系列 短刃 立铣刀 4 刃 - 加长

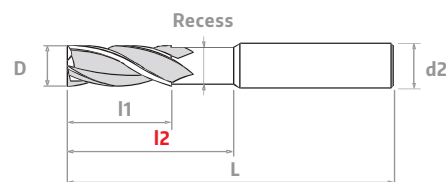


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A40 *
	D	l1	l2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 100 06	3	5	60	100	6	•
0400 100 06	4	8	60	100	6	•
0500 100 06	5	9	60	100	6	•
0600	6	10	60	100	6	•
0800	8	12	60	100	8	•
1000	10	14	85	125	10	•
1200	12	16	110	150	12	•
1400	14	22	110	150	14	•
1600	16	22	110	150	16	•
1800	18	26	110	150	18	•
2000	20	26	110	150	20	•

A41 \*

Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensilli con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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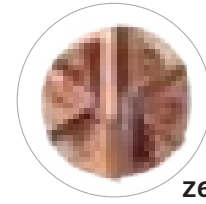
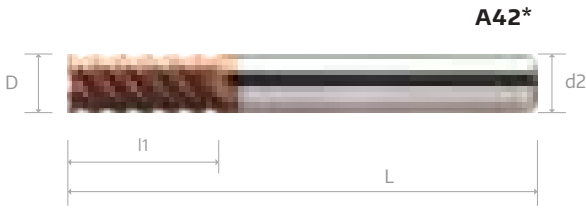
291
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# SE 60 MULTIFLUTE ENDMILLS

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM Mehrzahnfräser SE 60 - 6 bzw. 8 Zähne	Fraises 2 tailles Multidentés SE 60 en carbure monobloc, 6 respectivement 8 dents
Frese multi-taglienti SE 60 in metallo duro integrale, 6 rispettivamente 8 taglienti	整体硬质合金 SE 60 系列 密齿 立铣刀 6 - 8 刃 - 标准长度



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A42 *
	D	l1	l2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 050 06	3	8	20	50	6	•
0400 050 06	4	11	20	50	6	•
0500 050 06	5	13	20	50	6	•
0600 050	6	15	20	50	6	•
0600 060	6	20	30	60	6	•
0800	8	20	30	64	8	•
1000	10	22	32	70	10	•
1200	12	25	37	75	12	•
1400	14	30	44	90	14	•

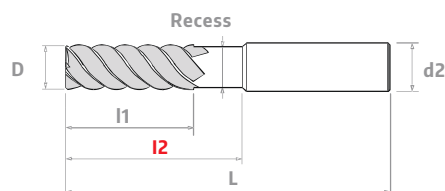


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A42 *
	D	l1	l2	L	d2 ( h6 )	B0909
= * + Ø data						
1600	16	30	46	90	16	•
1800	18	35	53	100	18	•
2000	20	38	58	100	20	•

A43 \*

## Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensilli con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



## Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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Cutting Parameter

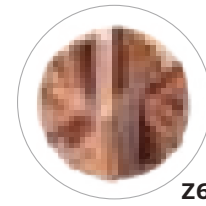
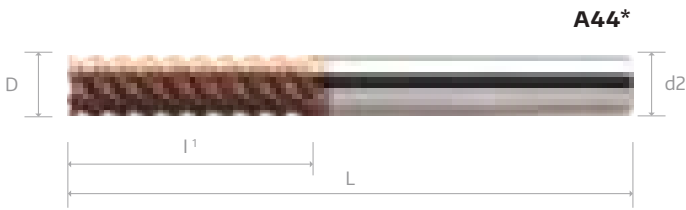
292
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# SE 60 MULTIFLUTE ENDMILLS - Long

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM lange Mehrzahnfräser SE 60 - 6 bzw. 8 Zähne	Fraises 2 tailles Multidentés SE 60 longues en carbure monobloc, 6 respectivement 8 dents
Frese multi-taglienti SE 60 lunghe in metallo duro integrale, 6 rispettivamente 8 taglienti	整体硬质合金 SE 60 系列 密齿 立铣刀 6 - 8 刃 - 中长



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A44 *
	D	L1	L2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 075 06	3	19	30	75	6	•
0400 075 06	4	19	32	75	6	•
0500 075 06	5	19	32	75	6	•
0600	6	31	40	75	6	•
0800	8	31	40	75	8	•
1000	10	45	60	100	10	•
1200	12	50	60	100	12	•
1400	14	57	85	125	14	•



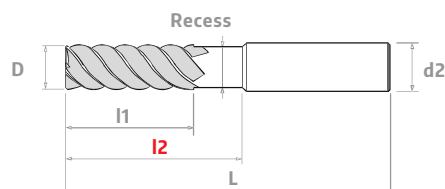
EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A44 *
	D	L1	L2	L	d2 ( h6 )	B0909
= * + Ø data						
1600	16	57	85	125	16	•
1800	18	57	85	125	18	•
2000	20	57	85	125	20	•

A45 \*

SE 60

Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensilli con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



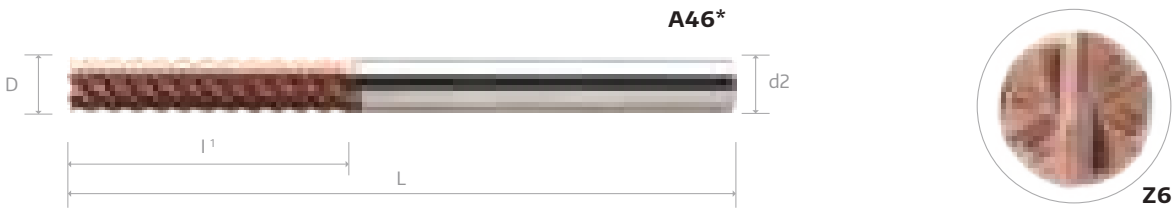
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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292
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VHM extra-lange Mehrzahnfräser SE 60 - 6 bzw. 8 Zähne	Fraises 2 tailles Multidentés SE 60 extra-longues en carbure monobloc, 6 respectivement 8 dents
Frese multi-taglienti SE 60 extra-lunghe in metallo duro integrale, 6 rispettivamente 8 taglienti	整体硬质合金 SE 60 系列 密齿 立铣刀 - 8 刃 - 加长



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A46 *
	D	L1	L2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 100 06	3	25	60	100	6	•
0400 100 06	4	31	60	100	6	•
0500 100 06	5	31	60	100	6	•
0600	6	38	60	100	6	•
0800	8	41	60	100	8	•
1000	10	57	85	125	10	•
1200	12	75	110	150	12	•
1400	14	75	110	150	14	•

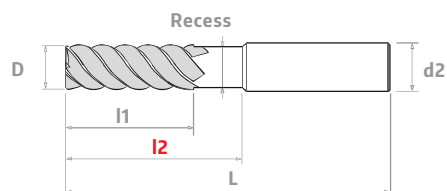


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A46 *
	D	L1	L2	L	d2 ( h6 )	B0909
= * + Ø data						
1600	16	75	110	150	16	•
1800	18	75	110	150	18	•
2000	20	75	110	150	20	•

A47 \*

### Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensilli con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



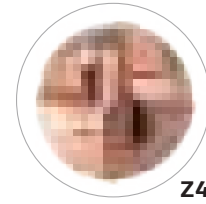
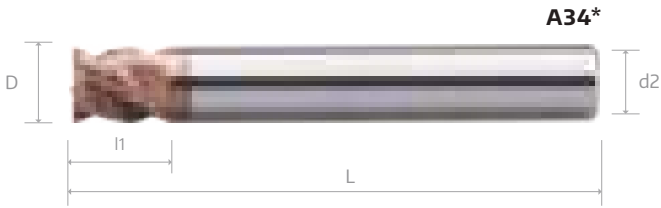
### Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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### Cutting Parameter

292
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VHM SE 60 Standard Fräser, 4 Zähne	Fraises 2 tailles SE 60 Standard en carbure monobloc, 4 dents
Frese SE 60 Standard in metallo duro integrale, 4 taglienti	整体硬质合金 SE 60 系列 立铣刀 4 刃 - 标准长度



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )					A34 *
	D	l1	l2	L	d2 ( h6 )	B0909
= * + Ø data						
0300 060 06	3	4		60	6	•
0400 060 06	4	5		60	6	•
0500 060 06	5	6		60	6	•
0600	6	7		60	6	•
0800	8	9		64	8	•
1000	10	11		70	10	•
1200	12	13		75	12	•
1600	16	17		90	16	•

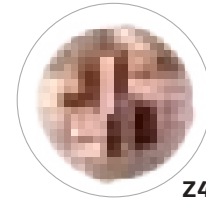
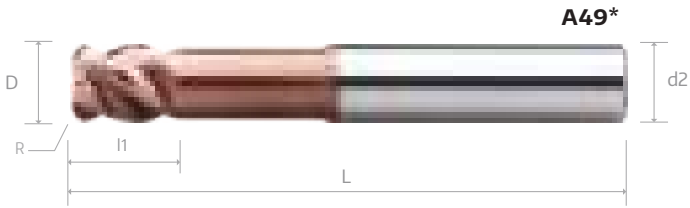


# SE 60R SHORT FLUTE TORUS ENDMILLS

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM SE 60R Standard Torusfräser, kurzen Nuten, 4 Zähne	Fraises toriques 2 tailles SE 60R toriques, goujures courtes, 4 dents
Frese toroidali SE 60R in metallo duro integrale, gole corte, 4 taglienti	整体硬质合金 SE 60R 系列 圆鼻短刀 立铣刀 4 刃 - 标准长度

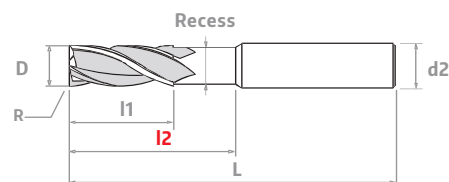


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )						A48 *
	D	l1	l2	L	d2 ( h6 )	R	B0909
0300 060 0600 030	3	4	14	60	6	0.3	•
0300 060 0600 050	3	4	14	60	6	0.5	•
0400 060 0600 030	4	5	16	60	6	0.3	•
0400 060 0600 050	4	5	16	60	6	0.5	•
0500 060 0600 030	5	6	18	60	6	0.3	•
0500 060 0600 050	5	6	18	60	6	0.5	•
0600 060 0600 030	6	7	20	60	6	0.3	•
0600 060 0600 050	6	7	20	60	6	0.5	•
0600 060 0600 100	6	7	20	60	6	1.0	•
0800 064 0800 030	8	9	26	64	8	0.3	•
0800 064 0800 050	8	9	26	64	8	0.5	•
0800 064 0800 100	8	9	26	64	8	1.0	•
1000 070 1000 050	10	11	31	70	10	0.5	•
1000 070 1000 100	10	11	31	70	10	1.0	•
1000 070 1000 200	10	11	31	70	10	2.0	•
1200 075 1200 050	12	13	37	75	12	0.5	•
1200 075 1200 100	12	13	37	75	12	1.0	•
1200 075 1200 200	12	13	37	75	12	2.0	•
1600 090 1600 050	16	17	43	90	16	0.5	•
1600 090 1600 100	16	17	43	90	16	1.0	•
1600 090 1600 200	16	17	43	90	16	2.0	•
1600 090 1600 300	16	17	43	90	16	3.0	•

A49 \*

## Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensilli con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



## Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

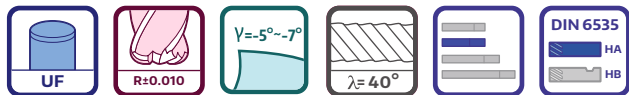
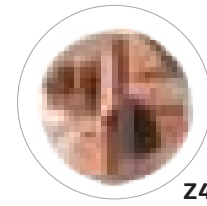
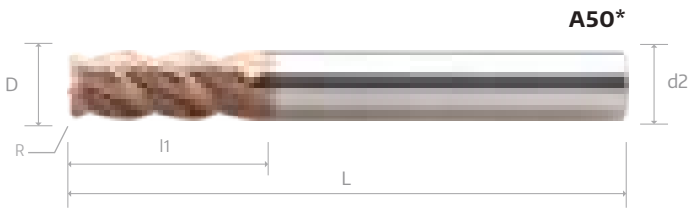
N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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Cutting Parameter

290
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SE 60

VHM SE 60R Standard Torusfräser, 4 Zähne	Fraises 2 tailles SE 60R toriques Standard en carbure monobloc, 4 dents
Frese SE 60R toroidali Standard, in metallo duro integrale, 4 taglianti	整体硬质合金 SE 60R 系列 圆鼻 立铣刀 4 刃 - 标准长度



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A50 *
	D	l1	l2	L	d2 (h6)	R	B0909
<b>= * + Ø data</b>							
0100 050 0400 020	1	3		50	4	0.2	•
0100 050 0600 020	1	3		50	6	0.2	•
0150 050 0400 020	1.5	4.5		50	4	0.2	•
0150 050 0600 020	1.5	4.5		50	6	0.2	•
0200 050 0400 020	2	6.5		50	4	0.2	•
0200 050 0400 030	2	6.5		50	4	0.3	•
0200 050 0600 020	2	6.5		50	6	0.2	•
0200 050 0600 030	2	6.5		50	6	0.3	•
0250 050 0400 020	2.5	6.5		50	4	0.2	•
0250 050 0400 030	2.5	6.5		50	4	0.3	•
0250 050 0400 050	2.5	6.5		50	4	0.5	•
0250 050 0600 020	2.5	6.5		50	6	0.2	•
0250 050 0600 030	2.5	6.5		50	6	0.3	•
0250 050 0600 050	2.5	6.5		50	6	0.5	•
0300 040 0300 020	3	9		40	3	0.2	•
0300 040 0300 030	3	9		40	3	0.3	•
0300 040 0300 050	3	9		40	3	0.5	•
0300 050 0400 020	3	9		50	4	0.2	•
0300 050 0400 030	3	9		50	4	0.3	•
0300 050 0400 050	3	9		50	4	0.5	•
0300 050 0600 020	3	9		50	6	0.2	•
0300 050 0600 030	3	9		50	6	0.3	•
0300 050 0600 050	3	9		50	6	0.5	•
0300 060 0600 020	3	9		60	6	0.2	•
0300 060 0600 030	3	9		60	6	0.3	•
0300 060 0600 050	3	9		60	6	0.5	•
0400 050 0400 020	4	12		50	4	0.2	•
0400 050 0400 030	4	12		50	4	0.3	•

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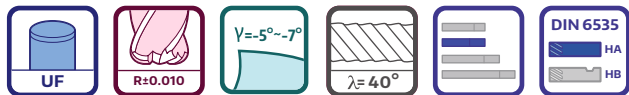
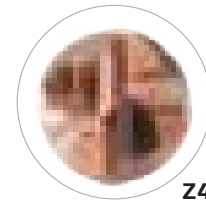
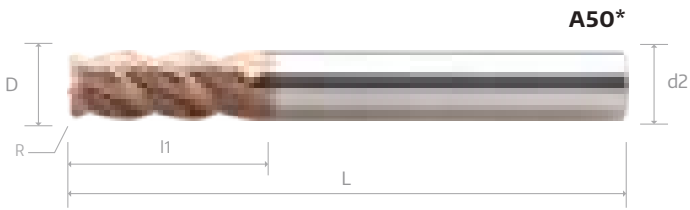
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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289
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VHM SE 60R Standard Torusfräser, 4 Zähne	Fraises 2 tailles SE 60R toriques Standard en carbure monobloc, 4 dents
Frese SE 60R toroidali Standard, in metallo duro integrale, 4 taglianti	整体硬质合金 SE 60R 系列 圆鼻 立铣刀 4 刃 - 标准长度



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A50 *
	D	l1	l2	L	d2 (h6)	R	B0909
<b>= * + Ø data</b>							
0400 050 0400 050	4	12		50	4	0.5	•
0400 050 0400 100	4	12		50	4	1	•
0400 050 0600 020	4	12		50	6	0.2	•
0400 050 0600 030	4	12		50	6	0.3	•
0400 050 0600 050	4	12		50	6	0.5	•
0400 050 0600 100	4	12		50	6	1	•
0400 060 0600 020	4	12		60	6	0.2	•
0400 060 0600 030	4	12		60	6	0.3	•
0400 060 0600 050	4	12		60	6	0.5	•
0400 060 0600 100	4	12		60	6	1	•
0500 050 0500 020	5	15		50	5	0.2	•
0500 050 0500 030	5	15		50	5	0.3	•
0500 050 0500 050	5	15		50	5	0.5	•
0500 050 0500 100	5	15		50	5	1	•
0500 050 0600 020	5	15		50	6	0.2	•
0500 050 0600 030	5	15		50	6	0.3	•
0500 050 0600 050	5	15		50	6	0.5	•
0500 050 0600 100	5	15		50	6	1	•
0500 060 0600 020	5	15		60	6	0.2	•
0500 060 0600 030	5	15		60	6	0.3	•
0500 060 0600 050	5	15		60	6	0.5	•
0500 060 0600 100	5	15		60	6	1	•
0600 050 0600 020	6	16		50	6	0.2	•
0600 050 0600 030	6	16		50	6	0.3	•
0600 050 0600 050	6	16		50	6	0.5	•
0600 050 0600 100	6	16		50	6	1.0	•
0600 060 0600 020	6	20		60	6	0.2	•
0600 060 0600 030	6	20		60	6	0.3	•

cont'd ▶

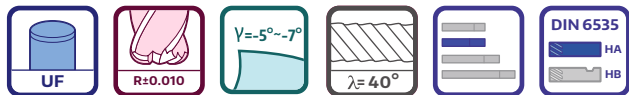
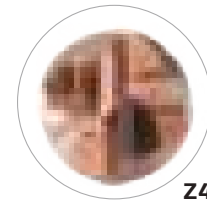
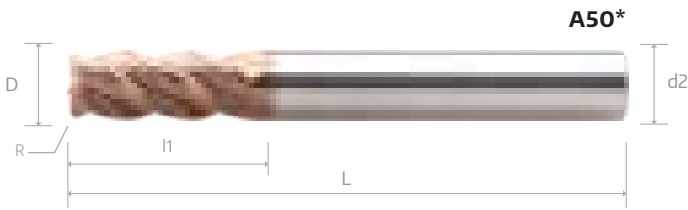
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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289
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VHM SE 60R Standard Torusfräser, 4 Zähne	Fraises 2 tailles SE 60R toriques Standard en carbure monobloc, 4 dents
Frese SE 60R toroidali Standard, in metallo duro integrale, 4 taglianti	整体硬质合金 SE 60R 系列 圆鼻 立铣刀 4 刃 - 标准长度



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A50 *
	D	l1	l2	L	d2 (h6)	R	B0909
<b>= * + Ø data</b>							
0600 060 0600 050	6	20		60	6	0.5	•
0600 060 0600 100	6	20		60	6	1.0	•
0800 064 0800 020	8	20		64	8	0.2	•
0800 064 0800 030	8	20		64	8	0.3	•
0800 064 0800 050	8	20		64	8	0.5	•
0800 064 0800 100	8	20		64	8	1.0	•
0800 064 0800 150	8	20		64	8	1.5	•
0800 064 0800 200	8	20		64	8	2	•
1000 070 1000 020	10	22		70	10	0.2	•
1000 070 1000 030	10	22		70	10	0.3	•
1000 070 1000 050	10	22		70	10	0.5	•
1000 070 1000 100	10	22		70	10	1.0	•
1000 070 1000 150	10	22		70	10	1.5	•
1000 070 1000 200	10	22		70	10	2.0	•
1000 075 1000 020	10	22		75	10	0.2	•
1000 075 1000 030	10	22		75	10	0.3	•
1000 075 1000 050	10	22		75	10	0.5	•
1000 075 1000 100	10	22		75	10	1.0	•
1000 075 1000 150	10	22		75	10	1.5	•
1000 075 1000 200	10	22		75	10	2.0	•
1200 075 1200 020	12	25		75	12	0.2	•
1200 075 1200 030	12	25		75	12	0.3	•
1200 075 1200 050	12	25		75	12	0.5	•
1200 075 1200 100	12	25		75	12	1.0	•
1200 075 1200 150	12	25		75	12	1.5	•
1200 075 1200 200	12	25		75	12	2.0	•
1200 075 1200 300	12	25		75	12	3.0	•
1400 090 1400 030	14	32		90	14	0.3	•

cont'd ►

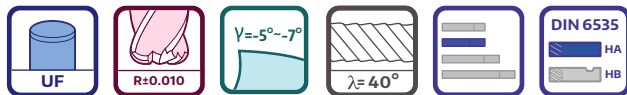
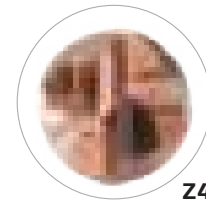
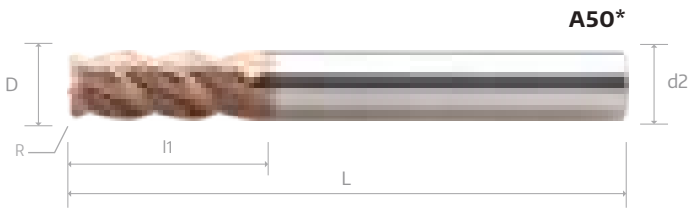
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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289
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VHM SE 60R Standard Torusfräser, 4 Zähne	Fraises 2 tailles SE 60R toriques Standard en carbure monobloc, 4 dents
Frese SE 60R toroidali Standard, in metallo duro integrale, 4 taglienti	整体硬质合金 SE 60R 系列 圆鼻 立铣刀 4 刃 - 标准长度



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A50 *
	D	l1	l2	L	d2 (h6)	R	B0909
<b>= * + Ø data</b>							
1400 090 1400 050	14	32		90	14	0.5	○
1400 090 1400 100	14	32		90	14	1.0	○
1400 090 1400 150	14	32		90	14	1.5	○
1400 090 1400 200	14	32		90	14	2	○
1400 090 1400 300	14	32		90	14	3	○
1600 090 1600 030	16	32		90	16	0.3	●
1600 090 1600 050	16	32		90	16	0.5	●
1600 090 1600 100	16	32		90	16	1	●
1600 090 1600 150	16	32		90	16	1.5	●
1600 090 1600 200	16	32		90	16	2	●
1600 090 1600 300	16	32		90	16	3	●
1800 100 1800 030	18	38		100	18	0.3	●
1800 100 1800 050	18	38		100	18	0.5	●
1800 100 1800 100	18	38		100	18	1	●
1800 100 1800 150	18	38		100	18	1.5	●
1800 100 1800 200	18	38		100	18	2	●
1800 100 1800 300	18	38		100	18	3	●
2000 100 2000 030	20	38		100	20	0.3	●
2000 100 2000 050	20	38		100	20	0.5	●
2000 100 2000 100	20	38		100	20	1	●
2000 100 2000 150	20	38		100	20	1.5	●
2000 100 2000 200	20	38		100	20	2	●
2000 100 2000 300	20	38		100	20	3	●

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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289
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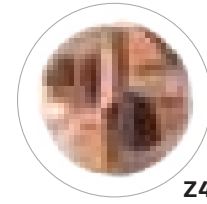
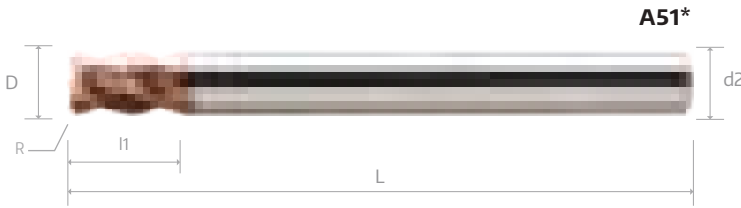
# SE 60R

## SHORT FLUTES TORUS ENDMILLS - LONG REACH - Long

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM SE 60R lange LONG REACH Torusfräser, kurze Nuten, 4 Zähne	Fraises 2 tailles SE 60R LONG REACH toriques longues, goujures courtes, 4 dents
Frese SE 60R LONG REACH toroidali lunghe in metallo duro integrale, gole corte, 4 taglianti	整体硬质合金 SE 60R 系列 圆鼻短刃 立铣刀 4 刃 - 中长

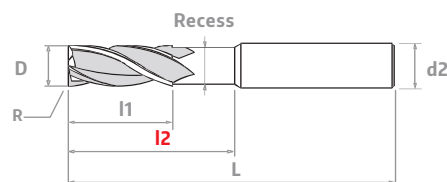


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )						A51 *
	D	l1	l2	L	d2 ( h6 )	R	B0909
0200 075 0600 020	2	4	30	75	6	0.2	•
0200 075 0600 030	2	4	30	75	6	0.3	•
0300 075 0600 020	3	5	30	75	6	0.2	•
0300 075 0600 030	3	5	30	75	6	0.3	•
0300 075 0600 050	3	5	30	75	6	0.5	•
0400 075 0600 020	4	8	32	75	6	0.2	•
0400 075 0600 030	4	8	32	75	6	0.3	•
0400 075 0600 050	4	8	32	75	6	0.5	•
0500 075 0600 020	5	9	32	75	6	0.2	•
0500 075 0600 030	5	9	32	75	6	0.3	•
0500 075 0600 050	5	9	32	75	6	0.5	•
0600 075 0600 020	6	10	40	75	6	0.2	•
0600 075 0600 030	6	10	40	75	6	0.3	•
0600 075 0600 050	6	10	40	75	6	0.5	•
0600 075 0600 100	6	10	40	75	6	1	•
0800 075 0800 020	8	12	40	75	8	0.2	•
0800 075 0800 030	8	12	40	75	8	0.3	•
0800 075 0800 050	8	12	40	75	8	0.5	•
0800 075 0800 100	8	12	40	75	8	1	•
1000 075 1000 020	10	14	40	75	10	0.2	•
1000 075 1000 030	10	14	40	75	10	0.3	•
1000 075 1000 050	10	14	40	75	10	0.5	•
1000 075 1000 100	10	14	40	75	10	1	•
1000 075 1000 200	10	14	40	75	10	2	•
1000 100 1000 020	10	14	60	100	10	0.2	•
1000 100 1000 030	10	14	60	100	10	0.3	•

SE 60

Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensili con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



A52 \*  
cont'd ▶

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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291
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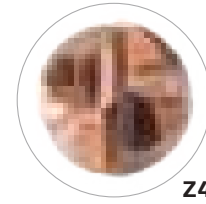
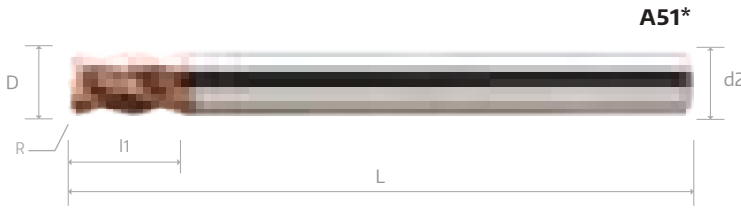
# SE 60R

## SHORT FLUTES TORUS ENDMILLS - LONG REACH - Long

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM SE 60R lange LONG REACH Torusfräser, kurze Nuten, 4 Zähne	Fraises 2 tailles SE 60R LONG REACH toriques longues, goujures courtes, 4 dents
Frese SE 60R LONG REACH toroidali lunghe in metallo duro integrale, gole corte, 4 taglianti	整体硬质合金 SE 60R 系列 圆鼻短刃 立铣刀 4 刃 - 中长

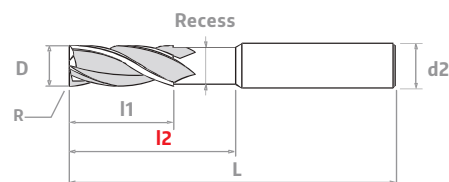


EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A51*
	D	l1	l2	L	d2 (h6)	R	B0909
= * + Ø data							
1000 100 1000 050	10	14	60	100	10	0.5	•
1000 100 1000 100	10	14	60	100	10	1	•
1000 100 1000 200	10	14	60	100	10	2	•
1200 100 1200 020	12	16	60	100	12	0.2	•
1200 100 1200 030	12	16	60	100	12	0.3	•
1200 100 1200 050	12	16	60	100	12	0.5	•
1200 100 1200 100	12	16	60	100	12	1	•
1200 100 1200 200	12	16	60	100	12	2	•
1600 125 1600 030	12	16	60	100	12	3	•
1600 125 1600 050	16	22	85	125	16	0.5	•
1600 125 1600 100	16	22	85	125	16	1	•
1600 125 1600 200	16	22	85	125	16	2	•
1600 125 1600 300	16	22	85	125	16	3	•

A52\*

### Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement sur demande
Utensilli con riduzione gambo su richiesta	密齿立铣刀带颈位特别要求



### Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

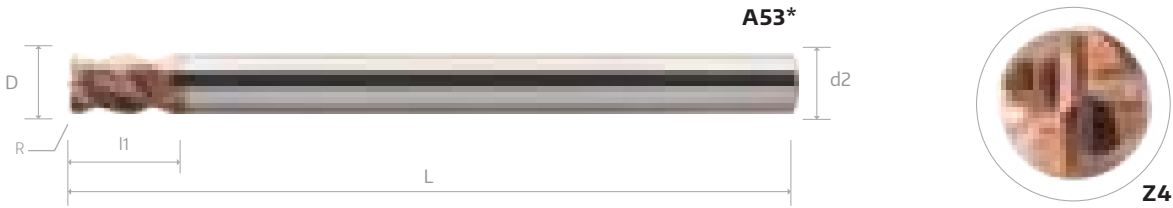
N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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Cutting Parameter

291
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SE 60

VHM SE 60R extra-lange LONG REACH Torusfräser, kurze Nuten, 4 Zähne	Fraises toriques 2 tailles SE 60R LONG REACH extra-longues, goujures courtes, 4 dents
Frese torodali SE 60R LONG REACH extra-lunghe in metallo duro integrale, gole corte, 4 taglienti	整体硬质合金 SE 60R 系列 圆鼻短刃 立铣刀 4 刃 - 加长



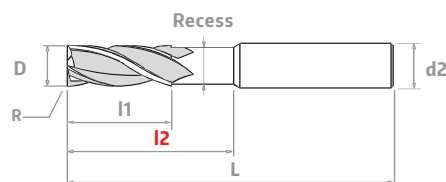
EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )						A53 *
	D	l1	l2	L	d2 ( h6 )	R	B0909
0200 100 0600 020	2	4	60	100	6	0.2	•
0200 100 0600 030	2	4	60	100	6	0.3	•
0300 100 0600 020	3	5	60	100	6	0.2	•
0300 100 0600 030	3	5	60	100	6	0.3	•
0300 100 0600 050	3	5	60	100	6	0.5	•
0300 100 0600 100	3	5	60	100	6	1	•
0400 100 0600 020	4	8	60	100	6	0.2	•
0400 100 0600 030	4	8	60	100	6	0.3	•
0400 100 0600 050	4	8	60	100	6	0.5	•
0400 100 0600 100	4	8	60	100	6	1	•
0500 100 0600 020	5	9	60	100	6	0.2	•
0500 100 0600 030	5	9	60	100	6	0.3	•
0500 100 0600 050	5	9	60	100	6	0.5	•
0500 100 0600 100	5	9	60	100	6	1	•
0600 100 0600 020	6	10	60	100	6	0.2	•
0600 100 0600 030	6	10	60	100	6	0.3	•
0600 100 0600 050	6	10	60	100	6	0.5	•
0600 100 0600 100	6	10	60	100	6	1	•
0600 125 0600 020	6	10	60	125	6	0.2	•
0600 125 0600 030	6	10	60	125	6	0.3	•
0600 125 0600 050	6	10	60	125	6	0.5	•
0600 125 0600 100	6	10	60	125	6	1	•
0800 100 0800 020	8	12	60	100	8	0.2	•
0800 100 0800 030	8	12	60	100	8	0.3	•
0800 100 0800 050	8	12	60	100	8	0.5	•
0800 100 0800 100	8	12	60	100	8	1	•

A54 \*

cont'd ▶

### Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement t sur demande
Utensili con riduzione gambo su richiesta a	密齿立铣刀带颈位特别要求



### Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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291



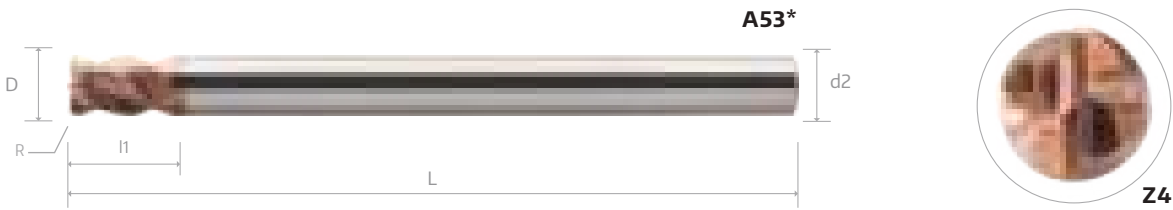
# SE 60R

## SHORT FLUTES LONG REACH TORUS ENDMILLS - Extra-Long

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



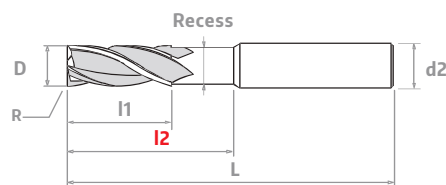
VHM SE 60R extra-lange LONG REACH Torusfräser, kurze Nuten, 4 Zähne	Fraises toriques 2 tailles SE 60R LONG REACH extra-longues, goujures courtes, 4 dents
Frese torodali SE 60R LONG REACH extra-lunghe in metallo duro integrale, gole corte, 4 taglienti	整体硬质合金 SE 60R 系列 圆鼻短刃 立铣刀 4 刃 - 加长



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )						A53 *
	D	l1	l2	L	d2 ( h6 )	R	B0909
0800 100 0800 200	8	12	60	100	8	2	•
0800 125 0800 020	8	12	60	125	8	0.2	•
0800 125 0800 030	8	12	60	125	8	0.3	•
0800 125 0800 050	8	12	60	125	8	0.5	•
0800 125 0800 100	8	12	60	125	8	1	•
0800 125 0800 200	8	12	60	125	8	2	•
1000 125 1000 020	10	14	85	125	10	0.2	•
1000 125 1000 030	10	14	85	125	10	0.3	•
1000 125 1000 050	10	14	85	125	10	0.5	•
1000 125 1000 100	10	14	85	125	10	1	•
1000 125 1000 200	10	14	85	125	10	2	•
1000 150 1000 020	10	14	85	150	10	0.2	•
1000 150 1000 030	10	14	85	150	10	0.3	•
1000 150 1000 050	10	14	85	150	10	0.5	•
1000 150 1000 100	10	14	85	150	10	1	•
1000 150 1000 200	10	14	85	150	10	2	•
1200 150 1200 020	12	16	110	150	12	0.2	•
1200 150 1200 030	12	16	110	150	12	0.3	•
1200 150 1200 050	12	16	110	150	12	0.5	•
1200 150 1200 100	12	16	110	150	12	1	•
1200 150 1200 200	12	16	110	150	12	2	•
1600 150 1600 030	16	22	110	150	16	0.3	•
1600 150 1600 050	16	22	110	150	16	0.5	•
1600 150 1600 100	16	22	110	150	16	1	•
1600 150 1600 200	16	22	110	150	16	2	•
1600 150 1600 300	16	22	110	150	16	3	•

### Tools with recess upon request

Fräser mit Freistellung auf Bestellung	Outils a vec dégagement t sur demande
Utensilli con riduzione gambo su richiesta a	密齿立铣刀带颈位特别要求



A54 \*

### Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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### Cutting Parameter

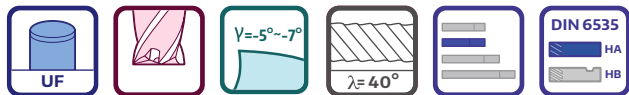
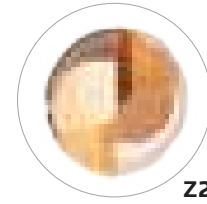
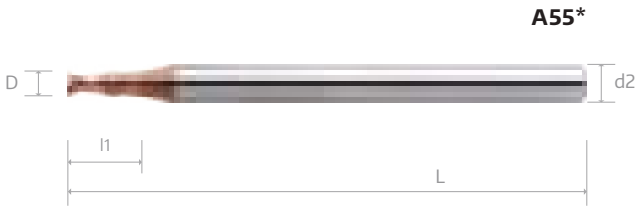
291
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# SE 60 MINIATURE ENDMILLS

≤ 1.600 N/mm<sup>2</sup> + B0909 ≤ 53 - 68 HRC



VHM SE 60 Kleinstfräser, 2 Zähne	Micro-Fraises 2 tailles SE 60 en carbure monobloc, 2 dents
Micro-frese SE 60 in metallo duro integrale, 2 taglienti	整体硬质合金 SE 60 系列 微型 立铣刀 2 刃



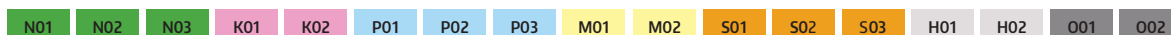
EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)					A55 *
	D	l1	l2	L	d2 (h6)	B0909
= * + Ø data						
0010 03	0.1	0.2		40	3	•
0010 04	0.1	0.2		40	4	•
0020 03	0.2	0.4		40	3	•
0020 04	0.2	0.4		40	4	•
0030 03	0.3	0.6		40	3	•
0030 04	0.3	0.6		40	4	•
0040 03	0.4	0.8		40	3	•
0040 04	0.4	0.8		40	4	•
0050 03	0.5	1.0		40	3	•
0050 04	0.5	1.0		40	4	•
0060 03	0.6	1.2		40	3	•
0060 04	0.6	1.2		40	4	•
0070 03	0.7	1.4		40	3	•
0070 04	0.7	1.4		40	4	•
0080 03	0.8	1.6		40	3	•
0080 04	0.8	1.6		40	4	•
0090 03	0.9	1.8		40	3	•
0090 04	0.9	1.8		40	4	•

SE 60

Ø mm	Tol. µm
0.1-0.7	0/ -12
0.7-4.0	0/ -20

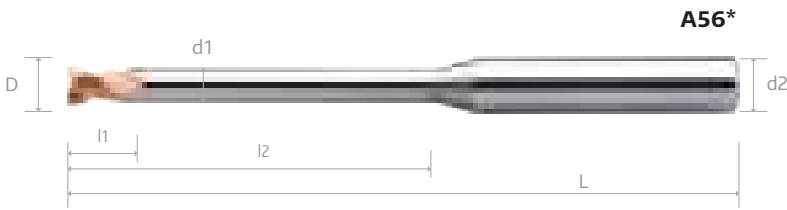
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter



293

VHM SE 60 Kleinstfräser mit langem Hals, 2 Zähne	Micro-fraises SE 60 2 tailles en carbure monobloc avec cou long, 2 dents
Micro-frese SE 60 in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60 系列 长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A56*
	D	l1	l2	L	d1	d2 (h6)	B0909
= * + Ø data							
0020 050 0400	0.2	0.3	-	50	-	4	•
0020 050 0400 005	0.2	0.3	0.5	50	0.17	4	•
0020 050 0400 010	0.2	0.3	1	50	0.17	4	•
0020 050 0400 015	0.2	0.3	1.5	50	0.17	4	•
0030 050 0400	0.3	0.4	-	50	-	4	•
0030 050 0400 010	0.3	0.4	1	50	0.27	4	•
0030 050 0400 020	0.3	0.4	2	50	0.27	4	•
0030 050 0400 030	0.3	0.4	3	50	0.27	4	•
0040 050 0400	0.4	0.6	-	50	-	4	•
0040 050 0400 020	0.4	0.6	2	50	0.37	4	•
0040 050 0400 030	0.4	0.6	3	50	0.37	4	•
0040 050 0400 040	0.4	0.6	4	50	0.37	4	•
0040 050 0400 050	0.4	0.6	5	50	0.37	4	•
0050 050 0400	0.5	0.7	-	50	-	4	•
0050 050 0400 020	0.5	0.7	2	50	0.45	4	•
0050 050 0400 040	0.5	0.7	4	50	0.45	4	•
0050 050 0400 060	0.5	0.7	6	50	0.45	4	•
0050 050 0400 080	0.5	0.7	8	50	0.45	4	•
0060 050 0400	0.6	0.9	-	50	-	4	•
0060 050 0400 020	0.6	0.9	2	50	0.55	4	•
0060 050 0400 040	0.6	0.9	4	50	0.55	4	•
0060 050 0400 060	0.6	0.9	6	50	0.55	4	•
0060 050 0400 080	0.6	0.9	8	50	0.55	4	•
0060 050 0400 100	0.6	0.9	10	50	0.55	4	•
0070 050 0400	0.7	1.0	-	50	-	4	•
0070 050 0400 020	0.7	1.0	2	50	0.65	4	•
0070 050 0400 040	0.7	1.0	4	50	0.65	4	•
0070 050 0400 060	0.7	1.0	6	50	0.65	4	•

cont'd ►

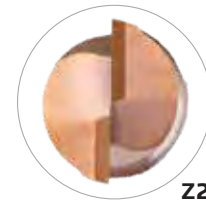
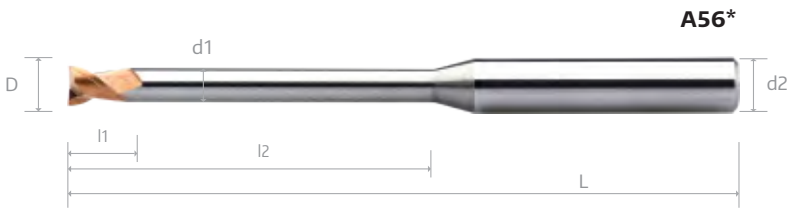
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60 Kleinstfräser mit langem Hals, 2 Zähne	Micro-fraises SE 60 2 tailles en carbure monobloc avec cou long, 2 dents/4 dents
Micro-frese SE 60 in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60 系列 长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A56*
	D	l1	l2	L	d1	d2 (h6)	B0909	
<b>= * + Ø data</b>								
0070 050 0400 080	0.7	1.0	8	50	0.65	4	•	
0070 050 0400 100	0.7	1.0	10	50	0.65	4	•	
0080 050 0400	0.8	1.2	-	50	-	4	•	
0080 050 0400 040	0.8	1.2	4	50	0.75	4	•	
0080 050 0400 060	0.8	1.2	6	50	0.75	4	•	
0080 050 0400 080	0.8	1.2	8	50	0.75	4	•	
0080 050 0400 100	0.8	1.2	10	50	0.75	4	•	
0080 050 0400 120	0.8	1.2	12	50	0.75	4	•	
0090 050 0400	0.9	1.4	-	50	-	4	•	
0090 050 0400 060	0.9	1.4	6	50	0.85	4	•	
0090 050 0400 080	0.9	1.4	8	50	0.85	4	•	
0090 050 0400 100	0.9	1.4	10	50	0.85	4	•	
0090 050 0400 150	0.9	1.4	15	50	0.85	4	•	
0100 050 0400	1	1.5	-	50	-	4	•	
0100 050 0400 060	1	1.5	6	50	0.9	4	•	
0100 050 0400 080	1	1.5	8	50	0.9	4	•	
0100 050 0400 100	1	1.5	10	50	0.9	4	•	
0100 050 0400 120	1	1.5	12	50	0.9	4	•	
0100 050 0400 140	1	1.5	14	50	0.9	4	•	
0100 050 0400 160	1	1.5	16	50	0.9	4	•	
0120 050 0400	1.2	1.8	-	50	-	4	•	
0120 050 0400 060	1.2	1.8	6	50	1.1	4	•	
0120 050 0400 080	1.2	1.8	8	50	1.1	4	•	
0120 050 0400 100	1.2	1.8	10	50	1.1	4	•	
0120 050 0400 120	1.2	1.8	12	50	1.1	4	•	
0140 050 0400	1.4	2.1	-	50	-	4	•	
0140 050 0400 060	1.4	2.1	6	50	1.3	4	•	
0140 050 0400 080	1.4	2.1	8	50	1.3	4	•	

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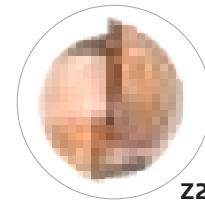
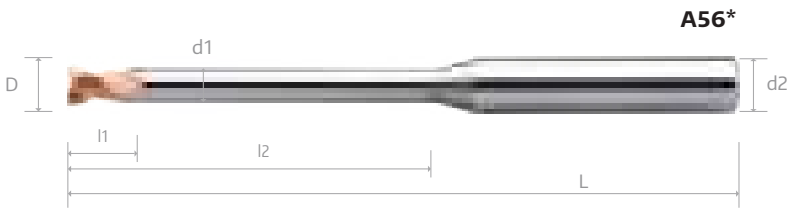
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60 Kleinstfräser mit langem Hals, 2 Zähne	Micro-fraises SE 60 2 tailles en carbure monobloc avec cou long, 2 dents
Micro-frese SE 60 in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60 系列 长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A56*
	D	l1	l2	L	d1	d2 (h6)	B0909	
<b>= * + Ø data</b>								
0140 050 0400 100	1.4	2.1	10	50	1.3	4	•	
0140 050 0400 120	1.4	2.1	12	50	1.3	4	•	
0140 050 0400 140	1.4	2.1	14	50	1.3	4	•	
0140 050 0400 160	1.4	2.1	16	50	1.3	4	•	
0150 050 0400	1.5	2.3	-	50	-	4	•	
0150 050 0400 060	1.5	2.3	6	50	1.4	4	•	
0150 050 0400 080	1.5	2.3	8	50	1.4	4	•	
0150 050 0400 100	1.5	2.3	10	50	1.4	4	•	
0150 050 0400 120	1.5	2.3	12	50	1.4	4	•	
0150 050 0400 140	1.5	2.3	14	50	1.4	4	•	
0150 050 0400 160	1.5	2.3	16	50	1.4	4	•	
0150 060 0400	1.5	2.3	-	60	-	4	•	
0150 060 0400 180	1.5	2.3	18	60	1.4	4	•	
0150 060 0400 200	1.5	2.3	20	60	1.4	4	•	
0160 050 0400	1.6	2.4	-	50	-	4	•	
0160 050 0400 060	1.6	2.4	6	50	1.5	4	•	
0160 050 0400 080	1.6	2.4	8.0	50	1.5	4	•	
0160 050 0400 100	1.6	2.4	10	50	1.5	4	•	
0160 050 0400 120	1.6	2.4	12	50	1.5	4	•	
0160 050 0400 140	1.6	2.4	14	50	1.5	4	•	
0160 050 0400 160	1.6	2.4	16	50	1.5	4	•	
0160 060 0400	1.6	2.4	-	60	-	4	•	
0160 060 0400 180	1.6	2.4	18	60	1.5	4	•	
0160 060 0400 200	1.6	2.4	20	60	1.5	4	•	
0180 050 0400	1.8	2.7	-	50	-	4	•	
0180 050 0400 060	1.8	2.7	6	50	1.7	4	•	
0180 050 0400 080	1.8	2.7	8	50	1.7	4	•	
0180 050 0400 100	1.8	2.7	10	50	1.7	4	•	

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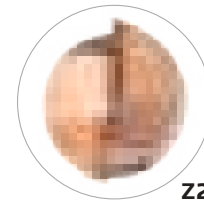
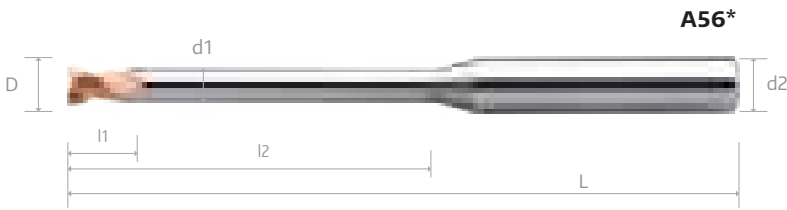
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60 Kleinstfräser mit langem Hals, 2 Zähne	Micro-fraises SE 60 2 tailles en carbure monobloc avec cou long, 2 dents
Micro-frese SE 60 in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60 系列 长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)						A56*
	D	l1	l2	L	d1	d2 (h6)	B0909
= * + Ø data							
0180 050 0400 120	1.8	2.7	12	50	1.7	4	•
0180 050 0400 140	1.8	2.7	14	50	1.7	4	•
0180 050 0400 160	1.8	2.7	16	50	1.7	4	•
0180 060 0400	1.8	2.7	-	60	-	4	•
0180 060 0400 180	1.8	2.7	18	60	1.7	4	•
0180 060 0400 200	1.8	2.7	20	60	1.7	4	•
0200 050 0400	2	3	-	50	-	4	•
0200 050 0400 060	2	3	6	50	1.9	4	•
0200 050 0400 080	2	3	8	50	1.9	4	•
0200 050 0400 100	2	3	10	50	1.9	4	•
0200 050 0400 120	2	3	12	50	1.9	4	•
0200 050 0400 140	2	3	14	50	1.9	4	•
0200 050 0400 160	2	3	16	50	1.9	4	•
0200 060 0400	2	3	-	60	-	4	•
0200 060 0400 180	2	3	18	60	1.9	4	•
0200 060 0400 200	2	3	20	60	1.9	4	•
0200 075 0400	2	3	-	75	-	4	•
0200 075 0400 250	2	3	25	75	1.9	4	•
0200 075 0400 300	2	3	30	75	1.9	4	•
0250 050 0400	2.5	3.7	-	50	-	4	•
0250 050 0400 080	2.5	3.7	8	50	2.4	4	•
0250 050 0400 100	2.5	3.7	10	50	2.4	4	•
0250 050 0400 120	2.5	3.7	12	50	2.4	4	•
0250 050 0400 140	2.5	3.7	14	50	2.4	4	•
0250 050 0400 160	2.5	3.7	16	50	2.4	4	•
0250 060 0400	2.5	3.7	-	60	-	4	•
0250 060 0400 180	2.5	3.7	18	60	2.4	4	•
0250 060 0400 200	2.5	3.7	20	60	2.4	4	•

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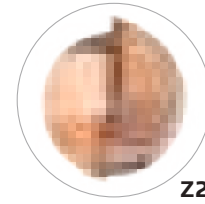
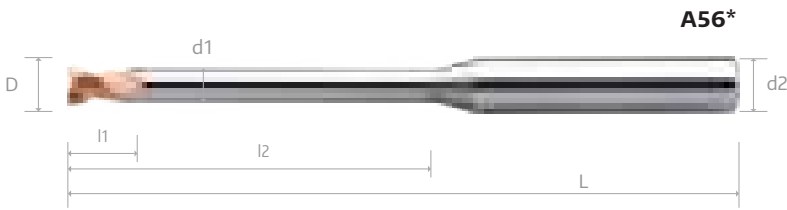
Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60 Kleinstfräser mit langem Hals, 2 Zähne	Micro-fraises SE 60 2 tailles en carbure monobloc avec cou long, 2 dents
Micro-frese SE 60 in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60 系列 长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A56*
	D	l1	l2	L	d1	d2 (h6)	B0909	
<b>= * + Ø data</b>								
0250 075 0400	2.5	3.7	-	75	-	4	•	
0250 075 0400 250	2.5	3.7	25	75	2.4	4	•	
0250 075 0400 300	2.5	3.7	30	75	2.4	4	•	
0300 050 0400	2.5	4.5	-	50	-	4	•	
0300 050 0400 080	2.5	4.5	8	50	2.8	4	•	
0300 050 0600	3	4.5	-	50	-	6	•	
0300 050 0600 080	3	4.5	8	50	2.8	6	•	
0300 050 0600 100	3	4.5	-	50	-	6	•	
0300 050 0600 120	3	4.5	12	50	2.8	6	•	
0300 050 0400 140	3	4.5	-	50	-	4	•	
0300 050 0600 140	3	4.5	14	50	2.8	6	•	
0300 060 0600	3	4.5	-	60	-	6	•	
0300 060 0600 160	3	4.5	16	60	2.8	6	•	
0300 060 0600 180	3	4.5	18	60	2.8	6	•	
0300 060 0600 200	3	4.5	20	60	2.8	6	•	
0300 075 0400	3	4.5	-	75	-	4	•	
0300 075 0400 250	3	4.5	25	75	2.8	4	•	
0300 075 0600 250	3	4.5	25	75	2.8	6	•	
0400 060 0600	4	4.5	-	60	-	6	•	
0400 060 0600 100	4	4.5	10	60	3.7	6	•	
0400 060 0600 150	4	4.5	15	60	3.7	6	•	
0400 060 0600 200	4	4.5	20	60	3.7	6	•	
0400 075 0600	4	4.5	-	75	-	6	•	
0400 075 0600 250	4	4.5	25	75	3.7	6	•	
0400 075 0600 300	4	4.5	30	75	3.7	6	•	
0400 075 0600 400	4	4.5	40	75	3.7	6	•	

SE 60

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60R Torus-Kleinstfräser mit langem Hals, 2 Zähne	Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti avec cou long, 2 dents
Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60R 系列 圆鼻长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A80*
	D	l1	l2	L	d1	R	d2 (h6)	B0909
= * + Ø data								
0020 050 0400	0.2	0.3	-	50	-	0.02	4	•
0020 050 0400 005	0.2	0.3	0.5	50	0.17	0.02	4	•
0020 050 0400 010	0.2	0.3	1	50	0.17	0.02	4	•
0020 050 0400 015	0.2	0.3	1.5	50	0.17	0.02	4	•
0030 050 0400	0.3	0.4	-	50	-	0.03	4	•
0030 050 0400 010	0.3	0.4	1	50	0.27	0.03	4	•
0030 050 0400 020	0.3	0.4	2	50	0.27	0.03	4	•
0030 050 0400 030	0.3	0.4	3	50	0.27	0.03	4	•
0040 050 0400	0.4	0.6	-	50	-	0.03	4	•
0040 050 0400 020	0.4	0.6	2	50	0.37	0.03	4	•
0040 050 0400 030	0.4	0.6	3	50	0.37	0.03	4	•
0040 050 0400 040	0.4	0.6	4	50	0.37	0.03	4	•
0040 050 0400 050	0.4	0.6	5	50	0.37	0.03	4	•
0050 050 0400	0.5	0.7	-	50	-	0.05	4	•
0050 050 0400 020	0.5	0.7	2	50	0.45	0.05	4	•
0050 050 0400 040	0.5	0.7	4	50	0.45	0.05	4	•
0050 050 0400 060	0.5	0.7	6	50	0.45	0.05	4	•
0050 050 0400 080	0.5	0.7	8	50	0.45	0.05	4	•
0060 050 0400	0.6	0.9	-	50	-	0.05	4	•
0060 050 0400 020	0.6	0.9	2	50	0.55	0.05	4	•
0060 050 0400 040	0.6	0.9	4	50	0.55	0.05	4	•
0060 050 0400 060	0.6	0.9	6	50	0.55	0.05	4	•
0060 050 0400 080	0.6	0.9	8	50	0.55	0.05	4	•
0060 050 0400 100	0.6	0.9	10	50	0.55	0.05	4	•
0070 050 0400	0.7	1.0	-	50	-	0.08	4	•
0070 050 0400 020	0.7	1.0	2	50	0.65	0.08	4	•
0070 050 0400 040	0.7	1.0	4	50	0.65	0.08	4	•
0070 050 0400 060	0.7	1.0	6	50	0.65	0.08	4	•

cont'd ▶

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

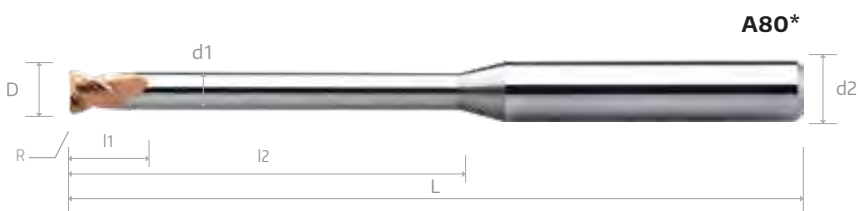
Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60R Torus-Kleinstfräser mit langem Hals, 2 Zähne	Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti avec cou long, 2 dents
Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60R 系列 圆鼻长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A80*
	D	l1	l2	L	d1	R	d2 (h6)	B0909
<b>= * + Ø data</b>								
0070 050 0400 080	0.7	1.0	8	50	0.65	0.08	4	•
0070 050 0400 100	0.7	1.0	10	50	0.65	0.08	4	•
0080 050 0400	0.8	1.2	-	50	-	0.08	4	•
0080 050 0400 040	0.8	1.2	4	50	0.75	0.08	4	•
0080 050 0400 060	0.8	1.2	6	50	0.75	0.08	4	•
0080 050 0400 080	0.8	1.2	8	50	0.75	0.08	4	•
0080 050 0400 100	0.8	1.2	10	50	0.75	0.08	4	•
0080 050 0400 120	0.8	1.2	12	50	0.75	0.08	4	•
0090 050 0400	0.9	1.4	-	50	-	0.08	4	•
0090 050 0400 060	0.9	1.4	6	50	0.85	0.08	4	•
0090 050 0400 080	0.9	1.4	8.0	50	0.85	0.08	4	•
0090 050 0400 100	0.9	1.4	10	50	0.85	0.08	4	•
0090 050 0400 150	0.9	1.4	15	50	0.85	0.08	4	•
0100 050 0400	1.0	1.5	-	50	-	0.1	4	•
0100 050 0400 060	1.0	1.5	6	50	0.9	0.1	4	•
0100 050 0400 080	1.0	1.5	8	50	0.9	0.1	4	•
0100 050 0400 100	1.0	1.5	10	50	0.9	0.1	4	•
0100 050 0400 120	1.0	1.5	12	50	0.9	0.1	4	•
0100 050 0400 140	1.0	1.5	14	50	0.9	0.1	4	•
0100 050 0400 160	1.0	1.5	16	50	0.9	0.1	4	•
0120 050 0400	1.2	1.8	-	50	-	0.1	4	•
0120 050 0400 060	1.2	1.8	6	50	1.1	0.1	4	•
0120 050 0400 080	1.2	1.8	8	50	1.1	0.1	4	•
0120 050 0400 100	1.2	1.8	10	50	1.1	0.1	4	•
0120 050 0400 120	1.2	1.8	12	50	1.1	0.1	4	•
0140 050 0400	1.4	2.1	-	50	-	0.15	4	•
0140 050 0400 060	1.4	2.1	6	50	1.3	0.15	4	•
0140 050 0400 080	1.4	2.1	8	50	1.3	0.15	4	•

cont'd ▶

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294

VHM SE 60R Torus-Kleinstfräser mit langem Hals, 2 Zähne	Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti avec cou long, 2 dents
Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60R 系列 圆鼻长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension ( mm )								A80 * B0909
	D	l1	l2	L	d1	R	d2 ( h6 )		
<b>= * + Ø data</b>									
0140 050 0400 100	1.4	2.1	10	50	1.3	0.15	4	•	
0140 050 0400 120	1.4	2.1	12	50	1.3	0.15	4	•	
0140 050 0400 140	1.4	2.1	14	50	1.3	0.15	4	•	
0140 050 0400 160	1.4	2.1	16	50	1.3	0.15	4	•	
0150 050 0400	1.5	2.3	-	50	-	0.15	4	•	
0150 050 0400 060	1.5	2.3	6	50	1.4	0.15	4	•	
0150 050 0400 080	1.5	2.3	8	50	1.4	0.15	4	•	
0150 050 0400 100	1.5	2.3	10	50	1.4	0.15	4	•	
0150 050 0400 120	1.5	2.3	12	50	1.4	0.15	4	•	
0150 050 0400 140	1.5	2.3	14	50	1.4	0.15	4	•	
0150 050 0400 160	1.5	2.3	16	50	1.4	0.15	4	•	
0150 060 0400	1.5	2.3	18	60	1.4	0.15	4	•	
0150 060 0400 180	1.5	2.3	18	60	1.4	0.15	4	•	
0150 060 0400 200	1.5	2.3	20	60	1.4	0.15	4	•	
0160 050 0400	1.6	2.4	-	50	-	0.15	4	•	
0160 050 0400 060	1.6	2.4	6	50	1.5	0.15	4	•	
0160 050 0400 080	1.6	2.4	8	50	1.5	0.15	4	•	
0160 050 0400 100	1.6	2.4	10	50	1.5	0.15	4	•	
0160 050 0400 120	1.6	2.4	12	50	1.5	0.15	4	•	
0160 050 0400 140	1.6	2.4	14	50	1.5	0.15	4	•	
0160 050 0400 160	1.6	2.4	16	50	1.5	0.15	4	•	
0160 050 0400	1.6	2.4	-	50	-	0.15	4	•	
0160 060 0400 180	1.6	2.4	18	60	1.5	0.15	4	•	
0160 060 0400 200	1.6	2.4	20	60	1.5	0.15	4	•	
0180 050 0400	1.8	2.7	-	50	-	0.2	4	•	
0180 050 0400 060	1.8	2.7	6	50	1.7	0.2	4	•	
0180 050 0400 080	1.8	2.7	8	50	1.7	0.2	4	•	
0180 050 0400 100	1.8	2.7	10	50	1.7	0.2	4	•	

cont'd ▶

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
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294
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VHM SE 60R Torus-Kleinstfräser mit langem Hals, 2 Zähne	Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti avec cou long, 2 dents
Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60R 系列 圆鼻长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A80*
	D	l1	l2	L	d1	R	d2 (h6)	B0909
<b>= * + Ø data</b>								
0180 050 0400 120	1.8	2.7	12	50	1.7	0.2	4	•
0180 050 0400 140	1.8	2.7	14	50	1.7	0.2	4	•
0180 050 0400 160	1.8	2.7	16	50	1.7	0.2	4	•
0180 060 0400	1.8	2.7	-	60	-	0.2	4	•
0180 060 0400 180	1.8	2.7	18	60	1.7	0.2	4	•
0180 060 0400 200	1.8	2.7	20	60	1.7	0.2	4	•
0200 050 0400	2	3	-	50	-	0.2	4	•
0200 050 0400 060	2	3	6	50	1.9	0.2	4	•
0200 050 0400 080	2	3	8	50	1.9	0.2	4	•
0200 050 0400 100	2	3	10	50	1.9	0.2	4	•
0200 050 0400 120	2	3	12	50	1.9	0.2	4	•
0200 050 0400 140	2	3	14	50	1.9	0.2	4	•
0200 050 0400 160	2	3	16	50	1.9	0.2	4	•
0200 060 0400	2	3	-	60	-	0.2	4	•
0200 060 0400 180	2	3	18	60	1.9	0.2	4	•
0200 060 0400 200	2	3	20	60	1.9	0.2	4	•
0200 075 0400	2	3	-	75	-	0.2	4	•
0200 075 0400 250	2	3	25	75	1.9	0.2	4	•
0200 075 0400 300	2	3	30	75	1.9	0.2	4	•
0250 050 0400	2.5	3.7	-	50	-	0.3	4	•
0250 050 0400 080	2.5	3.7	8	50	2.4	0.3	4	•
0250 050 0400 100	2.5	3.7	10	50	2.4	0.3	4	•
0250 050 0400 120	2.5	3.7	12	50	2.4	0.3	4	•
0250 050 0400 140	2.5	3.7	14	50	2.4	0.3	4	•
0250 050 0400 160	2.5	3.7	16	50	2.4	0.3	4	•
0250 060 0400	2.5	3.7	-	60	-	0.3	4	•
0250 060 0400 180	2.5	3.7	18	60	2.4	0.3	4	•
0250 060 0400 200	2.5	3.7	20	60	2.4	0.3	4	•

cont'd ▶

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

294
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VHM SE 60R Torus-Kleinstfräser mit langem Hals, 2 Zähne	Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti avec cou long, 2 dents
Micro-frese torodali SE 60R in metallo duro integrale con collo lungo, 2 taglienti	整体硬质合金 SE 60R 系列 圆鼻长颈短刃 立铣刀 2 刃



EDP No. / EDV-Nr. / CODE usine / Codice EDP	Dimension (mm)							A80*
	D	l1	l2	L	d1	R	d2 (h6)	B0909
<b>= * + Ø data</b>								
0250 060 0400 250	2.5	3.7	25	60	2.4	0.3	4	•
0250 075 0400	2.5	3.7	-	75	-	0.3	4	•
0250 075 0400 300	2.5	3.7	30	75	2.4	0.3	4	•
0300 050 0600	3	4.5	-	50	-	0.3	6	•
0300 050 0600 080	3	4.5	8	50	2.8	0.3	6	•
0300 050 0600 100	3	4.5	10	50	2.8	0.3	6	•
0300 050 0600 120	3	4.5	12	50	2.8	0.3	6	•
0300 050 0600 140	3	4.5	14	50	2.8	0.3	6	•
0300 060 0600	3	4.5	-	60	-	0.3	6	•
0300 060 0600 160	3	4.5	16	60	2.8	0.3	6	•
0300 060 0600 180	3	4.5	18	60	2.8	0.3	6	•
0300 060 0600 200	3	4.5	20	60	2.8	0.3	6	•
0300 075 0600	3	4.5	-	75	-	0.3	6	•
0300 075 0600 250	3	4.5	25	75	2.8	0.3	6	•
0400 060 0600	4	4.5	-	60	-	0.4	6	•
0400 060 0600 100	4	4.5	10	60	3.7	0.4	6	•
0400 060 0600 150	4	4.5	15	60	3.7	0.4	6	•
0400 060 0600 200	4	4.5	20	60	3.7	0.4	6	•
0400 075 0600	4	4.5	-	75	-	0.4	6	•
0400 075 0600 250	4	4.5	25	75	3.7	0.4	6	•
0400 075 0600 300	4	4.5	30	75	3.7	0.4	6	•
0400 075 0600 400	4	4.5	40	75	3.7	0.4	6	•

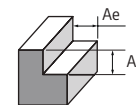
SE 60

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

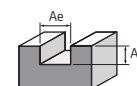
N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

294



## Standard Endmills 4 Flutes

Side Milling		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52	52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)		0.40 × D	0.30 × D	
Cutting Width, Ae (mm)		0.30 × D	0.30 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
1	60	0.012	50	0.013
2		0.025		0.026
3		0.039		0.042
4		0.061		0.060
5		0.073		0.080
6		0.091		0.100
7		0.101		0.110
8		0.111		0.121
10		0.131		0.141
12		0.167		0.181
14		0.187		0.202
16		0.205		0.221
18		0.236		0.255
20		0.262		0.283
22		0.288		0.311
25	0.327	0.353		

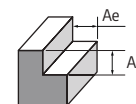


## Standard Endmills 4 Flutes

Slotting		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52	52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)		0.12 × D	0.09 × D	
Cutting Width, Ae (mm)		1.00 × D	1.00 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
1	55	0.006	45	0.004
2		0.013		0.008
3		0.026		0.013
4		0.038		0.017
5		0.044		0.027
6		0.057		0.036
7		0.060		0.040
8		0.064		0.045
10		0.071		0.045
12		0.096		0.063
14		0.104		0.068
16		0.110		0.070
18		0.129		0.085
20		0.143		0.098
22		0.157		0.108
25	0.179	0.122		

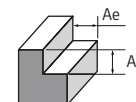


Recommended Cutting Data  
 Note: These recommended cutting conditions indicate just references. It should be adjusted due to different cutting conditions.



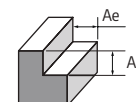
## Long Endmills 4 Flutes

Side Milling	H			
Working Material	Hardened Steel			
Properties	45 ≤ HRC < 52		52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)	0.40 × D		0.30 × D	
Cutting Width, Ae (mm)	0.30 × D		0.30 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	60	0.031	50	0.034
4		0.049		0.048
5		0.059		0.064
6		0.073		0.080
8		0.089		0.097
10		0.105		0.113
12		0.134		0.145
14		0.150		0.163
16		0.163		0.176
18		0.189		0.204
20	0.209	0.226		



## Extra-Long Endmills 4 Flutes

Side Milling	H			
Working Material	Hardened Steel			
Properties	45 ≤ HRC < 52		52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)	0.40 × D		0.30 × D	
Cutting Width, Ae (mm)	0.30 × D		0.30 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	60	0.027	50	0.030
4		0.042		0.042
5		0.051		0.056
6		0.064		0.070
8		0.078		0.084
10		0.092		0.099
12		0.116		0.126
14		0.130		0.141
16		0.145		0.156
18		0.165		0.178
20	0.183	0.198		



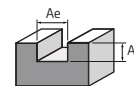
## Short Flute Endmills 4 Flutes

Side Milling	H			
Working Material	Hardened Steel			
Properties	45 ≤ HRC < 52		52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)	1.00 × D		1.00 × D	
Cutting Width, Ae (mm)	0.25 × D		0.20 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	60	0.039	50	0.042
4		0.060		0.060
5		0.074		0.080
6		0.091		0.100
8		0.110		0.121
10		0.132		0.141
12		0.166		0.181
16		0.204		0.221



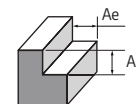
Recommended Cutting Data  
 Note: These recommended cutting conditions indicate just references. It should be adjusted due to different cutting conditions.

## Short Flute Endmills 4 Flutes



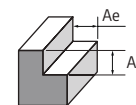
Slotting		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52		52 ≤ HRC ≤ 68
Cutting Depth, Ap (mm)		0.15 × D		0.10 × D
Cutting Width, Ae (mm)		1.00 × D		1.00 × D
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	55	0.026	45	0.013
4		0.038		0.017
5		0.044		0.027
6		0.057		0.036
8		0.064		0.045
10		0.071		0.045
12		0.096		0.063
16		0.110		0.070

## Short Flute Long Reach - Long Endmills 4 Flutes



Side Milling		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52		52 ≤ HRC ≤ 68
Cutting Depth, Ap (mm)		1.00 × D		1.00 × D
Cutting Width, Ae (mm)		0.25 × D		0.20 × D
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
2	60	0.020	50	0.021
3		0.031		0.034
4		0.049		0.048
5		0.059		0.064
6		0.073		0.080
8		0.089		0.097
10		0.105		0.113
12		0.134		0.145
14		0.150		0.163
16		0.163		0.176
18	0.189	0.204		
20	0.209	0.226		

## Short Flute Long Reach - Extra-Long Endmills 4 Flutes

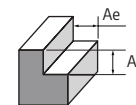


Side Milling		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52		52 ≤ HRC ≤ 68
Cutting Depth, Ap (mm)		1.00 × D		1.00 × D
Cutting Width, Ae (mm)		0.25 × D		0.20 × D
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
2	60	0.017	50	0.019
3		0.027		0.030
4		0.042		0.042
5		0.051		0.056
6		0.064		0.070
8		0.078		0.084
10		0.092		0.099
12		0.116		0.126
14		0.130		0.141
16		0.145		0.156
18	0.165	0.178		
20	0.183	0.198		



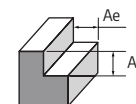
Recommended Cutting Data  
 Note: These recommended cutting conditions indicate just references. It should be adjusted due to different cutting conditions.

SE 60



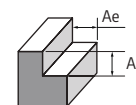
## Multiflute Endmills

Side Milling		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52	52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)		0.40 × D	0.30 × D	
Cutting Width, Ae (mm)		0.30 × D	0.30 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	70	0.027	60	0.029
4		0.041		0.040
5		0.049		0.053
6		0.061		0.066
8		0.075		0.081
10		0.090		0.096
12		0.113		0.121
14		0.128		0.137
16		0.106		0.113
18		0.121		0.130
20		0.135		0.144



## Multiflute - Long Endmills

Side Milling		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52	52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)		0.40 × D	0.30 × D	
Cutting Width, Ae (mm)		0.30 × D	0.30 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	70	0.022	60	0.023
4		0.033		0.032
5		0.040		0.043
6		0.049		0.053
8		0.060		0.065
10		0.072		0.077
12		0.091		0.097
14		0.103		0.110
16		0.084		0.090
18		0.097		0.104
20		0.108		0.115



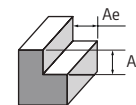
## Multiflute - Extra Long Endmills

Side Milling		H		
Working Material		Hardened Steel		
Properties		45 ≤ HRC < 52	52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)		0.40 × D	0.30 × D	
Cutting Width, Ae (mm)		0.30 × D	0.30 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
3	70	0.019	60	0.020
4		0.028		0.028
5		0.034		0.037
6		0.043		0.046
8		0.053		0.057
10		0.063		0.067
12		0.079		0.085
14		0.089		0.095
16		0.075		0.080
18		0.085		0.091
20		0.094		0.101



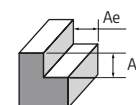
Recommended Cutting Data  
 Note: These recommended cutting conditions indicate just references. It should be adjusted due to different cutting conditions.





## Endmills 2 Flutes

Side Milling	H			
Working Material	Hardened Steel			
Properties	45 ≤ HRC < 52		52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)	0.40 × D		0.30 × D	
Cutting Width, Ae (mm)	1.00 × D		1.00 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
0.1	70	0.003	60	0.003
0.2		0.006		0.006
0.3		0.009		0.010
0.4		0.012		0.013
0.5		0.014		0.015
0.6		0.016		0.017
0.7		0.020		0.021
0.8		0.022		0.023
0.9		0.024		0.025
16				0.145
18		0.165		0.178
20		0.183		0.198



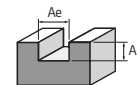
## Miniature Endmills 2 Flutes

Side Milling	H			
Working Material	Hardened Steel			
Properties	45 ≤ HRC < 52		52 ≤ HRC ≤ 68	
Cutting Depth, Ap (mm)	0.40 × D		0.30 × D	
Cutting Width, Ae (mm)	1.00 × D		1.00 × D	
D (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
0.1	70	0.003	60	0.003
0.2		0.006		0.006
0.3		0.009		0.010
0.4		0.012		0.013
0.5		0.014		0.015
0.6		0.016		0.017
0.7		0.020		0.021
0.8		0.022		0.023
0.9		0.024		0.025



Recommended Cutting Data

Note: These recommended cutting conditions indicate just references. It should be adjusted due to different cutting conditions.

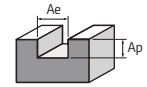


## Miniature Endmills with Long Neck 2 Flutes

Slotting		H					
Working material		Hardened Steel					
Properties		45 ≤ HRC < 52			52 ≤ HRC ≤ 68		
D (mm)	Effective Length	Ap (mm)	Vc (m/min)	Fz (mm)	Ap (mm)	Vc (m/min)	Fz (mm)
0.2	0.5	0.010	21	0.004	0.009	20	0.004
	1.0	0.070	21	0.004	0.630	20	0.004
	1.5	0.004	19	0.004	0.004	18	0.004
0.3	1.0	0.011	28	0.005	0.009	26	0.004
	2.0	0.006	25	0.004	0.005	24	0.004
	3.0	0.004	25	0.004	0.004	24	0.004
0.4	2.0	0.014	30	0.007	0.013	28	0.006
	3.0	0.008	27	0.007	0.007	25	0.006
	4.0	0.005	27	0.007	0.005	25	0.006
0.5	5.0	0.005	24	0.006	0.005	22	0.005
	4.0	0.010	34	0.007	0.009	32	0.006
	6.0	0.007	30	0.006	0.006	28	0.005
0.6	8.0	0.004	30	0.005	0.004	28	0.004
	2.0	0.021	45	0.010	0.019	42	0.008
	4.0	0.012	41	0.010	0.011	38	0.009
0.6	6.0	0.008	41	0.010	0.007	38	0.009
	8.0	0.008	36	0.009	0.007	34	0.007
	10.0	0.005	36	0.009	0.004	34	0.007
0.7	2.0	0.035	53	0.010	0.032	49	0.008
	4.0	0.025	48	0.010	0.022	44	0.009
	6.0	0.009	48	0.010	0.008	44	0.009
0.7	8.0	0.009	42	0.009	0.008	39	0.007
	10.0	0.009	42	0.009	0.008	39	0.007
	4.0	0.028	60	0.010	0.025	56	0.008
0.8	6.0	0.016	54	0.010	0.014	51	0.009
	8.0	0.010	54	0.010	0.009	51	0.009
	10.0	0.010	48	0.009	0.009	45	0.007
0.8	12.0	0.006	48	0.009	0.005	45	0.007
	6.0	0.018	61	0.010	0.016	57	0.009
	8.0	0.012	61	0.010	0.010	57	0.009
0.9	10.0	0.012	54	0.009	0.010	51	0.007
	15.0	0.012	54	0.009	0.010	51	0.007
	6.0	0.020	61	0.015	0.018	57	0.013
1.0	8.0	0.020	61	0.015	0.018	57	0.013
	10.0	0.013	61	0.015	0.011	57	0.013
	12.0	0.013	54	0.013	0.011	51	0.011
1.0	14.0	0.013	54	0.013	0.011	51	0.011
	16.0	0.008	54	0.011	0.007	51	0.009
	6.0	0.042	72	0.015	0.038	67	0.013
1.2	8.0	0.024	65	0.015	0.022	61	0.013
	10.0	0.015	65	0.015	0.014	61	0.013
	12.0	0.015	65	0.015	0.014	61	0.013
1.4	6.0	0.050	74	0.015	0.045	69	0.013
	8.0	0.042	66	0.015	0.038	62	0.013
	10.0	0.028	66	0.015	0.025	62	0.013
1.4	12.0	0.018	66	0.015	0.016	62	0.013
	14.0	0.018	66	0.015	0.016	62	0.013
	16.0	0.018	59	0.013	0.016	55	0.011



## Miniature Endmills with Long Neck 2 Flutes



Slotting		H					
Working material		Hardened Steel					
Properties		45 ≤ HRC < 52			52 ≤ HRC ≤ 68		
D (mm)	Effective Length	Ap (mm)	Vc (m/min)	Fz (mm)	Ap (mm)	Vc (m/min)	Fz (mm)
1.5	6.0	0.055	79	0.015	0.050	74	0.013
	8.0	0.030	71	0.015	0.027	66	0.013
	10.0	0.030	71	0.015	0.027	66	0.013
	12.0	0.030	71	0.015	0.027	66	0.013
	14.0	0.019	71	0.015	0.017	66	0.013
	16.0	0.019	63	0.013	0.017	59	0.011
	18.0	0.019	63	0.013	0.017	59	0.011
	20.0	0.019	63	0.013	0.017	59	0.011
1.6	6.0	0.055	78	0.017	0.050	73	0.014
	8.0	0.055	78	0.017	0.050	73	0.014
	10.0	0.032	70	0.016	0.029	66	0.014
	12.0	0.032	70	0.016	0.029	66	0.014
	14.0	0.020	70	0.016	0.018	66	0.014
	16.0	0.020	70	0.016	0.018	66	0.014
	18.0	0.020	63	0.014	0.018	58	0.012
	20.0	0.020	63	0.014	0.018	58	0.012
1.8	6.0	0.065	88	0.017	0.059	83	0.014
	8.0	0.065	88	0.017	0.059	83	0.014
	10.0	0.036	79	0.016	0.032	74	0.014
	12.0	0.036	79	0.016	0.032	74	0.014
	14.0	0.036	79	0.016	0.032	74	0.014
	16.0	0.023	79	0.016	0.020	74	0.014
	18.0	0.023	79	0.016	0.020	74	0.014
	20.0	0.023	71	0.014	0.020	66	0.012
2.0	6.0	0.100	79	0.020	0.090	74	0.017
	8.0	0.070	79	0.020	0.063	74	0.017
	10.0	0.070	79	0.020	0.063	74	0.017
	12.0	0.040	71	0.020	0.036	67	0.017
	14.0	0.040	71	0.020	0.036	67	0.017
	16.0	0.040	71	0.020	0.036	67	0.017
	18.0	0.025	71	0.020	0.023	67	0.017
	20.0	0.025	71	0.020	0.023	67	0.017
	25.0	0.025	63	0.017	0.023	59	0.014
	30.0	0.015	63	0.017	0.014	59	0.014
2.5	8.0	0.090	85	0.025	0.081	79	0.021
	10.0	0.090	85	0.025	0.081	79	0.021
	12.0	0.090	85	0.025	0.081	79	0.021
	14.0	0.070	81	0.025	0.063	75	0.021
	16.0	0.050	76	0.025	0.045	71	0.021
	18.0	0.050	76	0.025	0.045	71	0.021
	20.0	0.050	76	0.025	0.045	71	0.021
	25.0	0.050	76	0.025	0.045	71	0.021
30.0	0.050	76	0.025	0.045	71	0.021	

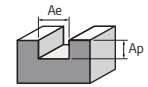
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SE 60



Recommended Cutting Data

Note: These recommended cutting conditions indicate just references. It should be adjusted due to different cutting conditions.



## Miniature Endmills with Long Neck 2 Flutes

Slotting		H					
Working material		Hardened Steel					
Properties		45 ≤ HRC < 52			52 ≤ HRC ≤ 68		
D (mm)	Effective Length	Ap (mm)	Vc (m/min)	Fz (mm)	Ap (mm)	Vc (m/min)	Fz (mm)
3.0	8.0	0.150	90	0.025	0.135	85	0.021
	10.0	0.128	90	0.025	0.115	85	0.021
	12.0	0.105	90	0.025	0.095	85	0.021
	14.0	0.083	86	0.025	0.074	80	0.021
	16.0	0.060	81	0.025	0.054	76	0.022
	18.0	0.060	81	0.025	0.054	76	0.022
	20.0	0.060	81	0.025	0.054	76	0.022
4.0	25.0	0.040	81	0.025	0.036	76	0.022
	10.0	0.200	89	0.063	0.180	83	0.055
	15.0	0.140	89	0.063	0.126	83	0.055
	20.0	0.140	79	0.064	0.126	74	0.055
	25.0	0.080	79	0.072	0.072	74	0.055
	30.0	0.080	79	0.064	0.072	74	0.055
	40.0	0.050	72	0.064	0.045	67	0.056

