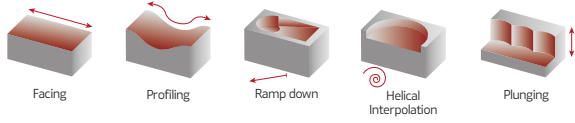


The best solution for High productivity milling



HIFEED
06410 | 06690 | 06815



INSERT SIZE
08 SO...
0803



INSERT SIZE
13 SO...
13M5



INSERT SIZE
16 SO...
1605



100
YEARS
SINCE 1916

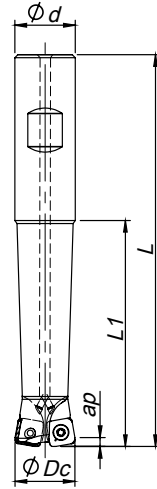
HIFEED 06410

Proprietary milling line



Weldon Shank

$K_r=10^\circ$ | $\gamma_p=+2^\circ$ | $\gamma_f=+2^\circ$ | $R_p=2,0$



Order code Código	Reference Referência Referencia	⊕	Dimensions Dimensões Dimensiones (mm)					Kg	Specifications Ap max (mm)	Insert Pastilha Inserto	Stock
			ØDc	Ød/M	Ødg	L	L1				
181076300	020W06410-02-02-020130	2	20	20	-	130	75	0,360	1,00	SO...0803...	⊕
181080900	020W06410-02-02-020190	2	20	20	-	190	110	0,340	1,00	SO...0803...	⊕
181076400	025W06410-03-02-025140	3	25	25	-	140	80	0,410	1,00	SO...0803...	⊕
181081100	025W06410-03-02-025200	3	25	25	-	200	130	0,570	1,00	SO...0803...	⊕
181076500	032W06410-04-02-032150	4	32	32	-	150	90	0,760	1,00	SO...0803...	⊕
181081300	032W06410-04-02-032200	4	32	32	-	200	130	1,010	1,00	SO...0803...	⊕

⊕ Stock item | Produto de stock | Itens de stock

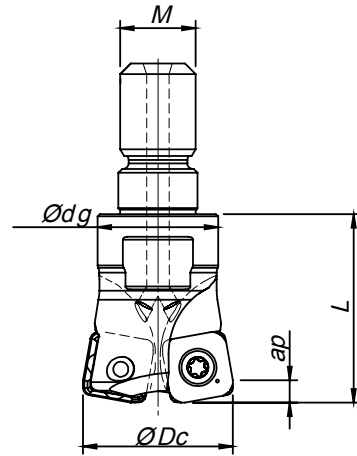
○ Available under request | Disponível sobre consulta | Disponible bajo consulta

⚠ Inventory maintained. To be replaced by new item. | Iten em stock. Será substituído por novo item | Iten en stock. Será reemplazado por nuevo ítem.



Threaded Coupling

$K_r=10^\circ$ | $\gamma_p=+2^\circ$ | $\gamma_f=+2^\circ$ | $R_p=2,0$



Order code Código	Reference Referência Referencia	⊕	Dimensions Dimensões Dimensiones (mm)					Kg	Specifications Ap max (mm)	Insert Pastilha Inserto	Stock
			ØDc	Ød/M	Ødg	L	L1				
181071900	020R06410-02-02-M10025	2	20	M10	16	25	-	0,040	1,00	SO...0803...	⊕
181076600	025R06410-03-02-M12028	3	25	M12	21	28	-	0,070	1,00	SO...0803...	⊕
181076700	032R06410-04-02-M16035	4	32	M16	29	35	-	0,160	1,00	SO...0803...	⊕
181076800	035R06410-04-02-M16035	4	35	M16	29	35	-	0,180	1,00	SO...0803...	⊕
181076900	042R06410-05-02-M16035	5	42	M16	29	35	-	0,220	1,00	SO...0803...	⊕

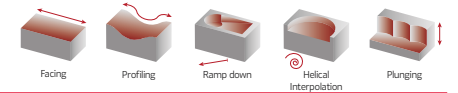
⊕ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

⚠ Inventory maintained. To be replaced by new item. | Iten em stock. Será substituído por novo item | Iten en stock. Será reemplazado por nuevo ítem.

HIFEED 06410

SOEW | SOKW | SOET



SO...0803... | Inserts | Pastilhas | Plaquetas

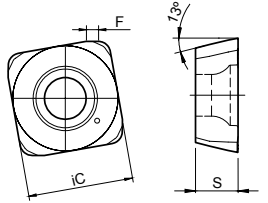
SOEW | SOKW



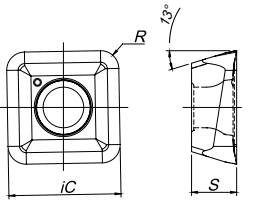
SOET



SOEW



SOET



Geometry code (1)	ISO Reference	P		M				K				N		S		H		Dimensions (mm) iC S I R F									
		PVD						CVD		PVD		CVD		UNC/PCD		PVD/CBN											
		P7	G1	G4	P3	G6	R1	G4	P3	G6	L5	L9	G1	G4	P3	G6	D6		R1	P3	G6	P7	D4				
1111884	SOEW 080310 S	⊕	⊕									⊕	⊕										8,60	3,47	-	1,0	1,0
1112149	SOET 080315-MS				⊕	⊕	⊕			⊕	⊕							⊕	⊕	⊕			8,60	3,47	-	1,5	-

⊕ Stock item | Produto de stock | Itens de stock
First choice | Primeira opção | 1ª opción

⊕ Stock item | Produto de stock | Itens de stock

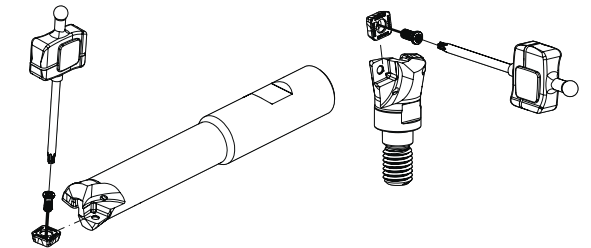
○ Available under request | Disponível sobre consulta
Disponível bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

SPARE PARTS | Complementos | Complementos

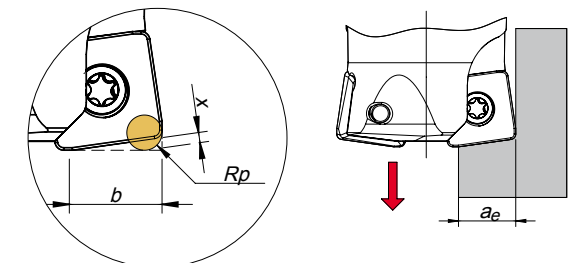
Cutter ØDc	Order separately			
	Insert Screw	Key (Torx)	Torque Key (Torx)	Torque Value
W06410 - 20 - 32	P0300800	XT09	DT0914	1,4
R06410 - 20 - 42	P0300800	XT09	DT0914	1,4

Note: Please check the procedures for the clamping screws on the general catalogue.



PROGRAMMING DATA

Insert	Programming Data			
	Rp	X	b	ae
SO...0803..	2,0	0,8	6,8	6,3



GRADES SELECTION GUIDE

ISO	PSM	Material	HB (Brinell)	Grades				
				← Wear Resistance			Toughness →	
				PH7910	PH7920	PH7930	PH7740	PHM740
P	1	Unalloyed Steel	125-220	✓	✓	✓	✓	
	2	Low-Alloyed Steel	220-280	✓	✓	✓	✓	
	3	High-Alloyed Steel	280-380	✓	✓	✓	✓	
M	4	SS - Ferritic / Martensitic	200-330			✓	✓	✓
	5	SS - Austenitic / Duplex	200-330			✓	✓	✓
	6	SS - Duplex	230-260			✓	✓	✓
K	7	Malleable Cast Iron	130-230	✓	✓			
	8	Grey Cast Iron	180-245	✓	✓			
	9	Nodular Cast iron	160-250	✓	✓			
S	11	Heat Resistant Super Alloys	200-320			✓		✓

● Good Conditions
● Average Conditions
● Difficult Conditions

RECOMMENDED CUTTING CONDITIONS

ISO	PSM	Material	HB (Brinell)	Vc (m/min)					Feed fz (mm/t)	
				← Wear Resistance			Toughness →		SOE(K)W 08...	SOET 08...
				PH7910	PH7920	PH7930	PH7740	PHM740		
P	1	Unalloyed Steel	125-220	160-280	150-230	140-220	100-180	-	0,40-1,80	0,40-1,80
	2	Low-Alloyed Steel	220-280	150-230	140-220	130-180	90-170	-	0,40-1,80	0,40-1,80
	3	High-Alloyed Steel	280-380	140-190	130-180	100-170	80-140	-	0,30-1,50	0,30-1,30
M	4	SS - Ferritic / Martensitic	200-330	-	-	130-220	100-180	100-180	-	0,40-1,30
	5	SS - Austenitic / Duplex	200-330	-	-	120-180	90-150	90-150	-	0,40-1,30
	6	SS - Duplex	230-260	-	-	70-140	70-120	70-120	-	0,10-1,00
K	7	Malleable Cast Iron	130-230	160-350	150-310	-	-	-	0,50-1,80	-
	8	Grey Cast Iron	180-245	150-300	140-260	-	-	-	0,50-1,80	-
	9	Nodular Cast iron	160-250	120-260	100-220	-	-	-	0,50-1,50	-
S	11	Heat Resistant Super Alloys	200-320	-	-	35-65	25-60	25-60	-	0,40-1,00

(Note 1) Cutting conditions $a_e/D_c=70\%$.

(Note 2) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:
 - When using long shank;
 - When using long tool overhang with arbor type;
 - When application has poor clamping rigidity or when using a low rigidity machine.

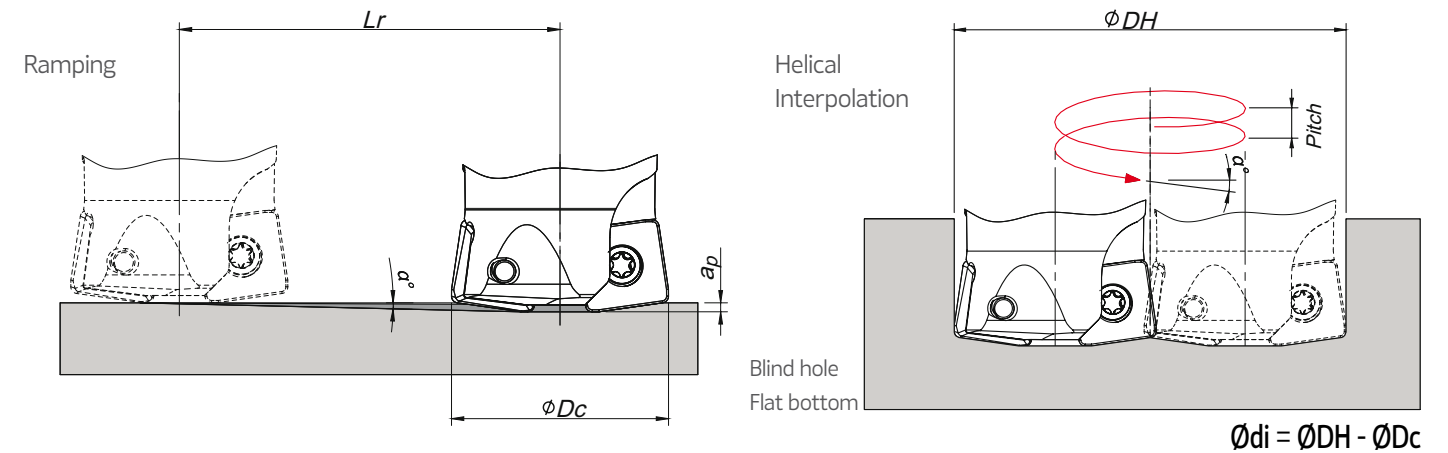
(Note 3) PH5... can be used wet or dry. PH7... only air thru.

(Note 4) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:
 - When using long shank;
 - When using long tool overhang with arbor type;
 - When application has poor clamping rigidity or when using a low rigidity machine.

CHIP-BREAKER SELECTION GUIDE

ISO	PSM	Material	HB (Brinell)	Chip-Breaker Application	
				1st choice	Difficult Operations
P	1	Unalloyed Steel	125-220	SOET 08...	SOE(K)W 08...
	2	Low-Alloyed Steel	220-280	SOE(K)W 08...	-
	3	High-Alloyed Steel	280-380	SOE(K)W 08...	-
M	4	SS - Ferritic / Martensitic	200-330	SOET 08...	-
	5	SS - Austenitic / Duplex	200-330	SOET 08...	-
	6	SS - Duplex	230-260	SOET 08...	-
K	7	Malleable Cast Iron	130-230	SOET 08...	SOE(K)W 08...
	8	Grey Cast Iron	180-245	SOE(K)W 08...	-
	9	Nodular Cast iron	160-250	SOE(K)W 08...	-
S	11	Heat Resistant Super Alloys	200-320	SOET 08...	-

RAMPING AND HELICAL INTERPOLATION

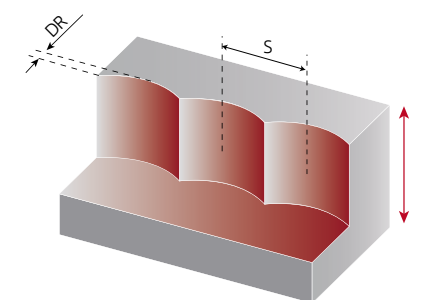


ØDc	Ramping			Helical Interpolation		
	Max Ramp a°	Max ap	Min Lr	ØDHmin	ØDHmax	Max Pitch/Rev.
20	15	1,0	3,2	26,4	-	6
				-	38,0	17
25	9,5	1,0	6,0	36,4	-	5
				-	48,0	12
32	5,5	1,0	10,4	50,4	-	5
				-	62,0	9
35	4,5	1,0	12,7	56,4	-	5
				-	68,0	8
42	3,5	1,0	16,3	70,4	-	5
				-	82,0	7

Note: During helical interpolation do not exceed max Pitch.

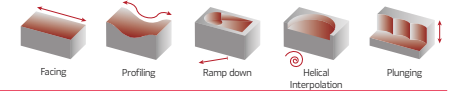
PLUNGING

L ≤ 3Dc	L > 3Dc	S max.
fz (mm/t)		$S_{max} = \sqrt{D_c \cdot DR}$
0,08-0,15	0,05-0,10	

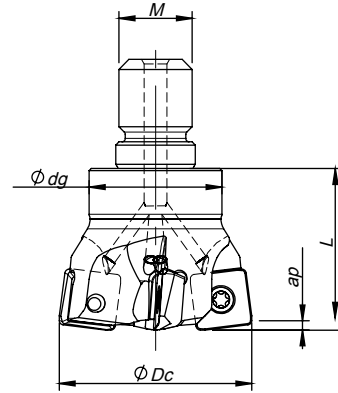


DR (mm)	S max and DR corresponding cutting diameter Dc (mm)				
	Dc (mm)				
	20	25	32	35	42
1,0	4,4	4,9	5,6	5,8	6,4
2,0	6,0	6,8	7,7	8,1	8,9
3,0	7,1	8,1	9,3	9,8	10,8
4,0	8,0	9,2	10,6	11,1	12,3
5,0	8,7	10,0	11,6	12,2	13,6
6,0	9,2	10,7	12,5	13,2	14,7

Note: Recommended for L ≤ 4 Dc for extra long tool this step and side cut must be reduced.



Threaded Coupling
 $K_r=10^\circ$ | $\gamma_p=+5^\circ$ | $R_p=2,5$



Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)				Kg	Specifications		Insert Pastilha Inserto	Stock
			ϕDc	$\phi d/M$	ϕdg	L		A_p max (mm)	Arbor Type		
181038700	032R06690-03-05-M16035		32	M16	29	35	0,145	1,50	-	SO...13M5	
181064600	035R06690-03-05-M16035		35	M16	29	35	0,163	1,50	-	SO...13M5	
181038800	042R06690-04-05-M16035		42	M16	29	35	0,194	1,50	-	SO...13M5	

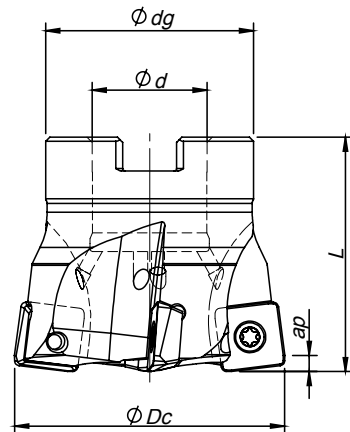
Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta

Inventory maintained. To be replaced by new item. | Iten em stock. Será substituído por novo item | Iten en stock. Será reemplazado por nuevo item.



Arbor Mounting
 $K_r=10^\circ$ | $\gamma_p=+5^\circ$ | $R_p=2,5$



Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)				Kg	Specifications		Insert Pastilha Inserto	Stock
			ϕDc	$\phi d/M$	ϕdg	L		A_p max (mm)	Arbor Type		
181069100	050A06690-04-05-022045		4	50	22	40	0,274	1,50	A	SO...13M5	
181029800	052A06690-04-05-022045		4	52	22	40	0,290	1,50	A	SO...13M5	
181033500	063A06690-05-05-027050		5	63	27	48	0,500	1,50	A	SO...13M5	
181029900	066A06690-05-05-027050		5	66	27	48	0,550	1,50	A	SO...13M5	
181030000	080A06690-06-05-027050		6	80	27	60	0,955	1,50	A	SO...13M5	
181113100	100A06690-08-05-032050		8	100	32	70	1,500	1,50	A	SO...13M5	

Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta

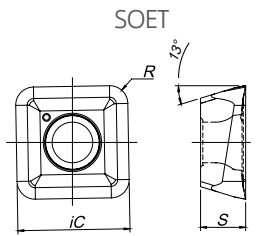
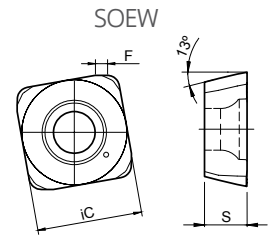
Inventory maintained. To be replaced by new item. | Iten em stock. Será substituído por novo item | Iten en stock. Será reemplazado por nuevo item.

SO...13M5... | Inserts | Pastilhas | Plaquetas

SOEW | SOKW



SOET



(1) Geometry code	ISO Reference	P		M		K		N		S		H		Dimensions (mm)						
		PVD		CVD		PVD		CVD		PVD		CVD								
		P7	G1	G4	P3	G6	R1	G4	P3	G6	L5	L6	G1		G4	P3	10	D6	R1	P3
1111906	SOEW 13M510 S													12,43	5,00	-	1,2	1,0		
1112147	SOET 13M520-MS													12,43	5,00	-	2,0	-		

Stock item | Produto de stock | Itens de stock
First choice | Primeira opção | 1ª opção

Stock item | Produto de stock | Itens de stock

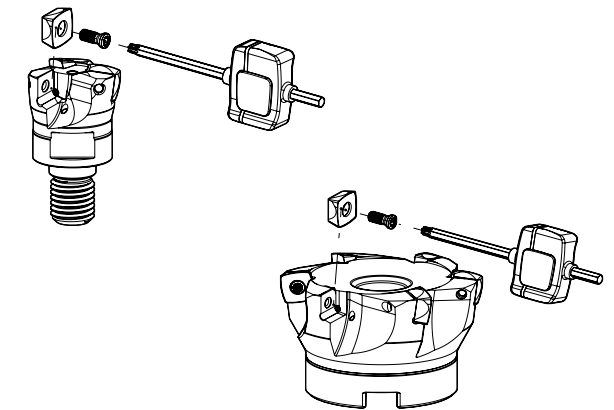
Available under request | Disponível sobre consulta
Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

SPARE PARTS | Complementos | Complementos

Cutter ϕDc	Order separately			
	Insert Screw	Key (Torx)	Torque Key (Torx)	Torque Value
W06690 - 32 - 42				3,0
R06690 - 50 - 80				3,0

Note: Please check the procedures for the clamping screws on the general catalogue.



GRADES SELECTION GUIDE

ISO	PSM	Material	HB (Brinell)	Grades				
				← Wear Resistance			Toughness →	
				PH7910	PH7920	PH7930	PH7740	PHM740
P	1	Unalloyed Steel	125-220	✓	✓	✓	✓	
	2	Low-Alloyed Steel	220-280	✓	✓	✓	✓	
	3	High-Alloyed Steel	280-380	✓	✓	✓	✓	
M	4	SS - Ferritic / Martensitic	200-330				✓	✓
	5	SS - Austenitic / Duplex	200-330				✓	✓
	6	SS - Duplex	230-260				✓	✓
K	7	Malleable Cast Iron	130-230	✓	✓		✓	
	8	Grey Cast Iron	180-245	✓	✓		✓	
	9	Nodular Cast iron	160-250	✓	✓		✓	
S	11	Heat Resistant Super Alloys	200-320			✓	✓	✓

● Good Conditions

● Average Conditions

● Difficult Conditions

RECOMMENDED CUTTING CONDITIONS

ISO	PSM	Material	HB (Brinell)	Vc (m/min)					Feed fz (mm/t)	
				← Wear Resistance			Toughness →		SOE(K)W 13...	SOET 13...
				PH7910	PH7920	PH7930	PH7740	PHM740		
P	1	Unalloyed Steel	125-220	160-280	150-230	140-220	100-180	-	0,50-2,2	0,50-2,00
	2	Low-Alloyed Steel	220-280	150-230	140-220	130-180	90-170	-	0,50-2,2	0,50-2,00
	3	High-Alloyed Steel	280-380	140-190	130-180	100-170	80-140	-	0,50-2,0	0,50-1,80
M	4	SS - Ferritic / Martensitic	200-330	-	-	130-220	100-180	100-180	-	0,50-1,80
	5	SS - Austenitic / Duplex	200-330	-	-	120-180	90-150	90-150	-	0,50-18,0
	6	SS - Duplex	230-260	-	-	70-140	70-120	70-120	-	0,50-1,50
K	7	Malleable Cast Iron	130-230	160-350	150-310	-	120-240	-	0,50-2,20	0,50-2,00
	8	Grey Cast Iron	180-245	150-300	140-260	-	100-200	-	0,50-2,20	0,50-2,00
	9	Nodular Cast iron	160-250	120-260	100-220	-	80-150	-	0,50-2,2	0,50-1,80
S	11	Heat Resistant Super Alloys	200-320	-	-	35-65	25-60	25-60	-	0,40-1,30

(Note 1) Cutting conditions $a_e/D_c=70\%$.

(Note 2) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:

- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

(Note 3) PH5... can be used wet or dry. PH7... only air thru.

(Note 4) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:

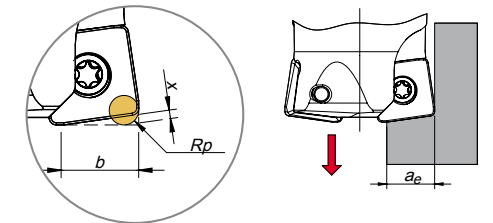
- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

CHIP-BREAKER SELECTION GUIDE

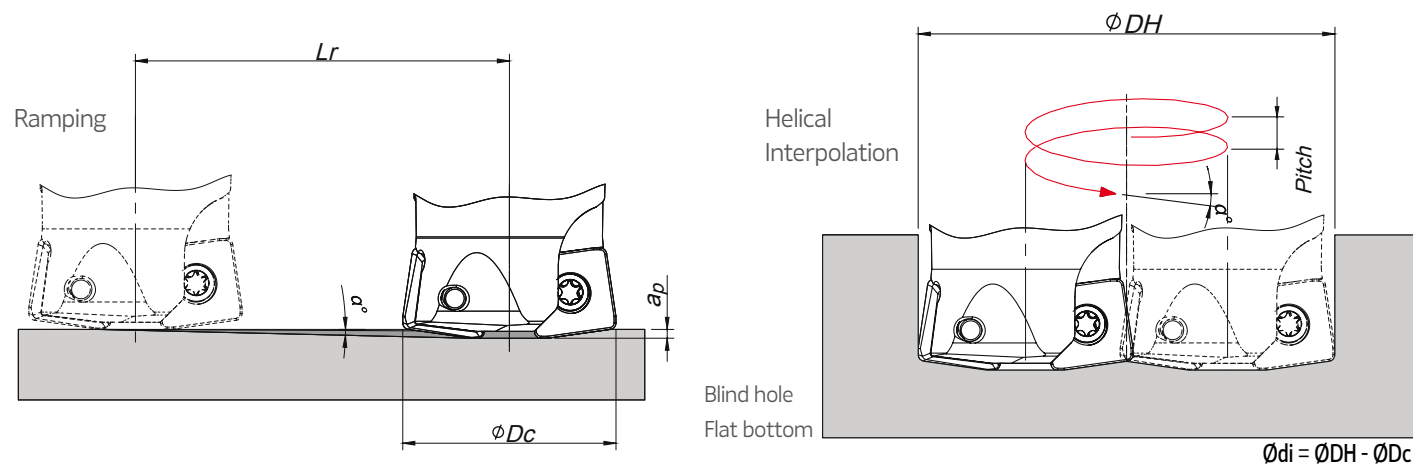
ISO	PSM	Material	HB (Brinell)	Chip-Breaker Application	
				1st choice	Difficult Operations
P	1	Unalloyed Steel	125-220	SOET 13...	SOE(K)W 13...
	2	Low-Alloyed Steel	220-280	SOE(K)W 13...	-
	3	High-Alloyed Steel	280-380	SOE(K)W 13...	-
M	4	SS - Ferritic / Martensitic	200-330	SOET 13...	-
	5	SS - Austenitic / Duplex	200-330	SOET 13...	-
	6	SS - Duplex	230-260	SOET 13...	-
K	7	Malleable Cast Iron	130-230	SOET 13...	SOE(K)W 13...
	8	Grey Cast Iron	180-245	SOE(K)W 13...	-
	9	Nodular Cast iron	160-250	SOE(K)W 13...	-
S	11	Heat Resistant Super Alloys	200-320	SOET 13...	-

PROGRAMMING DATA

Insert	Programming Data			
	Rp	X	b	a_e
SO... 13M5..	2,5	1,1	10,5	10,0



RAMPING AND HELICAL INTERPOLATION

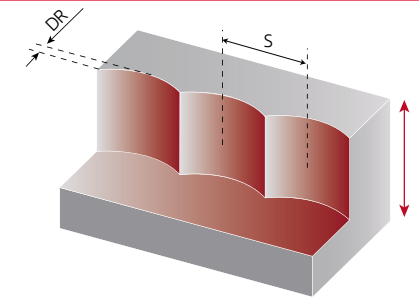


ϕD_c	Ramping			Helical Interpolation		
	Max Ramp α°	Max a_p	Min L_r	ϕDH_{min}	ϕDH_{max}	Max Pitch/Rev.
32	10,0	1,5	6,0	43 -	- 62,0	6 16
35	9,0	1,5	9,5	49 -	- 68,0	6 16
42	6,4	1,5	13,4	63 -	- 82,0	7 14
50	4,3	1,5	19,9	79 -	- 98,0	6 11
52	4,0	1,5	21,5	83 -	- 102,0	6 10
63	3,0	1,5	28,6	105 -	- 124,0	6 10
66	2,6	1,5	33,0	111 -	- 130,0	6 9
80	2,0	1,5	43,0	139 -	- 158,0	6 8

Note: During helical interpolation do not exceed max Pitch.

PLUNGING

$L \leq 3D_c$	$L > 3D_c$	S_{max}
f_z (mm/t)		
0,10-0,20	0,07-0,14	$S_{max} = \sqrt{D_c \cdot DR - DR^2}$



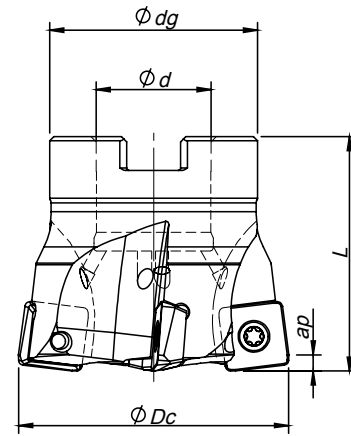
DR (mm)	S max and DR corresponding cutting diameter Dc (mm)							
	Dc (mm)							
	32	35	42	50	52	63	66	80
1,0	5,6	5,8	6,4	7,0	7,1	7,9	8,1	8,9
2,0	7,7	8,1	8,9	9,8	10,0	11,0	11,3	12,5
3,0	9,3	9,8	10,8	11,9	12,1	13,4	13,7	15,2
4,0	10,6	11,1	12,3	13,6	13,9	15,4	15,7	17,4
5,0	11,6	12,2	13,6	15,0	15,3	17,0	17,5	19,4
6,0	12,5	13,2	14,7	16,2	16,6	18,5	19,0	21,1
7,0	13,2	14,0	15,7	17,3	17,7	19,8	20,3	22,6
8,0	13,9	14,7	16,5	18,3	18,8	21,0	21,5	24,0
9,0	14,4	15,3	17,2	19,2	19,7	22,0	22,6	25,3
10,0	14,8	15,8	17,9	20,2	20,5	23,0	23,7	26,5

Note: Recommended for $L \leq 4 D_c$ for extra long tool this step and side cut must be reduced.



Arbor Mounting

$K_r=15^\circ$ | $\gamma_p=+2^\circ$ | $R_p=4,5$



Order code Código	Reference Referência Referencia	⊕	Dimensions Dimensões Dimensiones (mm)				Kg	Specifications		Insert Pastilha Inserto	Stock
			∅Dc	∅d/M	∅dg	L		Ap max (mm)	Arbor Type		
181100400	063A06815-05-02-027050	5	63	27	48	50	0,460	3,50	A	SO...1605...	⊕
181081900	066A06815-05-02-027050	5	66	27	48	50	0,500	3,50	A	SO...1605...	⊕
181082000	080A06815-06-02-027050	6	80	27	60	50	0,900	3,50	A	SO...1605...	⊕
181082100	100A06815-08-02-032050	8	100	32	80	50	1,600	3,50	B	SO...1605...	⊕
181082200	125A06815-10-02-040063	10	125	40	90	63	2,900	3,50	B	SO...1605...	⊕
181082300	160A06815-12-02-U040063	12	160	40	110	63	4,400	3,50	C	SO...1605...	⊕

⊕ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta △ Inventory maintained. To be replaced by new item. | Item em stock. Será substituído por novo item | Item en stock. Será reemplazado por nuevo item.

SOE...1605... | Inserts | Pastilhas | Plaquetas

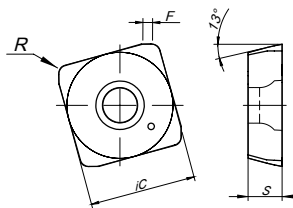
SOEW



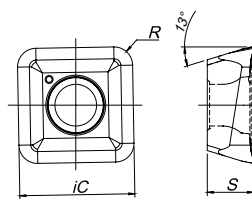
SOET



SOEW

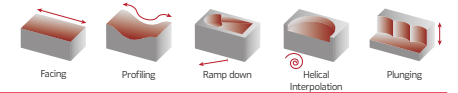


SOET



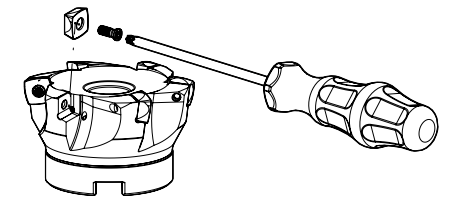
Geometry code	ISO Reference	P		M		K				N		S		H		Dimensions (mm)				
		PVD		CVD	PVD	CVD		PVD		UNC	PCD	CVD	PVD	PVD	CBN					
		P7	G1	G4	P3	G6	R1	P3	G6	L5	L6	G1	G4	P3	G6		10	D6	R1	P3
1111907	SOEW 160512 S	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	16,40	5,26	-	1,20	1,50
1112221	SOET 160520-MS	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	16,40	5,26	-	1,20	-

⊕ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta △ Insert order code = (1) Geometry Code + (2) Grade Code



SPARE PARTS | Complementos | Complementos

Cutter ∅Dc	Insert Screw	Key (Torx)	Torque Key (Torx)	Torque Value	Order separately	
					Screw	DIN 6368 Wrench
A06815 - 63-80	P0501302	PT20	DT2050	5,0	-	-
A06815 - 100	P0501302	PT20	DT2050	5,0	J0123510	SD6368-12
A06815 - 125	P0501302	PT20	DT2050	5,0	J0164110	SD6368-16
A06815 - 160	P0501302	PT20	DT2050	5,0	-	-



Note: Please check the procedures for the clamping screws on the general catalogue.

GRADES SELECTION GUIDE

ISO	PSM	Material	HB (Brinell)	Grades				
				← Wear Resistance			Toughness →	
				PH7910	PH7920	PH7930	PH7740	PHM740
P	1	Unalloyed Steel	125-220	⊕	⊕	⊕	⊕	⊕
	2	Low-Alloyed Steel	220-280	⊕	⊕	⊕	⊕	⊕
	3	High-Alloyed Steel	280-380	⊕	⊕	⊕	⊕	⊕
M	4	SS - Ferritic / Martensitic	200-330			⊕	⊕	⊕
	5	SS - Austenitic / Duplex	200-330			⊕	⊕	⊕
	6	SS - Duplex	230-260			⊕	⊕	⊕
K	7	Malleable Cast Iron	130-230	⊕	⊕		⊕	
	8	Grey Cast Iron	180-245	⊕	⊕		⊕	
	9	Nodular Cast iron	160-250	⊕	⊕		⊕	
S	11	Heat Resistant Super Alloys	200-320			⊕	⊕	⊕

⊕ Good Conditions
⊕ Average Conditions
⊕ Difficult Conditions

RECOMMENDED CUTTING CONDITIONS

ISO	PSM	Material	HB (Brinell)	Vc (m/min)					Feed fz (mm/t)	
				← Wear Resistance			Toughness →		SOEW 16...	SOET 16...
				PH7910	PH7920	PH7930	PH7740	PHM740		
P	1	Unalloyed Steel	125-220	160-280	150-230	140-220	100-180	-	0,60-2,50	0,50-2,20
	2	Low-Alloyed Steel	220-280	150-230	140-220	130-180	90-170	-	0,60-2,50	0,50-2,20
	3	High-Alloyed Steel	280-380	140-190	130-180	100-170	80-140	-	0,60-2,00	0,50-1,80
M	4	SS - Ferritic / Martensitic	200-330	-	-	130-220	100-180	100-180	-	0,60-2,00
	5	SS - Austenitic / Duplex	200-330	-	-	120-180	90-150	90-150	-	0,60-2,20
	6	SS - Duplex	230-260	-	-	70-140	70-120	70-120	-	0,50-1,80
K	7	Malleable Cast Iron	130-230	160-350	150-310	-	120-260	-	0,60-2,50	0,50-2,00
	8	Grey Cast Iron	180-245	150-300	140-260	-	130-220	-	0,60-2,50	0,50-2,00
	9	Nodular Cast iron	160-250	120-260	100-220	-	100-180	-	0,60-2,00	0,50-1,80
S	11	Heat Resistant Super Alloys	200-320	-	-	35-65	25-60	25-60	-	0,40-1,80

(Note 1) Cutting conditions $a_e/D_c=70\%$.

(Note 2) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:
- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

(Note 3) PH5... can be used wet or dry. PH7... only air thru.

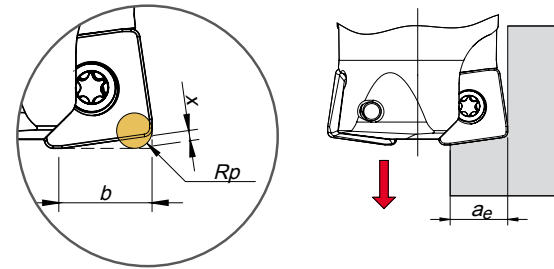
(Note 4) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:
- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

CHIP-BREAKER SELECTION GUIDE

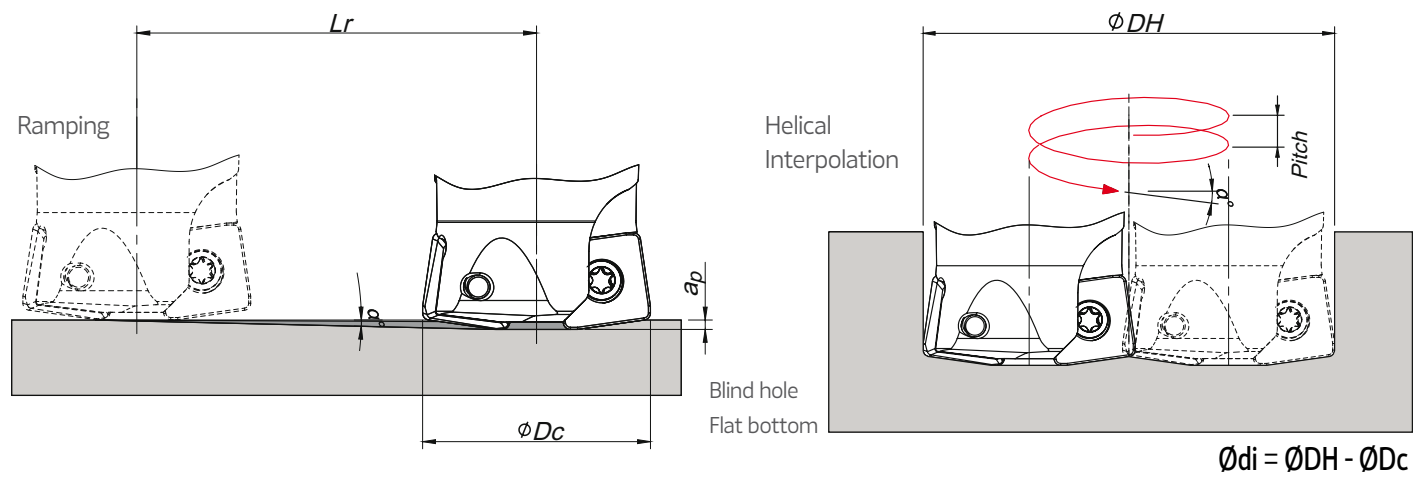
ISO	PSM	Material	HB (Brinell)	Chip-Breaker Application	
				1st choice	Difficult Operations
P	1	Unalloyed Steel	125-220	SOET 16...	SOEW 16...
	2	Low-Alloyed Steel	220-280	SOEW 16...	-
	3	High-Alloyed Steel	280-380	SOEW 16...	-
M	4	SS - Ferritic / Martensitic	200-330	SOET 16...	-
	5	SS - Austenitic / Duplex	200-330	SOET 16...	-
	6	SS - Duplex	230-260	SOET 16...	-
K	7	Malleable Cast Iron	130-230	SOET 16...	SOEW 16...
	8	Grey Cast Iron	180-245	SOEW 16...	-
	9	Nodular Cast iron	160-250	SOEW 16...	-
S	11	Heat Resistant Super Alloys	200-320	SOET 16...	-

PROGRAMMING DATA

Insert	Programming Data			
	Rp	X	b	a _e
SO... 1605..	4,5	2,3	13,5	12,8



RAMPING AND HELICAL INTERPOLATION

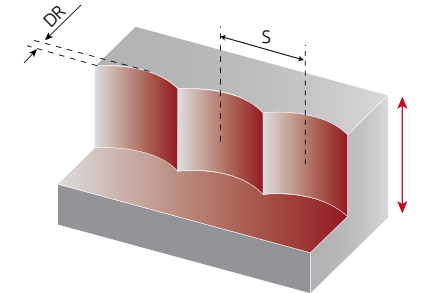


ØDc	Ramping			Helical Interpolation		
	Max Ramp a°	Max ap	Min Lr	ØDHmin	ØDHmax	Max Pitch/Rev.
63	3,5	3,5	80,2	99,0	-	6
				-	123,6	11
66	3,0	3,5	66,8	105	-	6
				-	129,6	10
80	2,0	3,5	100,2	133	-	5
				-	57,5	8
100	1,5	3,5	133,7	173	-	6
				-	197,5	8
125	1,0	3,5	200,5	223	-	5
				-	247,5	6
160	0,5	3,5	401,1	293	-	3
				-	317,5	4

Note: During helical interpolation do not exceed max Pitch.

PLUNGING

L ≤ 3Dc	L > 3Dc	S max.
f _z (mm/t)		S _{max} = √Dc·DR·DR ²
0,10-0,20	0,07-0,14	



DR (mm)	S max and DR corresponding cutting diameter Dc (mm)	
	Dc (mm)	
	66	80
1,0	8,1	8,9
2,0	11,3	12,5
3,0	13,7	15,2
4,0	15,7	17,4
5,0	17,5	19,4
6,0	19,0	21,1
7,0	20,3	22,6
8,0	21,5	24,0
9,0	22,6	25,3
10,0	23,7	26,5
11,0	24,6	27,5
12,0	25,5	28,6

Note: Recommended for L ≤ 4 Dc for extra long tool this step and side cut must be reduced.



HIFEED

06410 | 06690 | 06815

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