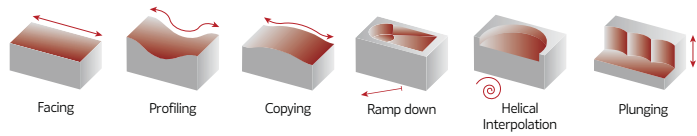


# The best solution for High productivity milling

**palbit**<sup>®</sup>  
CUTTING TOOLS SOLUTIONS



NEW  
**HIIFEEED**  
06410 | 06690 | 06815



INSERT SIZE  
**08** SO...  
0803



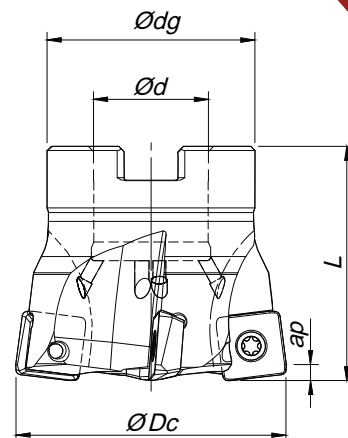
INSERT SIZE  
**13** SO...  
13M5



INSERT SIZE  
**16** SO...  
1605



**100**  
YEARS  
SINCE 1916



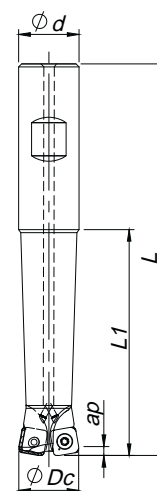
### Arbor Mounting

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

Order code Código	Reference Referência Referencia		Dimensions   Dimensões   Dimensiones (mm)				Kg	Specifications		Insert Pastilha Inserto	Stock
			$\varnothing Dc$	$\varnothing d/M$	$\varnothing dg$	L		Ap max (in)	Arbor Type		
181149800	040A06410-05-02-016040		40	16	30	40	0,157	1,00	A	SO...0803...	
181153200	050A06410-06-02-022045		50	22	40	45	0,312	1,00	A	SO...0803...	
181149900	052A06410-06-02-022045		52	22	40	45	0,331	1,00	A	SO...0803...	

Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta



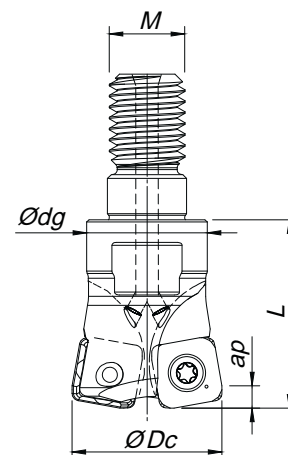
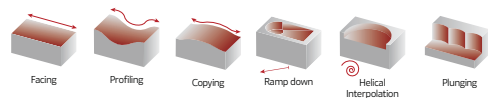
### Weldon Shank

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

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



**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	Insert Pastilha Inserto	Stock
			ØDc	Ød/M	Ødg	L		Ap max (mm)		
181071900	020R06410-02-02-M10025		20	M10	16	25	0,040	1,00	SO...0803...	
181076600	025R06410-03-02-M12028		25	M12	21	28	0,070	1,00	SO...0803...	
181076700	032R06410-04-02-M16035		32	M16	29	35	0,160	1,00	SO...0803...	
181076800	035R06410-04-02-M16035		35	M16	29	35	0,180	1,00	SO...0803...	
181076900	042R06410-05-02-M16035		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

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

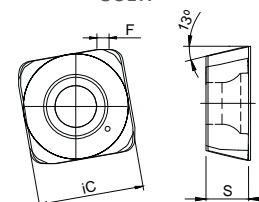
SOEW



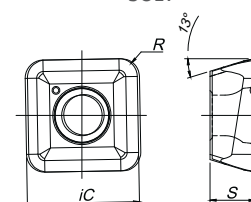
SOET



SOEW



SOET



Geometry code	ISO Reference	P						M				K				N		S			H	Dimensions Dimensões Dimensiones (mm)							
		CVD		PVD				CVD		PVD		CVD		PVD		UNC	PCD	CVD	PVD	PVD	iC	S	I	R	F				
		T9	P7	G1	G4	P3	G6	R1	G4	P3	G6	L5	L9	G1	G4	P3	G6	10	D6	R1						P3	G6	P7	
1111884	SOEW 080310 S																								8,60	3,47	-	1,0	1,0
1112149	SOET 080315-MS																								8,60	3,47	-	1,5	-

choice | Primeira opção | 1ª opción

Stock item | Produto de stock | Itens de stock

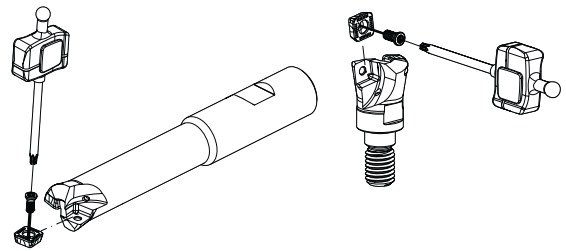
Available under request | Disponível sobre consulta | Disponible bajo consulta

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

# HIFEED 06410

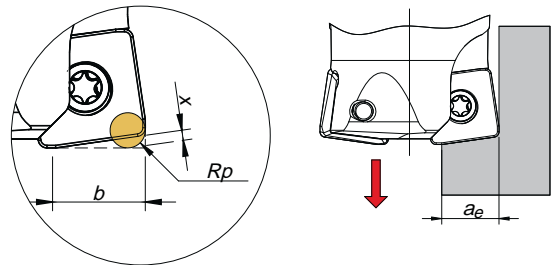
## SPARE PARTS | Complementos | Repuestos

Cutter ØDc	Insert Screw	Key (Torx)	Order separately	
			Key (Torx - Nm)	Torque Value
A06410 - 40 - 52	P0300800	XT09	DT0914	1,4
R06410 - 20 - 42	P0300800	XT09	DT0914	1,4
W06410 - 20 - 32	P0300800	XT09	DT0914	1,4



## PROGRAMMING DATA | Dados para programação | Datos para la programación

Insert	Programming Data			
	Rp	X	b	a <sub>e</sub>
SO... 0803..	2,0	0,8	6,8	6,3



## GRADES SELECTION GUIDE | Guia para selecção de graus | Tabla para selección de calidades

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	200-330			●	●	●
	6	SS - Austenitic-ferritic (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 | Condições de corte recomendadas | Condiciones de corte recomendables

ISO	PSM	Material	HB (Brinell)	Vc (m/min)					Feed fz (mm/t)	
				← Wear Resistance			Toughness →		SOEW 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	200-330	-	-	120-180	90-150	90-150	-	0,40-1,30
	6	SS - Austenitic-ferritic (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... and PH8... can be used wet or dry. PH7... use only air.

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

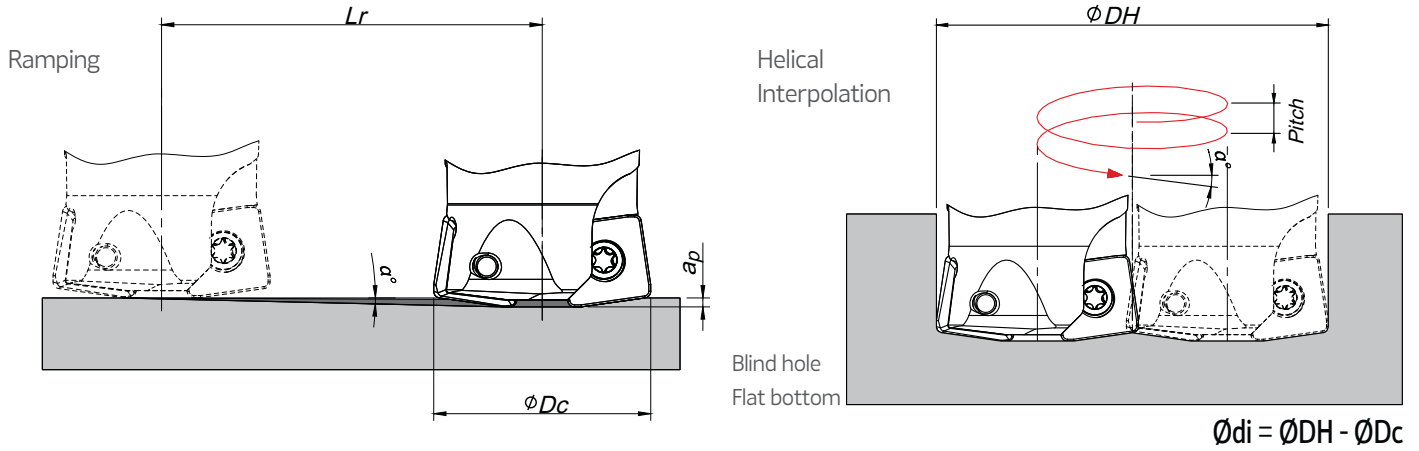
- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

## CHIP-BREAKER SELECTION GUIDE | Guia para aplicações do quebra- aparas | Guía para aplicación del rompevirutas

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

## RAMPING AND HELICAL INTERPOLATION

Descida em rampa e interpolação helicoidal | Bajada en rampa e interpolación circular

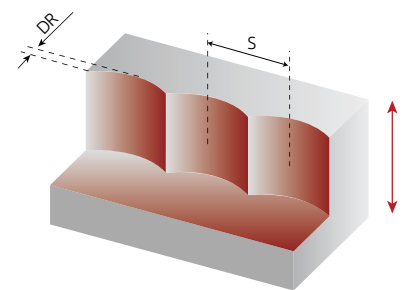


$\phi D_c$	Ramping			Helical Interpolation		
	Max Ramp $a_p^\circ$	Max $a_p$	Min $L_r$	$\phi DH_{min}$	$\phi DH_{max}$	Max Pitch/Rev.
20	15	1,0	3,2	26,4 -	- 38,0	6 17
25	9,5	1,0	6,0	36,4	- 48,0	5 12
32	5,5	1,0	10,4	50,4 -	- 62,0	5 9
35	4,5	1,0	12,7	56,4 -	- 68,0	5 8
42	3,5	1,0	16,3	70,4 -	- 82,0	5 7

Note: During helical interpolation do not exceed max Pitch.

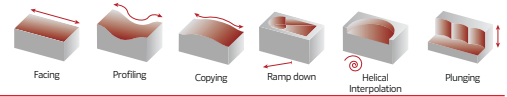
## PLUNGING | Mergulho | Plunge

$L \leq 3D_c$	$L > 3D_c$	$S_{max}$
$f_z$ (mm/t)		
0,08-0,15	0,05-0,10	$S_{max} = \sqrt{D_c \cdot DR - DR^2}$



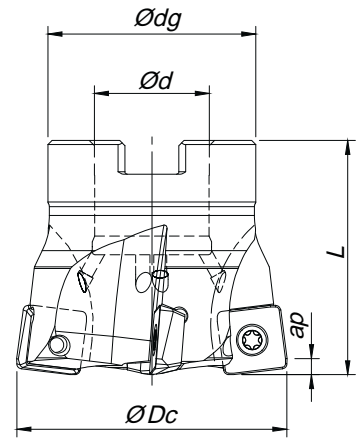
S max and DR corresponding cutting diameter Dc (mm)					
DR (mm)	Dc (mm)				
	20	25	32	35	42
1,0	4,4	4,9	5,6	5,8	6,4
2,0	6,0	6,8	7,7	8,1	8,9
3,0	7,1	8,1	9,3	9,8	10,8
4,0	8,0	9,2	10,6	11,1	12,3
5,0	8,7	10,0	11,6	12,2	13,6
6,0	9,2	10,7	12,5	13,2	14,7

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



### 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
			ØDc	Ød/M	Ødg	L		Ap max (mm)	Arbor Type		
181069100	050A06690-04-05-022045		50	22	40	45	0,274	1,50	A	SO...13M5...	
181029800	052A06690-04-05-022045		52	22	40	45	0,290	1,50	A	SO...13M5...	
181033500	063A06690-05-05-027050		63	27	48	50	0,500	1,50	A	SO...13M5...	
181029900	066A06690-05-05-027050		66	27	48	50	0,550	1,50	A	SO...13M5...	
181030000	080A06690-06-05-027050		80	27	60	50	0,955	1,50	A	SO...13M5...	
181113100	100A06690-08-05-032050		100	32	70	50	1,500	1,50	A	SO...13M5...	

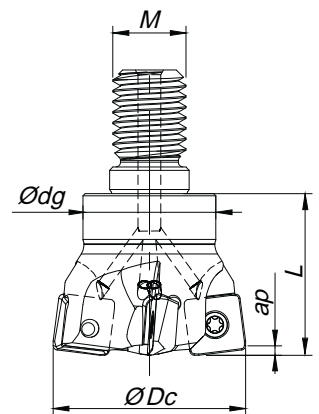
Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta



### 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
			ØDc	Ød/M	Ødg	L		Ap 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

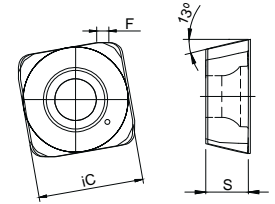
# HIFEED 06690

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

SOEW



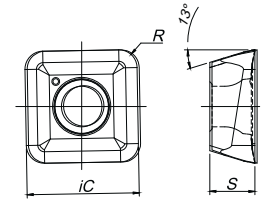
SOEW



SOET



SOET



(1) Geometry code	(2) Grade code	P						M				K			N		S			H	Dimensions Dimensões Dimensiones (mm)					
		CVD		PVD				CVD		PVD		CVD		PVD	UNC	PCD	CVD	PVD		PVD	iC	S	I	R	F	
		T9	P7	G1	G4	P3	G6	R1	G4	P3	G6	L5	L6	G1	G4	P3	10	D6	R1	P3						G6
1111906	SOEW 13M510 S			⊗	⊗		⊗								⊗	⊗						12,43	5,00	-	1,2	1,0
1112147	SOET 13M520-MS					⊗	⊗	⊗		⊗	⊗								⊗	⊗	⊗	12,43	5,00	-	2,0	-

⊗ First choice | Primeira opção | 1ª opção

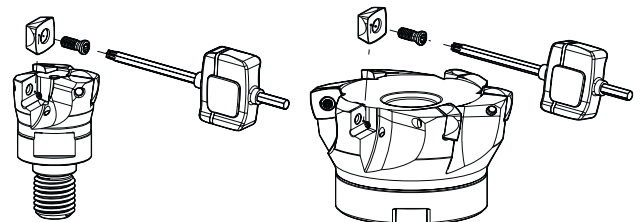
⊗ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta  
Disponível bajo consulta

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

## SPARE PARTS | Complementos | Repuestos

Cutter ØDc	Order separately			
	Insert Screw	Key (Torx)	Key (Torx - Nm)	Torque Value
W06690 - 32 - 42	P0401200	XT15	DT1530	3,0
R06690 - 50 - 80	P0401200	XT15	DT1530	3,0



## GRADES SELECTION GUIDE | Guia para selecção de graus | Tabla para selección de calidades

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	200-330				●	●
	6	SS - Austenitic-ferritic (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



## CHIP-BREAKER SELECTION GUIDE | Guia para aplicações do quebra- aparas | Guía para aplicación del rompevirutas

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

## RECOMMENDED CUTTING CONDITIONS | Condições de corte recomendadas | Condiciones de corte recomendables

ISO	PSM	Material	HB (Brinell)	Vc (m/min)					Feed fz (mm/t)	
				← Wear Resistance			Toughness →		SOEW 13...	SOET 13...
				PH7910	PH7920	PH7930	PH7740	PHM740		
P	1	Unalloyed Steel	125-220	160-280	150-230	140-220	100-180	-	0,50-2,20	0,50-2,00
	2	Low-Alloyed Steel	220-280	150-230	140-220	130-180	90-170	-	0,50-2,20	0,50-2,00
	3	High-Alloyed Steel	280-380	140-190	130-180	100-170	80-140	-	0,50-2,00	0,50-1,80
M	4	SS - Ferritic / Martensitic	200-330	-	-	130-220	100-180	100-180	-	0,50-1,80
	5	SS - Austenitic	200-330	-	-	120-180	90-150	90-150	-	0,50-1,80
	6	SS - Austenitic-ferritic (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	-	0,50-2,20	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.

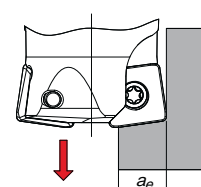
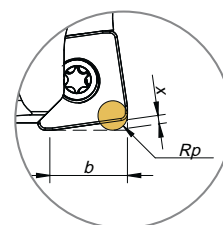
(Note 3) PH5... and PH8... can be used wet or dry. PH7... use only air.

(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.

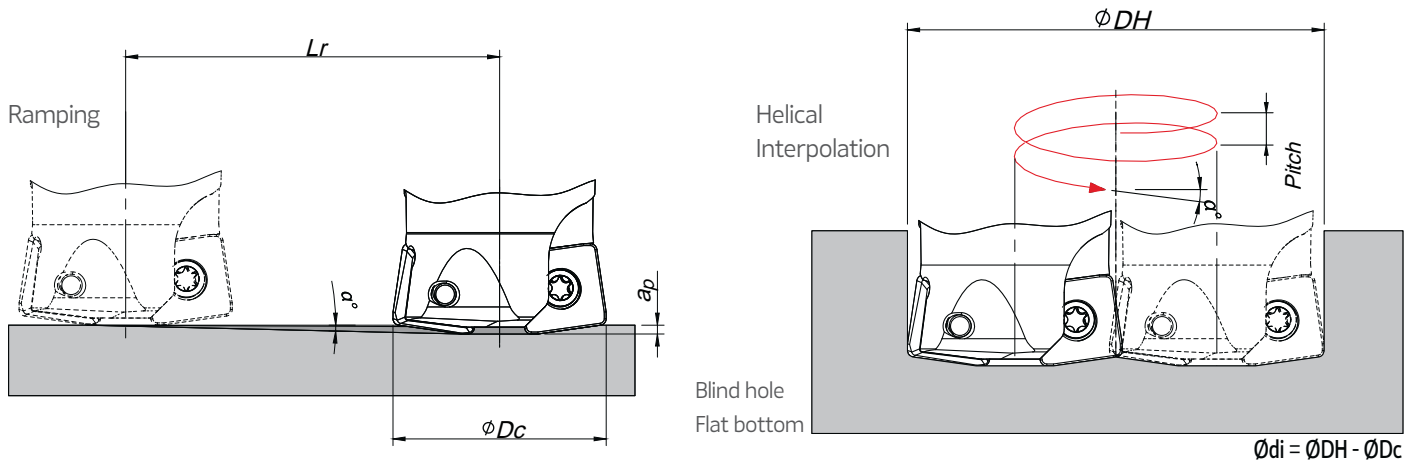
## PROGRAMMING DATA | Dados para programação | Datos para la programación

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



## RAMPING AND HELICAL INTERPOLATION

Descida em rampa e interpolação helicoidal | Bajada en rampa e interpolación circular

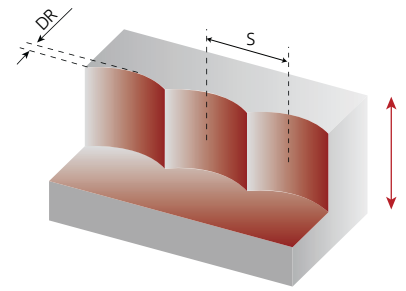


$\phi D_c$	Ramping			Helical Interpolation		
	Max Ramp $a^\circ$	Max $a_p$	Min $L_r$	$\phi DH_{min}$	$\phi DH_{max}$	Max Pitch/Rev.
32	10,0	1,5	6,0	43 -	- 62,0	6 16
35	9,0	1,5	9,5	49 -	- 68,0	6 16
42	6,4	1,5	13,4	63 -	- 82,0	7 14
50	4,3	1,5	19,9	79 -	- 98,0	6 11
52	4,0	1,5	21,5	83 -	- 102,0	6 10
63	3,0	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 | Mergulho | Plunge

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



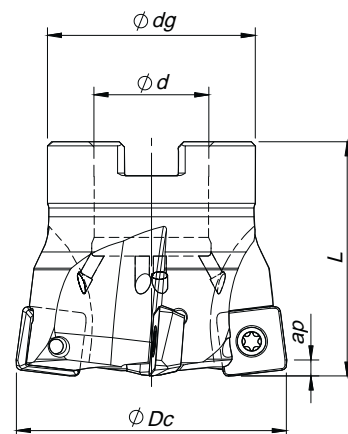
S max and DR corresponding cutting diameter Dc (mm)									
DR (mm)	Dc (mm)								
	32	35	42	50	52	63	66	80	
1,0	5,6	5,8	6,4	7,0	7,1	7,9	8,1	8,9	
2,0	7,7	8,1	8,9	9,8	10,0	11,0	11,3	12,5	
3,0	9,3	9,8	10,8	11,9	12,1	13,4	13,7	15,2	
4,0	10,6	11,1	12,3	13,6	13,9	15,4	15,7	17,4	
5,0	11,6	12,2	13,6	15,0	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

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



Order code Código	Reference Referência Referencia		Dimensions   Dimensões   Dimensiones (mm)				Kg	Specifications		Insert Pastilha Inserto	Stock
			$\phi Dc$	$\phi d/M$	$\phi dg$	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

## SO...1605... || Inserts | Pastilhas | Plaquetas

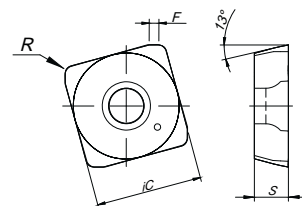
SOEW



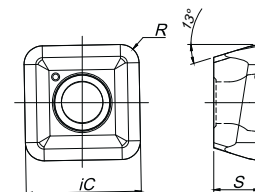
SOET



SOEW



SOET



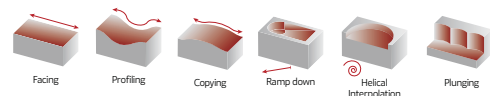
Geometry code	ISO Reference	P						M			K				N		S			H	Dimensions Dimensões Dimensiones (mm)						
		CVD		PVD				CVD	PVD		CVD		PVD		UNC	PCD	CVD	PVD	PVD								
		T9	P7	G1	G4	P3	G6	R1	P3	G6	L5	L6	G1	G4	P3	G6	10	D6	R1	P3						G6	P7
1111907	SOEW 160512 S																						16,40	5,26	-	1,20	1,50
1112221	SOET 160520-MS																						16,40	5,26	-	2,00	-

First choice | Primeira opção | 1ª opción

Stock item | Produto de stock | Itens de stock

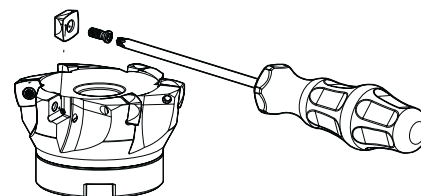
Available under request | Disponível sobre consulta | Disponible bajo consulta

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



## SPARE PARTS | Complementos | Repuestos

Cutter ØDc	Order separately			Order separately		
	Insert Screw	Key (Torx)	Key (Torx - Nm)	Torque Value	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	-	-



## GRADES SELECTION GUIDE | Guia para selecção de graus | Tabla para selección de calidades

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	200-330			✓	✓	✓
	6	SS - Austenitic-ferritic (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			✓	✓	✓



## RECOMMENDED CUTTING CONDITIONS | Condições de corte recomendadas | Condiciones de corte recomendables

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	200-330	-	-	120-180	90-150	90-150	-	0,60-2,20
	6	SS - Austenitic-ferritic (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... and PHS... can be used wet or dry. PH7... use only air.

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

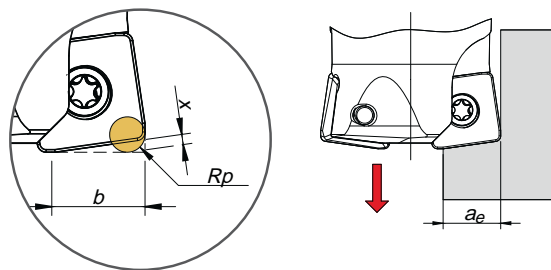
- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

## CHIP-BREAKER SELECTION GUIDE | Guia para aplicações do quebra- aparas | Guía para aplicación del rompevirutas

ISO	PSM	Material	HB (Brinell)	Chip-Breaker Application	
				1st choise	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	200-330	SOET 16...	-
	6	SS - Austenitic-ferritic (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...	-

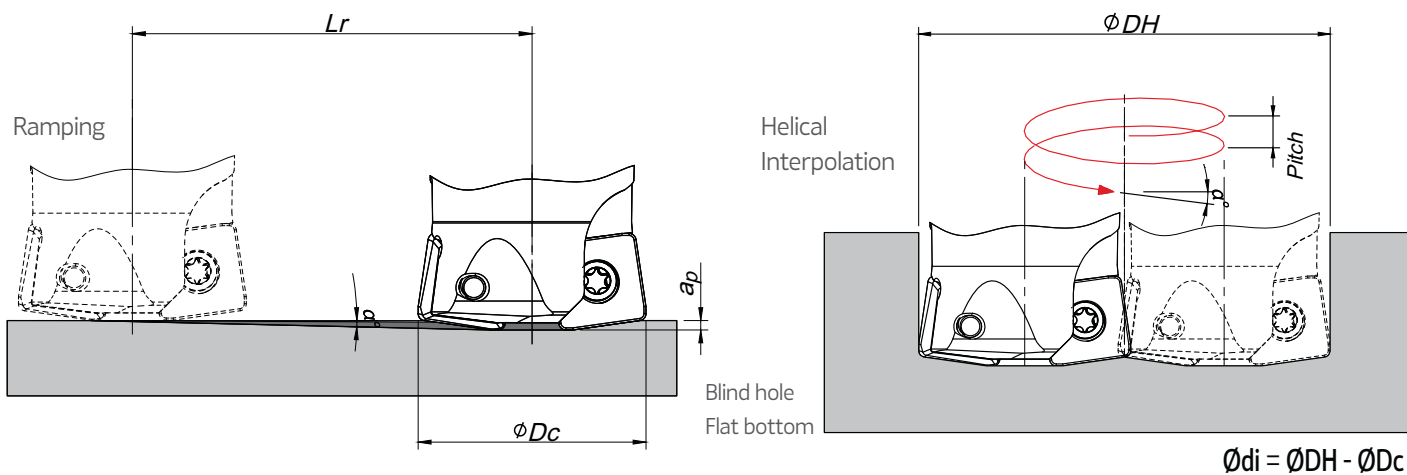
## PROGRAMMING DATA | Dados para programação | Datos para la programación

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



## RAMPING AND HELICAL INTERPOLATION

Descida em rampa e interpolação helicoidal | Bajada en rampa e interpolación circular

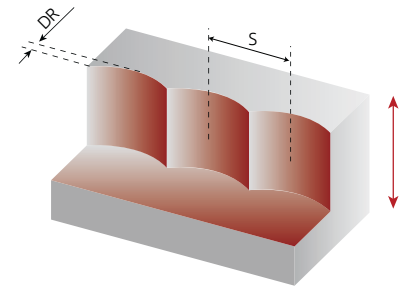


ØDc	Ramping			Helical Interpolation		
	Max Ramp a°	Max ap	Min Lr	ØDHmin	ØDHmax	Max Pitch/Rev.
63	3,5	3,5	80,2	99,0 -	- 123,6	6 11
66	3,0	3,5	66,8	105 -	- 129,6	6 10
80	2,0	3,5	100,2	133 -	- 157,5	5 8
100	1,5	3,5	133,7	173 -	- 197,5	6 8
125	1,0	3,5	200,5	223 -	- 247,5	5 6
160	0,5	3,5	401,1	293 -	- 317,5	3 4

Note: During helical interpolation do not exceed max Pitch.

## PLUNGING || Mergulho | Plunge

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



S max and DR corresponding cutting diameter Dc (mm)		
DR (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

NEW

06410 | 06690 | 06815

**HEADQUARTERS**

**PALBIT, S.A.**

P.O.Box 4 - Palhal

3854-908 - Branca ALB - Portugal

T (+351) 234 540 300 | F (+351) 234 540 301

palbit@palbit.pt | [www.palbit.pt](http://www.palbit.pt)

**Branch office:**

**PALBIT México**

Emerson 150. Int.803-804. Colonia Chapultepec

Morales Delagación Miguel Hidalgo

C.P. 11570 México DF

T (+52) 5555 454 543 | F (+52) 5552 509 190

info@palbit.com.mx | [www.palbit.com.mx](http://www.palbit.com.mx)

**Branch office:**

**PALBIT Brasil**

Av. João XXIII. nº20. Sl 41 - Vila Gilda

Stº André. SP. CEP 09190-500 SP Brasil

T (+55) 1125 343 648 | F (+55) 1125 343 648

palbit@palbit.com.br | [www.palbit.com.br](http://www.palbit.com.br)

**ZIBTR PRO d.o.o.**

**Tel.: +386 1 896 22 80**

**Fax: +386 1 896 22 82**

**Splet: [www.zibtr.com](http://www.zibtr.com)**

