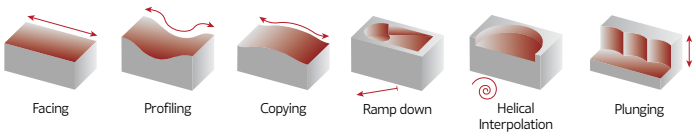
Penta Hifeed
milling line



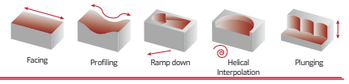
palbit
CUTTING TOOLS SOLUTIONS

PENTA HIFEED
06320

PDF

100 YEARS
SINCE 1916

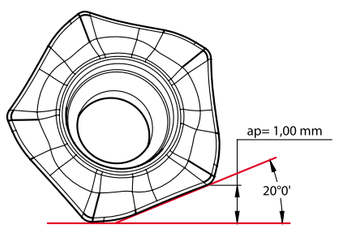
MAIN FEATURES



Line 06320 is a high-feed milling concept with five cutting edges for roughing to semi-finishing.

It offers excellent performance in many materials.

5 cutting edges:



Benefits

High productivity in applications requiring light cutting action;

Specially developed for machining difficult-to-cut materials;

Strong and robust inserts for reliable machining and long tool life;

Low power consumption.

Features

Five cutting edges per insert;

Wide range of grades;

Internal coolant on all cutters enables efficient wet machining as well as compressed air cooling;

Reduced axial forces with a 20 degree lead angle and a positive axial inclination angle.

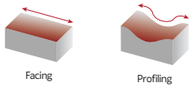
Application

Face milling and profile milling, including ramping and helical interpolation;

Suitable for most applications and industry segments;

Machining of components requiring long overhangs.

Main operations

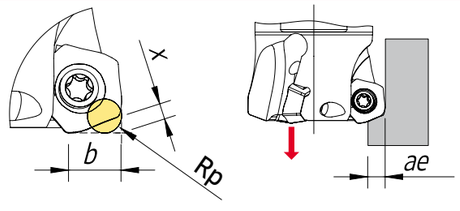


Working materials

P M K S

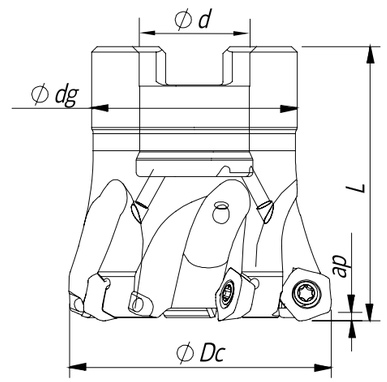
PROGRAMMING DATA | Dados para programação | Datos para la programación

Insert	Programming Data			
	Rp	X	b	a_e
POKT 0403...	2,5	1,2	4,3	4,0



PENTA HIFEED 06320

Proprietary milling line

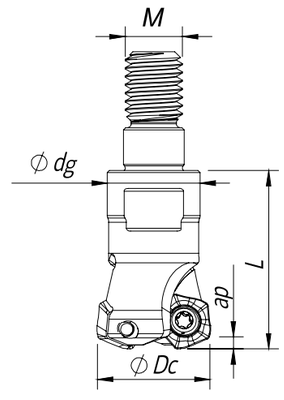


Arbor Mounting

K_r=20° | γ_p=14° | Rp=2,5

Order code Código	Reference Referência Referencia		Dimensions | Dimensões | Dimensiones (mm)				Kg	Specifications		Insert	Stock
			ØDc	Ød/M	Ødg	L		Ap max (mm)	Arbor Type		
181129300	040A06320-05-14-016040	5	40	16	30	40	0,15	1,0	A	POKT 0403...	⛭
181129400	050A06320-06-14-022045	6	50	22	40	45	0,19	1,0	A	POKT 0403...	⛭
181129500	052A06320-06-14-022045	6	52	22	40	45	0,29	1,0	A	POKT 0403...	⛭
181129600	063A06320-07-14-027050	7	63	27	48	50	0,50	1,0	A	POKT 0403...	○
181131300	066A06320-07-14-027050	7	66	27	48	50	0,55	1,0	A	POKT 0403...	○

⛭ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta



Threaded Coupling

K_r=20° | γ_p=14° | Rp=2,5

Order code Código	Reference Referência Referencia		Dimensions | Dimensões | Dimensiones (mm)				Kg	Specifications	Insert	Stock
			ØDc	Ød/M	Ødg	L		Ap max (mm)		
181113500	016R06320-02-14-M08025	2	16	M08	13	25	0,02	1,0	POKT 0403...	⛭
181113600	020R06320-02-14-M10025	2	20	M10	18	25	0,05	1,0	POKT 0403...	⛭
181113700	025R06320-03-14-M12028	3	25	M12	21	28	0,07	1,0	POKT 0403...	⛭
181129100	032R06320-05-14-M16035	5	32	M16	29	35	0,17	1,0	POKT 0403...	⛭
181129200	035R06320-05-14-M16035	5	35	M16	29	35	0,19	1,0	POKT 0403...	⛭
181130900	042R06320-05-14-M16035	5	42	M16	29	35	0,23	1,0	POKT 0403...	⛭

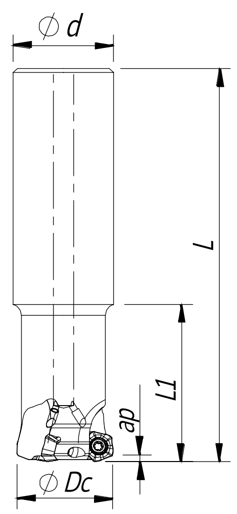
⛭ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

PENTA HIFEED 06320

Proprietary milling line

Cylindrical Shank

K_r=20° | γ_p=14° | Rp=2,5



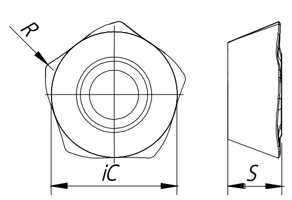
Order code Código	Reference Referência Referencia	(teeth)	Dimensions | Dimensões | Dimensiones (mm) ØDc	Ød/M	L	L1	Kg	Specifications Ap max (mm)	Insert	Stock
181147200	020E06320-02-14-020130	2	20	20	130	40	0,38	1,0	POKT 0403...	◎
181131000	025E06320-03-14-025150	3	25	25	150	40	0,41	1,0	POKT 0403...	◎
181131100	032E06320-05-14-032180	5	32	32	180	50	0,56	1,0	POKT 0403...	◎
181131200	040E06320-05-14-032180	5	40	32	180	50	0,70	1,0	POKT 0403...	○

◎ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

POKT 0403... | Inserts | Pastilhas | Plaquitas

POKT-MP

POKT-MP

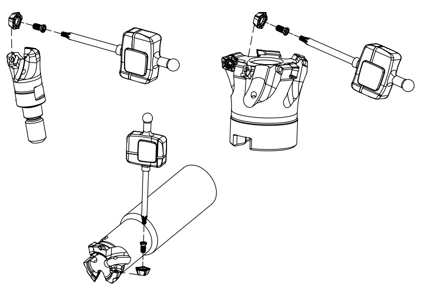


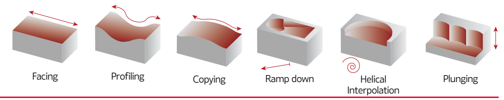
		P						M				K						N		S		H	Dimensions Dimensões Dimensiones (mm)				
		CVD	PVD					CVD	PVD			CVD		PVD				UNC	PCD	PVD		PVD					
	(2) Grade code	T9	P7	G1	G4	P3	G6	R1	G4	P3	G6	L5	L6	G1	G4	P3	G6	10	D6	P3	G6	M6					
(1) Geometry code	ISO Reference	PHS740	PH7603	PH7910	PH7920	PH7930	PH7740	PHM740	PH7920	PH7930	PH7740	PH5705	PH5320	PH7910	PH7920	PH7930	PH7740	PH0910	PDP410	PH7930	PH7740	PH6103	iC	S	l	R	F
1112365	POKT 040305 ZDSR-MP			◎	◉	◎	◎							◎	◉								7,00	3,00	-	0,50	-

◉ 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	Insert Screw	Key (Torx)	Key (Torx - Nm) (Order separately)	Torque Value	Screw (Order separately)	DIN 6368 Wrench
R06320 - 16-42	P0250503	XT08	DT0812	1,20	-	-
E06320 - 25-40	P0250503	XT08	DT0812	1,20	-	-
A06320 - 40-60	P0250503	XT08	DT0812	1,20	-	-





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

ISO	PSM	Material	HB (Brinell)	Grades ← Wear Resistance PH7910	PH7920	PH7930	Toughness → PH7740
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

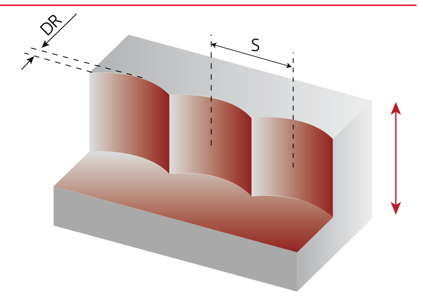
ISO	PSM	Material	HB (Brinell)	Vc (m/min) ← Wear Resistance PH7910	PH7920	PH7930	Toughness → PH7740	Feed fz (mm/t) POKT 04...-MP
P	1	Unalloyed Steel	125-220	190-280	180-250	-	-	0,50-1,50
	2	Low-Alloyed Steel	220-280	180-240	170-210	-	-	0,50-1,50
	3	High-Alloyed Steel	280-380	170-220	160-200	-	-	0,50-1,50
M	4	SS - Ferritic / Martensitic	200-330	-	-	130-170	120-180	0,50-1,40
	5	SS - Austenitic	200-330	-	-	100-160	100-150	0,50-1,40
	6	SS - Austenitic-ferritic (Duplex)	230-260	-	-	80-140	70-130	0,50-1,40
K	7	Malleable Cast Iron	130-230	180-320	170-300	-	-	0,50-1,50
	8	Grey Cast Iron	180-245	170-280	150-250	-	-	0,50-1,50
	9	Nodular Cast iron	160-250	100-240	90-210	-	-	0,50-1,50
S	11	Heat Resistant Super Alloys	200-320	-	-	30-75	30-70	0,50-1,30

(Note 1) Cutting conditions a_e/Dc=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.

PLUNGING | Mergulho | Plunge

L≤3Dc	L>3Dc	S max.
f_z (mm/t)		
0,08-0,15	0,05 - 0,10	$Smax = \sqrt{DC.Dr-Dr^2}$



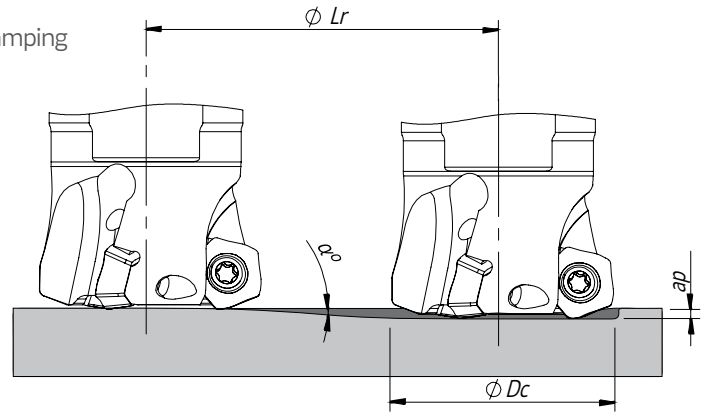
DR (mm)	S max and DR corrsponding cutting diameter Dc (mm) Dc (mm) POKT 04... 16	20	25	32	35	40	42	50	52	63	66
1,0	3,9	4,4	4,9	5,7	5,8	6,2	6,4	7,0	7,1	7,9	8,1
2,0	5,3	6,0	6,8	2,7	8,1	8,7	8,9	9,8	10,0	11,0	11,3
3,0	6,2	7,1	8,1	9,3	9,8	10,5	10,8	11,9	12,1	13,4	13,7
4,0	6,9	8,0	9,2	10,6	11,1	12,0	12,3	13,6	13,9	15,4	15,7

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

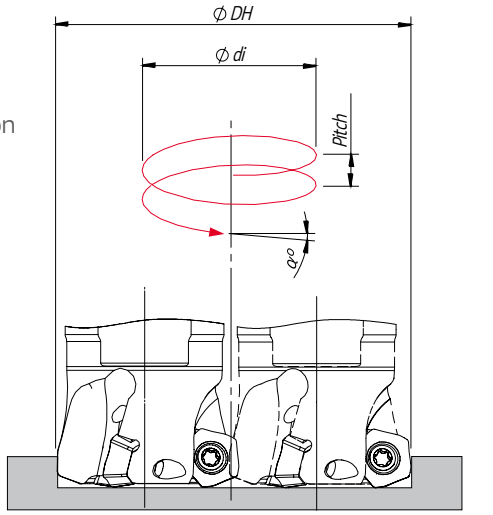
RAMPING AND HELICAL INTERPOLATION

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

Ramping



Helical Interpolation



Blind hole
Flat bottom

Ødi = ØDH - ØDc

ØDc	Ramping			Helical Interpolation		
	Max Ramp a°	Max a_p	Min Lr	ØDHmin	ØDHmax	Max Pitch/Rev.
16	15	1,0	3,7	23,4 -	- 30,0	6 11
20	9,0	1,0	6,3	31,4 -	- 38,0	5 8
25	5,0	1,0	11,4	41,4 -	- 48,0	4 6
32	3,4	1,0	16,8	55,4 -	- 62,0	4 5
35	3,0	1,0	19,1	61,4 -	- 68,0	4 5
40	2,0	1,0	28,6	71,4 -	- 78,0	3 4
42	2,0	1,0	28,6	84,0 -	- 82,0	4 4
50	2,0	1,0	28,6	91,4 -	- 98,0	4 5
52	2,0	1,0	28,6	95,4 -	- 102,0	4 5
63	2,0	1,0	28,6	117,4 -	- 124,0	5 6
66	1,8	1,0	31,8	123,4 -	- 130,0	5 6

Note: During helical interpolation do not exceed max Pitch.

Cofinanciado por:

COMPETE 2020 | PORTUGAL 2020 | UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional

palbit CUTTING TOOLS SOLUTIONS

Palbit, S.A. - P.O.Box 4 - Palhal - 3854-908 - Branca ALB - Portugal

palbit@palbit.pt - www.palbit.pt