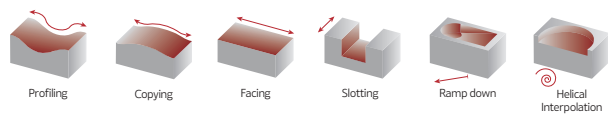


Machining of stainless steel & difficult-to-cut materials

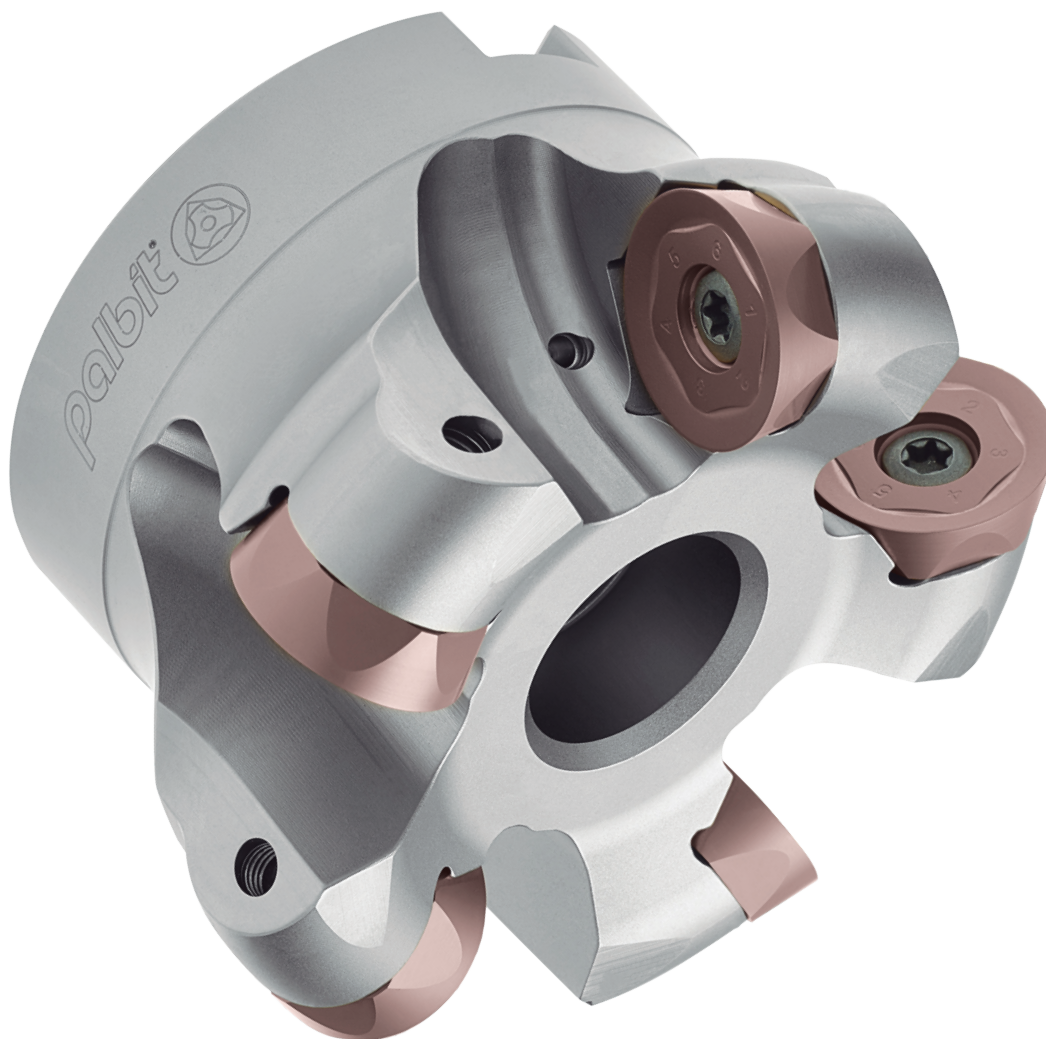


TOROMILL

33590 | 33690 | 33790

33890 | 33990

PHH
NEW
GRADE



RDHT
08



RPHT
10 | 12 | 16 | 20

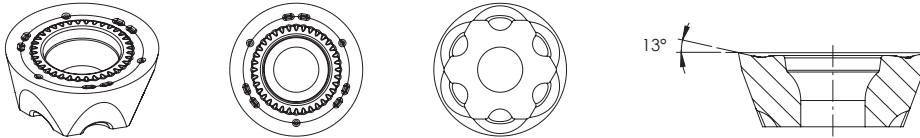


SINCE 1916

RPHT-LS



RPHT-LS



6 cutting edges insert

- Insert with 6 cutting edges for a higher productivity.

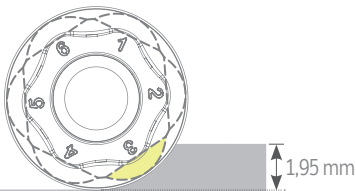
Insert Geometry

- Improved geometry for low cutting force;
- Positive insert with a brand new edge positioning system.

The maximum depth of cut using 6 cutting edges (LS)

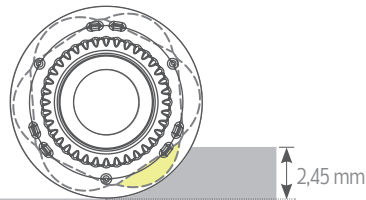
TOROMILL 33590

RDHT 0802...



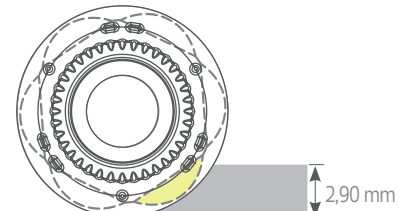
TURBOMILL 34190

RPHT 10T3M0E-LS



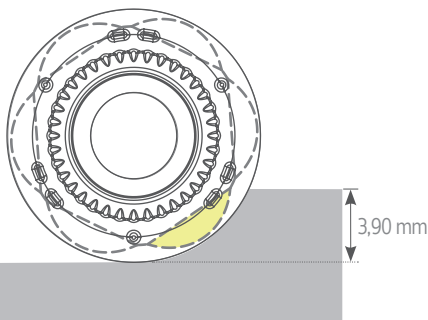
TURBOMILL 34290

RPHT 1204 M0E-LS



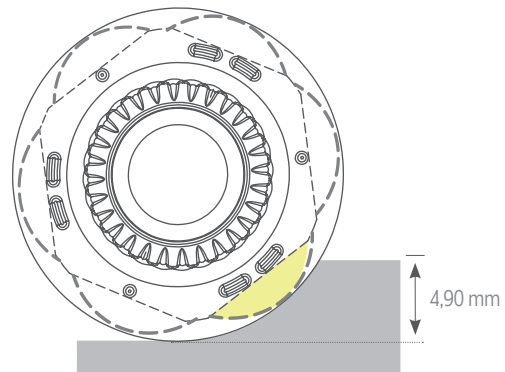
TOROMILL 33890

RPHT 1605 M0E-LS



TOROMILL 33990

RPHT 2006...



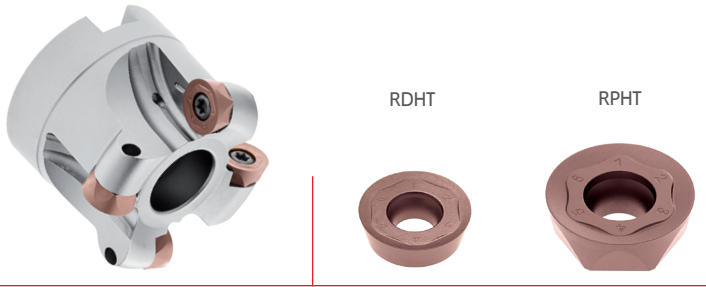
TOROMILL 33590 | 33690 | 33790 | 33890 | 33990

Line for machining stainless steel and difficult cutting materials

M S

Features

- High positive rake angle results in low cutting resistance;
- Optimal cutter design for stainless steel and difficult-to-cut material machining;
- Special grade (PHM740) with wear resistance and toughness characteristics.
- Optimized insert for machining with 6 cutting edges



TOROMILL 33590

RDHT 0802...

TOROMILL 33690

RPHT 10T3...

TOROMILL 33790

RPHT 1204...

TOROMILL 33890

RPHT 1605...

TOROMILL 33990

RPHT 2006...

RDHT | RPHT | Inserts | Pastilhas | Plaquetas



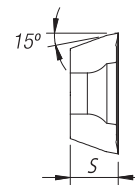
RDHT



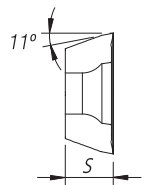
RPHT



RDHT



RPHT



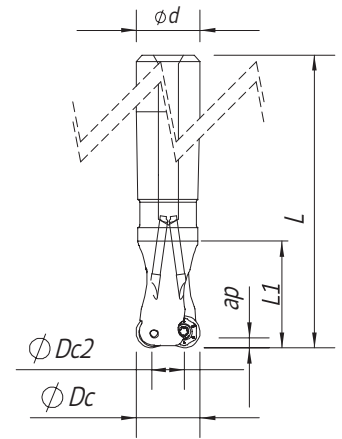
(1) Geometry code	(2) Grade code ISO Reference	P				M				S			Dimensions Dimensões Dimensiones (mm)	
		CVD	PVD			PVD				PVD				
		T9	T1	Z1	Z2	X9	Y2	Z2	Z3	X9	Y2	Z3	ic	S
1112152	RDHT 0802 M0E-LS												8,00	2,38
1112253	RPHT 10T3 M0E-MS												10,00	3,97
1112772	RPHT 10T3 M0E-LS												10,00	3,97
1112186	RPHT 1204 M0E-MS												12,00	4,76
1112766	RPHT 1204 M0E-LS												12,00	4,76
1112254	RPHT 1605 M0E-MS												16,00	5,56
1112951	RPHT 1605 M0E-LS												16,00	5,56
1112958	RPHT 2006 M0E-LS												20,00	6,35

🟡 First choice | Primeira opção | 1ª opção

🟢 Stock item | Produto de stock | Itens de stock

⊖ Available under request (see page A-9) | Disponível sobre consulta (consulte a página A-9) | Disponible bajo consulta (mire página A-9)

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



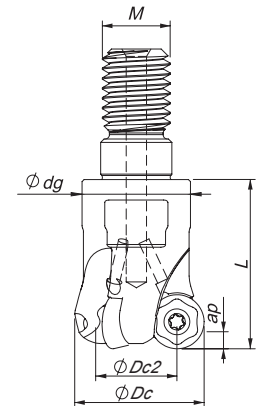
Cylindrical Shank

$\gamma_p = +5^\circ$

Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)					Kg	Specifications	Insert Pastilha Inserto	Stock
			ϕDc	$\phi Dc2$	ϕd	L	L1		Ap max (mm)		
33590											
181122500	016E33590-02-04-016160	2	16	8	16	160	59	0,23	4,0	RD...0802 MOE	
181122600	020E33590-03-05-020180	3	20	12	20	180	59	0,36	4,0	RD...0802 MOE	
181122700	025E33590-04-05-025200	4	25	17	25	200	59	0,65	4,0	RD...0802 MOE	
33690											
181123400	020E33690-02-05-020180	2	20	10	20	180	50	0,40	5,0	RP...10T3 MOE	
181123500	025E33690-03-05-025200	3	25	15	25	200	60	0,76	5,0	RP...10T3 MOE	
181123600	032E33690-04-05-032200	4	32	22	32	200	60	0,98	5,0	RP...10T3 MOE	

Stock item | Produto de stock | Itens de stock

Available under request (see page A-8) | Disponível sobre consulta (consulte a página A-8) | Disponible bajo consulta (mire pagina A-8)

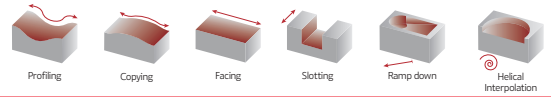


Threaded Coupling

$\gamma_p = +5^\circ$

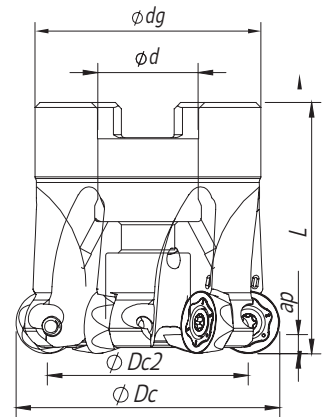
Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)					Kg	Specifications	Insert Pastilha Inserto	Stock
			ϕDc	$\phi Dc2$	ϕM	ϕdg	L		Ap max (mm)		
33590											
181098600	016R33590-02-04-M08020	2	16	8	M8	13	20	0,03	4,0	RD...0802 MOE	
181122800	020R33590-03-05-M10025	3	20	12	M10	16	25	0,07	4,0	RD...0802 MOE	
181122900	025R33590-04-05-M12030	4	25	17	M12	21	30	0,14	4,0	RD...0802 MOE	
181123000	032R33590-05-05-M16043	5	32	24	M16	29	43	0,25	4,0	RD...0802 MOE	
33690											
181110600	020R33690-02-05-M10032	2	20	10	M10	16	32	0,10	5,0	RP...10T3 MOE	
181110700	025R33690-03-05-M12035	3	25	15	M12	21	35	0,19	5,0	RP...10T3 MOE	
181110800	032R33690-04-05-M16035	4	32	22	M16	29	35	0,31	5,0	RP...10T3 MOE	
181120700	035R33690-05-05-M16045	5	35	25	M16	29	45	0,40	5,0	RP...10T3 MOE	

Available under request (see page A-8) | Disponível sobre consulta (consulte a página A-8) | Disponible bajo consulta (mire pagina A-8)



Arbor Mounting

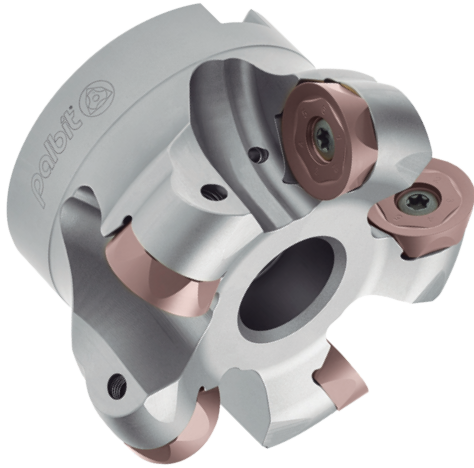
$\gamma_p = +5^\circ$



Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)					Kg	Specifications		Insert Pastilha Inserto	Stock
			ϕDc	$\phi Dc2$	$\phi d/M$	ϕdg	L		Arbor Type	Ap max (mm)		
33690												
181123700	042A33690-06-05-016040	6	42	32	16	36	40	0,16	A	5,0	RP...10T3 MOE	
181123800	050A33690-06-05-022040	6	50	40	22	42	40	0,26	A	5,0	RP...10T3 MOE	
181123900	052A33690-07-05-022040	7	52	42	22	42	40	0,30	A	5,0	RP...10T3 MOE	
33790												
181098700	040A33790-04-05-016040	4	40	28	26	36	40	0,15	A	6,0	RP...1204 MOE	
181111500	050A33790-04-05-022040	4	50	38	22	42	40	0,20	A	6,0	RP...1204 MOE	
181124200	052A33790-05-05-022040	5	52	40	22	42	40	0,25	A	6,0	RP...1204 MOE	
181122100	063A33790-06-05-022040	6	63	51	22	48	40	0,36	A	6,0	RP...1204 MOE	
181124300	066A33790-06-05-027050	6	66	54	27	48	50	0,40	A	6,0	RP...1204 MOE	
181124400	080A33790-07-05-027050	7	80	68	27	60	50	0,68	A	6,0	RP...1204 MOE	

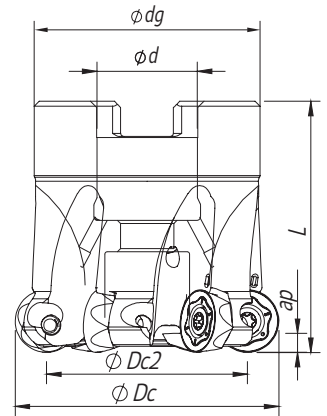
Stock item | Produto de stock | Itens de stock

Available under request (see page A-8) | Disponível sobre consulta (consulte a página A-8) | Disponible bajo consulta (mire pagina A-8)



Arbor Mounting

$\gamma_p = 5^\circ$



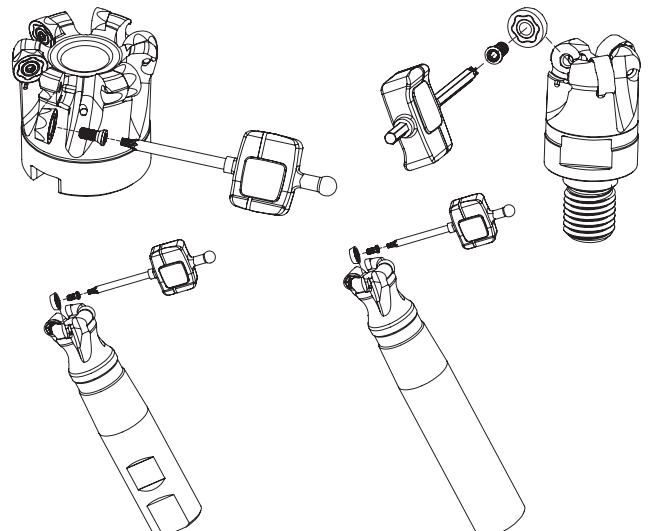
Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)					Kg	Specifications		Insert Pastilha Inserto	Stock	
			ϕDc	$\phi Dc2$	$\phi d/M$	ϕdg	L		Arbor Type	Ap max (mm)			
33890													
181124500	050A33890-04-05-022040		4	50	34	22	42	40	0,21	A	8,0	RP...1605 M0E	
181124600	052A33890-04-05-022040		4	52	36	22	42	40	0,25	A	8,0	RP...1605 M0E	
181114900	063A33890-05-05-022040		5	63	47	22	48	40	0,37	A	8,0	RP...1605 M0E	
181124700	066A33890-05-05-027050		5	66	54	27	48	50	0,46	A	8,0	RP...1605 M0E	
181124800	080A33890-06-05-027052		6	80	64	27	60	52	0,85	A	8,0	RP...1605 M0E	
181124900	100A33890-07-05-032052		7	100	84	32	80	52	1,57	A	8,0	RP...1605 M0E	
181122200	125A33890-08-05-040052		8	125	109	40	90	52	2,12	A	8,0	RP...1605 M0E	
33990													
181112200	080A33990-05-05-027050		5	80	60	27	60	50	0,73	A	10,0	RP...2006 M0E	
181099800	100A33990-06-05-032063		6	100	80	32	80	63	1,62	A	10,0	RP...2006 M0E	
181099900	125A33990-06-05-040063		6	125	105	40	90	63	2,53	A	10,0	RP...2006 M0E	

Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta



SPARE PARTS | Complementos | Repuestos


Cutter ϕDc	Insert Screw	Key (Torx)	Order separately	
			Key (Torx - Nm)	Torque Value
33590	P0250503	XT08	DT0812	1,20
33690	P0300800	XT09	DT0914	1,40
33790	P0350800	XT15	DT1530	3,00
33890	P0451100	XT20	DT2050	5,00
33990	P0501302	PT20	DT2050	5,00





TOROMILL 33590 | 33690 | 33790 | 33890 | 33990

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

ISO	PSM	Material	HB (Brinell)	Grades	
				← Wear Resistance	Toughness →
				PH7930	PHM740
					
M	4	SS - Ferritic / Martensitic	200-330	✓	✓
	5	SS - Austenitic	200-330	✓	✓
	6	SS - Austenitic-ferritic (Duplex)	230-260	✓	✓
S	11	Heat Resistant Super Alloys	200-320	✓	✓

 Good Conditions

 Average Conditions

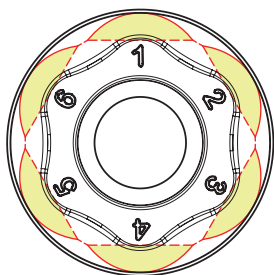
 Difficult Conditions

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

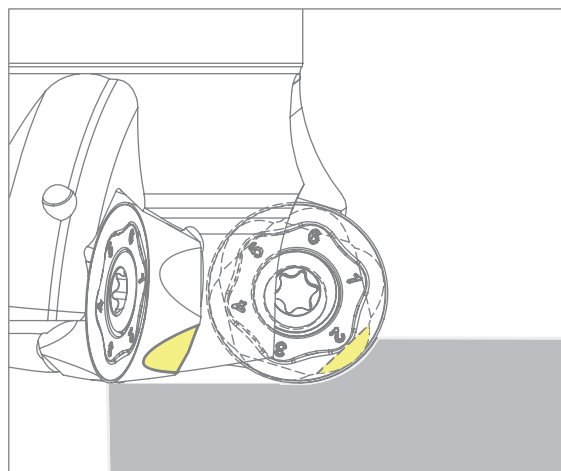
ISO	PSM	Material	HB (Brinell)	Vc (m/min)		RD... 08		RP... 10	
				← Wear Resistance	Toughness →	fz (mm/t)	ap (mm)	fz (mm/t)	ap (mm)
				PH7930	PHM740				
M	4	SS - Ferritic / Martensitic	200-330	100-120	100-130	0,05-0,25	≤4,00	0,05-0,30	≤5,00
	5	SS - Austenitic	200-330	80-110	80-120	0,05-0,25		0,05-0,30	
	6	SS - Austenitic-ferritic (Duplex)	230-260	70-100	70-110	0,05-0,25		0,05-0,30	
S	11	Heat Resistant Super Alloys	200-320	20-80	20-90	0,05-0,20		0,05-0,25	

ISO	PSM	Material	HB (Brinell)	RP... 12		RP... 16		RP... 20	
				fz (mm/t)	ap (mm)	fz (mm/t)	ap (mm)	fz (mm/t)	ap (mm)
M	4	SS - Ferritic / Martensitic	200-330	0,05-0,35	≤6,00	0,08-0,45	≤8,00	0,08-0,55	≤10,00
	5	SS - Austenitic	200-330	0,05-0,35		0,08-0,45		0,08-0,55	
	6	SS - Austenitic-ferritic (Duplex)	230-260	0,05-0,35		0,08-0,45		0,08-0,55	
S	11	Heat Resistant Super Alloys	200-320	0,05-0,30		0,08-0,35		0,08-0,40	

The maximum depth of cut using 6 cutting edges

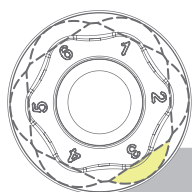


6 cutting edges



TOROMILL 33590

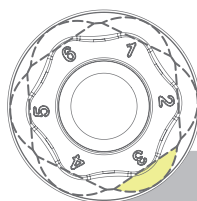
RDHT 0802...



2,00 mm

TOROMILL 33690

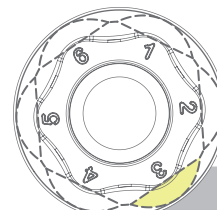
RPHT 10T3...



2,80 mm

TOROMILL 33790

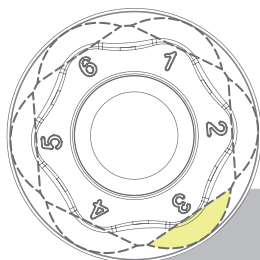
RPHT 1204...



3,00 mm

TOROMILL 33890

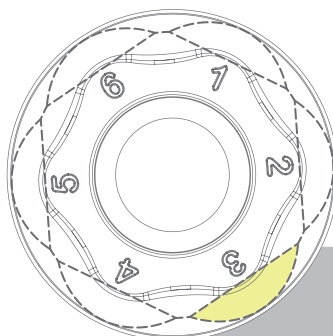
RPHT 1605...



4,50 mm

TOROMILL 33990

RPHT 2006...



5,00 mm