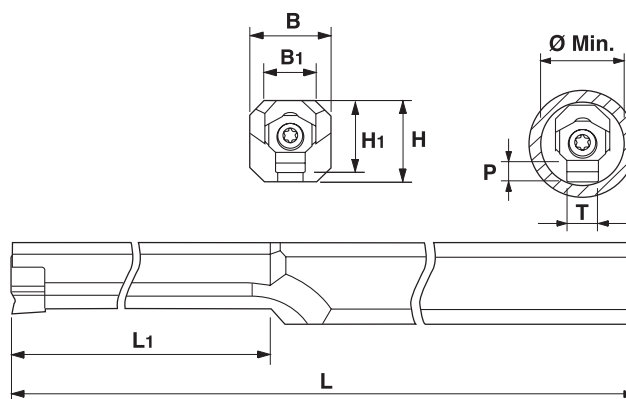
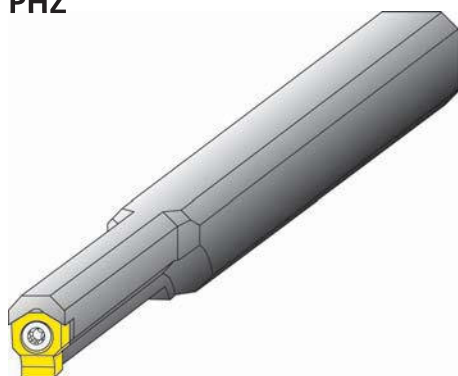




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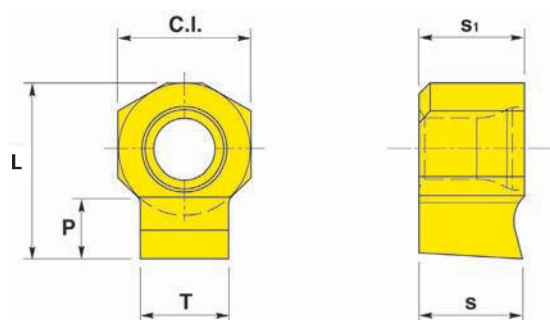
HERRAMIENTAS Y PLAQUITAS PARA MORTAJADORA

PHZ



Referencia	Dimensiones (mm)									Piezas de repuesto	
	H	H ₁	B	B ₁	L ₁	L	T	Ø min.	P max		
PHZ 90 1104-06	11.3	9	11.3	8.5	35	160	3	9.5	1.6	DVF 3593	TX 207PLUS
PHZ 90 1107-06	11.3	10	11.3	7	60	200	4 5	10.9 11.1	2.5 3	DVF 3593	TX 207PLUS
PHZ 90 1111-06	11.3	12	11.3	-	60	200	4 5	14 14	2.5 3	DVF 3593	TX 207PLUS
PHZ 1512-10	15.5	16.2	12	-	-	220	6 8	17.8 18.2	4.2 5.2	DVF 2260	TX 215PLUS
PHZ 2014-13	20.6	21.5	14	-	-	250	10 12	24.2 24.7	6.2 7.2	5513 020-14	TX 225PLUS

HZ

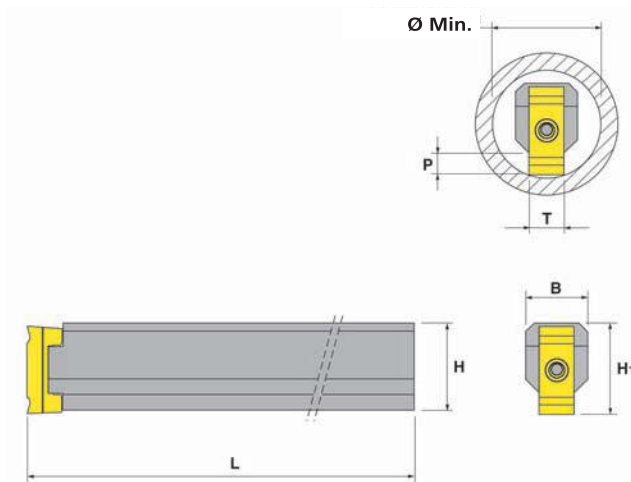
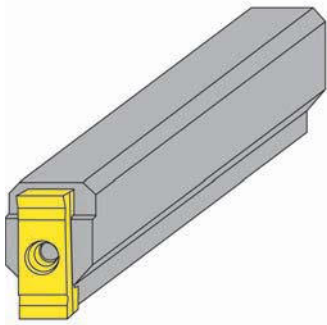




Referencia	Dimensiones (mm)							Calidad	
	C.I.	S	S ₁	L	P	T	Tolerancias en T	333TN	
HZ 90 06 04-30 C11	6	4.66	4.76	7.5	1.6	3	+0.060 +0.012	✓	
HZ 90 06 04-40 C11	6	4.66	4.76	8.0	2.5	4	+0.070 +0.145	✓	
HZ 90 06 04-50 C11	6	4.66	4.76	8.0	3.0	5	+0.070 +0.145	✓	
HZ 10 06-60 C11	10	6.25	6.35	13.5	4.2	6	+0.070 +0.145	✓	
HZ 10 06-80 C11	10	6.25	6.35	13.5	5.2	8	+0.080 +0.170	✓	
HZ 13 09-100 C11	13	9.40	9.525	18.5	6.2	10	+0.080 +0.170	✓	
HZ 13 09-120 C11	13	9.40	9.525	18.5	7.2	12	+0.095 +0.205	✓	
HZ 90 06 04-30 H7	6	4.66	4.76	7.5	1.6	3	+0.090 -0	✓	
HZ 90 06 04-40 H7	6	4.66	4.76	8.0	2.5	4	+0.012 -0	✓	
HZ 90 06 04-50 H7	6	4.66	4.76	8.0	3.0	5	+0.012 -0	✓	
HZ 10 06-60 H7	10	6.25	6.35	13.5	4.2	6	+0.012 -0	✓	
HZ 10 06-80 H7	10	6.25	6.35	13.5	5.2	8	+0.015 -0	✓	
HZ 13 09-100 H7	13	9.40	9.525	18.5	6.2	10	+0.015 -0	✓	
HZ 13 09-120 H7	13	9.40	9.525	18.5	7.2	12	+0.018 -0	✓	
HZ 90 06 04-30 D10	6	4.66	4.76	7.5	1.6	3	+0.060 +0.002	✓	
HZ 90 06 04-40 D10	6	4.66	4.76	8.0	2.5	4	+0.078 +0.030	✓	
HZ 90 06 04-50 D10	6	4.66	4.76	8.0	3.0	5	+0.078 +0.030	✓	

Ejemplo de pedido: PHZ 90 1104-06

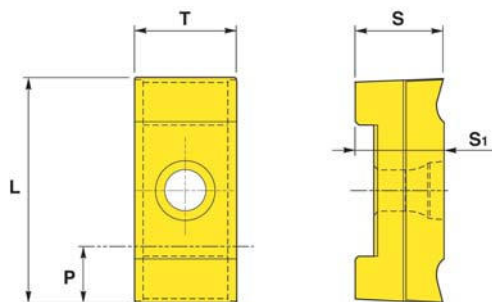
HERRAMIENTAS Y PLAQUITAS PARA MORTAJADORA

PHZ/2



Referencia	Dimensiones (mm)							Piezas de repuesto	
	H	H ₁	B	L	T	Ø min.	P max		
PHZ/2 3625-14	36	37.5	25	300	14 16	44	8 9	5513 020-14	TX 225PLUS
PHZ/2 4838-18	48	50	32	400	18 20	58	12 13	5513 021-03	DMN 3124

HZ/2 - Dos filos



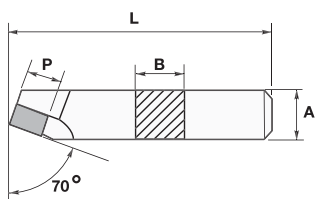
Referencia	Dimensiones (mm)						Tolerancias en T	Calidad 333TN
	S	S ₁	L	P	T			
HZ/2 14-14 C11	13.9	14	36	8	14	+0.205 +0.095	✓	
HZ/2 16-16 C11	13.9	14	36	9	16	+0.205 +0.095	✓	
HZ/2 18-18 C11	15.9	16	45	12	18	+0.205 +0.095	✓	
HZ/2 20-20 C11	15.9	16	45	13	20	+0.240 +0.110	✓	
HZ/2 14-14 H7	13.9	14	36	8	14	+0.018 -0	✓	
HZ/2 16-16 H7	13.9	14	36	9	16	+0.018 -0	✓	
HZ/2 18-18 H7	15.9	16	45	12	18	+0.018 -0	✓	
HZ/2 20-20 H7	15.9	16	45	13	20	+0.021 -0	✓	

Ejemplo de pedido: PHZ/2 3625-14

HERRAMIENTAS CONVENCIONALES ISO

ISO 1 R

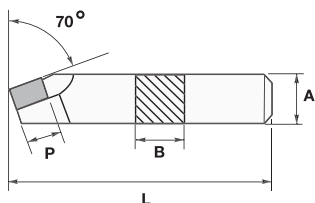
UNI 4102 R
DIN 4971



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 1 R 1010	10	10	90	C8
ISO 1 R 1212	12	12	100	C10
ISO 1 R 1616	16	16	110	C12
ISO 1 R 2020	20	20	125	C16
ISO 1 R 2525	25	25	140	C20

ISO 1 L

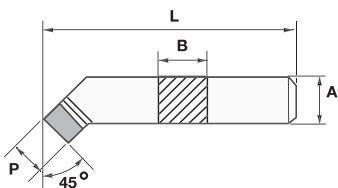
UNI 4102 L
DIN 4971



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 1 L 1212	12	12	100	C10
ISO 1 L 1616	16	16	110	C12
ISO 1 L 2020	20	20	125	C16

ISO 2 R

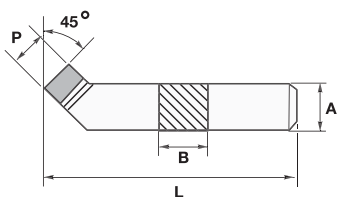
UNI 4103 R
DIN 4972



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 2 R 1010	10	10	90	C8
ISO 2 R 1212	12	12	100	C10
ISO 2 R 1616	16	16	110	C12
ISO 2 R 2020	20	20	125	C16
ISO 2 R 2525	25	25	140	C20
ISO 2 R 3232	32	32	170	C25

ISO 2 L

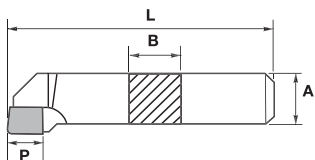
UNI 4103 L
DIN 4972



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 2 L 1010	10	10	90	C8
ISO 2 L 1212	12	12	100	C10
ISO 2 L 1616	16	16	110	C12
ISO 2 L 2020	20	20	125	C16
ISO 2 L 2525	25	25	140	C20
ISO 2 L 3232	32	32	170	C25

ISO 6 R

UNI 4104 R
DIN 4980



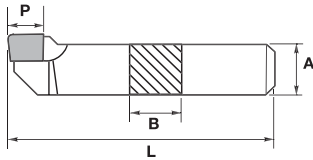
Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 6 R 1010	10	10	90	C8
ISO 6 R 1212	12	12	100	ABC 10
ISO 6 R 1616	16	16	110	ABC 12
ISO 6 R 2020	20	20	125	ABC 16
ISO 6 R 2525	25	25	140	ABC 20
ISO 6 R 3232	32	32	170	ABC 25

Ejemplo de pedido: ISO 1 R 1010

HERRAMIENTAS CONVENCIONALES ISO

ISO 6 L

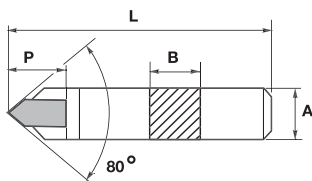
UNI 4104 L
DIN 4980



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 6 L 1010	10	10	90	C8
ISO 6 L 1212	12	12	100	ABC 10
ISO 6 L 1616	16	16	110	ABC 12
ISO 6 L 2020	20	20	125	ABC 16
ISO 6 L 2525	25	25	140	ABC 20
ISO 6 L 3232	32	32	170	ABC 25

351

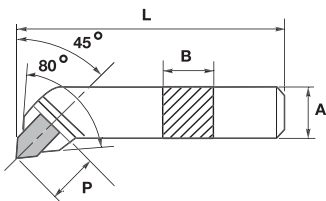
UNI 4105
DIN 4975



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
351 1010	10	10	90	E8-IMP
351 1212	12	12	100	E10-IMP
351 1220	12	20	125	E12-IMP
351 1616	16	16	110	E12-IMP
351 1625	16	25	140	E8-ISO
351 2020	20	20	125	E8-ISO
351 2525	25	25	140	E10-ISO

ISO 3 R

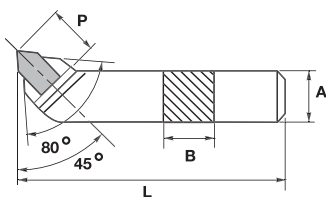
UNI 4106 R
DIN 4978



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 3 R 1212	12	12	100	E12-IMP
ISO 3 R 1616	16	16	110	E8-ISO
ISO 3 R 2020	20	20	125	E10-ISO
ISO 3 R 2525	25	25	140	E12-ISO

ISO 3 L

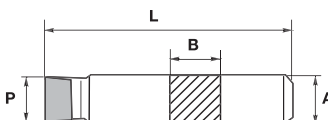
UNI 4106 L
DIN 4978



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 3 L 1616	16	16	110	E8-ISO
ISO 3 L 2020	20	20	125	E10-ISO
ISO 3 L 2525	25	25	140	E12-ISO

ISO 4

UNI 4107
DIN 4976



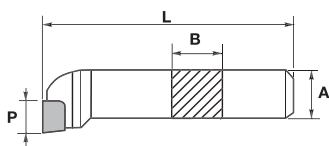
Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 4 1010	10	10	90	ABC 10
ISO 4 1212	12	12	100	ABC 12
ISO 4 1616	16	16	110	ABC 16
ISO 4 2020	20	20	125	ABC 20
ISO 4 2525	25	25	140	ABC 25

Ejemplo de pedido: ISO 6 L 1010

HERRAMIENTAS CONVENCIONALES ISO

ISO 5 R

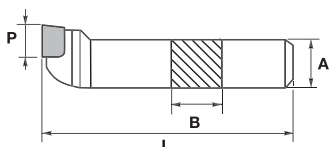
UNI 4108 R
DIN 4977



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 5 R 1212	12	12	100	ABC 10
ISO 5 R 1616	16	16	110	ABC 12
ISO 5 R 2020	20	20	125	ABC 16

ISO 5 L

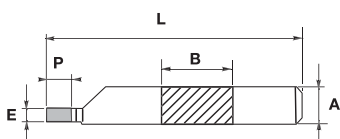
UNI 4108 L
DIN 4977



Referencia	Dimensiones (mm)			Plaquita
	A	B	L	P
ISO 5 L 2020	20	12	125	ABC 16

ISO 7 R

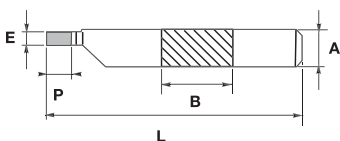
UNI 4109 R
DIN 4981



Referencia	Dimensiones (mm)				Plaquita
	A	B	L	E	P
ISO 7 R 0812	8	12	100	3	D3
ISO 7 R 1010	10	10	90	3	D3
ISO 7 R 1016	10	16	110	4	D4
ISO 7 R 1212	12	12	100	3	D3
ISO 7 R 1220	12	20	125	5	D5
ISO 7 R 1616	16	16	110	4	D4
ISO 7 R 1625	16	25	140	6	D6
ISO 7 R 2020	20	20	125	5	D5
ISO 7 R 2032	20	32	170	8	D8
ISO 7 R 2525	25	25	140	6	D6
ISO 7 R 2540	25	40	200	10	D10

ISO 7 L

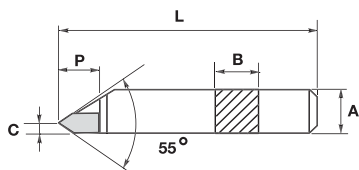
UNI 4109 L
DIN 4981



Referencia	Dimensiones (mm)				Plaquita
	A	B	L	E	P
ISO 7 L 0812	8	12	100	3	D3
ISO 7 L 1016	10	16	110	4	D4
ISO 7 L 1220	12	20	125	5	D5
ISO 7 L 1625	16	25	140	6	D6
ISO 7 L 2020	20	20	125	5	D5
ISO 7 L 2032	20	32	170	8	D8
ISO 7 L 2540	25	40	200	10	D10

352 R 55°

UI 30 R 55°



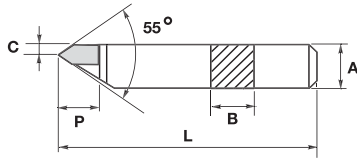
Referencia	Dimensiones (mm)				Plaquita
	A	B	L	C	P
352 R 55° 1212	12	12	100	2	FIL 3,5
352 R 55° 1616	16	16	110	2	FIL 4
352 R 55° 2020	20	20	125	2.5	FIL 5
352 R 55° 2525	25	25	140	3	FIL 6

Ejemplo de pedido: ISO 5 R 1212

HERRAMIENTAS CONVENCIONALES ISO

352 L 55°

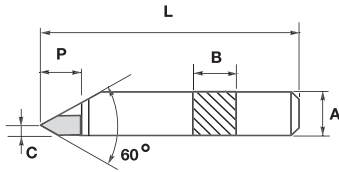
UI 30 L 55°



Referencia	Dimensiones (mm)				Plaquita
	A	B	L	C	P
352 L 55° 2020	20	20	125	2.5	FIL 5

352 R 60°

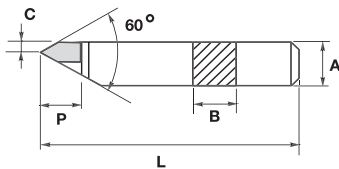
UI 30 R 60°



Referencia	Dimensiones (mm)				Plaquita
	A	B	L	C	P
352 R 60° 1212	12	12	100	2	FIL 3,5
352 R 60° 1616	16	16	110	2	FIL 4
352 R 60° 2020	20	20	125	2.5	FIL 5
352 R 60° 2525	25	25	140	3	FIL 6

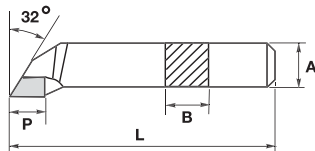
352 L 60°

UI 30 L 60°



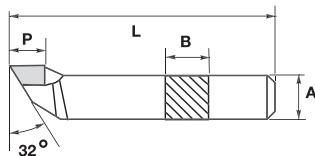
Referencia	Dimensiones (mm)				Plaquita
	A	B	L	C	P
352 L 60° 1616	16	16	110	2	FIL 4
352 L 60° 2020	20	20	125	2.5	FIL 5
352 L 60° 2525	25	25	140	3	FIL 6

UI 70 R



Referencia	Dimensiones (mm)				Plaquita
	A	B	L	C	P
UI 70 R 1616	16	16	140	-	CP 12
UI 70 R 2020	20	20	160	-	CP 16
UI 70 R 2525	25	25	200	-	CP 20

UI 70 L



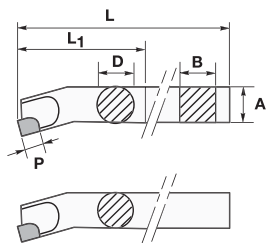
Referencia	Dimensiones (mm)				Plaquita
	A	B	L	C	P
UI 70 L 2020	20	20	160	-	CPS 16

Ejemplo de pedido: 352 L 55° 2020

HERRAMIENTAS CONVENCIONALES ISO DE INTERIOR

ISO 8

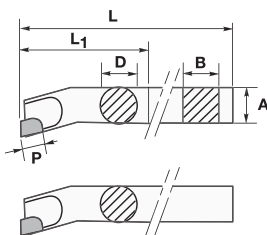
UNI 4110 R
DIN 4973



Referencia	Dimensiones (mm)							Plaquita
	A	B	D	L	L ₁	P	C	P
ISO 8 0808	8	8	8	125	40	-	-	C6
ISO 8 1010	10	10	10	150	50	-	-	C7
ISO 8 1212	12	12	12	180	63	-	-	C8
ISO 8 1616	16	16	16	210	80	-	-	C10
ISO 8 2020	20	20	20	250	100	-	-	C12
ISO 8 2525	25	25	25	300	125	-	-	C16
ISO 8 3232	32	32	32	355	160	-	-	C20
ISO 8 0008	-	-	8	125	-	-	-	C6
ISO 8 0010	-	-	10	150	-	-	-	C7
ISO 8 0012	-	-	12	180	-	-	-	C8
ISO 8 0016	-	-	16	210	-	-	-	C10

ISO 9

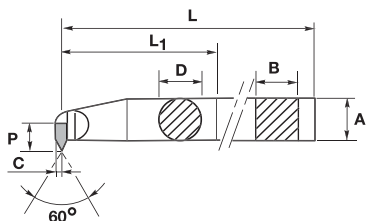
UNI 4110 R
DIN 4974



Referencia	Dimensiones (mm)							Plaquita
	A	B	D	L	L ₁	P	C	P
ISO 9 0808	8	8	8	125	40	-	-	C6
ISO 9 1010	10	10	10	150	50	-	-	C7
ISO 9 1212	12	12	12	180	63	-	-	C8
ISO 9 1616	16	16	16	210	80	-	-	C10
ISO 9 2020	20	20	20	250	100	-	-	C12
ISO 9 2525	25	25	25	300	125	-	-	C16
ISO 9 3232	32	32	32	355	160	-	-	C20
ISO 9 0008	-	-	8	125	-	-	-	C6
ISO 9 0010	-	-	10	150	-	-	-	C7
ISO 9 0012	-	-	12	180	-	-	-	C8
ISO 9 0016	-	-	16	210	-	-	-	ABC 10
ISO 9 0020	-	-	20	250	-	-	-	ABC 12
ISO 9 0025	-	-	25	300	-	-	-	ABC 16

353 R 55°

UI 40 R 55°

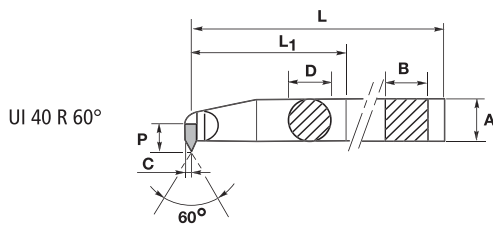


Referencia	Dimensiones (mm)							Plaquita
	A	B	D	L	L ₁	P	C	P
353 R 55° 1010	10	10	10	140	52	12	1.8	FIL 3,5
353 R 55° 1212	12	12	12	160	56	12	1.8	FIL 3,5
353 R 55° 1616	16	16	16	180	63	14	2	FIL 4
353 R 55° 2020	20	20	20	210	80	14	2	FIL 4

Ejemplo de pedido: ISO 8 0808

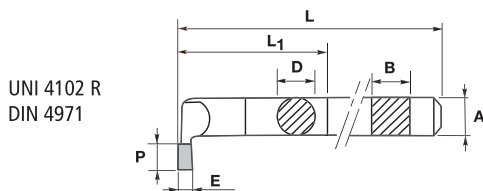
HERRAMIENTAS CONVENCIONALES ISO DE INTERIOR

353 R 60°



Referencia	Dimensiones (mm)							Plaquita	
	A	B	D	L	L ₁	P	C	P	
353 R 60° 1010	10	10	10	140	52	12	1.8	FIL 3,5	
353 R 60° 1212	12	12	12	160	56	12	1.8	FIL 3,5	
353 R 60° 1616	16	16	16	180	63	14	2	FIL 4	
353 R 60° 2020	20	20	20	210	80	14	2	FIL 4	
353 R 60° 2525	25	25	25	250	100	16	2.5	FIL 5	

354 R

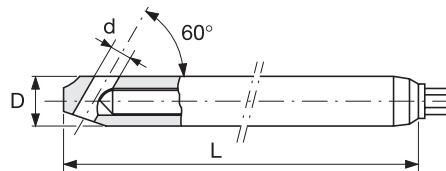
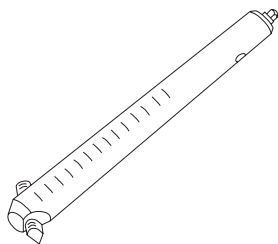





Referencia	Dimensiones (mm)							Plaquita	
	A	B	D	L	L ₁	P	E	P	
354 R 1010	10	10	10	140	52	8	3	D3	
354 R 1212	12	12	12	160	56	10	4	D4	
354 R 1616	16	16	16	180	63	12	5	D5	
354 R 2020	20	20	20	210	80	14	6	D6	
354 R 2525	25	25	25	250	100	16	8	D8	

Ejemplo de pedido: 353 R 60° 1010

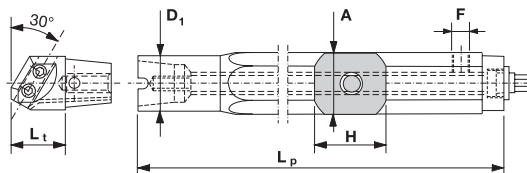
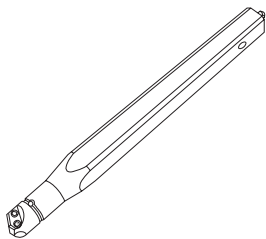
BARRAS DE MANDRINAR

SI






Referencia	Dimensiones (mm)			Piezas de repuesto		
	D	L	d			
SI-10-04	10	180	4	2005	1361	1502
SI-12-05	12	210	5	2015	1361	1502
SI-16-07	16	250	7	2025	1081	1504
SI-20-08	20	300	8	2035	1102	1504
SI-25-10	25	350	10	2055	1121	1504
SI-32-12	32	400	12	2075	1423	1504

P51



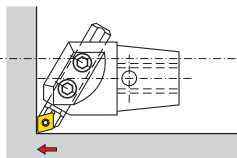
La barra de mandrinar se suministra completa con cabeza T 51

Referencia	Dimensiones (mm)						Piezas de repuesto		
	H	A	D ₁	L _p	L _p +L _t	F			
P51-4036-32+T51	40	36	32	446	480	3/8»Gas	1141	2335	1506
P51-5645-45+T51	56	45	45	546	590	3/8»Gas	1142	2335	1506
P51-7660-55+T51	77	58	55	700	762	3/8»Gas	1201	2346	1509
P51-8660-55+T51	86	60	55	1000	1062	3/8»Gas	1205	2346	1509

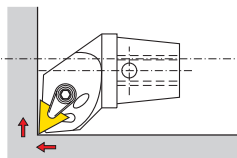
Ejemplo de pedido: SI-10-04

CABEZAL PARA MANDRINAR

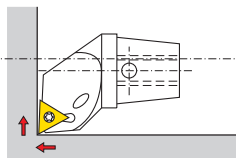
T 51/60



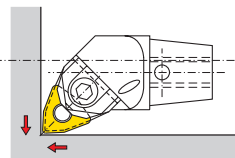
T 53 C



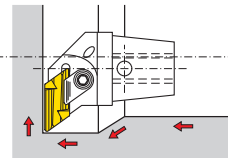
T 53 S



T 27 M

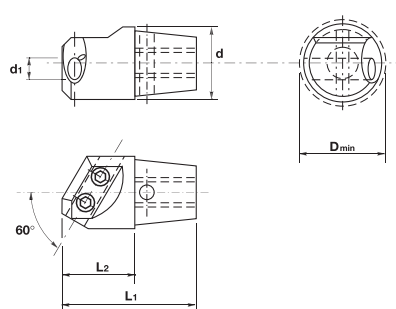
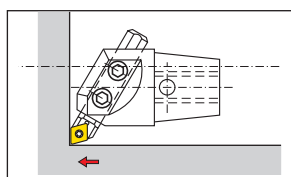




T 64 C



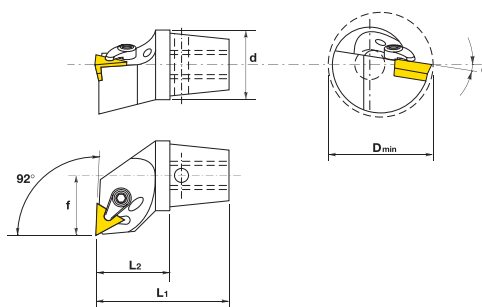
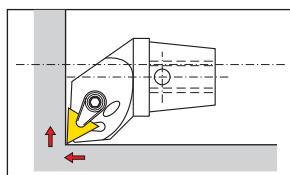
Los cabezales van provistos con un canal interno permitiendo que el refrigerante alcance la punta de la herramienta.






T51/60



Referencia	Dimensiones (mm)					Piezas de repuesto	
	d	d ₁	L ₁	L ₂	D _{min}		
T51/60-32-12	32	12	56	31	35	UNI 5923 M8x10	UNI 2415-4
T51/60-45-16	45	16	72	42	50	UNI 5923 M10x12	UNI 2415-5
T51/60-55-22	55	22	100	60	60	UNI 5923 M12x16	UNI 2415-6

T53C

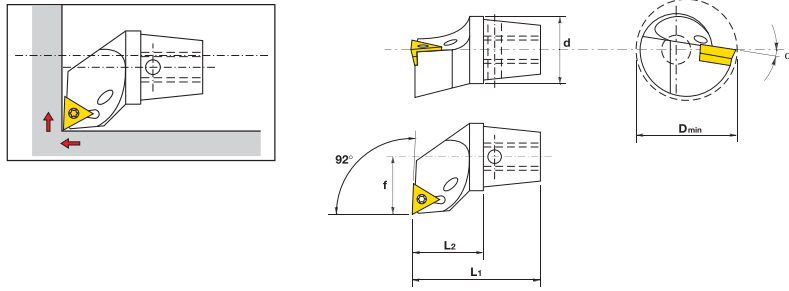


Referencia	Dimensiones (mm)						Piezas de repuesto				
	d	f	L ₁	L ₂	α	D _{min}					
T53C-32-TP16	32	27	58	33	0°	45	TP 212	S2-10	M6x19 RL	MC 2	UNI 2415-3
T53C-45-TP16	45	35	70	40	0°	60	TP 212	S2-10	M6x19 RL	MC 2	UNI 2415-3

Ejemplo de pedido: T51/60-32-12

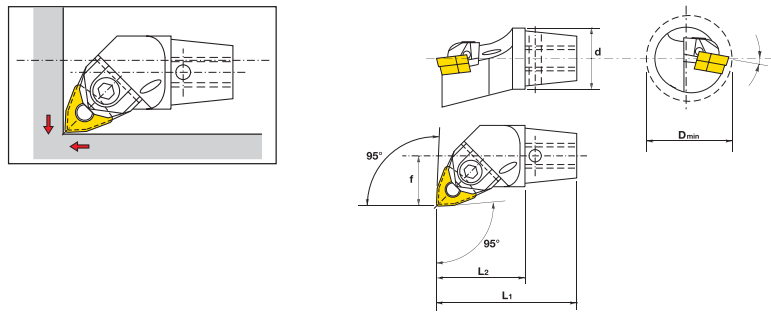
CABEZAL PARA MANDRINAR

T53S



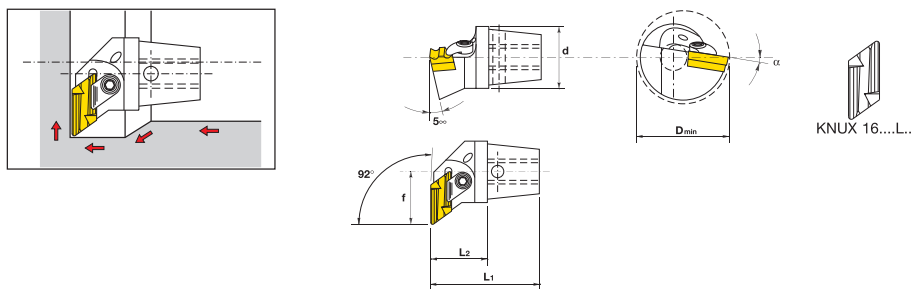
Referencia	Dimensiones (mm)						Piezas de repuesto				
	d	f	L ₁	L ₂	α	D _{min}					
T53S-32-TC16	32	27	58	33	8°	45	SZTP-322	SD 110	P-M4x10/15A	TORX-P-15	UNI 2415-3

T27M



Referencia	Dimensiones (mm)						Piezas de repuesto				
	d	f	L ₁	L ₂	α	D _{min}					
T27M-32-WN 08	32	27	65	40	9°	45	28173	28260	E.28255	MW08-524-2,5-MM	UNI 2415-2,5
T27M-45-WN 08	45	35	70	40	9°	60	28173	28260	E.28255	MW08-524-2,5-MM	UNI 2415-2,5
T27M-55-WN 08	55	47.5	94	54	9°	78	28173	28260	E.28255	MW08-524-2,5-MM	UNI 2415-2,5

T64C

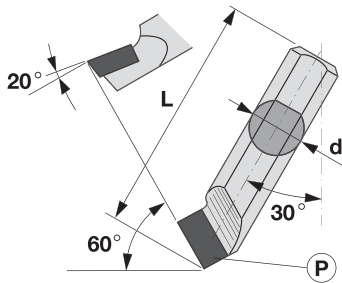


Referencia	Dimensiones (mm)						Piezas de repuesto				
	d	f	L ₁	L ₂	α	D _{min}					
T64C-32-KN16L	32	27	54	29	4°	45	KN-232 L	S2-10	M8x24 RL	MC 6 L	UNI 2415-4
T64C-45-KN16L	45	35.5	65	35	2°	60	KN-232 L	S2-10	M8x24 RL	MC 6 L	UNI 2415-4

Ejemplo de pedido: T53S-32-TC16

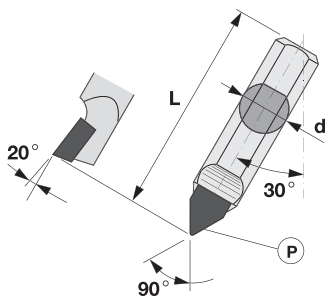
HERRAMIENTAS SOLDADAS Y SÓLIDAS

A3 A3T



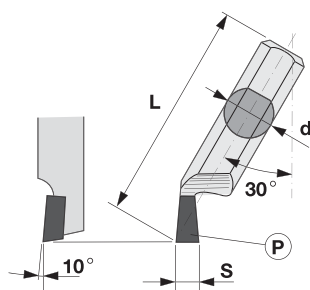
	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
A3	A3-07		7	26	C7
	A3-08		8	30	C7
	A3-10		10	45	C8
	A3-12		12	55	C10
	A3-16		16	70	C12
A3T	A3T-04		4	18	-
	A3T-05		5	20	-

A4 A4T



	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
A4	A4-07		7	26	E8-IMP
	A4-08		8	30	E8-IMP
	A4-10		10	45	E10-IMP
	A4-12		12	55	E12-IMP
	A4T		A4T-04		4
A4T-05	5	20	-		

C1 C1T



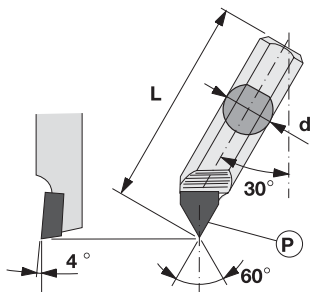
	Referencia	Sección	Dimensiones (mm)			Plaquita	S
			d	L	P		
C1	C1-07		7	26	GOR 3	3	
	C1-08		8	30	GOR 3	3	
	C1-10		10	45	GOR 4	4	
	C1-12		12	55	GOR 5	5	
	C1-16		16	70	GOR 6	6	
	C1-22		22	100	GOR 8	8	
	C1T		C1T-04		4	18	-
C1T-05		5	20		-	3.5	

Ejemplo de pedido: A3-07

HERRAMIENTAS SOLDADAS Y SÓLIDAS

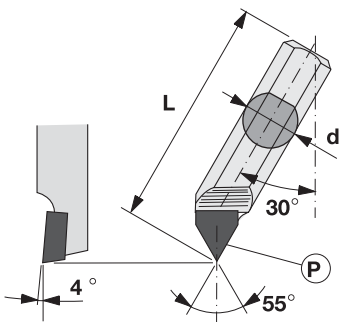
TORNEADO

C2/60° C2/60°T



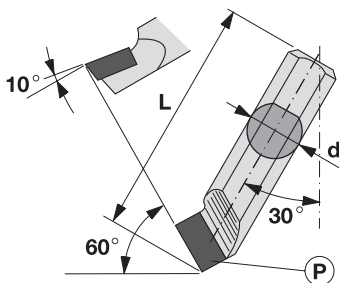
	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
C2/60°	C2/60°-07		7	26	E8-IMP
	C2/60°-08		8	30	E8-IMP
	C2/60°-10		10	45	E10-IMP
	C2/60°-12		12	55	E12-IMP
	C2/60°-16		16	70	DA 12
	C2/60°-22		22	100	DA 16
C2/60°T	C2/60°T-04		4	18	-
	C2/60°T-05		5	20	-

C2/55° C2/55°T



	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
C2/55°	C2/55°-07		7	26	E8-IMP
	C2/55°-08		8	30	E8-IMP
	C2/55°-10		10	45	E10-IMP
	C2/55°-12		12	55	E12-IMP
C2/55°T	C2/55°T-04		4	18	-
	C2/55°T-05		5	20	-

C3 C3T

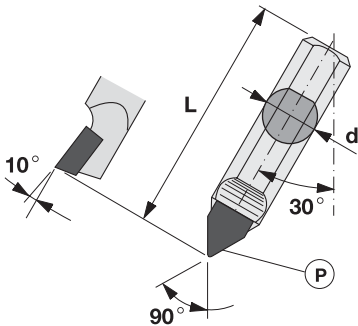


	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
C3	C3-07		7	26	C7
	C3-08		8	30	C7
	C3-10		10	45	C8
	C3-12		12	55	C10
	C3-16		16	70	C12
	C3-22		22	100	C16
C3T	C3T-04		4	18	-
	C3T-05		5	20	-

Ejemplo de pedido: C2/60°-07

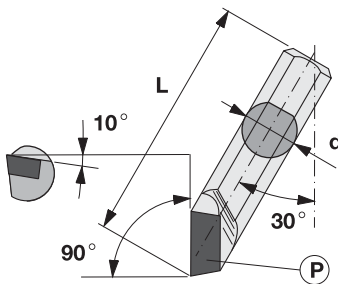
HERRAMIENTAS SOLDADAS Y SÓLIDAS

C4 C4T



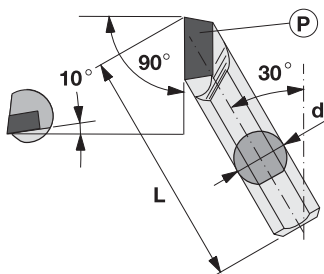
	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
C4	C4-07		7	26	E8-IMP
	C4-08		8	30	E8-IMP
	C4-10		10	45	E10-IMP
	C4-12		12	55	E12-IMP
	C4-16		16	70	FB 14
	C4-22		22	100	FB 16
C4T	C4T-04		4	18	-
	C4T-05		5	20	-

C5 C5T



	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
C5	C5-07		7	26	C7
	C5-08		8	30	C7
	C5-10		10	45	C8
	C5-12		12	55	ABC 10
	C5-16		16	70	ABC 12
	C5-22		22	100	ABC 16
C5T	C5T-04		4	18	-
	C5T-05		5	20	-

C6 C6T

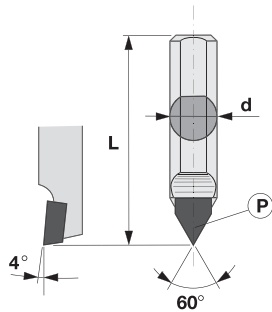


	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
C6	C6-07		7	26	C7
	C6-08		8	30	C7
	C6-10		10	45	C8
	C6-12		12	55	ABC 10
	C6-16		16	70	ABC 12
	C6T		C6T-04		4
C6T-05	5	20	-		

Ejemplo de pedido: C4-07

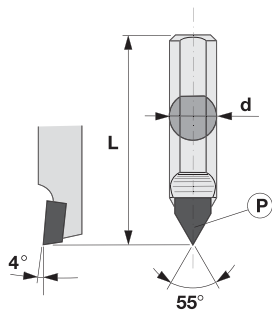
HERRAMIENTAS SOLDADAS Y SÓLIDAS

D2/60° D2/60°T



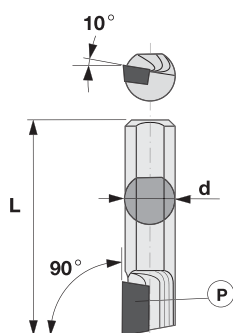
	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
D2/60°	D2/60°-07		7	26	E8-IMP
	D2/60°-08		8	30	E8-IMP
	D2/60°-10		10	45	E10-IMP
	D2/60°-12		12	55	E12-IMP
	D2/60°-16		16	70	FB 14
D2/60°T	D2/60°T-04		4	18	-
	D2/60°T-05		5	20	-

D2/55°



	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
D2/55°	D2/55°-08		8	30	E8-IMP
	D2/55°-10		10	45	E10-IMP
	D2/55°-12		12	55	E12-IMP

D5 D5T

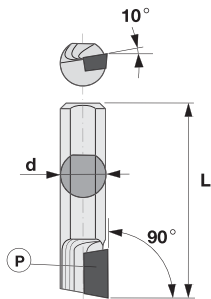


	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
D5	D5-07		7	26	C7
	D5-08		8	30	C7
	D5-10		10	45	C8
	D5-12		12	55	ABC 10
	D5-16		16	70	ABC 12
D5T	D5T-04		4	18	-
	D5T-05		5	20	-

Ejemplo de pedido: D2/60°-07

HERRAMIENTAS SOLDADAS Y SÓLIDAS

D6 D6T

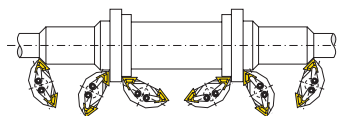
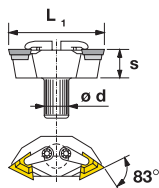
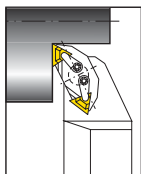


	Referencia	Sección	Dimensiones (mm)		Plaquita
			d	L	P
D6	D6-07		7	26	C7
	D6-08		8	30	C7
	D6-10		10	45	C8
	D6-12		12	55	ABC 10
	D6-16		16	70	ABC 12
D6T	D6T-05		05	20	-

Ejemplo de pedido: D6-07

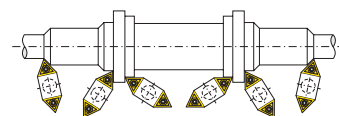
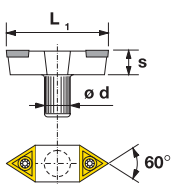
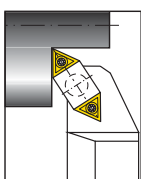
HERRAMIENTAS CON PLAQUITAS INDEXABLES

M20C



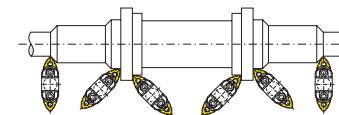
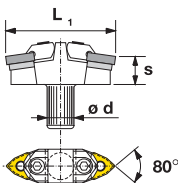
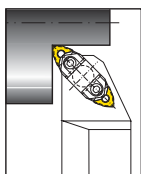
Referencia	Dimensiones (mm)			Piezas de repuesto							
	d	s	L ₁								
M20C-RL14-TP16	14	22	54	TP 212	S2-10	MC 2	M6x19 RL	UNI 2415-3	1.5-2.5	MT21-MT22	
M20C-RL16-TP16	16	22	57	TP 212	S2-10	MC 2	M6x19 RL	UNI 2415-3	1.5-2.5	MT21-MT22	

M26S



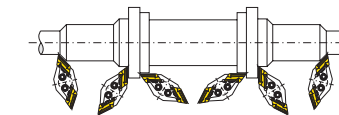
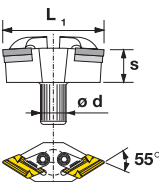
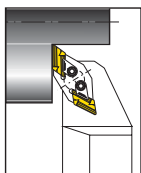
Referencia	Dimensiones (mm)			Piezas de repuesto						
	d	s	L ₁							
M26S-RL10-TC11	10	8.5	33	-	-	-	5513 020-03	TORX 7		
M26S-RL12-TC11	12	12	37.5	-	-	-	5513 020-03	TORX 7		
M26S-RL14-TC16	14	15	46	-	-	-	TORX-P-M4x10/15A	TMD 703		
M26S-RL16-TC16	16	17	54	SZTP 322	SD 110	UNI 2415-3	TORX-P-M4x10/15A	TMD 703		
M26S-RL18-TC16	18	21	64	SZTP 322	SD 110	UNI 2415-3	TORX-P-M4x10/15A	TMD 703		

M27M



Referencia	Dimensiones (mm)			Piezas de repuesto				
	d	s	L ₁					
M27M-RL16-WN08	16	16	62	28173	28260	E.28255	MW08-524-2.5-MM	UNI 2415-2.5
M27M-RL18-WN08	18	19	66	28173	28260	E.28255	MW08-524-2.5-MM	UNI 2415-2.5

M24C

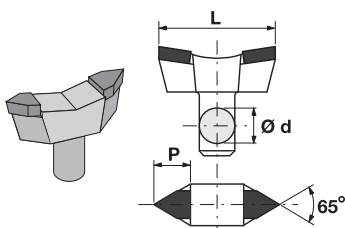


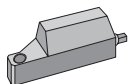
Referencia	Dimensiones (mm)			Piezas de repuesto						
	d	s	L ₁							
M24C-RL16-KN16	16	21	64	KN-232 R	KN-232 L	S2-10	MC 6 R	MC 6 L	M8x24 RL	UNI 2415-4

Ejemplo de pedido: M20C-RL14-TP16

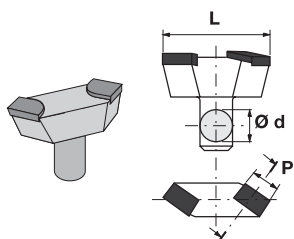
HERRAMIENTAS SOLDADAS

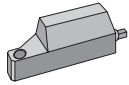
FB



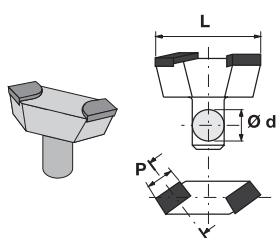
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
FB-10	10	35	FB-10	 PTR
FB-12	12	44	FB-12	
FB-14	14	52	FB-14	
FB-16	16	58	FB-16	
FB-18	18	69	FB-18	
FB-22	22	87	FB-22	

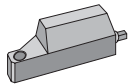
FC



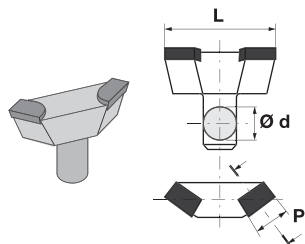
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
FC-10	10	35	ABC 10	 PTR
FC-12	12	44	ABC 12	
FC-14	14	52	ABC 12	
FC-16	16	58	ABC 16	
FC-18	18	69	ABC 20	
FC-22	22	87	ABC 25	

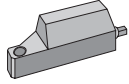
FCS



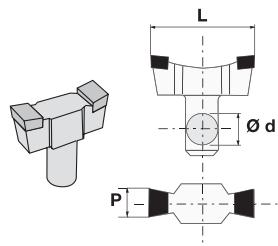
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
FCS-14	14	44	ABC 12	 PTR
FCS-16	16	52	ABC 12	

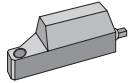
DD



Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
DD-10	10	35	ABC 10	 PTR
DD-12	12	44	ABC 12	
DD-14	14	52	ABC 12	
DD-16	16	58	ABC 16	
DD-18	18	69	ABC 20	
DD-22	22	87	ABC 25	

ST



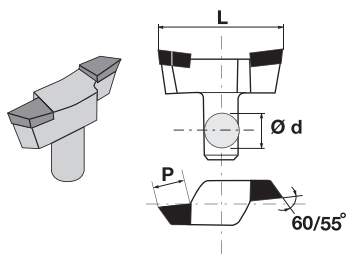
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
ST-12	12	44	ABC 12	 PTR
ST-14	14	52	ABC 12	
ST-16	16	58	ABC 16	
ST-18	18	69	ABC 20	

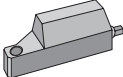
Ejemplo de pedido: FB-10

HERRAMIENTAS SOLDADAS

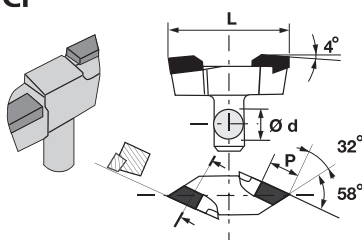
F.60°

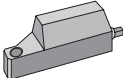
F.55°



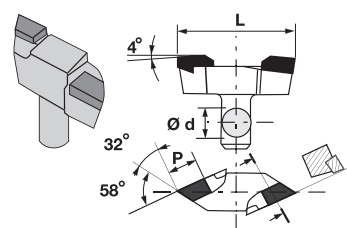
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
F.60°-12	12	44	ABC 12	 PTR
F.60°-14	14	52	ABC 12	
F.60°-16	16	58	ABC 16	
F.55°-16	16	58	ABC 16	

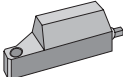
CP



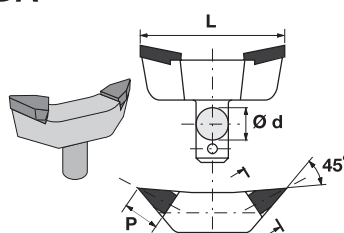
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
CP-12	12	44	CP-12	 PTR
CP-14	14	52	CP-14	
CP-16	16	60	CP-16	

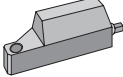
CPS



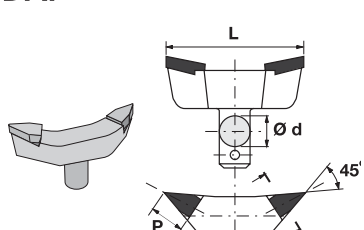
Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
CPS-14	14	52	CPS-14	 PTR
CPS-16	16	60	CPS-16	

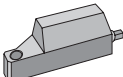
DA



Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
DA-12	12	60	DA-12	 PTR
DA-14	14	70	DA-14	
DA-16	16	80	DA-16	
DA-18	18	90	DA-18	

DAI

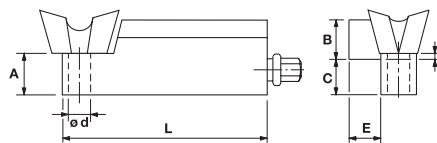
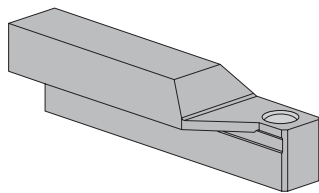




Referencia	Dimensiones (mm)		Plaquita	Utilizar con
	d	L	P	
DAI-14	12	60	E12-IMP	 PTR
DAI-16	14	70	DA-12	
DAI-18	16	80	DA-16	

Ejemplo de pedido: F.60°-12

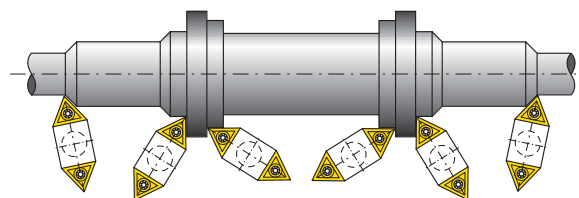
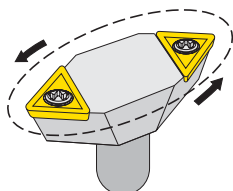
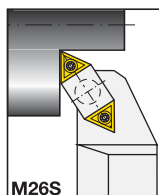
SOPORTE PARA HERRAMIENTAS ROTATORIAS & CASQUILLOS PARA BARRAS DE MANDRINAR

PTR



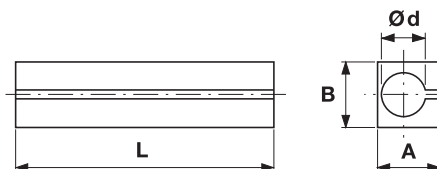
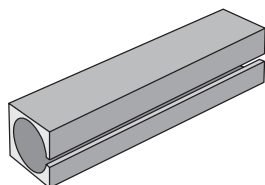
Referencia	Torreta	Dimensiones (mm)							Piezas de repuesto	
		d	A	B	C	E	L	I		
PTR-1313-10	O	10	19.5	13	16.5	13	125	3	1121	1504
PTR-1815-12	A	12	24	18	20	15	140	4	1121	1504
PTR-2118-14	B	14	30	21	26	18	135	4	1121	1504
PTR-2424-16	C	16	31	24	25	24	150	6	1161	1506
PTR-3030-18	D	18	40	30	33	30	240	7	1161	1506

Herramientas rotatorias para soportes PTR: ...



Esta herramienta puede, mediante la rotación de 360° sobre su propio eje, asumir numerosas posiciones de operación y en de este modo sustituir a varias herramientas convencionales.

P90

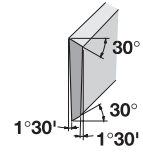
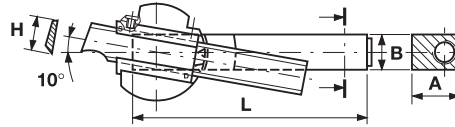
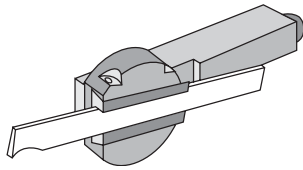




Referencia	Dimensiones (mm)			
	B	A	L	d
P90-1616-10	16	16	75	10
P90-1616-12	16	16	75	12
P90-2020-10	20	20	100	10
P90-2020-12	20	20	100	12
P90-2020-16	20	20	100	16
P90-2525-20	25	25	100	20
P90-3025-10	30	25	100	10
P90-3025-12	30	25	110	12
P90-3025-16	30	25	110	16
P90-3030-20	30	30	130	20
P90-3030-25	30	30	130	25
P90-3937-32	39	37	140	32

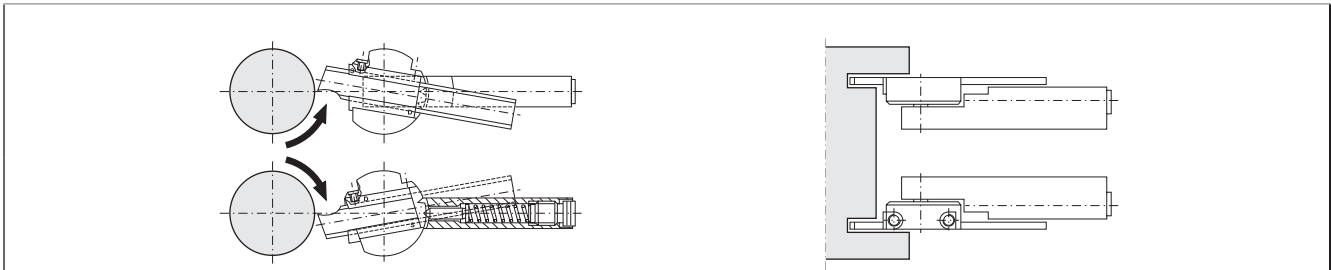
Ejemplo de pedido: PTR-1313-10

SOPORTE DINAMOMÉTRICO PARA CORTE

PDT



Referencia	Dimensiones (mm)				Piezas de repuesto	
	B	A	L	H		
PDT-2434-LU 20	24	34.5	170	20	UNI 5923 M6 x 10	UNI 2415 - 3

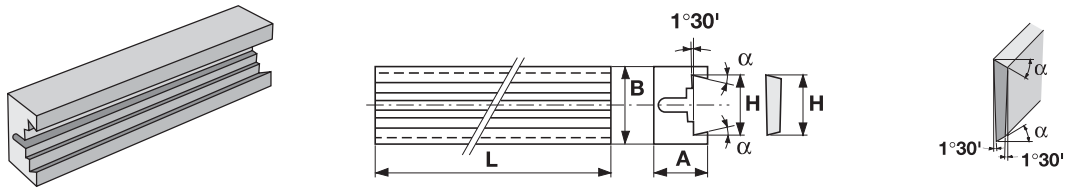


El portaherramientas PDT previene la rotura de las cuchillas gracias a la inclinación particular de la cuchilla y a un dispositivo dinamométrico ajustable que libera la cuchilla de la pieza que se va a mecanizar cuando la fuerza de corte sobrepasa el límite establecido.

Ejemplo de pedido: PDT-2434-LU 20

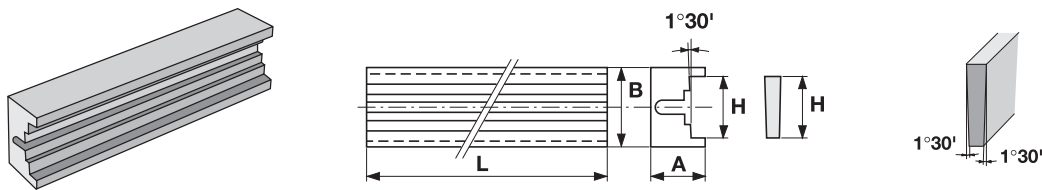
SOPORTE PARA CUCHILLAS DE TRONZADO TRAPEZOIDALES Y ROMBOIDES

MLT



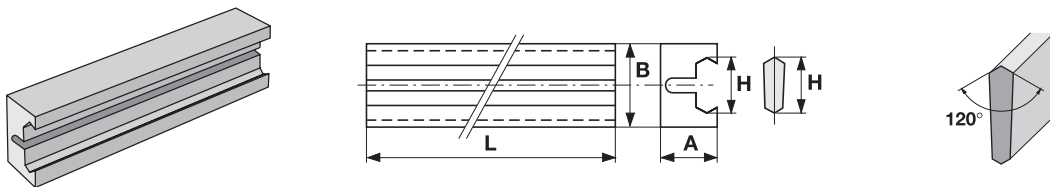
Referencia	Dimensiones (mm)				
	B	A	L	H	α
MLT-1612-LM 10	16	12	100	10	13°
MLT-2014-LM 13	20	14	110	13	13°
MLT-2518-LM 17	25	18	120	17	13°
MLT-3020-LM 20	30	20	125	20	13°
MLT-3422-LU 23	34	22	130	23.5	30°

P05



Referencia	Dimensiones (mm)			
	B	A	L	H
P05-2518-15	25	18	120	15
P05-3020-20	30	20	125	20

P04

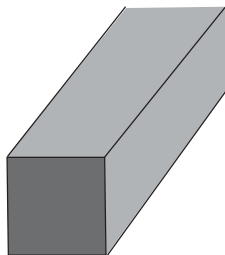


Referencia	Dimensiones (mm)			
	B	A	L	H
P04-3020-LC 20	30	20	125	20

Ejemplo de pedido: MLT-1612-LM 10

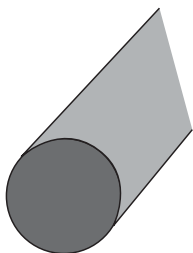
HERRAMIENTAS DE MOLDEADO HSS

Cuadrada



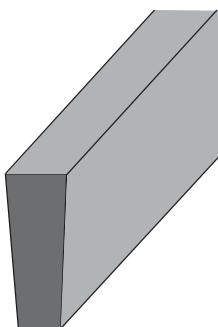
Referencia	
4 x 4 x 200	15 x 15 x 200
5 x 5 x 200	16 x 16 x 200
6 x 6 x 200	18 x 18 x 200
7 x 7 x 200	20 x 20 x 200
8 x 8 x 200	25 x 25 x 200
12 x 12 x 200	30 x 30 x 200
14 x 14 x 200	

Redonda



Referencia	
3 x 200 T	12 x 200 T
4 x 200 T	14 x 200 T
5 x 200 T	15 x 200 T
6 x 200 T	16 x 200 T
7 x 200 T	18 x 200 T
8 x 200 T	20 x 200 T
10 x 200 T	

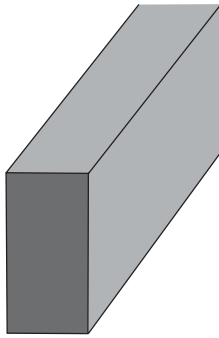
Trapezoidal



Referencia	
10 x 3 x 2 x 200	18 x 4 x 3 x 200
12 x 3 x 2 x 200	18 x 5 x 4 x 200
12 x 4 x 3 x 200	20 x 3 x 2 x 200
12 x 5 x 4 x 200	20 x 4 x 3 x 200
15 x 3 x 2 x 200	20 x 5 x 4 x 200
15 x 4 x 3 x 200	20 x 6 x 5 x 200
15 x 5 x 4 x 200	25 x 5 x 4 x 200
15 x 6 x 5 x 200	30 x 6 x 5 x 200
18 x 3 x 2 x 200	

HERRAMIENTAS DE MOLDEADO HSS

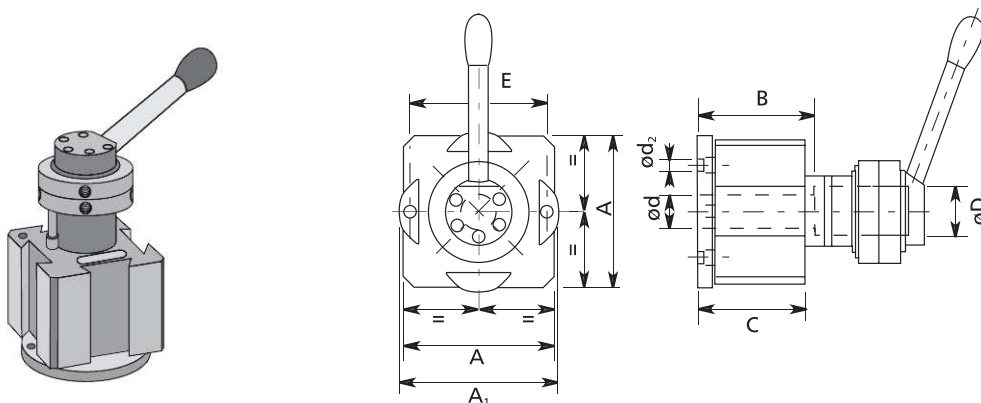
Rectangular



Referencia	
8 x 6 x 200	20 x 3 x 200
10 x 2 x 200	20 x 4 x 200
10 x 3 x 200	20 x 5 x 200
10 x 4 x 200	20 x 6 x 200
10 x 5 x 200	20 x 8 x 200
10 x 6 x 200	20 x 10 x 200
10 x 8 x 200	20 x 12 x 200
12 x 3 x 200	20 x 15 x 200
12 x 4 x 200	25 x 5 x 200
12 x 5 x 200	25 x 6 x 200
12 x 6 x 200	25 x 8 x 200
12 x 8 x 200	25 x 10 x 200
12 x 10 x 200	25 x 12 x 200
15 x 3 x 200	25 x 15 x 200
15 x 4 x 200	30 x 4 x 200
15 x 5 x 200	30 x 5 x 200
15 x 6 x 200	30 x 6 x 200
15 x 8 x 200	30 x 8 x 200
15 x 10 x 200	30 x 10 x 200
16 x 6 x 200	30 x 12 x 200
16 x 8 x 200	30 x 15 x 200
16 x 10 x 200	30 x 20 x 200
16 x 12 x 200	

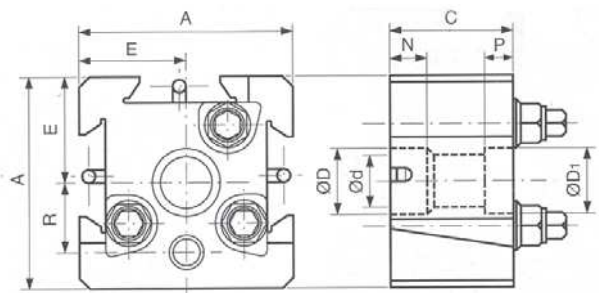
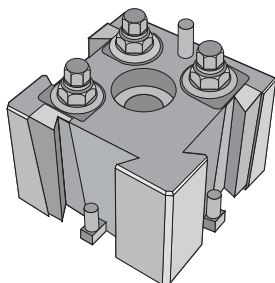
SOPORTES DE HERRAMIENTAS GIRATORIOS

PIGRECA R



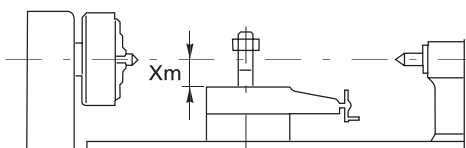
Referencia	Dimensiones (mm)								∠	Xm		H P
	A	A ₁	B	C	D ₁	E	d	d ₂		min.	max.	
PIGRECA R-B-4/125	125	133	132	105	42	116	20.5	8.5	20 25	36 41	50 55	3 ÷ 10
PIGRECA R-B-4/125 + DR	125	133	132	105	42	116	20.5	8.5	20 25	36 41	50 55	3 ÷ 10
PIGRECA R-C-4/140	140	146	132	105	42	127	20.5	8.5	20 25 32	38 43 50	50 55 62	6 ÷ 15
PIGRECA R-C-4/140 + DR	140	146	132	105	42	127	20.5	8.5	20 25 32	38 43 50	50 55 62	6 ÷ 15

P3/70



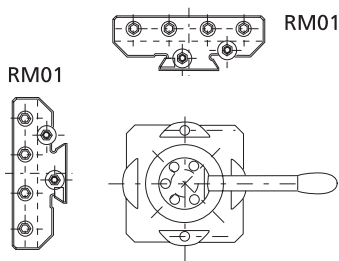
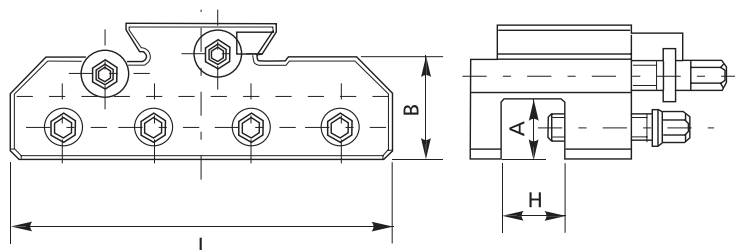
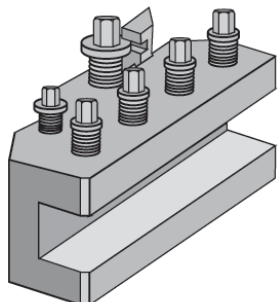
Referencia	Dimensiones (mm)									Xm		
	A	C	D	D ₁	d	E	N	P	R	min.	max.	
P3/70-96-3-A	96	65	-	32	23	48	-	10	34.5	20	30	1517
P3/70-115-3-B	115	80	50	38	28	57.5	30	15	45	25	45	1518
P3/70-143-3-C	143	95	50	48	36	71.5	35	23	55	35	55	1519
P3/70-174-3-D	174	110	60.5	60	40	87	40	20	65	45	65	1521
P3/70-214-3-D	214	140	70	70	50	107	50	30	85	55	75	1526


Ejemplo de pedido: PIGRECA R-B-4/125



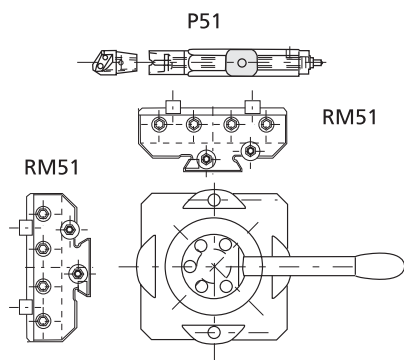
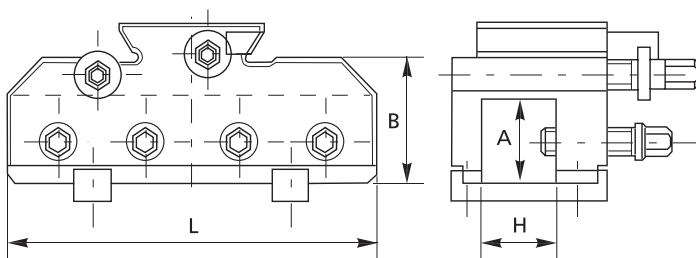
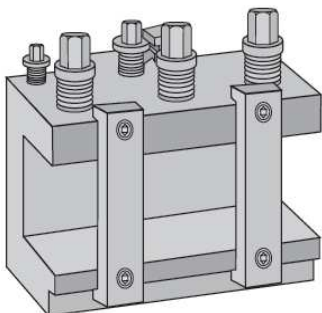
SOPORTE UNIVERSAL



RM01



Referencia	Dimensiones (mm)				Piezas de repuesto
	H	A	B	L	
RM01-B-30	30	22	38	140	1534
RM01-C-32	34	25	40	160	1536

RM51

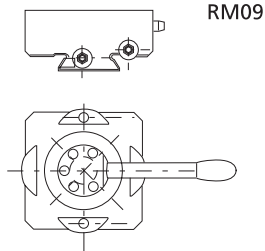
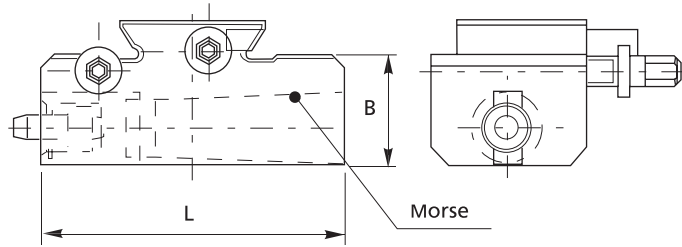
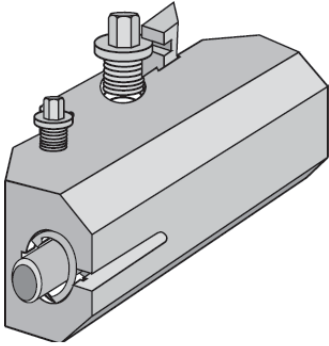



Referencia	Dimensiones (mm)				Piezas de repuesto	
	H	A	B	L		
RM51-B-40	40.5	37	51.5	118	1518	1534
RM51-C-40	40.5	37	52	140	1518	1536

Ejemplo de pedido: RM01-B-30

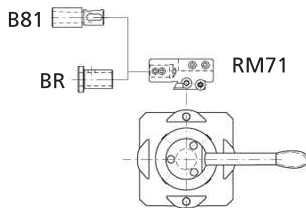
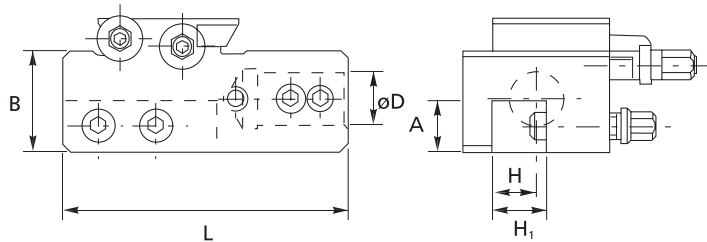
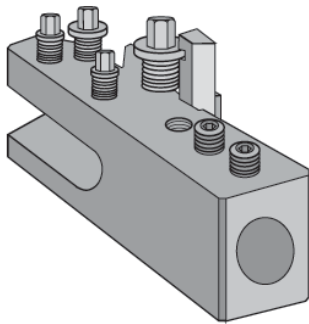
PORTAHERRAMIENTAS DE CONO MORSE & PORTAHERRAMIENTAS MÚLTIPLE


RM09



Referencia	Morse	Dimensiones (mm)		Piezas de repuesto
		B	L	
RM09-A/B-3	N. 3	44.5	115	1534
RM09-C-4	N. 4	52	146	1536

RM71

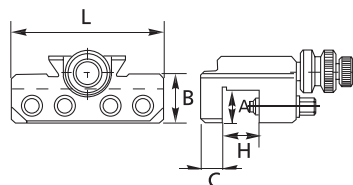
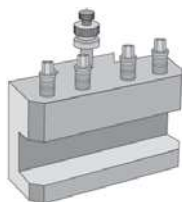





Referencia	Dimensiones (mm)					Piezas de repuesto
	D _{H8}	H	A	B	L	
RM71-B-032-2525	32	25	25	45	155	1534
RM71-C-032-2525	32	25	25	45	165	1536

Ejemplo de pedido: RM09-A/B-3

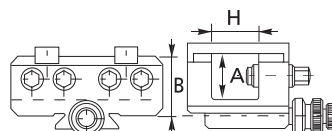
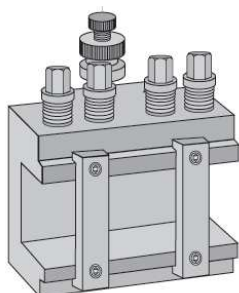
SOPORTES PARA SOPORTES DE HERRAMIENTAS P3/70




S01



Referencia	Dimensiones (mm)					Piezas de repuesto		
	H	L	A	B	C			
S01-A-25	26	94	17	31	13	1101	1531	A
S01-B-30	30	108	22	33.5	15	1109	1531	B
S01-C-32	34	136	26	43	17	1121	1531	C
S01-D-32	34	162	26	44	18	1121	1531	D

S51

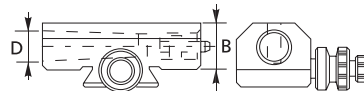
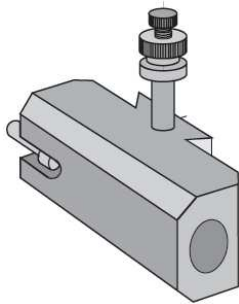



Referencia	Dimensiones (mm)			Piezas de repuesto		
	H	A	B			
S51R-B-40	42	41	55	1182	1519	B
S51-C-40	42	41	55	1182	1519	C
S51-C-56	58	47	73	1182	1519	C
S51-D-40	42	41	63	1182	1519	D
S51-D-56	58	47	71	1182	1519	D
S51-D-76	80	62	93	1182	1519	D

Ejemplo de pedido: S51R-B-40

SOPORTES DE CONO MORSE PARA SOPORTES P3/70

S09

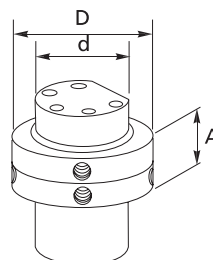
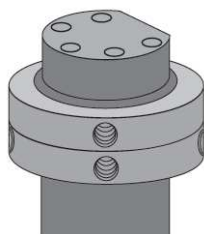


Referencia	Soporte cono morse para torreta	Dimensiones (mm)		Piezas de repuesto
		D	B	
S09-A-2	Nº 2	17.720	31	A
S09-B-3	Nº 3	23.825	35.5	B
S09-C-4	Nº 4	31.267	42	C
S09-D-5	Nº 5	44.399	57	D

Ejemplo de pedido: S09-A-2

DISTRIBUIDOR DE REFRIGERANTE Y ACCESORIOS

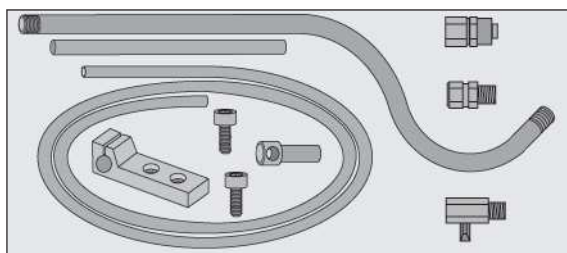
DR



Referencia	Dimensiones (mm)		
	A	d	D
DR-B/C	33	65	100

Ejemplo de pedido: DR-B/C

SET-ALR



SET-ALR-B/C	
1	VITE T.C.E.I. M6x14
1	VITE T.C.E.I. M8x16
1	ARRESTO ASTA PER SET ALR
1	TERMIN. PER ASTA SET ALR
1	TUBO DIS. 14455/1 POS. 3
1.5000	TUBO RILSAN NEUT. D.E.10x8
1	ASTA PER SET ALR-A-B/C
1	RACC. GIR. 1/4 GAS M2541 CL
1	RAC.R.8/10-1/4GAS M1463CL
1	GUARN.NAY.1/4GAS A.2661CL
1	RUB. RB 3831 1/4

FÓRMULAS DE TORNEADO

Parámetros a determinar		Parámetros conocidos		Fórmula
Velocidad de corte (m/min)	v_c	Diámetro mecanizado (mm)	D_m	$v_c = \frac{\pi \times D_m \times n}{1000}$
		Revoluciones del husillo (r/min)	n	
Revoluciones del husillo (r/min)	n	Velocidad de corte (m/min)	v_c	$n = \frac{1000 \times v_c}{\pi \times D_m}$
		Diámetro mecanizado (mm)	D_m	
Tiempo de corte (min)	T	Longitud mecanizada (mm)	l_m	$T = \frac{l_m}{f_n \times n}$
		Avance por revolución (mm/r)	f_n	
		Revoluciones del husillo (r/min)	n	
Rugosidad (μm)	R_t	Avance por revolución (mm/r)	f_n	$R_t = \frac{f_n^2}{r_\epsilon} \times 125$
		Radio de la punta de la plaquita (mm)	r_ϵ	
Caudal de viruta (cm^3/min)	Q	Velocidad de corte (m/min)	v_c	$Q = v_c \times a_p \times f_n$
		Profundidad de corte (mm)	a_p	
		Avance por revolución (mm/r)	f_n	
Potencia necesaria (kW)	P_c	Caudal de viruta (cm^3/min)	Q	$P_c = \frac{Q \times K_{c0.4}}{60000} \times \left(\frac{0.4}{f_n \times \sin \kappa_r} \right)^{0.22}$
		Fuerza de corte específica para espesor de virutas = 0,4 mm (N/mm^2)	$K_{c0.4}$	
		Avance por revolución (mm/r)	f_n	
		Ángulo de ataque (grados)	κ_r	
Par (Nm)	c	Potencia necesaria (kW)	P_c	$c = \frac{30000 \times P_c}{\pi \times n}$
		Revoluciones del husillo (r/min)	n	