



FERRAMENTAS E INSERTOS INTERCAMBIÁVEIS

- Torneamento
- Fresamento
- Solda



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Insertos para Torneamento

Modelo						
Codigo	CNMA	CNMG-EF	CNMG-EM	CNMG-DM	CNMG-S	CNMM-DR
Pagina	10	10	10	11	11	11

Modelo						
Codigo	DNMA	DNMG-EF	DNMG-EM	DNMG-DM	DNMG-S	DNMM-DR
Pagina	12	12	12	13	13	13

Modelo						
Codigo	KNUX-R11	KNUX-L11	KNUX-R12	TNMG-R-ZC	TNMG-L-ZC	TNMG-R-ZF
Pagina	14	14	14	15	15	15

Modelo						
Codigo	SNMA	SNMG-EF	SNMG-EM	SNMG-DM	SNMG-S	SNMM-DR
Pagina	16	16	16	17	17	17

Modelo						
Codigo	TNMA	TNMG-EF	TNMG-EM	TNMG-DM	TNMG-S	TNMM-DR
Pagina	18	18	18	19	19	19

Modelo						
Codigo	WNMA	WNMG-EF	WNMG-EM	WNMG-DM	WNMG-S	WNMM-DR
Pagina	20	20	20	21	21	21

Modelo						
Codigo	CCGX-LC	CCMT-HF	CCMT-EF	CCMT-EM	CCMT-HM	CCMT-HR
Pagina	22	22	22	23	23	23

Modelo						
Codigo	DCGX-LC	DCMT-HF	DCMT-EF	DCMT-EM	DCMT-HM	DCMT-HR
Pagina	24	24	24	25	25	25

Modelo						
Codigo	SCGX-LC	SCMT-EF	SCMT-HM	SPUN-	SPGN-	SPMR-S
Pagina	26	26	26	27	27	27

Modelo						
Codigo	TCGX-LC	TCMT-EF	TCMT-HM	TPUN-	TPGN-	TPMR-F
Pagina	28	28	28	29	29	29

Modelo	
Codigo	TPMR-M
Pagina	29

Modelo						
Codigo	VCGX-LC	VCMT-EF	VCMT-HM	VBMT-SF	VBMT-EF	VBMT-HM
Pagina	30	30	30	31	31	31

YBD152

Classe com cobertura CVD , com substrato com elevada resistência à deformação plástica.Composto MT-TiCN, uma grossa camada Al₂O₃ e TiN, ideal em operações usinagem média/desbaste , para materiais do grupo: P e K

YBC351

Classe com cobertura PVD ,com substrato com elevado resistência ao desgaste.Composto grossas camadas TiCN , Al₂O₃ e camadas TiN,se torna ideal na usinagem média/acabamento, para materiais do grupo : P , M , K.

YBC251

Classe com cobertura CVD, substrato com boa tenacidade e melhor segurança no corte.Composto MT-TiCN, uma grossa camada Al₂O₃ e TiN, ideal em operações usinagem média/acabamento, para materiais do grupo : P e M

YBC252

Classe com cobertura CVD , com substrato contra deformação plástica ,com ótima resistência na aresta de corte .Composto grossas camadas TiCN e Al₂O₃ no seu revestimento.Com um aumento superior 25% na velocidade de corte , resultará em uma vida útil da ferramenta superior a 30% ,sob mesma condições de corte. Indicada em operações usinagem acabamento/desbaste , para materiais do grupo : P e M

YBG202

Classe com cobertura PVD , com substrato com grãos ultra fino. Composto com revestimento TiAlN , se tornando uma super liga. Ideal em operações de usinagem média/ acabamento, para materiais do grupo : P , M , K e S
















YD201

Classe sem cobertura, composto a base de TITânio com grãos finos. E econômica resistente ao desgaste. Indicado em operações semi-acabamento/ acabamento, para materiais do grupo: K (K10-K25), N (N05-N25) e S (S10-S20).

YBG205

Classe com cobertura PVD , seu composto TiAlN, nano estruturado, alta dureza boa resistência ao desgaste/calor .Indicado em operações semi-acabamento/acabamento em peças pequenas em materiais do grupo: M-(M05-M25).

EF	Ideal em operações de acabamento com precisão com baixa rugosidade. Quebra Cavaco com dupla face com tolerância de nível M, materiais grupo: P, M, S							
							Avanço	0,06-0,30mm
							P.Corte	0,40- 4,0mm
EM	Ideal em operações de semi-acabamento ,com tolerância tipo M e melhora o processo de desbaste , alcança maior eficiência em materiais no grupo: P e M							
							Avanço	0,10-0,40mm
							P.Corte	0,40- 8,0mm
DM	Ideal em operações de semi-acabamento ,com tolerância tipo M . Produzindo pequenas forças de corte com maior faixa no quebra cavaco,eficiência materias grupo: P e M							
							Avanço	0,15-0,50mm
							P.Corte	1,50- 8,0mm
DR	ideal em operações de desbaste leve , com tolerância tipo M , alcança maior eficiência na saída do cavaco e melhora à aresta de corte , em materiais do grupo: P e K							
							Avanço	0,06-0,30mm
							P.Corte	0,40- 4,0mm
DR	Quebra cavaco com uma única fase , ideal em operações de desbaste/desbaste pesado, alcança altas saídas de cavaco, sem alterar aresta de corte , materiais do grupo: P,M,K.							
							Avanço	0,30-0,80mm
							P.Corte	2,0- 12,0mm
HF	Quebra cavaco com uma única fase ,ideal em operações de acabamento,interna/externo, com tolerância de nível M , sendo eficiente e todos grupos de materiais.							
							Avanço	0,05-0,30mm
							P.Corte	0,20- 4,0mm
EF	Quebra cavaco com uma única fase , usado em operações de acabamento, em materiais viscoso ,tolerância de nível M , sendo eficiente materiais do grupo M							
							Avanço	0,05-0,30mm
							P.Corte	0,20- 3,0mm
EM	Quebra cavaco com uma única fase , usado em operações de usinagem média,ótima estabilidade na aresta de corte,tolerância de nível M , sendo ideal materiais do grupo M							
							Avanço	0,10-0,40mm
							P.Corte	0,40- 4,0mm

HM	Quebra cavaco com uma única fase ,usado em operações de semi-acabamento,interna/externa , sendo produtivo todos tipos de materiais do grupo: P, M , Ketc						
						Avanço	0,10-0,40mm
						P.Corte	0,40-4,50mm
HR	Quebra cavaco com uma única fase, usado em operações de semi-desbaste/desbaste, interno/externo, com aresta corte reforçada , adequado em varios grupo de materias.						
						Avanço	0,30-0,70mm
						P.Corte	2,0- 7,0mm
LC	Quebra cavaco com com grande ângulo inclinação/folga,polida, garantido baixo esforço de corte ,melhor remoção do cavaco, tolerância de nivel G, para materiais grupo: N						
						Avanço	0,05-0,50mm
						P.Corte	0,20- 5,0mm

T N M G 22 04 08 - DM (ISO)

1 2 3 4 5 6 7 8

1
Formato da Pastilha

H	O	P	R
S	T	C	D
E	M	V	W
L	A	B	K

2
Ângulo de Folga

A	B
C	D
E	F
G	N
P	O

Especial
Special

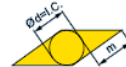
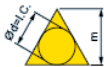
4
Tipo de Pastilha

N	R
F	A
M	G
W	T
Q	X









Especial
Special

3

	Tolerância			Tolerância		
	m (±)	s (±)	d=IC (±)	m (±)	s (±)	d=IC (±)
A	0.005	0.025	0.025	0.0002	0.001	0.0010
F	0.005	0.025	0.013	0.0002	0.001	0.0005
C	0.013	0.025	0.025	0.0005	0.001	0.0010
H	0.013	0.025	0.013	0.0005	0.001	0.0005
E	0.025	0.025	0.025	0.0010	0.001	0.0010
G	0.025	0.130	0.025	0.0010	0.005	0.0010
J	0.005	0.025	±0.05-±0.13	0.0002	0.001	±0.002-±0.005
K	0.013	0.025	±0.05-±0.13	0.0005	0.001	±0.002-±0.005
L	0.025	0.025	±0.05-±0.13	0.0010	0.001	±0.002-±0.005
M	±0.08-±0.18	0.130	±0.05-±0.13	±0.003-±0.007	0.005	±0.002-±0.005
N	±0.08-±0.18	0.025	±0.05-±0.13	±0.003-±0.007	0.001	±0.002-±0.005
U	±0.13-±0.38	0.130	±0.08-±0.25	±0.005-±0.015	0.005	±0.003-±0.010



Sistema de Codificação ISO / ANSI

5								
Comprimento da Aresta de Corte								
d=IC	R	S	T	C	D	E	V	W
mm								
3.97	-		06					
5.00	05							
5.56			09			05		
6.00	06							
6.35			11	06	07		11	
8.00	08							
9.525	09	09	16	09	11		16	06
10.0	10							
12.0	12							
12.7	12	12	22	12	15		22	08
15.875	15	15	27	16				
16.0	16				19			
19.05	19	19	33	19				
20.0	20							
25.0	25							
25.4	25	25		25	25			

6	
Código	Espessura (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

7	
Raio de ponta	
Código	r (mm)
00	sem raio
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	outros

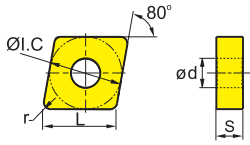
8
Código Quebra- Cavaco

T N M G 4 3 2 (ANSI)
5* 6* 7*

5*	
Circulo Inscrito	
Código	IC (mm)
2	6.35
3	9.525
4	12.7
5	15.875
6	19.05
8	25.4

6*	
Espessura	
Código	s (mm)
2	3.18
3	4.76
4	6.35
5	7.94
6	9.52

7*	
Raio de Ponta (mm)	
Código	r
0	0.2
1	0.4
2	0.8
3	1.2
4	1.6
5	2.0
6	2.4



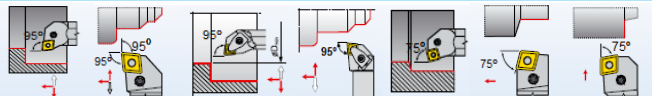
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	CNMA120408	CNMA432	12.9	12.7	5.16	4.76	0.8	○			0.1-0.4	0.4-3.0
	CNMA120412	CNMA433	12.9	12.7	5.16	4.76	1.2	○			0.1-0.4	0.8-3.0
	CNMA190608	CNMA642	19.3	19.05	7.95	6.35	0.8	○			0.1-0.4	0.8-12.0
	CNMA190612	CNMA643	19.3	19.05	7.95	6.35	1.2	○			0.1-0.4	1.2-12.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	CNMG120404-EF	CNMG431-EF	12.9	12.7	5.16	4.76	0.4	×			0.06-0.3	0.4-2.0
	CNMG120408-EF	CNMG432-EF	12.9	12.7	5.16	4.76	0.8	×			0.06-0.3	0.8-2.0
	CNMG190608-EF	CNMG642-EF	19.3	19.05	7.95	6.35	0.8	○			0.06-0.3	0.8-4.0
	CNMG190612-EF	CNMG643-EF	19.3	19.05	7.95	6.35	1.2	○			0.06-0.3	1.2-4.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	CNMG120404-EM	CNMG431-EM	12.9	12.7	5.16	4.76	0.4	×			0.1-0.4	0.5-3.0
	CNMG120408-EM	CNMG432-EM	12.9	12.7	5.16	4.76	0.8	×			0.1-0.4	0.8-3.0
	CNMG120412-EM	CNMG433-EM	12.9	12.7	5.16	4.76	1.2	○			0.1-0.4	0.5-3.0
	CNMG190608-EM	CNMG642-EM	19.3	19.05	7.95	6.35	0.8	○			0.1-0.4	0.8-5.0
	CNMG190612-EM	CNMG643-EM	19.3	19.05	7.95	6.35	1.2	○			0.1-0.4	1.2-5.0

Aplicação



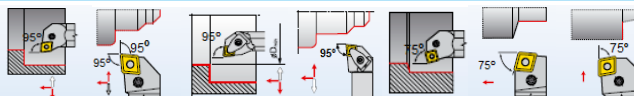
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

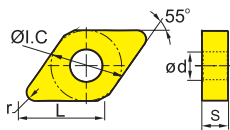
Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de	
DM Quebra Cavaco 	Norma		L	IC	d	s	r	YBC251	YBC252	Rotação	Corte	
	ISO	ANSI								fn	pf	
	CNMG120404-DM	CNMG431-DM	12.9	12.7	5.16	4.76	0.4	×	×		0.15-0.5	1.5-5
	CNMG120408-DM	CNMG432-DM	12.9	12.7	5.16	4.76	0.8	×	×		0.15-0.5	1.5-5
	CNMG190608-DM	CNMG642-DM	19.3	19.05	7.95	6.35	0.8	○	○		0.15-0.5	1.5-8
	CNMG190612-DM	CNMG643-DM	19.3	19.05	7.95	6.35	1.2	○	○		0.15-0.5	1.5-8

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de	
S Quebra Cavaco 	Norma		L	IC	d	s	r	YBD152	YBC251	Rotação	Corte	
	ISO	ANSI								fn	pf	
	CNMG120404-S	CNMG431-S	12.9	12.7	5.16	4.76	0.4	○	○		0.2-0.5	1.5-5
	CNMG120408-S	CNMG432-S	12.9	12.7	5.16	4.76	0.8	○	○		0.2-0.5	1.5-5
	CNMG120412-S	CNMG433-S	12.9	12.7	5.16	4.76	1.2	○	○		0.2-0.5	1.5-5
	CNMG190608-S	CNMG642-S	19.3	19.05	7.95	6.35	0.8	○	○		0.2-0.5	1.5-8
CNMG190612-S	CNMG643-S	19.3	19.05	7.95	6.35	1.2	○	○		0.2-0.5	1.5-8	

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de	
DR Quebra Cavaco 	Norma		L	IC	d	s	r	YBC251		Rotação	Corte	
	ISO	ANSI								fn	pf	
	CNMM120408-DR	CNMM432-DR	12.9	12.7	5.16	4.76	0.8	○			0.3-0.8	2-8
	CNMM120412-DR	CNMM433-DR	12.9	12.7	5.16	4.76	1.2	○			0.3-0.8	2-8
	CNMM190608-DR	CNMM642-DR	19.3	19.05	7.95	6.35	0.8	○			0.3-0.8	3-12
CNMM190612-DR	CNMM643-DR	19.3	19.05	7.95	6.35	1.2	○			0.3-0.8	3-12	

Aplicação





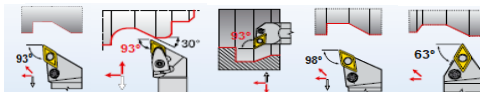
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

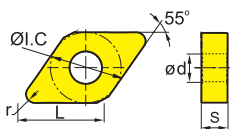
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG152			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	DNMA150604	DNMA441	15.5	12.7	5.16	6.35	0.4	○			0.1~0.4	0.4~3.0
	DNMA150608	DNMA442	15.5	12.7	5.16	6.35	0.8	○			0.1~0.4	0.8~3.0
	DNMA150612	DNMA443	15.5	12.7	5.16	6.35	1.2	○			0.1~0.4	0.8~5.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	DNMG150404-EF	DNMG431-EF	15.5	12.7	5.16	4.76	0.4	○			0.06~0.3	0.5~2
	DNMG150408-EF	DNMG432-EF	15.5	12.7	5.16	4.76	0.8	○			0.06~0.3	0.8~2
	DNMG150604-EF	DNMG441-EF	15.5	12.7	5.16	6.35	0.4	×			0.06~0.3	0.5~2
	DNMG150608-EF	DNMG442-EF	15.5	12.7	5.16	6.35	0.8	×			0.06~0.3	0.8~2

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	DNMG150404-EM	DNMG431-EM	15.5	12.7	5.16	4.76	0.4	○			0.1~0.4	0.5~3.0
	DNMG150408-EM	DNMG432-EM	15.5	12.7	5.16	4.76	0.8	○			0.1~0.4	0.8~3.0
	DNMG150604-EM	DNMG441-EM	15.5	12.7	5.16	6.35	0.4	○			0.1~0.4	0.5~3.0
	DNMG150608-EM	DNMG442-EM	15.5	12.7	5.16	6.35	0.8	○			0.1~0.4	0.8~3.0

Aplicação





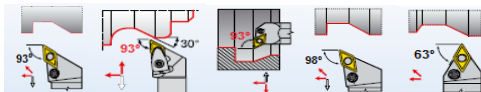
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

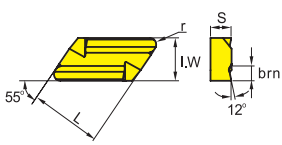
Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	DNMG150404-DM	DNMG431-DM	15.5	12.7	5.16	4.76	0.4	○	○	0.15-0.5	1.5-5
	DNMG150408-DM	DNMG432-DM	15.5	12.7	5.16	4.76	0.8	○	○	0.15-0.5	1.5-5
	DNMG150604-DM	DNMG441-DM	15.5	12.7	5.16	6.35	0.4	×	×	0.15-0.5	1.5-5
	DNMG150608-DM	DNMG442-DM	15.5	12.7	5.16	6.35	0.8	×	×	0.15-0.5	1.5-5

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152	YBC251	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	DNMG150604-S	DNMG441-S	15.5	12.7	5.16	6.35	0.4	○	○	0.2-0.5	1.5-5
	DNMG150608-S	DNMG442-S	15.5	12.7	5.16	6.35	0.8	○	○	0.2-0.5	1.5-5
	DNMG190608-S	DNMG642-S	19.3	19.1	7.95	6.35	0.4	○	○	0.2-0.5	1.5-5
	DNMG190612-S	DNMG643-S	19.3	19.1	7.95	6.35	0.8	○	○	0.2-0.5	1.5-8

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	DNMM150608-DR	DNMM442-DR	15.5	12.7	5.16	6.35	0.8	○		0.3-0.8	2-8
	DNMM150612-DR	DNMM443-DR	15.5	12.7	5.16	6.35	1.2	○		0.3-0.8	2-8
	DNMM150616-DR	DNMM444-DR	15.5	12.7	5.16	6.35	1.6	○		0.3-0.8	3-8

Aplicação





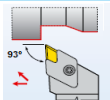
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IW	b	s	r	YBG202	YBC251		Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	KNUX160405-R11	KNUX-R11	16.15	9.52	2.2	4.76	0.5		×		0.1~0.4	0.5~6
	KNUX160410-R11	KNUX-R11	16.15	9.52	2.2	4.76	1.0		○		0.1~0.4	1~6

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IW	b	s	r	YBG202	YBC251		Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	KNUX160405-L11	KNUX-L11	16.15	9.52	2.2	4.76	0.5		×		0.1~0.4	0.5~6
	KNUX160410-L11	KNUX-L11	16.15	9.52	2.2	4.76	1.0		○		0.1~0.4	1~6

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IW	b	s	r	YBG202	YBC251		Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	KNUX160405-R12	KNUX-R12	16.15	9.52	2.2	4.76	0.5		×		0.1~0.4	0.5~6
	KNUX160410-R12	KNUX-R12	16.15	9.52	2.2	4.76	1.0		○		0.1~0.4	1~6

Aplicação

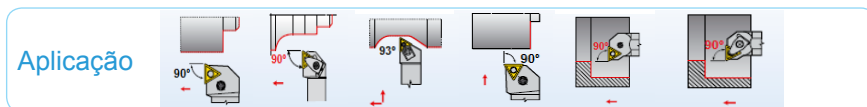


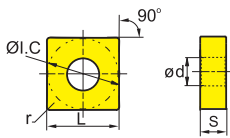
	Classes		Norma ISO				
	P	M	K	S	H		
	YBD152		K05-K25				
	YBG202	P10-P30	M10-M25		S10-S20		
	YBC251	P10-P30					
YBC252	P10-P35						

Modelo	Descrição		Dimensão (mm)							Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252			Rotação	Corte	
	ISO	ANSI										fn	pf	
 Quebra Cavaco	TNMG160404R-ZC	TNMG331R-ZC	16.5	9.52	5.16	4.76	0.4	×	×			0.1~0.5	0.5~6	
	TNMG160408R-ZC	TNMG332R-ZC	16.5	9.52	5.16	4.76	0.8	○	○			0.1~0.5	0.8~6	
	TNMG160412R-ZC	TNMG333R-ZC	16.5	9.52	5.16	4.76	1.2	○	○			0.1~0.5	1.2~6	

Modelo	Descrição		Dimensão (mm)							Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252			Rotação	Corte	
	ISO	ANSI										fn	pf	
 Quebra Cavaco	TNMG160404L-ZC	TNMG331L-ZC	16.5	9.52	5.16	4.76	0.4	×	×			0.1~0.5	0.5~6	
	TNMG160408L-ZC	TNMG332L-ZC	16.5	9.52	5.16	4.76	0.8	○	○			0.1~0.5	0.8~6	
	TNMG160412L-ZC	TNMG333L-ZC	16.5	9.52	5.16	4.76	1.2	○	○			0.1~0.5	1.2~6	

Modelo	Descrição		Dimensão (mm)							Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152	YBC251			Rotação	Corte	
	ISO	ANSI										fn	pf	
 Quebra Cavaco	TNMG160404R-ZF	TNMG331R-ZF	16.5	9.52	5.16	4.76	0.4	○	○			0.05~0.35	0.4~4	
	TNMG160408R-ZF	TNMG332R-ZF	16.5	9.52	5.16	4.76	0.8	○	○			0.05~0.35	0.8~4	





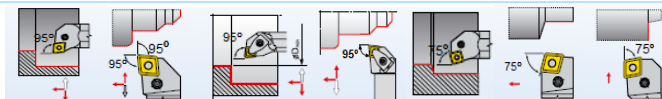
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

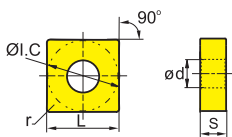
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	SNMA120404	SNMA431	12.7	12.7	5.16	4.76	0.4	○			0.1~0.4	0.4~3.0
	SNMA120408	SNMA432	12.7	12.7	5.16	4.76	0.8	○			0.1~0.4	0.8~3.0
	SNMA190608	SNMA431	19.05	19.05	7.94	6.35	0.8	○			0.1~0.4	0.8~12.0
	SNMA190612	SNMA431	19.05	19.05	7.94	6.35	1.2	○			0.1~0.4	1.2~12.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	SNMG120404-EF	SNMG431-EF	12.7	12.7	5.16	4.76	0.4	×			0.06~0.3	0.4~2.0
	SNMG120408-EF	SNMG432-EF	12.7	12.7	5.16	4.76	0.8	×			0.06~0.3	0.8~2.0
	SNMG190608-EF	SNMG642-EF	19.05	19.05	7.94	6.35	0.8	○			0.06~0.3	0.8~5.0
	SNMG190612-EF	SNMG643-EF	19.05	19.05	7.94	6.35	1.2	○			0.06~0.3	1.2~5.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	SNMG120404-EM	SNMG431-EM	12.7	12.7	5.16	4.76	0.4	○			0.1~0.4	0.5~3.0
	SNMG120408-EM	SNMG432-EM	12.7	12.7	5.16	4.76	0.8	○			0.1~0.4	0.8~3.0
	SNMG120412-EM	SNMG433-EM	12.7	12.7	5.16	4.76	1.2	○			0.1~0.4	0.5~3.0
	SNMG190608-EM	SNMG642-EM	19.05	19.05	7.94	6.35	0.8	○			0.1~0.4	0.8~5.0
	SNMG190612-EM	SNMG643-EM	19.05	19.05	7.94	6.35	1.2	○			0.1~0.4	1.2~5.0

Aplicação





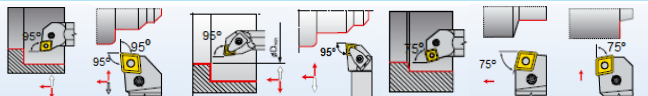
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

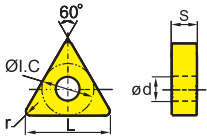
Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	SNMG120404-DM	SNMG431-DM	12.7	12.7	5.16	4.76	0.4	×	×	0.15-0.25	1.5-5
	SNMG120408-DM	SNMG432-DM	12.7	12.7	5.16	4.76	0.8	×	×	0.15-0.36	1.5-5
	SNMG120412-DM	SNMG433-DM	12.7	12.7	5.16	4.76	1.2	○	○	0.15-0.5	1.5-5
	SNMG190608-DM	SNMG642-DM	19.05	19.05	7.94	6.35	0.8	○	○	0.15-0.5	1.5-8
	SNMG190612-DM	SNMG643-DM	19.05	19.05	7.94	6.35	1.2	○	○	0.15-0.5	1.5-8

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152	YBC251	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	SNMG120404-S	SNMG431-S	12.7	12.7	5.16	4.76	0.4	○	○	0.2-0.5	1.5-5
	SNMG120408-S	SNMG432-S	12.7	12.7	5.16	4.76	0.8	○	○	0.2-0.5	1.5-5
	SNMG120412-S	SNMG433-S	12.7	12.7	5.16	4.76	1.2	○	○	0.2-0.5	1.5-5
	SNMG190608-S	SNMG642-S	19.05	19.05	7.94	6.35	0.8	○	○	0.2-0.5	1.5-8
	SNMG190612-S	SNMG643-S	19.05	19.05	7.94	6.35	1.2	○	○	0.2-0.5	1.5-8

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	SNMM120408-DR	SNMM432-DR	12.7	12.7	5.16	4.76	0.8	○		0.3-0.8	2-8
	SNMM120412-DR	SNMM433-DR	12.7	12.7	5.16	4.76	1.2	○		0.3-0.8	2-8
	SNMM190608-DR	SNMM642-DR	19.05	19.05	7.95	6.35	0.8	○		0.3-0.8	3-12
	SNMM190612-DR	SNMM643-DR	19.05	19.05	7.95	6.35	1.2	○		0.3-0.8	3-12

Aplicação





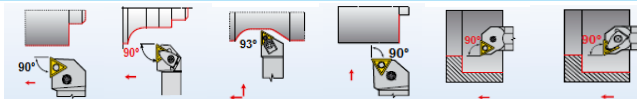
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBG205		M15-M35			

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	TNMA160404	TNMA331	16.5	9.52	3.81	4.76	0.4	○		0.1-0.4	0.4-3.0
	TNMA160408	TNMA332	16.5	9.52	3.81	4.76	0.8	○		0.1-0.4	0.8-3.0
	TNMA220408	TNMA432	22.0	12.70	5.16	4.76	0.8	○		0.1-0.4	0.8-5.0
	TNMA220412	TNMA433	22.0	12.70	5.16	4.76	1.2	○		0.1-0.4	1.2-5.0

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBG205	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	TNMG160404-EF	TNMG331-EF	16.5	9.52	3.81	4.76	0.4	×	×	0.06-0.3	0.5-2
	TNMG160408-EF	TNMG332-EF	16.5	9.52	3.81	4.76	0.8	×	×	0.06-0.3	0.8-2
	TNMG220404-EF	TNMG431-EF	22.0	12.70	5.16	4.76	0.4	×	○	0.06-0.3	0.5-6
	TNMG220408-EF	TNMG432-EF	22.0	12.70	5.16	4.76	0.8	×	○	0.06-0.3	0.8-6
	TNMG220412-EF	TNMG432-EF	22.0	12.70	5.16	4.76	1.2	○	○	0.06-0.3	1.2-6

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	TNMG160404-EM	TNMG331-EM	16.5	9.52	3.81	4.76	0.4	○		0.1-0.4	0.5-3.0
	TNMG160408-EM	TNMG332-EM	16.5	9.52	3.81	4.76	0.8	○		0.1-0.4	0.8-3.0
	TNMG220404-EM	TNMG431-EM	22.0	12.70	5.16	4.76	0.4	○		0.1-0.4	0.5-4.0
	TNMG220408-EM	TNMG432-EM	22.0	12.70	5.16	4.76	0.8	○		0.1-0.4	0.8-8.0
	TNMG220412-EM	TNMG432-EM	22.0	12.70	5.16	4.76	1.2	○		0.1-0.4	1.2-8.0

Aplicação



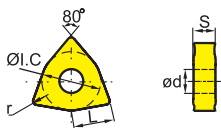
	Classes		Norma ISO				
	P	M	K	S	H		
	YBD152		K05-K25				
	YBG202	P10-P30	M10-M25	S10-S20			
	YBC251	P10-P30					
YBC252	P10-P35						

Modelo	Descrição		Dimensão (mm)						Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252	YBG202	Rotação	Corte	
	ISO	ANSI									fn	pf	
<p>Quebra Cavaco</p>	TNMG160404-DM	TNMG331-DM	16.5	9.52	3.81	4.76	0.4	×	×	×	0.15-0.25	1.5-5	
	TNMG160408-DM	TNMG332-DM	16.5	9.52	3.81	4.76	0.8	×	×	×	0.15-0.36	1.5-5	
	TNMG160412-DM	TNMG333-DM	16.5	9.52	3.81	4.76	1.2	○	○	○	0.15-0.5	1.5-5	
	TNMG220408-DM	TNMG432-DM	22.0	12.70	5.16	4.76	0.8	×	×	○	0.15-0.5	1.5-8	
	TNMG220412-DM	TNMG433-DM	22.0	12.70	5.16	4.76	1.2	○	○	○	0.15-0.5	1.5-8	

Modelo	Descrição		Dimensão (mm)						Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152	YBC251		Rotação	Corte	
	ISO	ANSI									fn	pf	
<p>Quebra Cavaco</p>	TNMG160404-S	TNMG331-S	16.5	9.52	3.81	4.76	0.4	○	○		0.15-0.25	1.5-6	
	TNMG160408-S	TNMG332-S	16.5	9.52	3.81	4.76	0.8	○	○		0.2-0.36	1.5-6	
	TNMG160412-S	TNMG333-S	16.5	9.52	3.81	4.76	1.2	○	○		0.2-0.5	1.5-6	
	TNMG220408-S	TNMG432-S	22.0	12.70	5.16	4.76	0.8	○	○		0.2-0.5	1.5-11	
	TNMG220412-S	TNMG433-S	22.0	12.70	5.16	4.76	1.2	○	○		0.2-0.5	1.5-11	

Modelo	Descrição		Dimensão (mm)						Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251			Rotação	Corte	
	ISO	ANSI									fn	pf	
<p>Quebra Cavaco</p>	TNMM160408-DR	TNMG332-DR	16.5	9.52	5.16	3.81	0.8	○			0.3-0.8	2-8	
	TNMM160412-DR	TNMG333-DR	16.5	9.52	5.16	3.81	1.2	○			0.3-0.8	2-8	
	TNMM220408-DR	TNMG432-DR	22.0	12.70	7.95	5.16	0.8	○			0.3-0.8	3-12	
	TNMM220412-DR	TNMG433-DR	22.0	12.70	7.95	5.16	1.2	○			0.3-0.8	3-12	





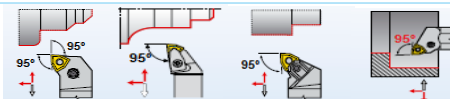
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K15		
YBG202	P20	M30		S30	
YBC251	P25				
YBG205		M15-M35			

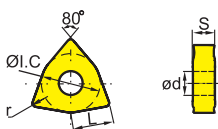
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	WNMA060404	WNMA331	6.5	9.52	3.81	4.76	0.4	○			0.1~0.4	0.5~3
	WNMA060408	WNMA332	6.5	9.52	3.81	4.76	0.8	○			0.1~0.4	0.8~3
	WNMA080404	WNMA431	8.7	12.70	5.16	4.76	0.4	○			0.1~0.4	0.5~5
	WNMA080408	WNMA432	8.7	12.70	5.16	4.76	0.8	○			0.1~0.4	0.8~5
	WNMA080412	WNMA433	8.7	12.70	5.16	4.76	1.2	○			0.1~0.4	1.2~5

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		L	IC	d	s	r	YBG202	YBG205			Rotação	Corte
	ISO	ANSI										fn	pf
 Quebra Cavaco	WNMG060404-EF	WNMG331-EF	6.5	9.52	3.81	4.76	0.4	×	○			0.06~0.3	0.5~2
	WNMG060408-EF	WNMG332-EF	6.5	9.52	3.81	4.76	0.8	×	×			0.06~0.3	0.8~2
	WNMG080404-EF	WNMG431-EF	8.7	12.70	5.16	4.76	0.4	×	○			0.06~0.3	0.5~4
	WNMG080408-EF	WNMG432-EF	8.7	12.70	5.16	4.76	0.8	×	×			0.06~0.3	0.8~4

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		L	IC	d	s	r	YBG202				Rotação	Corte
	ISO	ANSI										fn	pf
 Quebra Cavaco	WNMG060404-EM	WNMG331-EM	6.5	9.52	3.81	4.76	0.4	○				0.1~0.4	0.5~2
	WNMG060408-EM	WNMG332-EM	6.5	9.52	3.81	4.76	0.8	○				0.1~0.4	0.8~2
	WNMG080404-EM	WNMG431-EM	8.7	12.70	5.16	4.76	0.4	○				0.1~0.4	0.5~4
	WNMG080408-EM	WNMG432-EM	8.7	12.70	5.16	4.76	0.8	○				0.1~0.4	0.8~4

Aplicação





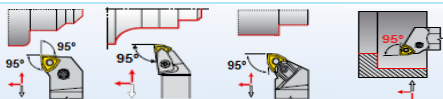
Classes	Norma ISO				
	P	M	K	S	H
YBD152			K05-K25		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

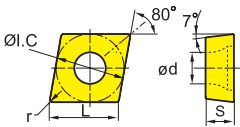
Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	WNMG060404-DM	WNMG331-DM	6.5	9.52	3.81	4.76	0.4	×	○	0.15-0.25	1.5-4
	WNMG060408-DM	WNMG332-DM	6.5	9.52	3.81	4.76	0.8	×	○	0.15-0.36	1.5-4
	WNMG080404-DM	WNMG431-DM	8.7	12.70	5.16	4.76	0.4	○	○	0.15-0.5	1.5-4
	WNMG080408-DM	WNMG432-DM	8.7	12.70	5.16	4.76	0.8	○	○	0.15-0.5	1.5-6
	WNMG080412-DM	WNMG432-DM	8.7	12.70	5.16	4.76	1.2	○	○	0.15-0.5	1.5-6

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBD152	YBC251	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	WNMG060404-S	WNMG331-S	6.5	9.52	3.81	4.76	0.4	○	○	0.15-0.25	1-4
	WNMG060408-S	WNMG332-S	6.5	9.52	3.81	4.76	0.8	○	○	0.2-0.36	1-4
	WNMG080404-S	WNMG431-S	8.7	12.70	5.16	4.76	0.4	○	○	0.2-0.5	1-6
	WNMG080408-S	WNMG432-S	8.7	12.70	5.16	4.76	0.8	○	○	0.2-0.5	1-6

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	WNMG060408-DR	WNMG332-DR	6.5	9.52	3.81	4.76	0.8	○		0.3-0.8	2-4
	WNMG060412-DR	WNMG332-DR	6.5	9.52	3.81	4.76	1.2	○		0.3-0.8	2-4
	WNMG080408-DR	WNMG432-DR	8.7	12.70	5.16	4.76	0.8	○		0.3-0.8	2-6
	WNMG080408-DR	WNMG433-DR	8.7	12.70	5.16	4.76	1.2	○		0.3-0.8	2-6

Aplicação



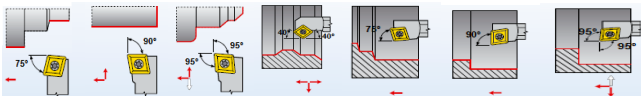


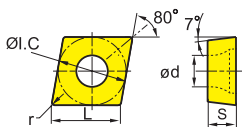
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YD201		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	CCGX060204-LC	CCGX21.51-LC	6.4	6.35	2.8	2.38	0.4	○		0.05-0.5	0.2-3
	CCGX09T304-LC	CCGX32.51-LC	9.7	9.52	4.4	3.97	0.4	○		0.05-0.5	0.4-3
	CCGX09T308-LC	CCGX32.52-LC	9.7	9.52	4.4	3.97	0.8	○		0.05-0.5	0.8-3
	CCGX120404-LC	CCGX431-LC	12.9	12.70	5.56	4.76	0.4	○		0.05-0.5	0.4-5
	CCGX120408-LC	CCGX432-LC	12.9	12.70	5.56	4.76	0.8	○		0.05-0.5	0.8-5


Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC252	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	CCMT060202-HF	CCMT21.50-HF	6.4	6.35	2.8	2.38	0.2	○	○	0.05-0.3	0.2-2
	CCMT060204-HF	CCMT21.51-HF	6.4	6.35	2.8	2.38	0.4	×	○	0.05-0.3	0.4-2
	CCMT09T302-HF	CCMT32.50-HF	9.7	9.52	4.4	3.97	0.2	○	○	0.05-0.3	0.2-4
	CCMT09T304-HF	CCMT32.51-HF	9.7	9.52	4.4	3.97	0.4	×	○	0.05-0.3	0.4-4
	CCMT09T308-HF	CCMT32.52-HF	9.7	9.52	4.4	3.97	0.8	○	○	0.05-0.3	0.8-4


Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	CCMT060202-EF	CCMT21.50-EF	6.4	6.35	2.8	2.38	0.2	○		0.05-0.3	0.2-2
	CCMT060204-EF	CCMT21.51-EF	6.4	6.35	2.8	2.38	0.4	○		0.05-0.3	0.4-2
	CCMT09T304-EF	CCMT32.51-EF	9.7	9.52	4.4	3.97	0.4	×		0.05-0.3	0.4-4
	CCMT09T308-EF	CCMT32.52-EF	9.7	9.52	4.4	3.97	0.8	○		0.05-0.3	0.8-4


Aplicação




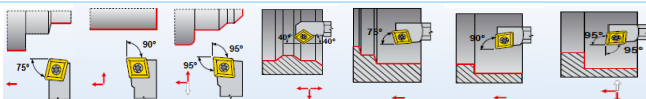
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

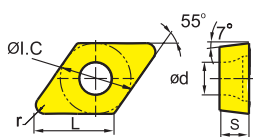
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	CCMT060204-EM	CCMT21.51-EM	6.4	6.35	2.8	2.38	0.4	○			0.1~0.4	0.4~3
	CCMT060208-EM	CCMT21.52-EM	6.4	6.35	2.8	2.38	0.8	○			0.1~0.4	0.8~3
	CCMT09T304-EM	CCMT32.51-EM	9.7	9.52	4.4	3.97	0.4	○			0.1~0.4	0.4~4
	CCMT09T308-EM	CCMT32.52-EM	9.7	9.52	4.4	3.97	0.8	○			0.1~0.4	0.8~4

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	CCMT060204-HM	CCMT21.51-HM	6.4	6.35	2.8	2.38	0.4	○	○	○	0.1~0.4	0.4~3
	CCMT060208-HM	CCMT21.52-HM	6.4	6.35	2.8	2.38	0.8	○	○	○	0.1~0.4	0.8~3
	CCMT09T304-HM	CCMT32.51-HM	9.7	9.52	4.4	3.97	0.4	○	○		0.1~0.4	0.4~4.5
	CCMT09T308-HM	CCMT32.52-HM	9.7	9.52	4.4	3.97	0.8	×	×	○	0.1~0.4	0.8~4.5


Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251		Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	CCMT09T304-HR	CCMT32.51-HR	9.7	9.52	4.4	3.97	0.4	○	○		0.3~0.7	2~5
	CCMT09T308-HR	CCMT32.52-HR	9.7	9.52	4.4	3.97	0.8	○	○		0.3~0.7	2~5
	CCMT120404-HR	CCMT431-HR	12.9	12.70	5.56	4.76	0.4	○	○		0.3~0.7	3~7
	CCMT120408-HR	CCMT432-HR	12.9	12.70	5.56	4.76	0.8	○	○		0.3~0.7	3~7


Aplicação






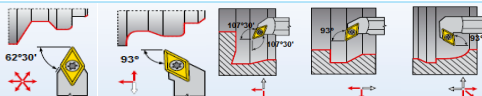
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

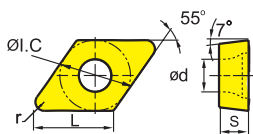
Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YD201		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	DCGX070202-LC	DCGX21.50-LC	7.8	6.35	2.8	2.38	0.2	○		0.05~0.5	0.2~3
	DCGX070204-LC	DCGX21.51-LC	7.8	6.35	2.8	2.38	0.4	○		0.05~0.5	0.4~3
	DCGX11T302-LC	DCGX32.50-LC	11.6	9.52	4.4	3.97	0.2	○		0.05~0.5	0.8~5
	DCGX11T304-LC	DCGX32.51-LC	11.6	9.52	4.4	3.97	0.4	○		0.05~0.5	0.4~5
	DCGX11T308-LC	DCGX32.52-LC	11.6	9.52	4.4	3.97	0.8	○		0.05~0.5	0.8~5

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	DCMT070202-HF	DCMT21.50-HF	7.8	6.35	2.8	2.38	0.2	○	○	0.05~0.3	0.2~2
	DCMT070204-HF	DCMT21.51-HF	7.8	6.35	2.8	2.38	0.4	×	○	0.05~0.3	0.4~2
	DCMT11T302-HF	DCMT32.50-HF	11.6	9.52	4.4	3.97	0.2	○	○	0.05~0.3	0.4~4
	DCMT11T304-HF	DCMT32.51-HF	11.6	9.52	4.4	3.97	0.4	○	○	0.05~0.3	0.8~4
	DCMT11T308-HF	DCMT32.51-HF	11.6	9.52	4.4	3.97	0.8	○	○		

Modelo	Descrição		Dimensão (mm)					Classes		Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202		Rotação	Corte
	ISO	ANSI								fn	pf
 Quebra Cavaco	DCMT070202-EF	DCMT21.50-EF	7.8	6.35	2.8	2.38	0.2	○		0.05~0.3	0.2~2
	DCMT070204-EF	DCMT21.51-EF	7.8	6.35	2.8	2.38	0.4	○		0.05~0.3	0.4~2
	DCMT11T302-EF	DCMT32.50-EF	11.6	9.52	4.4	3.97	0.2	○		0.05~0.3	0.2~4
	DCMT11T304-EF	DCMT32.51-EF	11.6	9.52	4.4	3.97	0.4	×		0.05~0.3	0.4~4
	DCMT11T308-EF	DCMT32.51-EF	11.6	9.52	4.4	3.97	0.8	○		0.05~0.3	0.8~4

Aplicação





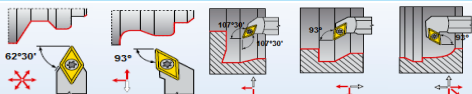
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

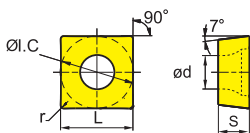
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	DCMT-07.02.04-EM	DCMT-21.51-EM	7.8	6.35	2.8	2.38	0.4	○			0.1-0.4	0.4-3
	DCMT-11.T3.04-EM	DCMT-32.51-EM	11.6	9.52	4.4	3.97	0.4	○			0.1-0.4	0.4-4
	DCMT-11.T3.08-EM	DCMT-32.51-EM	11.6	9.52	4.4	3.97	0.8	○			0.05-0.3	0.8-4

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	DCMT-07.02.04-HM	DCMT-21.51-HM	7.8	6.35	2.8	2.38	0.4	×	○	○	0.1-0.4	0.4-3
	DCMT-07.02.08-HM	DCMT-21.52-HM	7.8	6.35	2.8	2.38	0.8	○	○	○	0.1-0.4	0.8-3
	DCMT-11.T3.04-HM	DCMT-32.51-HM	11.6	9.52	4.4	3.97	0.4	×	×	○	0.1-0.4	0.4-4.5
	DCMT-11.T3.08-HM	DCMT-32.51-HM	11.6	9.52	4.4	3.97	0.8	○	×	○	0.1-0.4	0.8-4.5



Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	DCMT-07.02.04-HR	DCMT-21.51-HR	7.8	6.35	2.8	2.38	0.4	○	○	○	0.3-0.7	1.0-3.0
	DCMT-07.02.08-HR	DCMT-21.52-HR	7.8	6.35	2.8	2.38	0.8	○	○	○	0.3-0.7	1.0-3.0
	DCMT-11.T3.04-HR	DCMT-32.51-HR	11.6	9.52	4.4	3.97	0.4	○	○	○	0.3-0.7	2.0-5.0
	DCMT-11.T3.08-HR	DCMT-32.51-HR	11.6	9.52	4.4	3.97	0.8	○	○	○	0.3-0.7	2.0-5.0



Aplicação







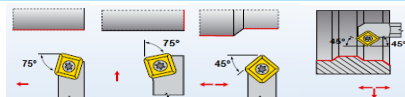
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YD201			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	SCGX09T304-LC	SCGX32.51-LC	9.52	9.52	4.4	3.97	0.4	○			0.05-0.5	0.2-3
	SCGX09T308-LC	SCGX32.52-LC	9.52	9.52	4.4	3.97	0.8	○			0.05-0.5	0.4-3
	SCGX-120404-LC	SCGX431-LC	12.7	12.70	5.56	4.76	0.4	○			0.05-0.5	0.4-5
	SCGX-120408-LC	SCGX432-LC	12.7	12.70	5.56	4.76	0.8	○			0.05-0.5	0.8-5

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	SCMT09T302-EF	SCMT32.50-EF	9.52	9.52	4.4	3.97	0.2	○			0.05-0.3	0.2-4
	SCMT09T304-EF	SCMT32.51-EF	9.52	9.52	4.4	3.97	0.4	×			0.05-0.3	0.4-4
	SCMT09T308-EF	SCMT32.52-EF	9.52	9.52	4.4	3.97	0.8	×			0.05-0.3	0.8-4

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBC251	YBC252		Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	SCMT09T304-HM	SCMT32.51-HM	9.52	9.52	4.4	3.97	0.4	×	○		0.1-0.4	0.4-4
	SCMT09T308-HM	SCMT32.52-HM	9.52	9.52	4.4	3.97	0.8	×	○		0.1-0.4	0.8-4
	SCMT120404-HM	SCMT431-HM	12.7	12.70	5.56	4.76	0.4	×	○		0.1-0.4	0.4-6
	SCMT120408-HM	SCMT432-HM	12.7	12.70	5.56	4.76	0.8	×	○		0.1-0.4	0.8-6

Aplicação





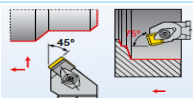
	Classes		Norma ISO				
	P	M	K	S	H		
	YD201		K15-K35				
	YBG202	P10-P30	M10-M25	S10-S20			
	YBC251	P10-P30					
YBC252	P10-P35						

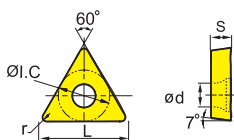
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	SPUN-09.03.04-	SPUN-321-	9.52	9.52	--	3.18	0.4	○			0.05-0.3	0.4-2
	SPUN-09.03.08-	SPUN-322-	9.52	9.52	--	3.18	0.8	○			0.05-0.3	0.8-2
	SPUN-12.03.04-	SPUN-421-	12.7	12.7	--	3.18	0.4	○			0.05-0.3	0.4-4
	SPUN-12.03.08-	SPUN-422-	12.7	12.7	--	3.18	0.8	○			0.05-0.3	0.8-4

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco 	SPGN-09.03.04-	SPGN-321-	9.52	9.52	--	3.18	0.4	○			0.05-0.3	0.4-2
	SPGN-09.03.08-	SPGN-322-	9.52	9.52	--	3.18	0.8	○			0.05-0.3	0.8-2
	SPGN-12.03.04-	SPGN-421-	12.7	12.7	--	3.18	0.4	○			0.05-0.3	0.4-4
	SPGN-12.03.08-	SPGN-422-	12.7	12.7	--	3.18	0.8	○			0.05-0.3	0.8-4


Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		L	IC	d	s	r	YBC251	YBC252			Rotação	Corte
	ISO	ANSI										fn	pf
 Quebra Cavaco 	SPMR-09.03.04-S	SPMR-321-S	9.52	9.52	--	3.18	0.4	○	○			0.1-0.4	0.4-4
	SPMR-09.03.08-S	SPMR-322-S	9.52	9.52	--	3.18	0.8	○	○			0.1-0.4	0.8-4
	SPMR-12.03.04-S	SPMR-421-S	12.7	12.7	--	3.18	0.4	○	○			0.1-0.4	0.4-6
	SPMR-12.03.08-S	SPMR-422-S	12.7	12.7	--	3.18	0.8	○	○			0.1-0.4	0.8-6


Aplicação






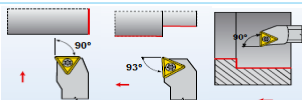
Classes	Norma ISO				
	P	M	K	S	H
YD101				S05-S15	
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

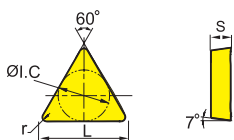
Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	YD101	Rotação	Corte
ISO	ANSI	fn										pf	
 Quebra Cavaco	TCGX110202-LC	TCGX21.50-LC	11.0	6.35	2.8	2.38	0.2				○	0.05~0.5	0.2~3.0
	TCGX110204-LC	TCGX21.51-LC	11.0	6.35	2.8	2.38	0.4				○	0.05~0.5	0.4~3.0
	TCGX16T302-LC	TCGX32.50-LC	16.5	9.52	4.4	3.97	0.2				○	0.05~0.5	0.2~5.0
	TCGX16T304-LC	TCGX32.51-LC	16.5	9.52	4.4	3.97	0.4				○	0.05~0.5	0.4~5.0
	TCGX16T308-LC	TCGX32.52-LC	16.5	9.52	4.4	3.97	0.8				○	0.05~0.5	0.8~5.0

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	YD201	Rotação	Corte
ISO	ANSI	fn										pf	
 Quebra Cavaco	TCMT110202-HF	TCMT21.50-HF	11.0	6.35	2.8	2.38	0.2	○				0.05~0.3	0.2~2.0
	TCMT110204-HF	TCMT21.51-HF	11.0	6.35	2.8	2.38	0.4	○				0.05~0.3	0.4~2.0
	TCMT16T302-HF	TCMT32.50-HF	16.5	9.52	4.4	3.97	0.2	○				0.05~0.3	0.2~4.0
	TCMT16T304-HF	TCMT32.51-HF	16.5	9.52	4.4	3.97	0.4	○				0.05~0.3	0.4~4.0
	TCMT16T308-HF	TCMT32.52-HF	16.5	9.52	4.4	3.97	0.8	○				0.05~0.3	0.8~4.0

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	YD201	Rotação	Corte
ISO	ANSI	fn										pf	
 Quebra Cavaco	TCMT110204-HM	TCMT21.51-HM	11.0	6.35	2.8	2.38	0.4		×	○		0.1~0.4	0.4~4.0
	TCMT110208-HM	TCMT21.52-HM	11.0	6.35	2.8	2.38	0.8		×	○		0.1~0.4	0.4~4.0
	TCMT16T304-HM	TCMT32.51-HM	16.5	9.52	4.4	3.97	0.4		×	○		0.1~0.4	0.4~6.0
	TCMT16T308-HM	TCMT32.51-HM	16.5	9.52	4.4	3.97	0.8		×	○		0.1~0.4	0.8~6.0

Aplicação





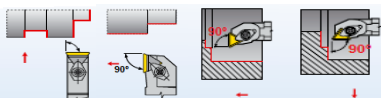
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YBM251	P15-P40	M10-M30			
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC351	P20-P40				

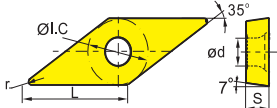
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC351	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	TPUN110304	TPUN221	11.0	6.35	--	3.18	0.4		○	○	0.05~0.3	0.4~2.0
	TPUN160304	TPUN321	16.5	9.52	--	3.18	0.4		○	○	0.05~0.3	0.4~4.0
	TPGN110304	TPGN221	11.0	6.35	--	3.18	0.4		○	○	0.05~0.3	0.4~2.0
	TPGN160304	TPGN321	16.5	9.52	--	3.18	0.4		○	○	0.05~0.3	0.4~4.0
	TPGN160308	TPGN322	16.5	9.52	--	3.18	0.8		○	○	0.05~0.3	0.8~4.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBM251			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	TPMR110304-F	TPMR221-F	11.0	6.35	--	3.18	0.4		○		0.1~0.4	0.4~4.0
	TPMR110308-F	TPMR222-F	11.0	6.35	--	3.18	0.8		○		0.1~0.4	0.8~4.0
	TPMR160304-F	TPMR321-F	16.5	9.52	--	3.18	0.4		×		0.1~0.4	0.4~6.0
	TPMR160308-F	TPMR322-S	16.5	9.52	--	3.18	0.8		○		0.1~0.4	0.8~6.0
	TPMR160312-F	TPMR323-S	16.5	9.52	--	3.18	1.2		○		0.1~0.4	0.8~6.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBM251			Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	TPMR110304-M	TPMR221-M	11.0	6.35	--	3.18	0.4		×		0.1~0.4	0.4~4.0
	TPMR110308-M	TPMR222-M	11.0	6.35	--	3.18	0.8		○		0.1~0.4	0.8~4.0
	TPMR160304-M	TPMR321-M	16.5	9.52	--	3.18	0.4		×		0.1~0.4	0.4~6.0
	TPMR160308-M	TPMR322-M	16.5	9.52	--	3.18	0.8		×		0.1~0.4	0.8~6.0
	TPMR160312-M	TPMR323-M	16.5	9.52	--	3.18	1.2		○		0.1~0.4	0.8~6.0

Aplicação



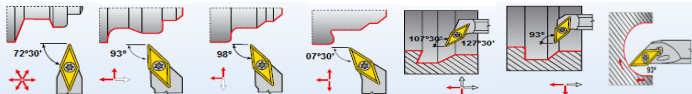


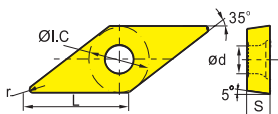
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	YD201	Rotação	Corte
ISO	ANSI	fn										pf	
 Quebra Cavaco	VCGX110302-LC	VCGX220-LC	11.0	6.35	2.8	3.18	0.2				○	0.05-0.5	0.2-3.0
	VCGX110304-LC	VCGX221-LC	11.0	6.35	2.8	3.18	0.4				○	0.05-0.5	0.4-3.0
	VCGX160402-LC	VCGX330-LC	16.5	9.52	4.4	4.76	0.2				○	0.05-0.5	0.2-5.0
	VCGX160404-LC	VCGX331-LC	16.5	9.52	4.4	4.76	0.4				○	0.05-0.5	0.4-5.0
	VCGX160408-LC	VCGX332-LC	16.5	9.52	4.4	4.76	0.8				○	0.05-0.5	0.8-5.0

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	YD201	Rotação	Corte
ISO	ANSI	fn										pf	
 Quebra Cavaco	VCMT110302-EF	VCMT220-EF	11.0	6.35	2.8	3.18	0.2	○	○			0.05-0.3	0.2-2.5
	VCMT110304-EF	VCMT221-EF	11.0	6.35	2.8	3.18	0.4	○	○			0.05-0.3	0.4-2.5
	VCMT160404-EF	VCMT331-EF	16.5	9.52	4.4	4.76	0.4	○	○			0.05-0.3	0.4-5.0
	VCMT160408-EF	VCMT331-EF	16.5	9.52	4.4	4.76	0.8	○	○			0.05-0.3	0.8-5.0

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	YD201	Rotação	Corte
ISO	ANSI	fn										pf	
 Quebra Cavaco	VCMT110304-HM	VCMT221-HM	11.0	6.35	2.8	3.18	0.4		○	○		0.1-0.4	0.4-4.0
	VCMT160404-HM	VCMT331-HM	16.5	9.52	4.4	4.76	0.4		○	○		0.1-0.4	0.8-4.0
	VCMT160408-HM	VCMT331-HM	16.5	9.52	4.4	4.76	0.8		○	○		0.1-0.4	0.4-6.0

Aplicação




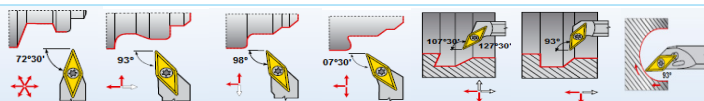
Classes	Norma ISO				
	P	M	K	S	H
YD201			K15-K35		
YBG202	P10-P30	M10-M25		S10-S20	
YBC251	P10-P30				
YBC252	P10-P35				

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	VBMT110302-SF	VBMT220-SF	11.0	6.35	2.8	3.18	0.2	○	○		0.05-0.3	0.2-2.5
	VBMT110304-SF	VBMT221-SF	11.0	6.35	2.8	3.18	0.4	○	○		0.05-0.3	0.4-2.5
	VBMT160402-SF	VBMT330-SF	16.5	9.52	4.4	4.76	0.2	○	○		0.05-0.3	0.2-5.0
	VBMT160404-SF	VBMT331-SF	16.5	9.52	4.4	4.76	0.4	○	○		0.05-0.3	0.4-5.0







Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	VBMT110302-EF	VBMT220-EF	11.0	6.35	2.8	3.18	0.2	○	○		0.05-0.3	0.2-2.5
	VBMT110304-EF	VBMT221-EF	11.0	6.35	2.8	3.18	0.4	○	○		0.05-0.3	0.4-2.5
	VBMT160404-EF	VBMT331-EF	16.5	9.52	4.4	4.76	0.4	×	○		0.05-0.3	0.2-5.0
	VBMT160408-EF	VBMT332-EF	16.5	9.52	4.4	4.76	0.8	×	○		0.05-0.3	0.4-5.0







Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		L	IC	d	s	r	YBG202	YBC251	YBC252	Rotação	Corte
	ISO	ANSI									fn	pf
 Quebra Cavaco	VBMT110304-HM	VBMT221-HM	11.0	6.35	2.8	3.18	0.4	×	○		0.1-0.4	0.4-4.0
	VBMT160404-HM	VBMT331-HM	16.5	9.52	4.4	4.76	0.4	×	×		0.1-0.4	0.8-4.0
	VBMT160408-HM	VBMT332-HM	16.5	9.52	4.4	4.76	0.8	○	×		0.1-0.4	0.4-6.0







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













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





Modelo						
Pagina	35	35	36	36	37	37





Modelo						
Pagina	38	38	39	39	40	40







Modelo						
Pagina	41	41	42	42	43	43














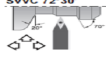


Modelo						
Pagina	44	44	45	45	46	46

Modelo						
Pagina	47	47	48	48	49	49

Modelo						
Pagina	50	50	51	51	52	52

Modelo						
Pagina	53	53	54	54		

Modelo						
Pagina	55	55	56	56	57	57

Modelo						
Pagina	58	58	59	59	60	60
Modelo						
Pagina	61	61	62	62	63	63
Modelo						
Pagina	64	64	65	65		

Suporte Torneamento Externo

P C L N R 25 25 M 12

1 2 3 4 5 6 6 7 8

1	
Sistema de Fixação	
D	Dupla fixação
M	Fixação múltipla
P	Fixação por alavanca
S	Fixação por parafuso

4	
Ângulo Folga do Inserto	
C	7° positivos
N	negativo
E	20° positivos

6	
Tamanho da Haste (mm) (altura e largura)	
8	8
10	10
12	12
16	16
20	20
25	25
32	32

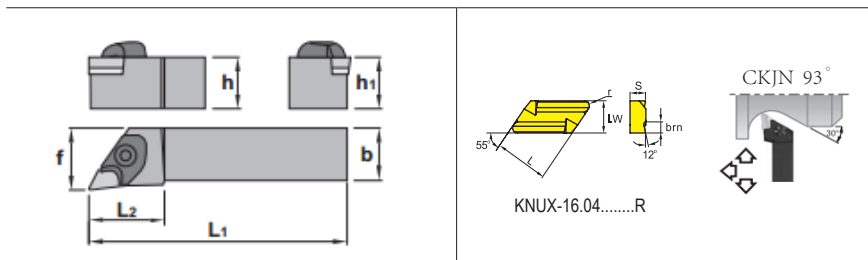
7	
Comprimento Ferramenta	
D	60
E	70
F	80
H	100
K	125
M	150
P	170
Q	180
R	200

2	
Formato	
C	losango 80°
D	losango 55°
R	redondo
S	quadrado
T	triangular
V	losango 35°
W	trigon

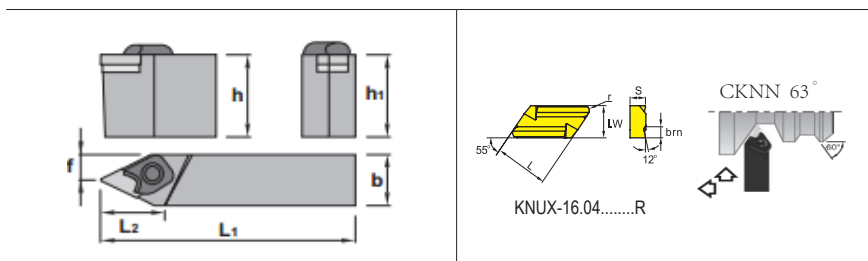
5	
Sentido de Corte	
R	Direito
L	Esquerdo
N	Neutro

3	
Ângulo de Posição	
A	90° sem offset
B	75°
D	45° neutro
E	60°
F	90°
G	90° com offset
J	93°
K	75°
L	95°
N	62°30'
P	117°30'
Q	105°
S	45°
T	60°
V	72°30'
Z	especial

8						
Comprimento de Aresta de Corte						
Círculo inscrito	Formato do Inserto					
	R	T	S	C	D	V
6.00	-	-	06	-	-	-
6.35	-	11	-	06	07	11
7.94	-	13	-	-	-	-
8.00	-	-	08	-	-	-
9.525	09	16	-	09	11	16
10.00	-	-	10	-	-	-
12.00	-	-	12	-	-	-
12.70	12	22	-	12	15	-
15.875	15	27	-	16	-	-
16.00	-	-	16	-	-	-
19.05	19	-	-	19	-	-
20.00	-	-	20	-	-	-
25.00	-	-	25	-	-	-
25.40	25	-	-	-	-	-
32.00	-	-	32	-	-	-

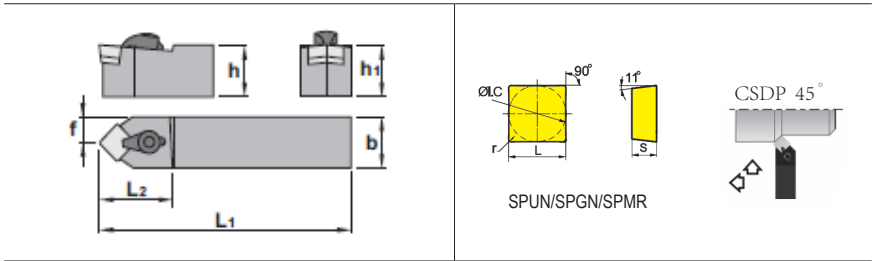


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CKJNR/L-2020-K16	20	20	20	30	34	125
CKJNR/L-2525-M16	25	25	25	32	34	150
CKJNR/L-3225-P16	32	32	25	32	34	170
CKJNR/L-3232-P16	32	32	32	32	34	170

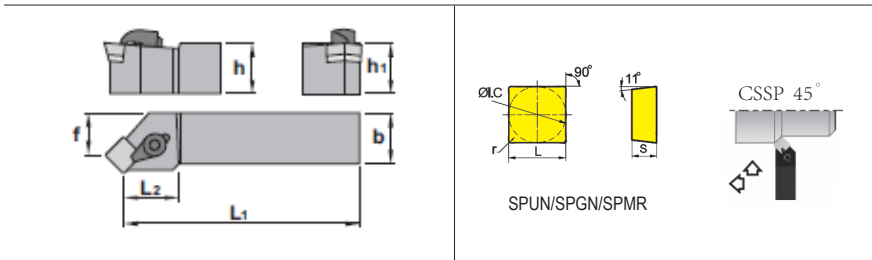


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CKNNR/L-4025-R16	40	40	25	14	34	200
CKNNR/L-5032-S16	32	32	32	17	34	250

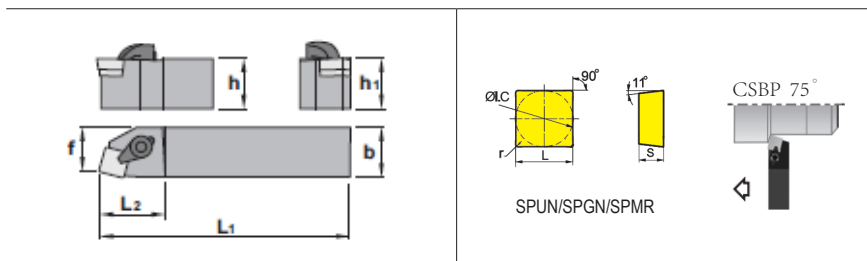
Torneamento Externo



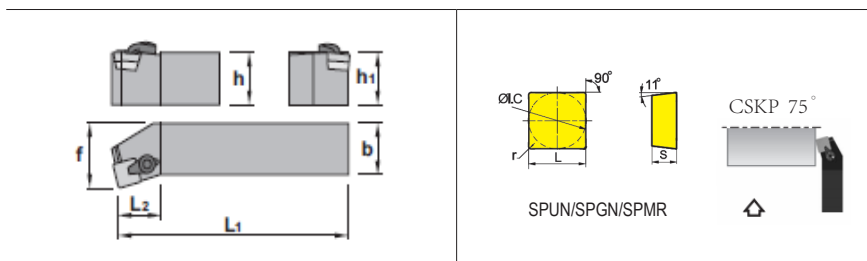
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CSDPR/L-1212-F09	12	12	12	7.6	22	80
CSDPR/L-1616-H09	16	16	16	11.6	22	100
CSDPR/L-2020-K12	20	20	20	14	28	125
CSDPR/L-2525-M12	25	25	25	19	28	150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CSSPR/L-1212-F09	12	12	12	16	22	80
CSSPR/L-1616-H09	16	16	16	22	22	100
CSSPR/L-2020-K12	20	20	20	22	28	125
CSSPR/L-2525-M12	25	25	25	28	28	150

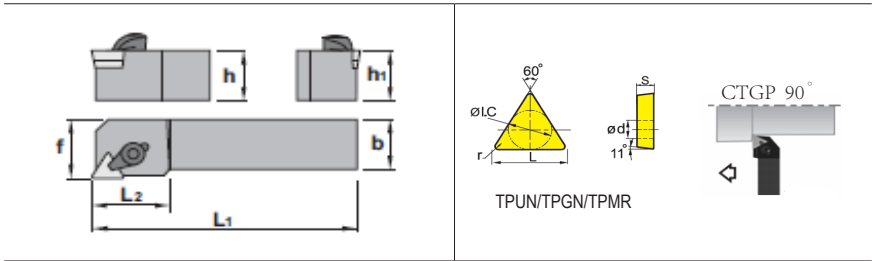


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CSBPR/L-1212-F09	12	12	12	11	22	80
CSBPR/L-1616-H09	16	16	16	13	22	100
CSBPR/L-2020-K12	20	20	20	17	34	125
CSBPR/L-2525-M12	25	25	25	22	34	150

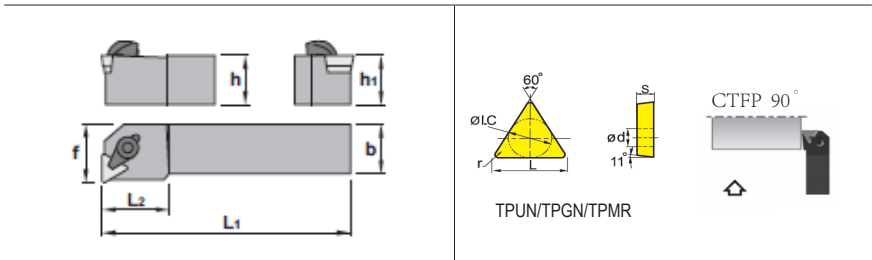


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CSKPR/L-1212-F09	12	12	12	16	16	80
CSKPR/L-1616-H09	16	16	16	20	20	100
CSKPR/L-2020-K12	20	20	20	25	28	125
CSKPR/L-2525-M12	25	25	25	32	28	150

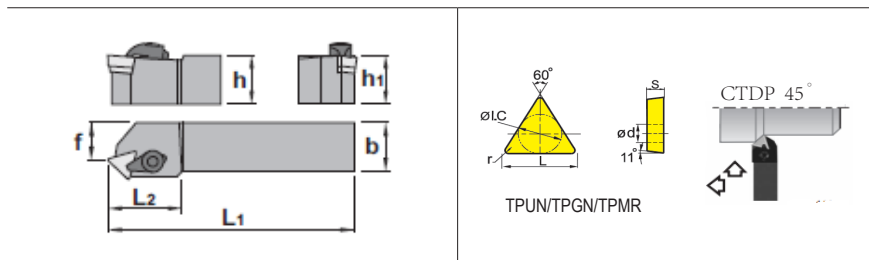
Torneamento Externo



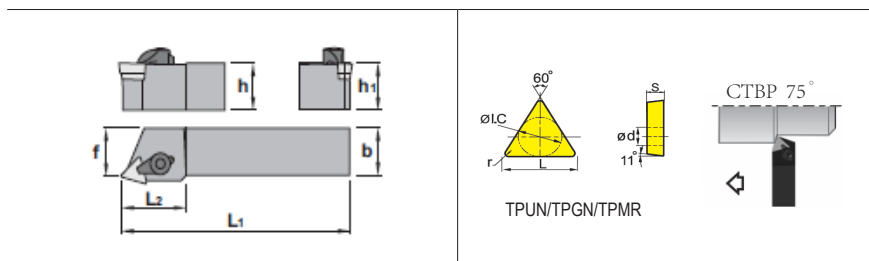
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CTGPR/L-1212-F11	12	12	12	7.6	18	80
CTGPR/L-1616-H11	16	16	16	11.6	22	100
CTGPR/L-2020-K16	20	20	20	14	28	125
CTGPR/L-2525-M16	25	25	25	19	28	150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CTFPR/L-1212-F09	12	12	12	18	22	80
CTFPR/L-1616-H09	16	16	16	22	22	100
CTFPR/L-2020-K12	20	20	20	22	28	125
CTFPR/L-2525-M12	25	25	25	22	28	150

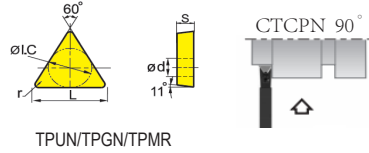
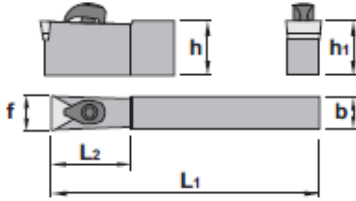


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CTDPR-1212-F09	12	12	12	6.3	18	80
CTDPR-1616-H09	16	16	16	10.3	22	100
CTDPR-2020-K12	20	20	20	12.2	28	125
CTDPR-2525-M12	25	25	25	17.2	28	150

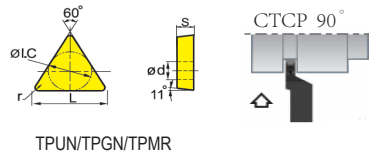
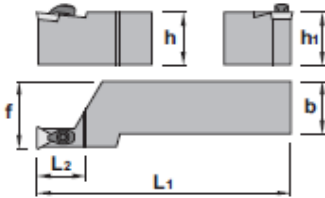


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CTBPR/L-1212-F11	12	12	12	11	18	80
CTBPR/L-1616-H11	16	16	16	13	22	100
CTBPR/L-2020-K16	20	20	20	17	28	125
CTBPR/L-2525-M16	25	25	25	22	28	150

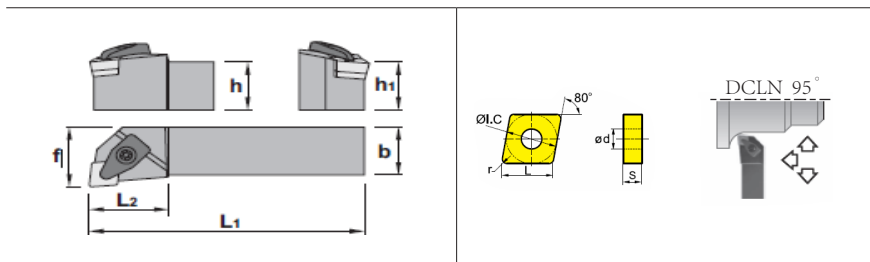
Torneamento Externo



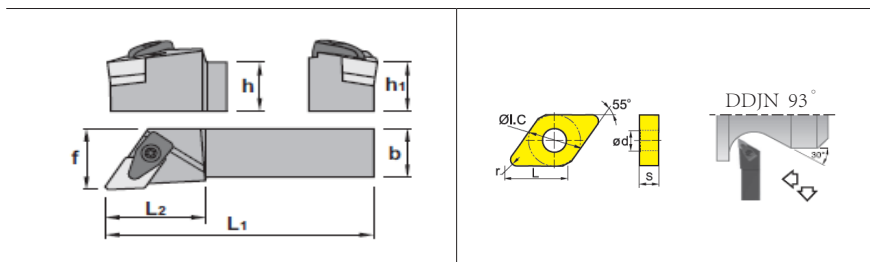
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CTCPN1009-E11	10	12	12	11	22	70
CTCPN2009-K11	20	16	16	11	22	125
CTCPN2509-R11	25	20	20	11	22	200
CTCPN2513-R16	25	25	25	16	28	200



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
CTCPR/L-1212-F11	10	12	12	16	22	80
CTCPR/L-1616-H11	20	16	16	20	22	100
CTCPR/L-2020-K11	25	20	20	25	22	125
CTCPR/L-2525-M11	25	25	25	32	22	150

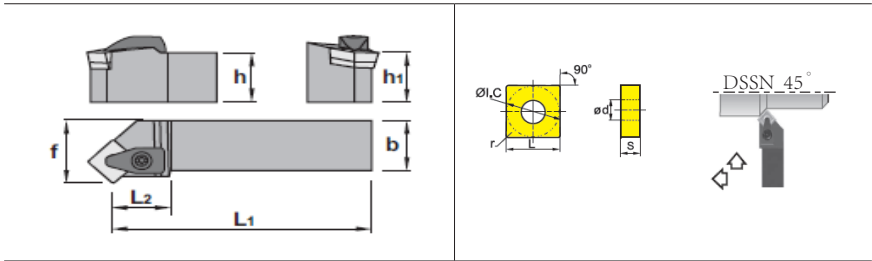


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
DCLNR/L-2020-K12	20	20	20	25	28	125
DCLNR/L-2525-M12	25	25	25	32	28	150
DCLNR/L-3232-P12	32	32	32	40	28	170
DCLNR/L-3232-P19	32	32	32	40	42	170

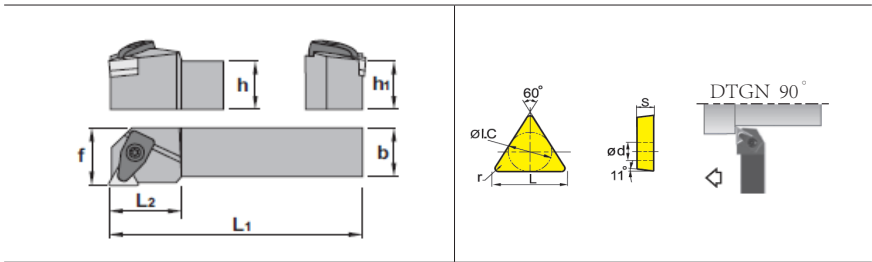


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
DDJNR/L2020-K15	20	20	20	25	34	125
DDJNR/L2525-M15	25	25	25	32	34	150
DDJNR/L3232-P15	32	32	32	40	34	170

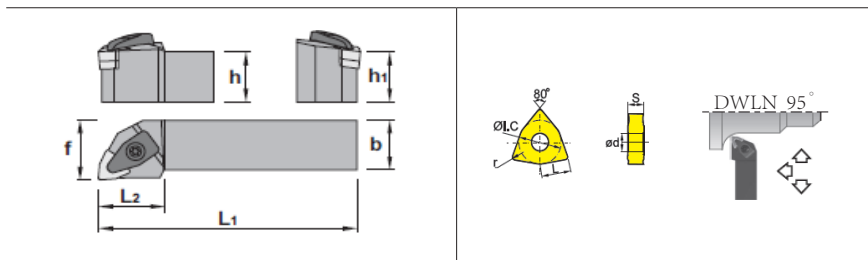
Torneamento Externo



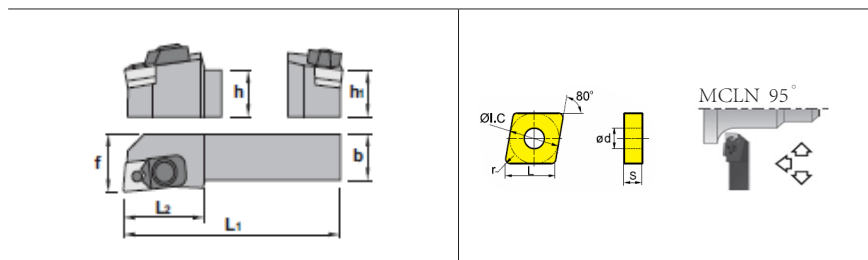
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
DSSNR/L2020-K12	20	20	20	25	28	125
DSSNR/L2525-M12	25	25	25	32	28	150
DSSNR/L3225-P12	32	32	25	32	28	170
DSSNR/L3232-P19	32	32	32	40	40	170



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
DTGNR/L200-K16	20	20	20	25	28	125
DTGNR/L2525-M16	25	25	25	32	28	150
DTGNR/L2525-M22	25	25	25	32	34	150
DTGNR/L3232-P22	32	32	32	40	34	170

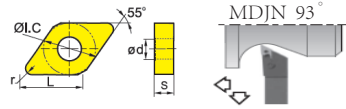
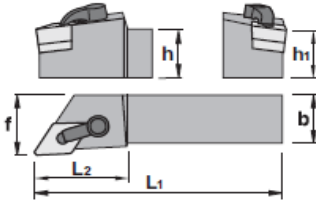


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
DWLNR/L2525-M08	25	25	25	32	34	150
DWLNR/L3232-P08	32	32	25	40	34	170

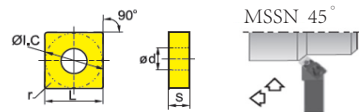
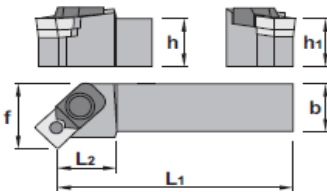


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MCLNR/L2020-K12	20	20	20	25	34	125
MCLNR/L2525-M12	25	25	25	32	34	150
MCLNR/L3225-P12	32	32	25	32	34	170
MCLNR/L2525-M19	25	25	25	32	42	150

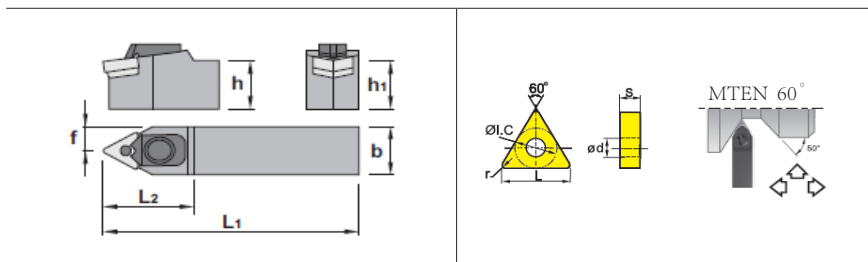
Torneamento Externo



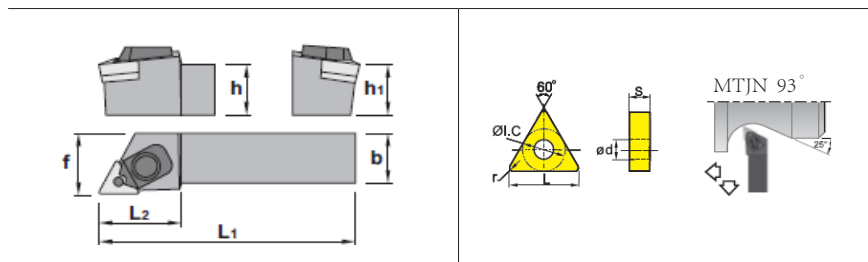
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MDJNR/L2020-K15	20	20	20	25	34	125
MDJNR/L2525-M15	25	25	25	32	34	150
MDJNR/L3225-P15	32	32	25	32	34	170



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MSSNR/L-4025-R16	20	20	20	27	28	125
MSSNR/L-5032-S16	25	25	25	32	28	150

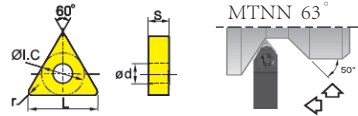
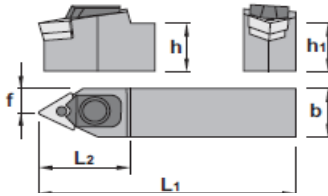


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MTENR/L2020-K16	20	20	20	10.5	34	125
MTENR/L2525-M16	25	25	25	13.0	34	150
MTENR/L3225-P16	32	32	25	13.0	34	170
MTENR/L2525-M22	25	25	25	13.0	42	150

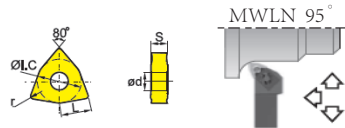
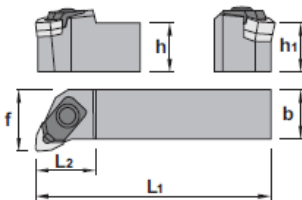


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MTJNR/L2020-K16	20	20	20	25	34	125
MTJNR/L2525-M16	25	25	25	32	34	150
MTJNR/L3225-P16	32	32	25	32	34	170
MTJNR/L2525-M22	25	25	25	32	38	150

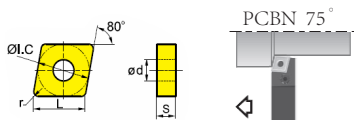
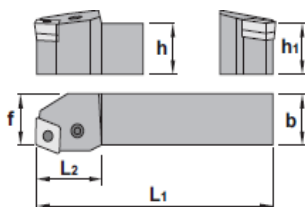
Torneamento Externo



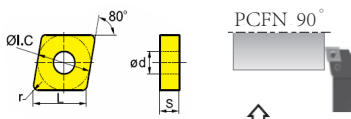
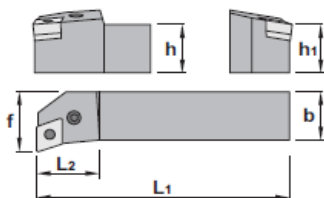
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MTNNR/L2020-K16	20	20	20	10.0	34	125
MTNNR/L2525-M16	25	25	25	12.5	34	150
MTNNR/L3225-P16	32	32	25	12.5	34	170
MTNNR/L2525-M22	25	25	25	12.5	42	150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
MWLN/L1616-H06	16	16	16	20	15	10
MWLN/L2020-K06	20	20	20	25	22	125
MWLN/L2525-M06	25	25	25	32	28	150
MWLN/L2020-K08	20	20	20	25	34	125

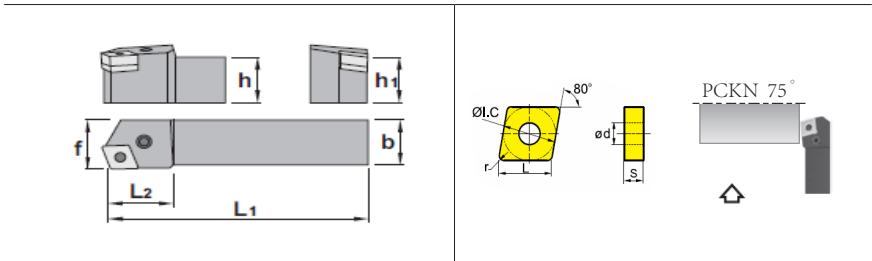


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PCBNR/L2020-K12	20	20	20	17	28	125
PCBNR/L2525-M12	25	25	25	22	28	150
PCBNR/L2525-M16	25	25	25	22	34	150
PCBNR/L3232-P16	32	32	32	22	34	170

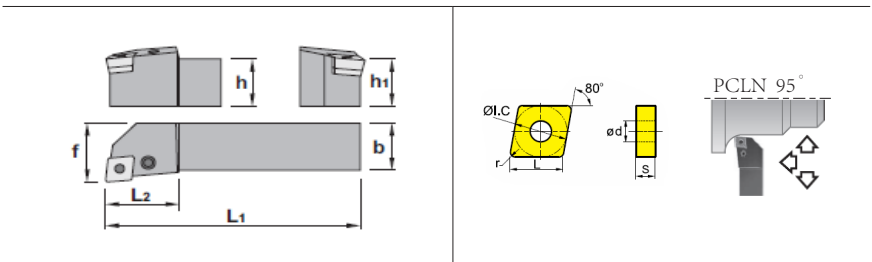


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PCFNRL2525-M12	25	25	25	32	28	150
PCFNRL2525-M16	25	25	25	32	34	150
PCFNRL3225-P16	32	32	32	32	34	170
PCFNRL3232-P16	32	32	32	40	34	170

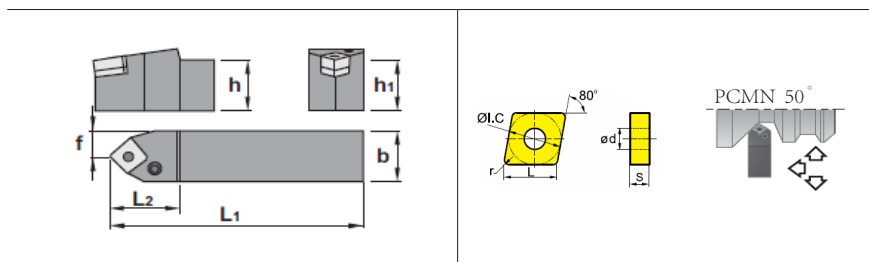
Torneamento Externo



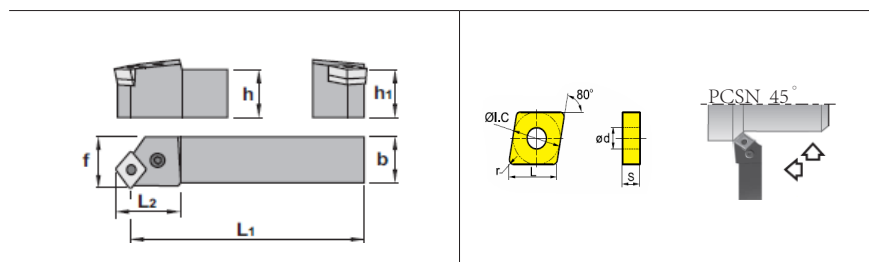
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PCKNR/L2020-K12	20	20	20	25	28	125
PCKNR/L2525-M12	25	25	25	32	28	150
PCKNR/L3225-P12	32	32	32	32	28	170
PCKNR/L3232-P19	32	32	32	40	34	170



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PCLNR/L 1616-H09	16	20	16	20	25	100
PCLNR/L 2020-K09	20	25	20	25	27	125
PCLNR/L 2525-M09	25	32	25	32	27	150
PCLNR/L 1616-H12	16	32	16	20	26	100

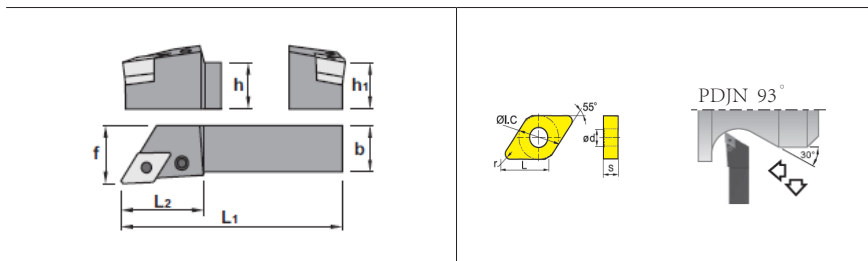


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PCMNRL2020-K12	20	20	20	10.0	34	125
PCMNRL2525-M12	25	25	25	12.5	34	150
PCMNRL3225-P12	32	32	25	12.5	34	170
PCMNRL3232-P19	32	32	32	16.0	42	170

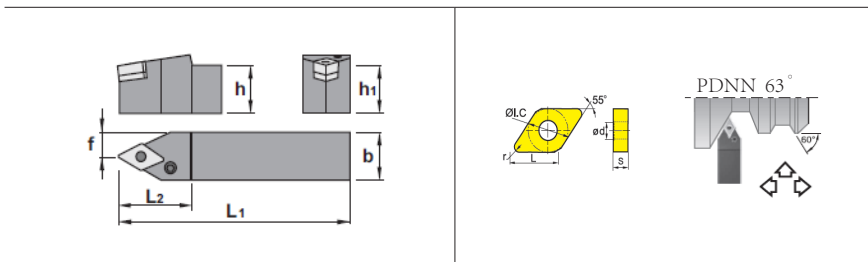


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PCSNR/L2020-K12	20	20	20	25	28	125
PCSNR/L2525-M12	25	25	25	32	28	150
PCSNR/L2525-M16	25	25	25	32	34	150
PCSNR/L3225-P16	32	32	25	32	34	170

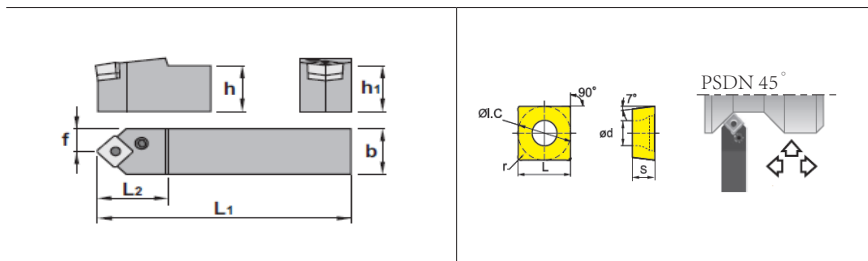
Torneamento Externo



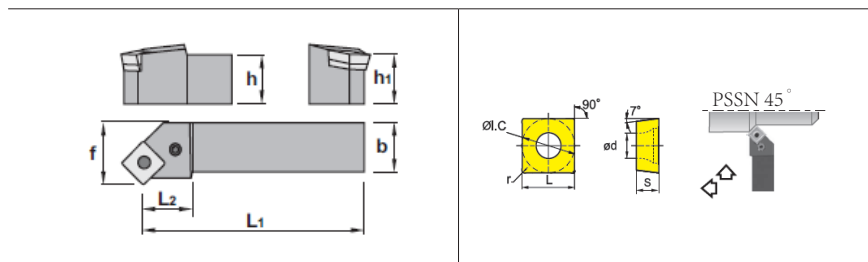
Codigo ISO	Medidas(mm)						
	h1	h	b	f	L2	L1	
PDJNR/L 1616-H11	16	16	16	20	28	100	
PDJNR/L 2020-K11	20	20	20	25	28	125	
PDJNR/L 2525-M11	25	25	25	32	28	150	
PDJNR/L 3225-P11	32	32	25	32	28	170	



Codigo ISO	Medidas(mm)						
	h1	h	b	f	L2	L1	
PDNNR/L2020-K15	20	20	20	10.0	34	125	
PDNNR/L2525-M15	25	25	25	12.5	34	150	
PDNNR/L3225-P15	32	32	25	12.5	34	170	
PDNNR/L3232-P15	32	32	32	16.0	34	170	

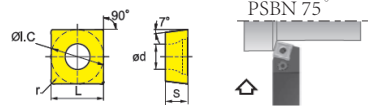
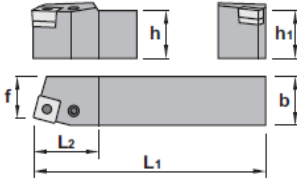


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PSDNR/L1010-E09	10	10	10	5.0	16	70
PSDNR/L1212-F09	12	12	12	6.0	18	80
PSDNR/L1616-H09	16	16	16	8.0	22	100
PSDNR/L2020-K12	20	20	20	10.0	28	125

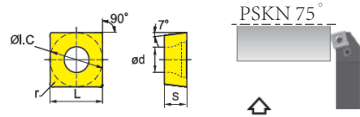
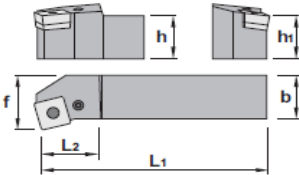


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PSSNR/L1616-H09	16	16	16	20	22	100
PSSNR/L2020-K09	20	20	20	25	22	125
PSSNR/L2020-K12	20	20	20	25	28	125
PSSNR/L2525-M12	25	25	25	32	28	150

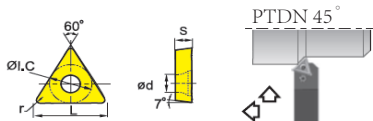
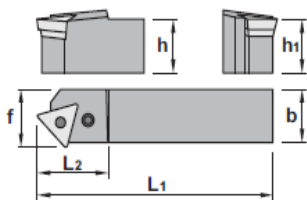
Torneamento Externo



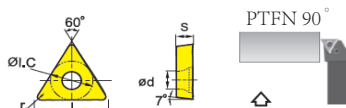
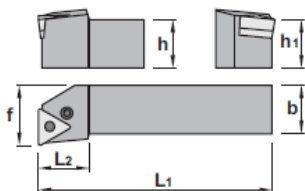
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PSBNR/L1212-F09	12	12	12	11	18	80
PSBNR/L1616-H09	16	16	16	13	22	100
PSBNR/L2020-K09	20	20	20	17	22	125
PSBNR/L2020-K12	20	20	20	22	28	125



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PSKNR/L1616-H09	16	16	16	20	22	100
PSKNR/L2020-K09	20	20	20	25	22	125
PSKNR/L2020-K12	20	20	20	25	28	125
PSKNR/L2525-M12	25	25	25	32	28	150

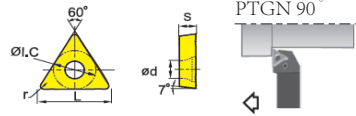
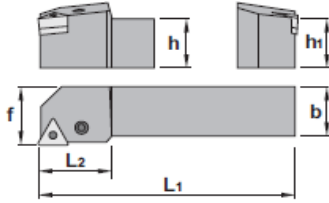


Codigo ISO	Medidas(mm)						
	h1	h	b	f	L2	L1	
PTDNR/L 2525-M22	25	25	25	27	34	150	
PTDNR/L 3225-P22	32	25	32	27	34	170	

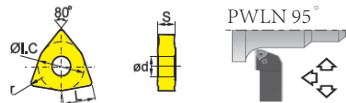
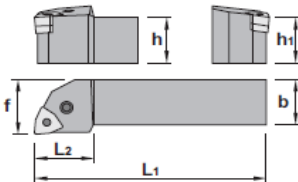


Codigo ISO	Medidas(mm)						
	h1	h	b	f	L2	L1	
PTFNR/L1616-H16	16	16	16	20	22	100	
PTFNR/L2020-K16	20	20	20	25	22	125	
PTFNR/L2525-M16	25	25	25	32	22	150	
PTFNR/L3225-P16	32	32	25	32	22	170	

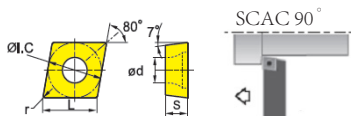
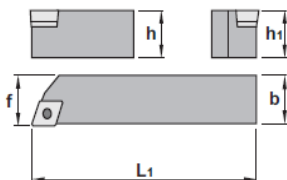
Torneamento Externo



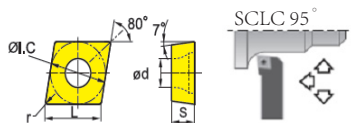
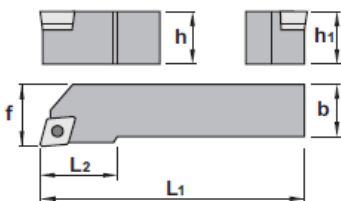
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PTGNR/L1616-H16	16	16	16	20	22	100
PTGNR/L2020-K16	20	20	20	25	22	125
PTGNR/L2525-M16	25	25	25	32	22	150
PTGNR/L3225-P16	32	32	25	32	22	170



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
PWLN/L1616-H06	16	16	16	20	15	100
PWLN/L2020-K06	20	20	20	25	25	125
PWLN/L2525-M06	25	25	25	32	25	150
PWLN/L2020-K08	20	20	20	25	34	125

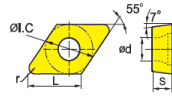
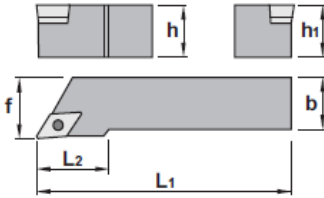


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SCACR/L-1010-E06	10	10	10	10.5	10	70
SCACR/L-1212-F09	12	12	12	12.5	16	80
SCACR/L-1616-H09	16	16	16	16.5	16	100
SCACR/L-2020-K09	20	20	20	25.0	25	100

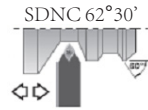
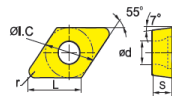
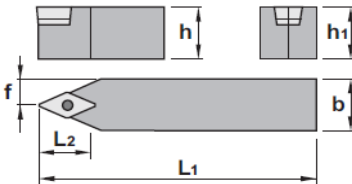


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SCLCR/L-1010-E06	10	10	10	10	10	70
SCLCR/L-1212-F09	10	10	10	12	10	80
SCLCR/L-1616-H09	12	12	12	16	16	100
SCLCR/L-2020-K09	16	16	16	20	25	125

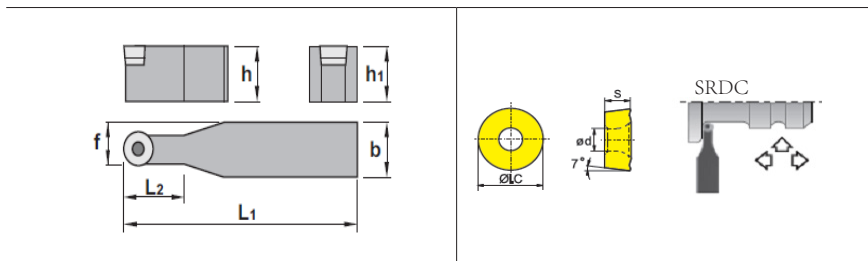
Torneamento Externo



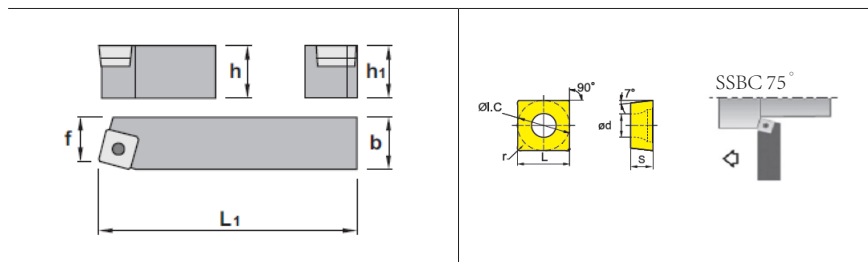
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SDJCR/L1212-F07	12	12	12	16	18	80
SDJCR/L1212-F07	12	12	12	16	18	80
SDJCR/L1616-H11	16	16	16	20	22	100
SDJCR/L2020-K11	20	20	20	25	22	125



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SDNCR/L0808-D07	8	8	8	4.0	16	60
SDNCR/L1010-E07	10	10	10	5.0	16	70
SDNCR/L1212-F07	12	12	12	6.0	18	80
SDNCR/L1616-H11	16	16	16	8.0	22	100

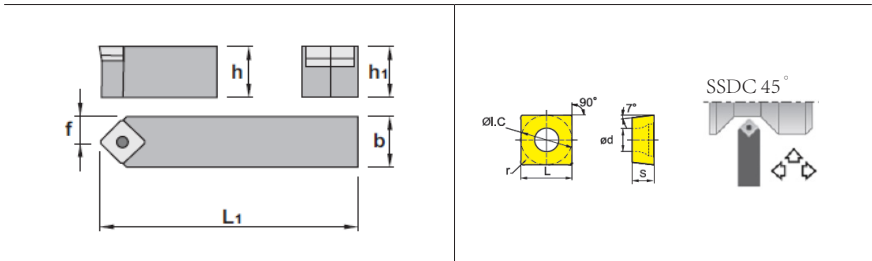


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SRDCR/L1010-E06	10	10	10	8.0	10	70
SRDCR/L1212-F06	12	12	12	8.0	12	80
SRDCR/L1616-H06	16	16	16	8.0	16	100
SRDCR/L2020-K06	20	20	20	8.0	20	125

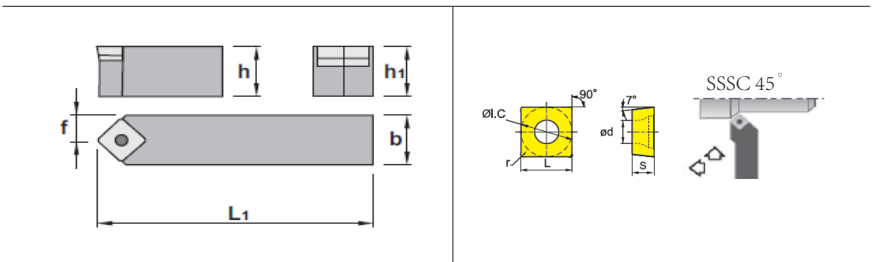


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SSBCN1212-F09	12	12	12	11		80
SSBCN1616-H09	16	16	16	13		100
SSBCN2020-K12	20	20	20	17		125
SSBCN2525-M12	25	25	25	22		150

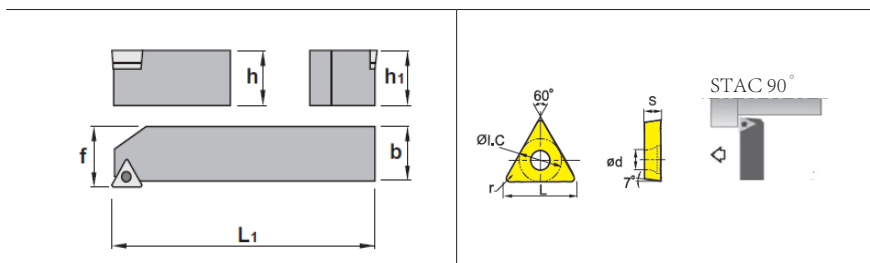
Torneamento Externo



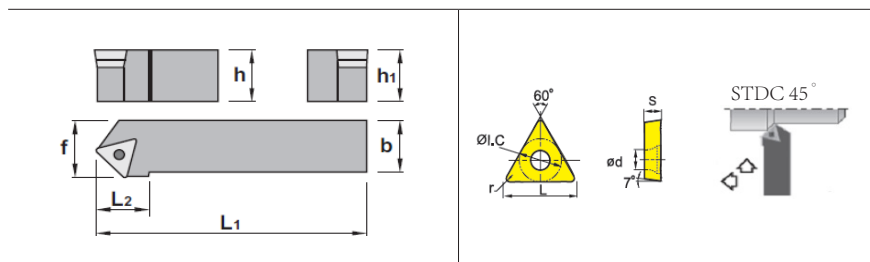
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SSDCR/L1212-F09	12	12	12	6.0		80
SSDCR/L1616-H09	16	16	16	8.0		100
SSDCR/L2020-K12	20	20	20	10.0		125
SSDCR/L2525-M12	25	25	25	12.5		150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SSSCR/L-1212-F09	12	12	12	6.0	34	125
SSSCR/L-1616-H09	16	16	16	8.0	34	150
SSSCR/L-2020-K12	20	20	20	10	34	170
SSSCR/L-2525-M12	25	25	25	12.5	34	170

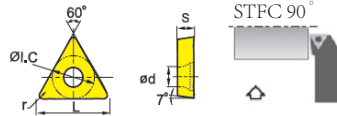
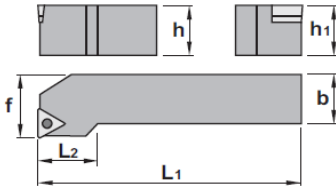


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
STACR/L-1212-F11	12	12	12	12.5		80
STACR/L-1616-H11	16	16	16	16.5		10
STACR/L-1616-H16	16	16	16	16.5		10
STACR/L-2020-H16	20	20	20	16.5		150

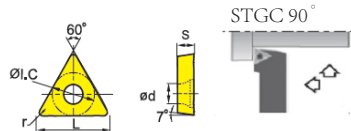
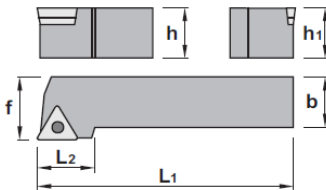


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
STDCR/L-1212-F11	12	12	12	12.5	16	80
STDCR/L-1616-H11	16	16	16	16.5	16	10
STDCR/L-1616-H16	16	16	16	16.5	21	10
STDCR/L-2020-H16	20	20	20	16.5	21	150

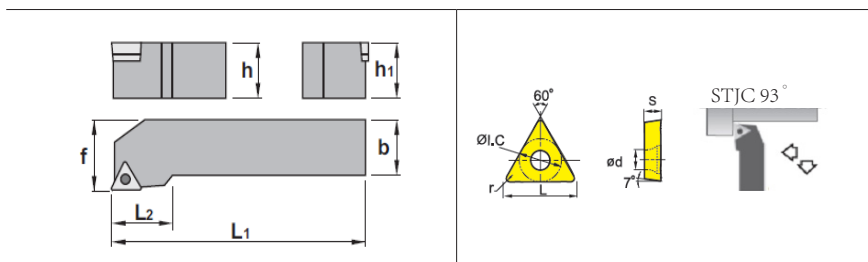
Torneamento Externo



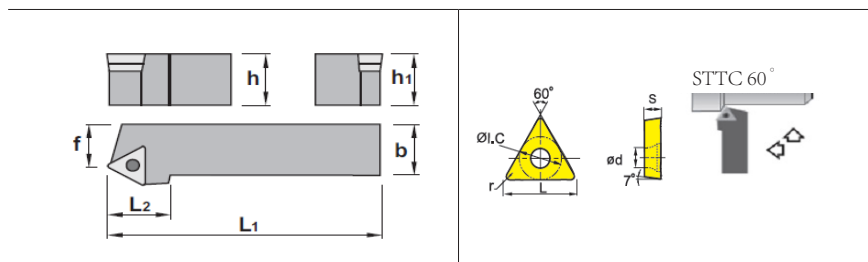
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
STFCR/L-1212-F11	12	12	12	12.5	16	80
STFCR/L-1616-H11	16	16	16	16.5	16	10
STFCR/L-1616-H16	16	16	16	16.5	21	10
STFCR/L-2020-H16	20	20	20	16.5	21	150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
STGCR/L-1212-F11	12	12	12	12.5	16	80
STGCR/L-1616-H11	16	16	16	16.5	16	10
STGCR/L-1616-H16	16	16	16	16.5	21	10
STGCR/L-2020-H16	20	20	20	16.5	21	150

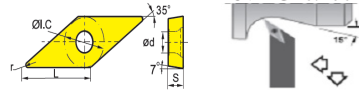
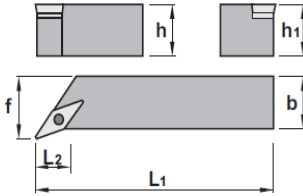


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
STJCR/L-1212-F11	12	12	12	12.5	16	80
STJCR/L-1616-H11	16	16	16	16.5	16	10
STJCR/L-1616-H16	16	16	16	16.5	21	10
STJCR/L-2020-H16	20	20	20	16.5	21	150

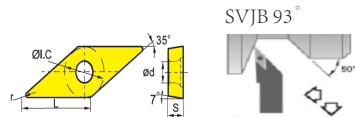
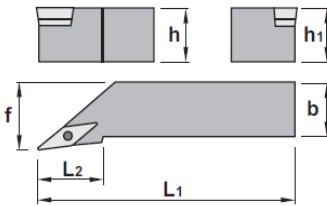


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
STTCR/L-1212-F11	12	12	12	12.5	16	80
STTCR/L-1616-H11	16	16	16	16.5	16	10
STTCR/L-1616-H16	16	16	16	16.5	21	10
STTCR/L-2020-H16	20	20	20	16.5	21	150

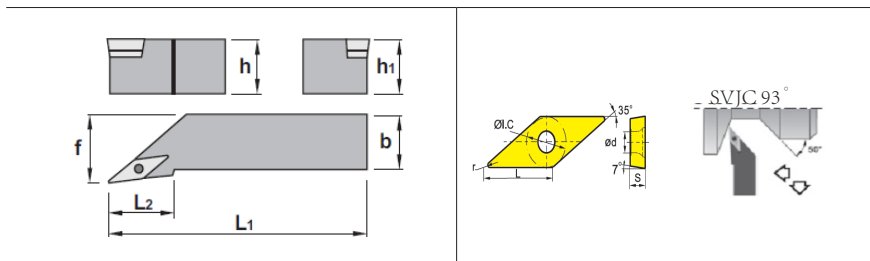
Torneamento Externo



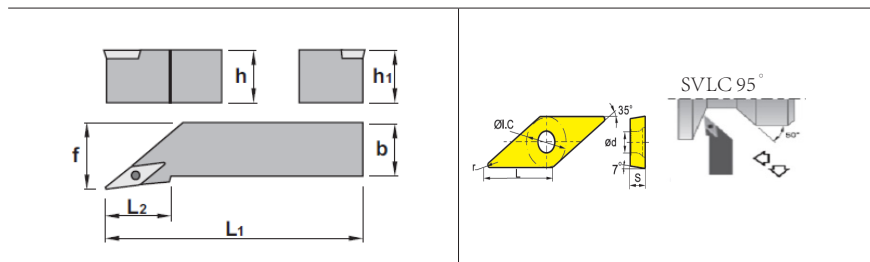
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVHCR/L-2020-K16	20	20	20	25	15.4	125
SVHCR/L-2525-M16	25	25	25	32	21.0	150
SVHCR/L-3225-P16	32	32	25	32	21.0	170
SVHCR/L-2525-M22	25	25	25	32	19.6	150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVJBR/L-2020-K11	20	20	20	25	37	125
SVJBR/L-2020-K16	20	20	20	25	37	125
SVJBR/L-2525-M16	25	25	25	32	37	150
SVJBR/L-3225-P16	32	32	25	32	37	170

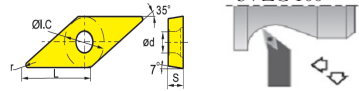
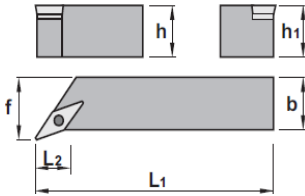


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVJCR/L-1616-H11	16	16	16	20	25	100
SVJCR/L-2020-K11	20	20	20	25	25	125
SVJCR/L-2020-K16	20	20	20	25	25	125
SVJCR/L-2525-M16	25	25	25	32	37	150

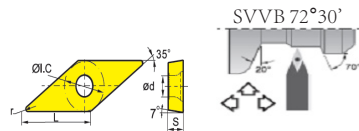
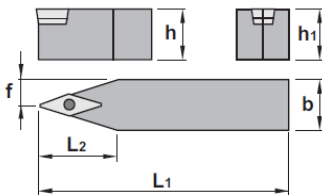


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVLCR/L-1616-H11	16	16	16	20	25	100
SVLCR/L-2020-K11	20	20	20	25	25	125
SVLCR/L-2020-K16	20	20	20	25	25	125
SVLCR/L-2525-M16	25	25	25	32	37	150

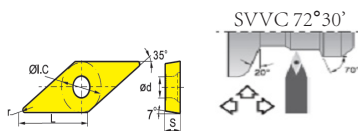
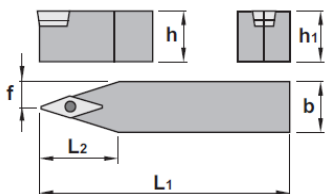
Torneamento Externo



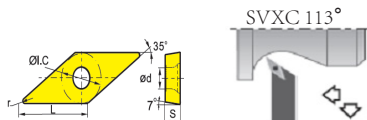
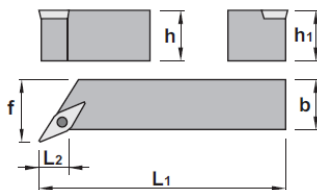
Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVZCR/L-2020-K11	20	20	20	25	26.0	125
SVZCR/L-2020-K16	20	20	20	25	26.0	125
SVZCR/L-2525-M16	25	25	25	32	28.5	150
SVZCR/L-3225-P16	32	32	25	13.1	37.0	170



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVVBN-2020-K11	20	20	20	10.5	25	125
SVVBN-2020-K16	20	20	20	10.5	37	125
SVVBN-2525-M16	25	25	25	13.0	37	150
SVVBN-3225-P16	32	32	25	13.0	37	170

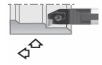



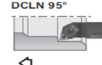

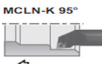
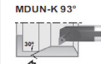


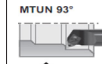
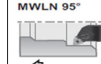
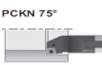
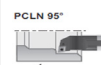


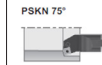

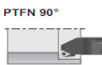
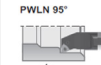
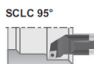
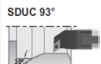
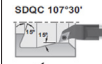

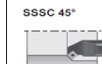


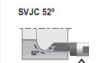
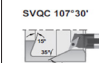
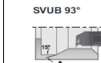
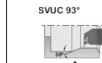


Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVVCN-1616-H11	16	16	16	8.5	25	100
SVVCN-2020-K11	20	20	20	10.5	37	125
SVVCN-2020-K16	20	20	20	10.5	37	125
SVVCN-2525-M16	20	20	20	13.0	37	150



Codigo ISO	Medidas(mm)					
	h1	h	b	f	L2	L1
SVXCR/L-1212-G11	12	12	12	16	11.5	90
SVXCR/L-1616-H11	16	16	16	20	14.0	100
SVXCR/L-2020-K11	20	20	20	25	20.0	125
SVXCR/L-2525-M13	25	25	25	32	20.0	150

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Modelo						
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Modelo						
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Modelo						
Pagina	81	82	82	83	83	

S 25 T S D U C R 11 - EX

1 2 3 4 5 6 7 8 9 10

1	
Material da Haste	
A	Haste de aço c/ refrigeração
H	Metal pesado
J	Metal pesado c/ refrigeração
S	Haste de aço

4	
Sistema de Fixação	
M	Dupla fixação
P	Fixação por alavanca
S	Fixação por parafuso

2	
Diâmetro Haste (mm)	
8	8
10	10
12	12
16	16
20	20
25	25
32	32

3	
Comprimento Ferramenta (mm)	
F	80
H	100
K	125
M	150
Q	180
R	200
S	250
T	300
U	350
V	400

5	
Formato do Inserto	
C	losango 80°
D	losango 55°
S	quadrado
T	triangular
V	losango 35°
W	trigon

6	
Âng. posicao da ferramenta	
F	91°
K	75°
L	95°
Q	107° 30'
U	93°

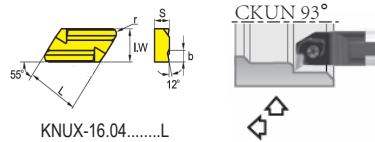
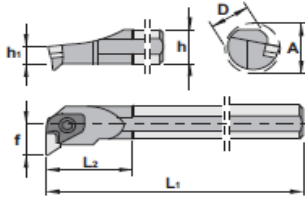
7	
Âng. inclinação do inserto	
C	7° positivo
E	20° positivo
N	negativo
P	11° positivo

8	
Sentido de Corte	
R	Direito
L	Esquerdo

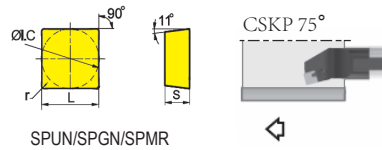
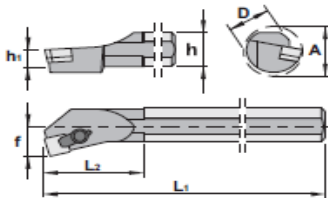
9						
Comprimento de Aresta de Corte						
Círculo inscrito	Formato do Inserto					V
	T	S	C	D	V	
6.35	11	-	06	07	11	
7.94	-	-	08	-	-	
9.525	16	9	09	11	16	
12.70	22	12	12	15	-	
19.05	-	19	19	-	-	

10	
Especial	
Opção do fabricante	

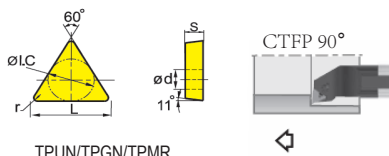
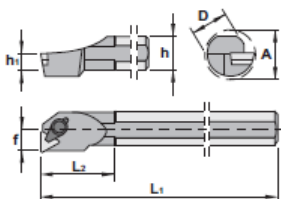
Suporte Torneamento Interno



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25-T CKUNR/L-16	25	23	11.5	300	50	20.5	37
S32-U CKUNR/L-16	32	30	15.0	350	54	22.0	39
S40-V CKUNR/L-16	40	37	18.5	400	60	27	48
S50-W CKUNR/L-16	50	47	23.5	450	65	35	61

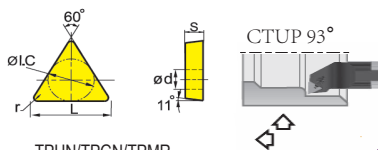
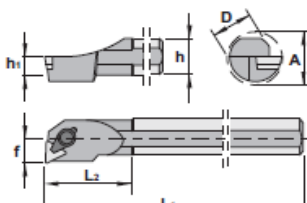


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25-T CSKPR/L-12	25	23	11.5	300	40	17.0	31
S32-U CSKPR/L-12	32	30	15.0	350	50	22.0	39
S40-T CSKPR/L-12	40	37	18.5	400	60	27	48
S50-T CSKPR/L-12	50	47	23.5	450	65	35	61



TPUN/TPGN/TPMR

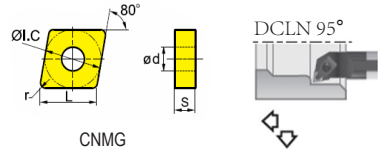
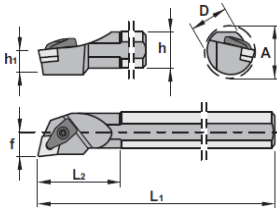
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S12-R CTFPR/L-11	12	11	5.5	150	25	9.0	16
S16-U CTFPR/L-11	16	15	7.5	200	30	11.0	20
S20-T CTFPR/L-16	20	18	9.0	250	35	13	24
S25-U CTFPR/L-16	25	23	11.5	300	40	17	31



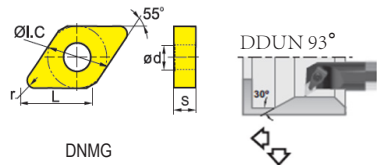
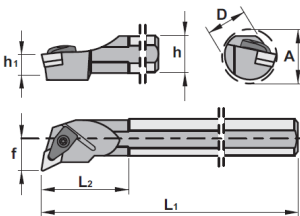
TPUN/TPGN/TPMR

Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S12-R CTUPR/L-11	12	11	5.5	150	25	9.0	16
S16-U CTUPR/L-11	16	15	7.5	200	30	11.0	20
S20-T CTUPR/L-16	20	18	9.0	250	35	13	24
S25-U CTUPR/L-16	25	23	11.5	300	40	17	31

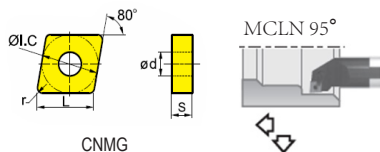
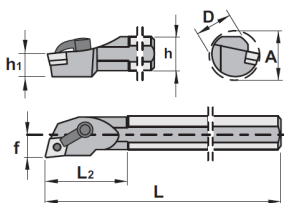
Suporte Torneamento Interno



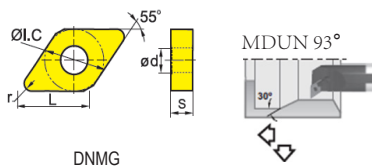
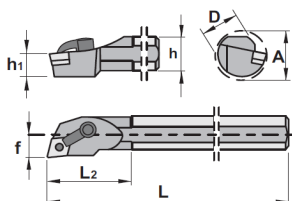
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	D	h	h1	L1	L2	f	A
S25T-DCLNR/L-12	25	23	11.5	300	40	17.0	31
S32U-DCLNR/L-12	32	30	15.0	350	50	22.0	39
S40V-DCLNR/L-12	40	37	18.5	400	60	27	48



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S32U-DDUNR/L-15	32	30	15.0	350	50	22.0	39
S40V-DDUNR/L-15	40	37	18.5	400	60	27.0	48

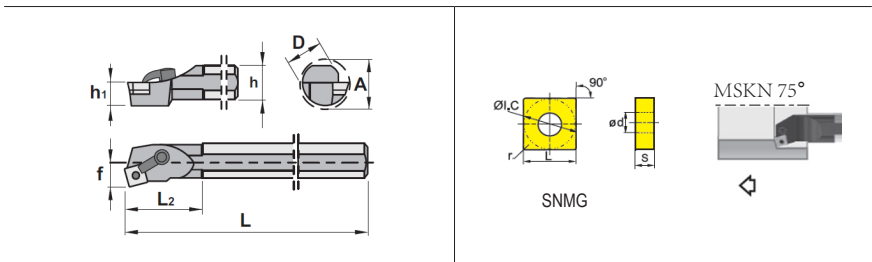


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-MCLN R/L 12	25	23	11.5	300	33	17.0	31
S32U-MCLN R/L 12	32	30	15.0	350	50	22.0	39
S40V-MCLN R/L 12	40	37	18.5	400	60	27	48

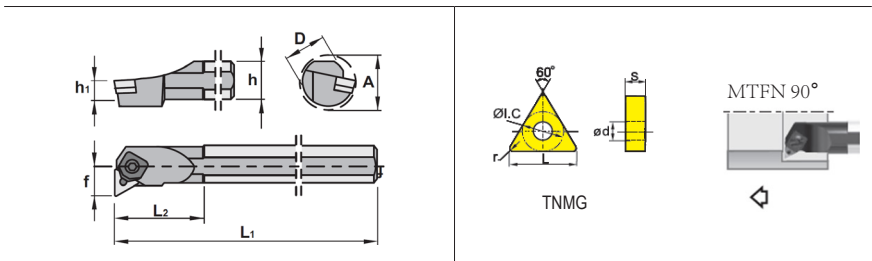


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-MDUNR/L-15	25	23	11.5	300	40	17.0	31
S32U-MDUNR/L-15	32	30	15.0	350	50	22.0	39
S40V-MDUNR/L-15	40	37	18.5	400	60	27	48

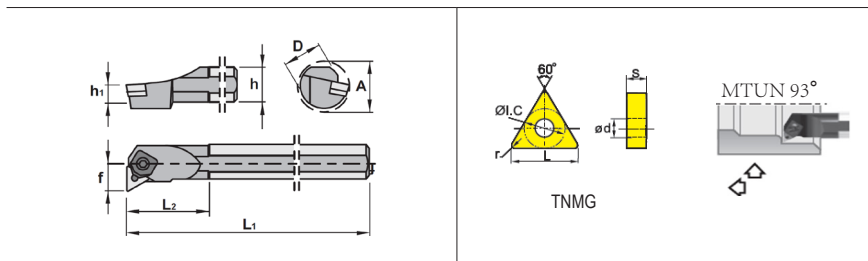
Suporte Torneamento Interno



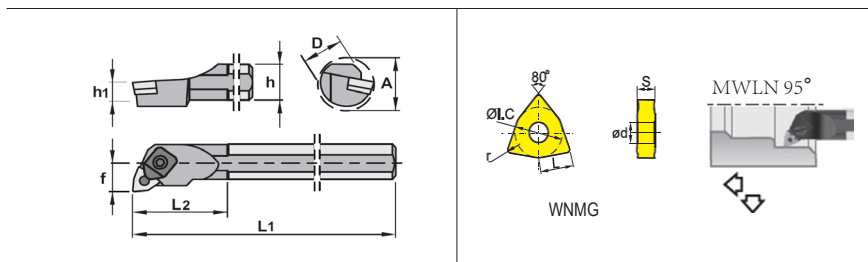
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S32U-MSKNR/L-12	32	33	15.0	350	50	22.0	39
S40V-MSKNR/L-12	40	37	18.5	400	60	27.0	48



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-MTFNR/L- 16	25	23	11.5	300	40	17.0	34
S32U-MTFNR/L- 17	32	30	15.0	350	50	22.0	39
S40V-MTFNR/L- 18	40	37	18.5	400	60	27	48
S50W-MTFNR/L- 19	50	47	23.5	450	65	35	61
S40V-MTFN R/L 22	40	37	18.5	400	60	27	48
S50W-MTFN R/L 23	50	47	23.5	450	65	35	61

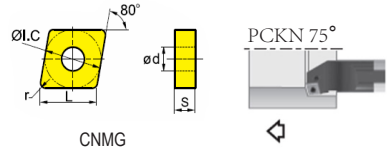
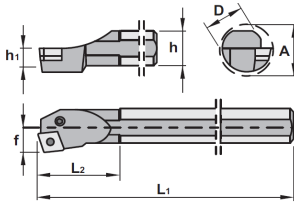


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-MTUNR/L-16	25	23	11.5	300	40	17.0	34
S32U-MTUNR/L-16	32	30	15.0	350	50	22.0	39
S40V-MTUN R/L 22	40	37	18.5	400	60	27	48
S50W-MTUN R/L 23	50	47	23.5	450	65	35	61

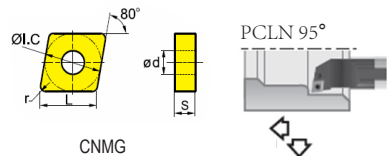
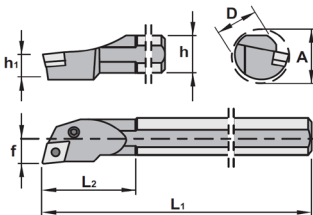


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S20S-MWLNRL-06	20	18	9.0	250	36	13.0	27
S25T-MWLNRL-06	25	23	15.5	300	40	17.0	31
S32U-MWLNRL-08	32	30	15.5	350	50	22	39
S40V-MWLNRL-08	40	37	23.5	400	60	27	48

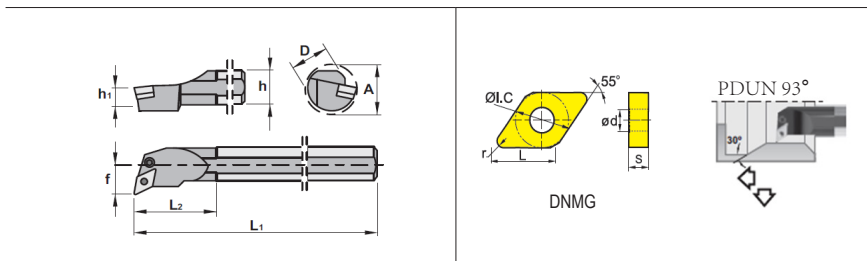
Suporte Torneamento Interno



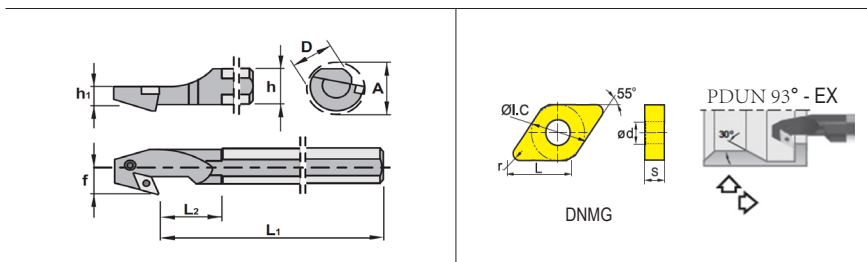
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-PCKNR/L-12.	25	23	11.5	300	40	17	32
S32U-PCKNR/L-12.	32	30	15.0	350	50	22	40
S40V-PCKNR/L-19.	40	37	18.5	400	60	27	48
S50W-PCKNR/L-19.	50	47	23.5	450	65	35	62



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-PCLNR/L-12.	25	23	11.5	300	40	17	32
S32U-PCLNR/L-12.	32	30	15.0	350	50	22	40
S40V-PCLNR/L-12.	40	37	18.5	400	60	27	48
S40V-PCLNR/L-19.	40	37	18.5	400	60	27	48
S50W-PCLNR/L-19.	50	47	23.5	450	65	35	62

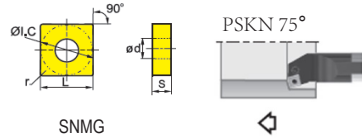
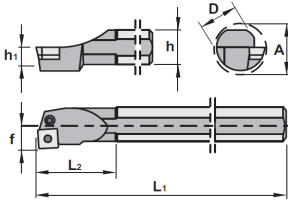


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-PDUNR/L-11.	25	23	11.5	300	35	17	32
S32U-PDUNR/L-15.	32	30	15.0	350	50	22	40
S40V-PDUNR/L-15.	40	37	18.5	400	60	27	48
S50W-PDUNR/L-15.	50	47	23.5	450	65	35	62

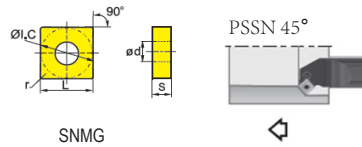
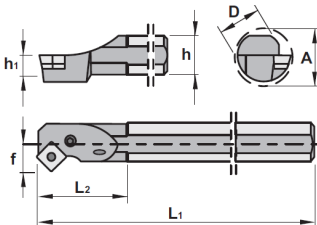


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
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S32U-PDUNR/L-11EX	32	30	15.0	350	50	22	40
S32U-PDUNR/L-15EX	32	30	15.0	350	50	22	40
S40V-PDUNR/L-15EX	40	37	18.5	400	60	27	48
S50W-PDUNR/L-15EX	50	47	23.5	450	65	35	62

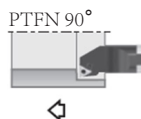
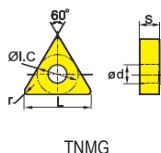
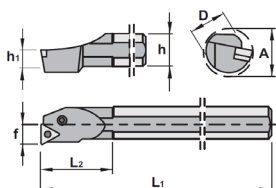
Suporte Torneamento Interno



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-PSKNR/L-12	25	23	11.5	300	40	17	32
S32U-PSKNR/L-12	32	30	15.0	350	50	22	40
S40V-PSKNR/L-12	40	37	18.5	400	60	27	48
S50W-PSKNR/L-19	50	47	23.5	450	65	35	62

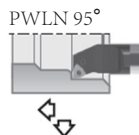
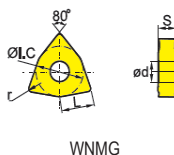
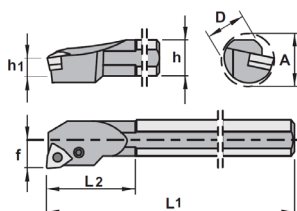


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
A25R-PSSNR/L12	25	23	11.5	200	40	17	32
S25T-PSSNR/L12	25	23	11.5	300	40	17	32
A32S-PSSNR/L12	32	30	15.0	250	50	22	40
S32U-PSSNR/L12	32	30	15.0	350	50	22	40
S50W-PCLNR/L-19.	50	47	23.5	450	65	35	62



TNMG

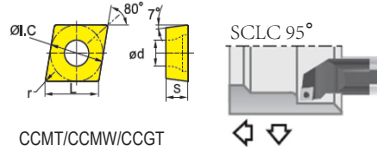
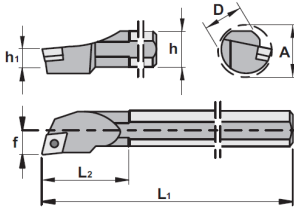
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-PTFNR/L-16	25	23	11.5	300	40	17	32
S32U-PTFNR/L-16	32	30	15.0	350	50	22	40
S40V-PTFNR/L-22	40	37	18.5	400	60	27	48
S50W-PTFNR/L-22	50	47	23.5	450	65	35	62



WNMG

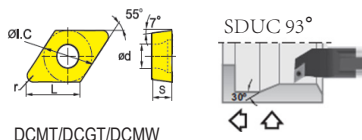
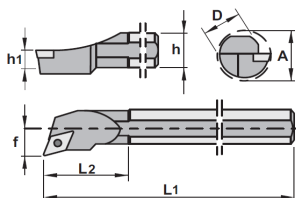
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S16R-PWLN/R/L-06	16	15	7.5	200	24	11	20
S20S-PWLN/R/L-06	20	18	9.0	250	36	13	25
S25T-PWLN/R/L-06	25	23	11.5	300	40	17	32
S25T-PWLN/R/L-08	25	23	11.5	300	40	17	32
S32U-PWLN/R/L-08	32	30	15.0	350	50	22	40

Suporte Torneamento Interno

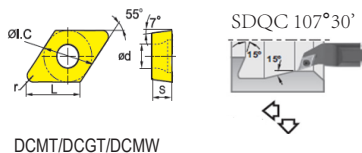
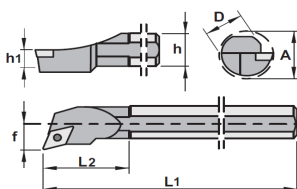


CCMT/CCMW/CCGT

Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S08K-SCLCR/L-06	8	7	3.5	125	16	5	10
S10M-SCLCR/L-06	10	9	4.5	150	25	7	13
S12M-SCLCR/L-06	12	11	5.5	150	25	9	16
S12M-SCLCR/L-09	12	11	5.5	150	25	9	16
S12Q-SCLCR/L-09	12	11	5.5	180	25	9	16
S16R-SCLCR/L-09	16	15	7.5	200	30	11	20
S20S-SCLCR/L-09	20	18	9.0	250	35	13	24
S25T-SCLCR/L-09	25	23	11.5	300	40	17	32
S20S-SCLCR/L-12	20	18	9.0	250	35	13	24
S25T-SCLCR/L-12	25	23	11.5	300	40	17	32
S32U-SCLCR/L-12	32	30	15.0	350	50	22	40
S40U-SCLCR/L-12	40	37	18.5	350	60	27	48
S40V-SCLCR/L-12	40	37	18.5	400	60	27	48
S50V-SCLCR/L-12	50	47	23.5	400	65	35	62
S50W-SCLCR/L-12	50	47	23.5	450	40	35	62

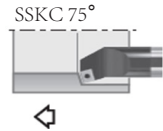
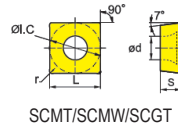
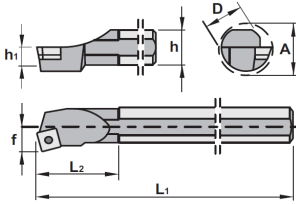


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S10M-SDUCR/L-07	10	9	4.5	150	25	7	13
S12Q-SDUCR/L-07	12	11	5.5	180	25	9	16
S16R-SDUCR/L-07	16	15	7.5	200	30	11	20
S20S-SDUCR/L-11	20	18	9.0	250	35	13	24
S25T-SDUCR/L-11	25	23	11.5	300	40	17	32

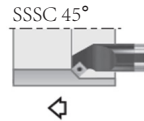
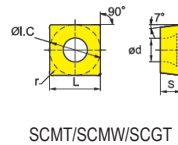
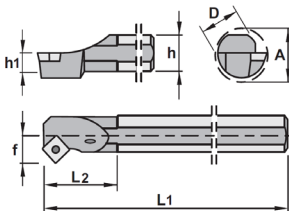


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S10M-SDQCR/L-07	10	9	4.5	150	25	7	13
S12Q-SDQCR/L-07	12	11	5.5	180	25	9	16
S16R-SDQCR/L-07	16	15	7.5	200	30	11	20
S20S-SDQCR/L-11	20	18	9.0	250	35	13	25
S25T-SDQCR/L-11	25	23	11.5	300	40	17	32

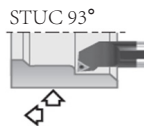
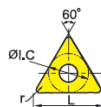
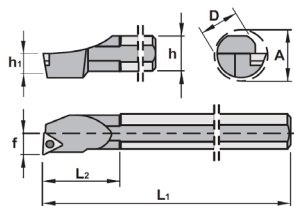
Suporte Torneamento Interno



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S16R-SSKCR/L-09	16	15	7.5	200	30	11	20
S20S-SSKCR/L-09	20	18	9.0	250	35	13	24
S25T-SSKCR/L-09	25	23	11.5	300	40	17	32
S32USSKCR/L-12	32	30	15.0	350	50	22	40
S40VSSKCR/L-12	40	37	18.5	400	60	27	48

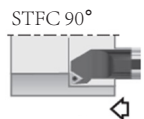
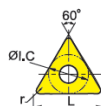
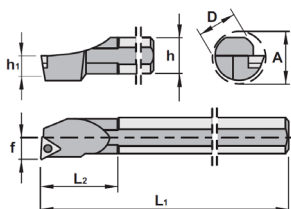


Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S16R-SSSC RL 09	16	15	7.5	150	30	11	20
S20Q-SSSC RL 10	20	18	9.0	180	35	13	24
S20S-SSSC RL 11	25	23	11.5	250	40	17	32
S25R-SSSC RL 11	25	23	11.5	200	40	17	32
S25T-SSSC RL 13	19	17	18.0	300	20	21	22



TCMT/TCMW/TCGT

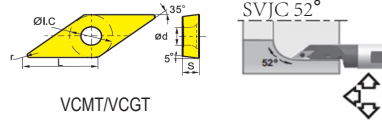
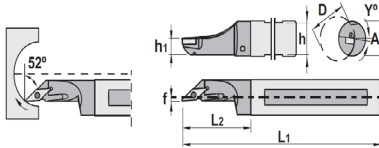
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S12M-STUCR/L-11	12	11	5.5	150	25	9.0	16
S16R-STUCR/L-11	16	15	7.5	200	30	11.0	20
S20S-STUCR/L-16	20	18	9.0	250	35	13	24
S25T-STUCR/L-16	25	23	11.5	300	40	17	32
S32U-STUCR/L-16	32	30	15.0	350	50	22	40



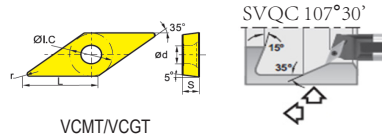
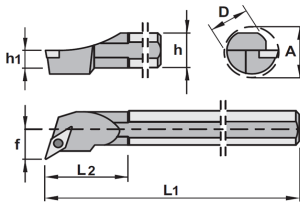
TCMT/TCMW/TCGT

Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S12M-STFCR/L-11	12	11	5.5	150	25	9.0	16
S16R-STFCR/L-11	16	15	7.5	200	30	11.0	20
S20S-STFCR/L-16	20	18	9.0	250	35	13	24
S25T-STFCR/L-16	25	23	11.5	300	40	17	32
S32U-STFCR/L-16	32	30	15.0	350	50	22	40

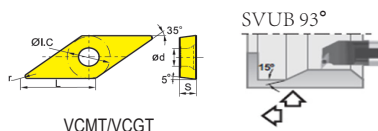
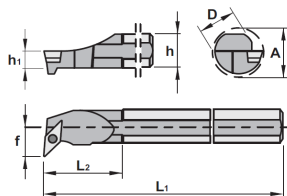
Suporte Torneamento Interno



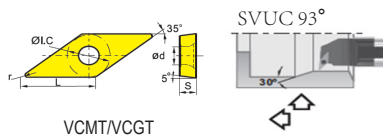
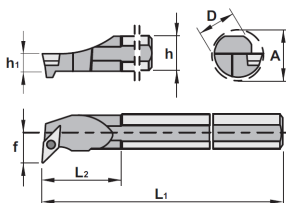
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S16M-SVJCR/L-11	16	15	7.5	150	30	2	22
S20Q-SVJCR/L-11	20	18	9.0	180	35	2	25
S25R-SVJCR/L-11	25	23	11.5	200	40	2	28
S32SSVJCR/L-16	32	30	15.0	250	50	2	40
S40TSVJCR/L-16	40	37	18.5	300	60	2	50



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S16M-SVQCR/L-11	16	15	7.5	150	30	11	20
S20Q-SVQCR/L-11	20	18	9.0	180	35	13	24
S25R-SVQCR/L-16	25	23	11.5	200	40	17	32
S32S-SVQCR/L-16	32	30	15.0	250	50	22	40
S40T-SVQCR/L-16	40	37	18.5	300	60	27	48



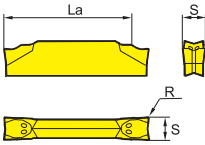
Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S25T-SVUBR/L-16	25	23	11.5	300	40	17	32
S32U-SVUBR/L-16	32	30	15.0	350	50	22	40
S40V-SVUBR/L-16	40	37	18.5	400	60	27	48



Codigo ISO	Medidas(mm)						
	D	h	h1	L1	L2	f	A
S16R-SVUCR/L-11	16	15	7.5	200	30	11.0	20
S20S-SVUCR/L-11	20	18	9.0	250	35	13	24
S25T-SVUCR/L-16	25	23	11.5	300	40	17	32
S32U-SVUCR/L-16	32	30	15.0	350	50	22	40
S40V-SVUCR/L-16	40	37	18.0	400	60	27	48

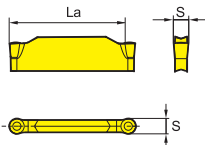
Pastilha Canal e Corte - Bedame

Modelo	Código	Dimensão (mm)				Classes			Avanço	Prof.de
		S	R	La		YBG202			Rotação fn	Corte pf
MG	Diamond									
	ZTED-25.03-MG	2.5	0.30	17.0		×			0.05-0.15	
	ZPFD-03.02-MG	3.0	0.20	17.0		×			0.05-0.20	
	ZPFD-03.03-MG	3.0	0.30	22.0		×			0.05-0.20	
	ZTGD-04.04-MG	4.0	0.40	22.0		×			0.05-0.25	
	ZTHD-05.03-MG	5.0	0.30	22.0		×			0.07-0.30	
ZTHD-05.04-MG	5.0	0.40	22.0		×			0.07-0.30		

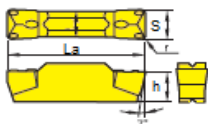


Classes	Norma ISO					
	P	M	K	N	S	H
YBG202			K15-35	N15-30		

Modelo	Código	Dimensão (mm)				Classes			Avanço	Prof.de
		S	R	La		YBG202			Rotação fn	Corte pf
MG	Diamond									
	ZRFD-03.00-MG	2.5	0.30	17.0		○			0.05-0.20	
	ZRGD-04.00-MG	3.0	0.20	21.0		○			0.05-0.25	
	ZRHD-05.00-MG	3.0	0.30	20.0		○			0.07-0.30	
	ZRKD-06.00-MG	4.0	0.40	19.0		×			0.10-0.30	



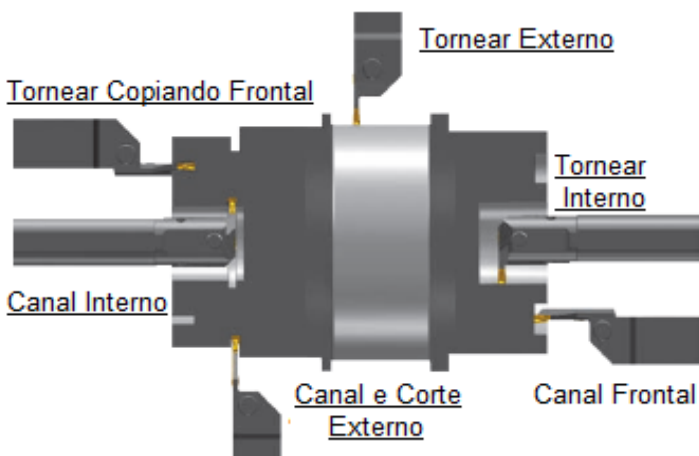
Classes	Norma ISO					
	P	M	K	N	S	H
YBG202	P10-25	M10-20			S10-20	



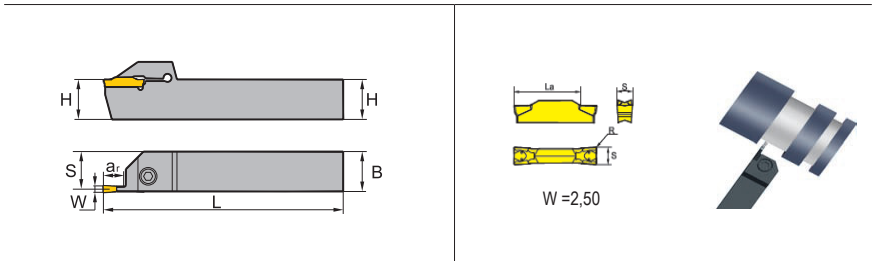
Classes	Norma ISO					
	P	M	K	N	S	H
HR52525	P25-40	M15-40				

Modelo	Código	Dimensão (mm)					Classes			Avanço	Prof.de
		S	R	La	h		HR52525			Rotação	Corte
M	Diamond								fn	pf	
	MGMN-0200-M	2.0	0.20	16.0	3.50		○			0.05-0.15	
	MGMN-0250-M	2.5	0.20	18.5	3.85		○			0.05-0.20	
	MGMN-0300-M	3.0	0.40	21.0	4.80		×			0.05-0.20	
	MGMN-0350-M	3.5	0.30	21.0	4.80		○			0.05-0.25	
	MGMN-0400-M	4.0	0.40	21.0	4.80		×			0.07-0.30	
	MGMN-0500-M	5.0	0.80	26.0	5.80		○			0.07-0.30	

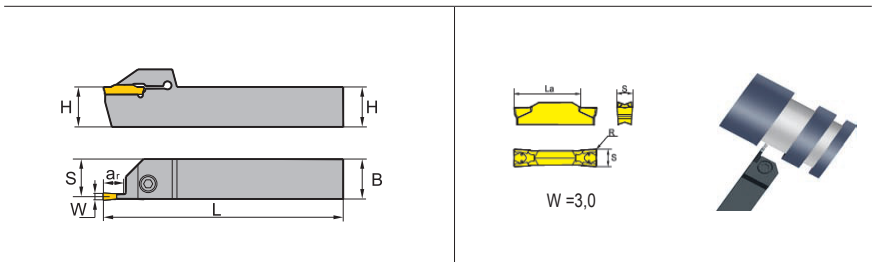
Aplicação



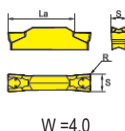
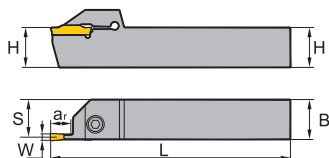
Suporte para Canal e Corte



Codigo ISO	Medidas(mm)					
	h	B	W	S	ar	L
QEEDR/L2020-L10	20	20	2.5	19	10	125
QEEDR/L2020-L17	20	20	2.5	19	17	125
QEEDR/L2525-L10	25	25	2.5	24	10	150
QEEDR/L2525-L17	25	25	2.5	24	17	150



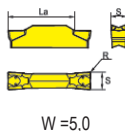
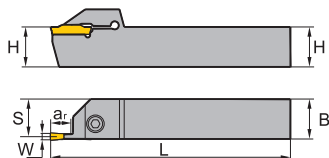
Codigo ISO	Medidas(mm)					
	h	B	W	S	ar	L
QEFDR/L-2020-L10	20	20	3.0	19	10	125
QEFDR/L-2020-L17	20	20	3.0	19	17	125
QEFDR/L-2525-L10	25	25	3.0	24	10	150
QEFDR/L-2525-L17	25	25	3.0	24	17	150



$W = 4,0$



Codigo ISO	Medidas(mm)					
	h	B	W	S	ar	L
QEGDR/L2020-L13	20	20	4.0	18.5	13	140
QEGDR/L2020-L22	20	20	4.0	18.5	22	140
QEGDR/L2525-L13	25	25	4.0	23.5	13	150
QEGDR/L2525-L22	25	25	4.0	23.5	22	150



$W = 5,0$



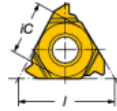
Codigo ISO	Medidas(mm)					
	h	B	W	S	ar	L
QEFHR/L-2525-L13	25	25	5.0	23	13	150
QEFHR/L-2525-L22	25	25	5.0	23	22	150
QEFHR/L-2525-N30	25	25	5.0	12.5	30	150
QEFHR/L-3232-N30	32	32	5.0	30	30	170

R T 22. 01. W -3.50 GM - P

1	
Direção de Corte	
R	direito
L	esquerdo

2	
Formato	
T	Triangular
Z	Outros

3	
Tamanho da Pastilha	
11	IC=6.35mm
16	IC=9.525mm
22	IC=12.7mm
27	IC=15.875mm



4	
Nº de Cortes	
01	número de cortes por aresta

5	
Tipo de Pastilha	
W	Rosca Externa
N	Rosca Interna

7	
Perfil da Rosca	
GM	métrica ISO 60°
60	perfil 60°
55	perfil 55°
W	Whitworth
UN	unificada
BSPT	padrão inglês
NPT	padrão americano

6	
Perfil Completo	
mm	fpp
0,35-9,00	72-2

6		
Perfil Parcial		
	mm	fpp
A	0,5-1,5	48-16
AG	0,5-3,0	48- 8.
G	1,75-3,0	14 - 8.
N	3,5-5,0	7 - 5
Q	5,5-6,0	41/2-4

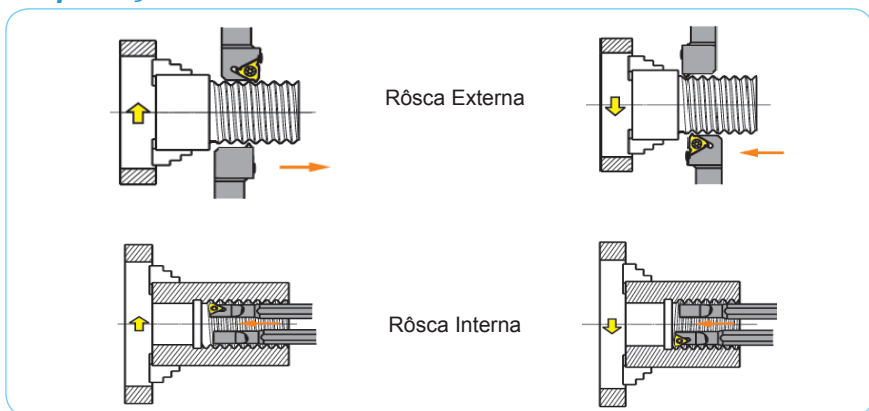
8	
Código Quebra Cavaco	

	Classes	Norma ISO					
		P	M	K	N	S	H
	YBG201	P05-15	M05-20	K05-25			

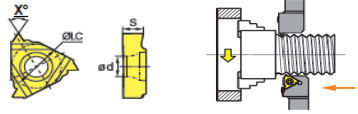
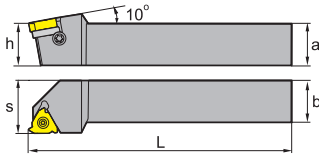
Modelo	Descrição	Dimensão (mm)						Classes			Avanço	Prof.de
		l	IC	d	s	x°	YBG201			Rotação	Corte	
										fn	pf	
	EXTERNA											
	RT-16-01-W G55-P	16.0	9.52	4.4	3.97	55°	×				0.35~0.30	0.1~1.0
	RT-16-01-W G60-P	16.0	9.52	4.4	3.97	60°	×				0.35~0.30	0.1~1.0
	RT-22-01-W N55-P	22.0	12.70	5.5	5.56	55°	×				0.30~9.0	0.1~1.0
	RT-22-01-W N60-P	22.0	12.70	5.5	5.56	60°	×				0.30~9.0	0.1~1.0

Modelo	Descrição	Dimensão (mm)						Classes			Avanço	Prof.de
		l	IC	d	s	x°	YBG201			Rotação	Corte	
										fn	pf	
	EXTERNA											
	RT-16-01-N G55-P	16.0	9.52	4.4	3.97	55°	×				0.35~0.30	0.1~1.0
	RT-16-01-N G60-P	16.0	9.52	4.4	3.97	60°	×				0.35~0.30	0.1~1.0
	RT-22-01-N N55-P	22.0	12.70	5.5	5.56	55°	×				0.30~9.0	0.1~1.0
	RT-22-01-N N60-P	22.0	12.70	5.5	5.56	60°	×				0.30~9.0	0.1~1.0

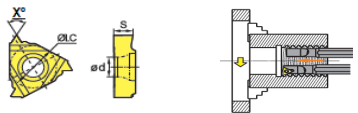
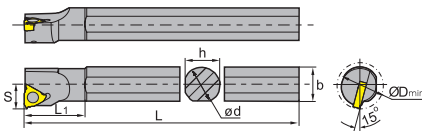
Aplicação



Suporte para Pastilha de Rosca



Codigo ISO	Medidas(mm)				
	h	a	b	f	L
SWR/L-2020-K16	20	20	20	25	125
SWR/L-2525-M16	25	25	25	32	150
SWR/L-2525-K22	25	25	25	32	150
SWR/L-3225-P22	32	32	25	32	170



Codigo ISO	Medidas(mm)					
	Ød	h	f	L1	L	ØD
SNR/L-0016-M16	16	15	12	27	150	20.0
SNR/L-0020-Q16	20	18	14	34	180	25.0
SNR/L-0025-R22	25	23	19	39	200	32.0
SNR/L-0032-S16	32	30	22	42	250	40.0

ISO	Material		Unidade força corte Kc0,4mm ²	Dureza HB	Tabela	
					YBG201	
					Velocidade de corte (m/min)	
P	Aço sem Liga	C=0.15%	1900	125	150-175	
		C=0.35%	2100	150	140-155	
		C=0.60%	2250	200	130-145	
	Aço Baixa Liga	Recozido	2100	180	110-130	
		Endurecidos	2600	275	80-100	
		Endurecidos e temperados	2700	300	70-90	
			2850	350	60-80	
	Aço Alta Liga	Endurecido HSS	2600	200	90-115	
		Acos Ferramentas	3900	325	70-90	
	Aço Fundido	sem liga	2000	180	180-210	
		baixa liga	2500	200	90-115	
		alta liga	2700	225	90-115	
acos manganes 12%		3600	250	40-50		
M	Aco Inoxidável	Austenite	2450	180	110-130	
		Martensite/Ferrite	2300	200	130-170	
K	F F Maleável	Ferrite	1100	130	110-140	
		Pearlite	1100	230	85-105	
	F F Cinzento	baixa resistência	1100	180	110-140	
		alta resistência	1500	260	90-115	
	F F Nodular	Ferrite	1100	160	110-130	
		Pearlite	1800	250	80-100	
N	Liga de Alumínio	tratamento nao envelhecido	500	60	1300-1450	
		envelhecido	800	100	450-500	
	Fundido de Alumínio	tratamento não envelhecido	750	75	430-470	
		envelhecido	900	90	250-290	
S	Liga Resistente ao Calor	base de ferro	recozido	3000	200	35-50
				3050	280	25-35
		base de Ni- ou Co-	recozido	3500	250	15-25
				4150	350	10-20
		fundido	4150	320	10-15	

YBC301

Classe com cobertura CVD , seu substrato com alta resistência e tenacidade .Seu Composto TiCN, Al₂O₃ e fina camada TiN , ideal em operações semi-acabamento/acabamento , para materiais do grupo: P

YBC302

Classe com cobertura CVD , seu substrato com alta Dureza e resistência .Seu Composto TiCN, Al₂O₃ e fina camada TiN , ideal em operações semi-acabamento/acabamento em materiais ENDURECIDOS até 45HRC, adequado para grupo: P e M

YBM251

Classe com cobertura CVD , seu substrato com boa resistência , alta tenacidade .Seu Composto TiCN, Al₂O₃ e fina camada TiN , indicado em operações média /acabamento , em materiais do grupo : P (P15 - P40) e M (M10 - M30)

YBM351

Classe com cobertura CVD , seu substrato com boa resistência , alta tenacidade .Seu Composto TiCN, Al₂O₃ e fina camada TiN , indicado em operações desbaste , em materiais do grupo : P (P25 - P40) e M (M20 - M35)

YBG302

Cobertura Nano-Estruturada com elevado conteúdo de Al, depositado por método PVD . Classe para aplicação geral , em velocidade de corte moderada em condições de usinagem menos favoráveis. Adequada em operações média /desbaste , em materiais do grupo : P e M .

YBG202







Cobertura Nano-Estruturada com elevado conteúdo de Al , depositado por método PVD . Substrato com excelente resistência a deformação. Classe com ampla aplicação em operações semi-acabamento/ acabamento.Ideal , em materiais do grupo : P , M , S e H.


YC30S



Classe sem cobertura , baixo conteúdo de Co. Classe de aplicação em operações desbaste , em grupo de materias do grupo:P e M.







YD201







Classe de metal duro com base de titânio , conhecido como Cermet, sem revestimento , com grão fino . Muito economico , adequado em operações semi-acabamento em materiais do grupo: K. ideal em operações média/desbaste em materiais do grupo: N







Modelo						
Codigo	APMT-LH	APMT-DM	APMT-PR	APKT-LH	APKT-LF	APKT-PM
Pagina	96	96	96	97	97	97

Modelo		
Codigo	CCMT-HM	CPMT-Z
Pagina	98	98

Modelo		
Codigo	RCKT-DM	RDKT-
Pagina	99	99

Modelo						
Codigo	SEET-LH	SEET-PM	SEET-PR	SEET-LH	SEET-PM	SEET-PR
Pagina	100	100	100	101	101	101

Modelo						
Codigo	SDMT-	SDMT-PM	SPMT-PM	SPMT-	SEKN-	SEKR-
Pagina	102	102	103	103	104	104

Modelo						
Codigo	SPKT-	SPKR-	TPKN-	TPKR-	TPGN-	TPMR-
Pagina	105	105	106	106	107	107

S P K N 12 04 ED T21 R - DM

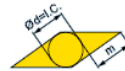
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

1			
Formato da Pastilha			
H	O	P	R
S	T	C	D
E	M	V	W
L	A	B	K

2	
Ângulo de Folga	
A	B
C	D
E	F
G	N
	O Especial Special
P	O

4	
Tipo de Pastilha	
N	R
F	A
M	G
W	T
Q	X Especial Special

3						
	Tolerância			Tolerância		
	m(±)	s(±)	d=IC(±)	m(±)	s(±)	d=IC(±)
A	0.005	0.025	0.025	0,0002	0.001	0.0010
F	0.005	0.025	0.013	0.0002	0.001	0.0005
C	0.013	0.025	0.025	0.0005	0.001	0.0010
H	0.013	0.025	0.013	0.0005	0.001	0.0005
E	0.025	0.025	0.025	0.0010	0.001	0.0010
G	0.025	0.130	0.025	0.0010	0.005	0.0010
J	0.005	0.025	±0.05- ±0.13	0.0002	0.001	±0.002- ±0.005
K	0.013	0.025	±0.05- ±0.13	0.0005	0.001	±0.002- ±0.005
L	0.025	0.025	±0.05- ±0.13	0.0010	0.001	±0.002- ±0.005
M	±0.08- ±0.18	0.130	±0.05- ±0.13	±0.003- ±0.007	0.005	±0.002- ±0.005
N	±0.08- ±0.18	0.025	±0.05- ±0.13	±0.003- ±0.007	0.001	±0.002- ±0.005
U	±0.13- ±0.38	0.130	±0.08- ±0.25	±0.005- ±0.015	0.005	±0.003- ±0.010



5							
Comprimento da Aresta de Corte							
d=IC	R	S	T	C	D	V	W
mm							
3.97	-		06				
5.00	05						
5.56			09				
6.00	06						
6.35			11	06	07	11	
8.00	08						
9.525	09	09	16	09	11	16	06
10.0	10						
12.0	12						
12.7	12	12	22	12	15	22	08
15.875	15	15	27	16			
16.0	16				19		
19.05	19	19	33	19			
20.0	20						
25.0	25						
25.4	25	25		25	25		

6	
Código	Espessura (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

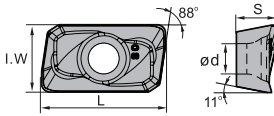
7			
Ângulo de posição		Ângulo de folga	
	K_r		α_n
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	Outros	F	25°
		G	30°
		N	0°
		P	11°

8			
Proteção de Aresta			
	arestas agudas		arestas arredondadas
	aresta com chanfro T		arestas chanfradas e arredondadas
	arestas com duplo chanfro T		arestas com duplo chanfro T e arredondadas

9	
R	Direita
L	Esquerda
N	Neutro

10
Código Quebra Cavaco

Inserto Para Fresamento



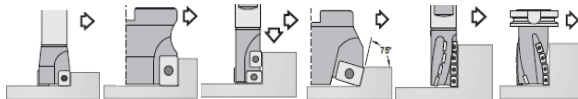
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

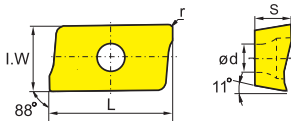
Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	I.W	s	d	r	YD201				Rotação	Corte
	ISO	ANSI										fn	pf
	APMT100304-LH		10.00	6.5	3.5	2.8	0.4	○				0.08-0.4	0.4-9.0
	APMT100308-LH		10.00	6.5	3.5	2.8	0.8	○				0.08-0.4	0.8-9.0
	APMT160408-LH		17.25	9.25	4.76	4.4	0.8	○				0.08-0.4	0.8-15.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		l	I.W	s	d	r	YBC251	YBG202	YBG302	Rotação	Corte	
	ISO	ANSI									fn	pf	
	APMT100304-DM		10.00	6.5	3.5	2.8	0.4	○	○	○		0.08-0.3	0.4-9.0
	APMT100308-DM		10.00	6.5	3.5	2.8	0.8	○	○	○		0.08-0.3	0.8-9.0
	APMT160408-DM		17.25	9.25	4.76	4.4	0.8	○	○	○		0.08-0.3	0.8-15.0

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	I.W	s	d	r	YD201	YBC251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI										fn	pf
	APMT100304-PR		10.00	6.5	3.5	2.8	0.4	○	○	○		0.08-0.35	0.4-9.0
	APMT100308-PR		10.00	6.5	3.5	2.8	0.8	○	○	○		0.08-0.35	0.8-9.0
	APMT160408-PR		17.25	9.25	4.76	4.4	0.8	○	○	○		0.08-0.35	0.8-15.0

Aplicação





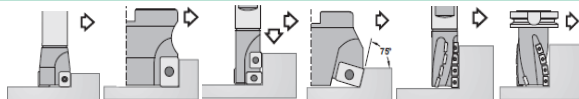
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.W	s	d	r	YD201			Rotação	Corte
	ISO	ANSI									fn	pf
	APKT10T304-LH		10.00	6.5	3.5	2.8	0.4	○			0.08~0.4	0.4~9.0
	APKT10T308-LH		10.00	6.5	3.5	2.8	0.8	○			0.08~0.4	0.8~9.0
	APKT11T304-LH		12.25	6.5	3.6	2.8	0.4	×			0.08~0.4	0.4~10.5
	APKT11T308-LH		12.25	6.5	3.6	2.8	0.8	○			0.08~0.4	0.8~10.5
	APKT160408-LH		17.90	9.33	5.76	4.4	0.8	○			0.08~0.4	0.8~15.5

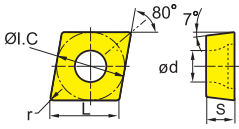
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.W	s	d	r	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI									fn	pf
	APKT10T304-PF		10.00	6.5	3.5	2.8	0.4	○	○	○	0.08~0.2	0.4~9.0
	APKT10T308-PF		10.00	6.5	3.5	2.8	0.8	○	○	○	0.08~0.2	0.8~9.0
	APKT11T304-PF		12.25	6.5	3.6	2.8	0.4	○	○	○	0.08~0.2	0.4~10.5
	APKT11T308-PF		12.25	6.5	3.6	2.8	0.8	○	○	○	0.08~0.2	0.8~10.5
	APKT160408-PF		17.90	9.33	5.76	4.4	0.8	○	○	○	0.08~0.2	0.8~15.5

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.W	s	d	r	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI									fn	pf
	APKT10T304-PM		10.00	6.5	3.5	2.8	0.4	○	○	○	0.08~0.3	0.4~9.0
	APKT10T308-PM		10.00	6.5	3.5	2.8	0.8	○	○	○	0.08~0.3	0.8~9.0
	APKT11T304-PM		12.25	6.5	3.6	2.8	0.4	×	×	○	0.08~0.3	0.4~10.5
	APKT11T308-PM		12.25	6.5	3.6	2.8	0.8	×	×	○	0.08~0.3	0.8~10.5
	APKT160408-PM		17.90	9.33	5.76	4.4	0.8	×	×	○	0.08~0.3	0.8~15.5


Aplicação

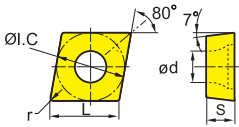


Inserto Para Fresamento




Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

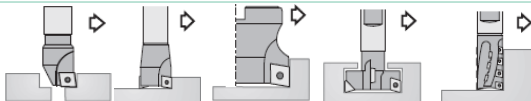
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.C	s	d	r	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI									fn	pf
	CCMT-06.02.02-HM		6.4	6.35	2.38	2.8	0.2	○	○	○	0.05-0.3	0.2-6.0
	CCMT-06.02.04-HM		6.4	6.35	2.38	2.8	0.4	○	○	○	0.05-0.3	0.4-6.0
	CCMT-09.T3.04-HM		9.7	9.52	3.97	4.4	0.4	×	×	○	0.05-0.3	0.4-9.0
	CCMT-09.T3.08-HM		9.7	9.52	3.97	4.4	0.8	×	×	○	0.05-0.3	0.4-9.0



Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.C	s	d	r	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI									fn	pf
	CPMT-06.02.04-Z		6.4	6.35	2.38	3.97	0.4	○	○	○	0.08-0.4	0.4-9.0
	CPMT-09.03.08-Z		9.7	9.52	3.18	3.97	0.4	○	○	○	0.08-0.4	0.8-9.0
	CPMT-09.T3.08-Z		9.7	9.52	3.97	3.97	0.8	○	○	○	0.08-0.4	0.8-15.0

Aplicação



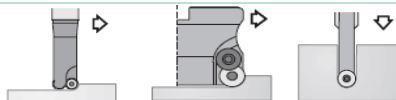
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.C	s	d	r	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI									fn	pf
	RCKT-10.T3.MO-DM		10.0	10.0	3.97	4.4	5	○	○	○	0.08-0.4	0.2-3.5
	RCKT-12.04.MO-DM		12.0	12.0	4.76	4.4	6	○	○	○	0.08-0.4	0.2-40
	RCKT-16.06.MO-DM		16.0	16.0	6.35	5.5	8	○	○	○	0.08-0.4	0.2-5.5

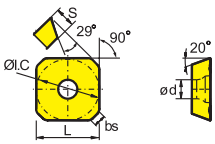
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	I.C	s	d	r	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI									fn	pf
	RDKT-07.02.MO		7.0	7.0	2.38	2.8	3.5	○	○		0.08-0.4	0.2-3.5
	RDKT-08.03.MO		8.0	8.0	3.18	3.5	4	○	○		0.08-0.4	0.2-40
	RDKT-10.03.MO		10.0	10.0	3.97	4.4	5	○	×		0.08-0.4	0.2-5.5
	RDKT-12.04.MO		12.0	12.0	4.76	4.4	6	○	×			
	RDKT-16.05.MO		16.0	16.0	5.56	5.5	8	○	○			
	RDKT-20.06.MO		20.0	20.0	6.35	6.5	10	○	○			


Aplicação





Inserto Para Fresamento



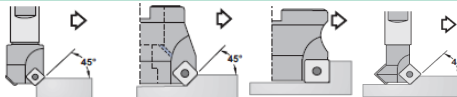
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	I.C	s	d	bs	YD201				Rotação	Corte
	ISO	ANSI										fn	pf
	SEET-12.T3.LH		13.4	13.4	3.97	4.1	2.55	○				0.08-0.4	0.4-8.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		l	I.C	s	d	bs	YBM251	YBG202	YBG302		Rotação	Corte
	ISO	ANSI										fn	pf
	SEET-12.T3.PM		13.3	13.3	3.97	4.1	2.55	○	○	○		0.1-0.3	0.4-8.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		l	I.C	s	d	bs	YBM251	YBG202	YBG302		Rotação	Corte
	ISO	ANSI										fn	pf
	SEET-12.T3.PR		13.3	13.3	3.97	4.1	2.55	○	○	○		0.2-0.4	0.4-8.0

Aplicação



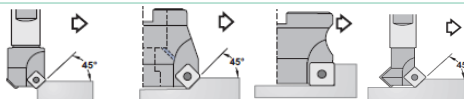
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	l.W	s	d	r	YD201				Rotação	Corte
	ISO	ANSI										fn	pf
	SEET-09.T3.04-LH		9.525	9.525	4.01	3.3	0.4	○				0.08-0.4	0.4-8.0
	SEET-12.T3.04-LH		13.30	13.3	4.04	4.1	0.4	○				0.08-0.4	0.4-12.0
	SEET-12.T3.08-LH		13.30	13.3	4.04	4.1	0.8	○				0.08-0.4	0.8-12.0

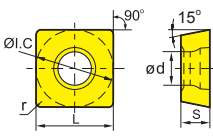
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		l	l.W	s	d	r	YBM251	YBG202	YBG302		Rotação	Corte
	ISO	ANSI										fn	pf
	SEET-09.T3.04-PM		9.525	9.525	4.01	3.3	0.4	○	○	○		0.1-0.3	0.4-8.0
	SEET-12.T3.04-PM		13.30	13.3	4.04	4.1	0.4	○	○	○		0.1-0.3	0.4-12.0
	SEET-12.T3.08-PM		13.30	13.3	4.04	4.1	0.8	○	○	○		0.1-0.3	0.8-12.0

Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de	
	Norma		l	l.W	s	d	r	YBM251	YBG202	YBG302		Rotação	Corte
	ISO	ANSI										fn	pf
	SEET-09.T3.08-PR		9.525	9.525	4.01	3.3	0.8	○	○	○		0.2-0.4	0.8-8.0
	SEET-12.T3.04-PR		13.30	13.3	4.04	4.1	0.4	○	○	○		0.2-0.4	0.4-12.0
	SEET-12.T3.08-PR		13.30	13.3	4.04	4.1	0.8	○	○	○		0.2-0.4	0.8-12.0


Aplicação

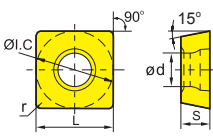


Inserto Para Fresamento




Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

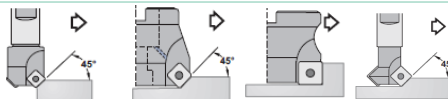
Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	l.W	s	d	r	YD201	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI										fn	pf
	SDMT-09.03.04-		9.525	9.525	3.18	4.4	0.4					0.1~0.25	0.4~9.0
	SDMT-09.03.08-		9.525	9.525	3.18	4.4	0.8					0.1~0.25	0.8~9.0



Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YBM251	P15-P40	M10-M20			
YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40			

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	l.W	s	d	r	YD201	YBM251	YBG202	YBG302	Rotação	Corte
	ISO	ANSI										fn	pf
	SDMT-09.T3.04-PM		9.525	9.525	3.97	4.0	0.4					0.1~0.3	0.4~9.0
	SDMT-09.T3.08-PM		9.525	9.525	3.97	4.0	0.8					0.1~0.3	0.8~9.0
	SDMT-09.T3.12-PM		9.525	9.525	3.97	4.0	1.2					0.1~0.3	1.2~9.0
	SDMT-12.04.08-PM		12.70	12.70	4.76	4.4	0.8					0.1~0.3	0.8~12.0
	SDMT-12.04.12-PM		12.70	12.70	4.76	4.4	1.2					0.1~0.3	1.2~12.0

Aplicação



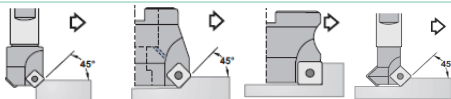
	Classes	Norma ISO				
		P	M	K	N	S
	YD201			K15-K35	N15-N30	
	YBM251	P15-P40	M10-M20			
	YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40				

Modelo	Descrição		Dimensão (mm)						Classes				Avanço	Prof.de
	Norma		l	l.W	s	d	r	YD201	YBM251	YBG202	YBG302	Rotação	Corte	
	ISO	ANSI												fn
	SPMT-06.03.04-		6.35	6.35	3.18	2.8	0.4	○	○	○		0.1~0.25	0.4~6.0	
	SPMT-09.T3.04-		9.53	9.53	3.97	4.0	0.8	○	○	○		0.1~0.25	0.4~9.0	
	SPMT-09.T3.08-		9.53	9.53	3.97	4.0	0.8	○	○	○		0.1~0.25	0.8~9.0	
	SPMT-12.04.08-		12.70	12.70	4.76	5.5	0.8	×	○	○		0.1~0.25	0.8~12.5	

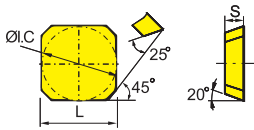
	Classes	Norma ISO				
		P	M	K	N	S
	YD201			K15-K35	N15-N30	
	YBM251	P15-P40	M10-M20			
	YBG202	P10-P30	M10-M20			S05-S20
YBG302	P25-P40	M25-M40				

Modelo	Descrição		Dimensão (mm)						Classes				Avanço	Prof.de
	Norma		l	l.W	s	d	r	YD201	YBM251	YBG202	YBG302	Rotação	Corte	
	ISO	ANSI												fn
	SPMT-09.T3.04-PM		9.525	9.525	3.97	4.0	0.4	○	○	○		0.1~0.3	0.4~9.0	
	SPMT-09.T3.08-PM		9.525	9.525	3.97	4.0	0.8	○	○	○		0.1~0.3	0.8~9.0	
	SPMT-09.T3.12-PM		9.525	9.525	3.97	4.0	1.2	○	○	○		0.1~0.3	1.2~9.0	
	SPMT-12.04.08-PM		12.70	12.70	4.76	5.5	0.8	○	○	×		0.1~0.3	0.8~12.0	
	SPMT-12.04.12-PM		12.70	12.70	4.76	5.5	1.2	○	○	○		0.1~0.3	1.2~12.0	

Aplicação

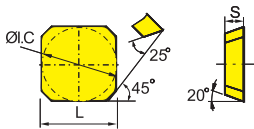


Inserto Para Fresamento



Classes	Norma ISO				
	P	M	K	N	S
YD-201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBC301	P15-P35				
YBM251	P15-P40	M10-M20			
YBM351	P25-P40	M20-M35			

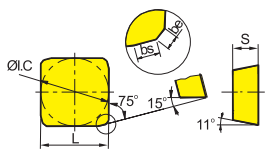
Modelo	Descrição		Dimensão (mm)			Classes					Avanço	Prof.de
	Norma		l	l.W	s	YD201	YC30S	YBC301	YBM251	YBM351	Rotação	Corte
	ISO	ANSI									fn	pf
	SEKN1203AFTN		12.70	12.70	3.18	×	○	×	○	×	0.1~0.4	0.4~7.5
	SEKN1504AFTN		15.87	15.87	4.76	○	×	○	×	○	0.1~0.4	0.4~10.0



Classes	Norma ISO				
	P	M	K	N	S
YD-201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBC301	P15-P35				
YBM251	P15-P40	M10-M20			
YBM351	P25-P40	M20-M35			

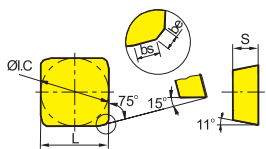
Modelo	Descrição		Dimensão (mm)			Classes					Avanço	Prof.de
	Norma		l	l.W	s	YD201	YC30S	YBC301	YBM251	YBM351	Rotação	Corte
	ISO	ANSI									fn	pf
	SEKR1203AFTN		12.70	12.70	3.18	○	×	○	○		0.1~0.4	0.4~7.5
	SEKR1504AFTN		15.87	15.87	4.76	○	○	○	○		0.1~0.4	0.4~10.0

Aplicação



Classes	Norma ISO				
	P	M	K	N	S
YD-201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBC301	P15-P35				
YBM251	P15-P40	M10-M20			
YBM351	P25-P40	M20-M35			

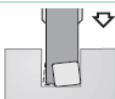
Modelo	Descrição		Dimensão (mm)					Classes					Avanço	Prof.de
	Norma		l	l.C	s	be	bs	YD201	YC30S	YBC301	YBM251	YBM351	Rotação	Corte
	ISO	ANSI											fn	pf
	SPKN1203EDTKR		12.70	12.7	3.18	1.0	1.4	×	○	×	○	×	0.1~0.4	0.4~9.0
	SPKN1504EDTKR		15.87	15.87	4.76	1.0	1.4	○	○	○	○	○	0.1~0.4	0.4~12.0



Classes	Norma ISO				
	P	M	K	N	S
YD-201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBC301	P15-P35				
YBC302	P15-P40	M10-M20			
YBM351	P25-P40	M20-M35			

Modelo	Descrição		Dimensão (mm)					Classes					Avanço	Prof.de
	Norma		l	l.C	s	be	bs	YD201	YC30S	YBC301	YBC302	YBM351	Rotação	Corte
	ISO	ANSI											fn	pf
	SPKR1203EDR-GM		12.70	12.7	3.18	1.0	1.4	×	○	×	○	×	0.1~0.4	0.4~9.0
	SPKR1504EDR-GM		15.87	15.87	4.76	1.0	1.4	○	○	○	○	○	0.1~0.4	0.4~12.0

Aplicação



Inserto Para Fresamento

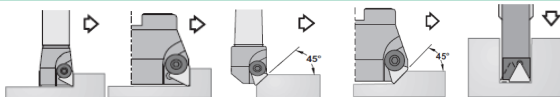
Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBC301	P15-P35				
YBM351	P25-P40	M20-M35			

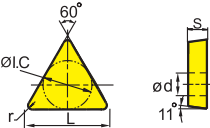
Modelo	Descrição		Dimensão (mm)						Classes				Avanço	Prof.de
	Norma		I	I.C	s	be	bs	YC30S	YD201	YBC301	YBM351	Rotação	Corte	
	ISO	ANSI										fn	pf	
	TPKN1603PDR		16.50	9.52	3.18	1.4	0.7	○	×	×	×	0.1~0.4	0.4~15.0	
	TPKN2204PDR		22.0	12.7	4.76	1.4	0.7	○	×	×	×	0.1~0.4	0.4~20.0	

Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBC301	P15-P35				
YBM351	P25-P40	M20-M35			


Modelo	Descrição		Dimensão (mm)						Classes				Avanço	Prof.de
	Norma		I	I.C	s	be	bs	YC30S	YD201	YBC301	YBM351	Rotação	Corte	
	ISO	ANSI										fn	pf	
	TPKR1603PDR		16.50	9.52	3.18	1.4	0.7	○	○	○	○	0.1~0.4	0.4~15.0	
	TPKR2204PDR		22.0	12.7	4.76	1.4	0.7	○	×	×	×	0.1~0.4	0.4~20.0	

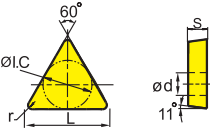
Aplicação






Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBM251	P15-P35				
YBM351	P25-P40	M20-M35			

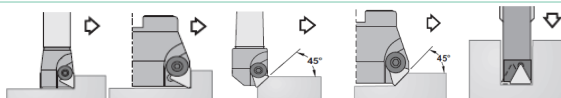
Modelo	Descrição		Dimensão (mm)					Classes			Avanço	Prof.de
	Norma		l	l.W	s	d	r	YC30S	YBM251	YBM351	Rotação	Corte
	ISO	ANSI									fn	pf
	TPGN090204-		9.6	5.56	2.38		0.4	○	○	○	0.05-0.3	0.4-8.0
	TPGN110204		11.0	6.35	2.38		0.4	○	○	○	0.05-0.3	0.4-10.0
	TPGN110208		11.0	6.35	2.38		0.8	○	○	○	0.05-0.3	0.8-10.0
	TPGN160304		16.5	9.52	3.18		0.4	○	○	○	0.05-0.3	0.4-14.0
	TPGN160308		16.5	9.52	3.18		0.8	○	○	○	0.05-0.3	0.8-14.0



Classes	Norma ISO				
	P	M	K	N	S
YD201			K15-K35	N15-N30	
YC30S	P25-P40	M25-M40			
YBM251	P15-P35				
YBM351	P25-P40	M20-M35			

Modelo	Descrição		Dimensão (mm)					Classes				Avanço	Prof.de
	Norma		l	l.W	s	d	r	YC30S	YD201	YBM251	YBM351	Rotação	Corte
	ISO	ANSI										fn	pf
	TPMR110204		11.0	6.35	2.38		0.4			×	○	0.05-0.3	0.4-10.0
	TPMR110208		11.0	6.35	2.38		0.8			○	○	0.05-0.3	0.8-10.0
	TPMR160304		16.5	9.52	3.18		0.4			×	○	0.05-0.3	0.4-14.0
	TPMR160308		16.5	9.52	3.18		0.8			×	○	0.05-0.3	0.4-14.0

Aplicação



Fresa de Topo Reto

Fresa de Topo Reto de 2 Cortes com Haste Paralela

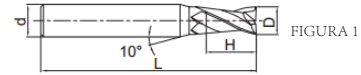


FIGURA 1

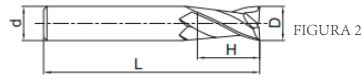


FIGURA 2

Revestimento
TiAlN

$D \leq 12$; $0 \sim -0.02$
 $12 < D$; $0 \sim -0.03$



Modelo	Dimensão				Número de cortes	Geometria
	D	d	H	L		
GM-2E-D1.0S	1.0	4	3	50	2	Figura 1
GM-2E-D1.5S	1.5	4	4	50	2	Figura 1
GM-2E-D2.0S	2.0	4	6	50	2	Figura 1
GM-2E-D2.5S	2.5	4	8	50	2	Figura 1
GM-2E-D3.0S	3.0	4	8	50	2	Figura 1
GM-2E-D4.0S	4.0	4	11	50	2	Figura 2
GM-2E-D1.0	1.0	6	3	50	2	Figura 1
GM-2E-D1.5	1.5	6	4	50	2	Figura 1
GM-2E-D2.0	2.0	6	6	50	2	Figura 1
GM-2E-D2.5	2.5	6	8	50	2	Figura 1
GM-2E-D3.0	3.0	6	8	50	2	Figura 1
GM-2E-D3.5	3.5	6	10	50	2	Figura 1
GM-2E-D4.0	4.0	6	11	50	2	Figura 1
GM-2E-D4.5	4.5	6	11	50	2	Figura 1
GM-2E-D5.0	5.0	6	13	50	2	Figura 1
GM-2E-D5.5	5.5	6	16	50	2	Figura 1
GM-2E-D6.0	6.0	6	16	50	2	Figura 2
GM-2E-D7.0	7.0	8	20	60	2	Figura 1
GM-2E-D8.0	8.0	8	20	60	2	Figura 2
GM-2E-D9.0	9.0	10	22	75	2	Figura 1
GM-2E-D10.0	10.0	10	25	75	2	Figura 2
GM-2E-D11.0	11.0	12	26	75	2	Figura 1
GM-2E-D12.0	12.0	12	30	75	2	Figura 2
GM-2E-D14.0	14.0	14	32	75	2	Figura 2
GM-2E-D16.0	16.0	16	45	100	2	Figura 2
GM-2E-D18.0	18.0	18	45	100	2	Figura 2
GM-2E-D20.0	20.0	20	45	100	2	Figura 2

Aplicação As fresas de topo reto de 2 cortes são indicadas principalmente para fresamento de canal, adequadas para usinagem de aços com dureza de até 50HRC, aço para moldes e aços liga.



Fresa de Topo Reto de 2 Cortes com haste paralela e comprimento longo

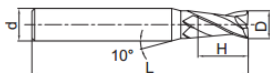


FIGURA 1

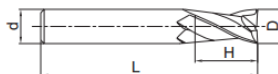


FIGURA 2

Revestimento	TiAlN	$D \leq 12$; $0 \sim -0.02$ $12 < D$; $0 \sim -0.03$
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Modelo	Dimensão				Número de cortes	Geometria
	D	d	H	L		
GM-2EL-D3.0	3.0	6	12	75	2	Figura 1
GM-2EL-D4.0	4.0	6	15	75	2	Figura 1
GM-2EL-D5.0	5.0	6	20	75	2	Figura 1
GM-2EL-D6.0	6.0	6	20	75	2	Figura 2
GM-2EL-D8.0	8.0	8	25	100	2	Figura 2
GM-2EL-D10.0	10.0	10	30	100	2	Figura 2
GM-2EL-D12.0	12.0	12	35	100	2	Figura 2
GM-2EL-D14.0	14.0	14	40	100	2	Figura 2
GM-2EL-D16.0	16.0	16	50	150	2	Figura 2
GM-2EL-D20.0	20.0	20	50	150	2	Figura 2

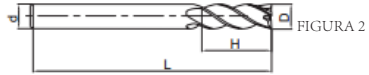
Aplicação

As fresas de topo reto de 2 cortes são indicadas principalmente para fresamento de canal, adequadas para usinagem de aços com dureza de até 50HRC, aço para moldes e aços liga.



Fresa de Topo Reto

Fresa de Topo Reto de 4 Cortes com haste paralela



Revestimento	TiAIN	$D \leq 12 ; 0 \sim -0.02$
		$12 < D ; 0 \sim -0.03$



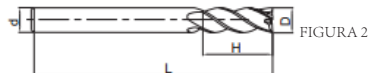
Modelo	Dimensão				Número de cortes	Geometria
	D	d	H	L		
GM-4E-D1.0S	1.0	4	3	50	4	Figura 1
GM-4E-D1.5S	1.5	4	4	50	4	Figura 1
GM-4E-D2.0S	2.0	4	6	50	4	Figura 1
GM-4E-D2.5S	2.5	4	8	50	4	Figura 1
GM-4E-D3.0S	3.0	4	8	50	4	Figura 1
GM-4E-D4.0S	4.0	4	11	50	4	Figura 2
GM-4E-D1.0	1.0	6	3	50	4	Figura 1
GM-4E-D1.5	1.5	6	4	50	4	Figura 1
GM-4E-D2.0	2.0	6	6	50	4	Figura 1
GM-4E-D2.5	2.5	6	8	50	4	Figura 1
GM-4E-D3.0	3.0	6	8	50	4	Figura 1
GM-4E-D3.5	3.5	6	10	50	4	Figura 1
GM-4E-D4.0	4.0	6	11	50	4	Figura 1
GM-4E-D4.5	4.5	6	11	50	4	Figura 1
GM-4E-D5.0	5.0	6	13	50	4	Figura 1
GM-4E-D5.5	5.5	6	16	50	4	Figura 1
GM-4E-D6.0	6.0	6	16	50	4	Figura 2
GM-4E-D7.0	7.0	8	20	60	4	Figura 1
GM-4E-D8.0	8.0	8	20	60	4	Figura 2
GM-4E-D9.0	9.0	10	22	75	4	Figura 1
GM-4E-D10.0	10.0	10	25	75	4	Figura 2
GM-4E-D11.0	11.0	12	26	75	4	Figura 1
GM-4E-D12.0	12.0	12	30	75	4	Figura 2
GM-4E-D14.0	14.0	14	32	75	4	Figura 2
GM-4E-D16.0	16.0	16	45	100	4	Figura 2
GM-4E-D18.0	18.0	18	45	100	4	Figura 2
GM-4E-D20.0	20.0	20	45	100	4	Figura 2

Aplicação

As fresas de topo reto de 4 cortes são indicadas principalmente para fresamento de acabamento lateral, adequadas para usinagem de aços com dureza de até 50HRC, aço para moldes, aços liga, aço inoxidável, etc.



Fresa de Topo Reto de 4 Cortes com haste paralela e comprimento longo



Revestimento	TiAlN	$D \leq 12$; $0 \sim -0.02$
		$12 < D$; $0 \sim -0.03$



Modelo	Dimensão				Número de cortes	Geometria
	D	d	H	L		
GM-4EL-D3.0	3.0	6	12	75	4	Figura 1
GM-4EL-D4.0	4.0	6	15	75	4	Figura 1
GM-4EL-D5.0	5.0	6	20	75	4	Figura 1
GM-4EL-D6.0	6.0	6	20	75	4	Figura 2
GM-4EL-D8.0	8.0	8	25	100	4	Figura 2
GM-4EL-D10.0	10.0	10	30	100	4	Figura 2
GM-4EL-D12.0	12.0	12	35	100	4	Figura 2
GM-4EL-D14.0	14.0	14	40	100	4	Figura 2
GM-4EL-D16.0	16.0	16	50	150	4	Figura 2
GM-4EL-D20.0	20.0	20	50	150	4	Figura 2

Aplicação

As fresas de 4 cortes de topo reto são indicadas principalmente para fresamento de acabamento lateral, adequadas para usinagem de aços com dureza de até 50HRC, aço para moldes, aços liga, aço inoxidável, etc.



Fresa de Topo esférico

Fresa de Topo esférico de 2 Cortes com haste

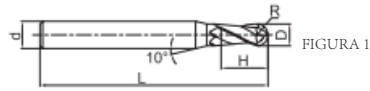


FIGURA 1

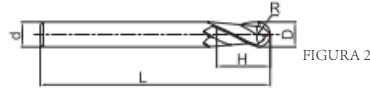


FIGURA 2

Revestimento	TiAIN	$D \leq 12$; 0~-0.02
		$12 < D$; 0~-0.03



Modelo	Dimensão				Número de cortes	Geometria
	D	d	H	L		
GM-2B-R0.5S	1.0	4.0	2.0	50	2	Figura 1
GM-2B-R0.75S	1.5	4.0	3.0	50	2	Figura 1
GM-2B-R1.0S	2.0	4.0	4.0	50	2	Figura 1
GM-2B-R1.25S	2.5	4.0	5.0	50	2	Figura 1
GM-2B-R1.5S	3.0	4.0	6.0	50	2	Figura 1
GM-2B-R2.0S	4.0	4.0	8.0	50	2	Figura 2
GM-2B-R0.5	1.0	6.0	2.0	50	2	Figura 1
GM-2B-R0.75	1.5	6.0	3.0	50	2	Figura 1
GM-2B-R1.0	2.0	6.0	4.0	50	2	Figura 1
GM-2B-R1.25	2.5	6.0	5.0	50	2	Figura 1
GM-2B-R1.5	3.0	6.0	6.0	50	2	Figura 1
GM-2B-R1.75	3.5	6.0	8.0	50	2	Figura 1
GM-2B-R2.0	4.0	6.0	8.0	50	2	Figura 1
GM-2B-R2.5	5.0	6.0	10.0	50	2	Figura 1
GM-2B-R2.75	5.5	6.0	12.0	50	2	Figura 1
GM-2B-R3.0	6.0	6.0	12.0	50	2	Figura 2
GM-2B-R3.5	7.0	8.0	14.0	60	2	Figura 1
GM-2B-R4.0	8.0	8.0	16.0	60	2	Figura 2
GM-2B-R4.5	9.0	10.0	18.0	75	2	Figura 1
GM-2B-R5.0	10	10.0	20.0	75	2	Figura 2
GM-2B-R6.0	12	12.0	24.0	75	2	Figura 2
GM-2B-R7.0	14	14.0	28.0	75	2	Figura 2
GM-2B-R8.0	16	16.0	32.0	100	2	Figura 2
GM-2B-R10.0	20	20.0	40.0	100	2	Figura 2

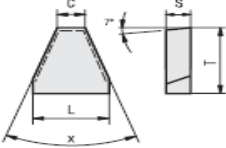
Aplicação

As fresas de topo esférico de 2 cortes são indicadas principalmente para fresamento de perfis, adequadas para usinagem de aços com dureza de até 50 HRC, aços para moldes, aços liga, etc.



NORMA ASA

Dimensão (mm)

Formato	Codigo	L	T	S	R	x	
	PGA	A104	25.4	15.9	7.9	5.0	34°
	A108	25.4	15.9	7.9	4.2	38°	
	B204	28.6	19.1	7.9	7.2	34°	
	B208	28.6	19.1	7.9	6.4	38°	
	C304	38.1	25.4	7.9	10.2	34°	
	C308	38.1	25.4	7.9	9.1	38°	

Formato	1000	2000	T	W	L	R
	1010	-	1.6	3.2	15.9	3.2
	1020	-	1.6	4.8	6.4	3.2
	1030	-	1.6	6.4	7.9	3.2
	1040	2040	2.4	4.8	7.9	3.2
	1050	-	2.4	4.8	12.7	3.2
	1060	2060	2.4	6.4	9.5	3.2
	1070	2070	2.4	6.4	12.7	3.2
	1080	-	2.4	7.9	9.5	4.8
	1090	2090	2.4	9.5	9.5	4.8
	1100	2100	2.4	9.5	12.7	4.8
	1105	-	2.4	11.1	12.7	6.4
	1110	-	3.2	4.8	19.1	3.2
	1120	2120	3.2	6.4	12.7	3.2
	1130	-	3.2	6.4	15.9	3.2
	1140	-	3.2	6.4	19.1	3.2
	1150	2150	3.2	7.9	11.1	4.8
	1160	2160	3.2	7.9	12.7	4.8
	1170	2170	3.2	7.9	15.9	4.8
	1180	2180	3.2	9.5	12.7	4.8
	1190	2190	3.2	9.5	19.1	4.8
	1200	2200	3.2	12.7	12.7	6.4
	1210	2210	3.2	12.7	19.1	6.4
	1215	2215	3.2	19.1	19.1	6.4
	1220	-	4	9.5	14.3	4.8

NORMA ASA

Dimensão (mm)

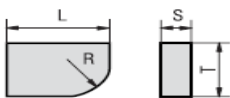
Formato	1000	2000	3000	T	W	L	R
	1230	2230	-	4	9.5	19.1	4.8
	1240	-	-	4	15.9	15.9	6.4
	1250	2250	-	4.8	7.9	11.1	4.8
	1260	2260	-	4.8	7.9	15.9	4.8
	1270	2270	-	4.8	9.5	12.7	4.8
	1280	-	-	4.8	9.5	15.9	4.8
	1290	2290	-	4.8	9.5	19.1	4.8
	1300	-	-	4.8	11.1	15.9	6.4
	-		2310	4.8	11.1	20.6	6.4
	1320	2320	-	4.8	12.7	12.7	6.4
	1330	2330	-	4.8	12.7	19.1	6.4
	1340	2340	-	4.8	19.1	19.1	6.4

Formato	5000	6000	T	W	L	R
	5080	6080	2.4	7.9	9.5	4.8
	5100	6100	2.4	9.5	13	4.8
	-	6200	3.2	13	13	6.4

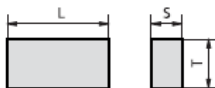
DIN 4966	Dimensão (mm)					
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Formato	Codigo	L	T	S	R	
F	4	4.0	12.0	2.0	2.0	
	5	5.0	14.0	2.5	2.5	
	6	6.0	16.0	3.0	3.0	
	8	8.0	18.0	4.0	4.0	
	10	10.0	20.0	5.0	5.0	
	12	12.0	25.0	6.0	6.0	

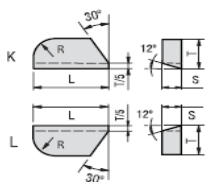
Formato	Codigo	L	T	S	R	
GH	6	6.0	4.0	2.0	2.5	
	8	8.0	5.0	2.0	3.0	
	10	10.0	6.0	2.5	4.0	
	12	12.0	8.0	3.0	5.0	
	16	16.0	10.0	4.0	6.0	



Formato	Codigo	L	T	S		
J	6	6.0	4.0	2.0		
	8	8.0	5.0	2.0		
	10	10.0	6.0	2.5		
	12	12.0	8.0	3.0		
	16	16.0	10.0	4.0		



Formato	Codigo	L	T	S	R	
K OU L	8	8.0	2.0	3.0	2.0	
	10	10.0	2.5	3.0	2.5	
	12	12.0	3.0	4.0	3.0	
	16	16.0	4.0	5.0		
	20	20.0	5.0	6.0		



DIN 8010

Dimensão (mm)

Formato	Codigo	Ø Broca	L	T	S	
	P	1.5	1.50	2.0	3.0	0.2
		2.0	2.00	2.5	3.5	0.3
		2.5	2.50	3.0	4.0	0.4
		3.0	3.00	3.5	4.5	0.5
		3.5	3.50	4.0	4.5	0.5

Formato	Codigo	Ø Broca	L	T	S	
	P	4.0	4.00	4.5	5.0	0.7
		4.5	4.50	5.0	5.0	0.7
		5.0	5.00	5.5	5.6	0.7
		5.5	5.50	6.0	6.0	0.8
		6.0	6.00	6.5	6.0	0.8
		6.5	6.50	7.0	6.3	1.0
		7.0	7.00	7.5	6.3	1.0
		7.5	7.50	8.0	7.1	1.4

DIN 8010

Dimensão (mm)

Formato	Codigo	Ø Broca	L	T	S
	8.0	8.00	8.5	7.1	1.4
	8.5	8.50	9.0	8.0	1.8
	9.0	9.00	9.5	8.0	1.8
	9.5	9.50	10.0	8.5	1.8
	10.0	10.00	10.5	8.5	2.0
	10.5	10.50	11.3	9.5	2.0
	11.0	11.00	11.8	9.5	2.0
	11.5	11.50	12.3	10.6	2.2
	12.0	12.00	12.8	10.6	2.2
	13.0	13.00	13.8	12.5	2.2
	14.0	14.00	14.8	12.5	2.2
	15.0	15.00	15.8	14.0	2.5
	16.0	16.00	16.8	14.0	2.5
	17.0	17.00	17.8	16.0	2.7
	18.0	18.00	18.8	16.0	2.7
	19.0	19.00	19.8	18.0	3.2
	20.0	20.00	20.8	18.0	3.2
	21.0	21.00	22.0	18.0	3.2
	22.0	22.00	23.0	19.0	3.6
	23.0	23.00	24.0	19.0	3.6
	24.0	24.00	25.0	20.0	4.1
	25.0	25.00	26.0	20.0	4.1
	26.0	26.00	27.0	21.2	4.1
	27.0	27.00	28.0	21.2	4.1
	28.0	28.00	29.0	22.4	4.6
	29.0	29.00	30.0	22.4	4.6
30.0	30.00	31.0	22.4	4.6	

P

DIN 8011		Dimensão (mm)						
Formato	Codigo	L	T	S	R	C	E	
	R	12	12.0	2.0	0.8	25.0	5.0	1.0
		16	16.0	2.5	1.2	25.0	7.1	0.8
		19	19.0	3.0	1.4	25.0	9.0	0.9
		22	22.0	3.5	1.8	25.0	11.2	1.0
		25	25.0	4.0	2.2	25.0	15.0	1.9
		30	30.0	5.0	2.8	25.0	18.0	1.9

Formato	Codigo	L	T	S	R	C	E	
	T	12	12.0	3.0	1.2	15.0	4.5	1.0
		16	16.0	3.5	3.5	15.0	7.5	0.9
		19	19.0	4.5	4.5	25.0	7.5	1.7
		22	22.0	5.6	5.6	25.0	9.5	2.3
		25	25.0	8.0	8.0	25.0	10.0	3.0

Formato	Codigo	L	T	S	R	C	E	
	U	12	12.0	5.6	1.2	15.0	1.4	1.2
		16	16.0	6.7	1.6	15.0	4.0	0.7
		19	19.0	8.0	2.0	25.0	2.5	1.8
		22	22.0	11.2	2.5	25.0	2.8	2.2
		25	25.0	14.0	2.8	25.0	4.0	2.6

Formato	Codigo	L	DIN E 8012				
	Ø	5	12.0				
		7	14.0				
		11	20.0				
		14	22.0				
		18	30.0				

SMS		Dimensão (mm)						
Formato	Codigo	L	T	S	R			
	E	12	4.0	12.0	3.0	2.0		
		14	5.0	14.0	3.0	2.5		
		16	6.0	16.0	3.0	3.0		
		18	8.0	18.0	4.0	4.0		
		20	10.0	20.0	5.0	5.0		
		25	12.0	25.0	6.0	6.0		
		32	16.0	32.0	8.0	8.0		

Formato	Codigo	L	T	S			
	F	10	10.0	12.0	4.0		
		13	13.0	15.0	4.0		
		16	16.0	18.0	5.0		
		20	20.0	20.0	7.0		
		25	25.0	25.0	8.0		
		30	30.0	30.0	9.0		
		40	40.0	35.0	10.0		
		50	50.0	40.0	10.0		
		60	60.0	45.0	10.0		

Formato	Codigo	L	T	S	R		
	G	8	8.0	12.0	4.0	1.0	
		10	10.0	14.0	4.0	1.5	
		12	12.0	17.0	5.0	2.5	
		16	16.0	20.0	6.0	3.5	
		20	20.0	24.0	6.0	4.5	
		25	25.0	28.0	8.0	6.0	
		30	30.0	34.0	10.0	8.0	

Formato	Codigo	L	T	S	C	X		
	CR	12	12.0	15.0	5.0	4.6	30°	
		16	26.0	18.0	6.0	5.5	7.2	32°
		20	20.0	22.0	6.0	7.2	9.5	33°
		25	25.0	30.0	8.0	9.5	15.2	34°
		35	35.0	40.0	10.0	15.2	34°	

SMS	Dimensão (mm)					
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Formato	Codigo	L	T	S		
	H	50	50.0	20.0	10.0	

Formato	Codigo	L	T	S		
	K	2.5	2.5	15.0	4.0	
		3.5	3.5	15.0	4.0	
		4.5	4.5	15.0	4.0	
		5.5	5.5	15.0	4.0	
		6.5	6.5	15.0	4.0	
		7.5	7.5	15.0	4.0	
		8.5	8.5	20.0	6.0	
		8.5	8.5	20.0	6.0	
		9.5	9.5	20.0	6.0	
		10.5	10.5	20.0	6.0	
		12.8	12.8	20.0	6.0	

Formato	Codigo	L	T	S	R	
	L	20	20.0	7.0	7.0	8.0
		25	25.0	8.0	8.0	10.0
		30	30.0	9.0	9.0	12.0

Formato	Codigo	L	T	S	R	
	M	20	20.0	6.0	4.0	3.0
		25	25.0	6.0	5.0	3.0
		30	30.0	8.0	6.0	4.0

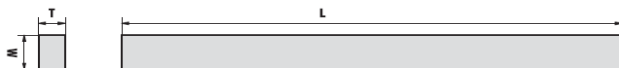
NORMA ISO -R.242		Dimensão (mm)					
Formato	Codigo	L	T	S	R		
	AB	5	5.0	3.0	2.0	2.0	
		6	6.0	4.0	2.5	2.5	
		8	8.0	5.0	3.0	3.0	
		10	10.0	6.0	4.0	4.0	
		12	12.0	8.0	5.0	5.0	
		16	16.0	10.0	6.0	6.0	
20	20.0	12.0	7.0	7.0			
	A OU B	12	12.0	8.0	5.0	5.0	
		16	16.0	10.0	6.0	6.0	
		20	20.0	12.0	7.0	7.0	
		25	25.0	14.0	8.0	8.0	
		32	32.0	18.0	10.0	10.0	
		40	40.0	22.0	12.0	12.0	
50	50.0	25.0	14.0	14.0			
	C	5	5.0	3.0	2.0		
		6	6.0	4.0	0.3		
		8	8.0	5.0	3.4		
		10	10.0	6.0	14.0		
	C	12	12.0	12.0	8.0	5.0	
		16	16.0	16.0	10.0	6.0	
		20	20.0	20.0	12.0	7.0	
		25	25.0	25.0	14.0	8.0	
		35	35.0	32.0	18.0	10.0	
		40	40.0	40.0	22.0	12.0	
50	50.0	50.0	25.0	14.0			

NORMA ISO -R.242

Dimensão (mm)

Formato	Codigo	L	T	S		
	D 3	3.5	8.0	3.0		
	D 4	4.5	10.0	4.0		
	D 5	5.5	12.0	5.0		
	D 6	6.5	14.0	6.0		
	D 8	8.5	16.0	8.0		
	D 10	10.5	18.0	10.0		
	D 12	12.5	20.0	12.0		

Formato	Codigo	L	T	S		
	E 4	4.0	10.0	2.5		
	E 5	5.0	12.0	3.0		
	E 6	6.0	14.0	3.5		
	E 8	8.0	16.0	4.0		
	E 10	10.0	18.0	5.0		
	E 12	12.0	20.0	6.0		
	E 16	16.0	22.0	7.0		
	E 20	20.0	25.0	8.0		
	E 25	25.0	28.0	9.0		
	E 32	32.0	32.0	10.0		




ESTILO	T	W	L	ESTILO	T	W	L	ESTILO	T	W	L	
STB 12	0.8	1.6	25.4	STB 38 D	2.4	6.4	127.0	STB 416 C	3.2	12.7	76.2	
STB 13	1.2	2.4	25.4	STB 310		7.9	152.4	STB 420		15.9	152.4	
STB 13 A		2.4	20.6	STB 310 A		7.9	50.8	STB 424		19.1	152.4	
STB 24 A	1.6	3.2	25.4	STB 310 B		7.9	76.2	STB 428		22.2	152.4	
STB 24 B		3.2	76.2	STB 310 C		7.9	127.0	STB 432		25.4	152.4	
STB 24 C		3.2	31.8	STB 312		9.5	127.0	STB 436		28.7	152.4	
STB 26 A		4.8	25.4	STB 340		31.8	152.4	STB 440		31.8	152.4	
STB 26 C		4.8	76.2	STB 348		38.1	152.4	STB 448		38.1	153.4	
STB 28 A		6.4	25.4	STB 46		3.2	4.8	152.4		STB 510	7.9	154.4
STB 28 B		6.4	31.8	STB 48 A			6.4	25.4		STB 512	9.5	155.4
STB 28 D		6.4	76.2	STB 48 B	6.4		31.8	STB 516	12.7	156.4		
STB 206		4.8	152.4	STB 48 C	6.4		57.2	STB 520	15.9	157.4		
STB 208		6.4	152.4	STB 48 D	6.4		76.2	STB 316	12.7	152.4		
STB 210	7.9	152.4	STB 48 E	6.4	152.4		STB 320	15.9	152.4			
STB 212	9.5	152.4	STB 410	7.9	152.4		STB 324	19.1	152.4			
STB 216	12.7	152.4	STB 410 A	4.0	7.9		38.1	STB 328	22.2	152.4		
STB 220	15.9	152.4	STB 410 B		7.9		76.2	STB 332	25.4	152.4		
STB 224	19.1	152.4	STB 412		9.5		50.8	STB 336	28.7	152.4		
STB 228	22.2	152.4	STB 412 A		9.5	50.8	STB 524	19.1	158.4			
STB 14	2.4	3.2	28.6		STB 412 B	9.5	76.2	STB 528	22.2	159.4		
STB 34		3.2	127.0		STB 412 C	9.5	152.4	STB 532	25.4	160.4		
STB 36		4.8	28.6		STB 412 D	9.5	25.4	STB 536	28.7	161.4		
STB 36 A		4.8	31.8		STB 416	12.7	152.4	STB 540	31.8	162.4		
STB 38 A		6.4	25.4		STB 416 A	12.7	25.4					
STB 38 B		6.4	38.1		STB 416 B	12.7	38.1					

Pastilha de Solda



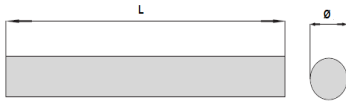
ESTILO	T	W	L	ESTILO	T	W	L
STB 68	4.8	6.4	152.4	Especial	1.5	10.0	100.0
STB 68 A		6.4	76.2	Especial	2.0	4.5	35.0
STB 610		7.9	152.4	Especial		5.0	40.0
STB 610 A		7.9	76.2	Especial		5.5	50.0
STB 612		9.5	152.4	Especial	3.0	8.0	37.0
STB 612 A		9.5	76.2	Especial		6.0	310.0
STB 616		12.7	152.4	Especial	8.0	310.0	
STB 616 A		12.7	76.2	Especial	10.0	100.0	
STB 616 G		12.7	95.0	Especial	10.0	310.0	
STB 620		15.9	152.4	Especial	12.0	310.0	
STB 620 A		15.9	76.2	Especial	3.2	12.7	100.0
STB 620 B		15.9	50.8	Especial		15.9	44.0
STB 624		19.1	152.4	Especial	4.0	6.0	310.0
STB 628		22.2	152.4	Especial		8.0	310.0
STB 632		25.4	152.4	Especial		10.0	310.0
STB 636		28.7	152.4	Especial		12.0	310.0
STB 640		31.8	152.4	Especial		14.0	310.0
STB 648		38.1	152.4	Especial		16.0	310.0
STB 812		9.5	152.4	Especial		17.0	150.0
STB 812 A		9.5	76.2	Especial		18.0	310.0
STB 816	12.7	152.4	Especial	20.0	150.0		
STB 816 A	12.7	76.2	Especial	20.0	310.0		
STB 820	15.9	152.4	Especial	22.0	310.0		
STB 820 A	15.9	76.2	Especial	24.0	310.0		
STB 824	19.1	152.4	Especial	25.0	150.0		
STB 824 A	19.1	76.2	Especial	4.8	12.7	50.0	
STB 828	22.2	77.2	Especial		12.7	75.0	
STB 832	25.4	78.2	Especial	12.7	95.0		
STB 836	28.7	79.2	Especial	12.0	310.0		
STB 840	31.8	80.2	Especial	5.0	14.0	165.0	
STB 848	38.1	81.2	Especial		16.0	165.0	

Bits - Metal Duro	Dimensão (mm)			Classe	
	A	B	L	P30	K10
	3.00	3.00	100.0		
	4.20	4.20	100.0		
	4.20	4.20	73.0		
	4.50	4.50	73.0		
	5.00	5.00	100.0		
	6.00	6.00	100.0		
	6.35	6.35	100.0		
	6.50	6.50	100.0		
	7.00	7.00	100.0		
	8.00	8.00	100.0		
	8.00	8.00	46.0		
	10.00	10.00	100.0		
	12.00	12.00	100.0		
	12.00	16.00	45.0		
	14.00	14.00	100.0		
	16.00	16.00	100.0		
20.00	20.0	100.0			

Cilindro Retificado-M.DURO	Dimensão (mm)		Classe	
	Ø	L	P30	K10
	3.00	100.0		
	4.00	100.0		
	5.00	100.0		
	6.00	100.0		
	7.00	100.0		
	8.00	100.0		
	9.00	100.0		
	10.00	100.0		
	12.00	100.0		
	14.00	100.0		
	16.00	100.0		
	18.00	100.0		
	20.00	100.0		
	22.00	100.0		
	25.00	100.0		

Pastilha de Solda

Cilindro Retificado-M.DURO	Dimensão (mm)		Classe	
	Ø	L	P30	K10
	2.00	330.0		
	3.00	330.0		
	4.00	330.0		
	5.00	330.0		
	6.00	330.0		
	7.00	330.0		
	8.00	330.0		
	9.00	330.0		
	10.00	330.0		
	11.00	330.0		
	12.00	330.0		
	13.00	330.0		
	14.00	330.0		
	15.00	330.0		
	16.00	330.0		
	17.00	330.0		
	18.00	330.0		
	19.00	330.0		
	20.00	330.0		
	21.00	330.0		
	22.00	330.0		
	24.00	330.0		
	25.00	330.0		

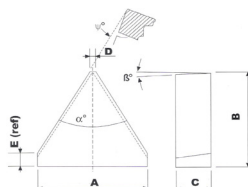


Pastilha Mineração Oitavada		Codigo	d	L	
	T	105	5.5	16.0	
		105A	5.5	3.2	

Pastilha Mineração Oitavada		Codigo	L	T	
	T	105B	5.5	16.0	
		107	7.0	15.0	
		110	10.0	16.0	

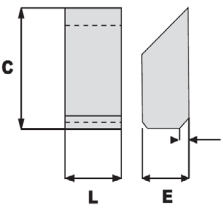
Pastilha Mineração Sextavado		Codigo	L	T	
	T	109	9.0	16.0	
		115	15.0	17.0	
		115	15.0	17.0	

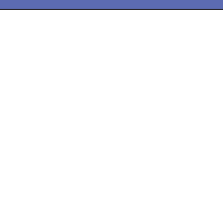
Pastilha Mineração BOTONS		Codigo	Ø	L	
	B	7210	7.2	10.0	
		7213	7.2	13.0	
		8210	8.2	10.0	
		8213	8.2	13.0	
		9213	9.2	13.0	



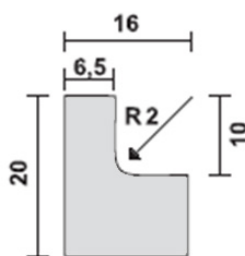
CÓDIGO	Dimensão (mm)								
	A	B	C	D	E(ref)	α°	β°	ψ°	
BPMO- 405014 45°	39.5	49.5	14,6	2.7	4.9	45	4	4	
	38.5	48.5							
BPMO- 425714 40°	43.0	58.0		2.8	2.5	40			
	42.0	56.0							
BPMO- 426614 35°	43.0	67.0		2.4	3.0	35			
	42.0	65.0							
BPMO- 518514 35°	51.0	85.0		14,0	2.7	8.7			35
	49.0	83.0							
BPMO- 568114 40°	56.0	81.0	2.7		7.9	40			
	54.0	79.0							
BPMO- 608014 45°	60.0	80.0	2.3		10.8	45			
	58.0	78.0							
BPMO- 647514 50°	64.0	75.0	2.3		9.1	50			
	62.0	73.0							

Dentes Para Fresas de Madeira

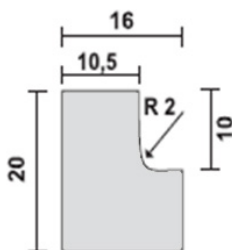
Formato	Codigo	Dimensão (mm)					
		C	L	E	C	L	E
	K10 PR	4,5	4	12	15	4	12
		5,0	4	12	16	4	12
		5,5	4	12	17	4	12
		6,0	4	12	18	4	12
		6,5	4	12	19	4	12
		7,5	4	12	20	4	12
		7,0	4	12	22	4	12
		8,0	4	12	23	4	12
		8,5	4	12	25	4	12
		9,0	4	12	26	4	12
		10,0	4	12	32	4	12
		10,5	4	12	40	4	12
		11,0	4	12	50	4	12
		12,0	4	12	51	4	12
		12,5	4	12	60	4	12
13,0	4	12	80	4	12		
13,5	4	12	150	4	12		
14	4	12					

Formato	Codigo	Dimensão (mm)		
		C	L	E
	K10 PRR	7,0	4	14
		9,0	4	14
		10,0	4	14
		13,0	4	14
		14,0	4	14
		15,0	4	14
		16,0	4	14
		17,0	4	14
		18,0	4	14
		19,0	4	14
		20,0	4	14
		21,0	4	14
		22,0	4	14
		23,0	4	14
		24,0	4	14
150,0	4	14		

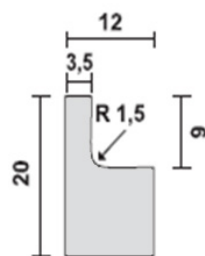
Formato	Dimensão (mm)						
	C	L	S	C	L	S	
	4,8	2,8	1,85	9,6	6,0	3,2	
	6,0	2,8	1,85		7,0	3,2	
	6,5	2,2	2,0		2,0	3,6	3,2
		2,8	2,0			5,5	2,2
	8,0	3,2	2,2		9,6	3,5	2,5
		3,6	2,2	3,5		3,5	
		4,0	2,0	4,0		2,5	
		4,0	2,2	4,0		3,5	
		4,5	2,0	4,5		2,5	
	9,6	3,1	2,2	10,3		4,5	3,5
		3,2	2,2			5,0	3,5
		3,2	3,2			5,5	2,5
		3,6	2,2			5,8	3,5
		4,0	2,2			6,0	3,5
		4,0	3,2		6,5	3,5	
		4,2	2,2		7,0	3,5	
		4,2	3,2		7,5	3,5	
		4,5	2,2		6,4	3,2	
		4,5	3,2		7,9	3,2	
		5,0	3,2		9,5	3,2	
		5,0	2,2		12,7	6,4	3,2
		5,2	2,2			7,9	3,2
	5,5	3,2	9,5	3,2			



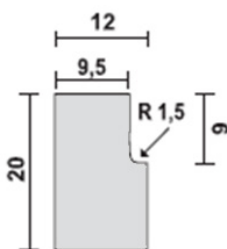
1F



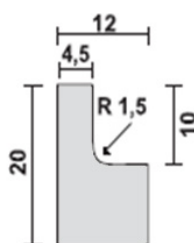
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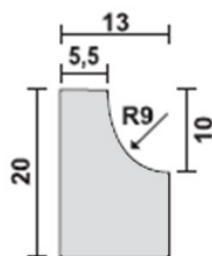
11F



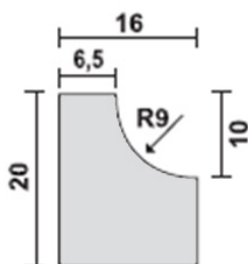
12F



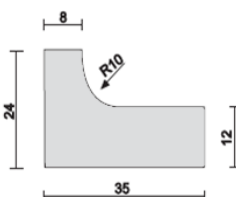
16F



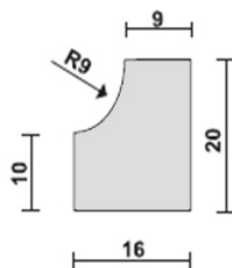
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22F

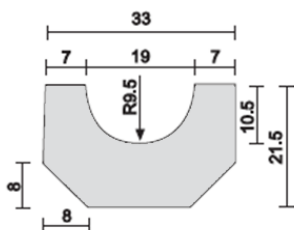


81FC

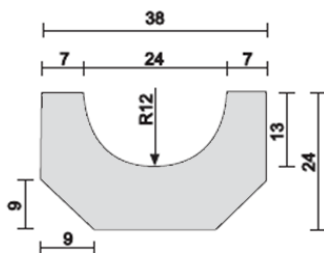


82F

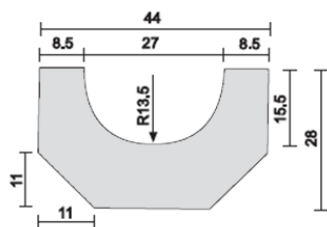
Pastilha Perfilada para Madeira



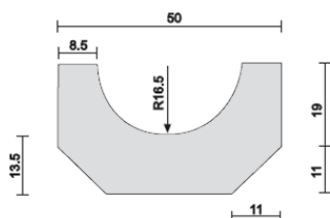
47FC



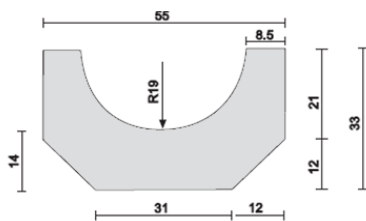
48FC



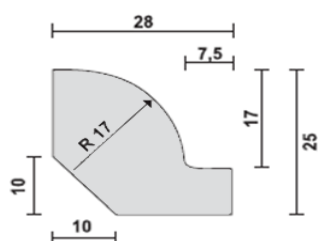
49FC



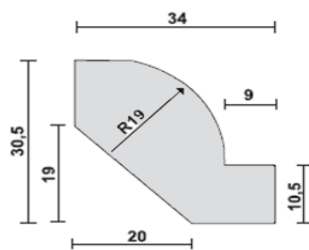
50FC



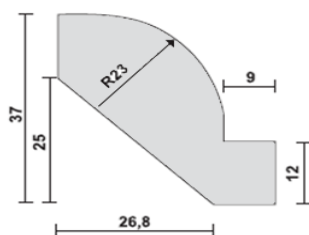
51FC



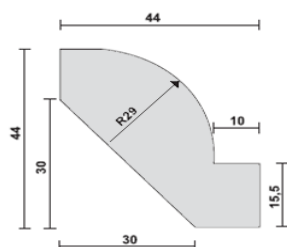
5F



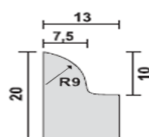
6F



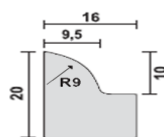
7F



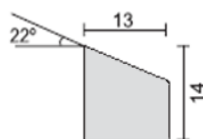
8F



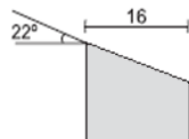
19F



20F

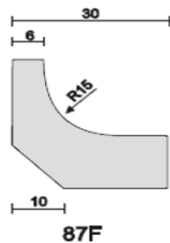
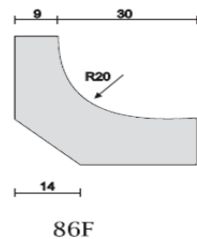
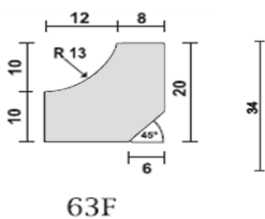
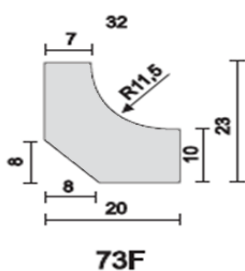
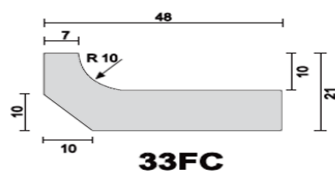
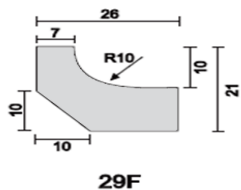
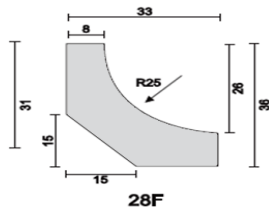
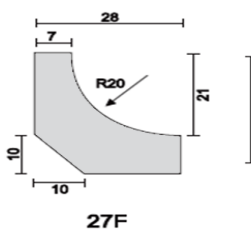
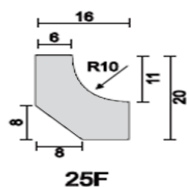
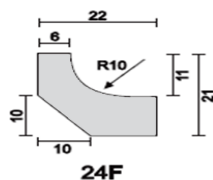
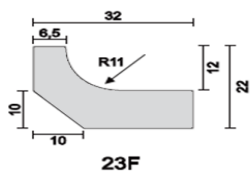


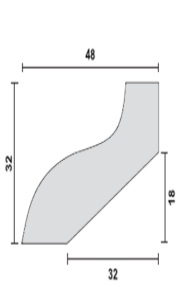
17F*



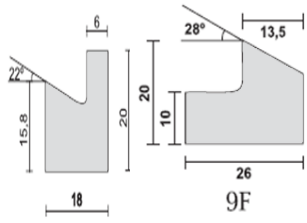
18F*

Pastilha Perfilada para Madeira

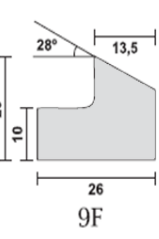




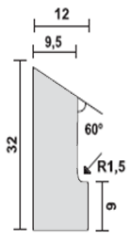
10F



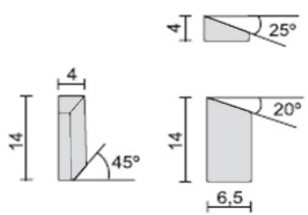
78F*



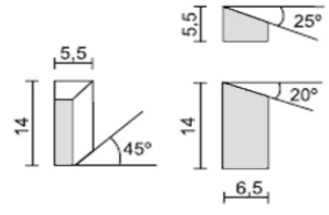
9F



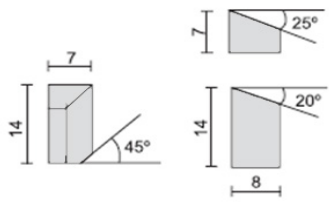
13F



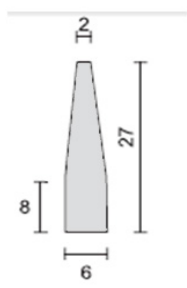
RASANTE 88F*



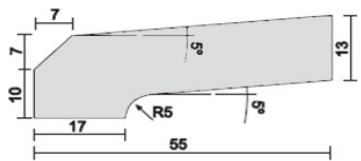
89 F



90 F



72F*



75FC

