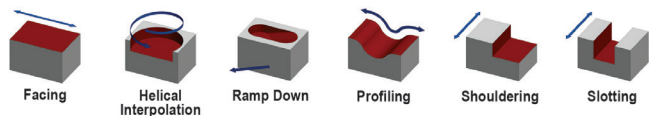


High performance milling for aluminium alloys



ALUPRO
XD 90-15 & XD 90-22

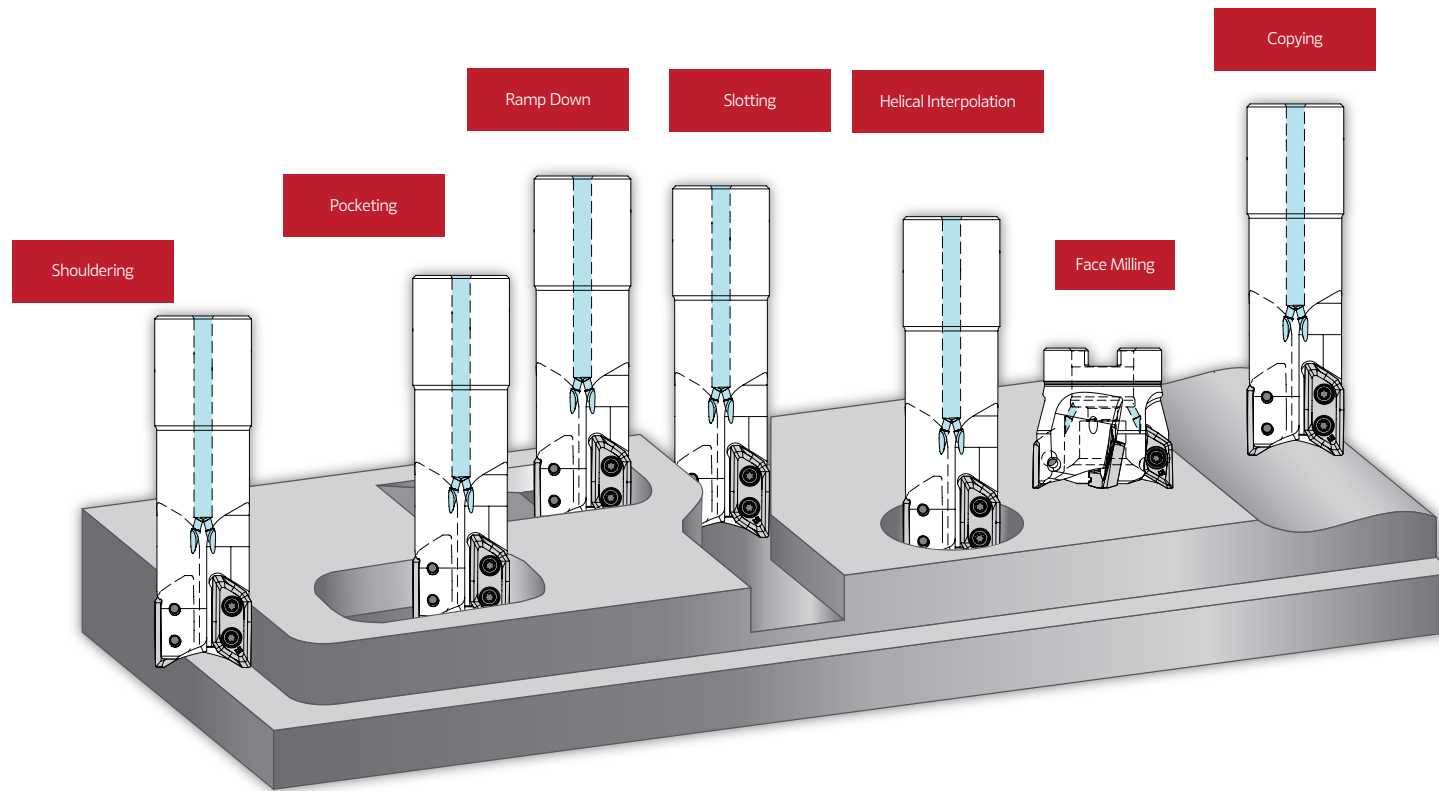


90° geometry on milling operations

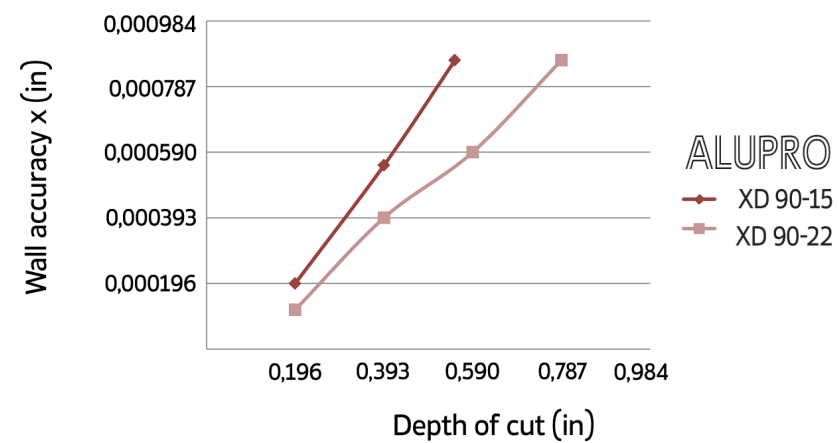
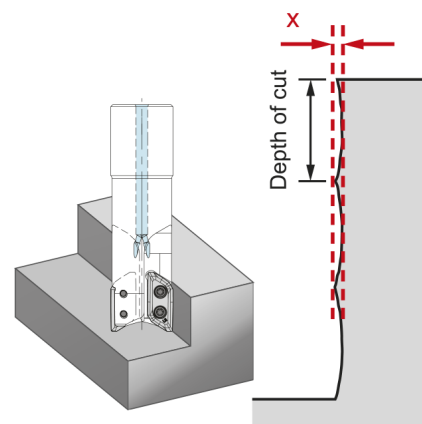
Arbor & Cylindrical

100
YEARS
SINCE 1916

MULTIFUNCTIONAL TOOL



WALL ACCURACY



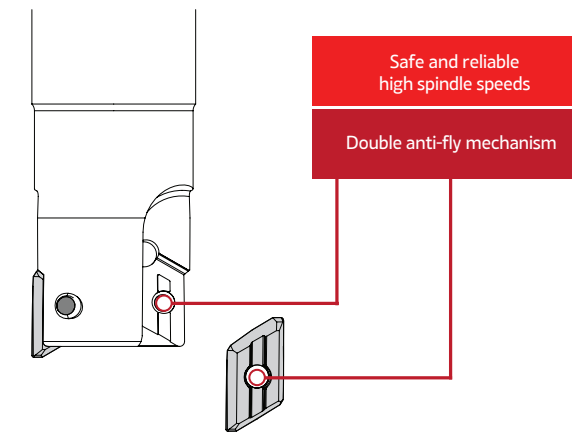
MAIN FEATURES

Cutters

Excellent multi functional milling tool for non-ferrous materials.

- High speed milling can be achieved due to double screw clamping & anti-fly system.
- High accuracy cutters to prevent vibrations at high speeds.

Anti-fly system

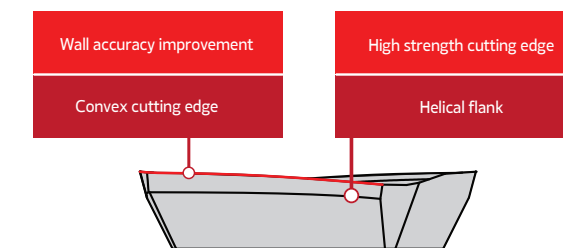


Inserts

High rake angle geometry that provides a good surface finish and low cutting forces.

- Sharp cutting edge to produce good chip flow and reduce build up edge.
- High helical angle offers cutting edge strength.
- Excellent 90° wall accuracy.

Low cutting resistance



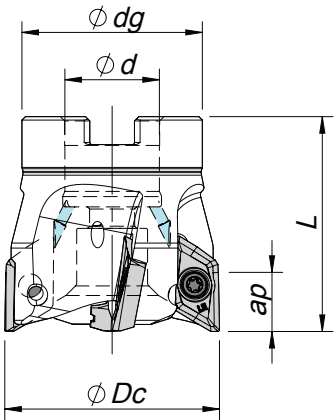
Specifications

Geometry: 90° milling operations.

- Cutter diameters:
 - Cylindrical (E): Ø .75 till Ø 1.50
 - Arbor Mounting (A): Ø 1.5 till Ø 5.00
- Workpiece materials: Aluminums & Non-ferrous alloys.



Arbor Mounting
K_r = 90° γ_p = +7°~+12°



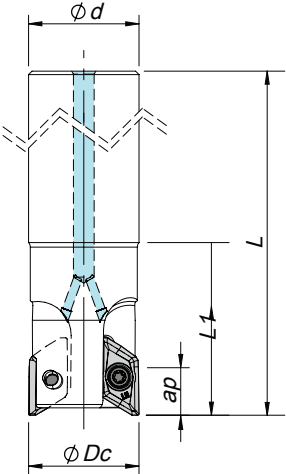
Order code Código	Reference Referencia		Dimensions (in) Dimensiones (in)					Specifications		Insert Inserto	Stock
			ØDc	Ød	Ødg	L		Ap max	Rpm max		
181104600	XD90 D1.50-A.500/2.00-03-15	3	1.500	.500	1.440	2.000	0.66	.590	29.000	XD... 15M5	
181104700	XD90 D2.00-A.750/2.00-04-15	4	2.000	.750	1.772	2.000	0.88	.590	24.000	XD... 15M5	
181104800	XD90 D2.50-A.750/2.50-05-15	5	2.500	.750	2.205	2.500	1.54	.590	21.000	XD... 15M5	
181104900	XD90 D3.00-A1.00/2.50-05-15	5	3.000	1.000	2.874	2.500	2.42	.590	19.000	XD... 15M5	
181105000	XD90 D4.00-A1.50/2.50-06-15	6	4.000	1.500	3.180	2.500	4.41	.590	16.000	XD... 15M5	

Stock item
Ítems de stock

Available under request
Disponible bajo consulta



Cilindrcal Shank
K_r = 90° γ_p = +7°~+12°

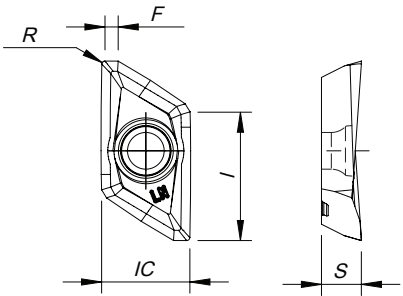


Order code Código	Reference Referencia		Dimensions (in) Dimensiones (in)					Specifications		Insert Inserto	Stock
			ØDc	Ød	L	L1		Ap max	Rpm max		
181105100	XD90 D0.75-C0.75/6.00-01-15	1	0.750	0.750	6.000	2.000	0.44	.590	40.000	XD... 15M5	
181105200	XD90 D1.00-C1.00/6.00-02-15	2	1.000	1.000	6.000	2.000	0.88	.590	38.000	XD... 15M5	
181105300	XD90 D1.25-C1.25/6.00-02-15	2	1.250	1.250	6.000	2.000	1.54	.590	33.000	XD... 15M5	
181105400	XD90 D1.50-C1.50/6.00-03-15	3	1.500	1.500	6.000	2.000	3.08	.590	29.000	XD... 15M5	

Stock item
Ítems de stock

Available under request
Disponible bajo consulta

XDGX 15M5.. INSERTS



	(2) Grade code	N	Dimensions (in)				
		10					
(1) Geometry code	Reference	PH0910	iC	S	I	R	F
1111624	XDGX 15M504 PDFR-LN		0,441	0,197	0,63	0,016	0,059
1111625	XDGX 15M508 PDFR-LN		0,441	0,197	0,63	0,031	0,043
1111626	XDGX 15M512 PDFR-LN		0,441	0,197	0,63	0,047	0,028
1111627	XDGX 15M516 PDFR-LN		0,441	0,197	0,63	0,063	0,016
1111628	XDGX 15M520 PDFR-LN		0,441	0,197	0,63	0,079	0,008
1111629	XDGX 15M532 PDFR-LN		0,441	0,197	0,63	0,126	0,024
1111630	XDGX 15M540 PDFR-LN		0,441	0,197	0,63	0,157	0,020
1111631	XDGX 15M550 PDFR-LN		0,441	0,197	0,63	0,197	0,016

First choice
1ª opción

Stock item
Ítems de stock

Available under request
Disponible bajo consulta

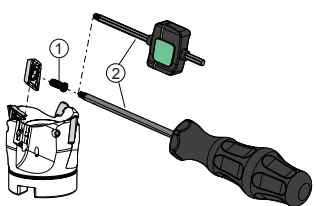
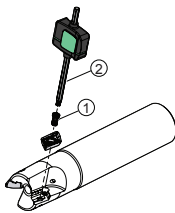
Inventory maintained. To be replaced by new grades
Ítems em stock. Serán reemplazados por nuevos grados

Order code = (1) Geometry code + (2) Grade code
Código = (1) Código de geometría + (2) Código de grado

Please take into consideration the holder type (A or B) and the insert corner radius, when choosing the insert.

SCREWS & KEYS

Cutter ØDc	1	2	
	Insert Screw	Key (Torx)	Torque Value
XD90-C-15 - 0.75-1.00	P0400803	XT15	27,4
XD90-C-15 - 1.25-1.50	P0400900	XT15	27,4
XD90-A-15 - 1.50-3.00	P0400900	XT15	27,4
XD90-A-15 - 4.00	P0400900	XT15	27,4

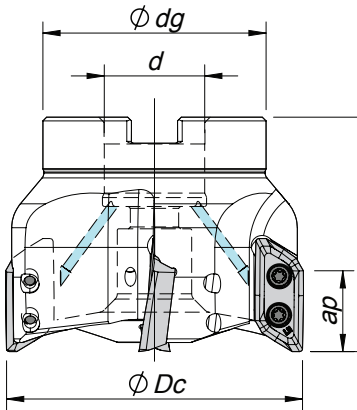


CHIP BREAKER

Chip breaker	Cutting Edge	Features
Geometry LN Aluminium alloys and non-ferrous		High positive chip-breaker, polished for applications of non ferrous (alluminum, cooper and cooper alloys).



Arbor Mounting
 $K_r = 90^\circ$ $\gamma_p = +7^\circ \sim +12^\circ$



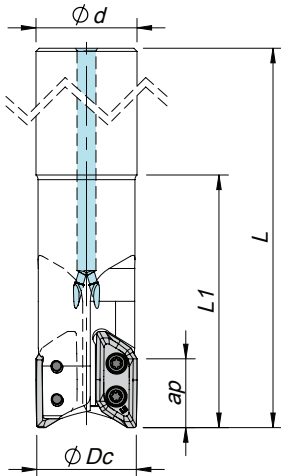
Order code Código	Reference Referencia		Dimensions (in) Dimensiones (in)					Specifications		Insert Inserto	Stock
			ϕDc	ϕd	ϕdg	L		Ap max	Rpm max		
181079500	XD90 D2.00-A.750/2.00-03-22	3	2.000	.750	1.772	2.000	0.98	.846	30.000	XD... 22M7	
181079600	XD90 D2.50-A1.00/2.00-03-22	3	2.500	1.000	2.205	2.000	1.41	.846	25.000	XD... 22M7	
181071700	XD90 D3.00-A1.00/2.50-04-22	4	3.000	1.000	2.205	2.500	2.96	.846	23.000	XD... 22M7	
181079700	XD90 D4.00-A1.25/2.50-05-22	5	4.000	1.250	2.874	2.500	5.43	.846	19.000	XD... 22M7	
181079800	XD90 D5.00-A1.50/2.50-06-22	6	5.000	1.500	3.180	2.500	6.72	.846	16.000	XD... 22M7	

Stock item
Ítems de stock

Available under request
Disponible bajo consulta



Cilindrical Shank
 $K_r = 90^\circ$ $\gamma_p = +7^\circ \sim +12^\circ$

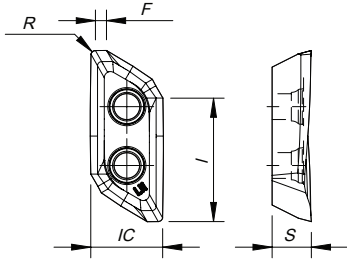


Order code Código	Reference Referencia		Dimensions (in) Dimensiones (in)						Specifications		Insert Inserto	Stock
			ϕDc	ϕd	ϕdg	L	L1		Ap max	Rpm max		
181069900	XD90 D1.25-C1.25/6.69-02-22	2	1.250	1.250	-	6.693	3.150	1.67	.846	41.000	XD... 22M7	
181079900	XD90 D1.50-C1.50/6.69-02-22	2	1.500	1.500	-	6.693	3.150	1.82	.846	36.000	XD... 22M7	

Stock item
Ítems de stock

Available under request
Disponible bajo consulta

XDGX 22M7.. INSERTS



(1) Geometry code	(2) Grade code Reference	N	Dimensions (in)				
		10					
		PH0910	iC	S	I	R	F
1111618	XDGX 22M708 PDFR-LN		0,512	0,276	0,866	0,031	0,079
1111619	XDGX 22M716 PDFR-LN		0,512	0,276	0,866	0,063	0,047
1111620	XDGX 22M720 PDFR-LN		0,512	0,276	0,866	0,079	0,031
1111621	XDGX 22M732 PDFR-LN		0,512	0,276	0,866	0,126	0,024
1111622	XDGX 22M740 PDFR-LN		0,512	0,276	0,866	0,157	0,035
1111623	XDGX 22M750 PDFR-LN		0,512	0,276	0,866	0,197	0,016

First choice
1ª opción

Stock item
Ítems de stock

Available under request
Disponible bajo consulta

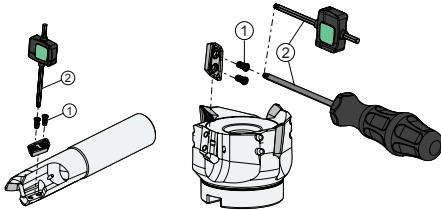
Inventory maintained. To be replaced by new grades
Ítems em stock. Serán reemplazados por nuevos grados

Order code = (1) Geometry code + (2) Grade code
Código = (1) Código de geometría + (2) Código de grado

Please take into consideration the holder type (A or B) and the insert corner radius, when choosing the insert.

SCREWS & KEYS

Cutter ϕDc	1	2	
	Insert Screw	Key (Torx)	Torque Value
XD90-C-22 - 1.25-1.50	P0401200	XT15	27,4
XD90-C-22 - 2.00-3.00	P0401200	XT15	27,4
XD90-C-22 - 4.00-5.00	P0401200	PT15	27,4

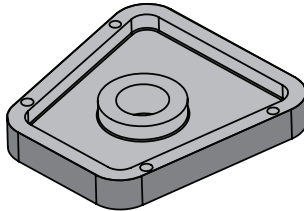


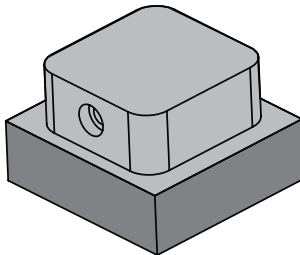
CHIP BREAKER

Chip breaker	Cutting Edge	Features
Geometry LN Alluminium alloys and non-ferrous		High positive chip-breaker, polished for applications of non ferrous (alluminum, cooper and cooper alloys).

CASE STUDIES

Improved productivity and Tool Life / Shortened Machining Time

ALUPRO XD 90-15	G-AlSi5Mg (3.2341)
Poketing Dc= 1.00in 2 flutes Vc=2952sfm ($n=11275\text{min}^{-1}$) fz=0.0078in/t ($V_f=225,2\text{in/min}$) apxae=0.315x0.787in Wet XDGX 15M508 PDFR-LN (PH0910)	
XD 90-15	9 workpieces done Productivity improved 44%
Competitor A	4 workpieces done
[Competitor A] Dc=1.00in 2 flutes Vc=2460sfm ($n=9397\text{min}^{-1}$) fz=0.0078in/t ($V_f=225,2\text{in/min}$) apxae=0.197x0.590in	[User Comments] <i>"Compared with conventional products, tool rigidity is high, obtaining an excellent surface finish as well as cutting performance."</i>

ALUPRO XD 90-22	G-AlSi5Mg (3.2341)
Shouldering Dc= 1.25 2 flutes Vc=3280sfm ($n=10022\text{min}^{-1}$) fz=0.0078in/t ($V_f=225,2\text{in/min}$) apxae=0.590x0.315in Wet XDGX 22M708 PDFR-LN (PH0910)	
[User Comments] <i>"With this solution we achieved excellent results in wall accuracy. The accuracy of under 0,000394in"</i>	