Broaching, gear cutting,
slotting and riveting system.

poliangolar®

The original. Since 1965.

poliangolar
BREVETTATO
MOD. 3100/S

Index

PATENT
ORIGINAL
SINCE 1965

MINISTERO DELL INDUSTRIA
UFFICIO CENTRALE

BREVETTO
PER
INVENZIONE
INDUSTRIALE

Company

For over 50 years our company has proved that, with good know-how, high quality and a brilliant idea, it has been able to enter into numerous markets.

In 1965, the founder Paolo Bremi invented and built the first Poliangolar, obtaining the patent as "**INDUSTRIAL INVENTION**".

The **Poliangolar®** is a device that has revolutionized broaching and its large application in several sectors, make it the ideal solution for producing a variety of polygonal profiles.

In 2003, after relentless research our company launched a new product, **Polikey®**, purpose -made equipment for producing various internal keyways and grooves.

In 2015 we celebrate 50 years of innovation and success with the design and construction of the bench automatic slotting machine **Polilabor mod. PLK 100®**.

Achieving these goals allows us to offer to the market a complete catalog of solutions, as well as to study, design and implement new projects.

Poliangolar®

What it does.

The **Poliangolar** is a rotary motion device suitable for machining blind or through holes, performing quick and accurate internal and external profiles of various shapes.

In addition to the standard profiles, such as hexagon, square and Torx, on request our toolholders are used to produce special serrations, involutes, splines, as per DIN 5480 - DIN 5481- DIN 5482, SAE J500, ANSI B 92 1st 1976 CUNA etc...

The device can be used for machining steel, stainless steel, aluminium, brass, titanium, bronze, other alloys and plastics.

How it works.

The rotary motion created by the device with the tool allows production of the broached form, that it is always preceded by a pre-drilled hole.

Tools are easily changed for the next shape required. The device is equipped with a lever that allows, if necessary, desired orientation of the tool shape.

How it is made.

The device is composed by a body made in hardened and tempered steel to which is inserted the tool producing the profile. All toolholders & tools are made in special & certified steel.

On what machines.

Poliangolar can be fitted to a wide range of machines both traditional, CNC lathe and transfer, allowing to complete the workpiece without further operations. The range of toolholders is available with standard shanks (Morse Taper, Cylindrical, Weldon) according to ISO / DIN (VDI, HSK, BT-MAS) and/or special shanks on request.

Poliangolar®
Toolholders for internal and external profiles.
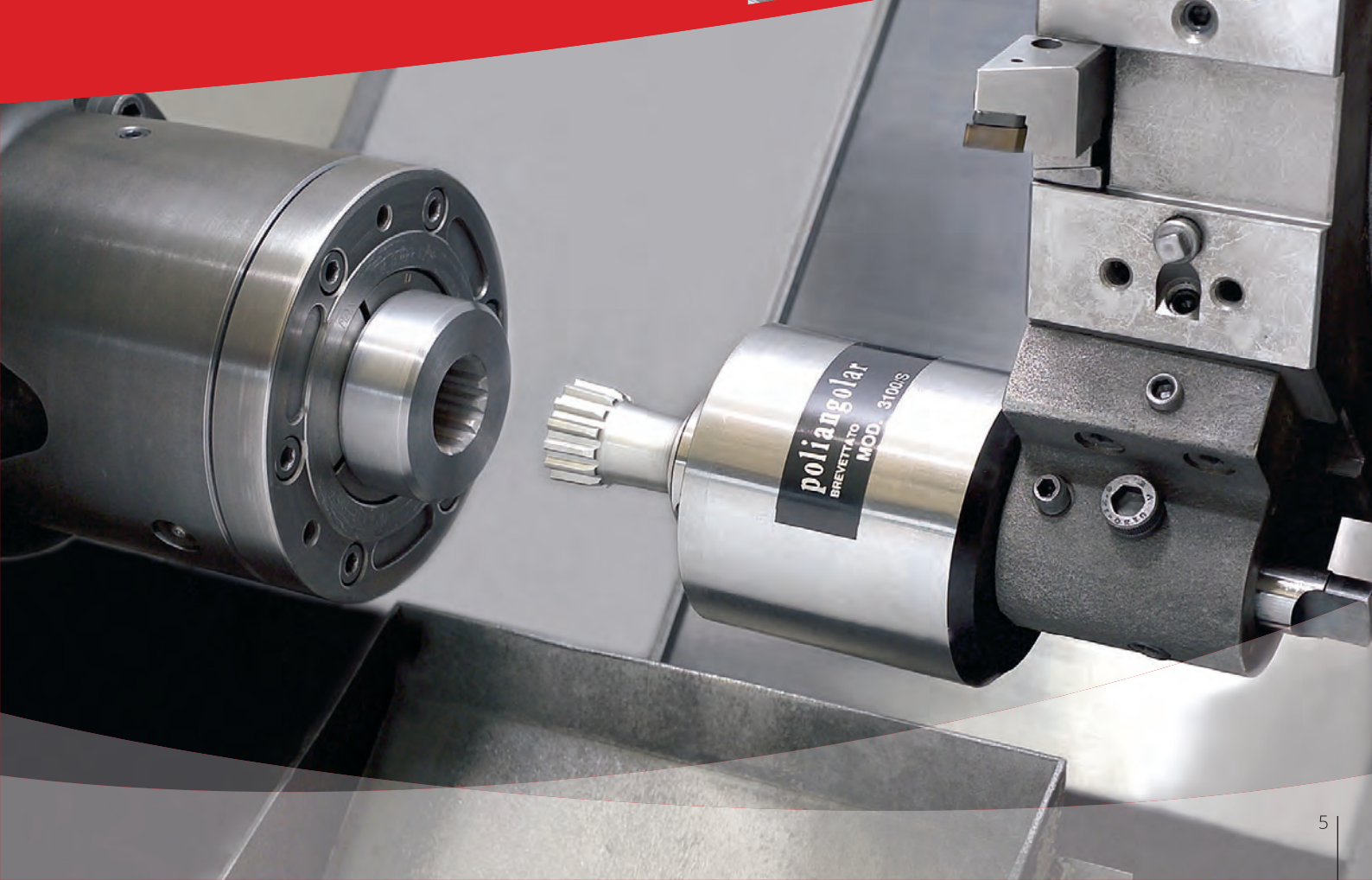
Technical data - Toolholders for INTERNAL profiles									
Model		**0100N**	**0200N**	**0500N**	**1100N**	**2100N**	**3100N**	**3100S**	**4100XS**
Max capacity for hexagonal profiles		≤5	≤10	≤12	≤14	≤24	≤40	≤40	≤50
Max capacity for square profiles		≤4	≤8	≤10	≤12	≤16	≤30	≤30	≤40
Max capacity for torx profiles		≤ T 15	≤ T 30	≤ T 60	≤ T 60	≤ T 100	≤ T 100	≤ T 100	≤ T 100
Max working depth		≤10	≤15	≤25	≤25	≤25	≤25	≤45	≤70/100
Overall dimensions (mm.)	D1	24	29,5	42	55	70	90	90	98
	D2	13	16	20	22	30	42	42	42
	L1	24	28,3	52,5	64	79	92,5	92,5	98
	L2	30	37,5	66,5	78	91,5	105,5	105,5	111
Overall dimensions "compact version"	L1	20	24,3	39,5	45,5	54,5	79,5	79,5	79,5
	L2	26	33,5	53,5	59,5	67,0	92,5	92,5	92,5
Morse Taper shank		-	-	2	2	3	3-4	3-4	3-4
Cylindrical shank	Ø	6 7 8 10 12-16-3/4" 20-22-1"	10 12 16 3/4" 20-22 25-1"	16 3/4" 20 22 25-1" 32	16 3/4" 20 25 1" 32	20 22 25 1" 32 40	25 1" 32 40	25 1" 32 40	25 1" 32 40
Weldon shank		-	16-20-25	16-20-25	20-25	20-25-32	25-32-40	25-32-40	32-40
VDI shank		-	20	20	20-30	30-40	30-40	30-40	40-50
MAS/BT shank		-	BT20	BT30	BT30	BT40	BT40-50	BT40-50	BT40-45
ISO-DIN69871/DIN2080 shank		-	ISO20	ISO30	ISO30	ISO40	ISO40-45	ISO40-45	ISO40-45
HSK – DIN69893 shank			40	50-63	50-63	63	80-100	80-100	100
Tool shank		NG06	NG08	NG12	NG12	NG16	NG16	SG16	XG16/XG25
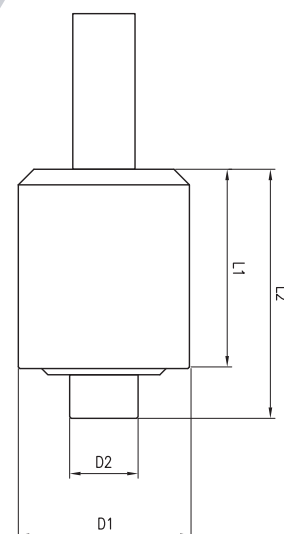
Technical data - Toolholders for EXTERNAL profiles

Model		0200E	0500E	5100E	7100E	8100E	9100E
Max capacity for hexagonal profiles		≤10	≤12	≤15	≤24	≤30	≤40
Max capacity for square profiles		≤8	≤10	≤10	≤16	≤24	≤32
Max capacity for torx profiles		≤ E8	≤ E8	≤ E18	≤ E18	≤ E24	≤ E24
Max working depth		≤15	≤25	≤30	≤30	≤52	≤77
Overall dimensions (mm.)	D1	29,5	42	55	70	90	98
	D2	30	30	50	50	58	88
	L1	28,3	52,5	64,5	79	92,5	98
	L2	51,3	88	99	113,5	150,5	181
Overall dimensions "compact version"	L1	24,3	39,5	45,5	54,5	79,5	79,5
	L2	33,5	75	59,5	67,0	92,5	92,5
Morse Taper shank			2	3	3	3-4	3-4
Cylindrical shank	Ø	10	12	16	20	25	25
		12	16	3/4″	22	1″	1″
		16	3/4″	20	25	32	32
		3/4″	20-25	25	1″	40	40
		20-22	22-25	1″	32		
		25-1″	32	32	40		
Weldon shank		16-20-25	16-20-25	20-25	25-32-30	25-32-40	32-40
VDI shank		20	20	20-30	30-40	30-40	40-50
MAS/BT shank		BT20	BT30	BT40	BT40-50	BT40-50	BT40-50
ISO-DIN69871/DIN2080 shank		ISO20	ISO30	ISO30	ISO40	ISO40-50	ISO40-50
HSK – DIN69893 shank		40	50-63	50-63	63	100	100
Tool shank		EG20	EG20	EG36	EG36	EG45	EG70

Poliangolar®

Tools for internal and external profiles.
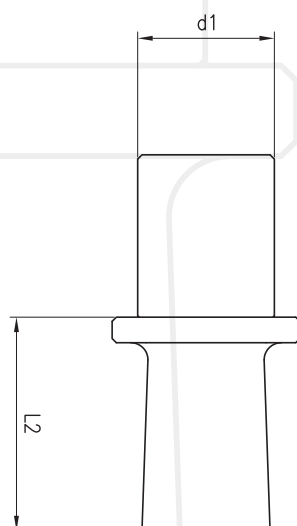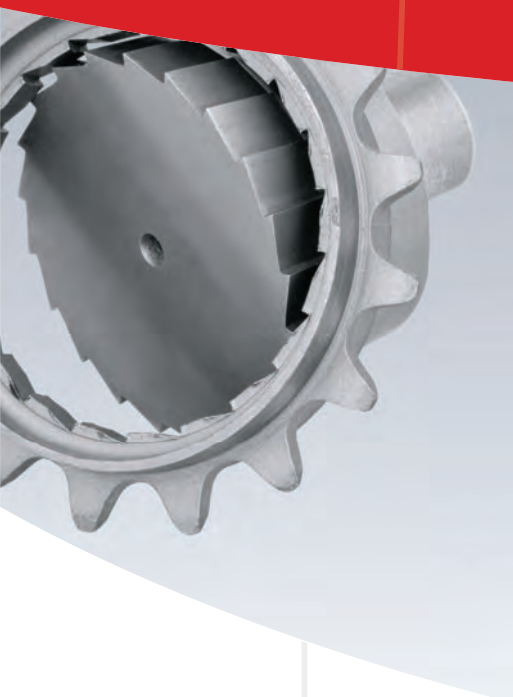
Technical data - Tools for internal profiles		
Model	**D1**	**L2**
NG06	6	10,5
NG08	8	15
NG12	12	25
NG16	16	25
SG16	16	45
XG16	16	70/100
XG25	25	70/100

****standard tolerance +0.05/+0.1**
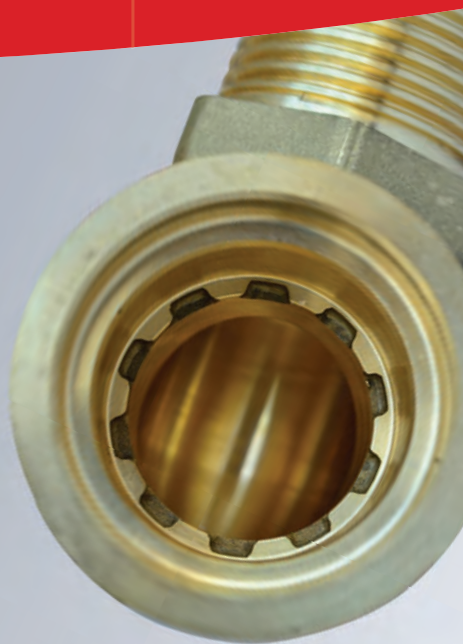
Technical data - Tools for external profiles

Model	D	d	L1
EG20	20	15	8,2
EG36	36	25	12,2
EG45	45	33	12,2
EG70	70	55	12,2
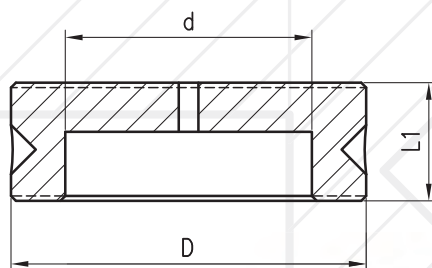
Available on request:
· special tools as per customer's technical
  specifications;
· several coatings (TIN-PVD, TIALN, TICN PLUS,
  HDP-RED).
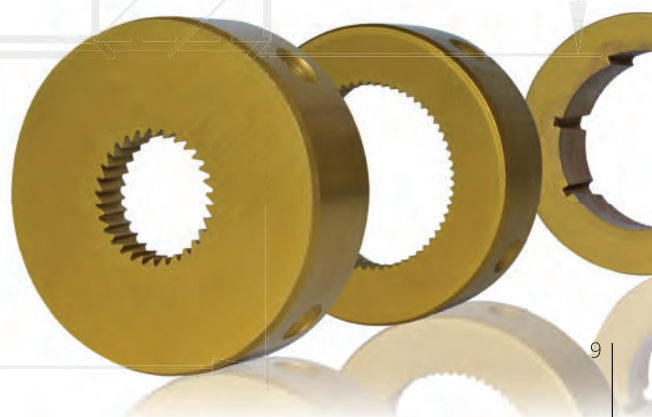
Polikey®

What it does.

The **Polikey** attachment is suitable for the production of internal keyways, slots, lubrication grooves of blind or through holes, deep holes and small diameters. Being a manual device, it does not need an automatic motion. For this reason, it is mainly used for repairs, maintenance or where is requested to perform single pieces or small series. This system is easy to use and allows a careful and precise machining, fast operation thanks to the system of rods and interchangeable guide bushes.

Features.

Polikey's features:

- Precision and constant straightness of keyway because of the guide bush
- Fast location and centring of workpiece
- Possibility to require special tools as per customer's technical specifications
- Cutting tools can be reground without affecting machining precision.

On what machines.

Polikey can be installed on conventional machine tools (lathes & drilling machines).

Max working depht "S"
3
90
Ø 48
CM2
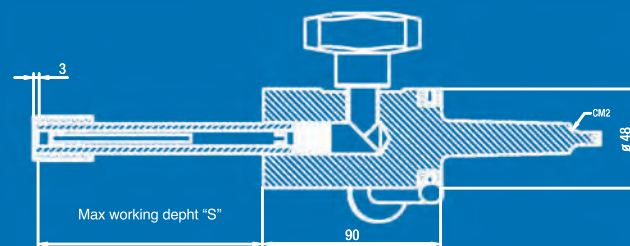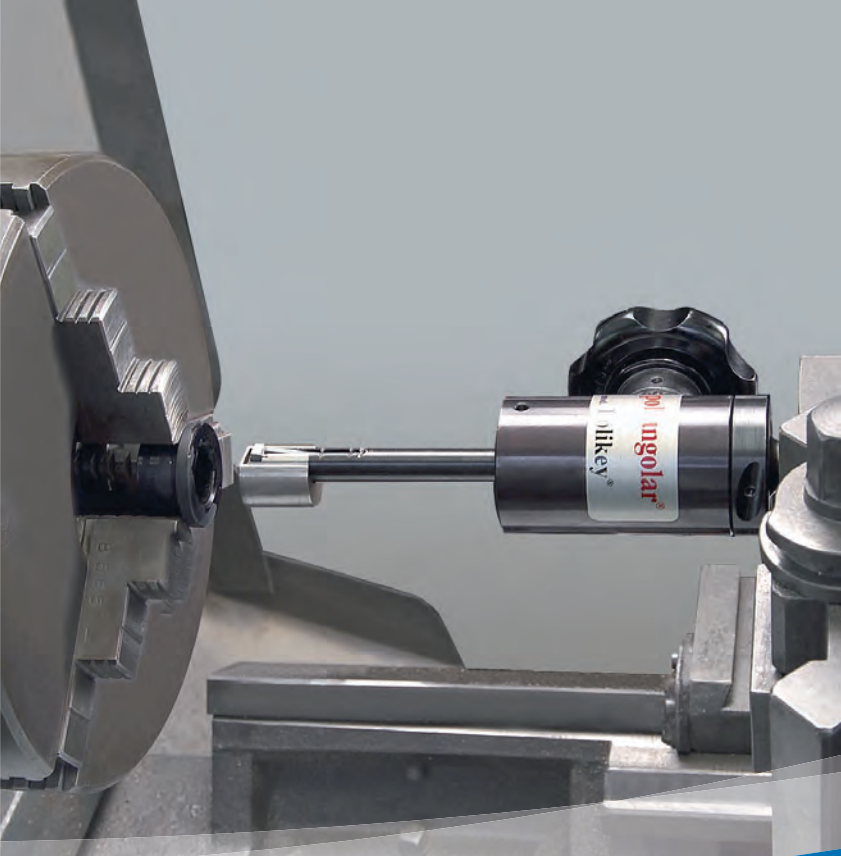
Technical data	TOOL'S BARS							
Model	S3	S4	S5	S6	S8	S10	S12	S14
Keyway size mm.	3	4	5	6	8	10	12	14
Ø Standard guide bush	8	10	15	20	25	32	40	45
Ø Other guide bush*	9 - 10	11 - 12	12 - 17	17 - 22	22 - 30	30 - 38	38 - 44	44 - 52
Working depth "S"	50	50	50	85	105	105	140	140
Weight Kg	1,300	1,400	1,500	1,650	1,800	2,000	2,200	2,500

* from keyway S3 upto keyway S8 entire toolbar   * from keyway S10 upto keyway S14 interchangeable guide bush

FULL KIT:

• Standard body equipped with Morse Taper 2;
• 8 tool bars including 8 guide bushes, 8 feed rods and 8 tools from mm.3 to mm.14 widths.

SINGLE KIT:

• Standard body equipped with Morse Taper 2;
• 1 tool bar composed by 1 guide bush, 1 feed rod and 1 tool at choice.

Poliriv®

	Ø 35 mm
Weight/kg	92,5 mm

Poliriv is a simple and efficient device suitable for riveting operations.
It can be installed on any machine tool by turning it into a riveting machine.

Technical data	
Capacity	Ø 35 mm
Shank	on request
Body outer diam.	90 mm
Body Length	92,5 mm
Weight/kg	4,800

* Tools on request upon receipt of sample

Polilabor Mod. Plk 100®

The bench slotting machine **Polilabor mod. PLK 100** has been designed and built to perform slotting and gear cutting operations of blind and through holes, in a fast and rapid way, thanks to the **automatic** system of feeding tool.
With the option of the rotary table, the machine PLK 100 is turned into a gear cutting machine.

Technical data	
Minimum internal diameter	8 mm
Maximum outside diameter	250 mm
Maximum vertical translation of the cutting tool	100 mm
Length of the groove	until 90 mm
Voltage	230 Volts - 50 Hz - 0.5 Kw - 6-8 (bar)

Activity Sector

Our toolholders are suitable both for large companies and small workshops operating in the following sectors:
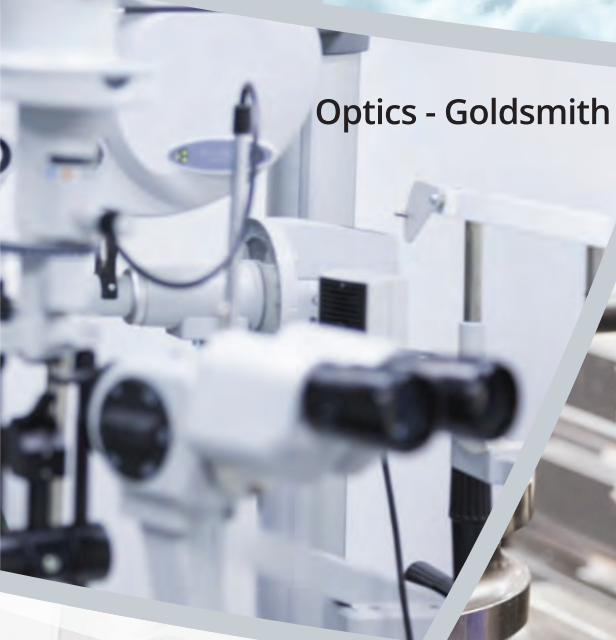
Automotive

Aerospace

Railway industry

Optics - Goldsmith

Maintenance and repair

High Tech & electronics

Hydraulic equipment

Pneumatic equipment

Naval industry

Textile industry

Water, Gas, Oil control systems

Medical & dental fields

Electromechanical equipment

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