Murata Wiedemann® catalog

MATRIX

Tooling for Punch Presses

MURATA WIEDEMANN® CATALOG

MATRIX

INDEX

MATRIX s.r.l. Via Ponte d'Oro - 36015 SCHIO (VI) Italy
Tel. +39 0445 671015 - Fax +39 0445 671035
www.matrixtools.eu - info@matrixtools.eu

BASIC CONCEPTS

For over 20 years **MATRIX** has been manufacturing tooling for working metal sheet, availing of highly qualified technicians who constantly update their knowledge about the different needs of the production cycle.

MATRIX also invests in best technologies: from sophisticate software for projecting to the computerization of productions data, from planning to the final tests of the products.

All this allows our company to reach a high qualitative standard, certified by the system **ISO 9001:2000** and to obtain fast delivery times even for special tooling supplies.

PUNCHES

Punches are manufactured in accordance with the most modern processes, as well as using a single type of steel (M2), and with their high vacuum thermal treatment they guarantee the best performances on all types of material; this performance could be further improved by the most modern surface coatings of TiAlN micro layer.
Matrix ensures the maximum care in dimensional and axial concentric accuracy, as well as in the roughness of the cutting part to guarantee its longer life.

STRIPPERS AND GUIDES

These tools are manufactured with steels that are resistant to both wear and the greatest stresses, and are produced with the strictest tolerances to guarantee long life to the punches and punch press turrets; all guides are hardened to 60 HR_C and, where possible, are provided with large lubrication channels.

DIES

Full automatic production cycles guarantee the quality standard of our dies which are manufactured with certified steel (D2), as well as having high vacuum treatment.
All possible technologies are employed to discharge cyclical tensions, as well as to avoid scraps reclimbing through the use of proper manufacturing geometry.
Dies, which are tested with computerized systems and with hourly frequency, guarantee a very high reliability level.

SPECIAL TOOLING

Considering the continuous requests of special tooling, MATRIX takes particular care of such a sector.
Our technical department, in short time, is able to give solutions, quotations and delivery times which are getting more and more close to the standard tooling ones.
Each special tool is coded in order to allow us an easy and quick tracking down during all its working phases, from design to testing.

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BASIC CONCEPTS

MATERIAL HARDNESS

Punching is usually carried out on mild or low alloy steel. On material with a higher resistance there are difficulties, and the processing requires special punches which however sustain a greater wear.
In any case, the maximum load necessary to execute punching must be definitely lower than the punch maximum resistance to compression *(see tonnage calculation formula on page 8)*.
The maximum compression load that the punch can tolerate depends on the type of steel and its hardness. For instance, an hardened steel for tools resistant to collisions can tolerate a compression load of 2000 N/mm^2 before reaching the breaking point, and can be used with specific working pressure up to 1500 N/mm^2, therefore providing good results to the life of the tool.
When you place an order for a punching tool, it is recommended to specify the type of material and thickness that must be punched.

MATERIAL THICKNESS IN RELATION TO HOLE DIAMETER

Material thickness also plays its part both alone and in relation to the punching diameter. This is particularly valid when the diameter of punched holes is close to the metal sheet thickness value.
A traditional rule says that the diameter of the punch must never be lower than the metal sheet thickness. Nevertheless, with the advent of the hydraulic punching machine, it has become possible to adjust the impact speed between the punch and metal sheet more easily and so partially overcome that rule.
In various cases, although with very great stresses, holes are punched on materials with a thickness higher than the hole diameter.
However, in these conditions there are great stresses and consequently higher wear and the tool life is proportionally lower.
The same great stresses that occur in this case require precautionary measures as well as respect for accident prevention norms, for instance the use of blockages and protections.
On the following pages there are some simple mathematical formulas to calculate the strength.

ROUNDING OFF AND SMOOTHING

The life of a stamp could be considerably influenced by the shape of the hole to be punched. The geometry that involves sharp corners is less favourable by nature. Wherever possible, it is necessary to smooth or round off these sharp corners. In the cases of square or rectangular holes, providing a 0,3÷0,5 mm minimum round off greatly helps the life of the tool.

THE MACHINE OPERATOR, THE MOST IMPORTANT FACTOR

Even with all of the constructive devices on the front of the tools and machines, the machine operator probably remains the most important factor in considering the life of the stamp. In fact, he directly controls various factors not noticeable in other ways.
The correct use of a punching machine is a task which requires experience: first of all, the machine operator must be familiar with the machine, and be informed on the previous points and related operations.
Punching operations are developed, as seen, with extremely high specific pressures and stresses, so that the safety of the machine and the operator must be appropriately considered in respect to regulations in force, but also without forgetting to use the measures that are requested by particular environmental conditions not foreseen by legislation.

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CLEARANCE CALCULATION AND CONTROL

The clearance value between punch and die affects not only the life of these two components, but also the surface evenness of the sheared piece. In practice, clearance is fixed in accordance with the material thickness as well as its nature.

A correct clearance produces (on a mild steel sheet) holes in which the upper third of the height is cylindrical and properly sheared, while the lower two thirds are lightly conical and show tear signs.

An inadequate clearance produces instead a secondary shearing effect which means additional wear on the punch.
As previously said, the lack of lubrication contributes to a progressive spontaneous increase of the punch diameter and therefore to a likewise progressive and spontaneous clearance reduction.

However, an excessive clearance produces holes with intermediate tear zone and, as a whole, a great loss of evenness on the surface.

Quoted below is a table for die clearance percentage calculations with regards the thickness and common types of material to be worked.
It is a table based on our own and our customers' experiences, in order to obtain the best quality on finished pieces and less wear on tools.

DIE CLEARANCE RELATED TO MATERIAL THICKNESS

Material	Thickness Range	Minimum or Blanking*	Standard	Maximum
Aluminium Copper Brass 20÷25% Kg/mm²	Up to mm 2	8%	10%	12%
	From mm 2 to mm 4	10%	12%	15%
	Over mm 4	12%	15%	20%
Mild Steel 30÷40% Kg/mm²	Up to mm 2,5	15%	18%	20%
	From mm 2,5 to mm 5	18%	22%	25%
	Over mm 5	20%	25%	30%
Stainless Steel 60÷80% Kg/mm²	Up to mm 1,5	15%	20%	22%
	From mm 1,5 to mm 3	18%	22%	25%
	Over mm 3	20%	25%	28%

***** Blanking: when the scrap is the requested part.

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PUNCHING STRAIN AND RELATED CALCULATIONS

TONNAGE GENERAL FORMULA			Material	Material K
$\frac{P \times S \times K}{28,3}$	P	Punch Perimeter	Aluminium	0,6
	S	Material Thickness	Copper	0,6
	K	Material Coefficient	Brass	0,6
			Mild Steel	1
			Stainless Steel	1,5
EXAMPLE:	$\frac{40 \text{ (perimeter of a square with mm 10 side)} \times 2 \text{ (material thickness in mm)} \times 1,5 \text{ (Stainless Steel K)}}{28,3}$		= 4,24 (tonnage)	

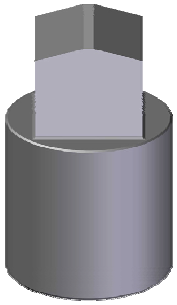
WHISPER SHARPENING

USE AND BENEFITS

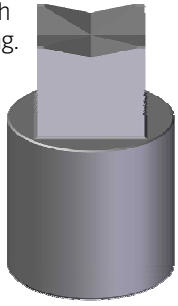
With whisper sharpening we mean the various geometry of the punch upper face that are made only upon request.
Sharpening benefits are:

- Tonnage reduction
- Scrap reclimbing reduction
- Ease of extraction
- Noise reduction
- Vibrations and counterblow reduction on all components of the machine

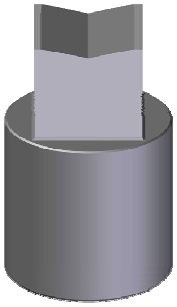
DWP
Double positive whisper: for high thickness and balanced load.



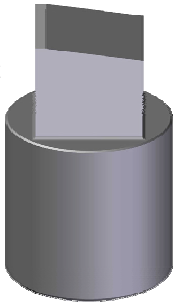
DWNT
Concave double negative whisper: for thin thickness and big punch shape nibbling.



WNT
Concave negative whisper: for thin thickness and small punch shape nibbling.



WN
Negative whisper: high thickness and stiff and fast machines (the inclined sharpening tends to shift the sheet).



Quoted below is an illustrative table showing tonnage reduction where we consider standard depth DWP sharpening.

Material Thickness in mm	1	1,5	2	2,5	3	4	5	6
% Tonnage reduction	60	50	40	35	25	20	15	10

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SURFACE COATINGS
USE AND BENEFITS

All tools (punches) could be coated on the surface to improve their working characteristics. The coating thickness, from 0,002 mm to 0,005 mm, adheres to punch surface by a PVD (Physical Vapour Deposition) processing and gives the surface a considerably greater hardness, and also a lubricating ability. It is a really effective barrier between tool and metal sheet.
MATRIX uses TiAlN (Titanium-Aluminium nitride) as coating.

This coating has a brown-black colouring, and gives the punch a higher superficial hardness up to four times the initial one and it is resistant to high temperature, near 900°C.
The damping factor has a factor equal to 0,31.
With these characteristics it is recommended for high speed (500÷1000 stroke per minute) punching machine users and it is excellent on Stainless Steel processing.

Coatings are on customer demand only, and are priced separately.

PROCESSING ON DEMAND

Radius on corners of the punches
Radius on square and rectangular corners of the punches (specify radius) increases the life of the punch and drastically reduces dies breaking near corners.

Whisper
Whisper punches: variable price increase (request quotation) depending on whisper type (see previous page) and punch dimensions.

Large punch rake (SPM)
It is recommended on material thicknesses over mm 4, where it helps punch reclimbing or punch extraction from metal sheet.

Coatings
Anti-wear coating available. We recommend coatings on nibbling or punching processing on seizing materials like Stainless Steel or alloys, or on any material high thicknesses.

Stiffened dies
On high material thicknesses or critical shapes we suggest stiffened dies which are suited to stand high compression.

Our Technical Office is at your disposal for any possible explanations, advice on better usage, feasibility and cheapness of special processing and their applications.

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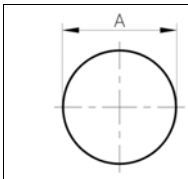
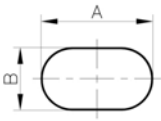
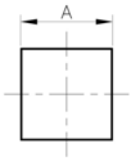
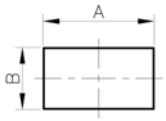
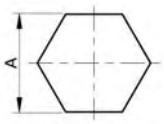
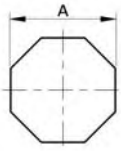
SHAPES CODING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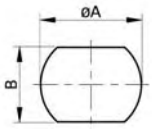	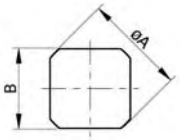	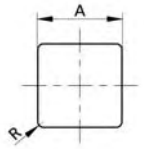	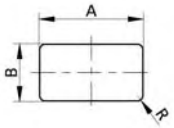	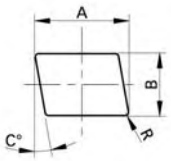	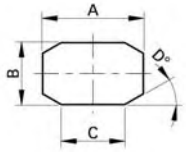
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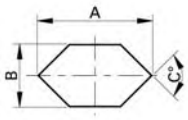	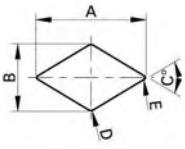	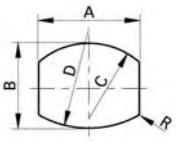	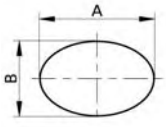	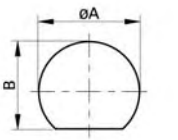	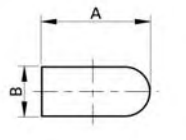
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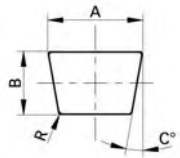	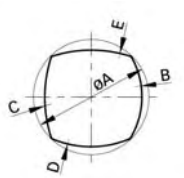	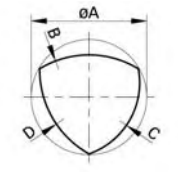	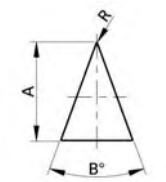	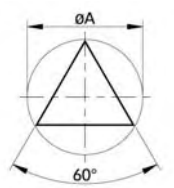	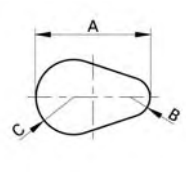
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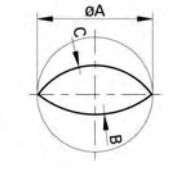	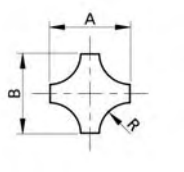	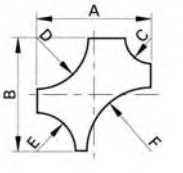	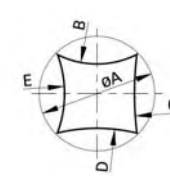	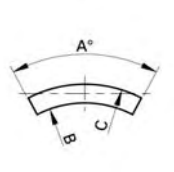	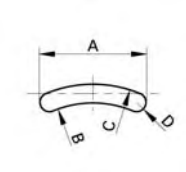
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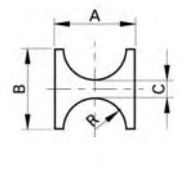	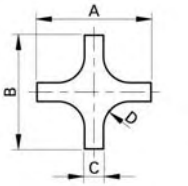	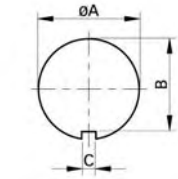	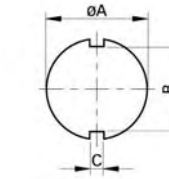	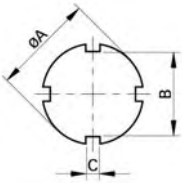	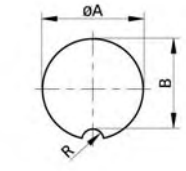
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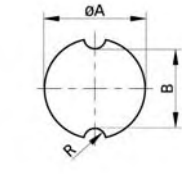	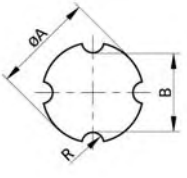	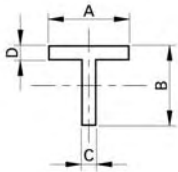	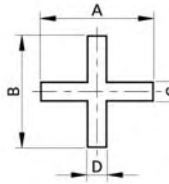	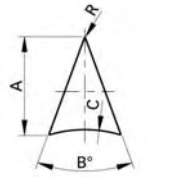	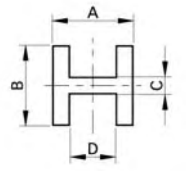
D05	D06	E01	E02	E03	E04

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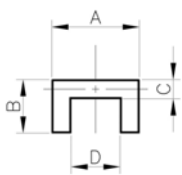
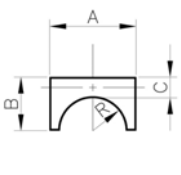
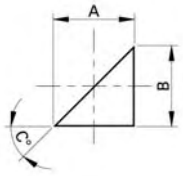
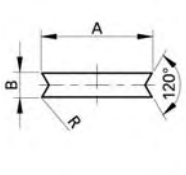
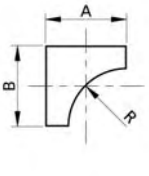
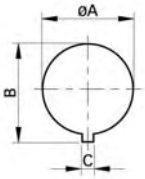
SHAPES CODING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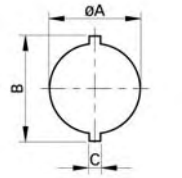	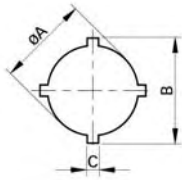	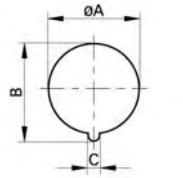	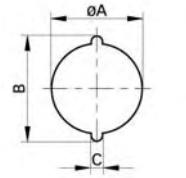	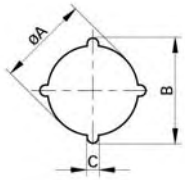	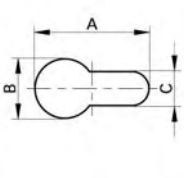
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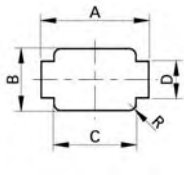
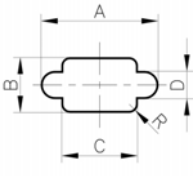
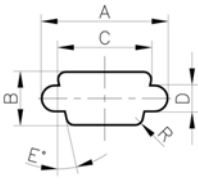
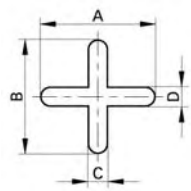
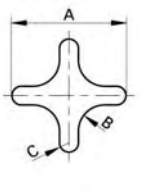
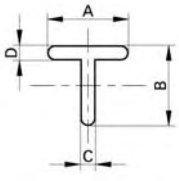
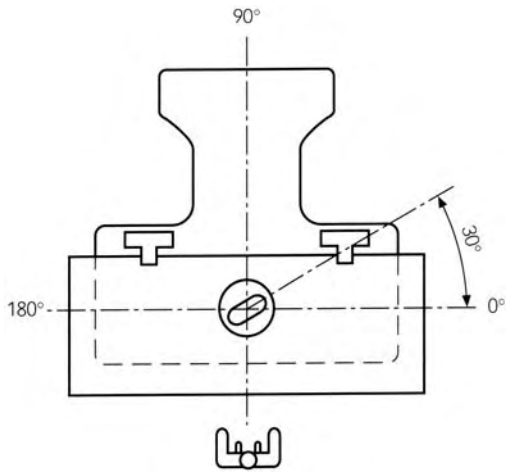
					
H08	H09	H10	H11	H12	H13

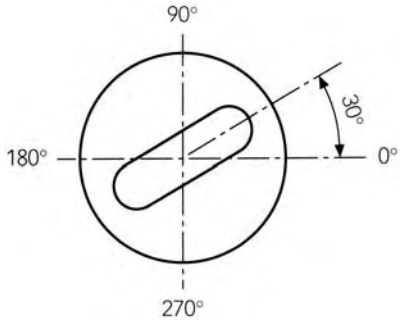
ANGLE SETTINGS

The diagram that follows is illustrative of angle settings



Top view of punch press

Attention: in case of order please specify the position of the references placed on the die housing of the machine (not only the shape orientation respect the die).



30° shape example

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PRODUCTS

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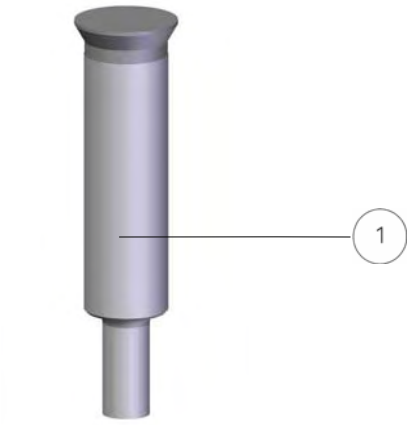
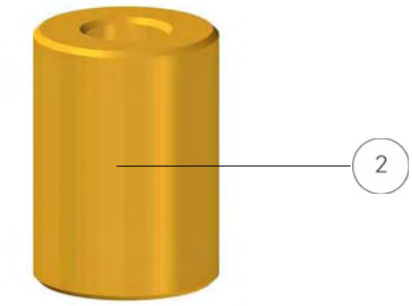
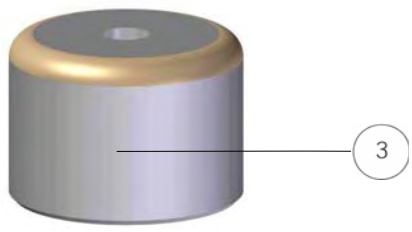
A STATION MAX ∅ = mm 12,7







POS.	CODE DESCRIPTION	PRICE
1	F6470000 Round Punch	
2a	F6474000 Polyurethane Stripper - Without Hole	
2b	F647U000 Polyurethane Stripper - With Hole	
3	F2802W00 Round Die	

OPTIONS		
	DWP Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variable W, please refer to page 27

TECHNICAL SPECIFICATION

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

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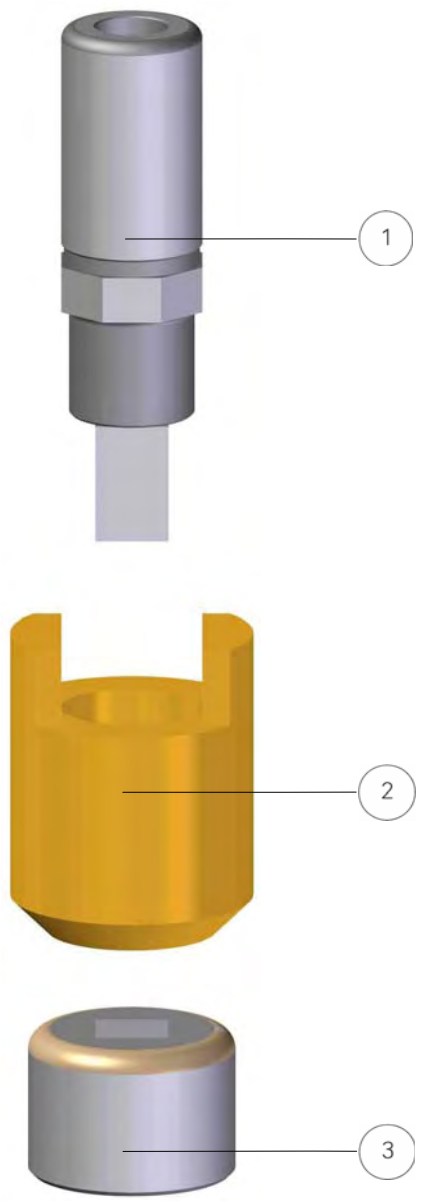
B STATION

MAX ⌀ □ = mm 25,4



POS.	CODE DESCRIPTION	PRICE
1a	F2800W00 Round Punch	
1b	F2810W01 Obround Punch	
1c	F2810W02 Square Punch	
1d	F2810W03 Rectangular Punch	
2a	F2804000 Polyurethane Stripper - Without Hole	
2b	F280U0XX Polyurethane Stripper - With Hole	
3a	F2802W00 Round Die	
3b	F2812W01 Obround Die	
3c	F2812W02 Square Die	
3d	F2812W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Strippers with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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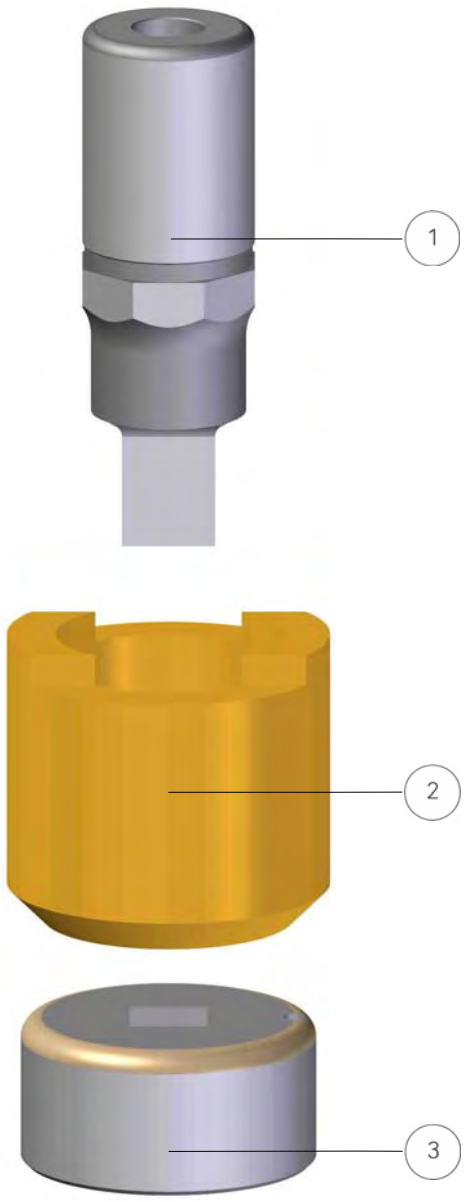
C STATION

MAX Ø □ = mm 38,1



POS.	CODE DESCRIPTION	PRICE
1a	F2820W00 Round Punch	
1b	F2830W01 Obround Punch	
1c	F2830W02 Square Punch	
1d	F2830W03 Rectangulare Punch	
2a	F2824000 Polyurethane Stripper - Without Hole	
2b	F282U0XX Polyurethane Stripper - With Hole	
3a	F2822W00 Round Die	
3b	F2832W01 Obround Die	
3c	F2832W02 Square Die	
3d	F2832W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Strippers with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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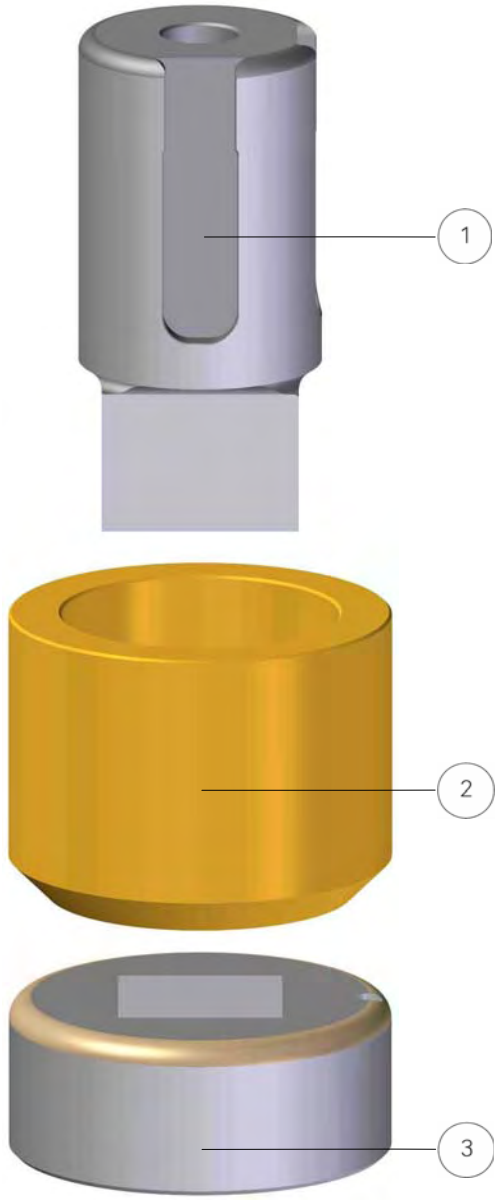
D STATION

MAX ⌀ ▭ = mm 50,8



POS.	CODE DESCRIPTION	PRICE
1a	F2840W00 Round Punch	
1b	F2860W01 Obround Punch	
1c	F2850W02 Square Punch	
1d	F2860W03 Rectangular Punch	
2a	F2844000 Polyurethane Stripper - Without Hole	
2b	F284U0XX Polyurethane Stripper - With Hole	
3a	F2842W00 Round Die	
3b	F2862W01 Obround Die	
3c	F2862W02 Square Die	
3d	F2862W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Strippers with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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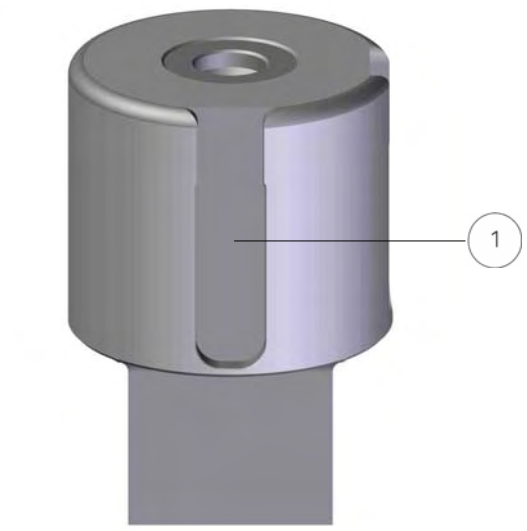
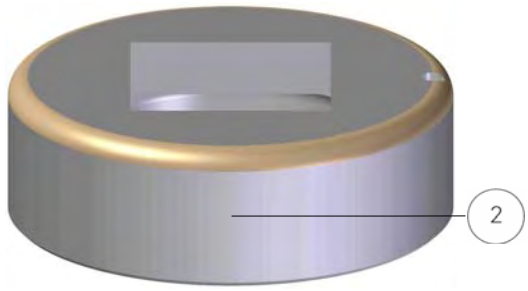
E STATION

MAX ⌀ □ = mm 63,5





POS.	CODE DESCRIPTION	PRICE
1a	F2870W00 Round Punch	
1b	F2890W01 Obround Punch	
1c	F2880W02 Square Punch	
1d	F2890W03 Rectangular Punch	
	F2874000 Polyurethane Stripper - Without Hole	
	F287U0XX Polyurethane Stripper - With Hole	
2a	F2872W00 Round Die	
2b	F2892W01 Obround Die	
2c	F2892W02 Square Die	
2d	F2892W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Strippers with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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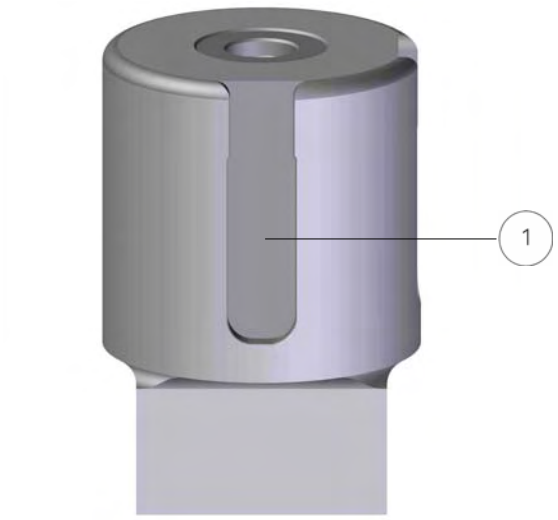
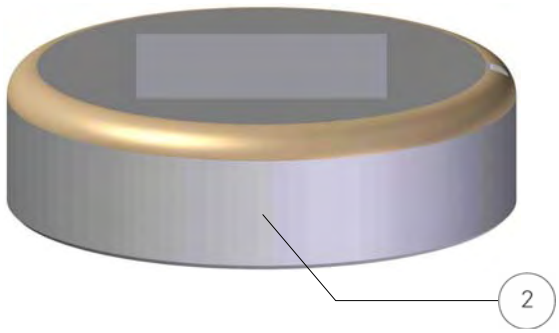
F STATION

MAX ⌀ □ = mm 76,2





POS.	CODE DESCRIPTION	PRICE
1a	F2900W00 Round Punch	
1b	F2920W01 Obround Punch	
1c	F2910W02 Square Punch	
1d	F2920W03 Rectangular Punch	
	F2904000 Polyurethane Stripper - Without Hole	
	F290U0XX Polyurethane Stripper - With Hole	
2a	F2902000 Round Die	
2b	F2922W01 Obround Die	
2c	F2922W02 Square Die	
2d	F2922W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Strippers with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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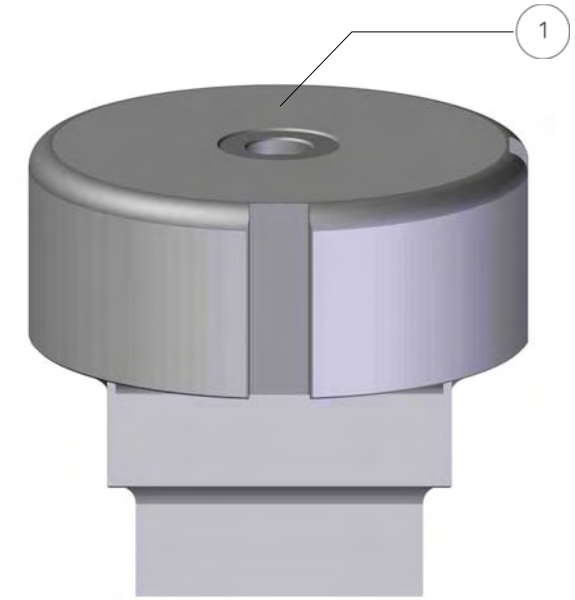
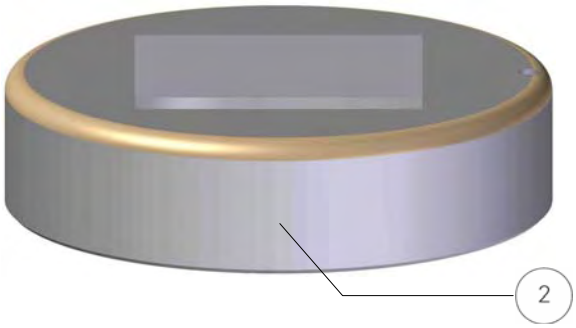
MURATA WIEDEMANN® - SERIES 114

G STATION

MAX Ø □ = mm 88,9





POS.	CODE DESCRIPTION	PRICE
1a	F2930W00 Round Punch	
1b	F2950W01 Obround Punch	
1c	F2940W02 Square Punch	
1d	F2950W03 Rectangular Punch	
2a	F2932W00 Round Die	
2b	F2952W01 Obround Die	
2c	F2952W02 Square Die	
2d	F2952W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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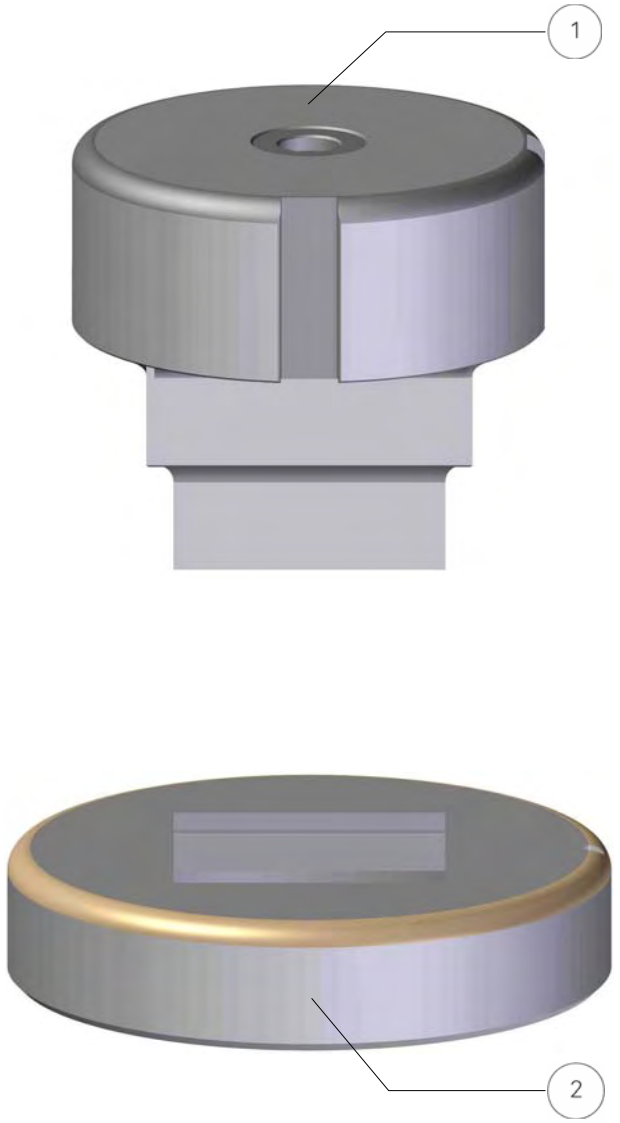
MURATA WIEDEMANN® - SERIES 114

H STATION

MAX ⌀ □ = mm 104,8



POS.	CODE DESCRIPTION	PRICE
1a	F2960W00 Round Punch	
1b	F2980W01 Obround Punch	
1c	F2970W02 Square Punch	
1d	F2980W03 Rectangular Punch	
2a	F2962W00 Round Die	
2b	F2982W01 Obround Die	
2c	F2982W02 Square Die	
2d	F2982W03 Rectangular Die	

OPTIONS		
	Punches with Rotated Shape	
	Dies with Rotated Shape	
	WN Whisper Sharpening on Punch	
	DWP Whisper Sharpening on Punch	
	WNT Whisper Sharpening on Punch	
	DWNT Whisper Sharpening on Punch	
	Punches with small dimensions shapes (lower than mm 4,00)	

To know meaning of variables XX and W, please refer to page 27

TECHNICAL SPECIFICATIONS

- All dies are manufactured with slug retention system, except for measures lower or equal to mm 2 or clearances lower or equal to mm 0,13.
- Whisper punches, besides reducing noise of a 50%, requires an inferior shearing strength. They are particularly indicated for strong materials and plastics.
- Surface coating on punches available on demand.

DIES REFERENCES

	Square Die
	Obround and Rectangular Dies

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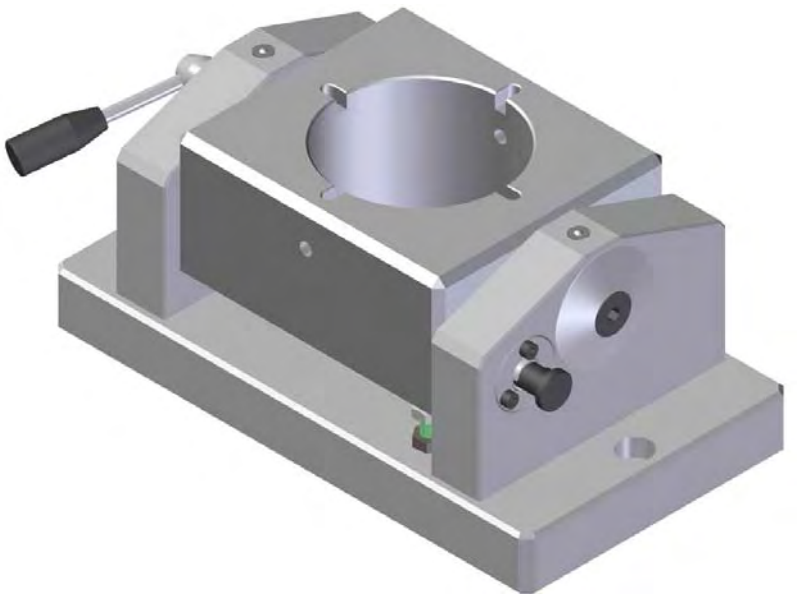
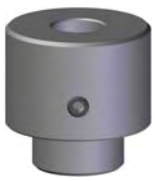
SHEAR GRINDING FIXTURE



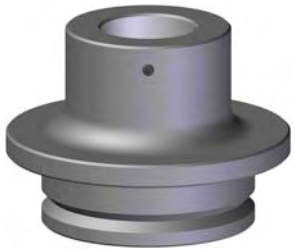
CODE DESCRIPTION	PRICE
FA22QE00 Reclining Universal Base	

TECHNICAL SPECIFICATIONS

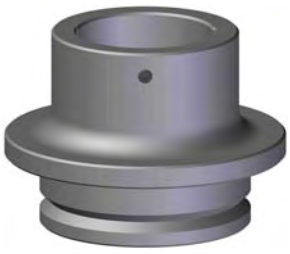
- The sharpening of tools often is a problem, especially when the tools have a single inclined cutting part or even a double inclined cutting part (see whisper sharpening).
- This fixture solves the problem by allowing to execute all kind of sharpening in an easy and fast way: when it is clamped on grinding machine, it accepts all adaptors showed in this page and in the following one.
- To be able to use the adaptor FAB0QF00 it is necessary to combine it with adaptor FAB0QG00.
- This element is used on 0° position for plan punches and dies, or with a maximum ±20° inclination for whisper punches.



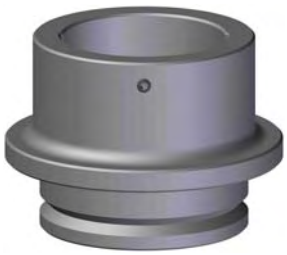
CODE DESCRIPTION	PRICE
FAB0QF00 Punch Adaptor - Series 114 A Station	



CODE DESCRIPTION	PRICE
FAB0QG00 Punch and Die Adaptor - Series 114 B Station	



CODE DESCRIPTION	PRICE
FAB0QH00 Punch and Die Adaptor - Series 114 C Station	



CODE DESCRIPTION	PRICE
FAB0QI00 Punch and Die Adaptor - Series 114 D Station	

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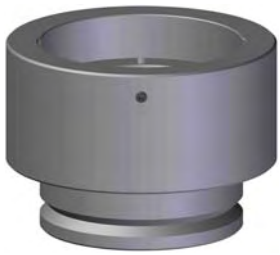
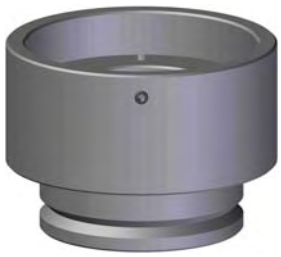
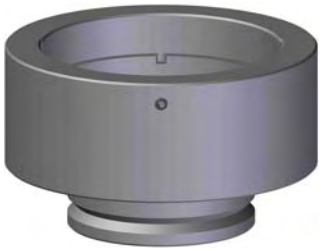
SHEAR GRINDING FIXTURE



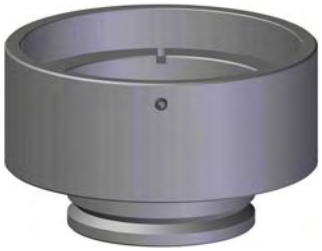
CODE DESCRIPTION	PRICE
FAB0QJ00 Punch and Die Adaptor - Series 114 E Station	



CODE DESCRIPTION	PRICE
FAB0QK00 Punch and Die Adaptor - Series 114 F Station	



CODE DESCRIPTION	PRICE
FAB0QL00 Punch and Die Adaptor - Series 114 G Station	



CODE DESCRIPTION	PRICE
FAB0QM00 Punch and Die Adaptor - Series 114 H Station	

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TOOL HOLDER CART

POS.	CODE DESCRIPTION	PRICE
1	F680WQ00 Tool Holder Cart	

TECHNICAL SPECIFICATIONS

- Tool Holder cart on four wheels, with dimensions mm 745 x 475, height mm 1098, composed of:
  - 7 compartments of which: 5 with internal height mm 76, 1 of mm 150 and 1 of mm 120;
  - Support plan with anti-slip rubber.
  - The picture is purely indicative: colours and shape of the tool holder cart can vary at our company's discretion.

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TOOLS

NEBULIZER	
A3708433.421	

Pneumatic spray with two nozzles, for economic and clean lubrication of sheet metal.

OILER	
A4108544.422	

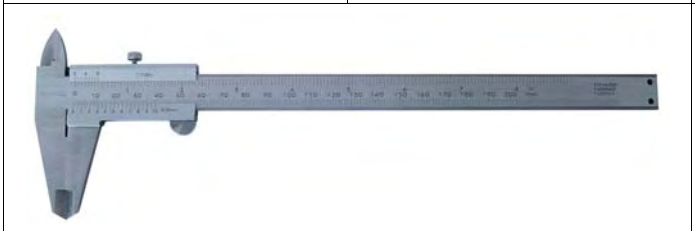
Spray oil can, capacity 0,35 liters.

GREASE	
A1808629.425	

Grease resistant to high temperatures, ideal for all sliding surfaces such as punches, holders and turrets.

ABRASIVE STONE	
A2907545.423	

Abrasive stone for shining and reviving corners.



CALIBRE	A4608342.419	

Slider calibre with mm and inch scale.

SNIPE	A3908241.417	

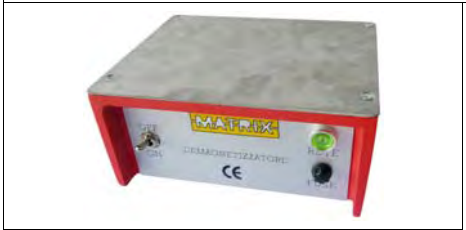
Long nose snipe, length mm 47.

HAMMER	A4508140.416	

Plastic hammer with anti sliver and anti wearing urethane plugs.

FILE	A2907543.420	

Diamond needle file, for removal or maintenance.



DEMAGNETIZER	
A4700000.424	

220 Volt Frequency 50 Hz, for demagnetizing all punching tools and components.

Note: The actual look of these tools might vary according to market availability.

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TOOLS CODING

In order to give to customers a quick and efficient service each tool feature has been coded, to allow the final user a fast identification means for the correct tool.
Here as following some examples of the most commonly used codes.

Tool Shape (XX)

00 - Round
01 - Obround
02 - Square
03 - Rectangular
A1 - Special Shape A01
A2 - Special Shape A02
A3 - Special Shape A03
A4 - Special Shape A04
A5 - Special Shape A05
A6 - Special Shape A06
B1 - Special Shape B01
B2 - Special Shape B02
B3 - Special Shape B03
B4 - Special Shape B04
B5 - Special Shape B05
B6 - Special Shape B06
C1 - Special Shape C01
C2 - Special Shape C02
C3 - Special Shape C03
C4 - Special Shape C04
C5 - Special Shape C05
C6 - Special Shape C06
C7 - Special Shape C07
C8 - Special Shape C08
C9 - Special Shape C09
CA - Special Shape C10
CB - Special Shape C11
CC - Special Shape C12
CD - Special Shape C13
CE - Special Shape C14
CF - Special Shape C15
CG - Special Shape C16
D1 - Special Shape D01
D2 - Special Shape D02
D3 - Special Shape D03
D4 - Special Shape D04
D5 - Special Shape D05
D6 - Special Shape D06
E1 - Special Shape E01
E2 - Special Shape E02
E3 - Special Shape E03
E4 - Special Shape E04
F1 - Special Shape F01
F2 - Special Shape F02
G1 - Special Shape G01
H1 - Special Shape H01
H2 - Special Shape H02
H3 - Special Shape H03
H4 - Special Shape H04
H5 - Special Shape H05
H6 - Special Shape H06
H7 - Special Shape H07
H8 - Special Shape H08
H9 - Special Shape H09
HA - Special Shape H10
HB - Special Shape H11
HC - Special Shape H12
HD - Special Shape H13

Tool Dimensions (YYY)

This three digit code univocally identifies tool dimensions, if it is a punch, a die or a stripper.

Example:
000 - 3
001 - 3,5
002 - 4
003 - 4,5
004 - 5
…

Tool Groups (W)

In some cases inside a tool typology it is possible to find various groups, meaning measures sets, which are identified through this variable.

Example:
B0 - Punch, 1st Group, “A” Coating
B1 - Punch, 2nd Group, “A” Coating
B2 - Punch, 3rd Group, “A” Coating
B3 - Punch, 4th Group, “A” Coating
B4 - Punch, 5th Group, “A” Coating

Tool Features (ZZ)

00 - Punch
20 - Die
40 - Stripper
60 - Punch Guide
63 - Die Adaptor
68 - Punch Adaptor
72 - Adjustable Guide Assembly
AF - Punch Guide
AR - Die Holder
B0 - Punch, “A”
C0 - Punch, “B”
D0 - Punch, “A” Coating, DWP
E0 - Punch, “B” Coating, DWP
F0 - Punch, “A” Coating, DWNT
G0 - Punch, “B” Coating, DWNT
H0 - Punch, “A” Coating, WN
I0 - Punch, “B” Coating, WN
J0 - Punch, “A” Coating, WNT
K0 - Punch, “B” Coating, WNT
L0 - Punch DWP
M0 - Punch DWNT
N0 - Punch WN
P0 - Punch WNT
Q0 - Punch Extended
R0 - Punch, Measures under mm 4
BA - Complete Upper Insert Holder
BB - Complete Lower Insert Holder
DY - Basic Set
GS - Starting Set
LX - Punch Holder Set

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COMPANY PROFILE

We produce tooling for

Punch Presses cnc	Iron Workers
AMADA	FICEP
FINN-POWER	GEKA
LVD	IMS
RAINER	OMERA
TRUMPF	MUBEA
MURATA-WIEDEMANN	PEDDINGHAUS
TECNOLOGY	KINGSLAND
EUROMAC	
SCHIAVI	
IMAC	
DURMA	
HACO	

and more.

A DYNAMIC TEAM

Each Matrix product is the result of the cooperation of young and highly qualified technicians who constantly keep themselves abreast and deal with problems and requirements of the production cycle.

THE CUSTOMER, A UNIQUE AND UNREPEATABLE PARTNER

We are convinced that every customer deserves special care. For this reason Matrix does not offer just a product, but also technical support and an advice service which aim is to obtain mutual satisfaction.

QUALITY TOOLS FOR EVERY REQUIREMENT

Our design and production are oriented to develop innovative solutions to fulfil different customers' problems, as well as guarantee the highest quality standard in each production processing phase.

ENERGIES ORIENTED TO MAXIMUM ACCURACY

To the production unit devoted to traditional mechanical processing has been added a new plant optimized to accomplish high technology content processing. The recent building, innovative in our field, is entirely wired and built with specific features to guarantee the product high quality and accuracy.

DIES AND PUNCHES BORN TO LAST

The high reliability and long life which distinguish Matrix' products are the result of experience, devotion, constant research and use of superior quality raw materials.

INNOVATIVE TECHNOLOGIES FOR HIGH PERFORMANCES

Matrix invests in the best technologies: from sophisticated software for designing, to computerization of production data. From the scheduling to product tuning and final test.

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MATRIX

Tooling for Punch Presses

MATRIX S.r.l.
Via Ponte d'Oro, 8
36015 Schio · Vicenza · Italy
Tel. +39 0445 671015
Fax +39 0445 671035
www.matrixtools.eu
info@matrixtools.eu

COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2000 =

КОВАЧЪ

Официальный партнер:
Компания «КОВАЧЪ»
143402, Московская область,
г.Красногорск, ул.Железнодорожная, д.26,
БИ «Бригантина», офис 7
Тел. +7 (498) 505-61-86
E-mail info@kovach.pro
Web www.ковачъ.рф