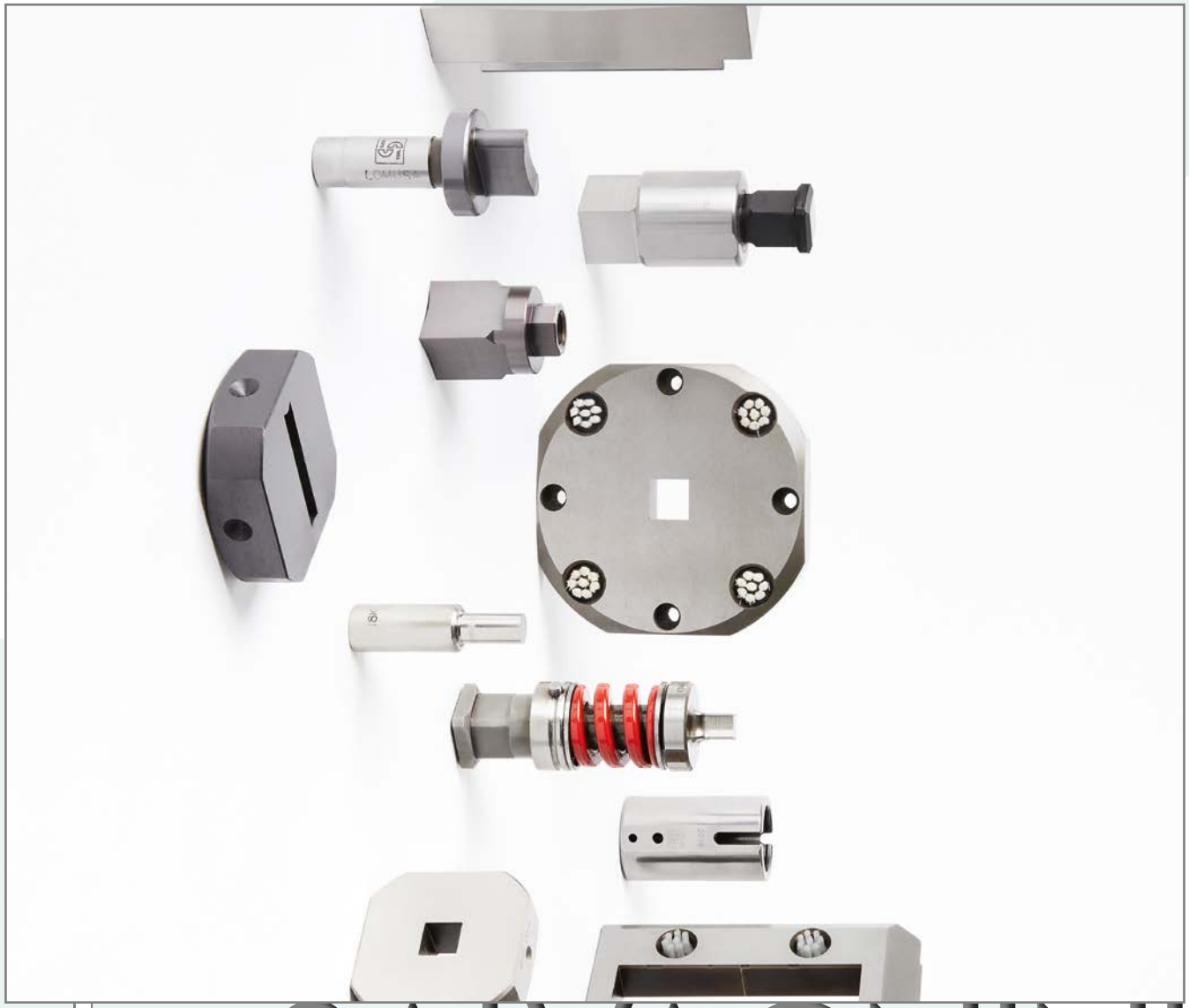


Catalog

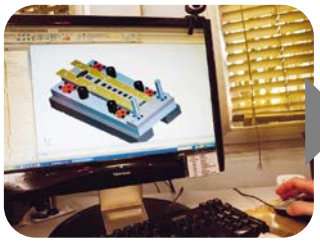
l style SALVAGNINI style SA

WHY SUCE?

The use of double grinding wheel plants allows for a very low roughness coefficient.

The machine tooling dept. includes automatic lines of turning with load bars and milling machines.

10,000 items available in stock divided into 20 different categories



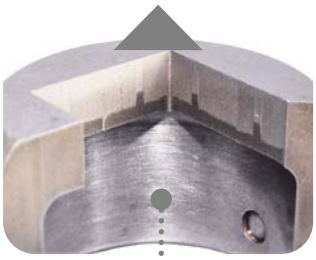
Thanks to our project department, with 3D CAD stations, we are able to design both standard and special tools.

No shape limitation thanks to EDM technology.

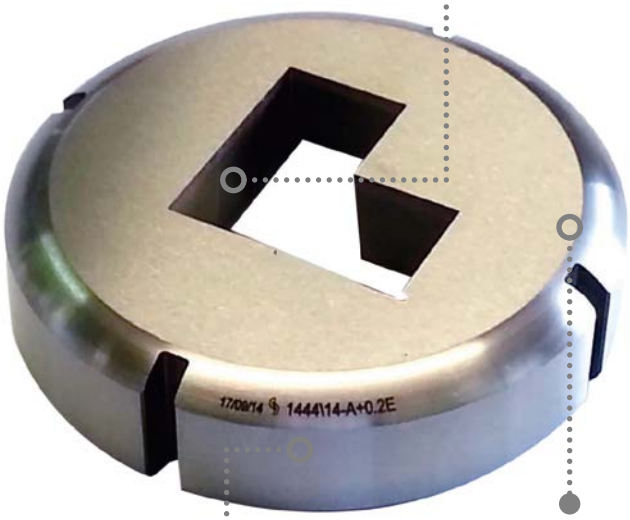
The use of the best steel available on the market by SUCE tools ensures a high standard quality and a long tool life.

No shape limitation thanks to Wire EDM technology.

Different lock-slug systems available

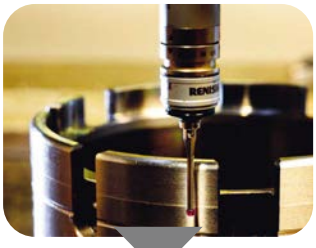


Wire EDM load-unload cell.



In warehouse: ready for delivery.

SUCE special ID number.



Tool testing: fault free.

Manufacturing execution system.

DIE CLEARANCE

Die clearance is the total space between the die and the punch.
A correct clearance between the punch and the die ensures normal wear of the tool and punching without defects such as: burrs caused by excessive clearance and premature wearing of the tool and increased punching force in the case of clearance being too small.

	MATERIAL			
Thickness mm	**Mild steel 16-20%**	**Stainless steel 18-24%**	**Aluminum 12-16%**	**Copper 10-14%**
0.5 – 0.6	0.08-0.1	0.1- 0.12	0.06 – 0.08	0.05 – 0.06
0.8	0.14 – 0.16	0.15 – 0.2	0.1 – 0.14	0.08 – 0.1
1	0.16 – 0.2	0.18 – 0.24	0.12 – 0.16	0.1 – 0.14
1.2	0.2 – 0.24	0.24 – 0.3	0.15 – 0.2	0.12 – 0.15
1.5	0.25 – 0.3	0.27 – 0.35	0.18 – 0.24	0.15 – 0.2
2	0.34 – 0.4	0.36 – 0.45	0.24 – 0.3	0.2 – 0.25
2.5	0.45 – 0.5	0.45 – 0.55	0.32 – 0.35	0.25 – 0.3
3	0.5 – 0.6	0.6 – 0.7	0.35 -0.45	0.3 – 0.4
4	0.65 – 0.8	0.7 – 0.95	0.45 – 0.6	0.4 – 0.55
5	0.85 – 1	0.9 – 1.15	0.6 – 0.8	0.55 – 0.65
6	0.95 – 1.2	1.1 – 1.4	0.75 – 0.95	0.7 – 0.85

In case of blanking mild steel and stainless steel, clearance is 15% of material thickness.
In case of blanking aluminum and copper clearance is 10% of material thickness.

System E: 3 cuts with different angles ensures the locking of the slug.

Lock slug **AS** best option when thickness > 3 mm.

DIES LOCK SLUG

SUCE lock slug dies eliminate slug pulling. Slug pulling occurs when the slug returns to the top of the sheet during the stripping portion of the punching cycle. Because of this the slug comes between the punch and the top of the sheet on the next cycle, causing damage to the part and the tooling. How to avoid this problem?
The SUCE NO-SLUG has been designed with a reduction point of the shape below the surface so the slug cannot return once it passes through this point.
Once the slug is separated from the punch, it is free to fall through the die. Slug pulling is eliminated.
This solution isn't suggested with slug exhaust system machines ; AS lock slug design with protrusions is best solution with thickness more than 3 mm, minimum cl for AS system is 0.15 mm.
SUCE Lock slug E and A system is a standard for all Suce dies, AS is on request, reduced land is a standard for thick turret dies rt80x5 rt80x6 rt110x5 rt110x6.

lock slug AS best opt. th>3 mm

lock slug E thick turret B,C,D,E

lock slug A thick turret A

straight and conic blank die

reduced land slitting die

conic trumpf style

TOOLS SHARPENING

Before starting, make sure that punch and die cutting edge are in perfect condition. Accurate maintenance of the tools guarantees a normal wearing and the result of punching will be without residual burr and defects. Regular sharpening of the 0.1 mm punch and 0.2 mm die guarantees a constant life time of tooling.
It is preferable that grinding operation is made with tangential grinding machine with adequate cooling in order to avoid tool tempering; after grinding it is necessary to demagnetize the tools with an appropriate demagnetizer.
If a urethane ejectors is applied, restore the initial hole depth in such a way that the ejector can be compressed.

PUNCHING FORCE

Before starting ensure that punching force doesn't exceed the capacity of punching machine.
In order to calculate the punching force in kg, use the following formula:

Perimeter of the shape (mm) x thickness (mm) x 4/5 x shear strength *

** mild steel 40 - 50 kg/mm² stainless steel 60 - 70 kg/mm² aluminium 20 - 25 kg/mm²*

A sharpening other than the flat one reduces both punching stress and punching noise.
Therefore to ascertain the true punching force, multiply the pressure calculated using the above formula by the **sharpening factor**:

Sharpening height	Thickness (mm)					
mm	1 - 1.5	2	3	4	5	6
1	0.75	0.9	1	1	1	1
1.5*	0.5	0.6	0.7	0.95	1	1
3**	0.5	0.5	0.5	0.6	0.7	0.75

** standard shear height thick turret style*
*** standard shear height Trumpf style*

Double valley
Cod 3P

Best option when shape is long, but susceptible to breakage

Roof top
Cod V

Best option when punching force is high, punching surface 75%

Inverted roof top
Cod VR

Best option for nibbling but inverted stresses could cause breakage

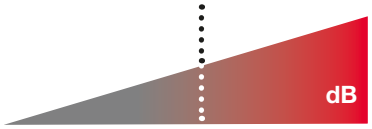
Whisper
Cod W

Recommended only for blanking (turret machine)

Four ways
Cod 4P

Recommended for round and square

PUNCHES ARE FLAT, ABOVE SHEAR ARE AVAILABLE UPON REQUEST;
EACH TYPE OF SHARPENING REDUCES NOISE UP TO 50%



COATING

PROBUS

PROBUS ALCRN coating , features a unique nanostructure for a substantial decrease of internal stress; is tailored to withstanding cutting temperatures of up to 1050° C.
A distinguishing feature of PROBUS coating is the improved wear performance at the cutting edge of the tool. Uniform distribution of mechanical forces in the vicinity of the cutting edge provides an additional advantage. This property puts PROBUS ahead of other coatings, making it excel in applications where similar AlCrN coatings provide only modest lifetime improvements.

STRUCTURE	Micro Hardness (HV 0.05)	Friction coefficient (100 cr6)	Thickness (micron)	Deposition temperature (°C)	Max temperature (max°C)	Colour
Multilayer	3.000	0.5	2 - 4	450 - 500	1050	Grey

GEMINUS

The double coating is obtained by overlaying the traditional TICN with Movic self-lubricating coating. The TiCN coating comes from an evolutionary study of the precursor TiN, inheriting the already appreciated qualities and improving some of its features.
In fact, thanks to the introduction of the Carbon (C) within the layer, it was possible to obtain a structure that has a hardness greater than 50% compared to that of TiN.
In consequence to this, the TiCN coating ensures a higher wear resistance.
A further improvement of the TiCN was achieved by developing a "multilayer" (multi-layer) composed of several hundreds of different layers that give better control of structural stress within the coating. MOVIC is a self-lubricating and anti-adhesive coating based on MoS2 (Molybdenum), which is produced by PVD sputtering Magnetron technology. MOVIC has been developed in the aerospace to find alternatives to traditional oils (eg oil, grease) when their use is not permitted and it has shown excellent tribological features that made it very interesting for a variety of new applications.

STRUCTURE	Micro Hardness (HV 0.05)	Friction coefficient (100 cr6)	Thickness (micron)	Deposition temperature (°C)	Max temperature (max°C)	Colour
Single layer	-	<0.1	1	<150	-	GREY

BASIC COMPOSITION	Coating Structure	Microhardness (HV 0.05)	Coefficient of friction against (100 cr6)	µm thickness (microns)	Deposition Temperature (°C)	Max Temperature of use (max ° C)	Colour
Titanium carbonitride	Multilayer	3.500	0,5	1- 3	350 - 480	350	Pink

LEVATUS

DLC is an innovative carbon-based coating with wide spectrum of application which allows you to deal with problems related to abrasion, to chemical attack and sliding.
The low deposition temperature , the hardness and the low coefficient of friction make it of extreme interest. It is applied on finished parts while maintaining the state of the surface finishing.
The DLC is deposited by the PA-CVD (Plasma Assisted – Chemical Vapour Deposition) technology which allows to maintain low temperature of depositing and at the same time ensures an excellent adhesion.

BASIC COMPOSITION	Deposition Technology	Microhardness (HV 0.05)	Coefficient of friction against 100 Cr 6	µm thickness (microns)	Deposition Temperature (°C)	Max Temperature of use (max ° C)	Colour
a-C:H sp2-sp3	PA-CVD	1.500 - 3.000	0,05 - 0,1	0,5 - 3	250	350	Black

COATING	COPPER	ALUMINUM	MILD STEEL	GALVANIZED STEEL	STAINLESS STEEL
PROBUS - TICN	X	X	X	XX	XXX
GEMINUS	XX	XX	X	XXX	XX
LEVATUS	XXX	XXX	X	X	X

NEEDLESS	RECOMMENDED	HIGHLY RECOMMENDED
X	XX	XXX

BEST TOOLS CAN ONLY BE FORMED OUT OF THE BEST STEEL

Tool users has been demanding higher and higher standards of their tools to prolong service life and reduce costs; the tool material itself, in addition to the tool design, is a success factor which is often under-appreciated.
It can significantly influence the tool life and therefore the cost effectiveness of your production.

For each of the demands of blanking and cutting, Bohler has an optimal solution in its product range.
The range contains everything from standard materials to high-performance powder metallurgical steels.

HSS - S600

M2 is the “standard” and most widely used industrial HSS. It has small and evenly distributed carbides giving high wear resistance, Tungsten-alloyed molybdenum high-speed steel with high hardness excellent cutting properties, outstanding compressive strength and good toughness.

S600 Chemical composition

CARBONIUM	CHROMIUM	MOLYBDENUM	VANADIUM	TUNGSTEN
0.90 %	4,10 %	5.0 %	1,80 %	3.50 %

STEELFORMA

FormaSteel One is a tool steel that presents as characteristics an excellent combination of wear resistance, chipping resistance and toughness. It is the ideal solution in all those applications that require greater resistance to wear and / or greater toughness than 1.2379 (Aisi D2) and compared to steel quick.
The combination of wear resistance, compressive strength and toughness means that Steel One has a wide variety of uses in applications such as molds for cold deformation, cutting blades and rollers.

Steelforma Chemical composition

CARBONIUM	CHROMIUM	MOLYBDENUM	VANADIUM	TUNGSTEN
1.1 %	8.0 %	1.6 %	2.4 %	1.2 %

D2 – K110

K110 is a high-carbon, high-chromium tool steel alloyed with molybdenum and vanadium characterized by: High abrasive wear resistance, High compressive strength, Good through-hardening properties, High stability in hardening and good resistance to tempering-back.
D2 steel is an air hardening, high-carbon, high-chromium tool steel. It has high wear and abrasion resistant properties. It is heat treatable and will offer a hardness in the range 59-62 HRC

D2 K110 Chemical composition

CARBONIUM	CHROMIUM	MOLYBDENUM	SILICIUM	VANADIUM	MANGANESE
1.55 %	11.30 %	0.75 %	0.30%	0,75 %	0.30 %

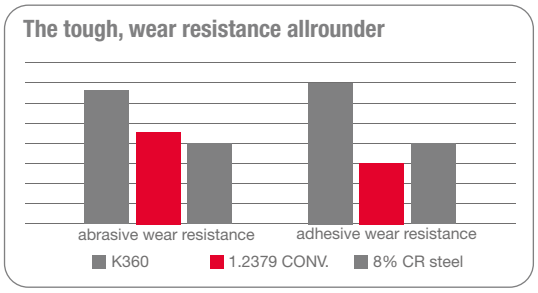
ISODUR

A tough, “LONG DISTANCE RUNNER” with an optimum chemical composition

ESR electro slug remelting: a tried and tested remelting technology developed by Bohler gives the material the homogeneity it needs. A prerequisite for the best performance.
ESR Manufacture improved service life due:

- Least possible inclusion content
- Lower micro and macro segregation
- Good homogeneity and higher degree of purity
- A homogeneous structure throughout the entire cross-section and bar length
- Producing larger bar dimensions at a constant carbide distribution
- Uniform correction of dimensions
- A broad range of application due to a high degree of toughness

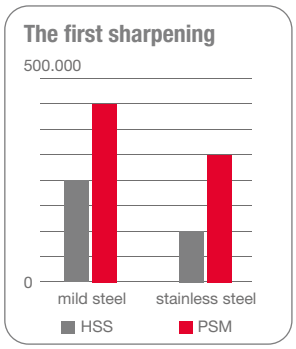
K360 Chemical composition	
Carbonium	1.25 %
Chromium	8.75 %
Molybdenum	2.70 %
Vanadium	1.18 %



The new K360 isodur is a further development of the 8% chromium steels and has been developed to meet the needs of customers now more than ever.
High toughness and, a remarkably high compressive strength, together with good resistance make this steel a real problem solver.
This steel is particularly outstanding when adhesive and abrasive wear resistance are necessary; it allows a considerable increase in performance, your productivity will increase and your costs per part will be reduced.

POWDER STEEL METALLURGY

Today Suce provides, in addition to the traditional HSS punches, of new variety of tools, Trumpf style and Thick turret style made in powder steel metallurgical.



Graphic shows nr of hits before first sharpening punching mild and stainless steel with HSS and PSM tool . Tool tested square 6mm

One of them is **K490**.
Research shows that the **K490 Microclean**, thanks to its chemical composition, is the best steel in the punching market. If you compare it with other powder steels, for example M4 and PM23, you will find that it assures twice the toughness with the same wear resistance.

This new material is characterized by:

- **A high adhesive and abrasive wear resistance** More hits between regrind operations increases tool life, wear resistance double than traditional HSS M2
- **A high toughness** reduces risk of breaking the punch.

K490 Chemical composition	
Carbonium	1.40 %
Chromium	6.40 %
Molybdenum	1.50 %
Vanadium	3.70 %
Tungsten	3.50 %

CPOH plus Chemical composition	
Carbonium	1.0 %
Chromium	8.0 %
Molybdenum	2.50 %
Vanadium	0.3 %

In the catalogue POWDER STEEL PUNCHES are marked in RED, available items:


Trumpf Gr0 D6 D10.5


Trumpf Multitool 5 - 10


Trumpf Gr1

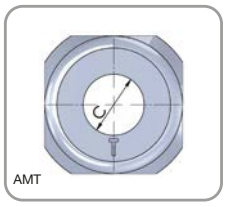

Thick turret Mate ultra style

Thick turret Smart staz.A Wilson


B station Smart, Mate Wilson


Trumpf blade Thick turret Slitting blade

ROUND AND STANDARD



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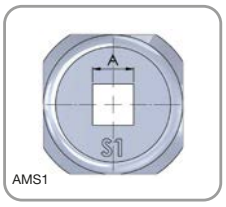

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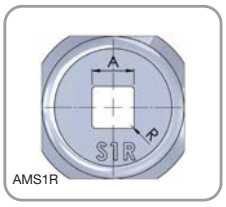

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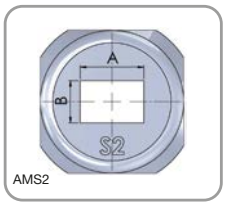

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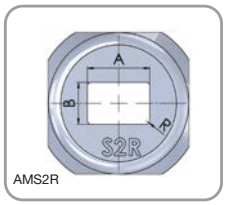

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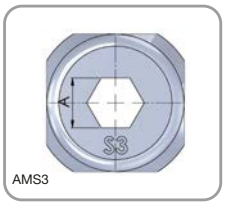

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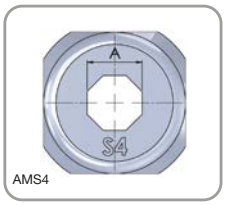

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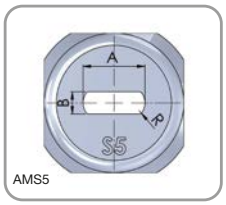

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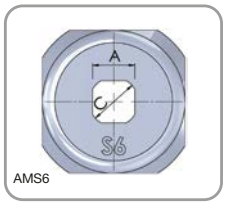

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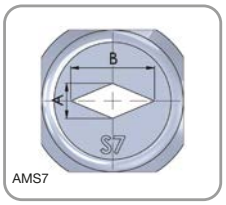

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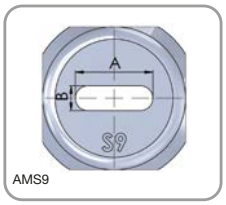

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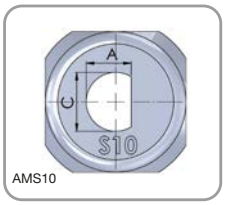

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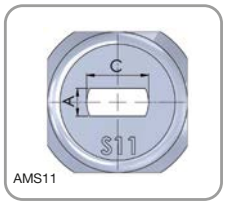

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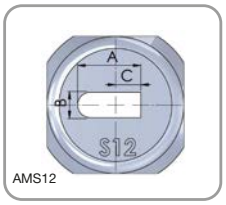

A: B:
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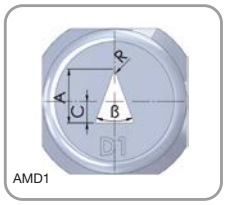
SPECIAL 1



A: ß:
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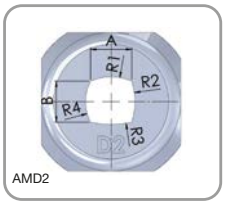
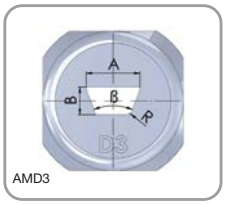


A: B:
R1: R2:
R3: R4:



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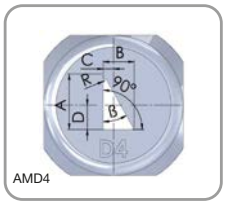
ß: R:



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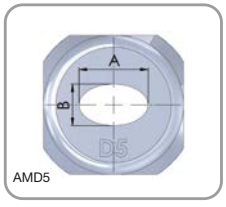
C : D:
ß: R:



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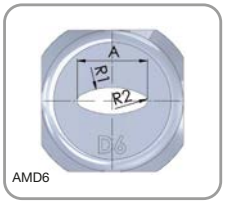
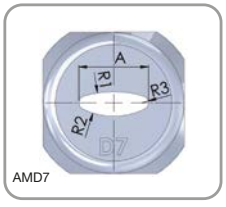
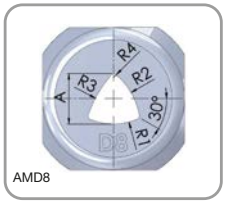


A: R1:
R2:

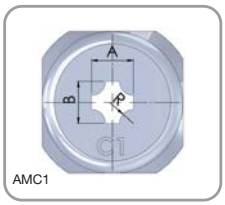


A: R1:
R2: R3:



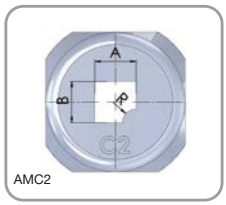
A: R1:
R2: R3:
R4:

SPECIAL 0



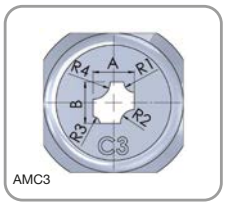
AMC1

A: B:
R:



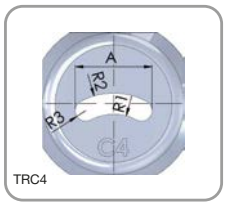
AMC2

A: B:
R:



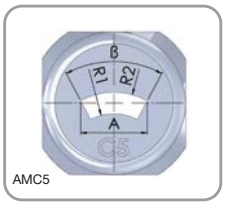
AMC3

A: B:
R1: R2:
R3: R4:



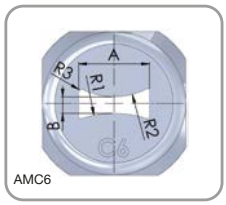
TRC4

A: R1:
R2: R3:



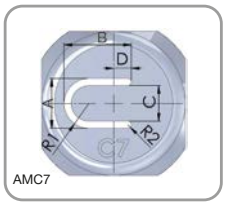
AMC5

A: ß:
R1: R2:



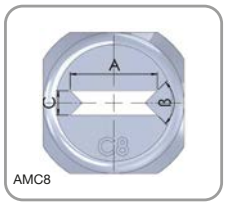
AMC6

A: B:
R1: R2:
R3:



AMC7

A: B:
C: D:
R1: R2:

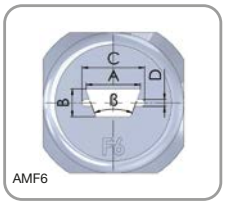


AMC8

A: ß:
C:

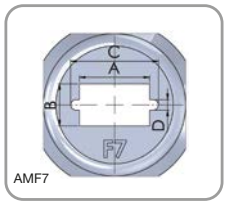
Note:
R<3 price is SPECIAL 2

SPECIAL 2



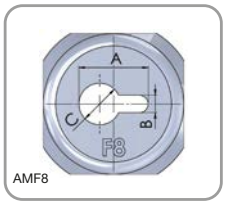
AMF6

A: B:
C: D:
ß:



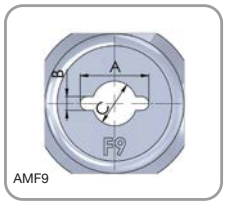
AMF7

A: B:
C: D:



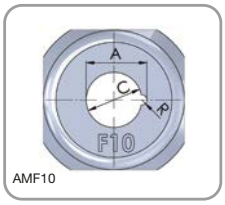
AMF8

A: B:
C:



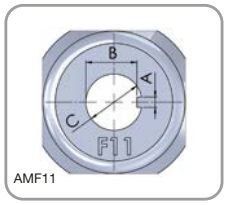
AMF9

A: B:
C:



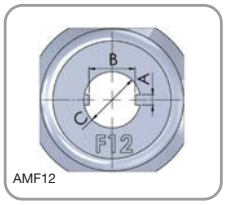
AMF10

A: C:
R:



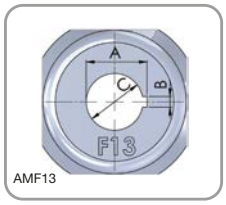
AMF11

A: B:
C:



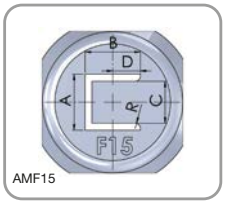
AMF12

A: B:
C:



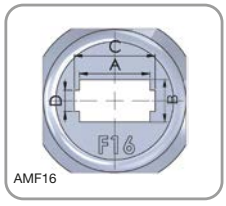
AMF13

A: B:
C:



AMF15

A: B:
C: D:
R:



AMF16

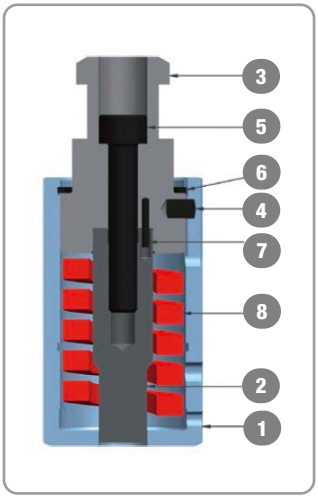
A: B:
C: D:

P0 70 kN STATION

Pos 1-20 41-76
Max 10 mm
Punch grinding life:
1.5 mm shape - 1.2 mm round

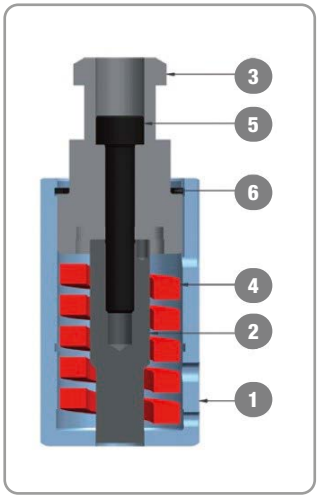
item	PUNCH P0	€	PUNCH P0 ASSEMBLY	€
ROUND	SAA12PUT006T		SAA1PAP006T	
STANDARD	SAA12PUT006S		SAA1PAP006S	

P0 ROUND ASSEMBLY



8. Cod. NM0020025038 SPRING**
7. Cod. NSP060001510 PIN
6. Cod. NSG050026012 SEEGER
5. Cod. NVI05AR06035 SCREW M6X35
4. Cod. NSP01MR04006 PIN
3. Cod. MSAA12TET HEAD
2. Cod. SAA12PUT006T PUNCH
1. Cod. SAA26GUT0T GUIDE

P0 SHAPE ASSEMBLY



6. Cod. NSG050026012 SEEGER
5. Cod. NVI05AR06035 SCREW M6X35
4. Cod. NM0020025038 SPRING **
3. Cod. MSAA12TES HEAD
2. Cod. SAA12PUT006S PUNCH
1. Cod. SAA26GUT0S GUIDE

*** To replace after 800.000 hits*

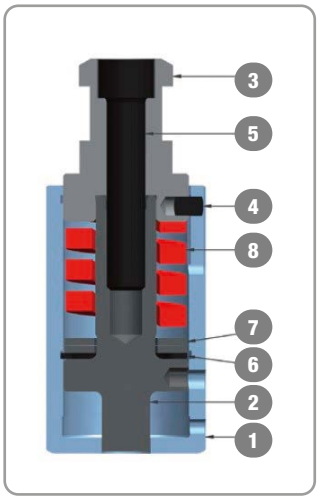
P3 70 kN STATION

Pos 1-20 41-76, P3
Max 26 mm
Punch grinding life 1.5 mm

PUNCH P3

PUNCH P3 ASSEMBLY

P3 ASSEMBLY



item	PUNCH P3	€	PUNCH P3 ASSEMBLY	€
ROUND	SAA26PUT006T		SAA26PPAPPT	
STANDARD	SAA26PUT006S		SAA26PPAPPS	
SPECIAL 0	SAA26PUT006C		SAA26PPAPPC	
SPECIAL 1	SAA26PUT006D		SAA26PPAPPD	
SPECIAL 2	SAA26PUT006F		SAA26PPAPPF	

8. Cod. NM0020025025 SPRING**
7. Cod. MSAA26PPPPU7 SHIM
6. Cod. NSG060026012 SEEGER
5. Cod. NVI03AR08040 SCREW M6X35
4. Cod. NSP01MR04006 PIN
3. Cod. MSAA26PPPPU3 HEAD
2. Cod. SAA26PUT006S PUNCH
1. Cod. SAA26GUT0T/S GUIDE

** To replace after 200.000 hits*

ADD-ONS PAG 22

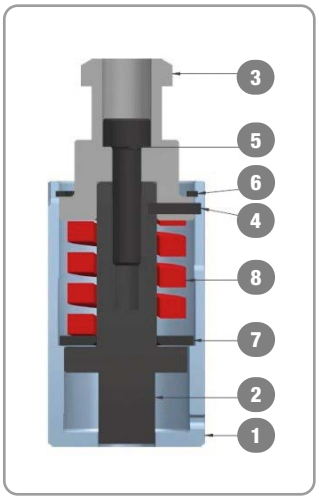
P9 70 kN STATION

Pos 1-20 41-76
Max 26,5 mm
Punch grinding life 3 mm
Die grinding life 1.2 mm

PUNCH P9

PUNCH P9 ASSEMBLY

P9 ASSEMBLY



item	PUNCH P9	€	PUNCH P9 ASSEMBLY	€
ROUND	SAA265PUT006T		SAA265PPAPPT	
STANDARD	SAA265PUT006S		SAA265PPAPPS	
SPECIAL 0	SAA265PUT006C		SAA265PPAPPC	
SPECIAL 1	SAA265PUT006D		SAA265PPAPPD	
SPECIAL 2	SAA265PUT006F		SAA265PPAPPF	

8. Cod. NM0020025025 SPRING**
7. Cod. MSAA265PPPPU7 SHIM
6. Cod. NSG060026012 SEEGER SB29
5. Cod. NVI03AR0625 SCREW M6X35
4. Cod. NSP02MR23012 PIN
3. Cod. MSAA265PPPPU3 HEAD
2. Cod. SAA265PUT006_ PUNCH
1. Cod.SAA265GUT0S GUIDE

** To replace after 200.000 hits*

Punch key reference


0°
RECT /OBROUND


0° SQ


0° HEXAGON


90°
RECT /OBROUND


45° SQ


90° HEXAGON

S4 70 kN STATION

Pos 1-20 41-76
Max 33 mm
Punch grinding life 4 - 2 mm
Die grinding life 1.2 mm

PUNCH S4

STRIPPER

DIE

DIE SHIM

item	PUNCH S4	€	STRIPPER	€	DIE 0 - 12 mm	€	DIE 12.1 - 33 mm	€	DIE SHIM mm	€
ROUND	SAA1PUT00VT		SAA1PLT0T		SAA1MAT00VT		SAA3MAT00VT		**0.2** SAA1SPMA02	
STANDARD	SAA1PUT00VS		SAA1PLT0S		SAA1MAT00VS		SAA3MAT00VS		**0.3** SAA1SPMA03	
SPECIAL 0	SAA1PUT00VC		SAA1PLT0D		SAA1MAT00VD		SAA3MAT00VD		**0.5** SAA1SPMA05	
SPECIAL 1	SAA1PUT00VD		SAA1PLT0D		SAA1MAT00VD		SAA3MAT00VD			
SPECIAL 2	SAA1PUT00VF		SAA1PLT0D		SAA1MAT00VD		SAA3MAT00VD			

ADD-ONS PAG 22

S5 PUNCH 70 kN STATION

Pos 1-20 41-76
Max 33 mm
Punch grinding life 4 - 2 mm
Die grinding life 1.2 mm

PUNCH S5 ⌀

PUNCH S5 ⍁

STRIPPER

DIE

DIE SHIM mm

item	PUNCH S5 ⌀	€	PUNCH S5 ⍁	€	STRIPPER	€	DIE 0 - 12 mm	€	DIE 12.1-33 mm	€	DIE SHIM mm	€
ROUND	SAA1IPTI0VT				SAA1PLT0T		SAA1MAT00VT		SAA3MAT00VT		**0.2** SAA1SPMA02	
STANDARD	–		SAA1IPTI0VS		SAA1PLT0S		SAA1MAT00VS		SAA3MAT00VS		**0.3** SAA1SPMA03	
SPECIAL 0	–		SAA1IPTI0VC		SAA1PLT0D		SAA1MAT00VD		SAA3MAT00VD		**0.5** SAA1SPMA05	
SPECIAL 1	–		SAA1IPTI0VD		SAA1PLT0D		SAA1MAT00VD		SAA3MAT00VD			
SPECIAL 2	–		SAA1IPTI0VF		SAA1PLT0D		SAA1MAT00VD		SAA3MAT00VD			

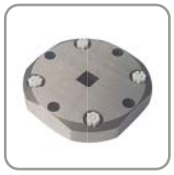
P5_PU_P2R 120 kN INDEX STATION

Pos 30-35
Max 42.4 mm
Punch grinding life 1.5 mm
Die grinding life 1.2 mm

PUNCH

STRIPPER

DIE



DIE SHIM 0.2 mm

item	PUNCH	€	STRIPPER	€	DIE	€	DIE SHIM 0.2 mm	€
ROUND	SAB1PUT106T		SAB1PLT1T		SAB1MAT101T		SAB1SPMA	
STANDARD	SAB1PUT106S		SAB1PLT1S		SAB1MAT101S			
SPECIAL 0	SAB1PUT106C		SAB1PLT1D		SAB1MAT101D			
SPECIAL 1	SAB1PUT106D		SAB1PLT1D		SAB1MAT101D			
SPECIAL 2	SAB1PUT106F		SAB1PLT1D		SAB1MAT101D			

Punch key reference

0°
RECT /OBROUND

90°
RECT /OBROUND

0° SQ

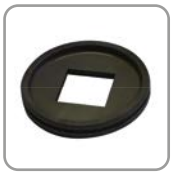
45° SQ

S6 120 kN STATION

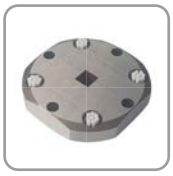
Pos 30-35
Max 60 mm
Punch grinding life 4 - 2 mm
Die grinding life 1.2 mm

PUNCH

STRIPPER



DIE



DIE SHIM 0.2 mm

item	PUNCH	€	STRIPPER	€	DIE	€	DIE SHIM 0.2 mm	€
ROUND	SAB1PUT00VT		SAB1PLT0T		SAB1MAT101T		SAB1SPMA	
STANDARD	SAB1PUT00VS		SAB1PLT0S		SAB1MAT101S			
SPECIAL 0	SAB1PUT00VC		SAB1PLT0D		SAB1MAT101D			
SPECIAL 1	SAB1PUT00VD		SAB1PLT0D		SAB1MAT101D			
SPECIAL 2	SAB1PUT00VF		SAB1PLT0D		SAB1MAT101D			

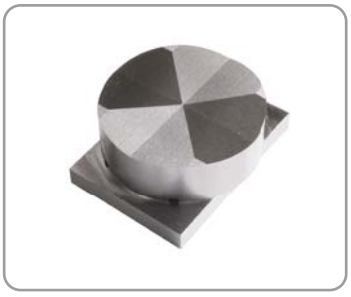
ADD-ONS PAG 22

S8 90 x 70 TYPE 70 260 kN STATION

Pos 21-22-23-24
Max 90 x 70 mm
Punch grinding life 4 - 2 mm
Die grinding life 1.2 mm

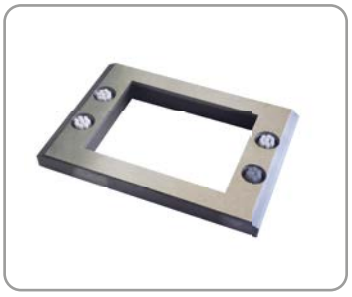
PUNCH
Max 70 x 50 mm

PUNCH
Max 90 x 70 mm

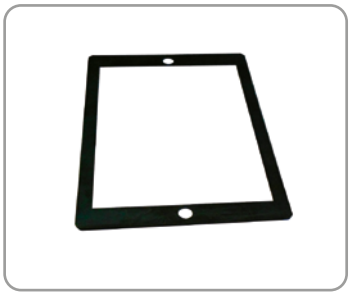


STRIPPER
Max 90 x 70 mm

DIE
Max 90 x 70 mm

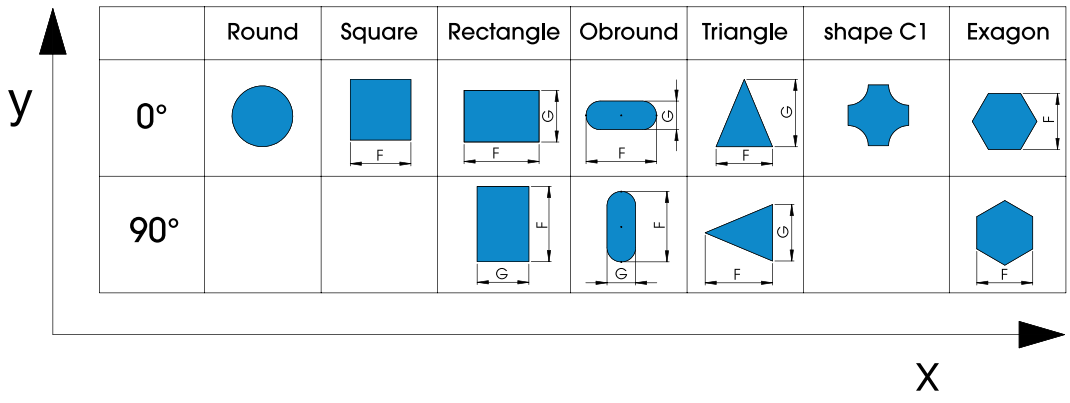


DIE SHIM
0.2 mm



item	PUNCH Max 70 x 50 mm	€	PUNCH Max 90 x 70 mm	€	STRIPPER Max 90 x 70 mm	€	DIE Max 90 x 70 mm	€	DIE SHIM 0.2 mm	€
ROUND	SAC1PUT00VT		SAC1PUT60VT		SAC1PLT3T		SAC1MAT30VT		SAC1SPMAT3	
STANDARD	SAC1PUT00VS		SAC1PUT60VS		SAC1PLT3S		SAC1MAT30VS			
SPECIAL 0	SAC1PUT00VC		SAC1PUT60VC		SAC1PLT3D		SAC1MAT30VD			
SPECIAL 1	SAC1PUT00VD		SAC1PUT60VD		SAC1PLT3D		SAC1MAT30VD			
SPECIAL 2	SAC1PUT00VF		SAC1PUT60VF		SAC1PLT3D		SAC1MAT30VD			

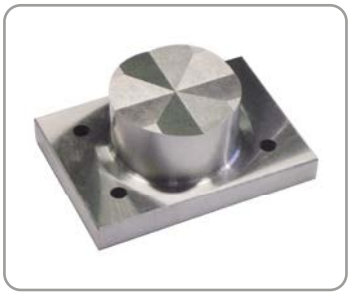
Technical data:



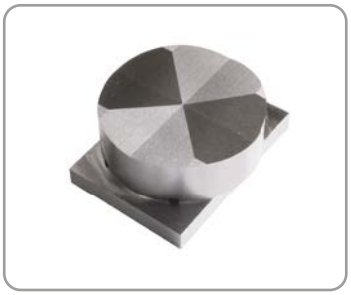
S9 90 x 70 TYPE 90 260 kN STATION

Pos 22-23
Max 90 x 70 mm
Punch grinding life 4 - 2 mm
Die grinding life 1.2 mm

PUNCH
Max 70 x 50 mm



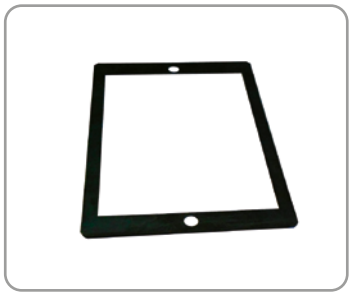
PUNCH
Max 90 x 70 mm



STRIPPER
Max 90 x 70 mm

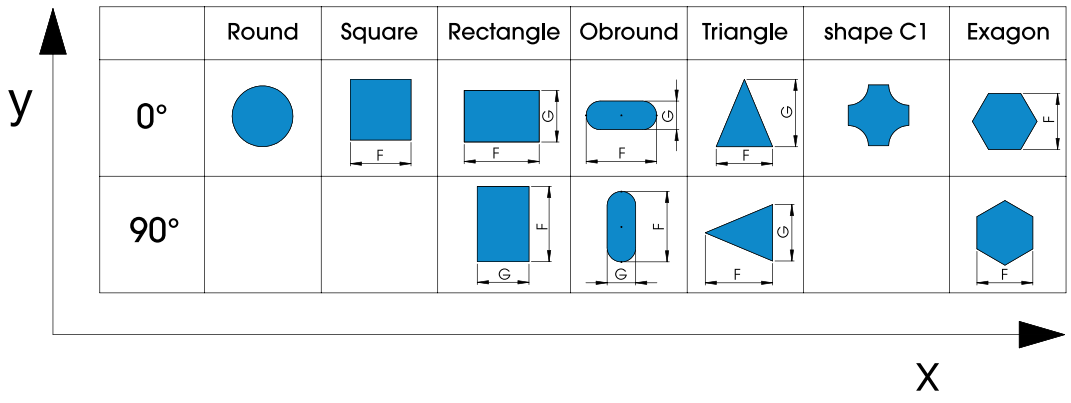
DIE
Max 90 x 70 mm

DIE SHIM
0.2 mm



item	PUNCH Max 70 x 50 mm	€	PUNCH Max 90 x 70 mm	€	STRIPPER Max 90 x 70 mm	€	DIE Max 90 x 70 mm	€	DIE SHIM 0.2 mm	€
ROUND	SAC1PUT00VT		SAC1PUT60VT		SAC1PLT0T		SAC1MAT00VT		SAC1SPMAT0	
STANDARD	SAC1PUT00VS		SAC1PUT60VS		SAC1PLT0S		SAC1MAT00VS			
SPECIAL 0	SAC1PUT00VC		SAC1PUT60VC		SAC1PLT0D		SAC1MAT00VD			
SPECIAL 1	SAC1PUT00VD		SAC1PUT60VD		SAC1PLT0D		SAC1MAT00VD			
SPECIAL 2	SAC1PUT00VF		SAC1PUT60VF		SAC1PLT0D		SAC1MAT00VD			

Technical data:

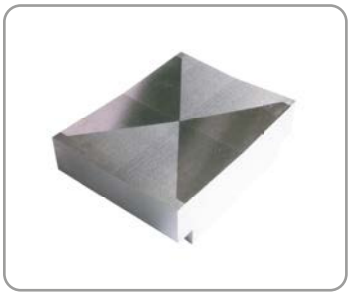


ADD-ONS PAG 22

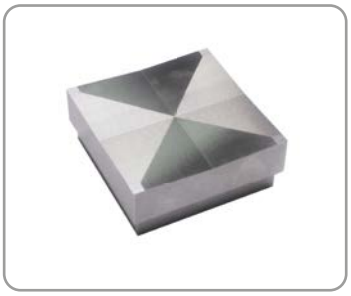
SA 90 x 90 TYPE 90 260 kN STATION

Pos 21-24
Max 90 x 90 mm
Punch grinding life 4 - 2 mm
Die grinding life 1.2 mm

PUNCH
Max 90 x 70 mm



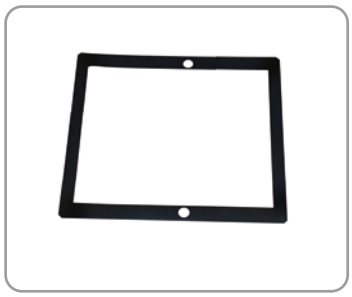
PUNCH
Max 90 x 90 mm



STRIPPER
Max 90 x 70 mm

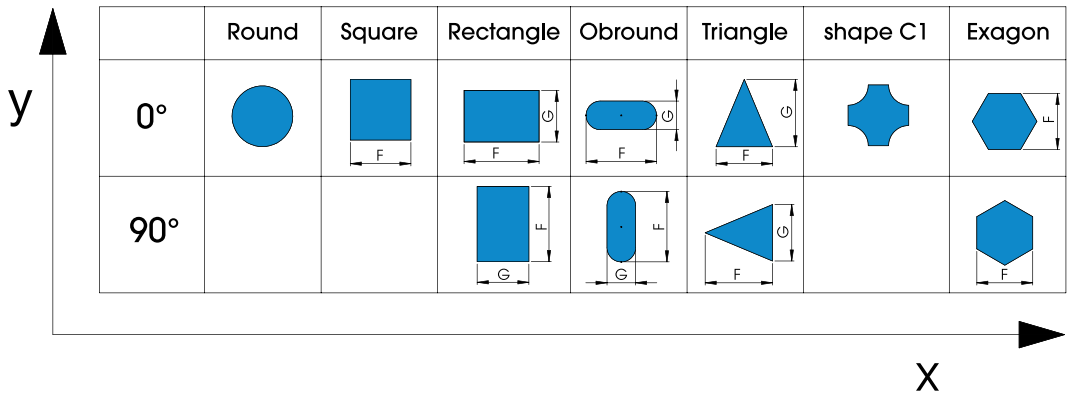
DIE
Max 90 x 90 mm

DIE SHIM
0.2 mm



item	PUNCH Max 70 x 90 mm	€	PUNCH Max 90 x 90 mm	€	STRIPPER Max 90 x 90 mm	€	DIE Max 90 x 90 mm	€	DIE SHIM 0.2 mm	€
ROUND	SAC1PUT40VT		SAC1PUT50VT		SAC1PLT2T		SAC1MAT20VT		SAC1SPMAT2	
STANDARD	SAC1PUT40VS		SAC1PUT50VS		SAC1PLT2S		SAC1MAT20VS			
SPECIAL 0	SAC1PUT40VC		SAC1PUT50VD		SAC1PLT2D		SAC1MAT20VD			
SPECIAL 1	SAC1PUT40VD		SAC1PUT50VC		SAC1PLT2D		SAC1MAT20VD			
SPECIAL 2	SAC1PUT40VF		SAC1PUT50VF		SAC1PLT2D		SAC1MAT20VD			

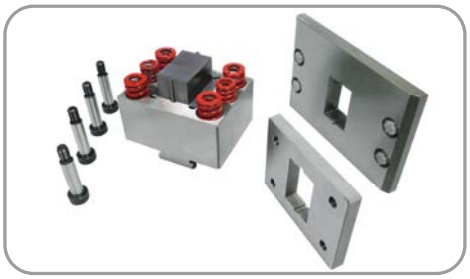
Technical data:



SPECIAL

EI forming UP tooling
Emboss, countersink

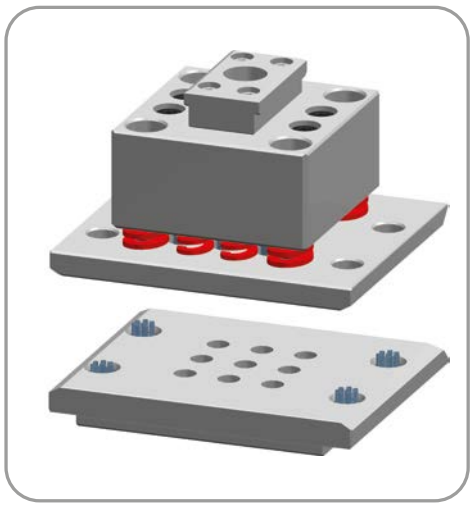
EI forming tool UP tooling
Lance and bridge UP



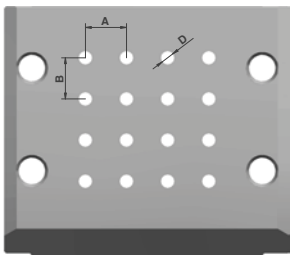
Special shape with blank older

Cluster with replaceable punches

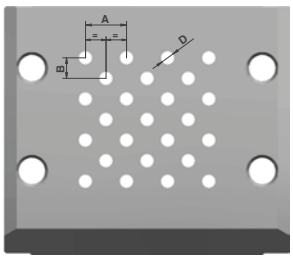
CLUSTER



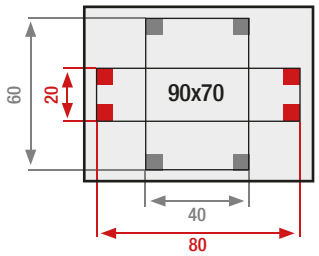
PATTERN 1



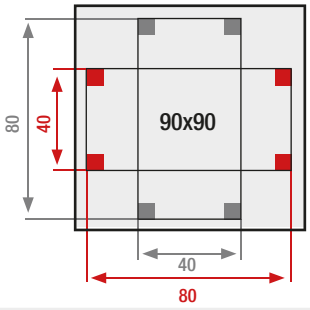
PATTERN 2



max area mod. 90x70
(X40 Y60) (X80 Y20) mm



max area mod. 90x90
(X40 Y80) (X80 Y40) mm



Materiale/Material:

Spessore/Thickness:

Disposizione/Pattern: 1 - 2

Sagoma/Shape:

Dimensioni/Size:

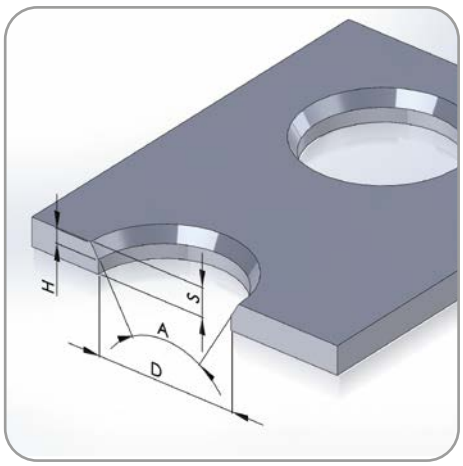
A:

B:

STATION	P0	P3 - P9	S4	S5	P5	S6	S8 50 x 70	S8 90 x 70	SA 90 x 90
Item	€	€	€	€	€	€	€	€	€
Coating Probus									
Coating Geminus									
Coating Levatus									

ADD-ONS PAG 22

SPECIAL
COINED COUNTERSINK AFTER PREPIERCE



Custom dimensions (mm)

A :

D:

H:

S:

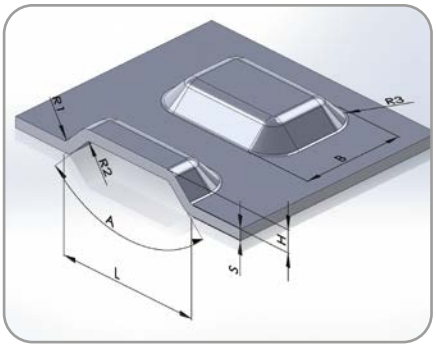
Order with prepierce tool:

Yes *No*

Prepierce dimension:
Dmax - [(Dmax - Dmin) * 0,7]

FLSA09

RD & SHAPE UP-FORM EMBOSS - EI

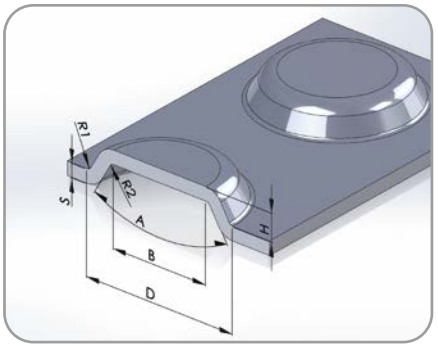


Custom dimensions (mm)

Material:

A:	*R1:*
B:	*R2:*
H:	*R3:*
L:	*S:*

Maximum size inscribed in D 20 mm
H + S Max 6.5 mm



Custom dimensions (mm)

Material:

A:	*R1:*
B:	*R2:*
D:	*S:*
H:	

Maximum size inscribed in D 20 mm
H + S Max 6.5 mm

FLSA01

Custom dimensions (mm)

Material:

D:

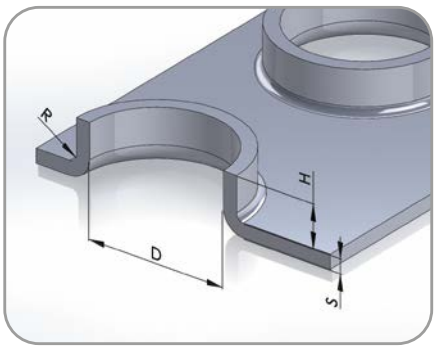
H:

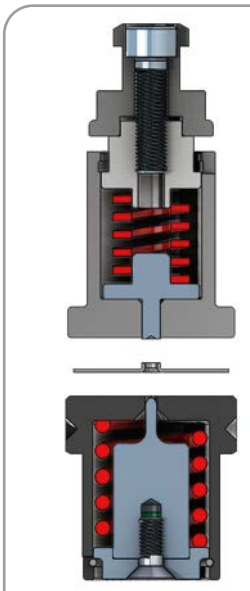
S:

R:

Geminus Coating: *Yes* *No*

Maximum size inscribed in D 20 mm
H + S Max 6.5 mm

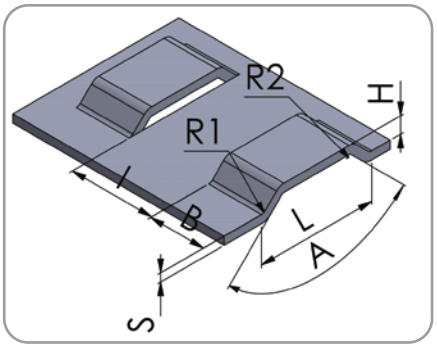


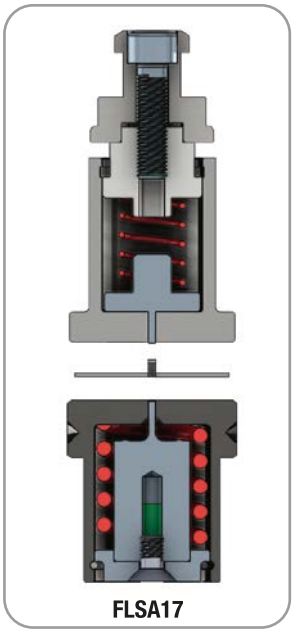


FLSA12

ADD-ONS PAG 22

SPECIAL
BRIDGE UP-FORM - EI





FLSA17

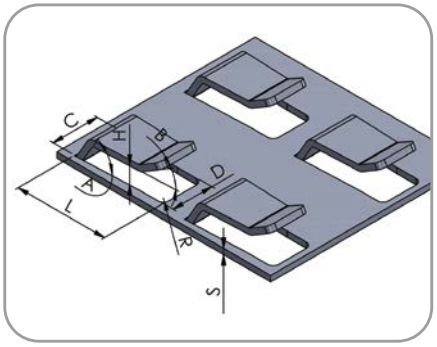
Custom dimensions (mm)

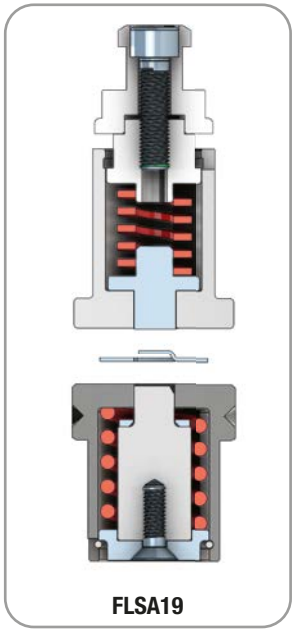
Material:

A:	*I:*
B:	*R1:*
H:	*R2:*
L:	*S:*

Maximum size inscribed in D 20 mm
H + S Max 6.5 mm

LANCE UP-FORM - EI





FLSA19

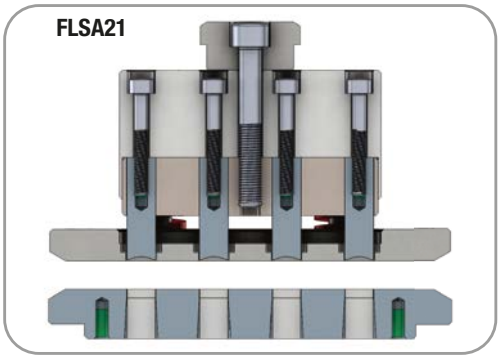
Custom dimensions (mm)

Material:

A:	*H:*
B:	*L:*
C:	*R:*
D:	*S:*

Maximum size inscribed in D 20 mm
H + S Max 6.5 mm

CLUSTER

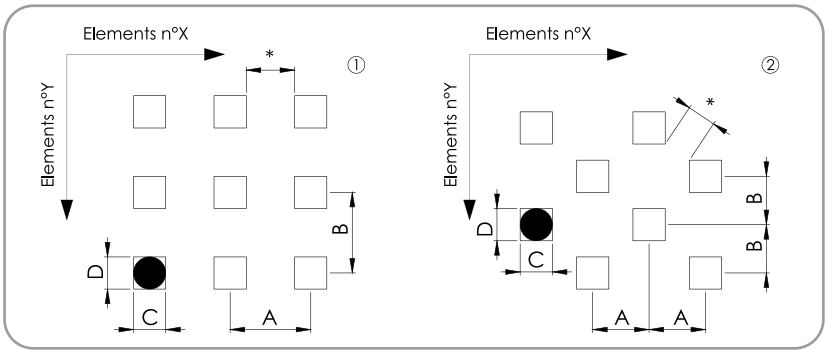


FLSA21

Machine Model:

Material:

Thickness:



Punch dimensions (mm)

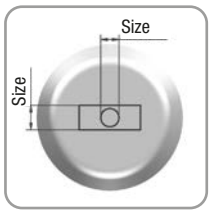
A:	
B:	
C:	*(minimum size 1.5 x thickness)*
D:	*(minimum size 1.5 x thickness)*
Round:	
Shape:	
Pattern: 1/2	
Nx:	
Ny:	

** Minimum distance between rounds 2.5 thickness*
If size C<30 mm example 20x3 minimum distance between shapes 3 times thickness. - If size C>30 mm example 40x3 minimum distance between shapes 4 times thickness.

ADD-ONS PAG 22

Add on

	Die lock slug	Reduced milled land
ADD ON	€	€ ⧄ ⌀
WHEN	Best option to prevent the come out of the slug	To facilitate the fall of the slug; recommended when long side is more than 20 times short side, ex re22x1



	Die clearance <0.1	Punch width	Die size <1.5
ADD ON			

ADD-ONS PAG 22

NOTE

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