



PRODUCT PORTFOLIO 09/2023
SYSTEM TRUMPF, THICK TURRET & SALVAGNINI

PRODUCT PORTFOLIO

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

Thank you for your interest in Pass Tooling, located in Wisconsin. Within this portfolio you will find tooling we provide for TRUMPF, THICK TURRET, and SALVAGNINI systems. Please reach out to us if you have any questions.

Thank you,

PASS Tooling

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

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COUNTERSINKS: ps:[®] countersink

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

TRUMPF

THICK TURRET

SALVAGNINI

- countersinks in steel, aluminum and stainless steel possible
- available in two versions: rigid and spring-loaded

spring-loaded version:

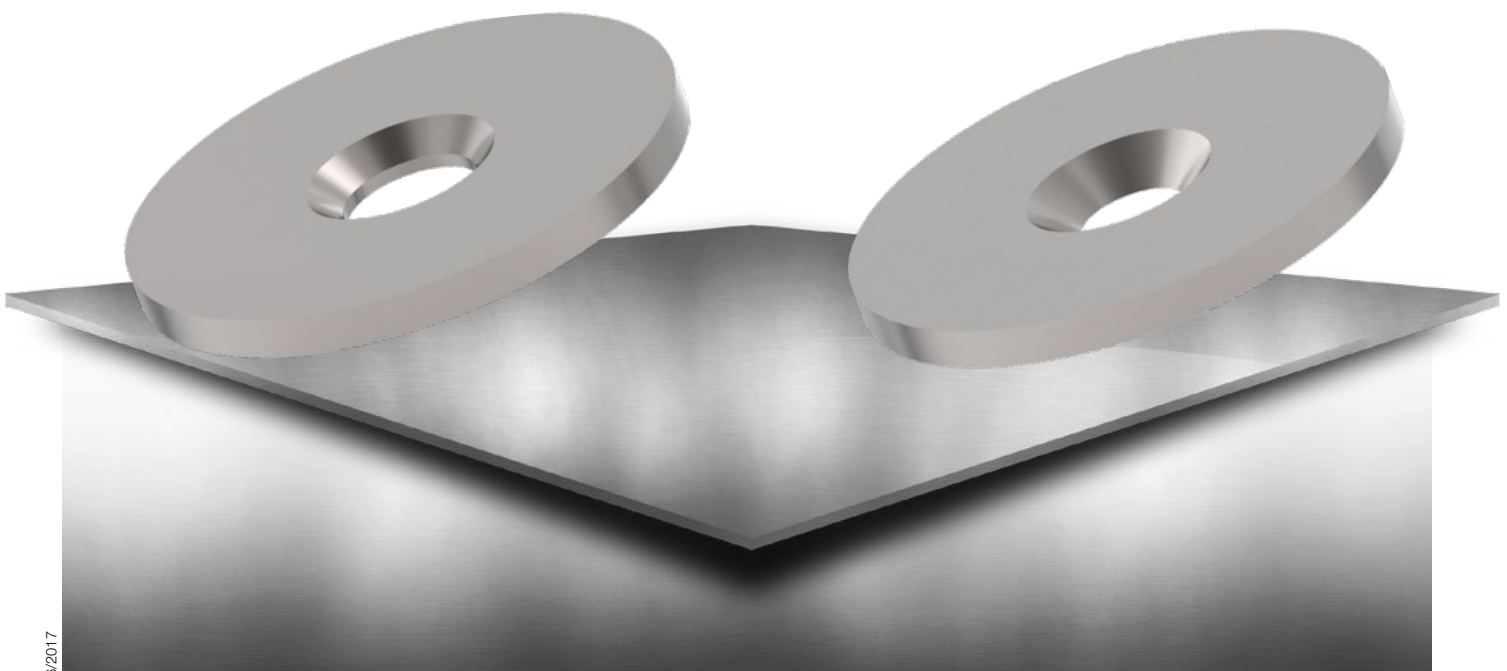
- countersink depth
 - aluminium:
approx. 90 % of sheet thickness
 - steel:
approx. 80 % of sheet thickness
 - stainless steel:
approx. 66 % of sheet thickness

spring-loaded version:

- countersink depth:
almost 100% of the sheet thickness
- countersink die in reinforced version
- reinforced spring in the upper part to keep the sheet flat and improve the flow behavior

rigid version

spring-loaded version



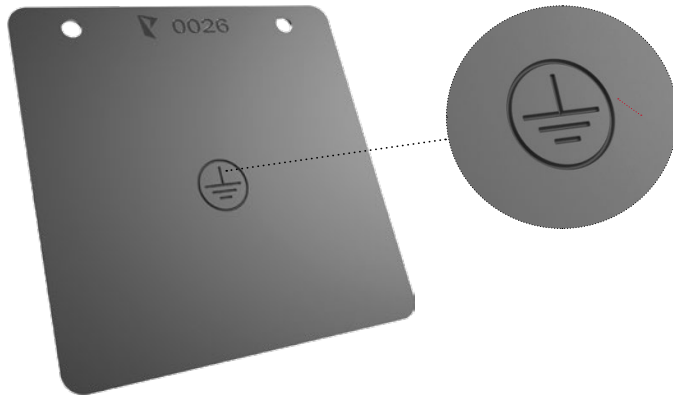
06/2017

EMBOSSINGS AND MARKINGS

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

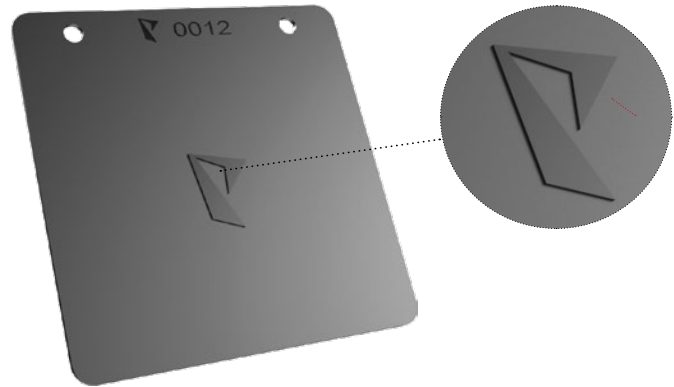
Marking tool:

- markings possible from below and above with a depth of up to approx. 0,5 mm
- fine, recessed lines possible
- markings in one hit
- effective and fast production
- application area: attachment of logos to finished products, ground symbols, protective conductor signs



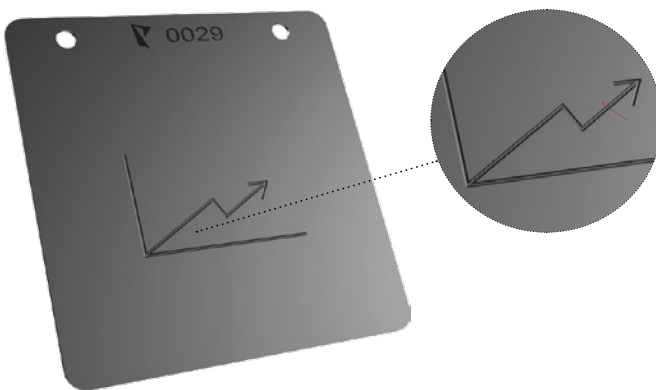
Embossing tool:

- raised embossing in one hit
- optically high quality
- application area: optical and visible sheets with logos, symbols, shapes or characters



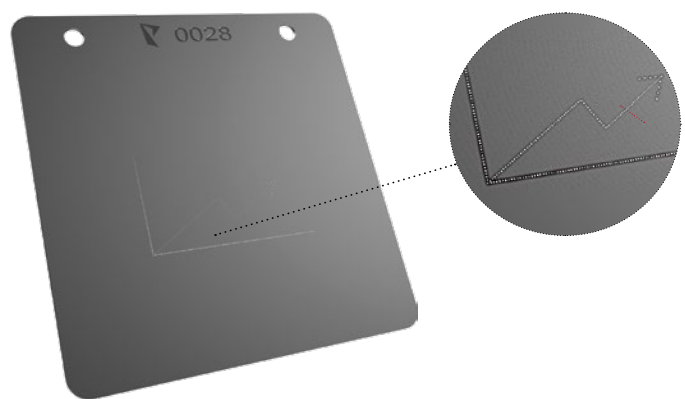
Engraving tool:

- engravings with a depth of approx. 0,15 mm
- numbers, letters, special characters, free shapes
- flexible usable



Signing tool:

- signing of parts from individual, composite grain points
- application area: numbers, letters, special characters, free shapes



CONNECTIONS: ps:®macro-joint

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

TRUMPF

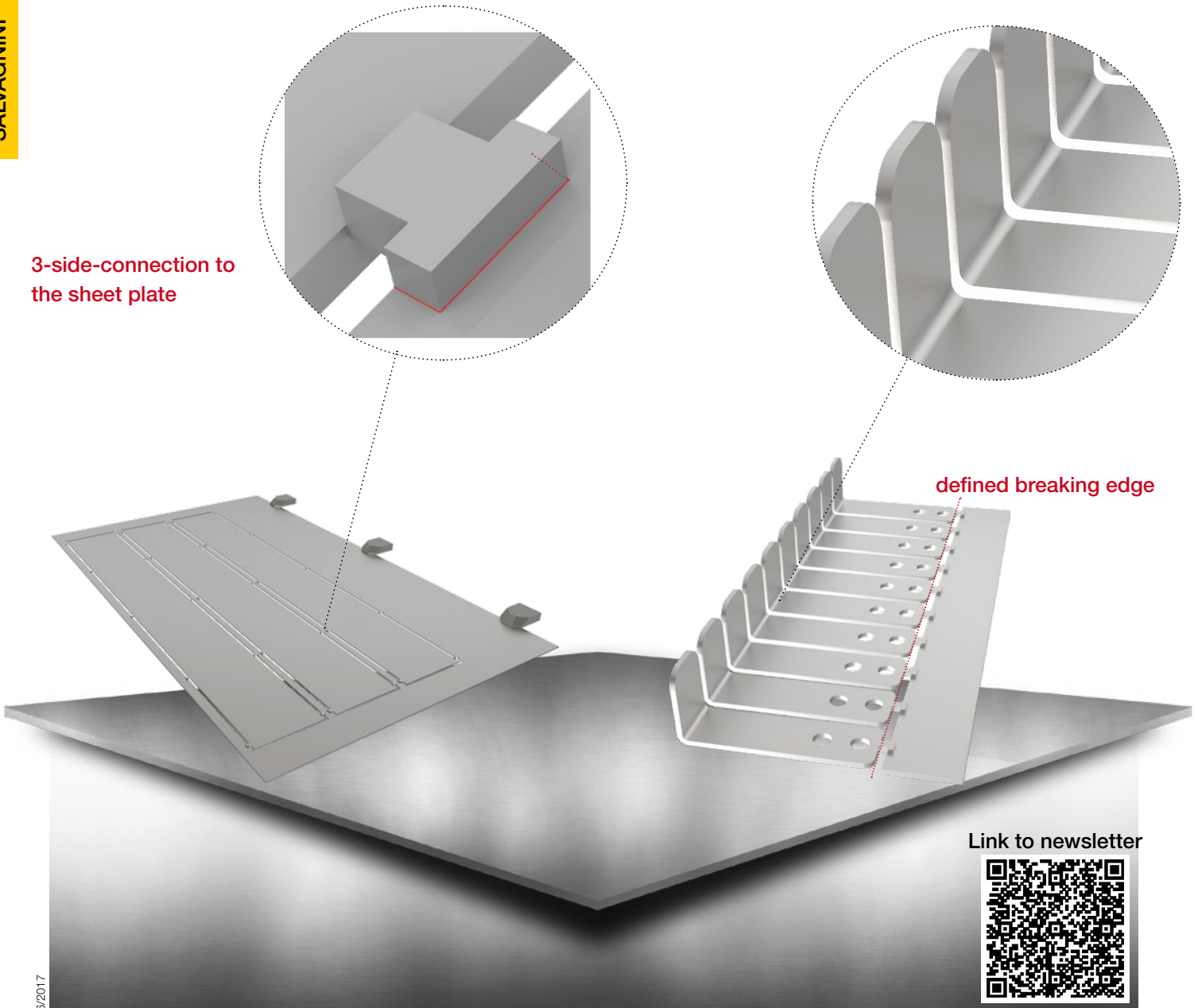
THICK TURRET

SALVAGNINI

- for effective production with manual part extraction
- **ps:®macro-joint** connects individual parts on a sheet plate
- connecting bridges remain on the rest fence when the parts are broken out thanks to 3-side connection
- no waste of the machine table caused by slugs
- bending of several small parts together possible
- timesaving
- optimizing the production process
- trouble-free production process

3-side-connection to the sheet plate

defined breaking edge



Link to newsletter



HINGES

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

- for producing hinges with 2 tools
- bending up takes place with at least 2 hits with a pre-forming tool
- finishing of the hinge is done by a rigid finish-forming tool
- different sizes, lengths and diameters possible
- depending on \varnothing to sheet thickness
- for sheet materials aluminium, steel, stainless steel



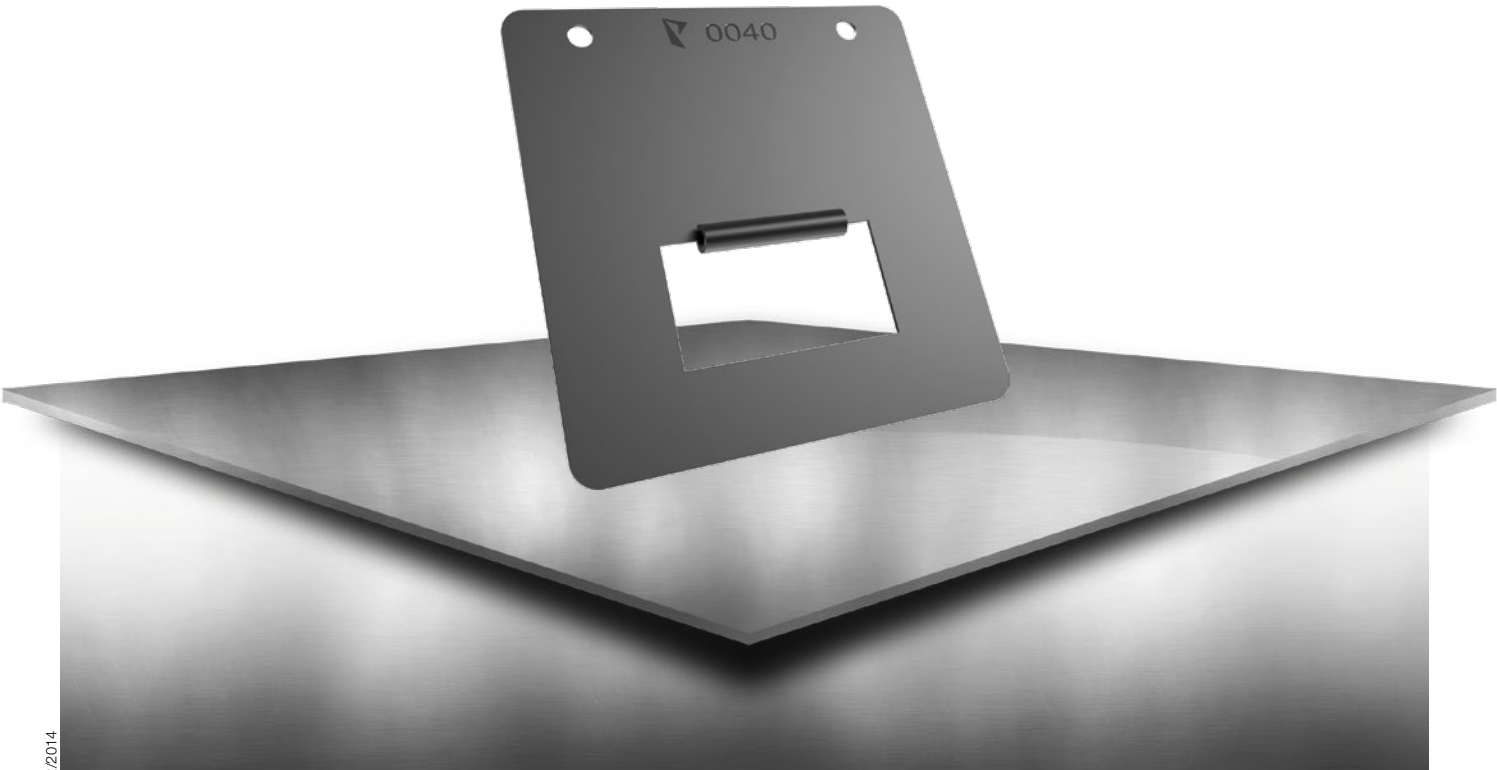
step 1



step 2



step 3



SALVAGNINI THICK TURRET TRUMPF

BALL DEBURRING: ps:[®]ball-deburr

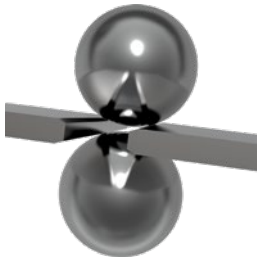
FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

TRUMPF

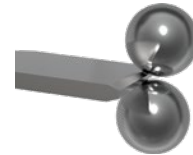
THICK TURRET

SALVAGNINI

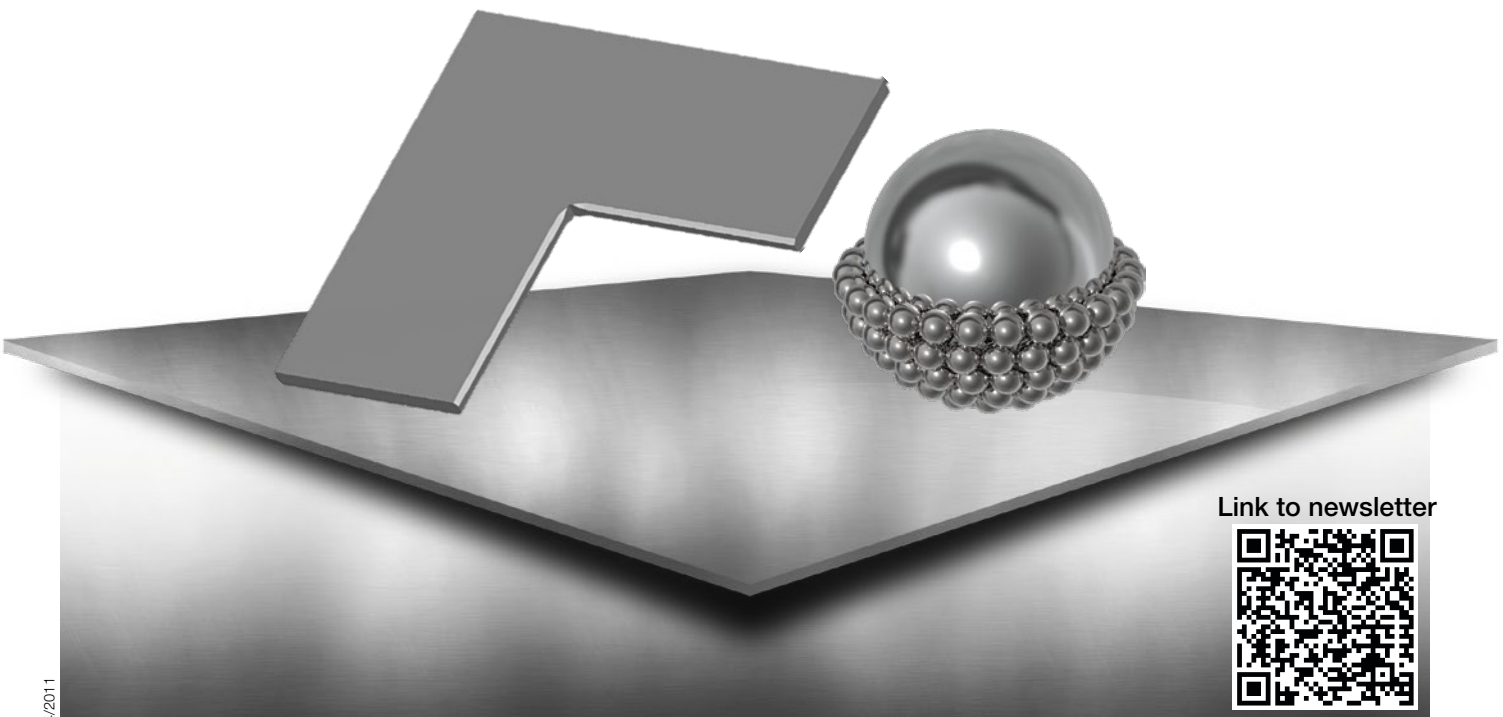
- for automated deburring of sheets
- for sheet materials aluminium, steel, stainless steel
- high operating safety by spring-loaded ball inserts (safety mechanism)
- low maintenance – long tool life
- for usage on sheet edge or 5,0 mm slitting cut
- 2 versions available:
 - V3 (ball Ø 15) optimised deburring of combined slitting cuts
 - V4 (ball Ø 8) deburring close to edges possible
- for sheet thickness up to s = 6,0 mm (depending on the tooling system)
- ball integrated in a solid and hardened rack
- ball works free of clearance under pressure during process
- polished ball rack providing a trouble free procedure



Version V3 Ø 15 mm



Version V4 Ø 8 mm



Link to newsletter



KNOCK-OUTS: ps:[®]knock-out

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

normal knock-outs:

- production of knock-outs with one diameter in one hit
- suitable for all standard sheet thicknesses and sheet materials as well as surface coatings (powder, zinc, etc.)

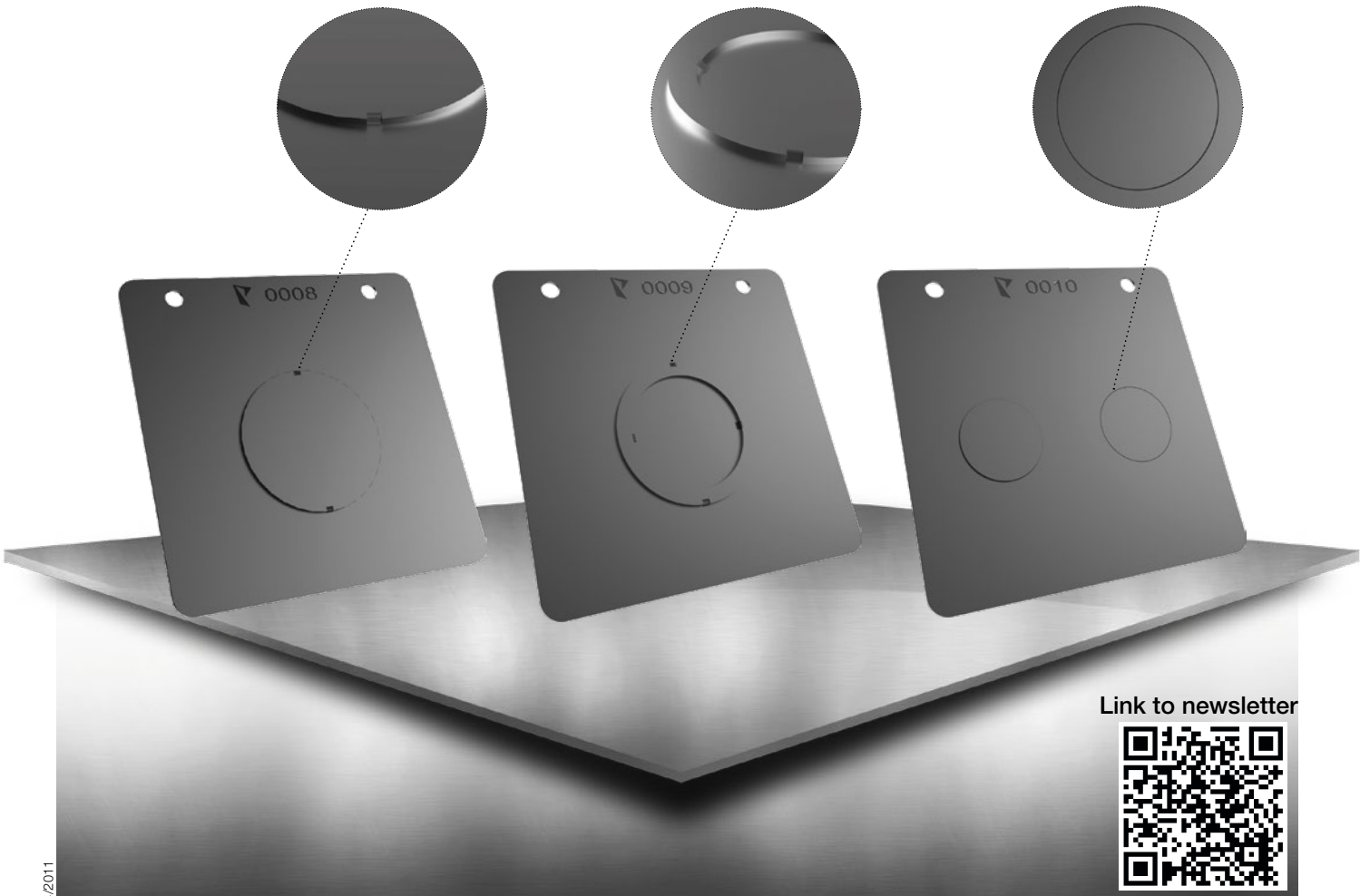
ring knock-outs:

- production of ring knock-outs with two diameters in one hit
- suitable for all standard sheet thicknesses and sheet materials as well as surface coatings (powder, zinc, etc.)

ps:[®]knock-out

- production of the knock-outs in two steps:
step 1: production of the knock-out
step 2: flattening
- non-sharp-edged connections (risk for damaging the cable is decreased)
- slug can be removed on both sides
- suitable for all standard sheet thicknesses and sheet materials as well as surface coatings (powder, zinc, etc.)

SALVAGNINI THICK TURRET TRUMPF



Link to newsletter



DESIGN: ps:[®]texture

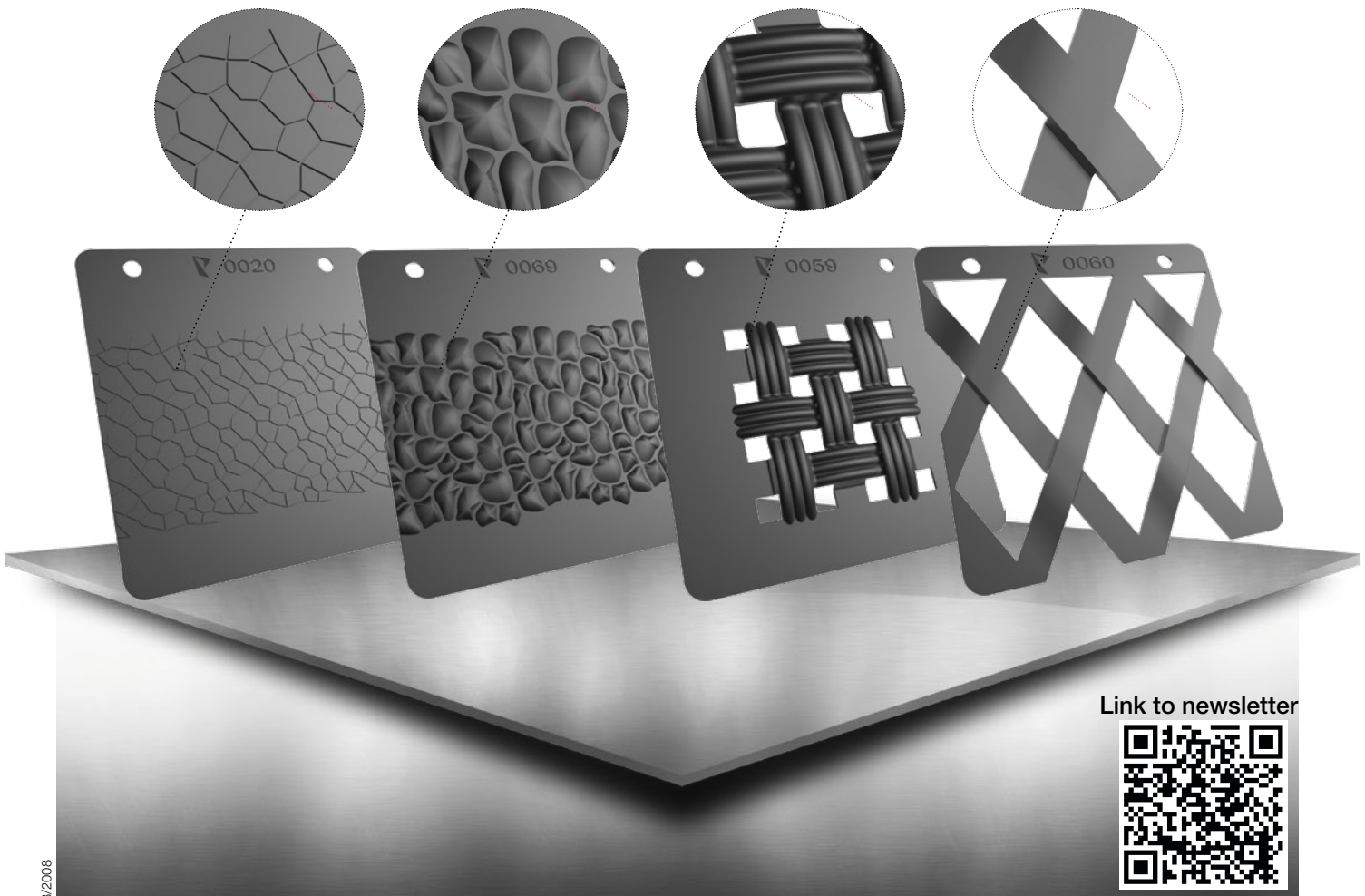
FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

TRUMPF

THICK TURRET

SALVAGNINI

- application of visible sheets in architecture: interior and exterior of private and public buildings
- specific design of sheets for car tuning area
- expanded metal, textured sheets and other optical sheets are used in many design products, garden chairs, tables and storage systems
- advantage of PASS tools: applicable in small areas of a sheet plate
- different types of pre-punching with one tool achieves unique appearances
- for sheet materials aluminium, steel
- continuous punching tool
- engineered parameters reduce warpage
- programming as embossing tool required
- for sheet thickness $s = 0,3$ up to approx. 2,0 mm



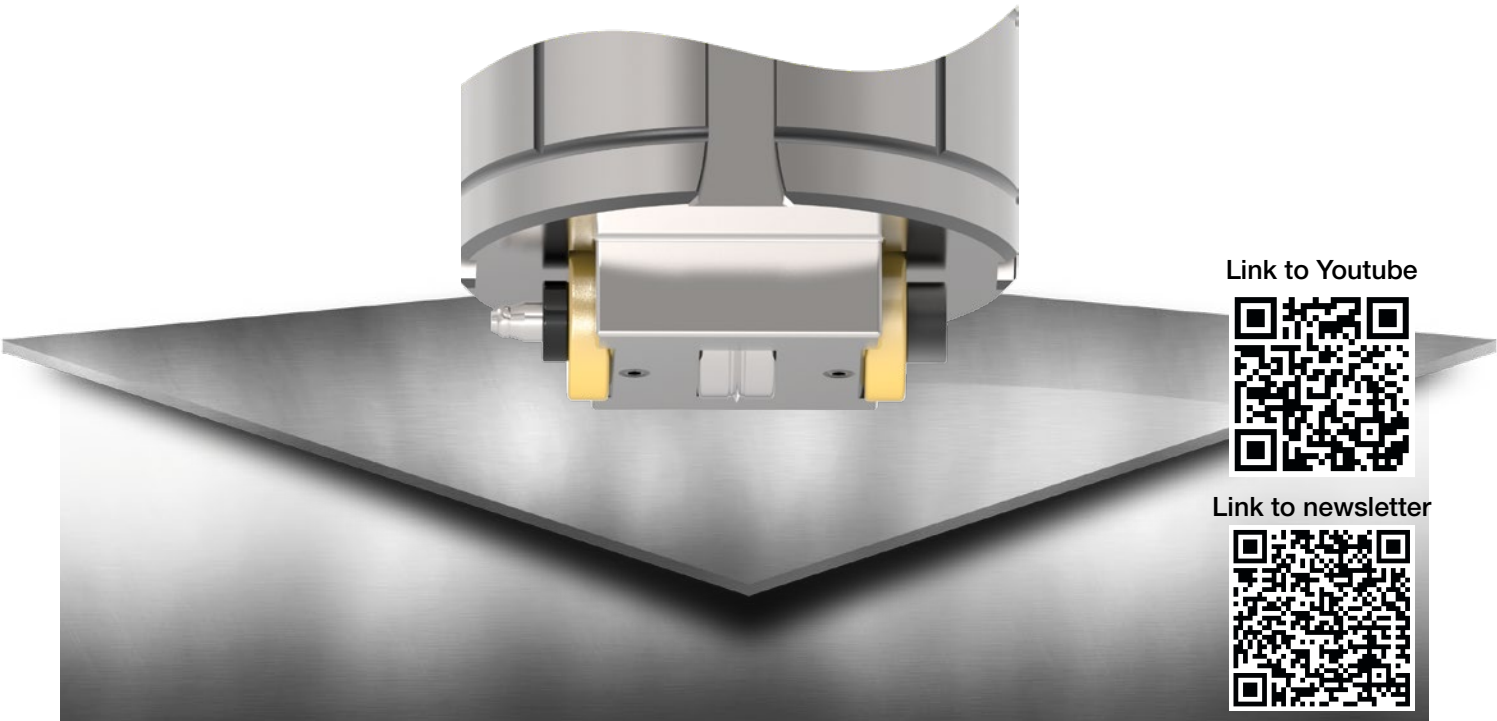
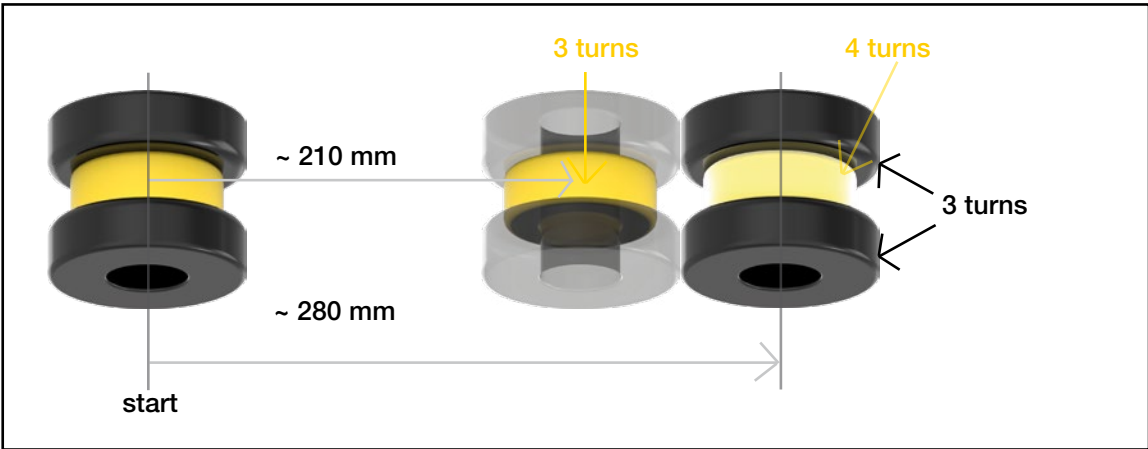
Link to newsletter



WHEEL TOOLS: ps:[®]wheel

FOR MACHINE TYPES TRUMPF, THICK TURRET & SALVAGNINI

- for different range of applications (e.g. beading-, flange- or offset-tool)
- reduced warpage because of differential effect (segmented wheels)
- no chatter marks
- integrated lubrication
- working with close radius possible
- perfect operating characteristics due to the shafts coated with a special lubrication
- dimensions according to customer requirements
- for different sheet materials and thicknesses



Link to Youtube



Link to newsletter



SALVAGNINI THICK TURRET TRUMPF

ps:®MT5 FOR PUNCHING

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

TRUMPF

- for sheet materials aluminium, steel, stainless steel
- for sheet thickness $s =$ up to 4,5 mm (stainless steel $s =$ up to 3,0 mm)
- max. diameter 16,0 mm
- max. punching force 57 KN
- working with 5 different punching shapes in ONE tool
- special shapes, numbers or letters possible
- time savings in setup and tool change times



Link to newsletter



ps:[®]easy-type

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

- for sheet materials aluminium, steel, stainless steel
- for sheet thickness $s = 0,5$ mm up to 8,0 mm
- working with 5 different inserts for embossing in ONE tool
- for embossing numbers, letters and characters by lining up embossing segments
- font sizes 4, 5, 6, 8 or 10 mm possible
- max. embossing depth 0,5 mm
- time savings in setup and tool change times

TRUMPF



Link to newsletter



ps:®MT10 FOR PUNCHING

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

TRUMPF

- for sheet materials aluminium, steel, stainless steel
- for sheet thickness s = up to 4,5 mm (stainless steel s = up to 3,0 mm)
- max. diameter 10,5 mm
- max. punching force 57 KN
- working with 5 different punching shapes in ONE tool
- special shapes, numbers or letters possible
- time savings in setup and tool change times



Link to newsletter



ps:®MT10 FOR EMBOSSING

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

TRUMPF

- for sheet materials aluminium, steel, stainless steel
- for sheet thickness $s = 0,5$ mm up to $8,0$ mm
- working with 5 different inserts for embossing in ONE tool
- for embossing e.g. numbers and protective conductor symbols
- max. embossing depth $0,5$ mm
- time savings in setup and tool change times



Link to newsletter



ps:[®]flange90° + ps:[®]flange180°

FOR MACHINE TYPES TRUMPF & THICK TURRET

TRUMPF

- bend, e.g. with dimension 30 x 70 mm
- for all sheet materials
- flanging possible in two degrees:
 - 1. 90° flanging with **ps:[®]flange90°**
 - 2. 180° flanging with **ps:[®]flange90° + ps:[®]flange180°**
- application area:
recessed grips of boxes or bushings



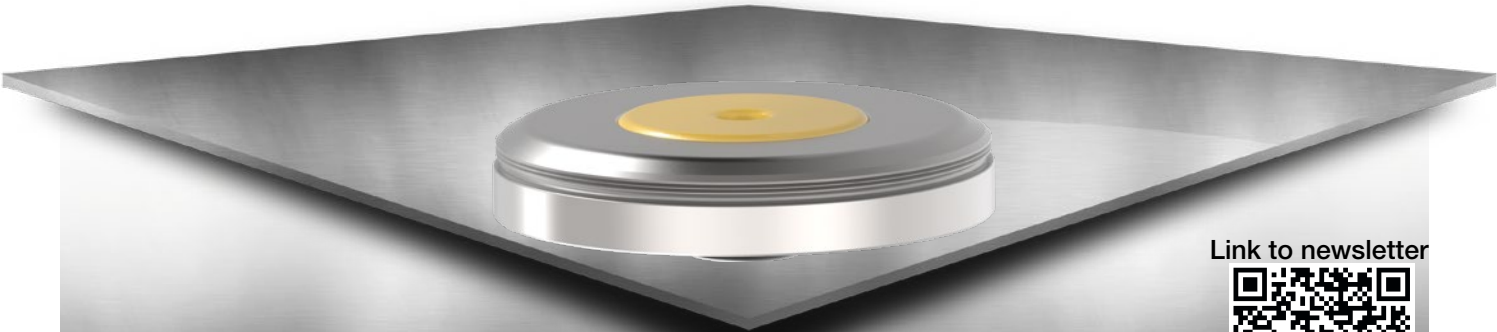
10/2019

ps:® single-thread

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

TRUMPF

- for all sheet materials
aluminium, steel, stainless steel
- for sheet thickness $s = 1,0$ up to $8,0$ mm
- thread M2 up to M10
- thread forming in flat sheets and in extrusions
- easy and tool-free changing of the thread modules by slide-part system
- easy change of tap inserts by means of magnetic holder



patented
EP 3,417,970
US 10,940,543

Link to newsletter



02/2019

ps:[®]emboss5

FOR MACHINE TYPE TRUMPF

TRUMPF

- special tools with max. size as spring-loaded lower part (Ø 98,5 mm)
- extended upper part with enlarged surface
- active die necessary
- special assembly for reducing sheet warpage for large embossings



10/2018

ps:[®]slitting5

FOR MACHINE TYPE TRUMPF

- for normal slitting cuts and process-reliable discharge of small parts
- for sheet thickness $s = 0,5$ up to $3,0$ mm
- reduced processing times
- maximum process reliability due to monitored ejection process
- active or lowerable die necessary

TRUMPF



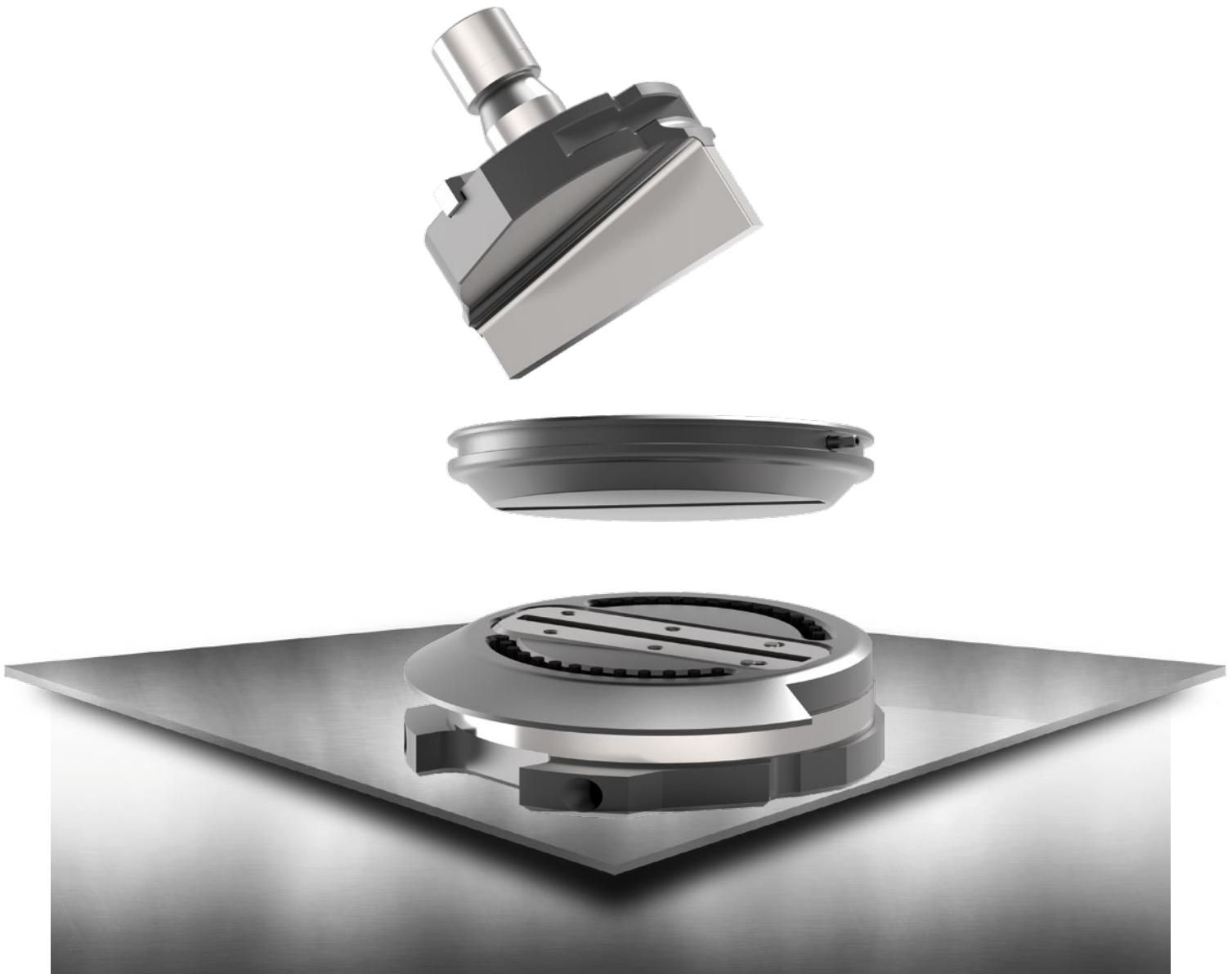
09/2018

ps:[®]T8-shear

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

TRUMPF

- for slitting sheets with smooth sheet edge
- for all sheet materials aluminium, steel, stainless steel
- for sheet thickness $s = 0,5$ up to $3,0$ mm
- no nibbling marks
- die plate is available in two versions:
 - single die plate for $s = 0,5$ up to $1,5$ mm
 - pair of die plates for $s = 2,0$ up to $3,0$ mm



ps:[®]T8-trim

FOR MACHINE TYPE TRUMPF - MACHINE GROUP I

- for trimming sheets
- for all sheet materials
aluminium, steel, stainless steel
- for sheet thickness $s = 0,5$ up to $3,0$ mm
- no nibbling marks
- die plate is available in two versions:
single die plate for $s = 0,5$ up to $1,5$ mm
pair of die plates for $s = 2,0$ up to $3,0$ mm

TRUMPF



ps:® engraving-up

FOR MACHINE TYPES TRUMPF & THICK TURRET

TRUMPF

- for all sheet materials and sheet thicknesses
- fully adjustable pre-loaded spring in the upper part for fine adjustment
- interchangeable spring in the upper part for rough adjustment of the spring force
- ball integrated in a solid and hardened rack
- ball works free of clearance under pressure during process
- polished ball rack providing a trouble free procedure
- low maintenance – long tool life
- diamond needle insert for supreme tool life



Link to newsletter

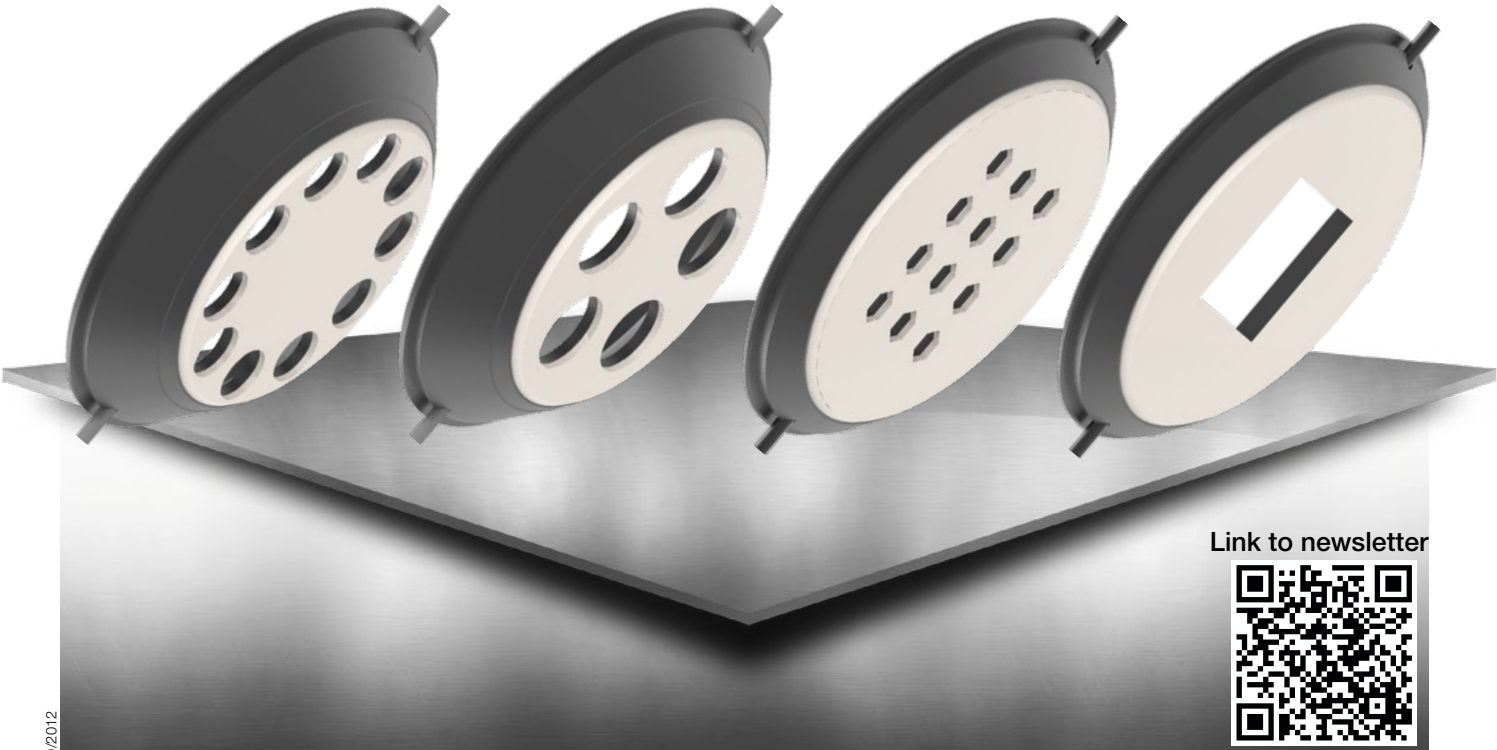


ps:[®]low-scratch-stripper

FOR MACHINE TYPE TRUMPF

TRUMPF

- scratches on the upper side of the sheet are minimised
- reinforced base body to secure stability
- extreme high abrasive life of the PU-coating
- available for multitools ps:[®]MT5 and ps:[®]MT10 as well as normal punching tools and multitools



Link to newsletter

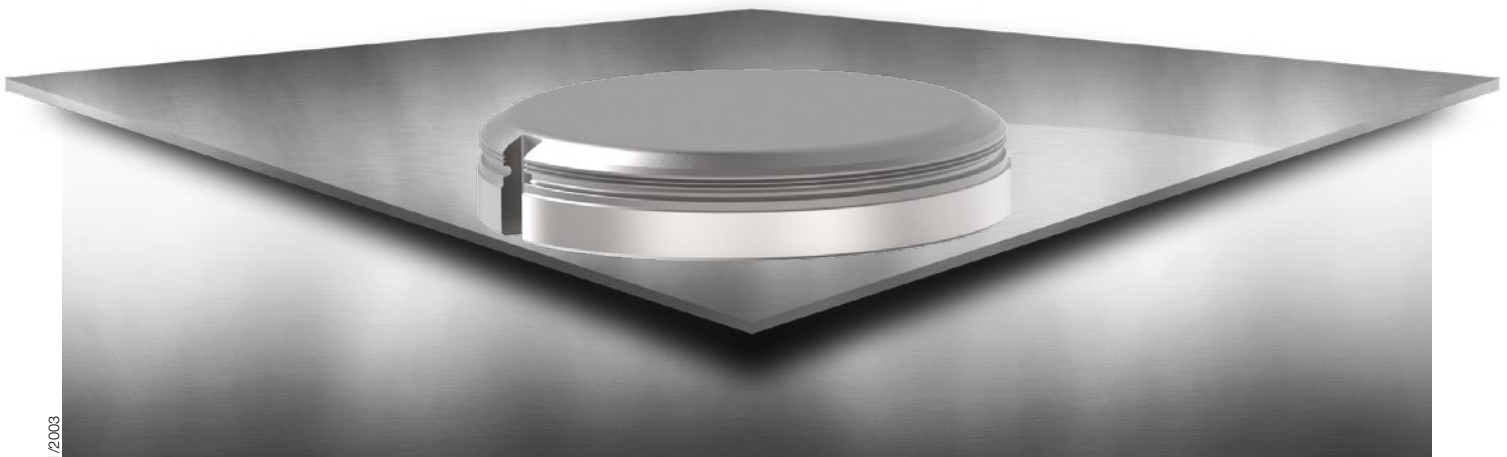


ps:[®]position

FOR MACHINE TYPE TRUMPF

TRUMPF

- for creating auxiliary stops for the accurate alignment of two sheets
- for sheet thickness $s = 0,8$ up to $6,0$ mm
- no deformations on the bottom side of the sheet
- form height and size on the upper side of the sheet are flexibly adjustable
- programming as embossing tool required
- for sheet materials aluminium, steel



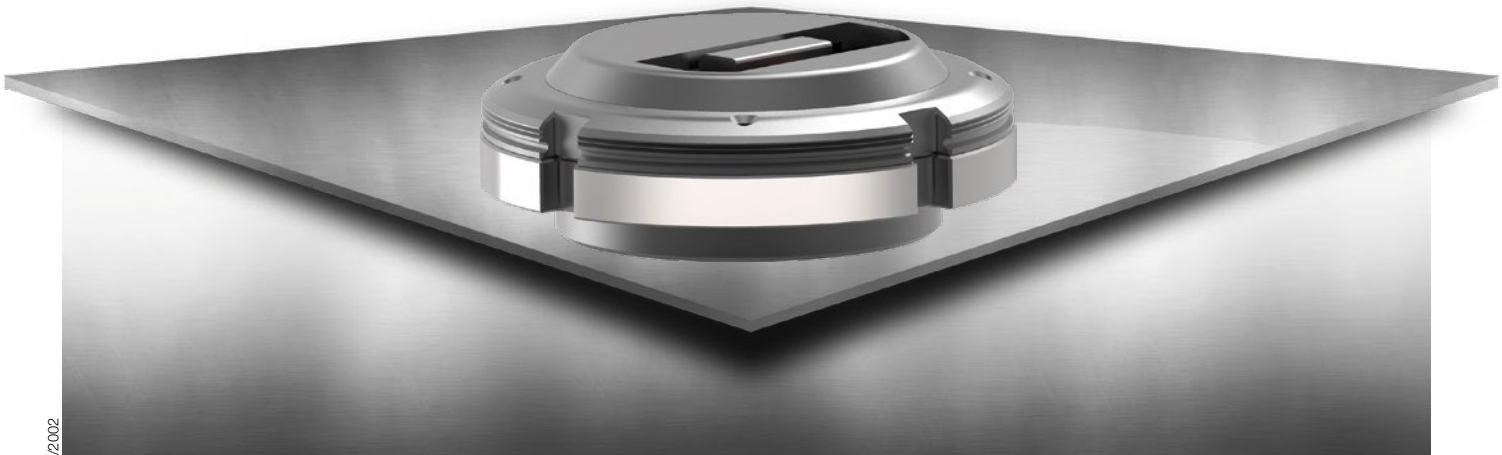
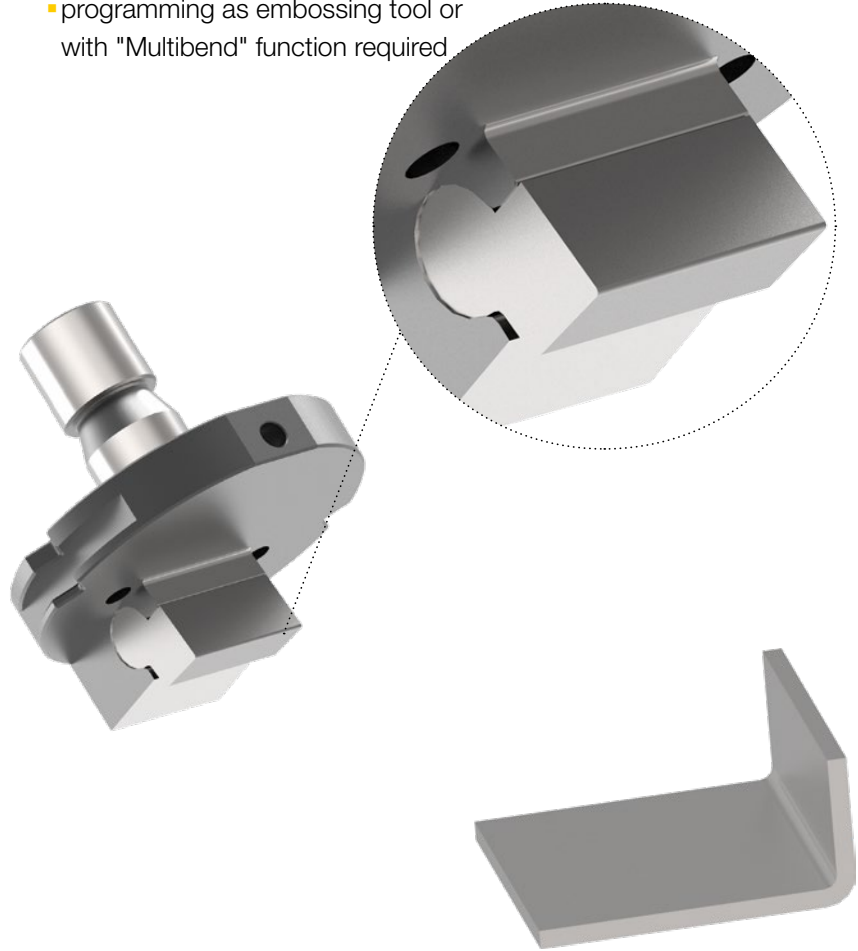
01/2003

ps:[®] pivot

FOR TRUE 90° BENDS

TRUMPF

- for sheet materials aluminium, steel, stainless steel
- height of tab is limited by machine type (e.g. TRUMPF machines up to 22,0 mm tab height)
- tab widths up to 55,0 mm
- even slight overbending (approx. 91-93°) is possible
- programming as embossing tool or with "Multibend" function required
- for sheet thickness $s = 0,8$ up to 1,5 mm (aluminium and steel up to 2,0 mm)



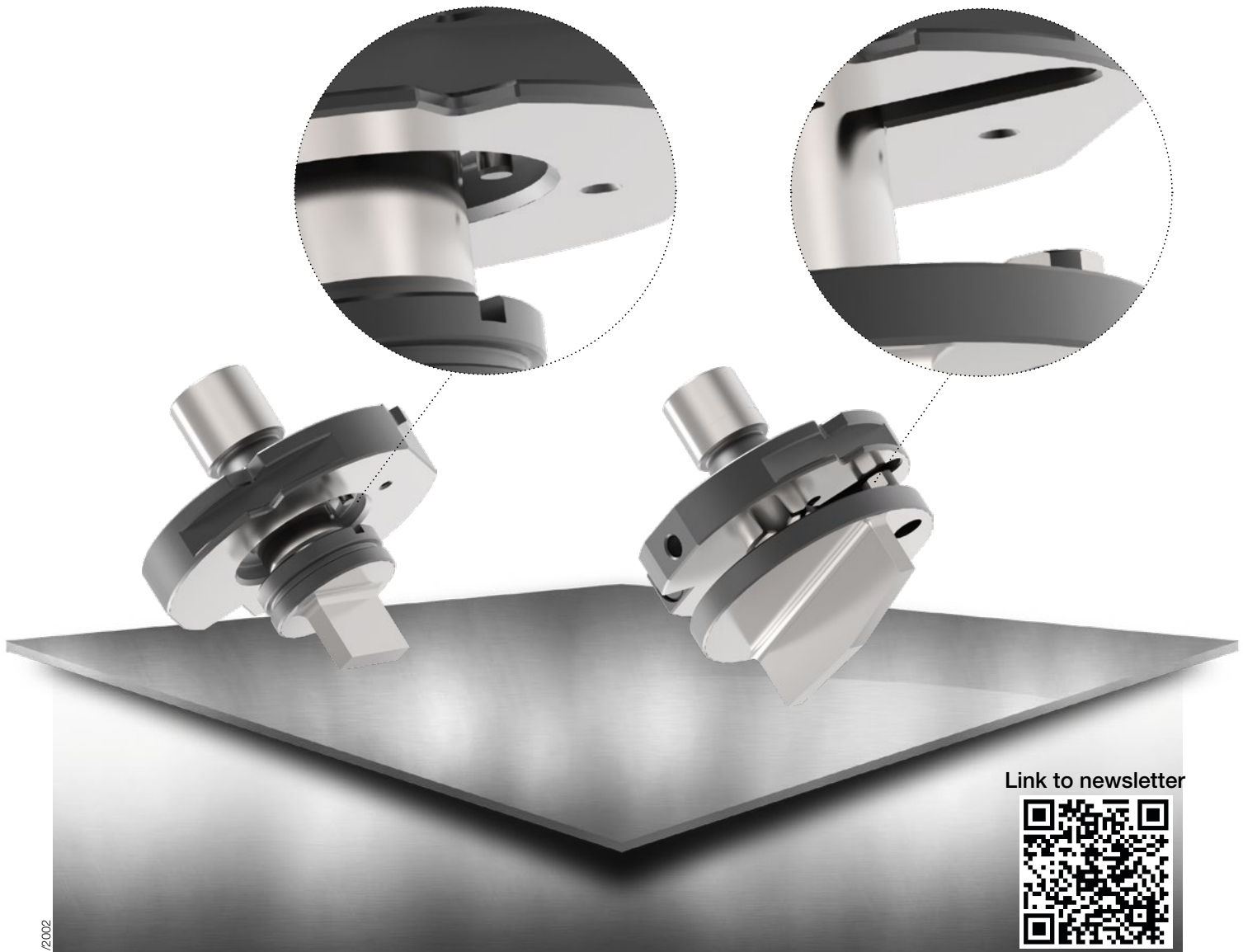
01/2002

ps:®passfit

FOR MACHINE TYPE TRUMPF

TRUMPF

- extremely fast and easy adjustment of the tools without additional tool
- high operational security of the machine preventing expensive tool misalignments
- extremely high tool stability (sheets up to 12,0 mm – also stainless steel – can be punched)
- no expensive base bodies are necessary
- all PASS special tools, e.g. embossing tools (louvers, beads, bridges, lances, etc.) are manufactured and delivered with **ps:®passfit**



Link to newsletter



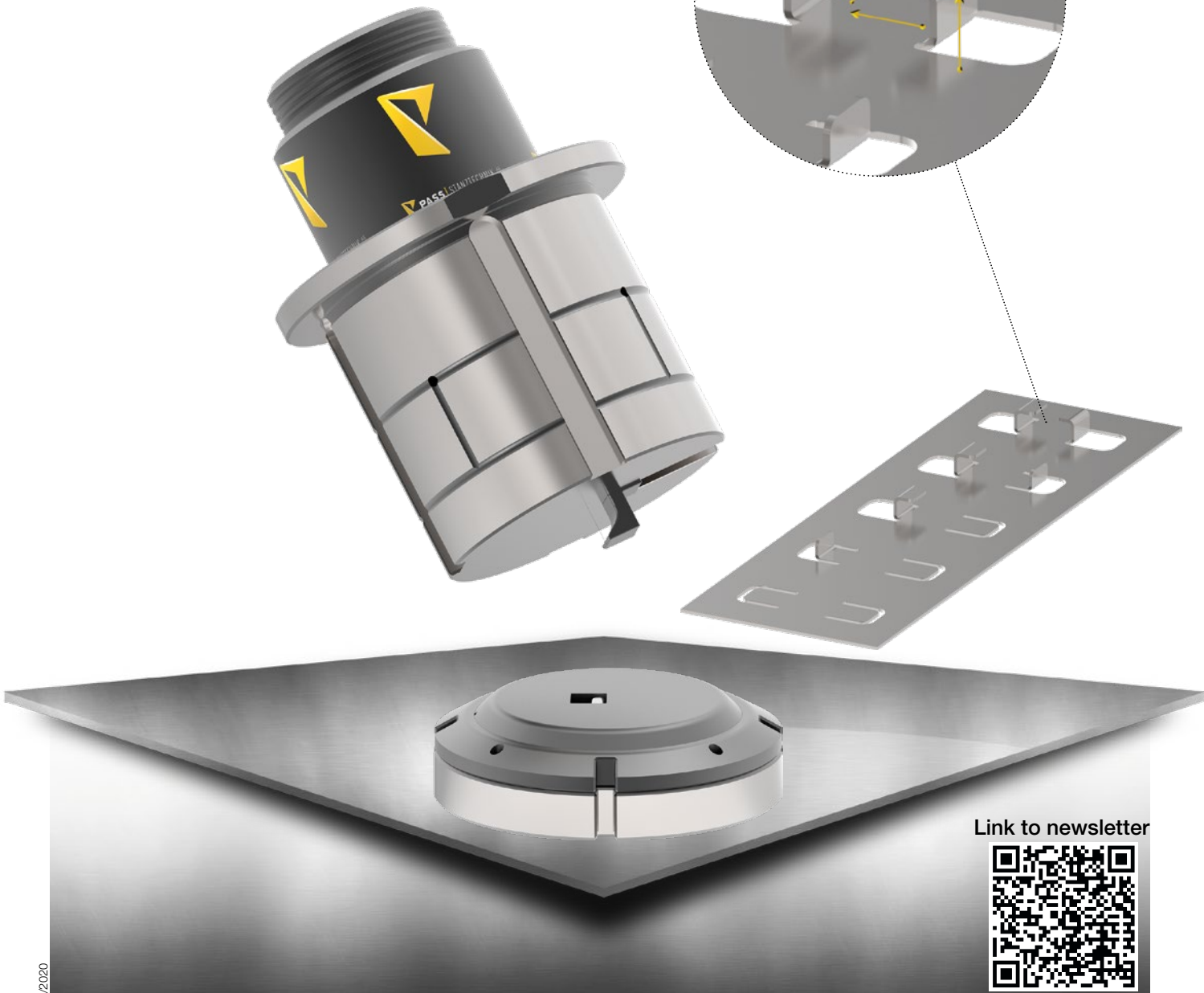
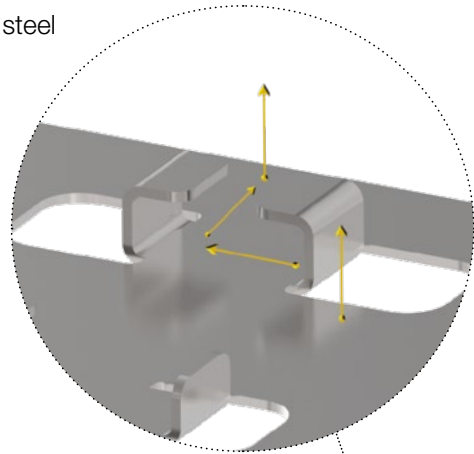


ps:®hook

FOR MACHINE TYPES TRUMPF & THICK TURRET

THICK TURRET

- production of double bends in the smallest space
- forming station necessary
- embossing height up to 14 mm
- many different application areas e.g. case construction, steel furniture, drawers, transport boxes, etc.
- for all sheet materials aluminium, steel, stainless steel



Link to newsletter



11/2020

ps:® marking-all-in-one

FOR MACHINE TYPE THICK TURRET

- multifunctional tool for **engraving, signing, marking** and **foil cutting**
- 1 tool – 4 functions
- minimum conversion times for quick change to a new function due to head screw with bayonet lock
- incl. two dies: flat die (signing), ball roller die (engraving, marking and foil cutting)
- incl. special marking pen with Dry Safe Ink
- for all sheet materials and a sheet thickness from $s = 0,8 \text{ mm}$

THICK TURRET



Link to newsletter



ps:®basic

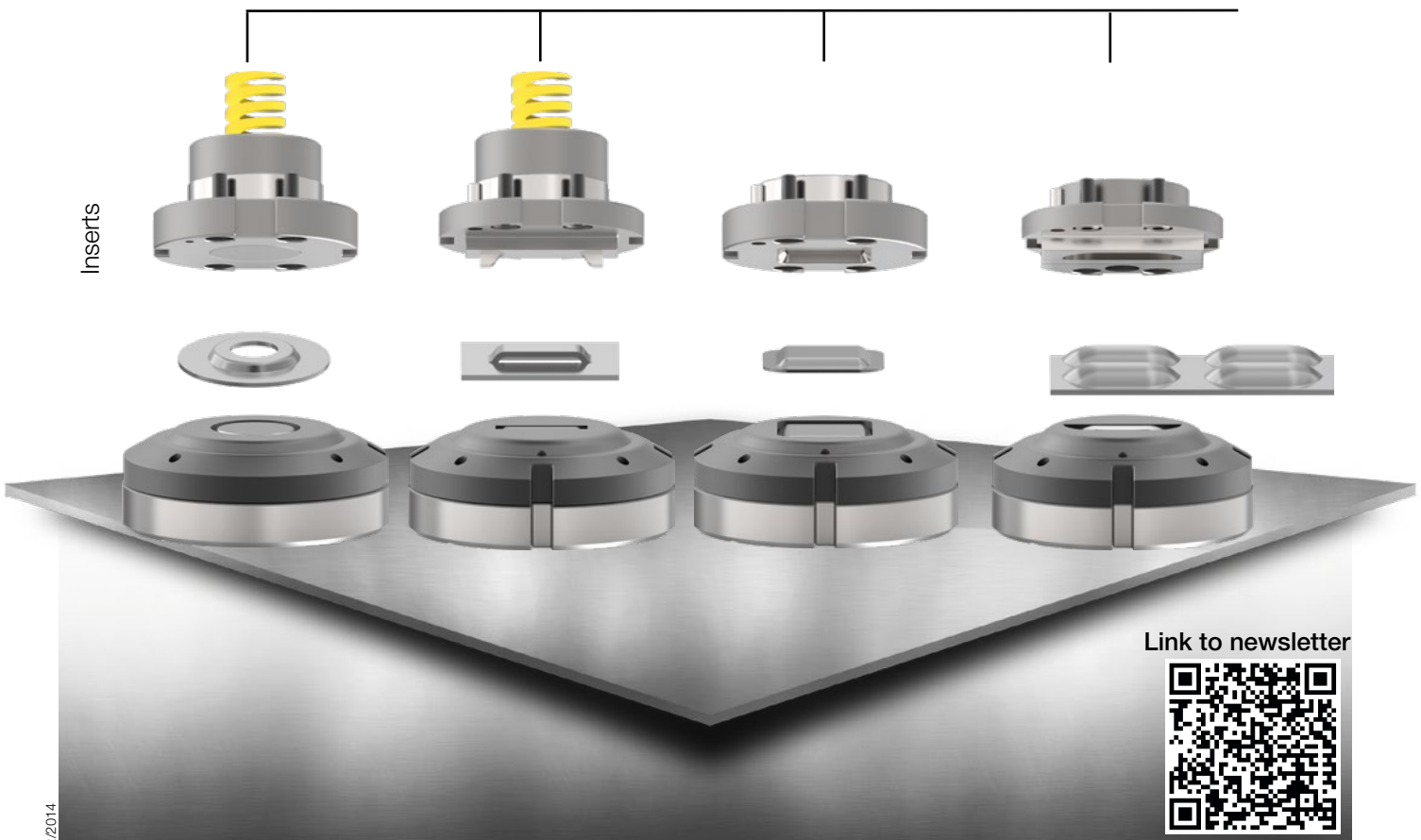
FOR MACHINE TYPE THICK TURRET

THICK TURRET

- cost savings due to standardised guide assembly for embossings upwards
- fast and easy changing of the embossing die



Inserts



Link to newsletter



ps:® assembly-element

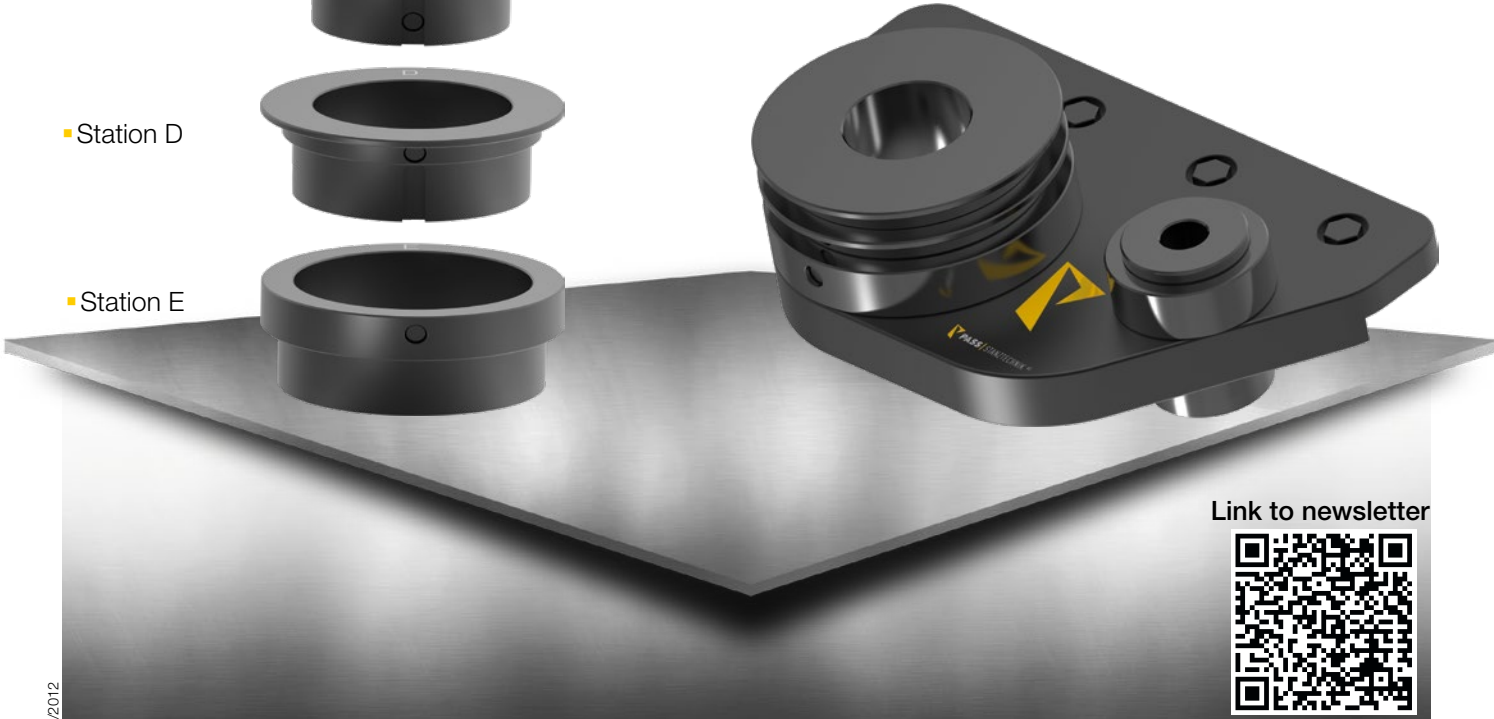
FOR MACHINE TYPE THICK TURRET

- as plug system
- no need to clamp in vice
- for a gentle disassembly and assembly of the tools

THICK TURRET



EQUIPPED BASE PLATE



Link to newsletter



ps:® multi-thread®

FOR MACHINE TYPE THICK TURRET – STATION DI

THICK TURRET

- fast and easy changing of tap inserts
- different sizes from M2/UNC #2-56 to M10/UNC 3/8"-16 possible
- usable for all sheets up to $s = 8,0 \text{ mm}$
- metric and inch system tap inserts can be used in one tool
- automatic selection of the single tap inserts
- also usable for extrusions up- and downwards
- with tool and sheet lubrication
- fast thread forming (within approx. 2 sec./thread)



Link to Youtube



Link to newsletter



patented
EP 3,180,139
US 10,421,137

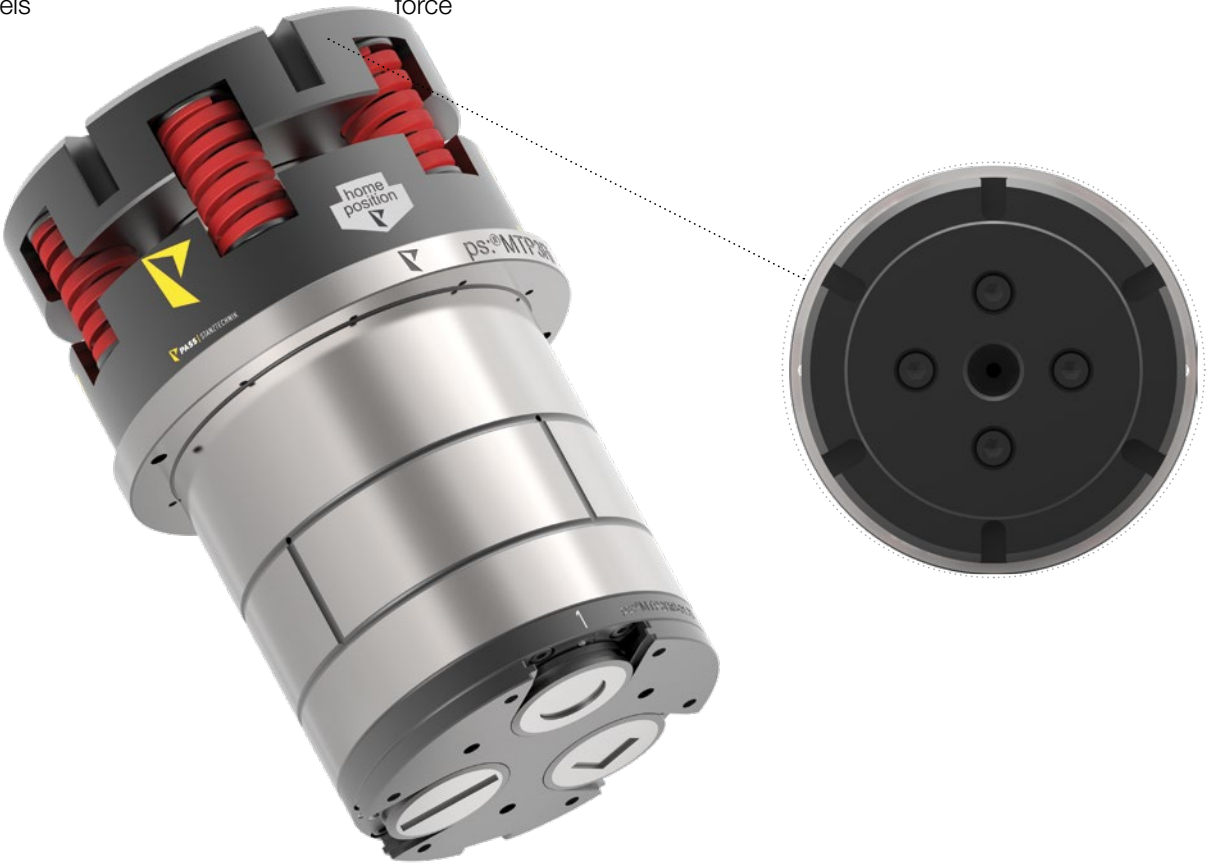
12/2011

ps:®MTP3RiB(PIN)-31,75

FOR MACHINE TYPE THICK TURRET – STATION Di

- simple and quick change of punches with maximum process stability
- minimum tool and guide wear due to maximum guide length
- internal and external lubrication channels
- special spring to control grind life after sharpening punches
- no “witness-marks” on the sheet, due to single active punch – all unused punches stay up
- individual adjustment of stripping force
- maximum performance range due to robust design of all components for sheet thicknesses up to $s = 6,0$ mm (all materials)
- possibility to use standard tools from product line **ps:®beta-V2®**

THICK TURRET



patented
EP 2,596,878
US 9,266,248

11/2011

ps:®MTP8RiA(PIN)-12,7

FOR MACHINE TYPE THICK TURRET – STATION DI

THICK TURRET

- simple and quick change of punches with maximum process stability
- special spring to control grind life after sharpening punches
- maximum performance range due to robust design of all components for sheet thicknesses up to $s = 6,0$ mm (all materials)
- minimum tool and guide wear due to maximum guide length
- no “witness-marks” on the sheet, due to single active punch – all unused punches stay up
- possibility to use standard tools from product line **ps:®beta-V2®**
- internal and external lubrication channels
- individual adjustment of stripping force



patented
EP 2,596,878
US 9,266,248

11/2011

ps:®MTP3RiB(I-RAM)-31,75

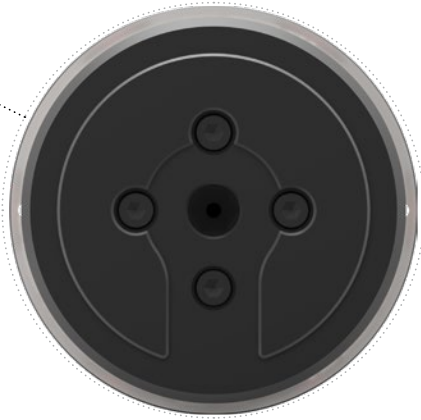
FOR MACHINE TYPE THICK TURRET – STATION Di

- effective reduction of production time due to combination of I-RAM and index station
- simple and quick change of punches with maximum process stability
- minimum tool and guide wear due to maximum guide length

- internal and external lubrication channels
- special spring to control grind life after sharpening punches
- no “witness-marks” on the sheet, due to single active punch – all unused punches stay up

- individual adjustment of stripping force
- maximum performance range due to robust design of all components for sheet thicknesses up to $s = 6$ mm (all materials)
- possibility to use standard tools from product line **ps:®beta-V2**

THICK TURRET



patented
EP 2,596,878
US 9,266,248

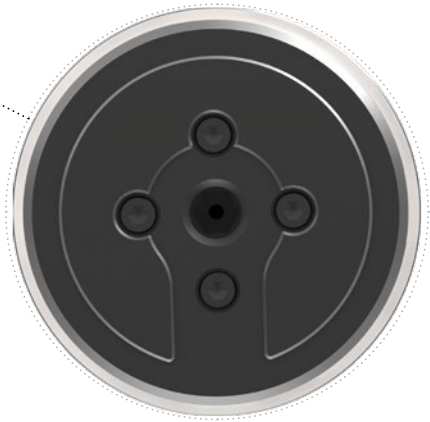
11/2011

ps:®MTP8RiA(I-RAM)-12,7

FOR MACHINE TYPE THICK TURRET – STATION DI

THICK TURRET

- effective reduction of production time due to combination of I-RAM and index station
- simple and quick change of punches with maximum process stability
- minimum tool and guide wear due to maximum guide length
- internal and external lubrication channels
- special spring to control grind life after sharpening punches
- no “witness-marks” on the sheet, due to single active punch – all unused punches stay up
- individual adjustment of stripping force
- maximum performance range due to robust design of all components for sheet thicknesses up to $s = 6$ mm (all materials)
- possibility to use standard tools from product line **ps:®beta-V2®**



patented
EP 2,596,878
US 9,266,248

11/2011

ps:[®]beta-V2[®]

FOR MACHINE TYPE THICK TURRET

- assembled spring unit
- regrinding length up to 10 mm (s = 1,0 mm) without using shims
- closed, solid head unit secures highest obtainable reliability of operation in case of spring breakage
- tool length can be adjusted by simple, quick and safe handling
- replaceable stripper plates
- optional available as ABS-version (for machines with lubrication system)

THICK TURRET



Link to Youtube



TOOL-CASSETTES (TYPE 33 MM)

FOR MACHINE TYPE SALVAGNINI S4

- cassette for 70 kN
- type 33 mm
- P1 up to P20
- max. diameter 33 mm

SALVAGNINI

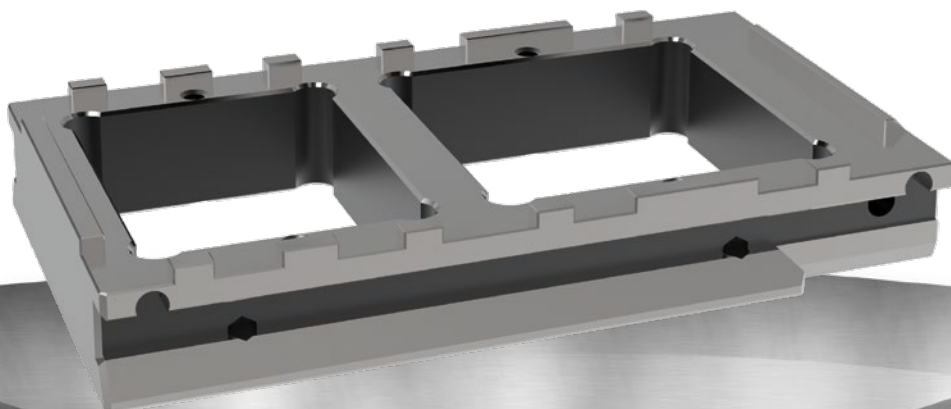
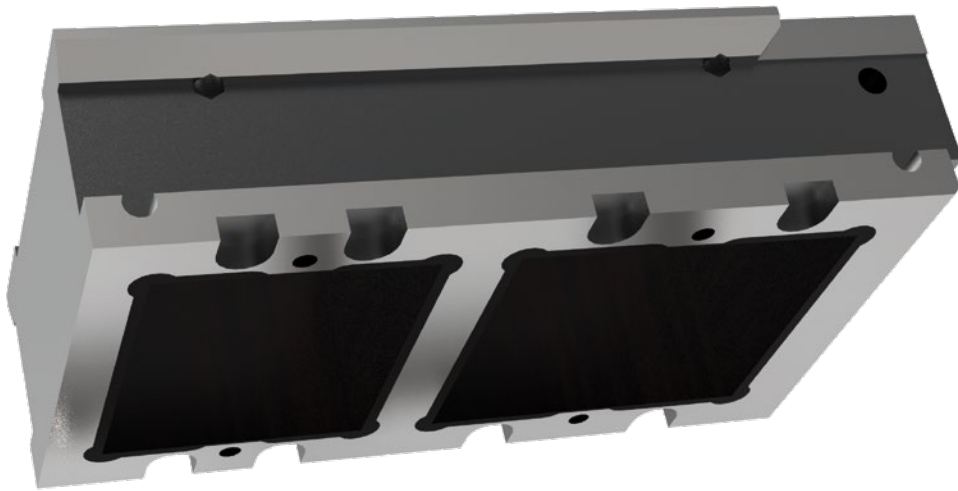


10/2010

TOOL-CASSETTES (TYPE 90 MM)

FOR MACHINE TYPE SALVAGNINI S4

- cassette for 260 kN
- type 90 mm
- P23 and P24
- max. diameter
70 x 90 mm / 90 x 90 mm



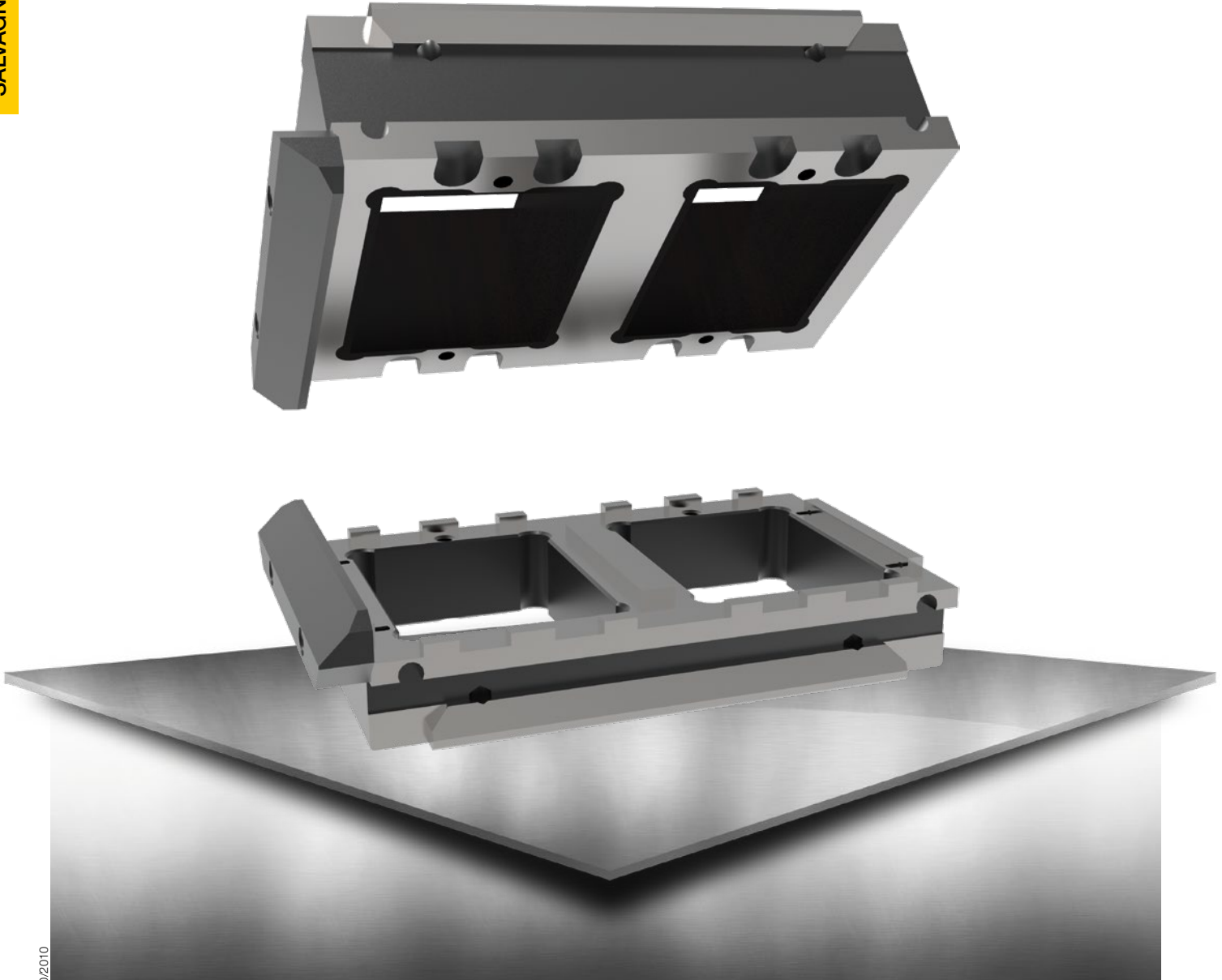
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TOOL-CASSETTES (TYPE 70 MM)

FOR MACHINE TYPE SALVAGNINI S4

- cassette for 260 kN
- type 70 mm
- P21 up to P24
- max. diameter 70 x 90 mm

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ps:® shear-blades

FOR MACHINE TYPE SALVAGNINI

- made of highest X3-PM quality which increases the lifetime

■ 400 mm

■ 500 mm

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06/2009

TOOL-CASSETTES (P2R)

FOR MACHINE TYPE SALVAGNINI S4 (P2R-ROTATION STATION)

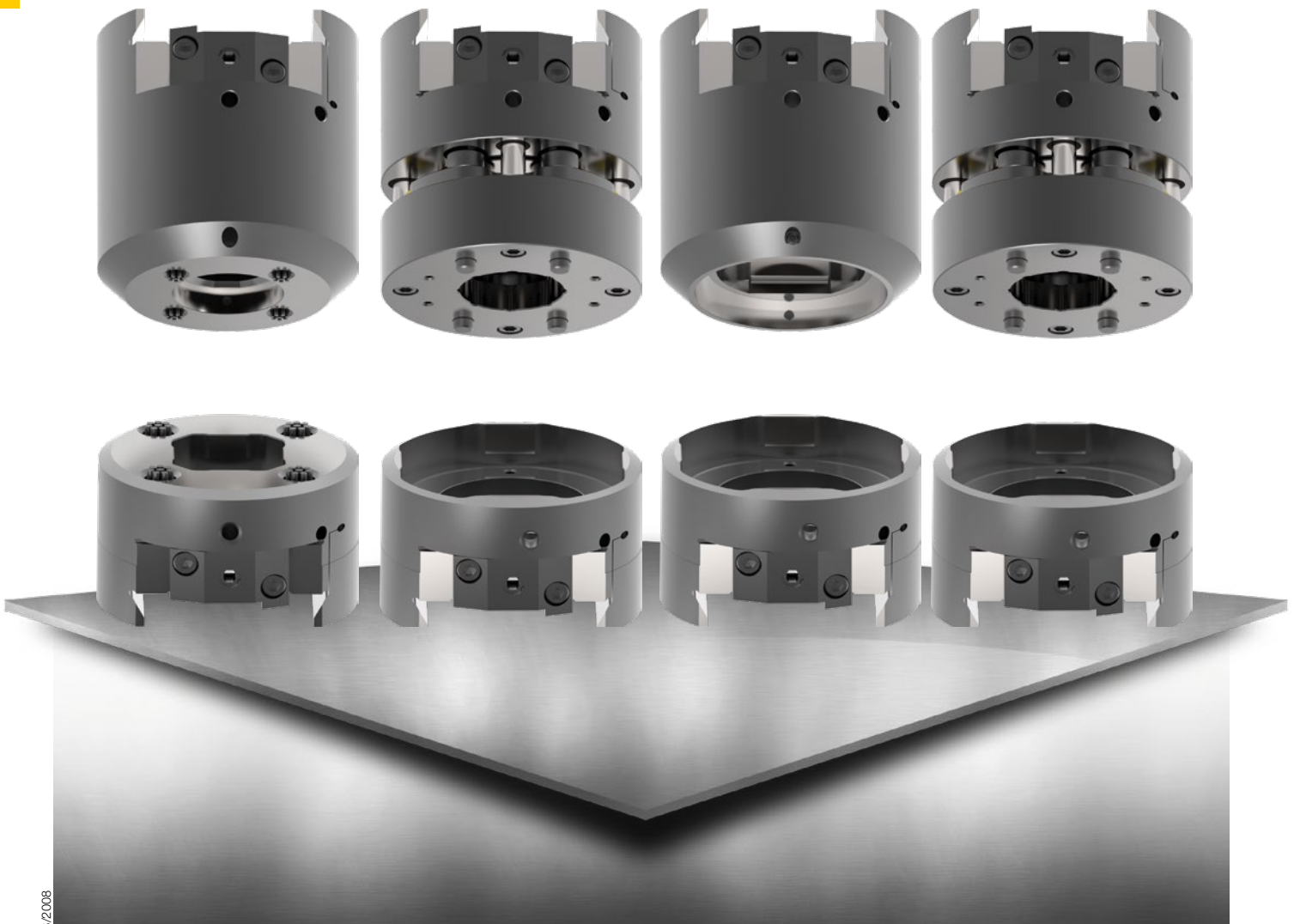
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■ to 33 mm solid

■ to 42 mm spring-loaded

■ to 60 mm solid

■ to 50,8 mm spring-loaded



09/2008

A large grid of graph paper for taking notes, consisting of 30 columns and 40 rows of small squares.

SALVAGNINI | THICK TURRET | TRUMPF



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