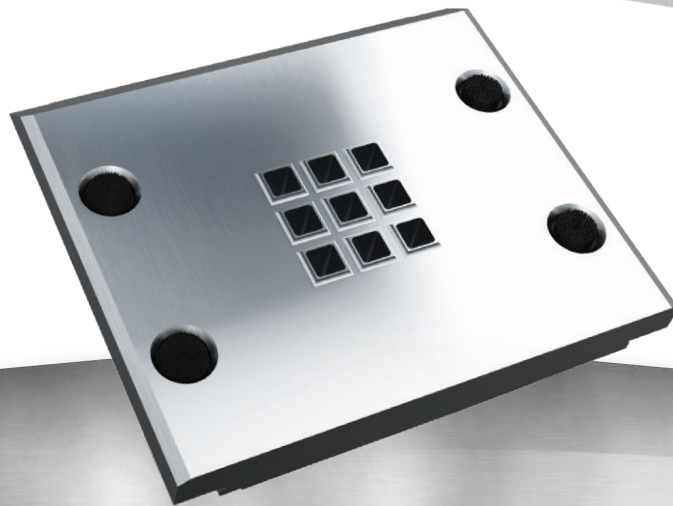
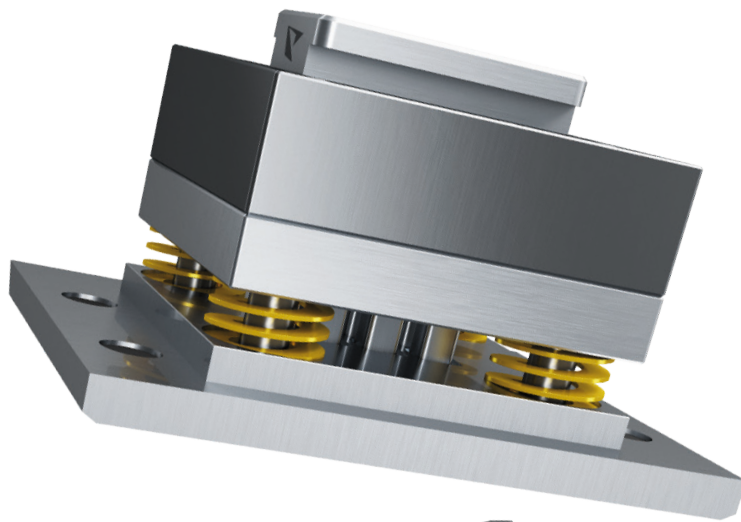
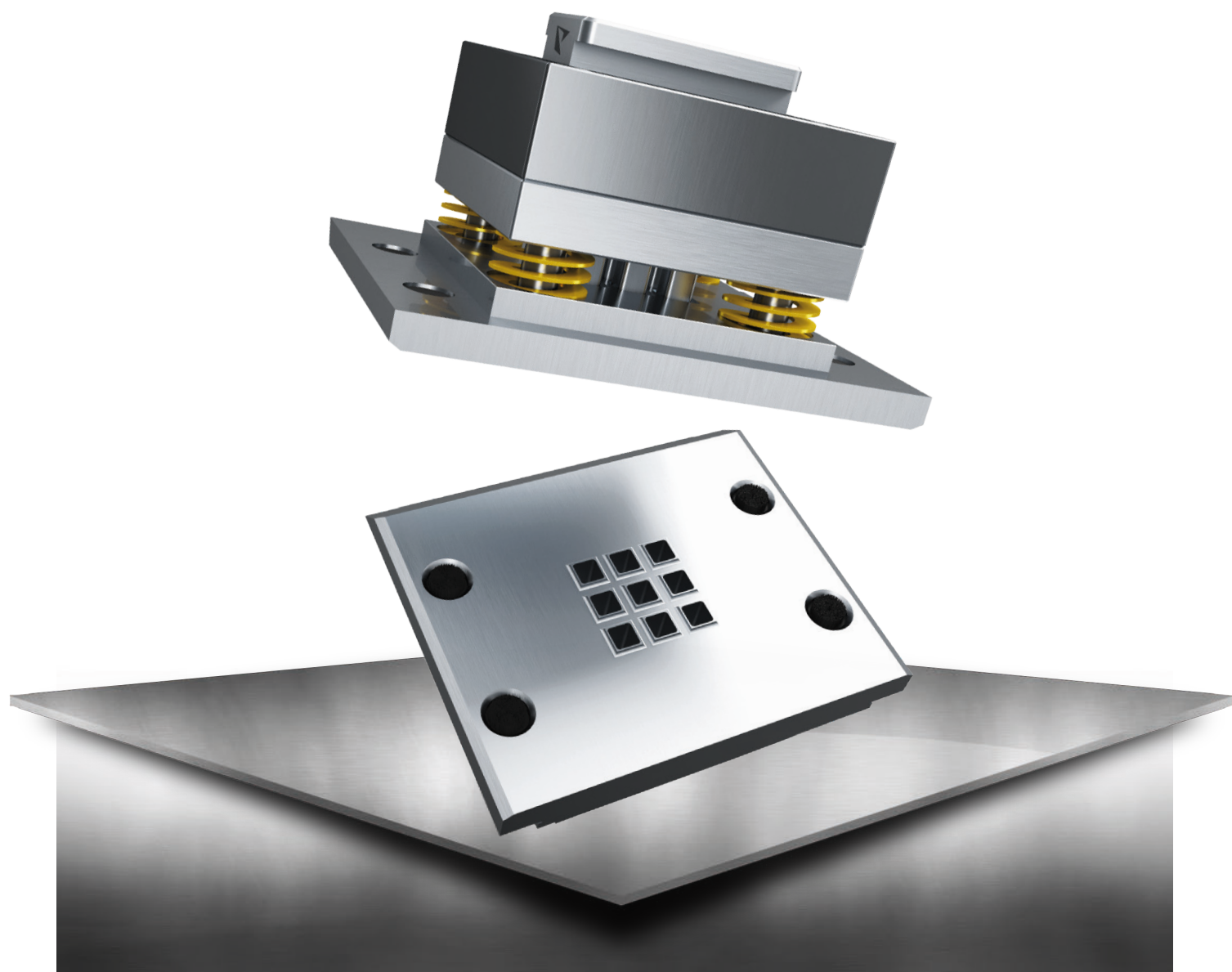




CATALOG 08/2019-WW-S.1

SYSTEM SALVAGNINI



SCOPE OF APPLICATION:

Deliveries and services provided by PASS Stanztechnik AG are effected exclusively according to PASS delivery and payment conditions. These conditions shall be deemed accepted at the latest upon receipt of the goods or services.

GENERAL REMARKS:

You can find our general terms and conditions on our Homepage under: www.pass-ag.com

TOOLS FOR STATION P1 - P20

PASS System Standard (compact version)	up to 33 mm	page 6
PASS System P1 (needle insert).....	up to 6 mm	page 7
PASS System P1 (needle insert).....	up to 10,5 mm	page 8
PASS System P2 (for 2 mm regrinding length)	up to 16 mm	page 9
PASS System P4 (blank-holder style and needle insert).....	up to 6 mm	page 10
PASS System P4 (blank-holder style and needle insert).....	up to 10,5 mm	page 11
PASS System P5 (blank-holder style and punch insert)	up to 12,5 mm	page 12
PASS System P6 (blank-holder style and punch insert)	up to 12,5 mm	page 13
PASS System P7 (blank-holder style and punch insert)	up to 26 mm	page 14
PASS System P8 (punch insert)	up to 33 mm	page 15
PASS System P9 (blank-holder style and punch insert)	up to 26,5 mm	page 16
PASS System P10 (blank-holder style and needle insert).....	up to 10,5 mm	page 17

PASS STANDARD SYSTEM FOR P2R

PASS System Standard (blank-holder style)	up to 42 mm	page 20
PASS System Standard (blank-holder style)	up to 50,8 mm	page 21
PASS System Standard (compact version)	up to 60 mm	page 22

PASS STANDARD SYSTEM FOR P21 - P24

PASS System Standard (compact version) Type 90.....	70x90 mm	page 26
PASS System Standard (compact version) Type 90.....	90x90 mm	page 27
PASS System Standard (compact version) Type 70.....	70x90 mm	page 28

TOOLING CASSETTES

PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 33 mm	page 32
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 42 mm	page 33
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 50,8 mm	page 34
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 60 mm	page 35
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P1 up to P20	up to 33 mm	page 36
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P21 up to P24	70x90 mm	page 37
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P21 and P22	70x90 mm / 90x90 mm	page 38
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P23 and P24	70x90 mm / 90x90 mm	page 39
PASS Tooling Cassette to Type „SALVAGNINI S2“	Station P21 up to P24	90x90 mm / 90x90 mm	page 40
PASS Tooling Cassette to Type „SALVAGNINI S2“	Station P1 up to P20	up to 33 mm	page 41
PASS Tooling Cassette Polypunch to Type „SALVAGNINI S4“	Station P31 up to P35	up to 33 mm	page 42

ACCESSORIES

ps:®shear-blades.....	400 mm	page 46
ps:®shear-blades.....	500 mm	page 47

TECHNICAL INFORMATION

O.D. Ground Special Shapes	page 50
EDM Required Special Shapes	page 51
PASS Tool Variety	page 52
Life-time of Tools / Regrind Advice	page 53
PASS Coating Versions / Draw-Polishing	page 54
Die Versions	page 55
Punches with Different Shear Types	page 56
PASS Back Taper on Punches	page 57
PASS Corner Radius on Punches	page 58
PASS Punches with Reinforced Shoulder.....	page 59
Index	page 63



TOOLS FOR STATION P1 - P20

PASS TOOLS FOR YOUR SALVAGNINI SYSTEM

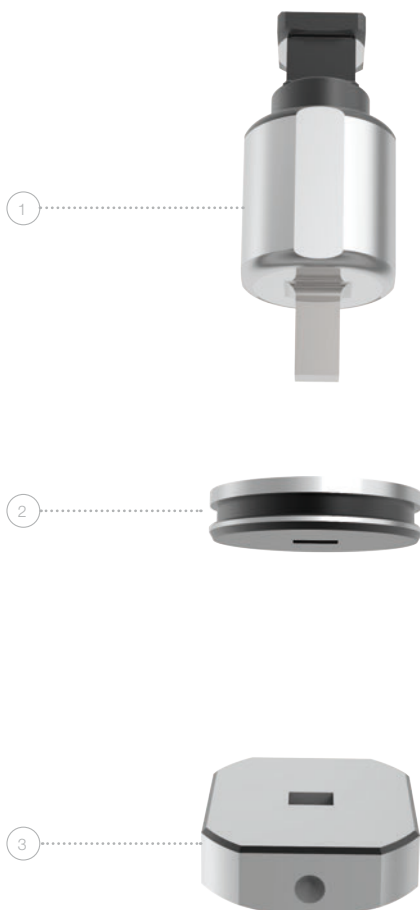
INDEX

PASS System Standard (compact version)	up to 33 mm	page 6
PASS System P1 (needle insert)	up to 6 mm	page 7
PASS System P1 (needle insert)	up to 10,5 mm	page 8
PASS System P2 (for 2 mm regrinding length)	up to 16 mm	page 9
PASS System P4 (blank-holder style and needle insert)	up to 6 mm	page 10
PASS System P4 (blank-holder style and needle insert)	up to 10,5 mm	page 11
PASS System P5 (blank-holder style and punch insert)	up to 12,5 mm	page 12
PASS System P6 (blank-holder style and punch insert)	up to 12,5 mm	page 13
PASS System P7 (blank-holder style and punch insert)	up to 26 mm	page 14
PASS System P8 (punch insert)	up to 33 mm	page 15
PASS System P9 (blank-holder style and punch insert)	up to 26,5 mm	page 16
PASS System P10 (blank-holder style and needle insert)	up to 10,5 mm	page 17

PASS SYSTEM STANDARD (COMPACT VERSION)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 33 MM



	POS.-NO.	PART-NO.
PUNCH (H-PM®)		
Round	1	201301
Square	1	2013002
Rectangle	1	2013003
Oblong	1	2013004
O.D. Ground Special Shape	1	21530G
EDM Required Special Shape	1	21530E
STRIPPER		
Round	2	210301
Square	2	2103002
Rectangle	2	2103003
Oblong	2	2103004
O.D. Ground Special Shape	2	21730G
EDM Required Special Shape	2	21730E
DIE (SLUG-STOP) (H-PM®)		
Round	3	206301
Square	3	2063002
Rectangle	3	2063003
Oblong	3	2063004
O.D. Ground Special Shape	3	21630G
EDM Required Special Shape	3	21630E

SPARE PARTS		ADDITIONAL COSTS FOR PUNCH
Shims for die t = 0,3	203A33	TICN coating
Shims for die t = 0,5	205A35	T-MAX coating
		A-MAX coating
		Cutting part under 1,00 mm
		ADDITIONAL COSTS FOR STRIPPER
		Polypunch
		ADDITIONAL COSTS FOR DIES
		Reinforced
		slug-snap

PASS SYSTEM P1 (NEEDLE INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 6 MM

	POS.-NO.	PART NO.
UPPER PART		
Round	1-3	201401
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

PUNCH CHUCK		
Round	1+2	219401

PUNCH INSERT (SHAFT Ø 6 MM) (H-PM®)		
Round	3	207P1A1
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

STRIPPER		
Round	4	210301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

DIE (SLUG-STOP) (H-PM®)		
Round	5	206301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

ADDITIONAL COSTS FOR PUNCH

TICN coating
T-MAX coating
A-MAX coating
Cutting part under 1,00 mm

ADDITIONAL COSTS FOR STRIPPER

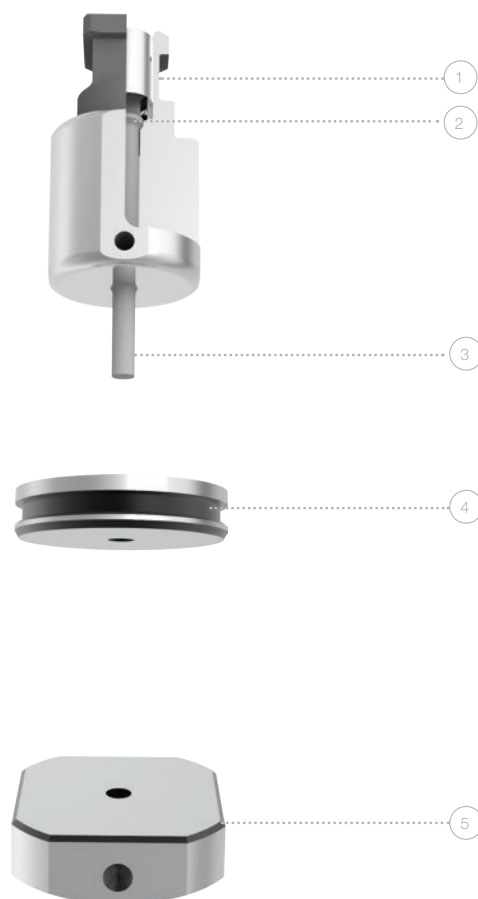
Polypunch

ADDITIONAL COSTS FOR DIES

Reinforced
slug-snap

SPARE PARTS

Retaining screw	2	219403
Shims for die t = 0,3		203A33
Shims for die t = 0,5		205A35



PASS SYSTEM P1 (NEEDLE INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 10,5 MM



	POS.-NO.	PART-NO.
UPPER PART		
Round	1-3	201421
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
PUNCH CHUCK		
Round	1+2	219421
PUNCH INSERT (SHAFT Ø 10,5 MM) (H-PM®)		
Round	3	207P1B1
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
STRIPPER		
Round	4	210301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
DIE (SLUG-STOP) (H-PM®)		
Round	5	206301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Retaining screw	2	219423	TICN coating	
Shims for die t = 0,3		203A33	T-MAX coating	
Shims for die t = 0,5		205A35	A-MAX coating	
			Cutting part under 1,00 mm	
			ADDITIONAL COSTS FOR STRIPPER	
			Polypunch	
			ADDITIONAL COSTS FOR DIES	
			Reinforced	
			slug-snap	

PASS SYSTEM P2 (FOR 2 MM REGRINDING LENGTH)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 16 MM

	POS.-NO.	PART-NO.
UPPER PART		
Round	1-4	201441
Square	1-4	2014402
Rectangle	1-4	2014403
Oblong	1-4	2014404
O.D. Ground Special Shape	1-4	21544G
EDM Required Special Shape	1-4	21544E

PUNCH CHUCK		
For all shapes	1-3	219441

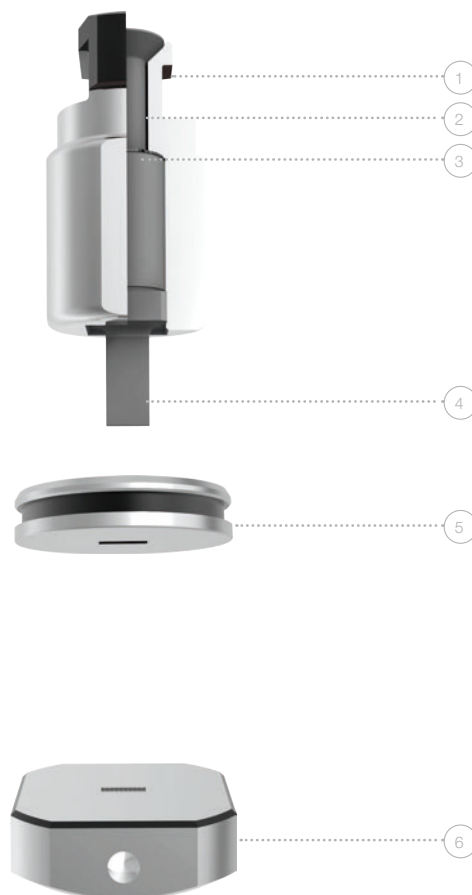
PUNCH INSERT (H-PM®)		
Round	4	207P2A1
Square	4	207P2A02
Rectangle	4	207P2A03
Oblong	4	207P2A04
O.D. Ground Special Shape	4	207P2AG
EDM Required Special Shape	4	207P2AE

STRIPPER		
Round	5	210301
Square	5	2103002
Rectangle	5	2103003
Oblong	5	2103004
O.D. Ground Special Shape	5	21730G
EDM Required Special Shape	5	21730E

DIE (SLUG-STOP) (H-PM®)		
Round	6	206301
Square	6	2063002
Rectangle	6	2063003
Oblong	6	2063004
O.D. Ground Special Shape	6	21630G
EDM Required Special Shape	6	21630E

ADDITIONAL COSTS FOR PUNCH	
TICN coating	
T-MAX coating	
A-MAX coating	
Cutting part under 1,00 mm	
ADDITIONAL COSTS FOR STRIPPER	
Polypunch	

ADDITIONAL COSTS FOR DIES	
Reinforced	
slug-snap	

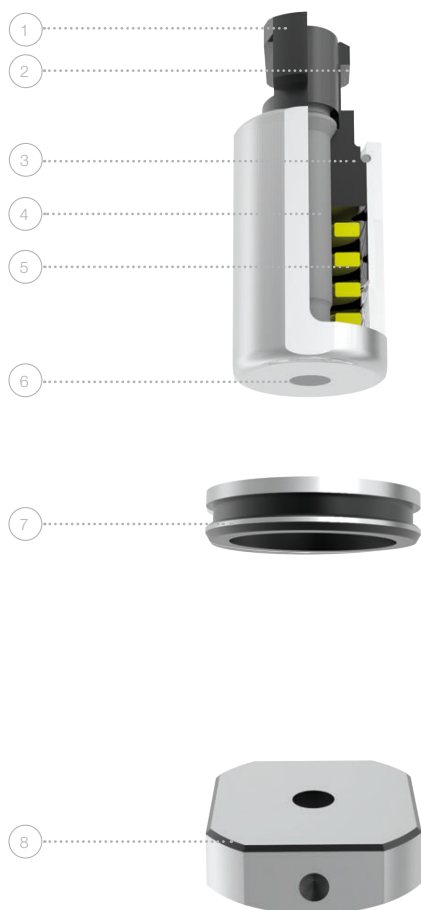


SPARE PARTS			
Retaining screw	2	219444	
Set shims for punch chuck (4 x 0,5 mm)	3	219443	
Shims for die t = 0,3		203A33	
Shims for die t = 0,5		205A35	

PASS SYSTEM P4 (BLANK-HOLDER STYLE AND NEEDLE INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 6 MM



	POS.-NO.	PART-NO.
UPPER PART		
Round	1-6	201521
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
PUNCH INSERT (SHAFT Ø 6 MM) (H-PM®)		
Round	4	207P4A1
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
ACTIVE STRIPPER		
Round	6+3	219525
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
STRIPPER		
Round 35 mm	7	210335
DIE (SLUG-STOP) (H-PM®)		
Round	8	206301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

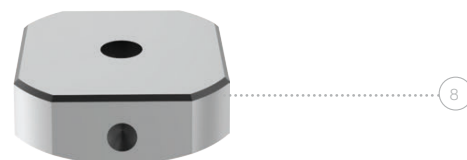
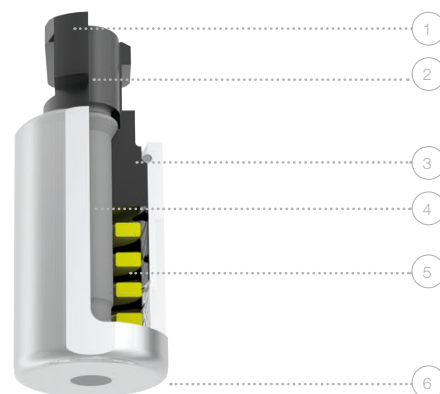
SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Punch head	1+2	219521	TICN coating	
Retaining screw	2	219528	T-MAX coating	
Locking ring	3	219527	A-MAX coating	
Spring	5	219526	Cutting part under 1,00 mm	
Shims for die t = 0,3		203A33	ADDITIONAL COSTS FOR STRIPPER	
Shims for die t = 0,5		205A35	Polypunch	
ADDITIONAL ACCESSORIES			ADDITIONAL COSTS FOR DIES	
Assembly adapter		299201599	Reinforced	
			slug-snap	

PASS SYSTEM P4 (BLANK-HOLDER STYLE AND NEEDLE INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 10,5 MM

	POS.-NO.	PART-NO.
UPPER PART		
Round	1-6	201561
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
PUNCH INSERT (SHAFT Ø 10,5 MM) (H-PM®)		
Round	4	207P4B1
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
ACTIVE STRIPPER		
Round	6+3	219525
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
STRIPPER		
Round 35 mm	7	210335
DIE (SLUG-STOP) (H-PM®)		
Round	8	206301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

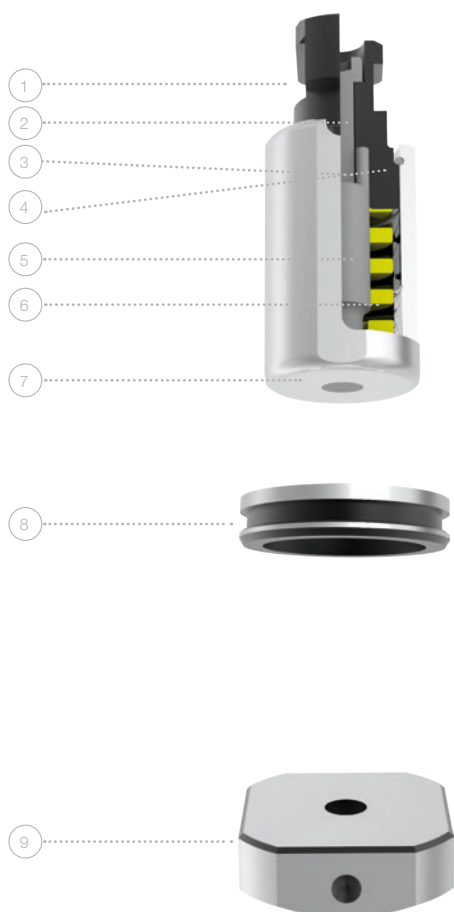


ADDITIONAL COSTS FOR PUNCH		SPARE PARTS	
TICN coating		Punch head	1+2 219522
T-MAX coating		Retaining screw	2 219528
A-MAX coating		Locking ring	3 219527
Cutting part under 1,00 mm		Spring	5 219526
ADDITIONAL COSTS FOR STRIPPER		Shims for die t = 0,3	203A33
Polypunch		Shims for die t = 0,5	205A35
ADDITIONAL COSTS FOR DIES		ADDITIONAL ACCESSORIES	
Reinforced		Assembly adapter	299201599
slug-snap			

PASS SYSTEM P5 (BLANK-HOLDER STYLE AND PUNCH INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 12,5 MM



	POS.-NO.	PART-NO.
UPPER PART		
Round	1-7	201531
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
PUNCH INSERT (H-PM®)		
Round	5	207P5A1
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
ACTIVE STRIPPER		
Round	7+4	219534
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---
STRIPPER		
Round 35 mm	8	210335
DIE (SLUG-STOP) (H-PM®)		
Round	9	206301
Square	---	---
Rectangle	---	---
Oblong	---	---
O.D. Ground Special Shape	---	---
EDM Required Special Shape	---	---

SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Punch head	1-3	219532	TICN coating	
Retaining screw	2	219537	T-MAX coating	
Pin	3	219538	A-MAX coating	
Locking ring	4	219536	Cutting part under 1,00 mm	
Spring	6	219535	ADDITIONAL COSTS FOR STRIPPER	
Shims for die t = 0,3		203A33	Polypunch	
Shims for die t = 0,5		205A35		
ADDITIONAL ACCESSORIES			ADDITIONAL COSTS FOR DIES	
Assembly adapter		299201599	Reinforced	
			slug-snap	

PASS SYSTEM P6 (BLANK-HOLDER STYLE AND PUNCH INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

MAX. DIAMETER: 12,5 MM

	POS.-NO.	PART-NO.
UPPER PART		
Round	---	---
Square	1-7	2015102
Rectangle	1-7	2015103
Oblong	1-7	2015104
O.D. Ground Special Shape	1-7	20151G
EDM Required Special Shape	1-7	20151E

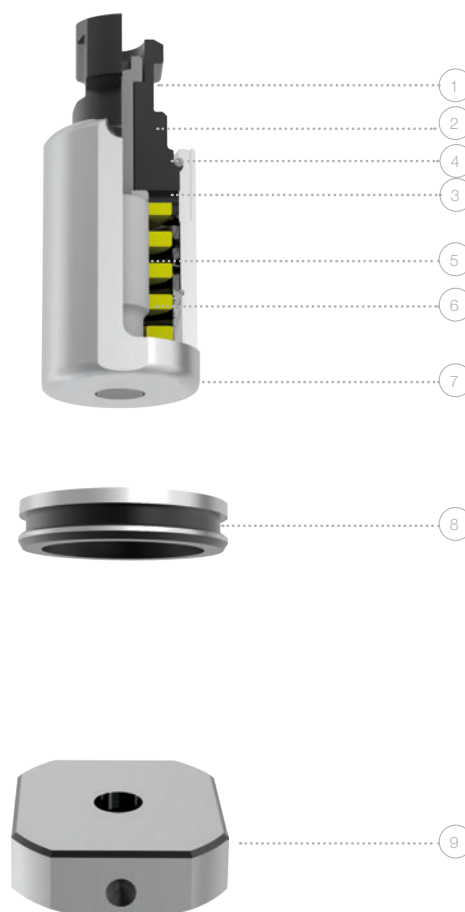
PUNCH INSERT (H-PM®)		
Round	---	---
Square	5	207P6A02
Rectangle	5	207P6A03
Oblong	5	207P6A04
O.D. Ground Special Shape	5	207P6AG
EDM Required Special Shape	5	207P6AE

ACTIVE STRIPPER		
Round	---	---
Square	7+4	2195102
Rectangle	7+4	2195103
Oblong	7+4	2195104
O.D. Ground Special Shape	7+4	21951G
EDM Required Special Shape	7+4	21951E

STRIPPER		
Round 35 mm	8	210335

DIE (SLUG-STOP) (H-PM®)		
Round	---	---
Square	9	2063002
Rectangle	9	2063003
Oblong	9	2063004
O.D. Ground Special Shape	9	21630G
EDM Required Special Shape	9	21630E

ADDITIONAL COSTS FOR PUNCH		SPARE PARTS	
TICN coating		Punch head	1-3 219511
T-MAX coating		Retaining screw	2 219512
A-MAX coating		Location pin	3 219513
Cutting part under 1,00 mm		Locking ring	4 219514
ADDITIONAL COSTS FOR STRIPPER		Spring	6 219516
Polypunch		Shims for die t = 0,3	203A33
		Shims for die t = 0,5	205A35
ADDITIONAL COSTS FOR DIES		ADDITIONAL ACCESSORIES	
Reinforced		Assembly adapter	299201599
slug-snap			



PASS SYSTEM P7 (BLANK-HOLDER STYLE AND PUNCH INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

DIAMETER: UP TO 26 MM



	POS.-NO.	PART-NO.
UPPER PART		
Round	1-8	201551
Square	1-8	2015502
Rectangle	1-8	2015503
Oblong	1-8	2015504
O.D. Ground Special Shape	1-8	20155G
EDM Required Special Shape	1-8	20155E
PUNCH INSERT (H-PM®)		
Round	3	207P7B1
Square	3	207P7B02
Rectangle	3	207P7B03
Oblong	3	207P7B04
O.D. Ground Special Shape	3	207P7BG
EDM Required Special Shape	3	207P7BE
ACTIVE STRIPPER		
Round	8+7	219552
Square	8+7	2195502
Rectangle	8+7	2195503
Oblong	8+7	2195504
O.D. Ground Special Shape	8+7	21955G
EDM Required Special Shape	8+7	21955E
STRIPPER		
Round 35 mm	9	210335
DIE (SLUG-STOP) (H-PM®)		
Round	10	206301
Square	10	2063002
Rectangle	10	2063003
Oblong	10	2063004
O.D. Ground Special Shape	10	21630G
EDM Required Special Shape	10	21630E

SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Punch head	1+2+4	219551	TICN coating	
Retaining screw	2	219553	T-MAX coating	
Location pin	4	219556	A-MAX coating	
Spring	5	219557	Cutting part under 1,00 mm	
Spacer	6	219558		
Locking ring	7	219559	ADDITIONAL COSTS FOR STRIPPER	
Shims for die t = 0,3		203A33	Polypunch	
Shims for die t = 0,5		205A35		
ADDITIONAL ACCESSORIES			ADDITIONAL COSTS FOR DIES	
Assembling circlip pliers		220300	Reinforced	
Assembling pin		220994	slug-snap	

PASS SYSTEM P8 (PUNCH INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

DIAMETER: UP TO 33 MM

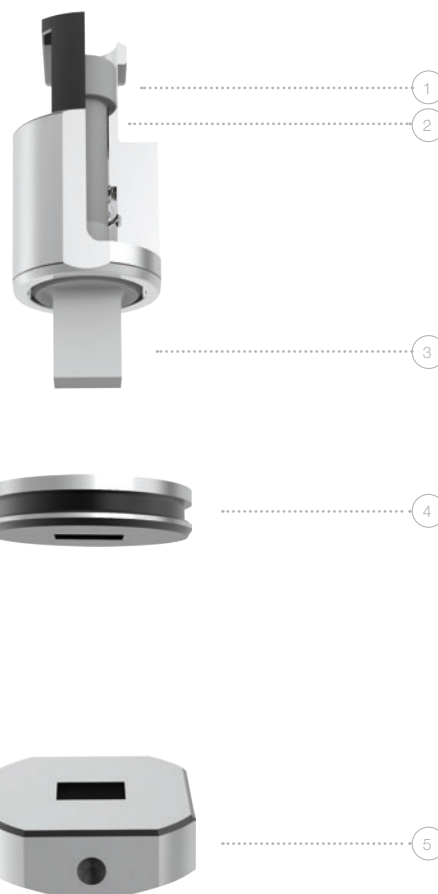
	POS.-NO.	PART-NO.
UPPER PART		
Round	1-3	201651
Square	1-3	2016502
Rectangle	1-3	2016503
Oblong	1-3	2016504
O.D. Ground Special Shape	1-3	21565G
EDM Required Special Shape	1-3	21565E

PUNCH HOLDER		
For all shapes	1+2	219651

PUNCH INSERT (H-PM®)		
Round	3	207P8B1
Square	3	207P8B02
Rectangle	3	207P8B03
Oblong	3	207P8B04
O.D. Ground Special Shape	3	207P8BG
EDM Required Special Shape	3	207P8BE

STRIPPER		
Round	4	210301
Square	4	2103002
Rectangle	4	2103003
Oblong	4	2103004
O.D. Ground Special Shape	4	21730G
EDM Required Special Shape	4	21730E

DIE (SLUG-STOP) (H-PM®)		
Round	5	206301
Square	5	2063002
Rectangle	5	2063003
Oblong	5	2063004
O.D. Ground Special Shape	5	21630G
EDM Required Special Shape	5	21630E



ADDITIONAL COSTS FOR PUNCH	SPARE PARTS	
TICN coating	Retaining screw	2 219654
T-MAX coating	Shims for die t = 0,3	203A33
A-MAX coating	Shims for die t = 0,5	205A35
Cutting part under 1,00 mm		

ADDITIONAL COSTS FOR STRIPPER
Polypunch

ADDITIONAL COSTS FOR DIES
Reinforced
slug-snap

PASS SYSTEM P9 (BLANK-HOLDER STYLE AND PUNCH INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

DIAMETER: UP TO 26,5 MM



	POS.-NO.	PART-NO.
UPPER PART		
Round	1-8	201571
Square	1-8	2015702
Rectangle	1-8	2015703
Oblong	1-8	2015704
O.D. Ground Special Shape	1-8	20157G
EDM Required Special Shape	1-8	20157E

PUNCH INSERT (H-PM®)		
Round	6	207P9B1
Square	6	207P9B02
Rectangle	6	207P9B03
Oblong	6	207P9B04
O.D. Ground Special Shape	6	207P9BG
EDM Required Special Shape	6	207P9BE

ACTIVE STRIPPER		
Round	8+3	219571
Square	8+3	2195702
Rectangle	8+3	2195703
Oblong	8+3	2195704
O.D. Ground Special Shape	8+3	21957G
EDM Required Special Shape	8+3	21957E

STRIPPER		
Round 35 mm	9	210335

DIE (SLUG-STOP) (H-PM®)		
Round	10	206301
Square	10	2063002
Rectangle	10	2063003
Oblong	10	2063004
O.D. Ground Special Shape	10	21630G
EDM Required Special Shape	10	21630E

SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Punch head	1+2+4	219572	TICN coating	
Retaining screw	2	219573	T-MAX coating	
Location pin	4	219576	A-MAX coating	
Spring	5	219577	Cutting part under 1,00 mm	
Spacer	7	219578		
Locking ring	3	219579	ADDITIONAL COSTS FOR STRIPPER	
Shims for die t = 0,3		203A33	Polypunch	
Shims for die t = 0,5		205A35		
ADDITIONAL ACCESSORIES			ADDITIONAL COSTS FOR DIES	
Assembly adapter		299201599	Reinforced	
			slug-snap	

PASS SYSTEM P10 (BLANK-HOLDER STYLE AND NEEDLE INSERT)

TYPE: 33 MM / 70 KN / P1 - P20

DIAMETER: UP TO 10,5 MM

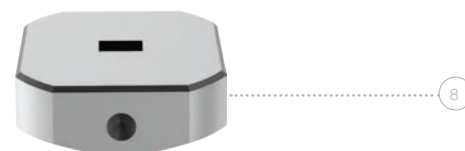
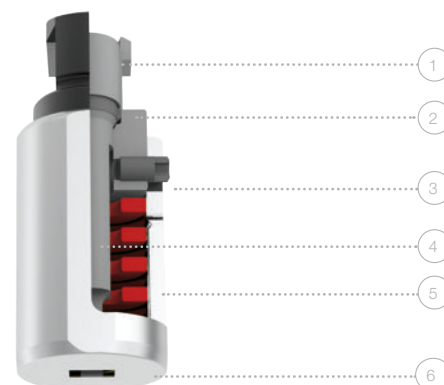
	POS.-NO.	PART-NO.
UPPER PART		
Round	1-6	201661
Square	1-6	2016602
Rectangle	1-6	2016603
Oblong	1-6	2016604
O.D. Ground Special Shape	1-6	21566G
EDM Required Special Shape	1-6	21566E

PUNCH INSERT (SHAFT Ø 10,5 MM) (H-PM®)		
Round	4	207P10A1
Square	4	207P10A02
Rectangle	4	207P10A03
Oblong	4	207P10A04
O.D. Ground Special Shape	4	207P10AG
EDM Required Special Shape	4	207P10AE

ACTIVE STRIPPER		
Round	6+3	219661
Square	6+3	2196602
Rectangle	6+3	2196603
Oblong	6+3	2196604
O.D. Ground Special Shape	6+3	21966G
EDM Required Special Shape	6+3	21966E

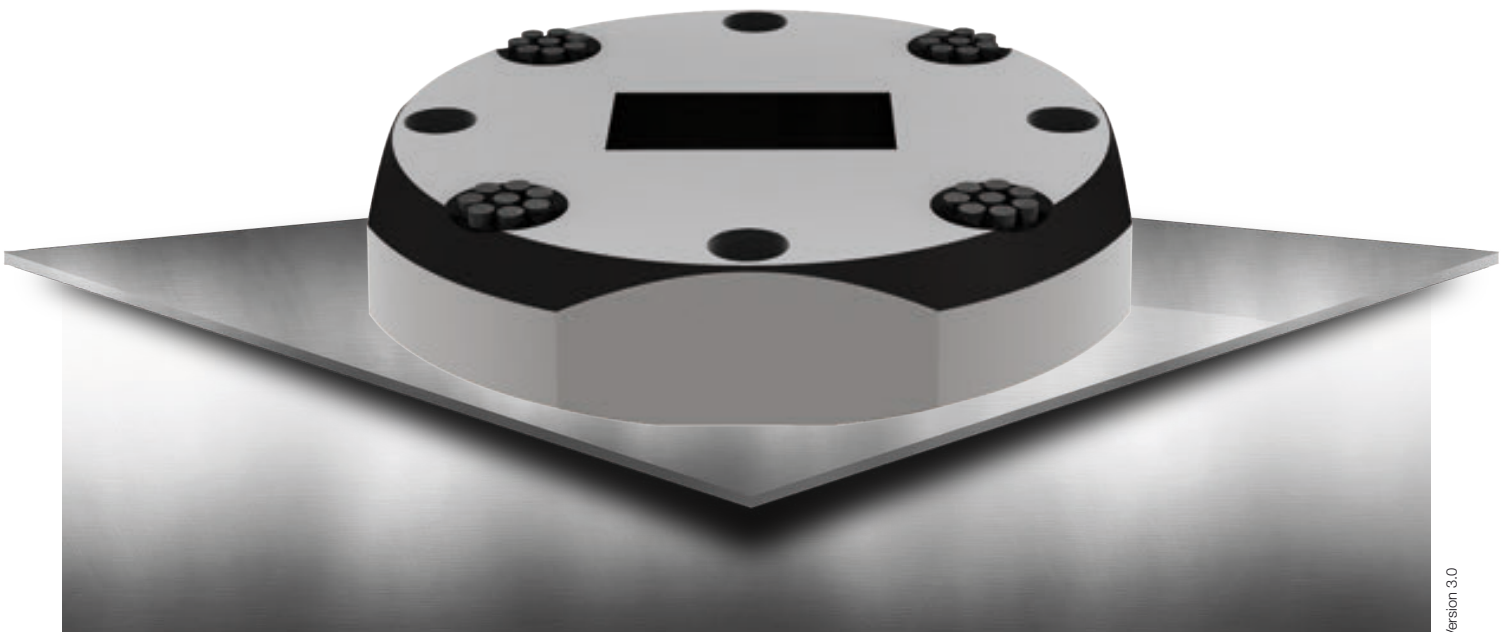
STRIPPER		
Round 35 mm	7	210335

DIE (SLUG-STOP) (H-PM®)		
Round	8	206301
Square	8	2063002
Rectangle	8	2063003
Oblong	8	2063004
O.D. Ground Special Shape	8	21630G
EDM Required Special Shape	8	21630E



ADDITIONAL COSTS FOR PUNCH	SPARE PARTS		
TICN coating	Punch head	1+2	219671
T-MAX coating	Retaining screw	2	219666
A-MAX coating	Spring	5	219663
Cutting part under 1,00 mm	Special threadscrew	3	219665
	Shims for die t = 0,3		203A33
	Shims for die t = 0,5		205A35
ADDITIONAL COSTS FOR STRIPPER			
Polypunch			

ADDITIONAL COSTS FOR DIES	ADDITIONAL ACCESSORIES	
Reinforced slug-snap	Assembly adapter	299201599



PASS STANDARD SYSTEM FOR P2R

PASS TOOLS FOR YOUR
SALVAGNINI SYSTEM

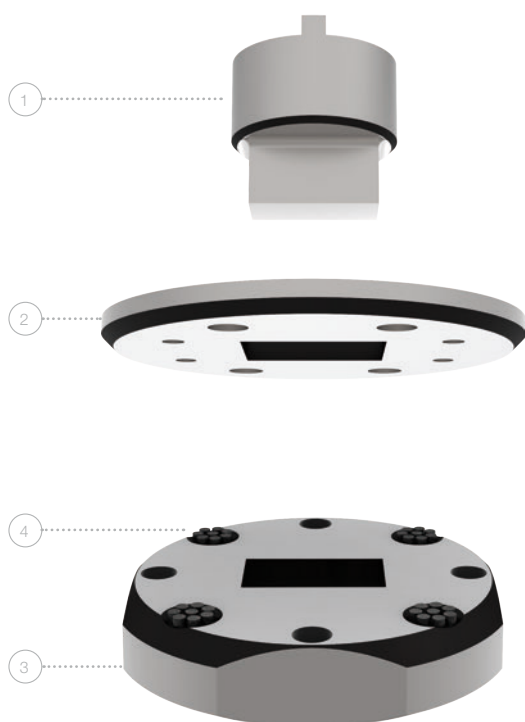
INDEX

PASS System Standard (blank-holder style)	up to 42 mm	page 20
PASS System Standard (blank-holder style)	up to 50,8 mm	page 21
PASS System Standard (compact version)	up to 60 mm	page 22

PASS SYSTEM STANDARD (BLANK-HOLDER STYLE)

TYPE: 42 MM / 120 KN / P2R

MAX. DIAMETER: 42 MM



	POS.-NO.	PART-NO.
PUNCH (H-PM®)		
Round	1	201L01
Square	1	201L002
Rectangle	1	201L003
Oblong	1	201L004
O.D. Ground Special Shape	1	215L0G
EDM Required Special Shape	1	215L0E
STRIPPER		
Round	2	210L01
Square	2	210L002
Rectangle	2	210L003
Oblong	2	210L004
O.D. Ground Special Shape	2	217L0G
EDM Required Special Shape	2	217L0E
DIE (SLUG-STOP) (H-PM®)		
Round	3	206L01
Square	3	206L002
Rectangle	3	206L003
Oblong	3	206L004
O.D. Ground Special Shape	3	216L0G
EDM Required Special Shape	3	216L0E

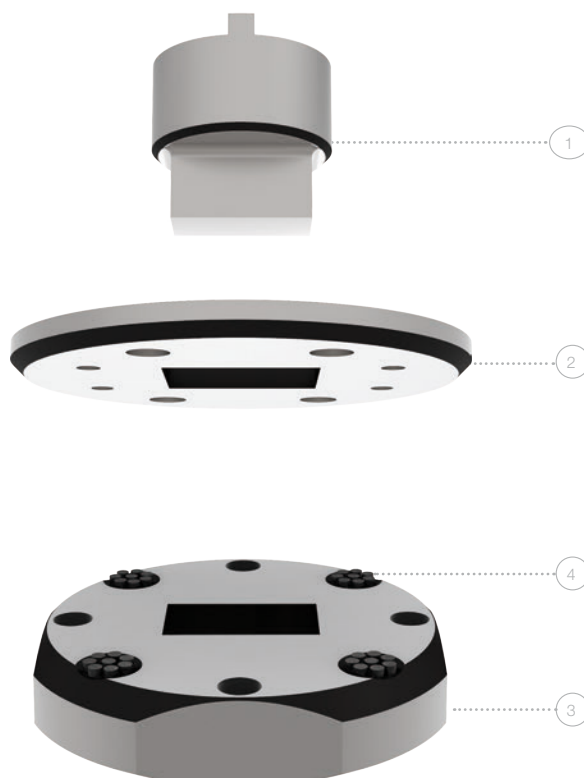
SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Shims for die t = 0,3		203A01	TICN coating	
Shims for die t = 0,5		205A01	T-MAX coating	
Brush inserts Ø 13 mm (piece)	4	200B00	A-MAX coating	
Brush inserts Ø 8 mm (piece)	4	200B01	Cutting part under 1,00 mm	
			ADDITIONAL COSTS FOR DIES	
			Reinforced	
			slug-snap	

PASS SYSTEM STANDARD (BLANK-HOLDER STYLE)

TYPE: 50,8 MM / 120 KN / P2R

MAX. DIAMETER: 50,8 MM

	POS.-NO.	PART-NO.
PUNCH (H-PM®)		
Round	1	20115001
Square	1	20115002
Rectangle	1	20115003
Oblong	1	20115004
O.D. Ground Special Shape	1	215150G
EDM Required Special Shape	1	215150E
STRIPPER		
Round	2	21015001
Square	2	21015002
Rectangle	2	21015003
Oblong	2	21015004
O.D. Ground Special Shape	2	217150G
EDM Required Special Shape	2	217150E
DIE (SLUG-STOP) (H-PM®)		
Round	3+4	20615001
Square	3+4	20615002
Rectangle	3+4	20615003
Oblong	3+4	20615004
O.D. Ground Special Shape	3+4	216150G
EDM Required Special Shape	3+4	216150E

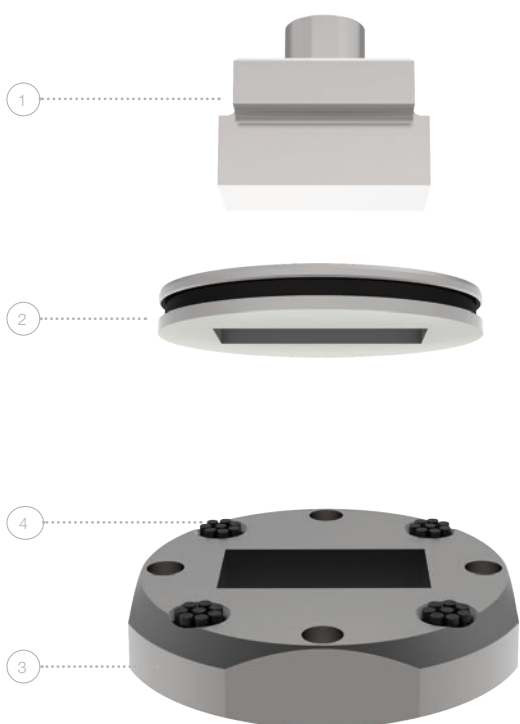


ADDITIONAL COSTS FOR PUNCH	SPARE PARTS		
TICN coating	Shims for die t = 0,3		203A01
T-MAX coating	Shims for die t = 0,5		205A01
A-MAX coating	Brush inserts Ø 13 mm (piece)	4	200B00
Cutting part under 1,00 mm	Brush inserts Ø 8 mm (piece)	4	200B01
ADDITIONAL COSTS FOR DIES			
Reinforced			
slug-snap			

PASS SYSTEM STANDARD (COMPACT VERSION)

TYPE: 60 MM / 120 KN / P2R

MAX. DIAMETER: 60 MM



	POS.-NO.	PART-NO.
PUNCH (H-PM®)		
Round	1	201L11
Square	1	201L102
Rectangle	1	201L103
Oblong	1	201L104
O.D. Ground Special Shape	1	215L1G
EDM Required Special Shape	1	215L1E
STRIPPER		
Round	2	210L11
Square	2	210L102
Rectangle	2	210L103
Oblong	2	210L104
O.D. Ground Special Shape	2	217L1G
EDM Required Special Shape	2	217L1E
DIE (SLUG-STOP) (H-PM®)		
Round	3+4	206L11
Square	3+4	206L102
Rectangle	3+4	206L103
Oblong	3+4	206L104
O.D. Ground Special Shape	3+4	216L1G
EDM Required Special Shape	3+4	216L1E

SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Shims for die t = 0,3		203A11	TICN coating	
Shims for die t = 0,5		205A11	T-MAX coating	
Brush inserts Ø 13 mm (piece)	4	200B00	A-MAX coating	
Brush inserts Ø 8 mm (piece)	4	200B01	Cutting part under 1,00 mm	
			ADDITIONAL COSTS FOR DIES	
			Reinforced	
			slug-snap	

A large grid of 20 columns and 40 rows for taking notes. The grid is composed of thin, light gray lines forming a uniform pattern across the central area of the page.



PASS STANDARD SYSTEM FOR P21 - P24

PASS TOOLS FOR YOUR
SALVAGNINI SYSTEM

INDEX

PASS System Standard (compact version) Type 90	70x90 mm	page 26
PASS System Standard (compact version) Type 90	90x90 mm	page 27
PASS System Standard (compact version) Type 70	70x90 mm	page 28

PASS SYSTEM STANDARD (COMPACT VERSION)

TYPE 90

TYPE: 90 MM / 260 KN / P22 AND P23

MAX. DIAMETER: 70X90 MM



	POS.-NO.	PART-NO.
PUNCH HOLDER		
For all shapes	1	200L61

PUNCH (H-PM®)		
Round	2	201L61
Square	2	201L602
Rectangle	2	201L603
Oblong	2	201L604
O.D. Ground Special Shape	2	215L6G
EDM Required Special Shape	2	215L6E

STRIPPER		
Round	3+5	210L61
Square	3+5	210L602
Rectangle	3+5	210L603
Oblong	3+5	210L604
O.D. Ground Special Shape	3+5	217L6G
EDM Required Special Shape	3+5	217L6E

DIE (SLUG-STOP) (H-PM®)		
Round	4+5	206L61
Square	4+5	206L602
Rectangle	4+5	206L603
Oblong	4+5	206L604
O.D. Ground Special Shape	4+5	216L6G
EDM Required Special Shape	4+5	216L6E

SPARE PARTS

Shims for die t = 0,3		203A06
Shims for die t = 0,5		205A06
Brush inserts Ø 13 mm (piece)	5	200B00
Brush inserts Ø 8 mm (piece)	5	200B01

ADDITIONAL COSTS FOR PUNCH

TICN coating
T-MAX coating
A-MAX coating
Cutting part under 1,00 mm

ADDITIONAL COSTS FOR DIES

Reinforced
slug-snap

PASS SYSTEM STANDARD (COMPACT VERSION)

TYPE 90

TYPE: 90 MM / 260 KN / P21 AND P24

MAX. DIAMETER: 90X90 MM

	POS.-NO.	PART-NO.
PUNCH HOLDER		
For all shapes	1	200L71
PUNCH (H-PM®)		
Round	2	201L71
Square	2	201L702
Rectangle	2	201L703
Oblong	2	201L704
O.D. Ground Special Shape	2	215L7G
EDM Required Special Shape	2	215L7E
STRIPPER		
Round	3+5	210L71
Square	3+5	210L702
Rectangle	3+5	210L703
Oblong	3+5	210L704
O.D. Ground Special Shape	3+5	217L7G
EDM Required Special Shape	3+5	217L7E
DIE (SLUG-STOP) (H-PM®)		
Round	4+5	206L71
Square	4+5	206L702
Rectangle	4+5	206L703
Oblong	4+5	206L704
O.D. Ground Special Shape	4+5	216L7G
EDM Required Special Shape	4+5	216L7E



ADDITIONAL COSTS FOR PUNCH	SPARE PARTS		
TICN coating	Shims for die t = 0,3		203A07
T-MAX coating	Shims for die t = 0,5		205A07
A-MAX coating	Brush inserts Ø 13 mm (piece)	5	200B00
Cutting part under 1,00 mm	Brush inserts Ø 8 mm (piece)	5	200B01
ADDITIONAL COSTS FOR DIES			
Reinforced			
slug-snap			

PASS SYSTEM STANDARD (COMPACT VERSION)

TYPE 70

TYPE: 70 MM / 260 KN / P21 TO P24

MAX. DIAMETER: 70X90 MM



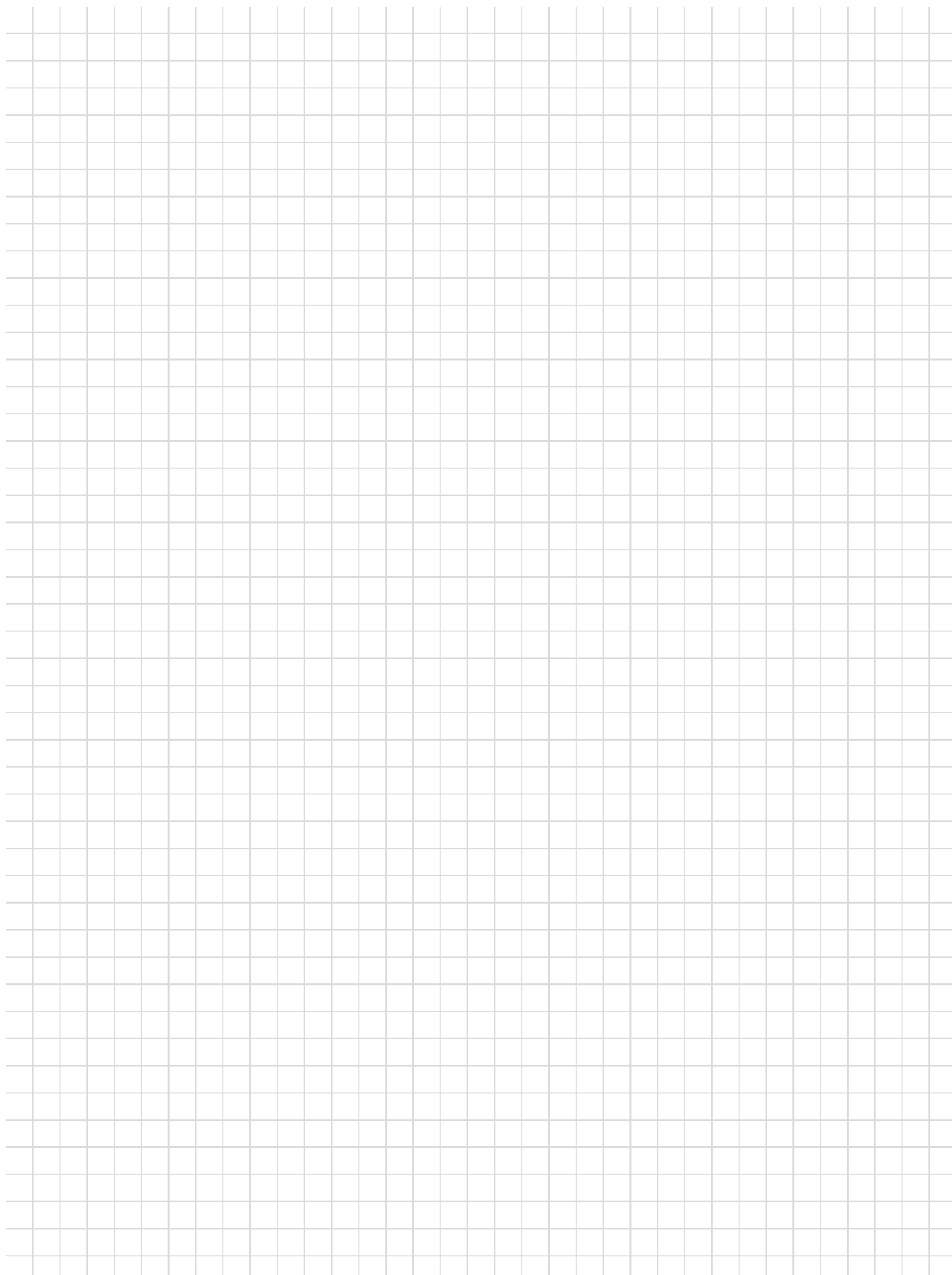
	POS.-NO.	PART-NO.
PUNCH HOLDER		
For all shapes	1	200L81

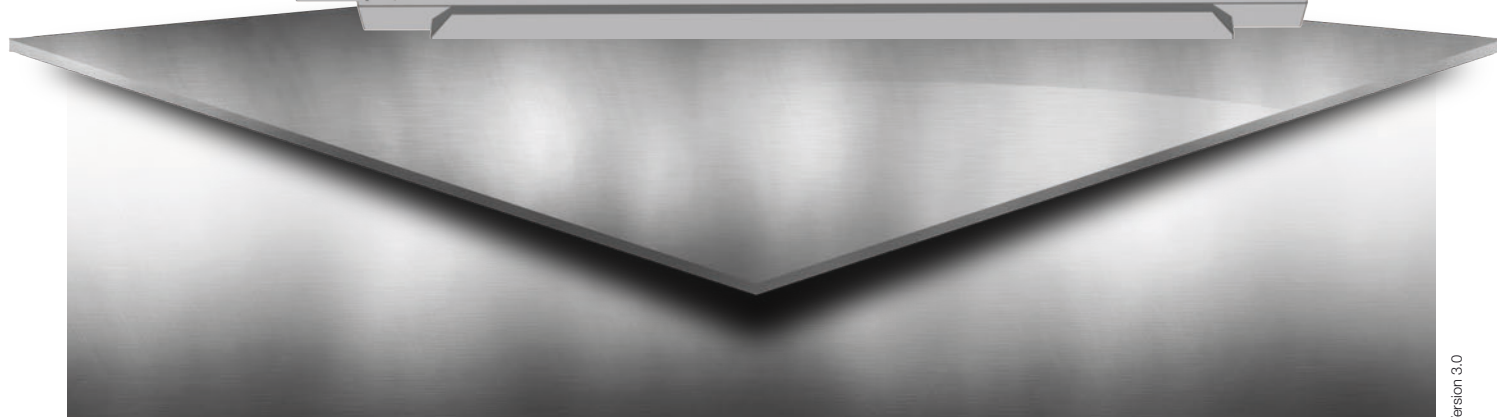
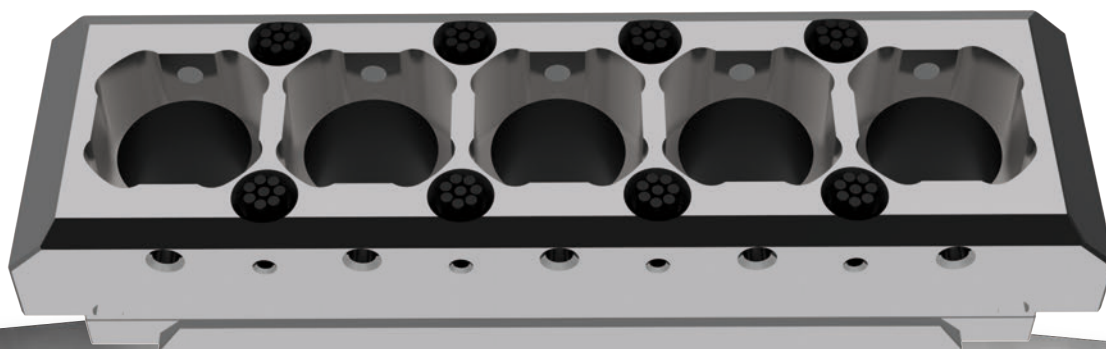
PUNCH (H-PM®)		
Round	2	201L81
Square	2	201L802
Rectangle	2	201L803
Oblong	2	201L804
O.D. Ground Special Shape	2	215L8G
EDM Required Special Shape	2	215L8E

STRIPPER		
Round	3+5	210L81
Square	3+5	210L802
Rectangle	3+5	210L803
Oblong	3+5	210L804
O.D. Ground Special Shape	3+5	217L8G
EDM Required Special Shape	3+5	217L8E

DIE (SLUG-STOP) (H-PM®)		
Round	4+5	206L81
Square	4+5	206L802
Rectangle	4+5	206L803
Oblong	4+5	206L804
O.D. Ground Special Shape	4+5	216L8G
EDM Required Special Shape	4+5	216L8E

SPARE PARTS			ADDITIONAL COSTS FOR PUNCH	
Shims for die t = 0,3		203A08	TICN coating	
Shims for die t = 0,5		205A08	T-MAX coating	
Brush inserts Ø 13 mm (piece)	5	200B00	A-MAX coating	
Brush inserts Ø 8 mm (piece)	5	200B01	Cutting part under 1,00 mm	
			ADDITIONAL COSTS FOR DIES	
			Reinforced	
			slug-snap	





TOOLING CASSETTES

PASS TOOLS FOR YOUR SALVAGNINI SYSTEM

INDEX

PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 33 mm	page 32
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 42 mm	page 33
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 50,8 mm	page 34
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P2R	up to 60 mm	page 35
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P1 up to P20	up to 33 mm	page 36
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P21 up to P24	70x90 mm	page 37
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P21 and P22	70x90 mm / 90x90 mm	page 38
PASS Tooling Cassette to Type „SALVAGNINI S4“	Station P23 and P24	70x90 mm / 90x90 mm	page 39
PASS Tooling Cassette to Type „SALVAGNINI S2“	Station P21 up to P24	90x90 mm / 90x90 mm	page 40
PASS Tooling Cassette to Type „SALVAGNINI S2“	Station P1 up to P20	up to 33 mm	page 41
PASS Tooling Cassette Polypunch to Type „SALVAGNINI S4“	Station P31 up to P35	up to 33 mm	page 42

PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S4“

TYPE: 33 MM / 120 KN / P2R (COMPACT VERSION)

MAX. DIAMETER: 33 MM

PART-NO.

CASSETTE FOR PUNCH

299X33000

DIE CASSETTE

299X33080



PASS TOOLING CASSETTE TO TYPE „SALVAGNINI S4“

TYPE: 42 MM / 120 KN / P2R (SPRING LOADED VERSION)

MAX. DIAMETER: 42 MM

PART-NO.

CASSETTE FOR PUNCH

299X42000

DIE CASSETTE

299X60080



PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S4“

TYPE: 50,8 MM / 120 KN / P2R (SPRING LOADED VERSION)

MAX. DIAMETER: 50,8 MM

PART-NO.

CASSETTE FOR PUNCH

299X50800

DIE CASSETTE

299X60080



PASS TOOLING CASSETTE TO TYPE „SALVAGNINI S4“

TYPE: 60 MM / 120 KN / P2R (COMPACT VERSION)

MAX. DIAMETER: 60 MM

PART-NO.

CASSETTE FOR PUNCH	
	299X60000

DIE CASSETTE	
	299X60080



PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S4“

TYPE: 33 MM / 70 KN / P1 TO P20

MAX. DIAMETER: 33 MM

PART-NO.

CASSETTE FOR PUNCH

299X33020

DIE CASSETTE

299X33090



PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S4“

TYPE: 70 MM / 260 KN / P21 TO P24 / FRONT & REAR

MAX. DIAMETER: 70X90 MM

PART-NO.

CASSETTE FOR PUNCH

299X77010

DIE CASSETTE

299X77080



PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S4“

TYPE: 90 MM / 260 KN / P21 AND P22 / FRONT

MAX. DIAMETER: 70X90 MM / 90X90 MM

PART-NO.

CASSETTE FOR PUNCH

299X79010

DIE CASSETTE

299X79080



PASS TOOLING CASSETTE TO TYPE „SALVAGNINI S4“

TYPE: 90 MM / 260 KN / P23 AND P24 / REAR

MAX. DIAMETER: 70X90 MM / 90X90 MM

PART-NO.

CASSETTE FOR PUNCH

299X79020

DIE CASSETTE

299X79090



PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S2“

TYPE: 90 MM / 260 KN / P21 TO P24

MAX. DIAMETER: 90X90 MM / 90X90 MM

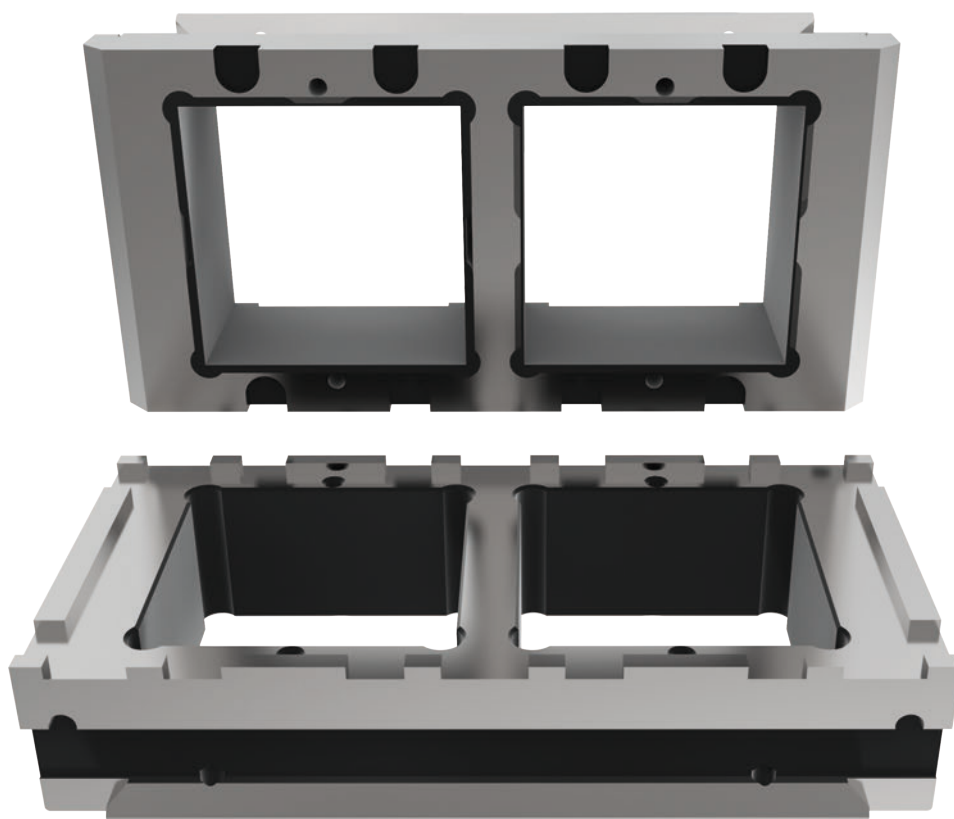
PART-NO.

CASSETTE FOR PUNCH

299X99510

DIE CASSETTE

299X99520



PASS TOOLING CASSETTE TO TYPE

„SALVAGNINI S2“

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MAX. DIAMETER: 33 MM

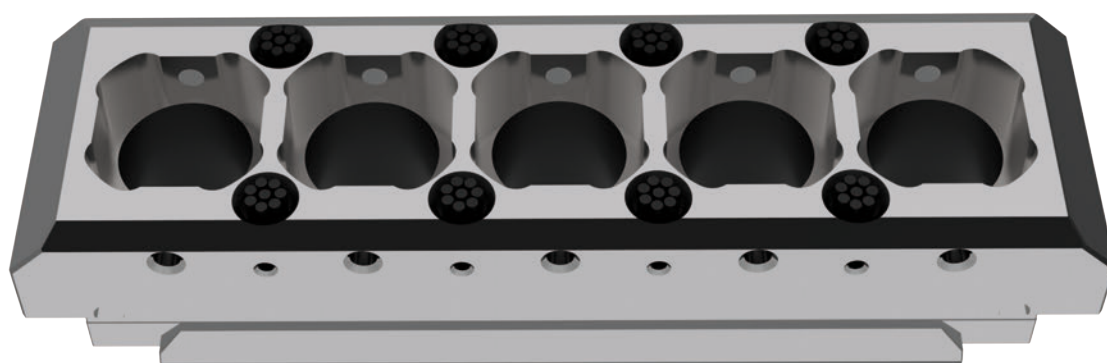
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CASSETTE FOR PUNCH

299X33520

DIE CASSETTE

299X33590



PASS TOOLING CASSETTE POLYPUNCH TO TYPE „SALVAGNINI S4“

TYPE: 33 MM / 40 KN / P31 TO P35

MAX. DIAMETER: 33 MM

PART-NO.

CASSETTE FOR PUNCH

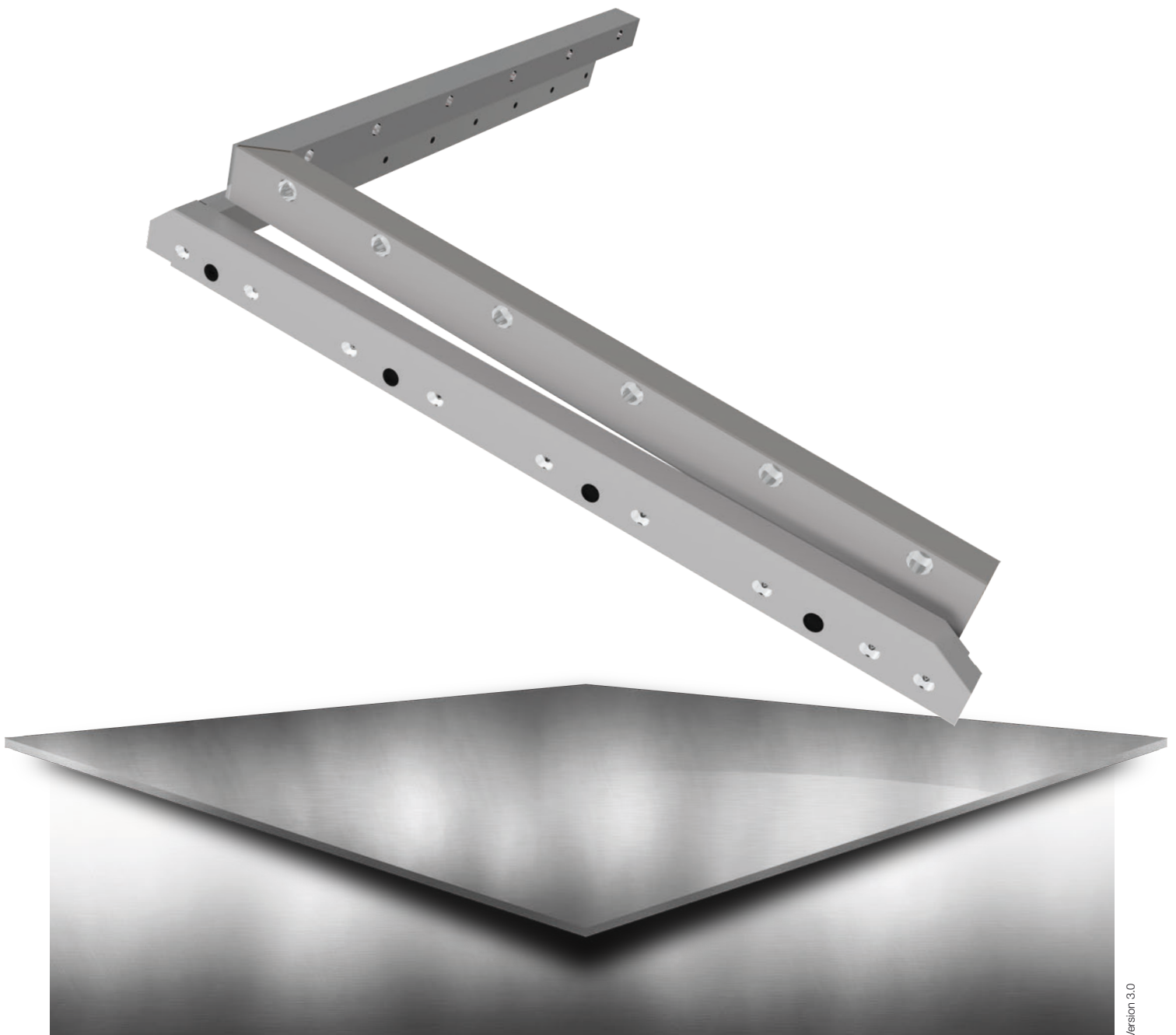
299XP0000

DIE CASSETTE

299XP0070



A large grid of squares, approximately 30 columns wide and 40 rows high, intended for taking notes. The grid is composed of thin, light gray lines.



ACCESSORIES

PASS ACCESSORIES FOR YOUR
SALVAGNINI SYSTEM

INDEX

ps.®shear-blades	400 mm	page 46
ps.®shear-blades	500 mm	page 47

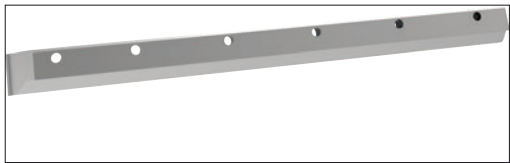
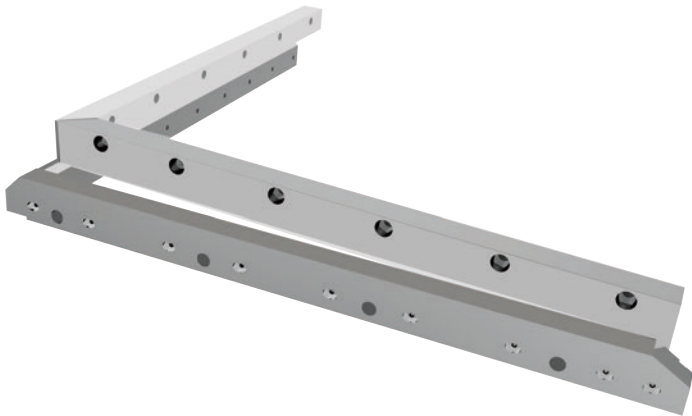
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TYPE: 400 MM

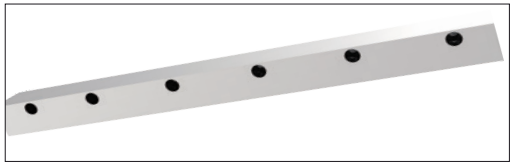
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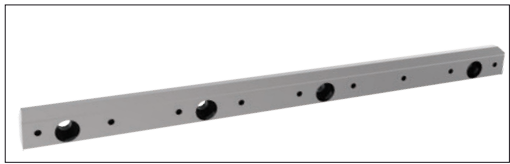
SHEAR BLADES - 400 MM	
Set	SCHERMESSER400



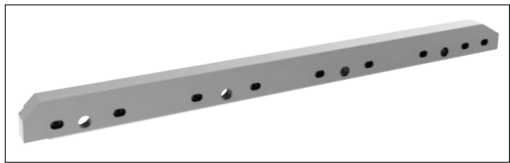
TOP X



TOP Y



BOTTOM X



BOTTOM Y

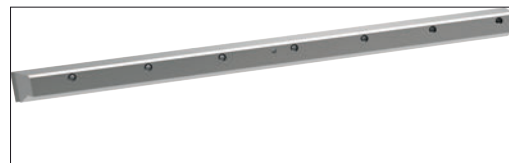
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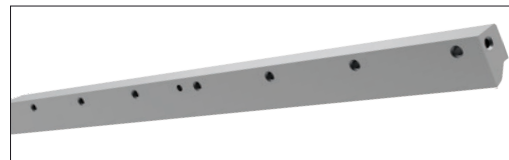
SHEAR BLADES - 500 MM

Set

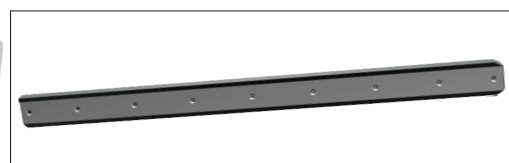
SCHERMESSER500



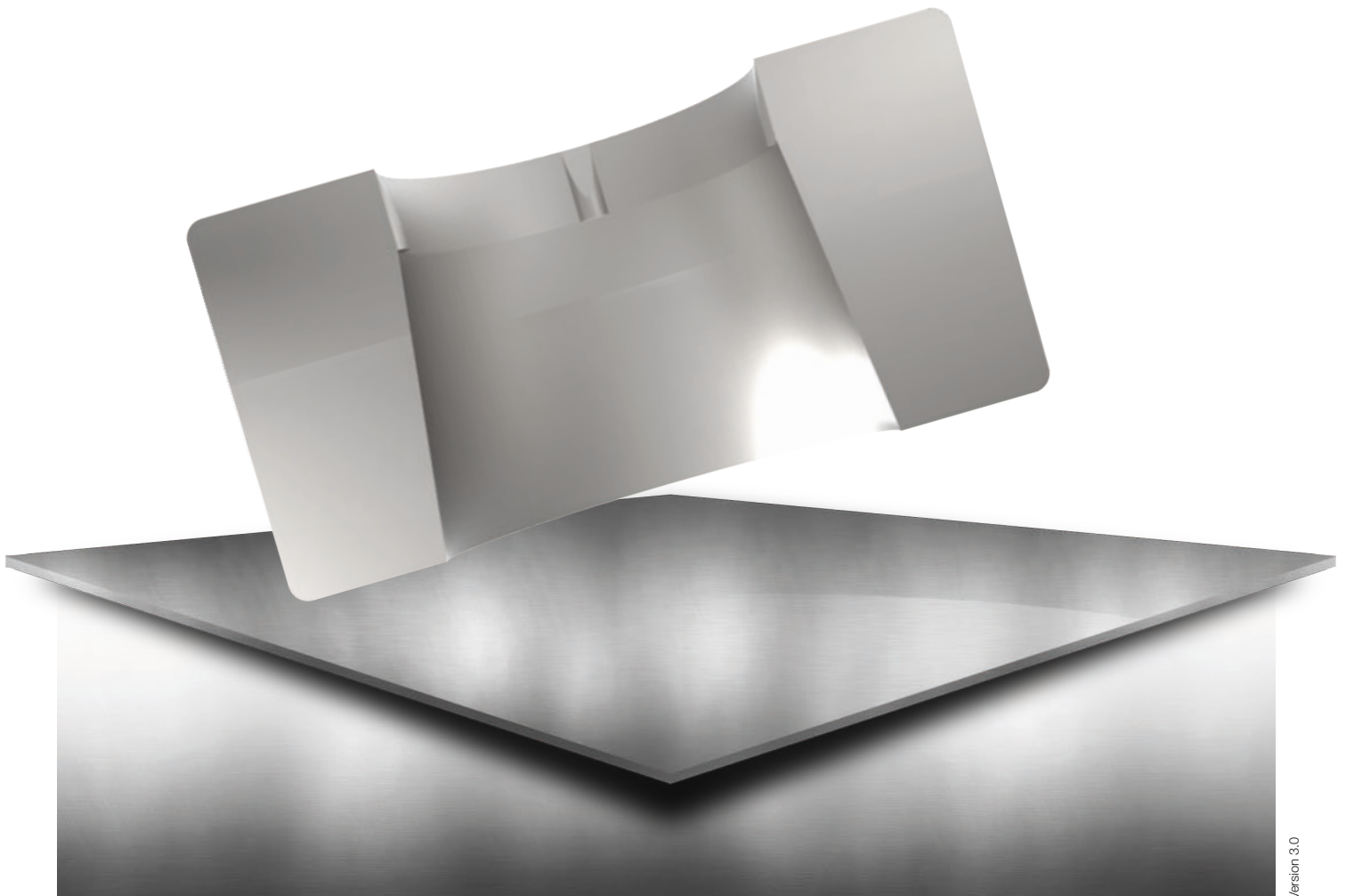
TOP X



TOP Y



BOTTOM
X AND Y



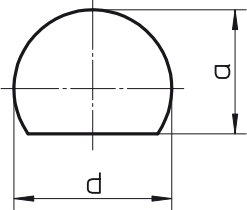
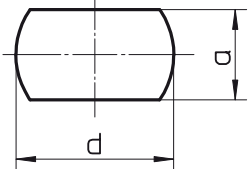
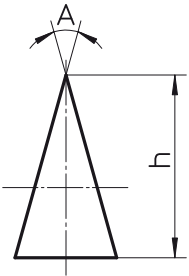
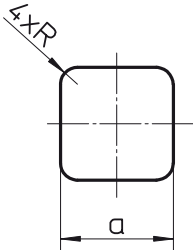
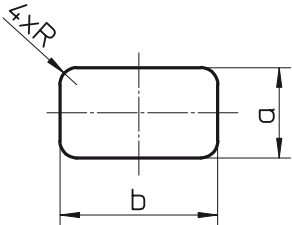
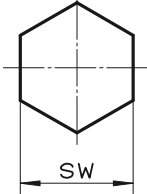
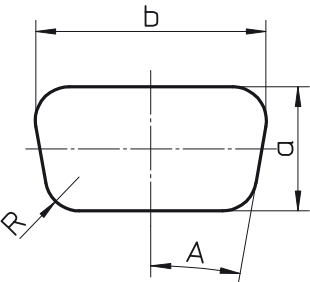
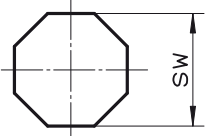
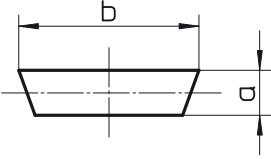
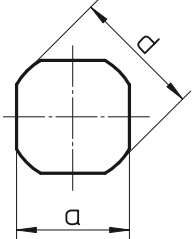
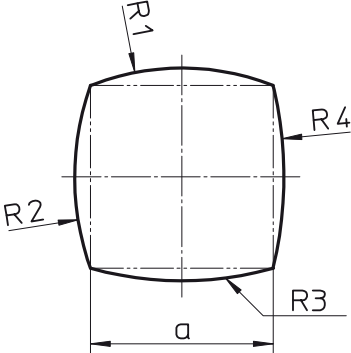
TECHNICAL INFORMATION

INFORMATION ABOUT OUR TOOLS FOR YOUR SALVAGNINI SYSTEM

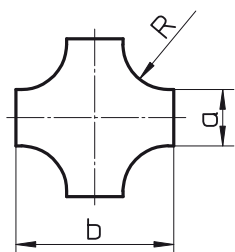
INDEX

O.D. Ground Special Shapes	page 50
EDM Required Special Shapes	page 51
PASS Tool Variety	page 52
Life-time of Tools / Regrind Advice	page 53
PASS Coating Versions / Draw-Polishing	page 54
Die Versions	page 55
Punches with Different Shear Types	page 56
PASS Back Taper on Punches	page 57
PASS Corner Radius on Punches	page 58
PASS Punches with Reinforced Shoulder	page 59

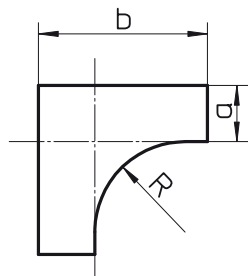
O.D. GROUND SPECIAL SHAPES

 G01	 G02	 G03
 G04	 G05	 G06
 G07	 G08	 G09
 G10	 G11	

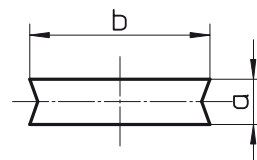
EDM REQUIRED SPECIAL SHAPES



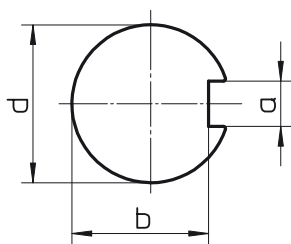
E01



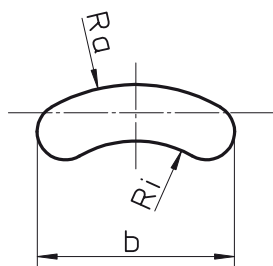
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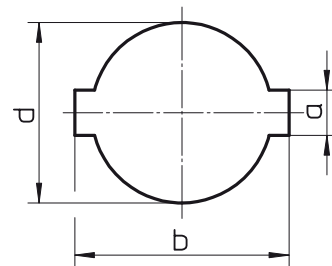
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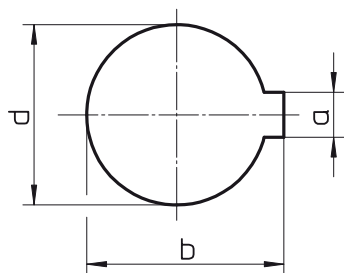
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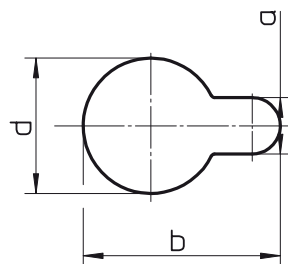
E05



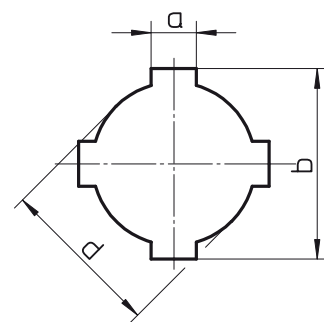
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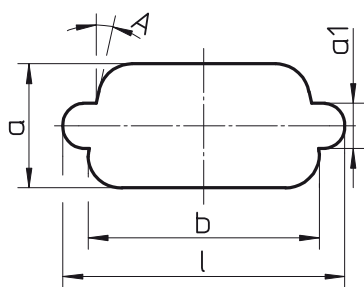
E07



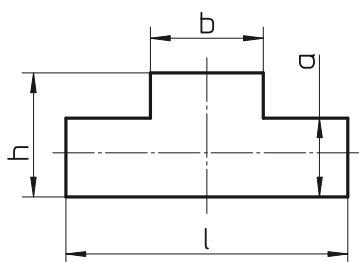
E08



E09



E10



E11

PASS TOOL VARIETY

HWS

HWS tools are made of a secondary hardened cold work steel with superior toughness. This type of steel is especially suitable for dies.

Advantage for customer:

- excellent cost in accordance to performance

H-PM®

H-PM® tools are produced with steel made on powder-metallurgical base with a high degree of purity.

This guarantees a segregational uniformed microstructure in the complete cross-section of the tool.

Advantage for customer:

- excellent cost in accordance to performance
- good stability for edges by increased toughness
- high tool life time due to the uniformed microstructure
- increased current hit-flex-capability;
- suitable as an excellent base for dies

X3-PM

The X3-PM tools are made of a high-end powder-metallurgical steel with the best possible performance characteristics for punches in the punching technology due to the best possible degree of purity.

The segregational uniformed microstructure with high vanadium concentration in the complete cross-section of the punch guarantees best possible wear resistance regarding tool life time.

Advantage for customer:

- best efficiency by multiple increase of the punch hit count
- best possible stability for cutting edges
- extremely high abrasion resistance
- utmost compressive strength

X8-PM

The X8-PM tools are made of a high-end powder-metallurgical steel the best possible performance characteristics for dies in the punching technology caused by best possible degree of purity.

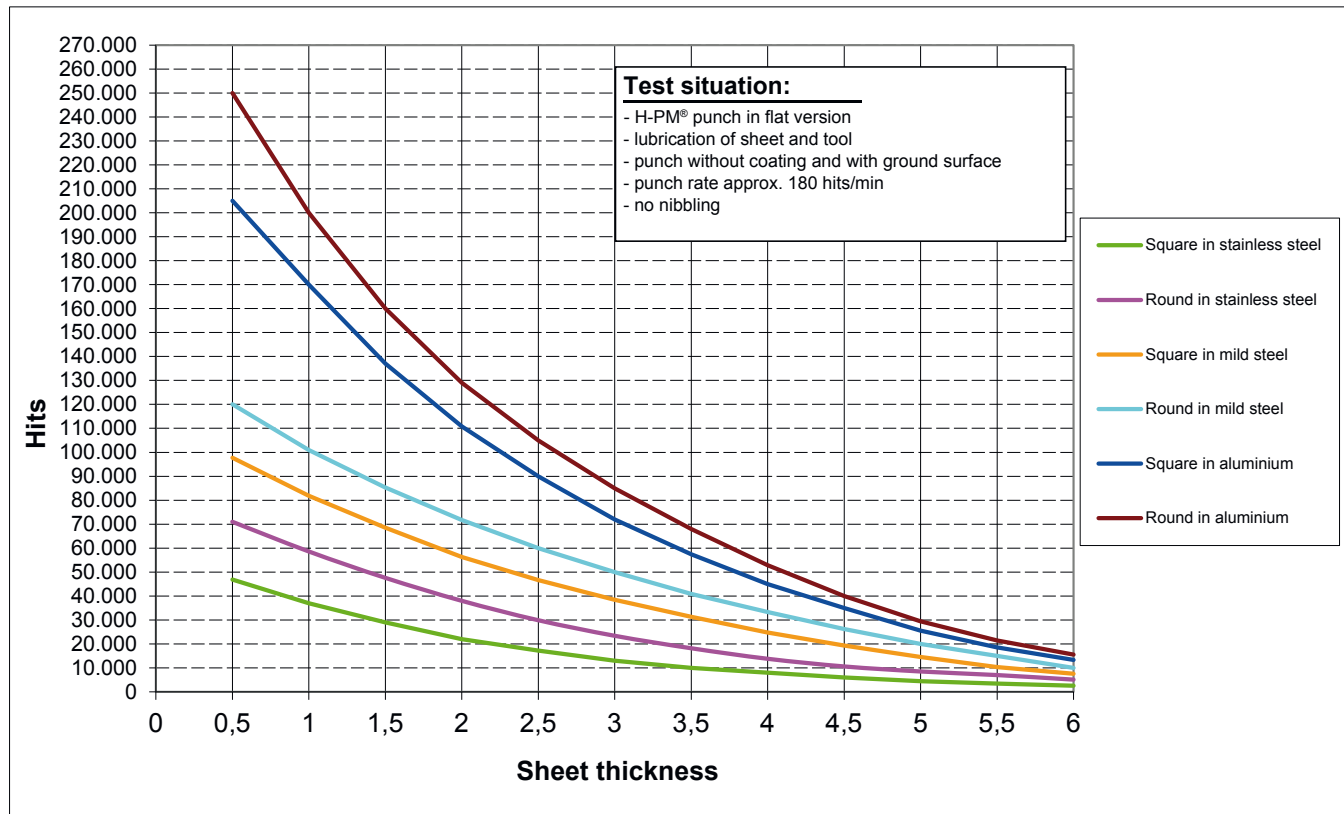
The high ductility of the segregational uniformed microstructure guarantees best possible fatigue limit. This kind of steel is especially suitable for dies with risk-breakage in regards to special shapes.

Advantage for customer:

- best possible absorption of hit-flex stress;
- prevents fatigue breakage
- high abrasion resistance

LIFE-TIME OF TOOLS / REGRIND ADVICE

PASS punches and dies are made of high-end special steel in order to guarantee best life-time of tools together with high robustness.



INFLUENCING FACTORS	FACTOR
Zinc coated sheet / stainless steel with foil / aluminium anodized	0,5 - 0,8
No sheet lubrication	0,4 - 0,6
Punch coating (TICN for stainless steel / T-MAX for zinc coated steel / A-MAX for aluminium)	2,0 - 4,0
PASS X3-PM punch	6,0 - 10,0
Nibbling	0,7 - 0,9
Notching	0,5 - 0,7
Shear	0,8 - 0,9
Punching rate > 300 hits / min.	0,8 - 0,9
Cutting part with EDM surface	0,4 - 0,8
Cutting part with polished surface	1,5 - 3,0
Cutting part smaller than 1,5x sheet thickness	0,6 - 0,8
Cutting part smaller than 1,0x sheet thickness	0,3 - 0,5
Using of a too small clearance	0,4 - 0,9

An average decrease of the tool life of 5-10 % per regrind has to be taken in account for the first regrind.

PASS COATING VERSIONS / DRAW-POLISHING

TO REDUCE MATERIAL BUILD-UP

H-PM® tools are produced with steel made on powder-metallurgical base with a high degree of purity to fulfil the highest punching demands.

Furthermore we attach great importance to a high quality hardening process by repeated tempering and deep-freeze subsequently.

This process guarantees an extremely high hardness with an outstanding wear resistance of our punching tools.

Associated with modern production methods (grinding of the cutting edges with special grinding wheels) we can ensure that the wide range of different sheet qualities can be punched up to 1.600 N/mm² – no matter if it concerns mild alloyed aluminium, mild steel, stainless steel or spring band steel.

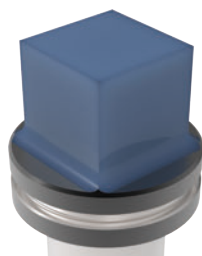
A high punch hardness as well as an excellent grinding surface are important in order to counteract the problem with edge build-up.

Tests show us that the well-known TiCN coating is a good coating to increase the lifetime (especially working with stainless steel). However, the problem of material buildup on the edges have not really been counteracted.

Built-up edges are known especially when working with

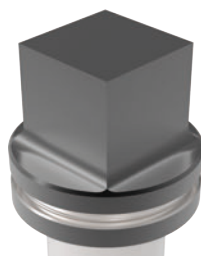
- zinc steel
- aluminium

After specialized tests at PASS Stanztechnik AG the below mentioned coatings turned out to be the most successful coatings:



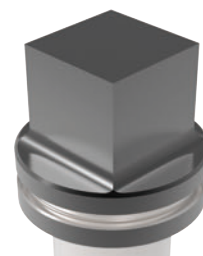
TiCN

for working with
stainless steel



A-MAX

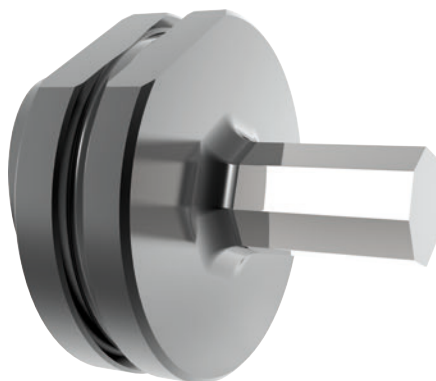
for dry processing with
aluminium sheet



T-MAX

for working with
galvanized sheet / zincor

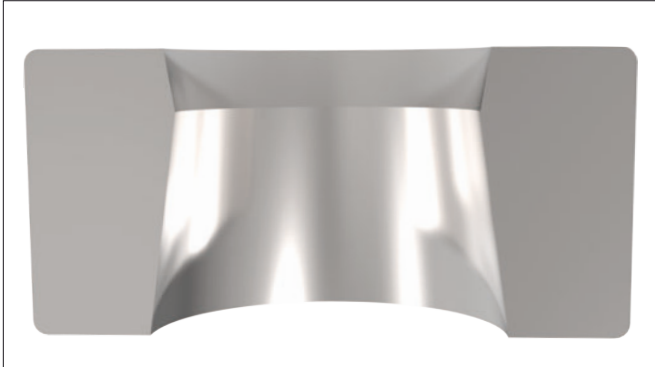
We recommend draw-polished punch edges to increase tool lifetime and reduce material build up (prices on request):



DIE VERSIONS

SLUG-STOP AND SLUG-SNAP (AVOID THE BUILD-UP OF THE SLUGS)

SLUG-STOP (STANDARD)



PASS dies for tooling system SALVAGNINI are produced in standard version with a slug-stop version (without additional costs).

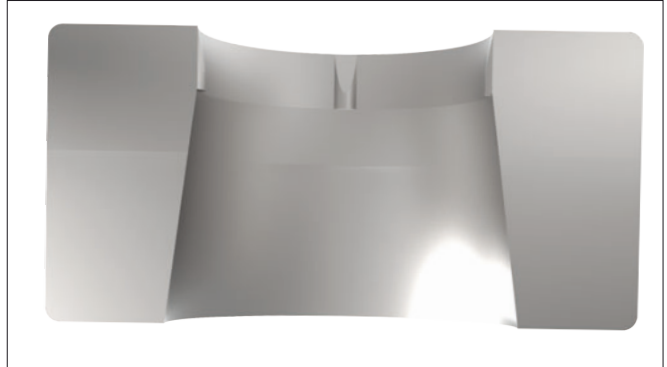
This means that the upper part of the cutting part is produced with a negative angle.

The slug will be held with the complete circumference in the die.

This is not recommended for:

- shapes smaller than 1,25 mm
- clearance smaller 0,1 mm

SLUG-SNAP (SPECIAL VERSION - ADDITIONAL COSTS)



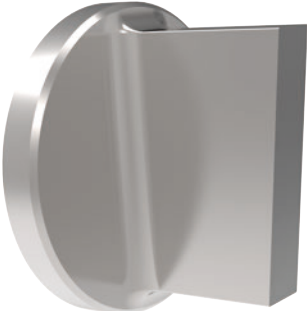
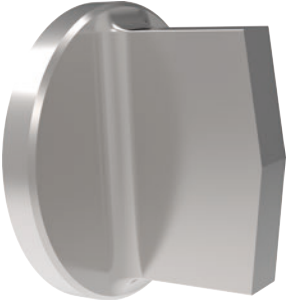
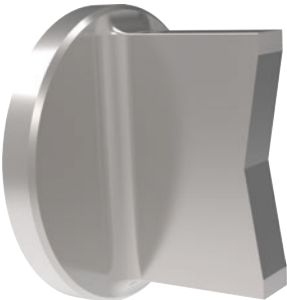
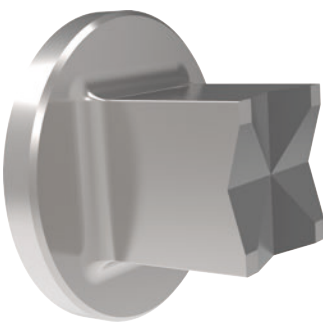
Alternatively we offer our slug-snap version (additional costs).

In this case special holding bolts are included in the die, clamping the slug positively (better than the slug-stop version).

The slug-snap version is also more convenient for:

- shapes smaller than 1,25 mm
- clearance smaller 0,1 mm

PUNCHES WITH DIFFERENT SHEAR TYPES

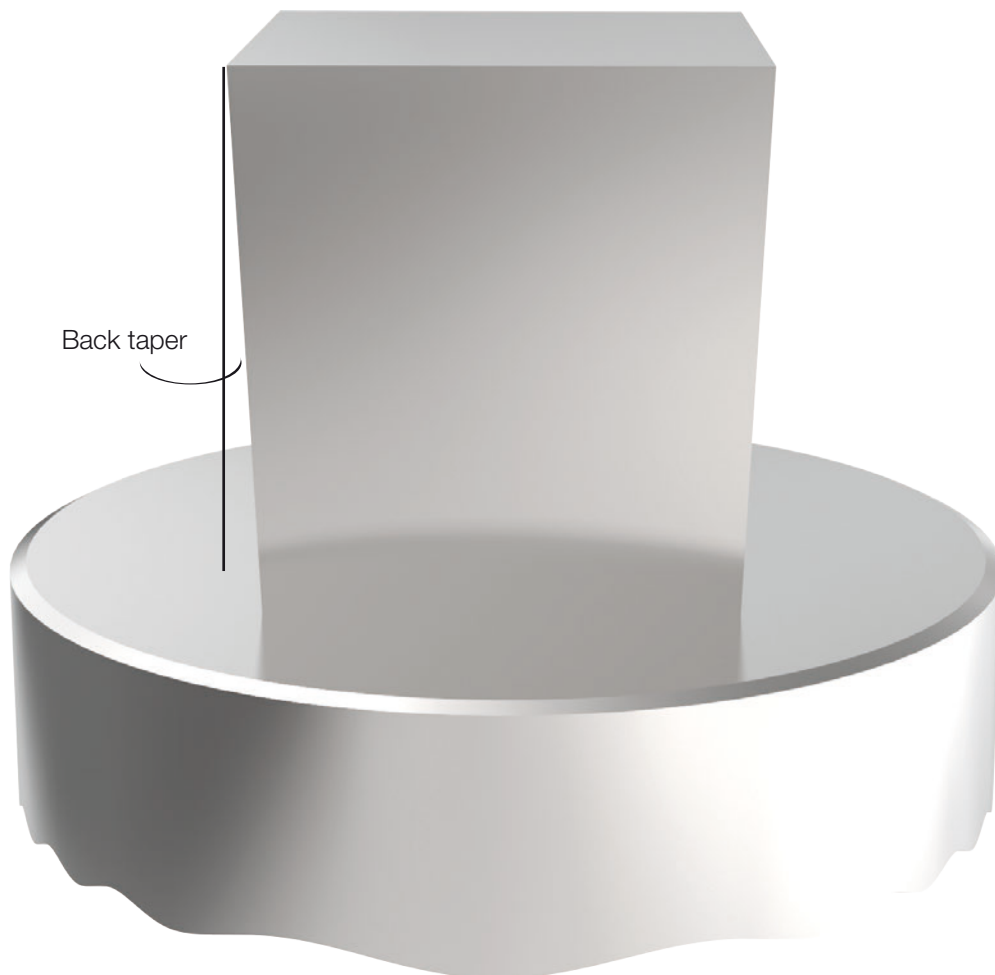
		DESCRIPTION
WT		WT Advantage easy regrindable Disadvantage lateral forces
DOWT		DOWT Advantages easy regrindable no lateral forces Disadvantage only reasonable for big shapes
2 PT		2 PT Advantages no lateral forces optimal die cutting Disadvantages only reasonable for big and slim shapes difficult to regrind
4 PT		4 PT Advantages no lateral forces optimal die cutting suitable for trimming Disadvantages only reasonable for big shapes difficult to regrind

PASS BACK TAPER ON PUNCHES

PASS punches are normally produced with back taper to reduce galling and premature punch wear.

However it should be mentioned that back taper is very important when punching materials such as stainless steel or very thick material to reduce galling and eliminate breakage of the tool corners and edges.

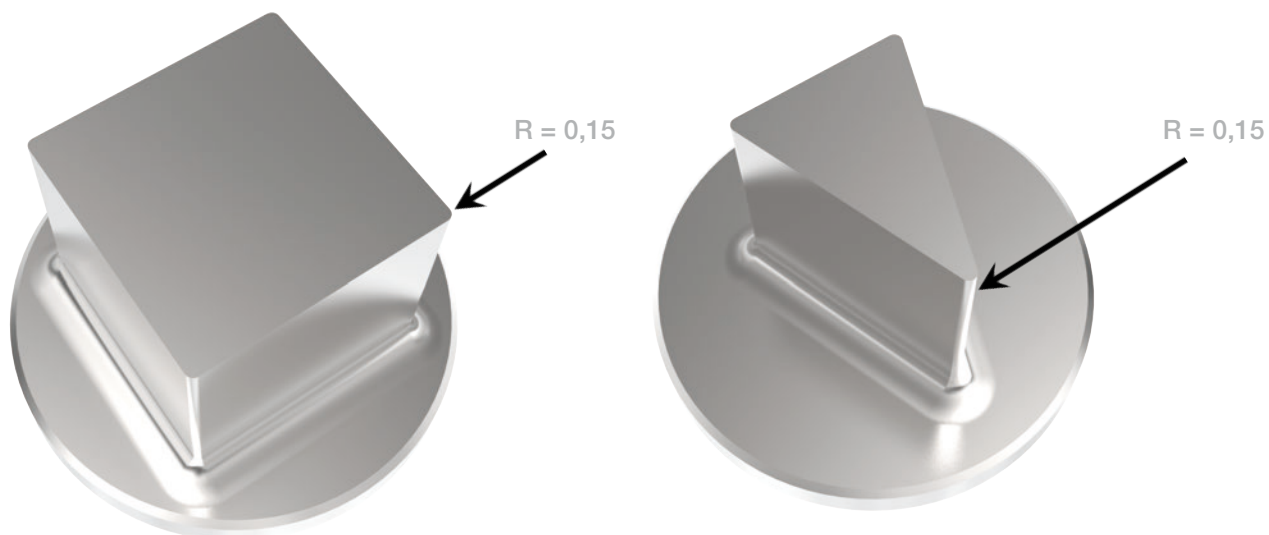
We recommend a line polished version for cutting parts, which have to be produced sink-eroded (special shape with internal shape, e.g. cross-form, U-form, etc.) and in high quality sheets.



PASS CORNER RADIUS ON PUNCHES

PASS punches are automatically produced with corner radius $R = 0,15$ mm. This process increases the life-time as the corner abrasive wear will be decreased considerably.

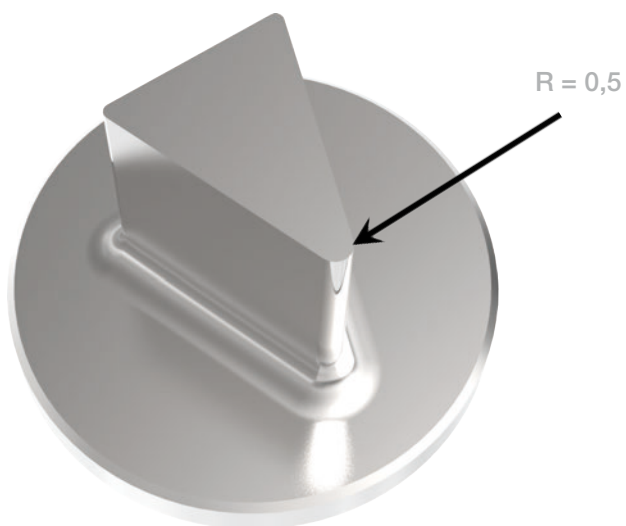
E.g.: square and triangle punch



The corner radius can be changed on customer's request.

E.g.:

$R = 0,5$ mm instead of $R = 0,15$ mm for stainless steel in order to increase tool-life.



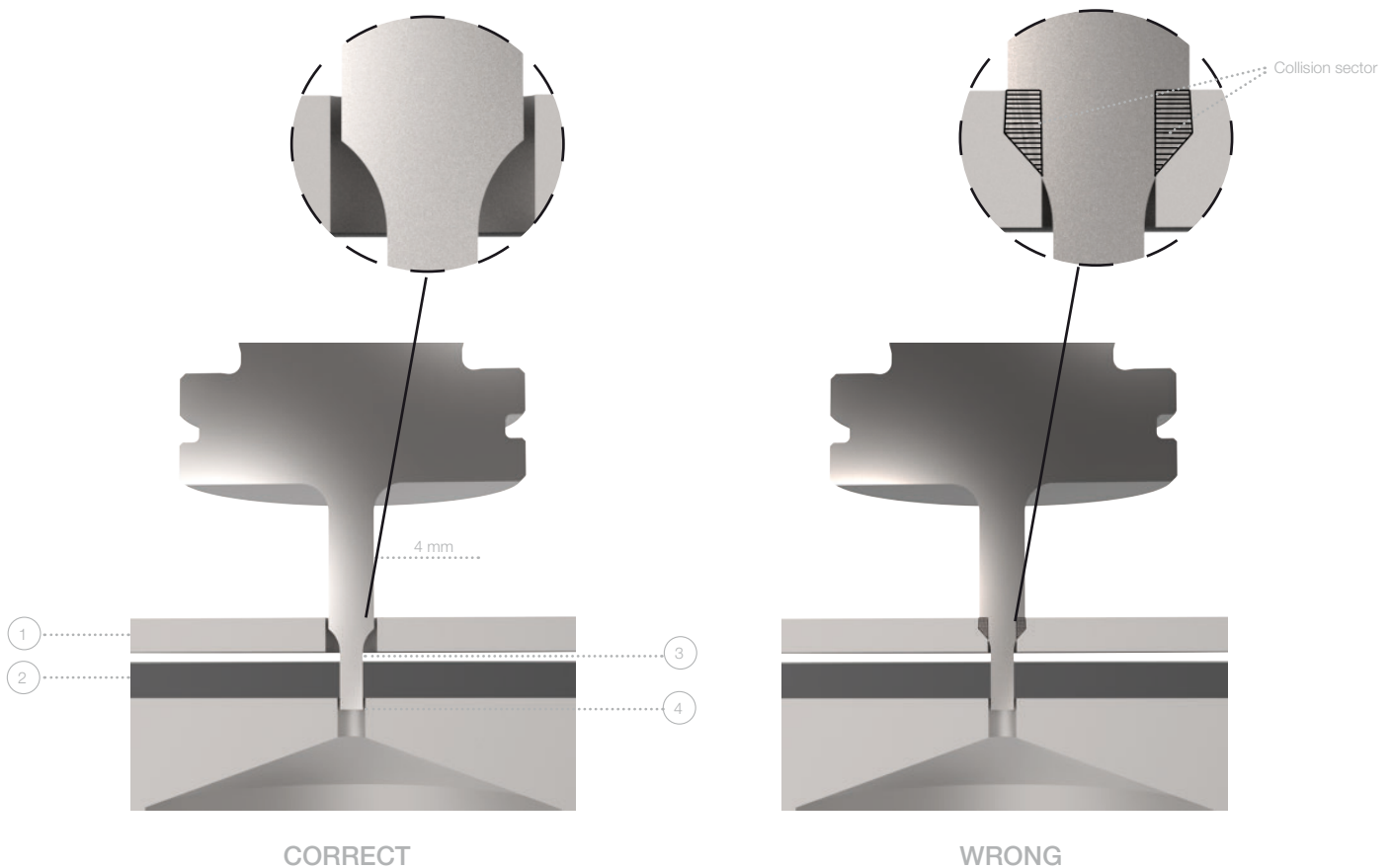
PASS PUNCHES WITH REINFORCED SHOULDER

All PASS punches are produced with a 4 mm reinforced shoulder as soon as the cutting section is required smaller than 4 mm.

This guarantees that you will get a tool with highest stability in order to punch also thicker and high-strength sheets.

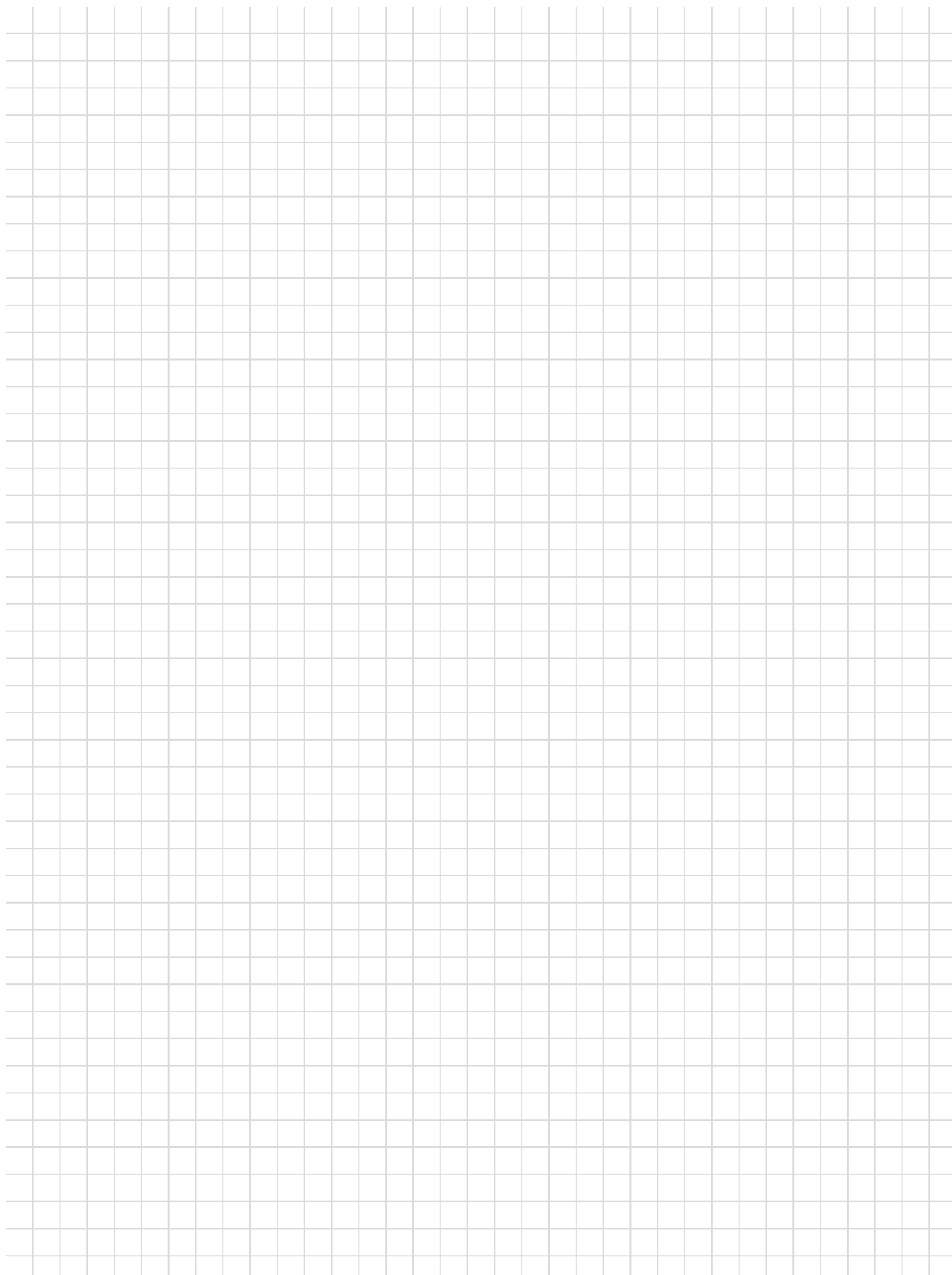
However, the correct stripper size has to be selected in subject to machine type, tool design, sheet thickness (1), immersion depth (2), stripper thickness (3) and stripper overlap (4).

It might be possible that it gets necessary to use a stripper with an appropriate big shape (width min. 4,5 mm) in order to get sure that the reinforced punch shoulder can immerse into the stripper.



NOTES

A large grid of squares, resembling graph paper, occupying the central portion of the page. The grid is composed of thin, light gray lines forming a uniform pattern of squares. It is intended for users to write notes or draw diagrams.



A			
Accessories	45		
A-MAX	54		
B			
Back taper	57		
Blank-holder style 10, 11, 12, 13, 14, 16, 17, 20			
C			
Coating versions	54		
Compact version.....	6, 22, 26, 27, 28		
Corner radius	58		
D			
Die versions	55		
Draw-polishing	54		
E			
EDM Required Special Shapes	51		
H			
H-PM®			
Tool variety.....	52		
HWS			
Tool variety.....	52		
I			
Information.....	49		
L			
Lifetime	46, 47, 53		
		Lifetime of tools.....	53
		Line polished version	54, 57
M			
Material build-up	54		
N			
Needle insert.....	7, 8, 10, 11, 17		
O			
O.D. ground special shapes.....	50		
P			
P2R.....	19		
P21 - P24	25		
PASS punches.....	59		
Polypunch.....	42		
ps:®shear-blades.....	46, 47		
Punches with different shear types.....	56		
Punch insert	12, 13, 14, 15, 16		
R			
Regrinding length.....	9		
Reinforced shoulder.....	59		
S			
slug-snap	55		
slug-stop.....	55		
Special Shapes.....	50, 51		
Standard System for P2R	19		
Standard System for P21 - P24	25		
		System P1.....	7, 8
		System P2	9
		System P4.....	10, 11
		System P5.....	12
		System P6	13
		System P7.....	14
		System P8	15
		System P9	16
		System P10.....	17
		System Standard	
		Blank-holder stlye	20, 21
		Compact version	6, 22, 26, 27, 28
		T	
		TICN.....	54
		T-MAX.....	54
		Tooling cassette polypunch	42
		Tooling cassettes	20, 21, 31
		Tooling cassette to type SALVAGNINI S2... 40, 41	
		Tooling cassette to type SALVAGNINI S4... 32, 33, 34, 35, 36, 37, 38, 39	
		Tool lifetime, increased.....	54, 58
		Tools	5
		Tool variety.....	52
		X	
		X3-PM	
		Tool variety.....	52
		X8-PM	
		Tool variety.....	52

SALVAGNINI | **THICK TURRET** | **TRUMPF**



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