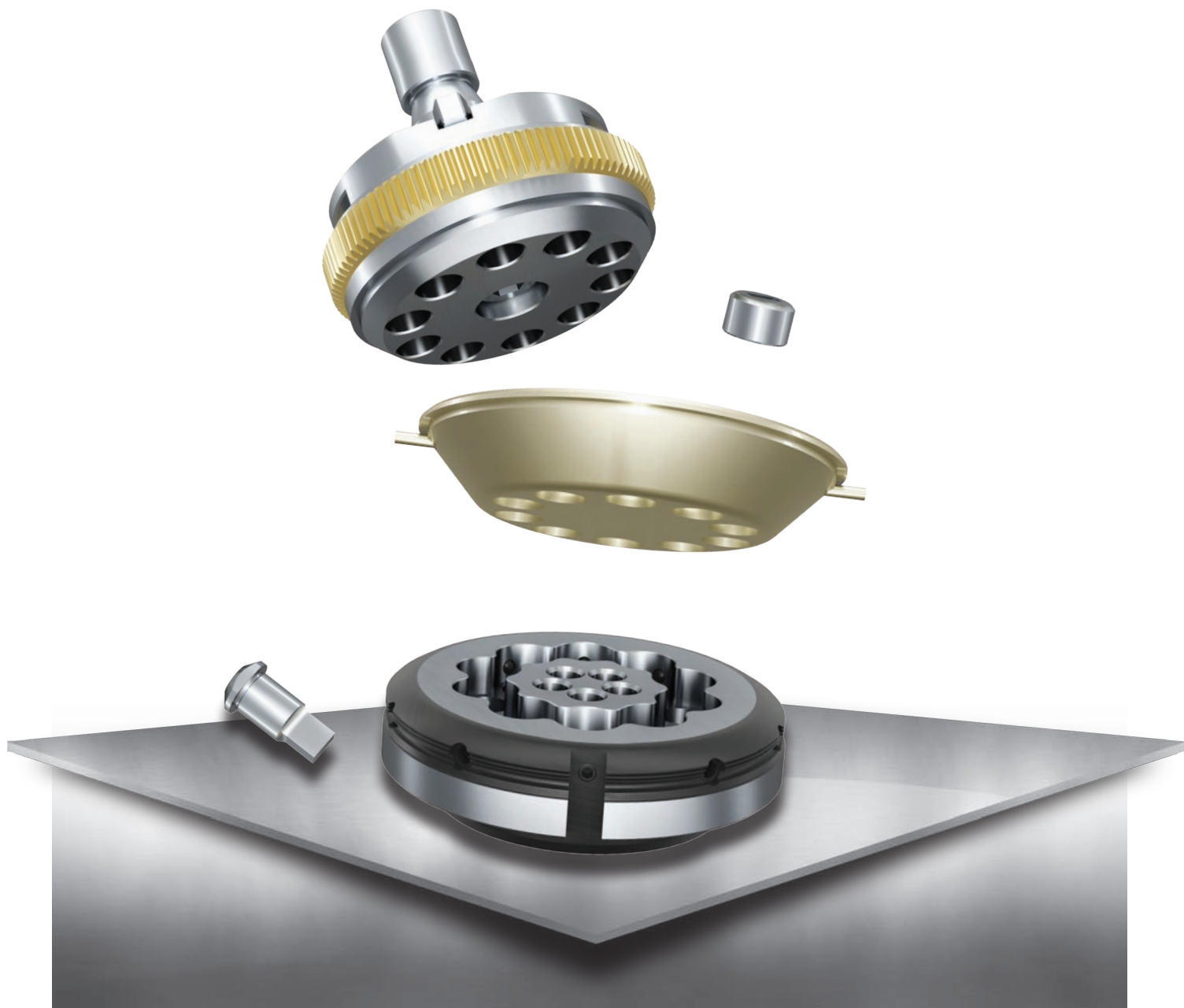




CATALOGUE 10/2017-WW-T.1

SYSTEM TRUMPF



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

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TO RE-EXPERIENCE STANDARD: STANDARD TOOLS

PASS TOOLS FOR YOUR
TRUMPF SYSTEM

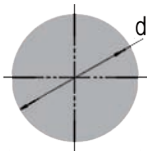
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PASS STANDARD TOOLS ROUND



	SIZE	DIM. D	PART.-NO.
PUNCH (H-PM®)			
	0	1,00 - 6,00	107A01C
	0	6,01 - 10,50 ⁽¹⁾	107B01C
	1	1,00 - 30,50	101111C
	2	30,51 - 40,00	101211C
	2	40,01 - 50,80	101221C
	2	50,81 - 60,00	101231C
	2	60,01 - 72,00	101241C
	2	72,01 - 76,20	101251C
	Reinforced	1,00 - 30,50	108111C
	Reinforced	30,51 - 40,00	108121C
STRIPPER			
	2	1,00 - 78,00	112211C
DIE (HWS)			
	1 ⁽²⁾	1,00 - 32,00	106111C
	2 ⁽³⁾	32,01 - 77,00	106211C
	1 reinforced ⁽²⁾	1,00 - 32,00	109111C
	2 reinforced ⁽³⁾	32,01 - 42,00	109221C
	2 reinforced ⁽³⁾	42,01 - 62,00	109231C



Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

⁽¹⁾ Smaller 6,00 mm

Cutting part under 1,00 mm

X3-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch	14
Adjusting rings	34
Punch chuck	35
Additional costs for coating	54
Polished cutting part	55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts	52
PU stripper	65

DIE

⁽²⁾ H-PM® quality

⁽³⁾ H-PM® quality

Slug-stop version (negative cutting part)

Brush version for low-scratch material handling

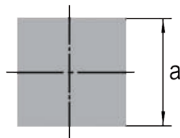
X8-PM quality -> see page 68

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug problems)	57

PASS STANDARD TOOLS SQUARE

SIZE	DIM. A	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 4,20	107A02C
0	4,21 - 7,40 ^(*)	107B02C
1	1,00 - 21,55	101112C
2	21,56 - 28,25	101212C
2	28,26 - 35,90	101222C
2	35,91 - 42,40	101232C
2	42,41 - 50,90	101242C
2	50,91 - 53,90	101252C
Reinforced	1,00 - 21,55	108112C
Reinforced	21,56 - 28,25	108122C
STRIPPER		
2	1,00 - 56,00	112212C
DIE (HWS)		
1 ^(*)	1,00 - 22,50	106112C
2 ^(*)	22,51 - 54,90	106212C
1 reinforced ^(*)	1,00 - 22,50	109112C
2 reinforced ^(*)	22,51 - 30,20	109222C
2 reinforced ^(*)	30,21 - 43,00	109232C



Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

^(*) Smaller 4,20 mm

Cutting part under 1,00 mm

4 x same corner radius

X3-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch	14
Adjusting ring	34
Punch chuck	35
ps:®passfit - explanation and additional costs	40
Additional costs for coating	54
Polished cutting part	55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts	52
Push-out stripper	53
PU stripper	65

DIE

^(*) H-PM® quality

^(*) H-PM® quality

Slug-stop version (negative cutting part)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug problems)	57

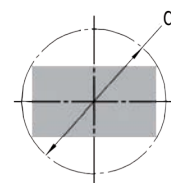
PASS STANDARD TOOLS RECTANGLE



SIZE	DIM. D	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 6,00	107A03C
0	6,01 - 10,50 ⁽¹⁾	107B03C
1	1,00 - 30,50	101113C
2	30,51 - 40,00	101213C
2	40,01 - 50,80	101223C
2	50,81 - 60,00	101233C
2	60,01 - 72,00	101243C
2	72,01 - 76,20	101253C
Reinforced	1,00 - 30,50	108113C
Reinforced	30,51 - 40,00	108123C

STRIPPER		
2	1,00 - 78,00	112213C

DIE (HWS)		
1 ⁽²⁾	1,00 - 32,00	106113C
2 ⁽³⁾	32,01 - 77,00	106213C
1 reinforced ⁽²⁾	1,00 - 32,00	109113C
2 reinforced ⁽³⁾	32,01 - 42,00	109223C
2 reinforced ⁽³⁾	42,01 - 62,00	109233C



Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

⁽¹⁾ Smaller 6,00 mm

Cutting part under 1,00 mm

4 x same corner radius

X3-PM quality -> see page 68

STRIPPER

PU coating for low-scratch material handling

DIE

⁽²⁾ H-PM® quality

⁽³⁾ H-PM® quality

Slug-stop version (negative cutting part)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch

Slitting tools for slittings close to embossing

Adjusting rings

Punch chuck

ps:®passfit - explanation and additional costs

Additional costs for coating

Polished cutting part

STRIPPER

Spare parts

Push-out stripper

PU stripper

DIE

Adapter rings

Compensating rings

RTC cartridge and die carrier

Die clip

Slug-snap version (for slug problems)

see page

15

30 - 31

34

35

40

54

55

52

53

65

35

38

41

52

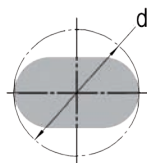
57

PASS STANDARD TOOLS OBLONG

SIZE	DIM. D	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 6,00	107A04C
0	6,01 - 10,50 ^(*)	107B04C
1	1,00 - 30,50	101114C
2	30,51 - 40,00	101214C
2	40,01 - 50,80	101224C
2	50,81 - 60,00	101234C
2	60,01 - 72,00	101244C
2	72,01 - 76,20	101254C
Reinforced	1,00 - 30,50	108114C
Reinforced	30,51 - 40,00	108124C

STRIPPER		
2	1,00 - 78,00	112214C

DIE (HWS)			
1 ^(*)	1,00 - 32,00	106114C	
2 ^(*)	32,01 - 77,00	106214C	
1 reinforced ^(*)	1,00 - 32,00	109114C	
2 reinforced ^(*)	32,01 - 42,00	109224C	
2 reinforced ^(*)	42,01 - 62,00	109234C	



Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

^(*) Smaller 6,00 mm

Cutting part under 1,00 mm

X3-PM quality -> see page 68

STRIPPER

PU coating for low-scratch material handling

DIE

^(*) H-PM® quality

^(*) H-PM® quality

Slug-stop version (negative cutting part)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch	15
Slitting tools for slittings close to embossing	30 - 31
Adjusting rings	34
Punch chuck	35
ps:®passfit - explanation and additional costs	40
Additional costs for coating	54
Polished cutting Part	55

STRIPPER

Spare parts	52
Push-out stripper	53
PU stripper	65

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug problems)	57

PASS SPECIAL SHAPE TOOLS GROUP 1

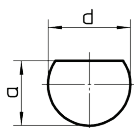
(SF01, SF02, SF04, SF05)



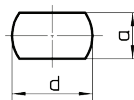
SIZE	DIM. D	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 6,00	121A0_C1
0	6,01 - 10,50 ⁽¹⁾	121B0_C1
1	1,00 - 30,50	12111_C1
2	30,51 - 40,00	12121_C1
2	40,01 - 50,80	12122_C1
2	50,81 - 60,00	12123_C1
2	60,01 - 72,00	12124_C1
2	72,01 - 76,20	12125_C1
Reinforced	1,00 - 30,50	V2111_C1
Reinforced	30,51 - 40,00	121V1_C1

STRIPPER		
2	1,00 - 78,00	127H1_C1

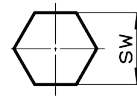
DIE (HWS)		
1 ⁽²⁾	1,00 - 32,00	12611_C1
2 ⁽³⁾	32,01 - 77,00	12621_C1
1 reinforced ⁽²⁾	1,00 - 32,00	V2611_C1
2 reinforced ⁽³⁾	32,01 - 42,00	126V1_C1
2 reinforced ⁽³⁾	42,01 - 62,00	126V2_C1



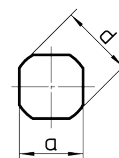
SF01



SF02



SF04



SF05

Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

⁽¹⁾ smaller 6,00 mm

Cutting part under 1,00 mm

X3-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch	15
Adjusting rings	34
Punch chuck	35
ps:®passfit - explanation and additional costs	40
Additional costs for coating	54
Polished cutting part	55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts	52
PU stripper	65

DIE

⁽²⁾ H-PM® quality

⁽³⁾ H-PM® quality

Slug-stop version (negative cutting part)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug problems)	57

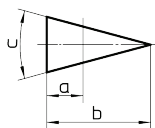
PASS SPECIAL SHAPE TOOLS GROUP 2

(SF03, SF07, SF13, SF17)

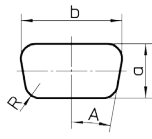
SIZE	DIM. D	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 6,00	121A0_C2
0	6,01 - 10,50	121B0_C2
1	1,00 - 30,50	12111_C2
2	30,51 - 40,00	12121_C2
2	40,01 - 50,80	12122_C2
2	50,81 - 60,00	12123_C2
2	60,01 - 72,00	12124_C2
2	72,01 - 76,20	12125_C2
Reinforced	1,00 - 30,50	V2111_C2
Reinforced	30,51 - 40,00	121V1_C2

STRIPPER		
2	1,00 - 78,00	127H1_C2

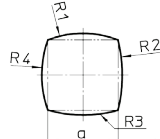
DIE (HWS)		
1 ^(*)	1,00 - 32,00	12611_C2
2 ^(*)	32,01 - 77,00	12621_C2
1 reinforced ^(*)	1,00 - 32,00	V2611_C2
2 reinforced ^(*)	32,01 - 42,00	126V1_C2
2 reinforced ^(*)	42,01 - 62,00	126V2_C2



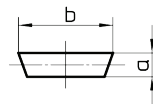
SF03



SF07



SF13



SF17



Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

^(*) smaller 6,00 mm

Cutting part under 1,00 mm

X3-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch

Slitting tools for slittings close to embossing

Adjusting rings

Punch chuck

ps:®passfit - explanation and additional costs

Additional costs for coating

Polished cutting part

see page

15

30 - 31

34

35

40

54

55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts

Push-out stripper

PU stripper

52

53

65

DIE

^(*) H-PM® quality

^(*) H-PM® quality

Slug-stop version (negative cutting part)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

DIE

Adapter rings

Compensating rings

RTC cartridge and die carrier

Die clip

Slug-snap version (for slug problems)

35

38

41

52

57

PASS SPECIAL SHAPE TOOLS GROUP 3

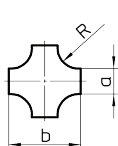
(SF06, SF08, SF14, SF16)



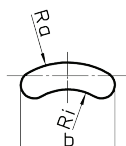
SIZE	DIM. D	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 6,00	121A0_C3
0	6,01 - 10,50 ⁽¹⁾	121B0_C3
1	1,00 - 30,50	12111_C3
2	30,51 - 40,00	12121_C3
2	40,01 - 50,80	12122_C3
2	50,81 - 60,00	12123_C3
2	60,01 - 72,00	12124_C3
2	72,01 - 76,20	12125_C3
Reinforced	1,00 - 30,50	V2111_C3
Reinforced	30,51 - 40,00	121V1_C3

STRIPPER		
2	1,00 - 78,00	127H1_C3

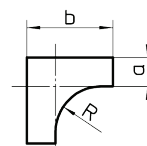
DIE (HWS)		
1 ⁽²⁾	1,00 - 32,00	12611_C3
2 ⁽³⁾	32,01 - 77,00	12621_C3
1 reinforced ⁽²⁾	1,00 - 32,00	V2611_C3
2 reinforced ⁽³⁾	32,01 - 42,00	126V1_C3
2 reinforced ⁽³⁾	42,01 - 62,00	126V2_C3



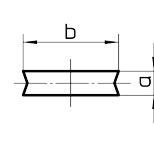
SF06



SF08



SF14



SF16

Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

⁽¹⁾ Smaller 6,00 mm

Cutting part under 1,00 mm

X3-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch	15
Slitting tools for slittings close to embossing	30 - 31
Adjusting rings	34
Punch chuck	35
ps:®passfit - explanation and additional costs	40
Additional costs for coating	54
Polished cutting part	55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts	52
Push-out stripper	53
PU stripper	65

DIE

⁽²⁾ H-PM® quality

⁽³⁾ H-PM® quality

Slug-stop version (negative cutting)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug problems)	57

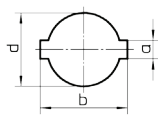
PASS SPECIAL SHAPE TOOLS GROUP 4

(SF09, SF10, SF11, SF12)

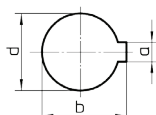
SIZE	DIM D	PART.-NO.
PUNCH (H-PM®)		
0	1,00 - 6,00	121A0_C4
0	6,01 - 10,50 ^(*)	121B0_C4
1	1,00 - 30,50	12111_C4
2	30,51 - 40,00	12121_C4
2	40,01 - 50,80	12122_C4
2	50,81 - 60,00	12123_C4
2	60,01 - 72,00	12124_C4
2	72,01 - 76,20	12125_C4
Reinforced	1,00 - 30,50	V2111_C4
Reinforced	30,51 - 40,00	121V1_C4

STRIPPER		
2	1,00 - 78,00	127H1_C4

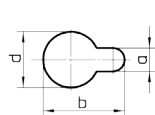
DIE (HWS)		
1 ^(*)	1,00 - 32,00	12611_C4
2 ^(*)	32,01 - 77,00	12621_C4
1 reinforced ^(*)	1,00 - 32,00	V2611_C4
2 reinforced ^(*)	32,01 - 42,00	126V1_C4
2 reinforced ^(*)	42,01 - 62,00	126V2_C4



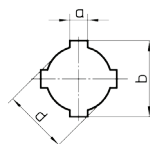
SF09



SF10



SF11



SF12



Additional costs:

PUNCH

Shear (WT / DOWT / etc.) -> see page 56

^(*) Smaller 6,00 mm

Cutting part under 1,00 mm

X3-PM quality -> see page 68

Cross references:

PUNCH

Fully guided punch	15
Adjusting rings	34
Punch chuck	35
ps:®passfit - explanation and additional costs	40
Additional costs for coating	54
Polished cutting part	55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts	52
PU stripper	65

DIE

^(*) H-PM® quality

^(*) H-PM® quality

slug-stop version (negative cutting)

Additional keyway

Brush version for low-scratch material handling

X8-PM quality -> see page 68

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug problems)	57

PASS PUNCH WITH GUIDED CUTTING PART

FOR ROUND PUNCH (DIMENSION D = 0,50 MM — 6,00 MM / 6,01 MM — 10,50 MM)



DESCRIPTION	POSITION	PART.-NO.
UP TO 6,00 MM		
Complete upper part	1 - 5	1S160A
Stripper round 26 mm	6	112211C26
Die (HWS) ^{(*)2}	7	106111C

SPARE PARTS		
Spare punch needle (H-PM®)	2	1S16SA
Spare spring	3	1S1608
Spare guide	5	1S1603
Spare clamp nut	4	1S1607

UP TO 10,50 MM		
Complete upper part ^{(*)1}	1 - 5	1S160B
Stripper round 26 mm	6	112211C26
Die (HWS) ^{(*)2}	7	106111C

SPARE PARTS		
Spare punch needle (H-PM®) ^{(*)1}	2	1S16SB
Spare spring	3	1S1609
Spare guide	5	1S1604
Spare clamp nut	4	1S1607

Additional costs:

PUNCH

^{(*)1} Smaller 6,00 mm

Cutting part under 1,00 mm

Cross references:

PUNCH

Standard round punch	6
Suitable adjusting ring - part.-no. 118101	34
Punch chuck	35
Additional costs for coating (such as size 0)	54
Polished cutting part (such as size 0)	55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts	52
-------------	----

DIE

^{(*)2} H-PM® Quality

Brush version for low-scratch material handling

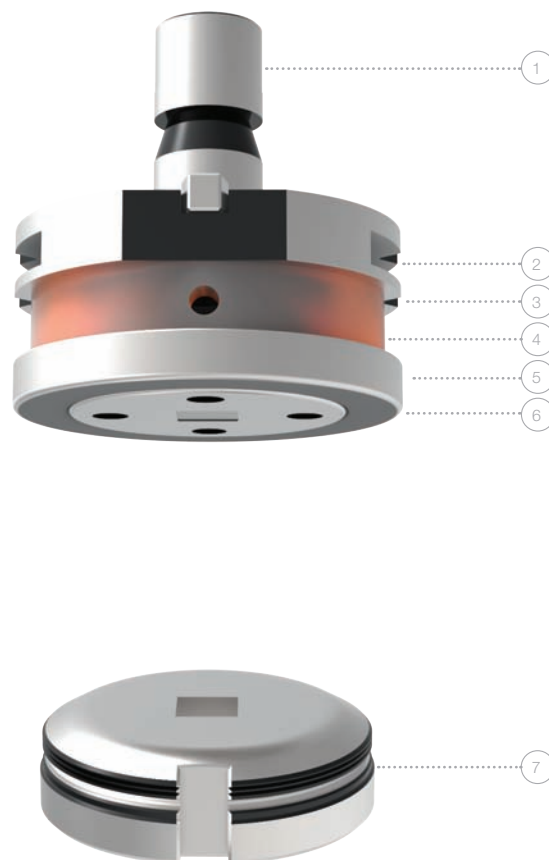
DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Slug-snap version (for slug problems)	57

PASS PUNCH WITH GUIDED CUTTING PART

FOR FORM PUNCH (DIMENSION D = 0,50 MM – 16,00 MM)

DESCRIPTION	POSITION	PART.-NO.
SQUARE		
Complete upper part	1 - 6	1S16502
Spare punch insert (H-PM®)	3	1S16532
Spare spring	4	1S16540
Spare guide	6	1S16562
Die (HWS) ^(*)	7	106112C
RECTANGULAR		
Complete upper part	1 - 6	1S16503
Spare punch insert (H-PM®)	3	1S16533
Spare spring	4	1S16540
Spare guide	6	1S16563
Die (HWS) ^(*)	7	106113C
OBLONG		
Complete upper part	1 - 6	1S16504
Spare punch insert (H-PM®)	3	1S16534
Spare spring	4	1S16540
Spare guide	6	1S16564
Die (HWS) ^(*)	7	106114C
SPECIAL SHAPE TOOLS		
Complete upper part	1 - 6	on request
Spare punch insert (H-PM®)	3	on request
Spare spring	4	on request
Spare guide	6	on request
Die (HWS) ^(*)	7	on request



Additional costs:

PUNCH

Cutting part under 1,00 mm

Cross references:

PUNCH

Standard punch	from 7
Punch chuck	35
Additional costs for coating (such as size 1)	54
Polished cutting part (such as size 1)	55

STRIPPER

Polished version for low-scratch material handling

STRIPPER

Spare parts	52
-------------	----

DIE

^(*) H-PM® Quality

Brush version for low-scratch material handling

DIE

Adapter rings	35
Compensating rings	38
RTC cartridge and die carrier	41
Die clip	52
Slug-snap version (for slug-problems)	57



BEING MULTILATERAL: MULTITOOLS

PASS TOOLS FOR YOUR
TRUMPF SYSTEM

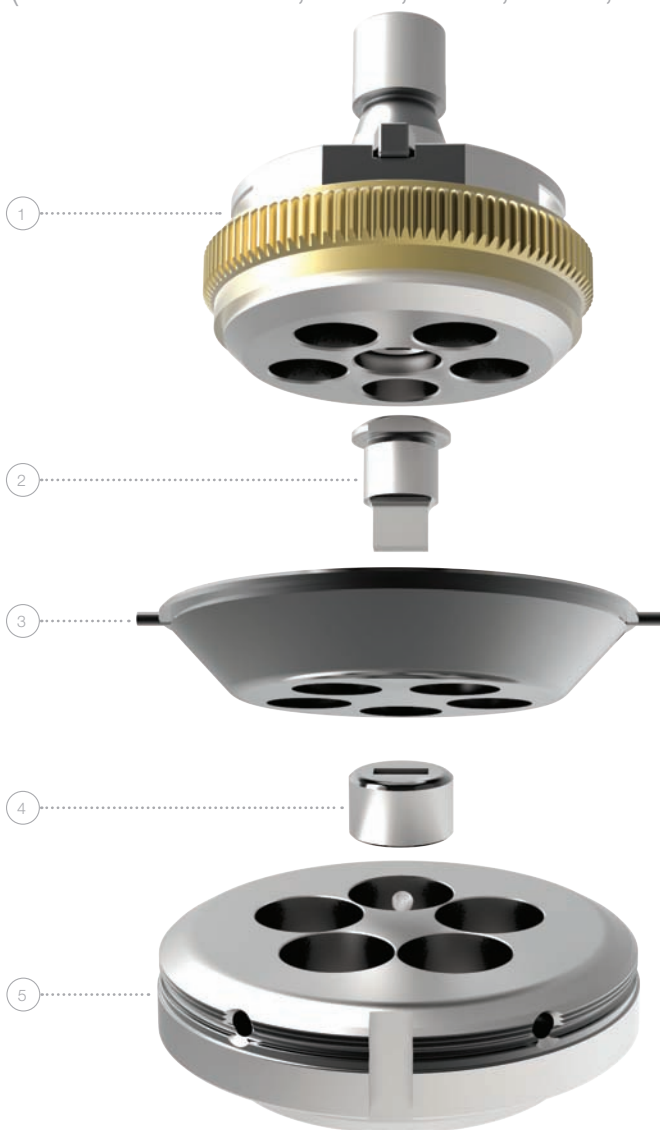
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PASS Multitool 6-Station	Page 21
Alternatively 10-Station Die	Page 22

PASS MULTITOOL 5-STATION

FOR MACHINE GROUP I (DIMENSION 1,00 MM — 16,00 MM)

(TRUPUNCH1000, 2000, 2020, 3000, 5000 TRUMATIC3000, 6000, 7000)



DESCRIPTION	POSITION	PART.-NO.
UPPER PART		
Punch adapter	1	113S30
PUNCH INSERT (H-PM®)		
Round	2	113N31
Square	2	113N32
Rectangle	2	113N33
Oblong	2	113N34
Special shape	2	on request
STRIPPER		
Standard (round)	3	115A30
Close-fitting ^(*)	(3)*.	115B30
DIE INSERT (H-PM®)		
Round	4	114031
Square	4	114032
Rectangle	4	114033
Oblong	4	114034
Special shape	4	on request
LOWER PART		
Die adapter ^(*)	5	114Z30

*no picture

Details / Additional costs:

PUNCH ADAPTER AND PUNCH INSERT

Max. sheet thickness - steel and alu up to 4,50 mm / stainless steel up to 3,00 mm
Cutting part under 1,00 mm

Cross references:

PUNCH

Types of special shapes 10 - 13
Additional costs for coating (Multitool) 54
Polished cutting part (Multitool) 55

see page

STRIPPER

Polished version for low-scratch material handling

^(*) Contours on customer request

STRIPPER

Spare parts

52

DIE

Slug-stop version (negative cutting part)

^(*) Brush version for low-scratch material handling

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 114U3M

DIE

RTC cartridge and die carrier

Slug-snap version (for slug problems)

41

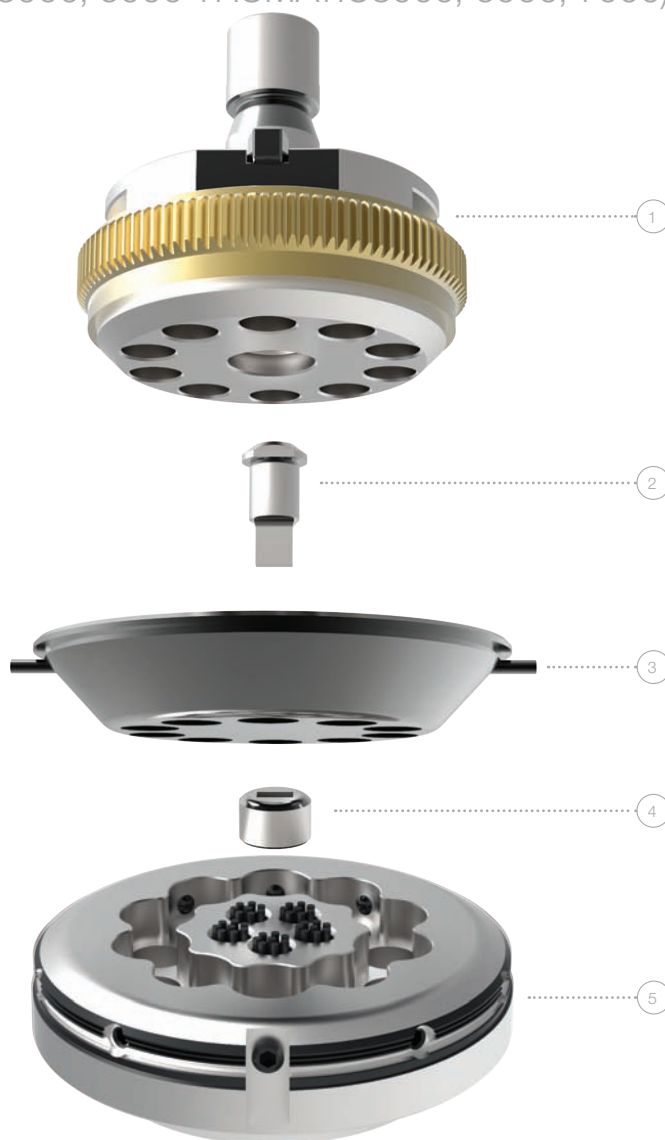
57

PASS MULTITOOL 10-STATION

FOR MACHINE GROUP I (DIMENSION 1,00 MM — 10,50 MM)
(TRUPUNCH1000, 2000, 2020, 3000, 5000 TRUMATIC3000, 6000, 7000)

DESCRIPTION	POSITION	PART.-NO.
UPPER PART		
Punch adapter	1	113S40
PUNCH INSERT (H-PM®)		
Round	2	113N41
Square	2	113N42
Rectangle	2	113N43
Oblong	2	113N44
Special shape	2	on request
STRIPPER		
Standard (round)	3	115A40
Close-fitting ^(*)	(3)*	115B40
DIE INSERT (H-PM®)		
Round	4	114041
Square	4	114042
Rectangle	4	114043
Oblong	4	114044
Special shape	4	on request
LOWER PART		
Die adapter ^(*)	5	114Z40

*no picture



Details / Additional costs:

PUNCH ADAPTER AND PUNCH INSERT

Max. sheet thickness - steel and alu up to 4,50 mm / stainless steel up to 3,00 mm
Cutting part under 1,00 mm

Cross references:

PUNCH

Types of special shapes	10 - 13
Additional costs for coating (Multitool)	54
Polished cutting part (Multitool)	55

see page

STRIPPER

Polished version for low-scratch material handling

^(*) Contours on customer request

STRIPPER

Spare parts

52

DIE

Slug-stop version (negative cutting part)

^(*) Brush version for low-scratch material handling

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 114U4M

DIE

^(*) Version as onepiece die insert

RTC cartridge and die carrier

Slug-snap version (for slug problems)

22

41

57

PASS MULTITOOL 4-STATION

FOR MACHINE GROUP H AND TC260 (DIMENSION 1,00 MM — 16,00 MM)
(TC600L, TC500R, TC200R, TC190R, TC260R, TC260L)



DESCRIPTION	POSITION	PART.-NO.
UPPER PART		
Punch adapter incl. stripper system	*	on request
PUNCH INSERT (H-PM®)		
Round	2	113N11
Square	2	113N12
Rectangle	2	113N13
Oblong	2	113N14
Special shape	2	on request
STRIPPER ADAPTER		
All contours	3	on request
STRIPPER PLATE		
Standard (round)	4	on request
Close-fitting ⁽¹⁾	4*	on request
DIE INSERT (H-PM®)		
Round	5	114011
Square	5	114012
Rectangle	5	114013
Oblong	5	114014
Special shape	5	on request
LOWER PART		
Die adapter ⁽²⁾	*	on request

*no picture

Details / Additional costs:

PUNCH ADAPTER AND PUNCH INSERT

Max. sheet thickness - steel and alu up to 3,00 mm / stainless steel up to 2,00 mm
Cutting part under 1,00 mm

Cross references:

PUNCH

Types of special shapes	10 - 13
Additional costs for coating (Multitool)	54
Polished cutting part (Multitool)	55

STRIPPER

Polished version for low-scratch material handling

⁽¹⁾ Contours on customer request

STRIPPER

Spare parts

52

DIE

Slug-stop version (negative cutting part)

⁽²⁾ Brush version for low-scratch material handling

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 114U1M

DIE

Slug-snap version (for slug problems)

57

PASS MULTITOOL 6-STATION

FOR MACHINE GROUP H AND TC260 (DIMENSION 1,00 MM — 10,50 MM)
(TC600L, TC500R, TC200R, TC190R, TC260R, TC260L)

DESCRIPTION	POSITION	PART.-NO.
UPPER PART		
Punch adapter incl. stripper system	*	on request
PUNCH INSERTS (H-PM®)		
Round	2	113N21
Square	2	113N22
Rectangle	2	113N23
Oblong	2	113N24
Special shape	2	on request
STRIPPER ADAPTER		
All contours	3	on request
STRIPPER PLATE		
Standard (round)	4	on request
Close-fitting ⁽¹⁾	4*	on request
DIE INSERT (H-PM®)		
Round	5	114021
Square	5	114022
Rectangle	5	114023
Oblong	5	114024
Special shape	5	on request
LOWER PART		
Die adapter ⁽²⁾	*	on request

*no picture



Details / Additional costs:

PUNCH ADAPTER AND PUNCH INSERT

Max. sheet thickness - steel and alu up to 3,00 mm / stainless steel up to 2,00 mm
Cutting part under 1,00 mm

Cross references:

PUNCH

Types of special shapes	10 - 13
Additional costs for coating (Multitool)	54
Polished cutting part (Multitool)	55

see page

STRIPPER

Polished version for low-scratch material handling

⁽¹⁾ Contours on customer request

STRIPPER

Spare parts

52

DIE

Slug-stop version (negative cutting part)

⁽²⁾ Brush version for low-scratch material handling

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 114U2M

DIE

Slug-snap version (for slug problems)

57

ALTERNATIVELY 10-STATION DIE

FOR MULTITOOL MACHINE GROUP I (DIMENSION 1,00 MM - 10,50 MM)
(TRUPUNCH1000, 2000, 2020, 3000, 5000 TRUMATIC3000, 6000, 7000)



DESCRIPTION	POSITION	PART.-NO.
DIE INSERT (H-PM®)		
Contours on customer request	1	114941
DIE ADAPTER ^(*)		
Without die insert	2	114640

Details / Additional costs:

DIE ADAPTER AND DIE INSERT

^(*) Incl. 1 set of shims

Slug-stop version (negative cutting part)

Slug-snap version (for slug problems)

Compensating rings for die insert:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 114U4MG



SLITTING TOOLS

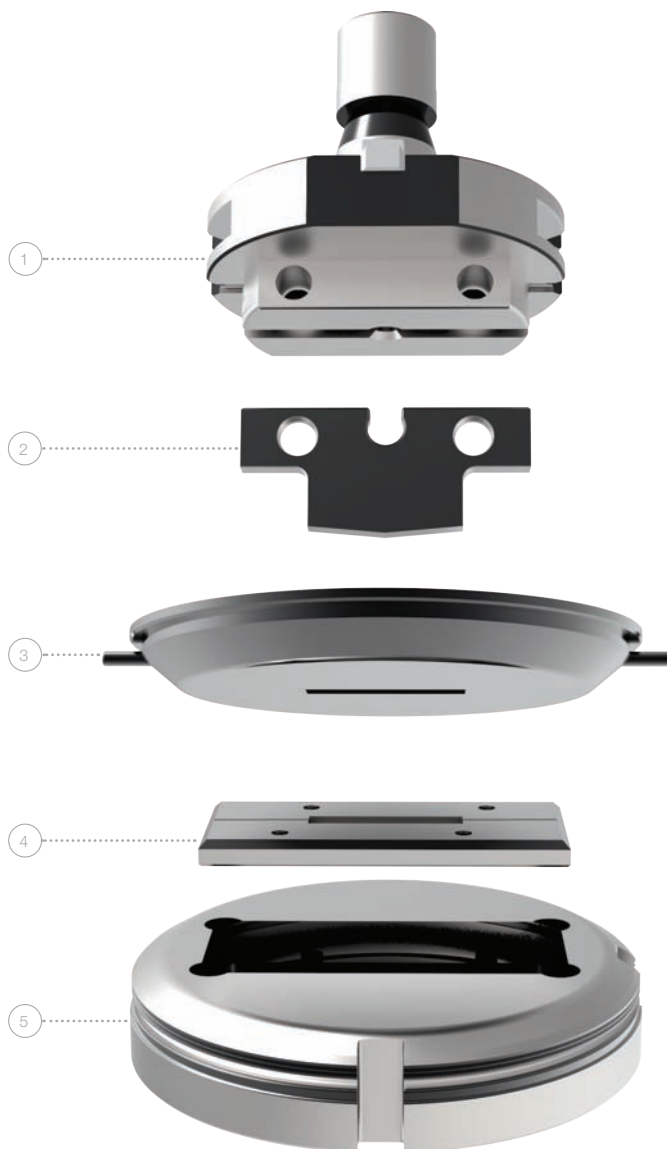
PASS TOOLS FOR YOUR
TRUMPF SYSTEM

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PASS Slitting Tool Size 2 / 5 x 76,2	Page 31

PASS SLITTING TOOL SIZE 2 / 5 X 30

INTEGRATED ADJUSTING RING, SLITTING PUNCH BLADE, DIE PLATE INSERT



DESCRIPTION	POSITION	PART.-NO.
COMPLETE TOOL ^(*)		
Oblong	1 - 5	1S0433110
Rectangle	1 - 5	1S0433120
Rectangle with 4 x R = 0,5	1 - 5	1S0433130
Trapezoid SF17	1 - 5	1S0433140
Double trapezoid SF16	1 - 5	1S0433150
SLITTING PUNCH BLADE ADAPTER (WITHOUT PUNCH BLADE INSERT)		
With integrated adjusting ring	1	1S0393
SLITTING PUNCH BLADE INSERT (H-PM[®]) ^(*)		
Oblong	2	1S04331
Rectangle	2	1S04332
Rectangle with 4 x R = 0,5	2	1S04333
Trapezoid SF17	2	1S04334
Double trapezoid SF16	2	1S04335
STRIPPER		
Oblong	3	119234
Rectangle	3	119233
Rectangle with 4 x R = 0,5	3	119233
Trapezoid SF17	3	119237
Double trapezoid SF16	3	119236
DIE PLATE INSERT (H-PM[®])		
Oblong	4	1S17251
Rectangle ^(*)	4	1S17252
Trapezoid SF17	4	1S17254
Double trapezoid SF16	4	1S17255
DIE PLATE ADAPTER (WITHOUT DIE PLATE INSERT) ^(*)		
Incl. screws	5	1S1730

Details / Additional costs:

UPPER PART

Max. sheet thickness up to 3,00 mm

^(*) Additional costs for reduced dimensional deviation

^(*) Standard version with rooftop

Set of spare screws M 8 x 16 (2 pc per set)

Part.-No. 1S0393Z

Cross references:

see page

UPPER PART

Additional cost for coating (slitting punch blade insert)

54

Polished cutting part (punch size 2)

55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts

52

Push-out stripper

53

LOWER PART

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 1S3794

^(*) Suitable for rectangle, as well as rectangle 4 x R = 0,5

^(*) Brush version for low-scratch material handling

LOWER PART

RTC cartridge and die carrier

41

Die clip

52

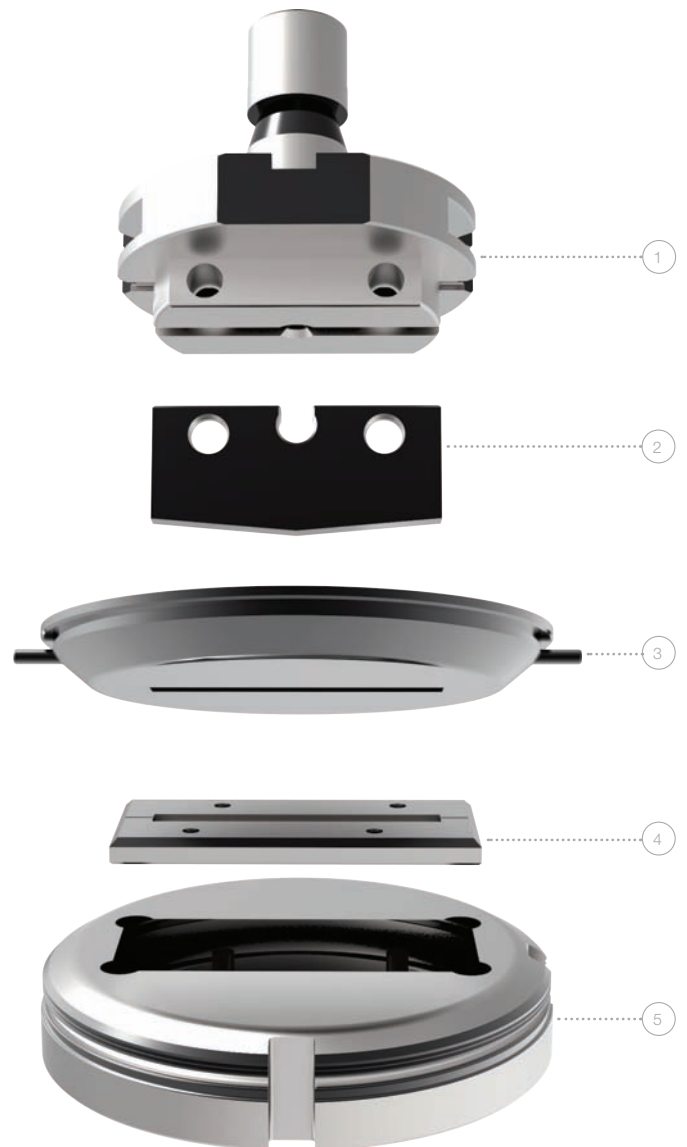
Slug-snap version for slug problems (die size 2)

57

PASS SLITTING TOOL SIZE 2 / 5 X 56

INTEGRATED ADJUSTING RING, SLITTING PUNCH BLADE, DIE PLATE INSERT

DESCRIPTION	POSITION	PART.-NO.
COMPLETE TOOL ^(*)		
Oblong	1 - 5	1S0431110
Rectangle	1 - 5	1S0431120
Rectangle with 4 x R = 0,5	1 - 5	1S0431130
Trapezoid SF17	1 - 5	1S0431140
Double trapezoid SF16	1 - 5	1S0431150
SLITTING PUNCH BLADE ADAPTER (WITHOUT PUNCH BLADE INSERT)		
With integrated adjusting ring	1	1S0393
SLITTING PUNCH BLADE INSERT (H-PM®) ^(*)		
Oblong	2	1S04311
Rectangle	2	1S04312
Rectangle with 4 x R = 0,5	2	1S04313
Trapezoid SF17	2	1S04314
Double trapezoid SF16	2	1S04315
STRIPPER		
Oblong	3	119254
Rectangle	3	119253
Rectangle with 4 x R = 0,5	3	119253
Trapezoid SF17	3	119257
Double trapezoid SF16	3	119256
DIE PLATE INSERT (H-PM®)		
Oblong	4	1S17261
Rectangle ^(*)	4	1S17262
Trapezoid SF17	4	1S17264
Double trapezoid SF16	4	1S17265
DIE PLATE ADAPTER (WITHOUT DIE PLATE INSERT) ^(*)		
Incl. screws	5	1S1756



Details / Additional costs:

UPPER PART

Max. sheet thickness up to 3,00 mm

^(*) Additional costs for reduced dimensional deviation

^(*) Standard version with rooftop

Set of spare screws M 8 x 16 (2 pc. per set)

Part.-No. 1S0393Z

Cross references:

see page

UPPER PART

Slittings close to embossing

29 - 30

Additional costs for coating (slitting punch blade insert)

54

Polished cutting part (punch size 2)

55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts

52

Push-out stripper

53

LOWER PART

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 1S3794

^(*) Suitable for rectangle, as well as rectangle 4 x R = 0,5

^(*) Brush version for low-scratch material handling

LOWER PART

RTC cartridge and die carrier

41

Die clip

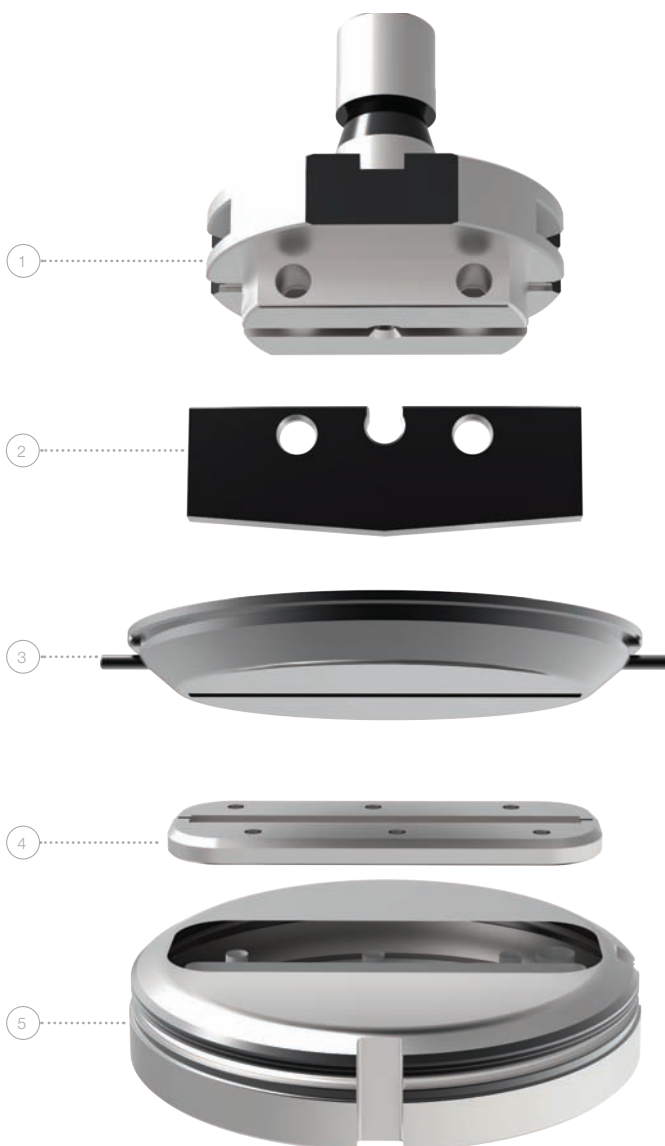
52

Slug-snap version for slug problems (die size 2)

57

PASS SLITTING TOOL SIZE 2 / 5 X 76,2

INTEGRATED ADJUSTING RING, SLITTING PUNCH BLADE, DIE PLATE INSERT



DESCRIPTION	POSITION	PART.-NO.
COMPLETE TOOL ^(*)		
Oblong	1 - 5	1S0432110
Rectangle	1 - 5	1S0432120
Rectangle with 4 x R = 0,5	1 - 5	1S0432130
Trapezoid SF17	1 - 5	1S0432140
Double trapezoid SF16	1 - 5	1S0432150
SLITTING PUNCH BLADE ADAPTER (WITHOUT PUNCH BLADE INSERT)		
With integrated adjusting ring	1	1S0393
SLITTING PUNCH BLADE INSERT (H-PM®) ^(*)		
Oblong	2	1S04321
Rectangle	2	1S04322
Rectangle with 4 x R = 0,5	2	1S04323
Trapezoid SF17	2	1S04324
Double trapezoid SF16	2	1S04325
STRIPPER		
Oblong	3	119274
Rectangle	3	119273
Rectangle with 4 x R = 0,5	3	119273
Trapezoid SF17	3	119277
Double trapezoid SF16	3	119276
DIE PLATE INSERT (H-PM®)		
Oblong	4	1S17411
Rectangle ^(*)	4	1S17412
Trapezoid SF17	4	1S17414
Double trapezoid SF16	4	1S17415
DIE PLATE ADAPTER (WITHOUT DIE PLATE INSERT) ^(*)		
Incl. screws	5	1S1776

Details / Additional costs:

UPPER PART

Max. sheet thickness up to 2,50 mm

^(*) Additional costs for reduced dimensional deviation

^(*) Standard version with rooftop

Set of spare screws M 8 x 16 (2 pc. per set)

Part.-No. 1S0393Z

Cross references:

see page

UPPER PART

Slittings close to embossing

31

Additional costs for coating (slitting punch blade insert)

54

Polished cutting part (punch size 2)

55

STRIPPER

PU coating for low-scratch material handling

STRIPPER

Spare parts

52

Push-out stripper

53

LOWER PART

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 1S3797

^(*) Suitable for rectangle, as well as rectangle 4 x R = 0,5

^(*) Brush version for low-scratch material handling

LOWER PART

RTC cartridge and die carrier

41

Die clip

52

Slug-snap version for slug problems (die size 2)

57

PASS SLITTING TOOL SIZE 2 / 5 X 56

INTEGRATED ADJUSTING RING, SLITTING PUNCH BLADE, DIE PLATE INSERT
FOR SLITTING CLOSE TO EMBOSSING UP TO H=4,50 MM, WITH SPRING-
LOADED METAL STRIPPER

DESCRIPTION	POSITION	PART.-NO.
COMPLETE TOOL ^(*)		
Oblong	1 - 7	1S037110
Rectangle	1 - 7	1S037120
Rectangle with 4 x R = 0,5	1 - 7	1S037130
Trapezoid SF17	1 - 7	1S037140
Double trapezoid SF16	1 - 7	1S037150
COMPLETE UPPER PART ^(*)		
Oblong	1 - 5	1S03711
Rectangle	1 - 5	1S03712
Rectangle with 4 x R = 0,5	1 - 5	1S03713
Trapezoid SF17	1 - 5	1S03714
Double trapezoid SF16	1 - 5	1S03715
SPARE PARTS FOR UPPER PART		
Slitting punch blade adapter	1	1S0371
Set of spare springs and screws	3 + 4	1S0379
Active stripper	5	1S03752C
PUNCH PLATE INSERT (H-PM®) ^(*)		
Oblong	2	1S04311
Rectangle	2	1S04312
Rectangle with 4 x R = 0,5	2	1S04313
Trapezoid SF17	2	1S04314
Double trapezoid SF16	2	1S04315
DIE PLATE INSERT (H-PM®)		
Oblong	6	1S17261
Rectangle ^(*)	6	1S17262
Trapezoid SF17	6	1S17264
Double trapezoid SF16	6	1S17265
DIE PLATE ADAPTER (WITHOUT DIE PLATE INSERT) ^(*)		
Incl. screws	7	1S1756



Details / Additional costs:

UPPER PART

Max. sheet thickness up to 1,50 mm

^(*) Additional costs for reduced dimensional deviation

^(*) Standard version with rooftop

Set of spare screws M 8 x 16 (2 pc per set)

Part.-No. 1S0393Z

Cross references:

see page

UPPER PART

Additional costs for coating (slitting punch blade insert)

54

Polished cutting part (punch size 2)

55

STRIPPER

Polished version for low-scratch material handling

STRIPPER

LOWER PART

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 1S3794

^(*) Suitable for rectangle, as well as rectangle 4 x R = 0,5

^(*) Brush version for low-scratch material handling

LOWER PART

RTC cartridge and die carrier

41

Die clip

52

Slug-snap version for slug problems (die size 2)

57

PASS SLITTING TOOL SIZE 2 / 5 X 56

FOR SLITTINGS CLOSE TO EMBOSSING, WITH PU STRIPPER



DESCRIPTION	POSITION	PART.-NO.
COMPLETE TOOL ⁽¹⁾		
Oblong	1 - 6	1S295010
Rectangle	1 - 6	1S295020
Rectangle with 4 x R = 0,5	1 - 6	1S295030
Trapezoid SF17	1 - 6	1S295040
Double trapezoid SF16	1 - 6	1S295050
COMPLETE UPPER PART (INCL. SPRINGS, SCREWS, SCREW-ADAPTER) ⁽¹⁾		
Oblong	1 - 4	1S29501
Rectangle	1 - 4	1S29502
Rectangle with 4 x R = 0,5	1 - 4	1S29503
Trapezoid SF17	1 - 4	1S29504
Double trapezoid SF16	1 - 4	1S29505
PUNCH (WITHOUT SPRINGS, SCREWS, SCREW-ADAPTER) (H-PM®) ⁽¹⁾		
Oblong	1	1S29511
Rectangle	1	1S29512
Rectangle with 4 x R = 0,5	1	1S29513
Trapezoid SF17	1	1S29514
Double trapezoid SF16	1	1S29515
DIE PLATE INSERT (H-PM®)		
Oblong	5	1S17261
Rectangle ⁽²⁾	5	1S17262
Trapezoid SF17	5	1S17264
Double trapezoid SF16	5	1S17265
DIE PLATE ADAPTER (WITHOUT DIE PLATE INSERT) ⁽³⁾		
Incl. screws	6	1S1756

Details / Additional costs:

UPPER PART

Max. sheet thickness up 3,00 mm

⁽¹⁾ Additional costs for reduced dimensional deviation

⁽¹⁾ Standard version with rooftop

X3-PM quality -> see page 68

Cross references:

see page

UPPER PART

Adjusting rings	34
ps:®passfit - explanation and additional costs	40
Additional costs for coating (punch size 2)	54
Polished cutting part (punch size 2)	55

STRIPPER

Set of spare PU springs - part.-no. 1S2956 - pos. 4

Set of spare screw-adapter - part.-no. 1S2954 - pos. 3

Set of spare screws - part.-no. 1S2950 - pos. 2

LOWER PART

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 1S3794

⁽²⁾ Suitable for rectangle, as well as rectangle 4 x R = 0,5

⁽³⁾ Brush version for low-scratch material handling

STRIPPER

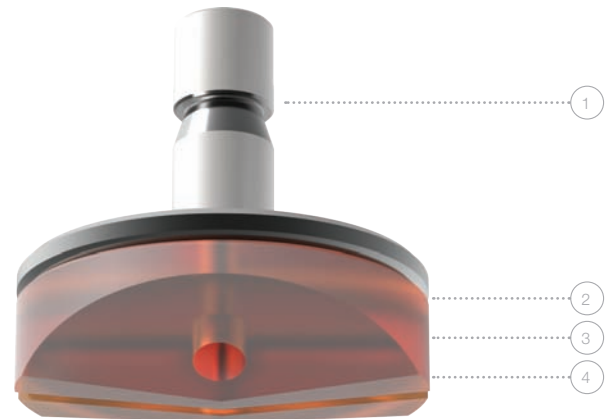
LOWER PART

RTC cartridge and die carrier	41
Die clip	52
slug-snap version for slug problems (die size 2)	57

PASS SLITTING TOOL SIZE 2 / 5 X 76,2

FOR SLITTING CLOSE TO EMBOSSING, WITH PU STRIPPER

DESCRIPTION	POSITION	PART.-NO.
COMPLETE TOOL ^(*)		
Oblong	1 - 6	1S297010
Rectangle	1 - 6	1S297020
Rectangle with 4 x R = 0,5	1 - 6	1S297030
Trapezoid SF17	1 - 6	1S297040
Double trapezoid SF16	1 - 6	1S297050
COMPLETE UPPER PART (INCL. SPRINGS, SCREWS, SCREW-ADAPTER) ^(*)		
Oblong	1 - 4	1S29701
Rectangle	1 - 4	1S29702
Rectangle with 4 x R = 0,5	1 - 4	1S29703
Trapezoid SF17	1 - 4	1S29704
Double trapezoid SF16	1 - 4	1S29705
PUNCH (WITHOUT SPRINGS, SCREWS, SCREW-ADAPTER) (H-PM®) ^(*)		
Oblong	1	1S29711
Rectangle	1	1S29712
Rectangle with 4 x R = 0,5	1	1S29713
Trapezoid SF17	1	1S29714
Double trapezoid SF16	1	1S29715
DIE PLATE INSERT (H-PM®)		
Oblong	5	1S17411
Rectangle ^(*)	5	1S17412
Trapezoid SF17	5	1S17414
Double trapezoid SF16	5	1S17415
DIE PLATE ADAPTER (WITHOUT DIE PLATE INSERT) ^(*)		
Incl. screws	6	1S1776



Details / Additional costs:

UPPER PART

Max. sheet thickness up to 2,50 mm

^(*) Additional costs for reduced dimensional deviation

^(*) Standard version with rooftop

X3-PM quality -> see page 68

Cross references:

see page

UPPER PART

Adjusting ring

34

ps:®passfit - explanation and additional costs

40

Additional costs for coating (punch size 2)

54

Polished cutting part (punch size 2)

55

STRIPPER

Set of spare PU springs - part.-no. 1S2955 - pos. 4

Set of spare screw-adapter - part.-no. 1S2954 - pos. 3

Set of spare screws - part.-no. 1S2950 - pos. 2

LOWER PART

Compensating rings:

1 Set (2xt = 0,1 mm / 2xt = 0,3 mm / 2xt = 0,5 mm) - part.-no. 1S3797

^(*) Suitable for rectangle, as well as rectangle 4 x R = 0,5

^(*) Brush version for low-scratch material handling

STRIPPER

LOWER PART

RTC cartridge and die carrier

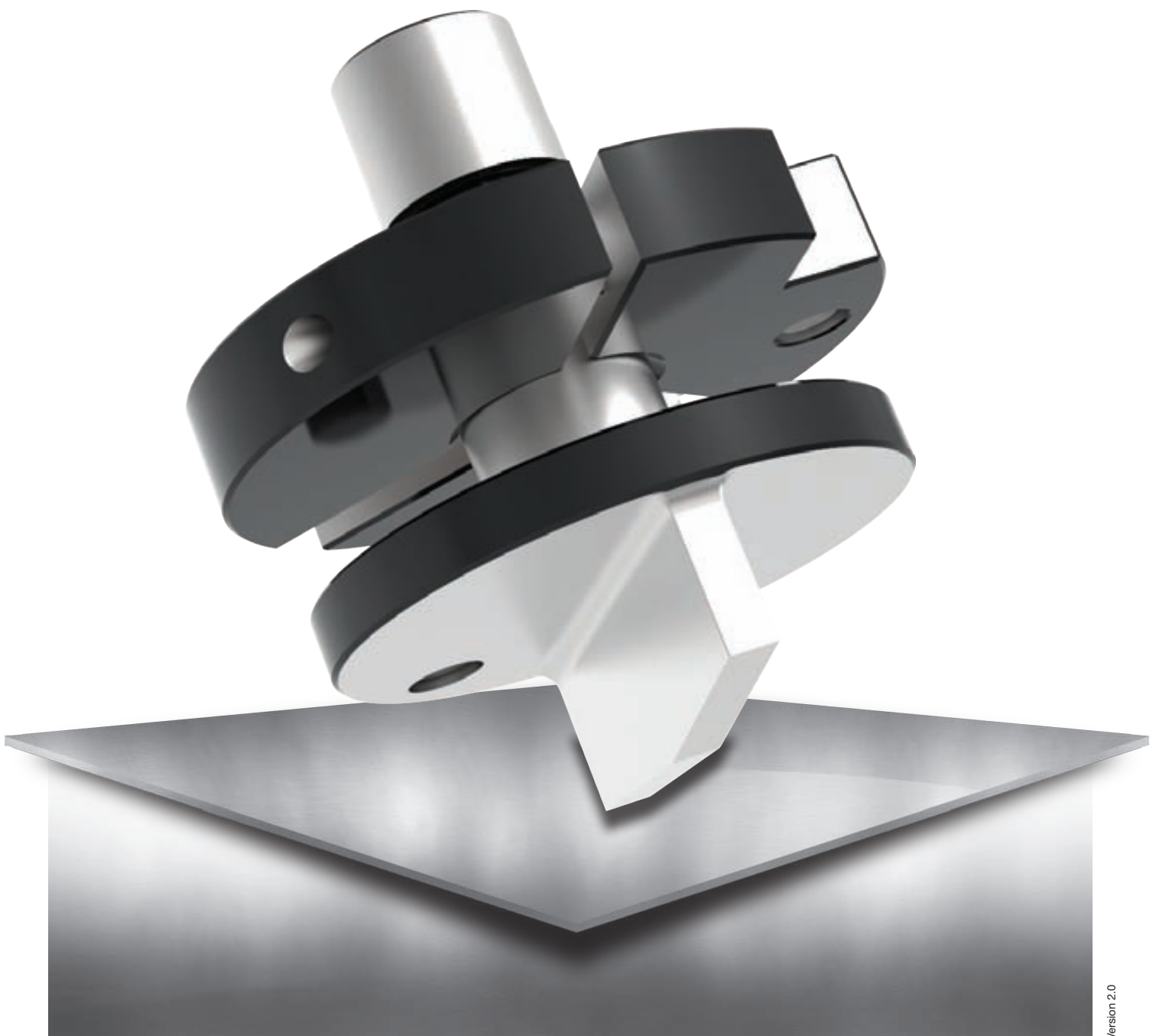
41

Die clip

52

Slug-snap version for slug problems (die size 2)

57



IT DEPENDS ON: ACCESSORIES

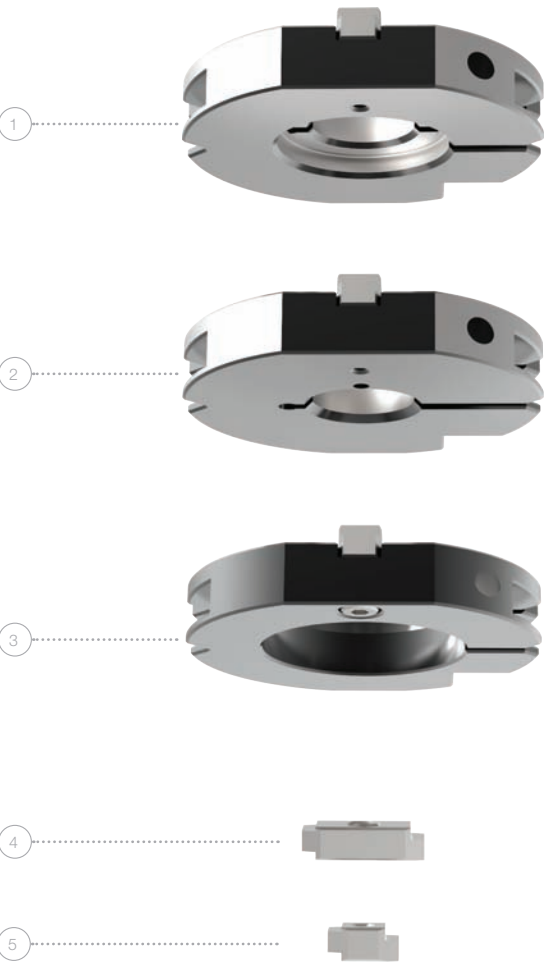
PASS ACCESSORIES FOR YOUR TRUMPF SYSTEM

INDEX

PASS Adjusting Rings	Page 34
PASS Punch Chucks, Adapter Rings	Page 35
PASS Tapping Tools	Page 36
PASS Adjustment Unit for Punch	Page 37
PASS Compensating Rings for Dies	Page 38
PASS Soft Pads	Page 39
ps.®passfit	Page 40
RTC Cartridge	Page 41

PASS ADJUSTING RINGS

(FOR MACHINE GROUPS E / F / H / I)



SIZE	POSITION	PART.-NO.
AUTOMATIC ADJUSTING RINGS INCL. KEY		
Size 1 with cut-out	1	118101
Size II without cut-out	2	118201
ADJUSTING RING INCL. KEY FOR REINFORCED VERSION PUNCHES		
Reinforced	3	118V01

Spare parts:

SPARE PARTS FOR ADJUSTING RINGS

- Key for automatic adjusting rings - part.-no. 118902 - pos. 4
- Key for reinforced adjusting rings - part.-no. 118903 - pos. 5

Cross references:

ACCESSORIES

- Punch size 1 and 2 6 - 13
- ps:®passfit - explanation and additional costs 40
- Spare parts 52

see page

PASS PUNCH CHUCKS, ADAPTER RINGS

(FOR MACHINE GROUPS E / F / H / I)

SIZE	POSITION	PART.-NO.
PUNCH CHUCK		
0 (up to 6,00 mm)	1	119A01
0 (up to 10,50 mm)	1	119B01
ADAPTER RING FOR DIE		
2 / 1	2	120210
ADAPTER RING WITH BRUSHES		
2 / 1	3	1S1820



Spare parts:

SPARE PARTS FOR ADAPTER RING WITH BRUSHES

Spare brush for adapter ring - part.-no. 1S1822 - pos. 4
 Set of compensating rings / shims (6xt = 0,5 mm) - part.-no.
 1S1823 - Pos. 5

Cross references:

ACCESSORIES

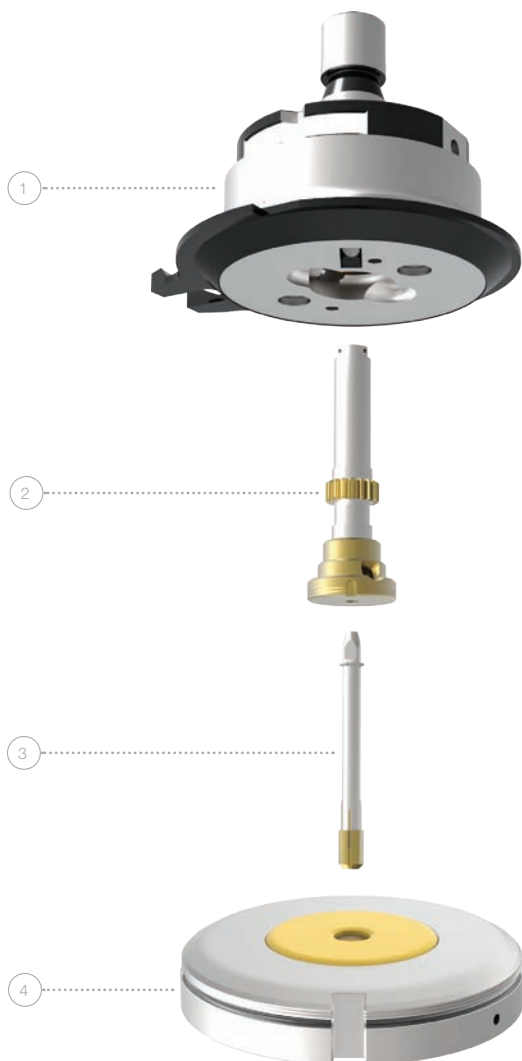
Punch size 0 6 - 13
 Die size 1 6 - 15
 Spare parts 52

see page

PASS TAPPING TOOLS

FOR MACHINE GROUP I

(TRUPUNCH1000, 2000, 2020, 3000, 5000 TRUMATIC3000, 6000, 7000)



DESCRIPTION	SIZE	POSITION	PART.-NO.
TOOL TYPE 1 ^(*)			
Upper part ^(*)	M2,5 - M5	1	924GF1101
Spare tapping module ^(*)	M2,5	2	924GF1301
Spare tapping module ^(*)	M3	2	924GF1302
Spare tapping module ^(*)	M3,5	2	924GF1303
Spare tapping module ^(*)	M4	2	924GF1304
Spare tapping module ^(*)	M5	2	924GF1305
Spare tap 6HX - TIN	M2,5	3	924GF1401
Spare tap 6HX - TIN	M3	3	924GF1402
Spare tap 6HX - TIN	M3,5	3	924GF1403
Spare tap 6HX - TIN	M4	3	924GF1404
Spare tap 6HX - TIN	M5	3	924GF1405
Die type A ^(*)	M2,5 - M8	4	924GF2201
Die type A ^(*)	M10	4	924GF2206
Die type B ^(*)	M2,5 - M8	4	924GF2211

TOOL TYPE 2 ^(*)			
Upper part ^(*)	M6 - M10	1	924GF2101
Spare tapping module ^(*)	M6	2	924GF2301
Spare tapping module ^(*)	M8	2	924GF2302
Spare tapping module ^(*)	M10	2	924GF2303
Spare tap 6HX - TIN	M6	3	924GF2401
Spare tap 6HX - TIN	M8	3	924GF2402
Spare tap 6HX - TIN	M10	3	924GF2403
Die type A ^(*)	M2,5 - M8	4	924GF2201
Die type A ^(*)	M10	4	924GF2206
Die type B ^(*)	M2,5 - M8	4	924GF2211

Details:

INFORMATION

One complete tool always includes:
„upper part; tapping module; tap and die“

^(*) Without spare tapping module and spare tap

^(*) Without spare tap

^(*) Suitable for flat sheets and extrusions (form-up)

^(*) Suitable for flat sheets and extrusions (form-up and down)

^(*) Suitable for max. sheet thickness s = 1,50 mm to 5,00 mm

^(*) Suitable for max. sheet thickness s = 1,50 mm to 8,00 mm
(for M10 s = 3,00 mm to 8,00 mm)

Other thread sizes and versions (e. g. thread measured in inches) on request

Cross references:

ACCESSORIES

RTC cartridge and die carrier

see page

41

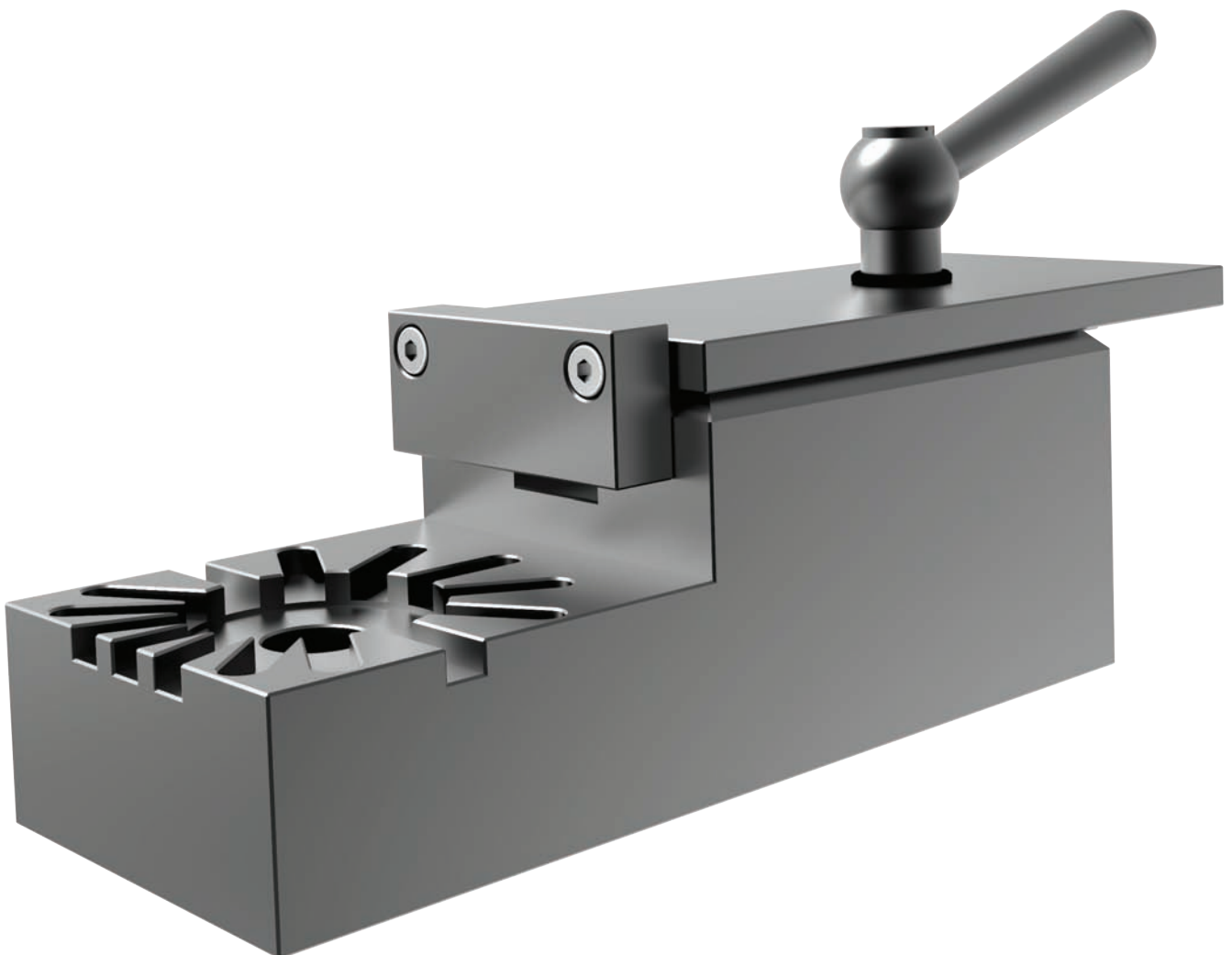
Please note that tapping tools are exclusively used in machines with programming option „Thread Forming“

PASS ADJUSTMENT UNIT FOR PUNCH

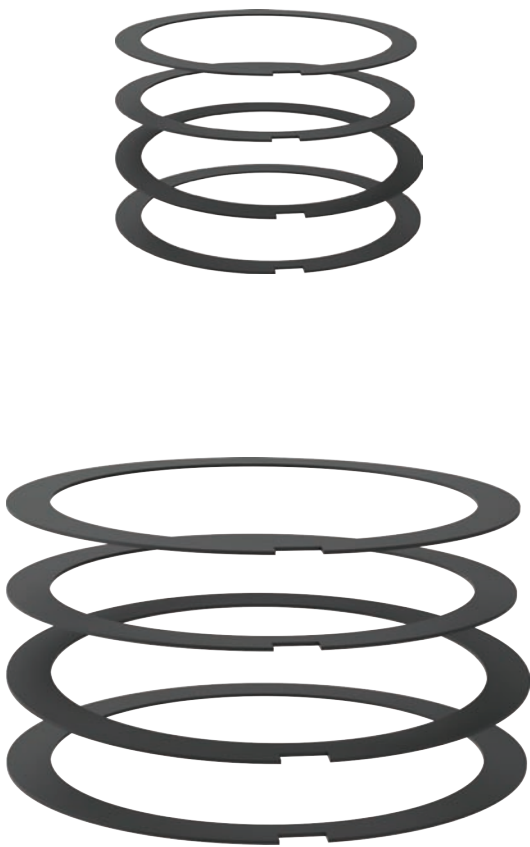
PART.-NO.

POSSIBLE ANGLES: 0° - 22,5° - 30° - 45° - 60° - 67,5° - 90°

Z497673



PASS COMPENSATING RINGS FOR DIES

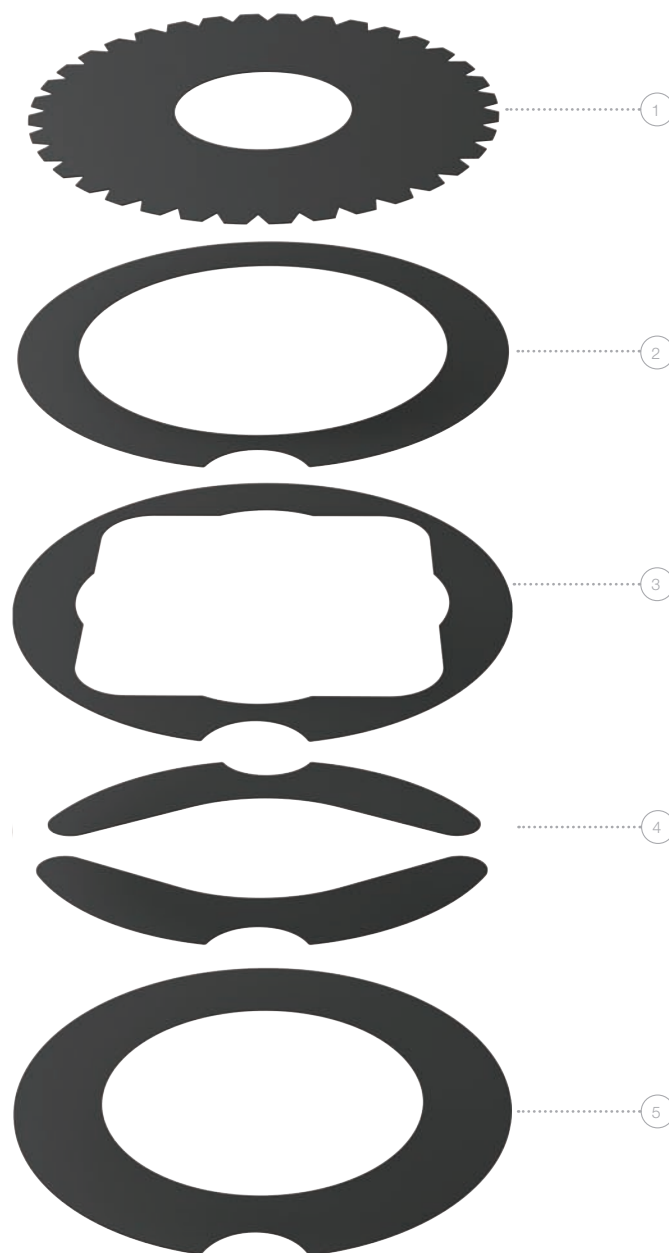


SIZE	DIM.	PART.-NO
SET OF COMPENSATING RINGS FOR DIE SIZE 1		
1	4 x t = 0,1 mm	11AS01
1	4 x t = 0,3 mm	11AS03
1	4 x t = 0,5 mm	11AS05
1	2x t = 0,1/1x t = 0,3/1x t = 0,5 mm	11AS0_
SET COMPENSATING RINGS FOR DIE SIZE 2		
2	4 x t = 0,1 mm	12AS01
2	4 x t = 0,3 mm	12AS03
2	4 x t = 0,5 mm	12AS05
2	2x t = 0,1/1x t = 0,3/1x t = 0,5 mm	12AS0_

Details:	see page
ACCESSORIES	
Adapter rings for die	35
RTC cartridge and die carrier	41

PASS SOFT PADS

SIZE	DIM.	POSITION	PART.-NO.
SOFT PADS FOR STRIPPER			
2	Inside-Ø 16	1	PAD2A16
2	Inside-Ø 25	1	PAD2A25
2	Inside-Ø 50	1	PAD2A50
2	Inside-Ø 76	1	PAD2A76
SOFT PADS FOR DIE			
2	General	2	PAD2MAN
2	Square	3	PAD2MQN
2	Rectangle / oblong	4	PAD2MFN
SOFT PADS FOR ADAPTER RING			
2 to 1		5	PAD2ZAN



ps:®passfit

FOR FAST AND EASY ADJUSTMENT WITHOUT THE NEED FOR A FIXTURE



DESCRIPTION	MACHINE GROUP	PART.-NO.
ps:®passfit ADJUSTING RING INCL. KEY FOR PUNCH SIZE 1		
Size 1	E-I	1181P1
ps:®passfit ADJUSTING RING INCL. KEY FOR PUNCH SIZE 2		
Size 2	E-I	1182P1
ps:®passfit ADJUSTING RING INCL. KEY FOR PUNCH REINFORCED VERSION		
Reinforced	E-I	118VP1

DESCRIPTION	LOCATION	PART.-NO.
ps:®passfit FOR PUNCH SIZE 1		
First keyway	0°	__P1
Each additional keyway		
ps:®passfit FOR PUNCH SIZE 2 AND SIZE 3		
First alignment hole & pin	0 - 90°	__P2
Each additional alignment hole		
ps:®passfit PUNCH REINFORCED VERSION		
First keyway	0°	__P1
Each additional keyway		

Details:

INFORMATION ABOUT ps:®passfit

- Form-fitting anti-rotation-lock
- High operational security of the machine
- Solid tool, as the approved standard punches serve as basic tool
- Can be used also with tougher materials like thick stainless steel, as no profile debilitation develops at the tension shaft
- High precision mating with punch; does not add to tool length
- Keyways on customer request
- Also reasonable for special tools
- All PASS cluster tools are generally equipped with ps:®passfit

Additional costs:

SPARE PARTS

- Adjusting key for ps:®passfit - adjusting ring size 1 and size 2 - part.-no. 118902
- Adjusting key for ps:®passfit - adjusting ring reinforced version - part.-no. 118903

RTC CARTRIDGE

FOR MACHINE GROUP H & I (TC 200, TC500, TC600, TRUPUNCH1000, 2000, 2020, 3000, 5000 TRUMATIC3000, 6000, 7000)

DESCRIPTION	POSITION	PART.-NO.
RTC CARTRIDGE INCL. DIE CARRIER	1 - 2	
RTC CARTRIDGE	1	960100010
DIE CARRIER	2	960100020





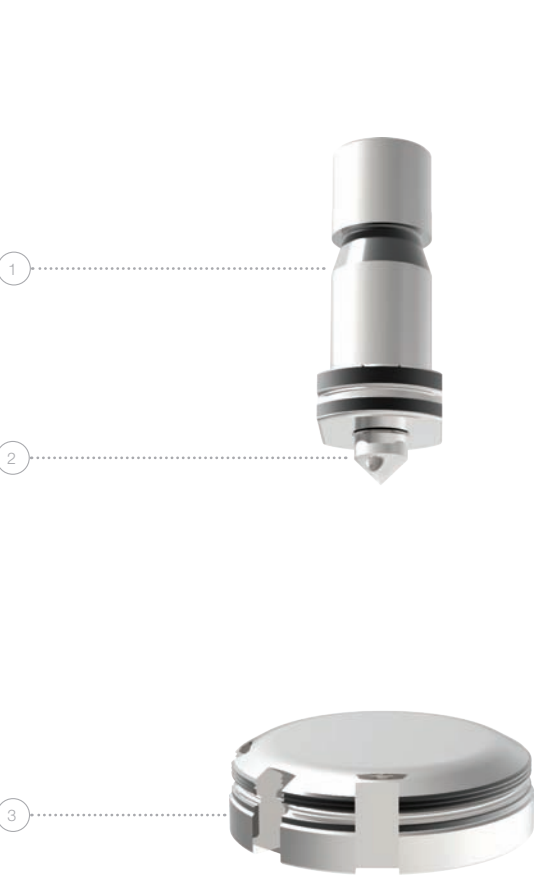
WITH PRECISION AND SWING: MARKING AND SIGNING

PASS CENTRE PUNCH AND SIGNING TOOLS FOR YOUR
TRUMPF SYSTEM

INDEX

PASS Centre Punch Tool from Above	Page 44
PASS Centre Punch Tool from Below	Page 45
PASS Signing Tool	Page 46
PASS Engraving Tool	Page 47
PASS Letter Marking Tool 10-Station	Page 48

PASS CENTRE PUNCH TOOL FROM ABOVE



DESCRIPTION	SHEET THICKNESS	POSITION	PART.-NO.
CENTRE PUNCH TOOL „SOLID“ - PUNCH CHUCK, CENTRE PUNCH, DIE ^(*)			
Complete tool	1,00 - 4,50	1 - 3	1S092A
Complete tool	4,51 - 8,00	1 - 3	1S092B
Complete tool	8,01 - 11,50	1 - 3	1S092C
Complete tool	9,01 - 12,50	1 - 3	1S092D
SPARE CENTRE PUNCH			
Length 55,3 mm	1,00 - 4,50	2	1S0921
Length 51,3 mm	4,51 - 8,00	2	1S0922
Length 47,3 mm	8,01 - 11,50	2	1S0923
Length 46,3 mm	9,01 - 12,50	2	1S0924
SPARE DIE			
Flat	1,00 - 12,50	3	1S3940

Details / Additional costs:

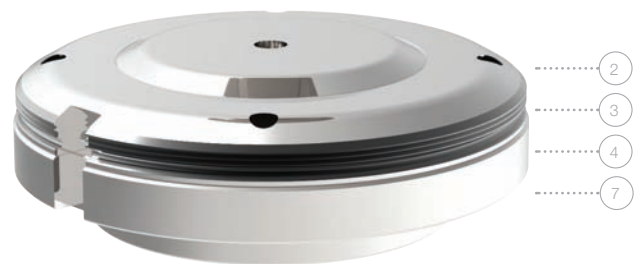
ACCESSORIES

^(*) Suitable adjusting ring - part.-no. 118101 -> see page 34

^(*) Thread screw with shoulder M14 x 1,5 x 12 - part.-no. 1S0925

PASS CENTRE PUNCH TOOL FROM BELOW

DESCRIPTION	SHEET THICKNESS	POSITION	PART.-NO.
CENTRE PUNCH TOOL WITH STEPLESS ADJUSTABLE CENTRE MARK TEMPLATE DEPTH ^(*)			
Complete tool	1,00 - 4,00	1 - 7	1S2800
SPARE PARTS FOR CENTRE PUNCH TOOL WITH STEPLESS ADJUSTABLE DEPTH			
Upper part	1,00 - 4,00	1	1S2801
Stripper	1,00 - 4,00	2	1S2804
Centre punch	1,00 - 4,00	3	1S2805
Cushioning element	1,00 - 4,00	4	1S2806
Adjusting screw	1,00 - 4,00	7	1S2809



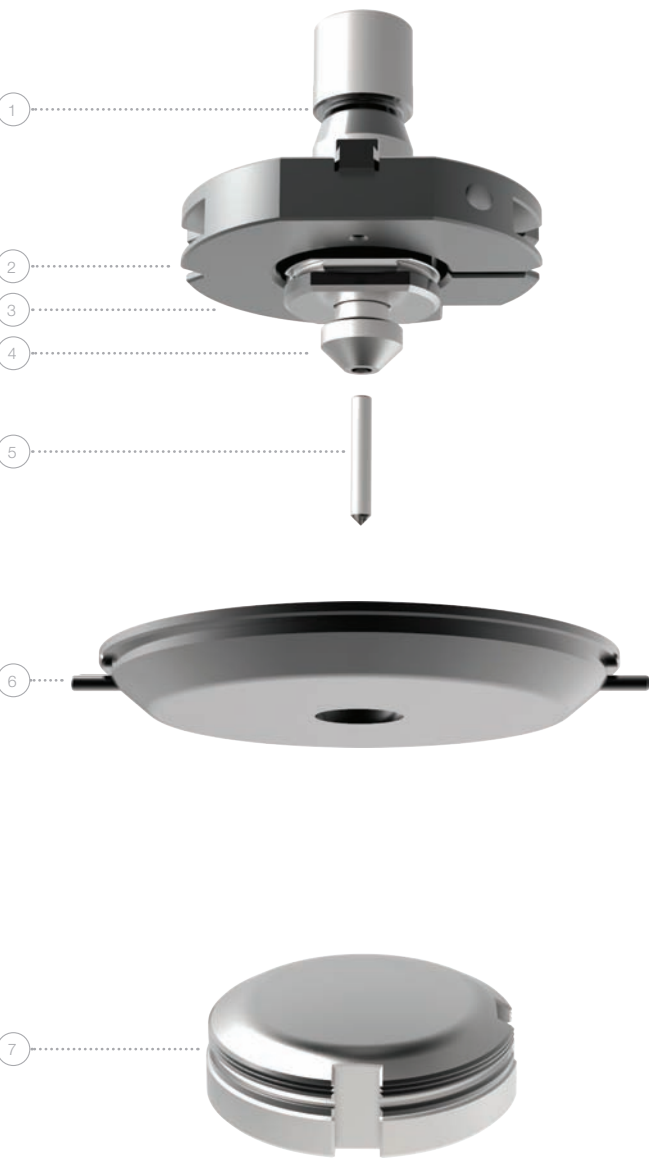
Details

ACCESSORIES

^(*) Suitable adjusting ring - part.-no. 118201 -> see page 34

PASS SIGNING TOOL

FOR SHEET THICKNESSES FROM 0,80 MM TO 8,00 MM



DESCRIPTION	POSITION	PART.-NO.
COMPLETE SIGNING TOOL		
Consisting of:	1 - 7	1S390W
complete upper part, incl. adjusting ring, stripper Ø 20 and flat die		
COMPLETE SIGNING UPPER PART		
Consisting of:	1 - 5	1S3900
adapter, adjusting ring, signing pin and spring		
SPARE SIGNING PIN		
Made of H-PM® steel	5	1S3930
SPARE STRIPPER		
Ø 20	6	112211-20
SPARE DIE		
Flat	7	1S3940

Details: see page

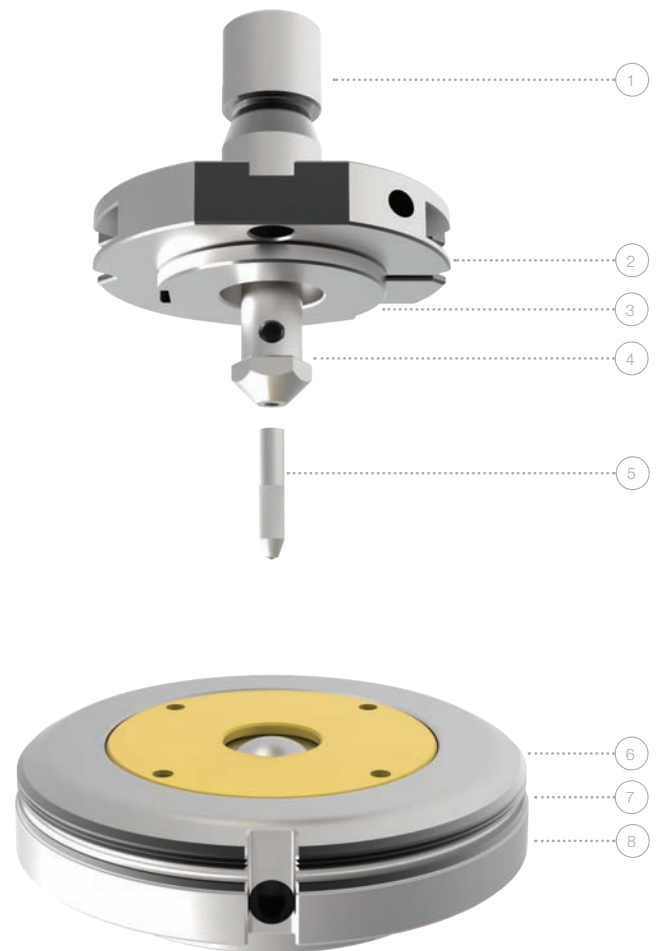
ACCESSORIES	
Spare adjusting ring - part.-no. 118101	34

Option „signing“ must be unlocked in the machine controlling

PASS ENGRAVING TOOL

FOR SHEET THICKNESSES FROM 1,00 MM TO 8,00 MM

DESCRIPTION	POSITION	PART.-NO.
ENGRAVING TOOL INCL. DIE AND BALL CASTER		
Consisting of:	1 - 8	199103950
complete upper part, incl. 3 types of springs,		
adjusting ring , die and ball caster		
ENGRAVING TOOL UPPER PART		
Incl. 3 types of springs	1 - 5	199103950-1
SPARE ENGRAVING PIN		
Diamond	5	199103962
SPARE DIE		
Incl. Ampco plate and ball caster	6 - 8	199103950-2
SPARE SPRINGS		
„green“ for aluminium		91701025A
„blue“ for steel		91701025B
„red“ for stainless steel		91701025C



Details: see page

ACCESSORIES

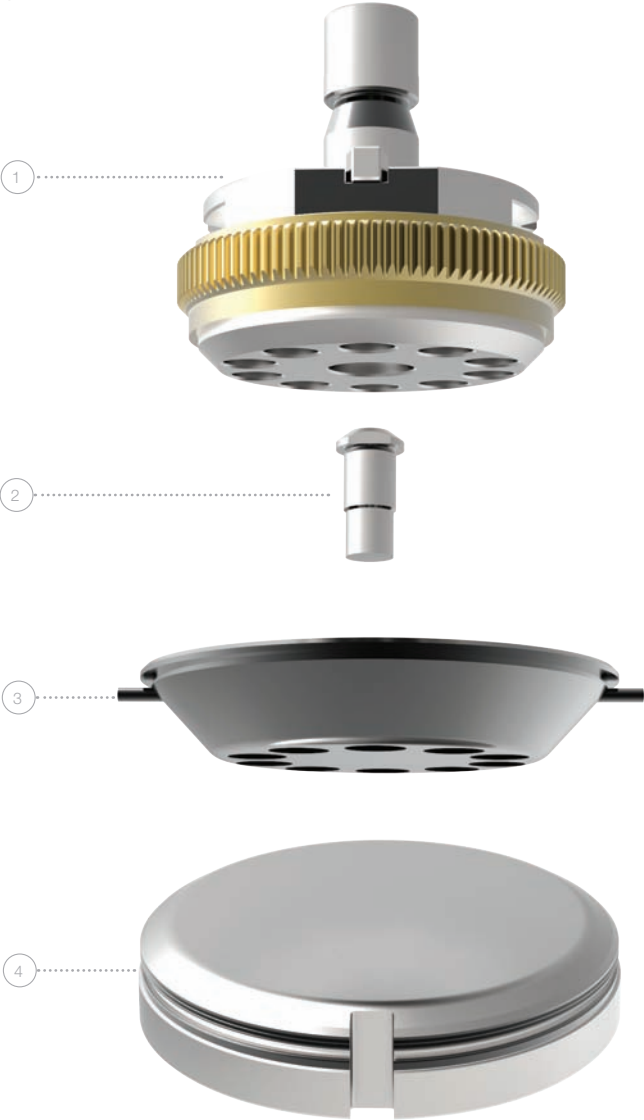
Spare adjusting ring - part.-no. 118101 34

Option „engraving“ must be unlocked in the machine controlling

PASS LETTER MARKING TOOL 10-STATION

FOR MACHINE GROUP I

(TRUPUNCH1000, 2000, 2020, 3000, 5000 TRUMATIC3000, 6000, 7000)



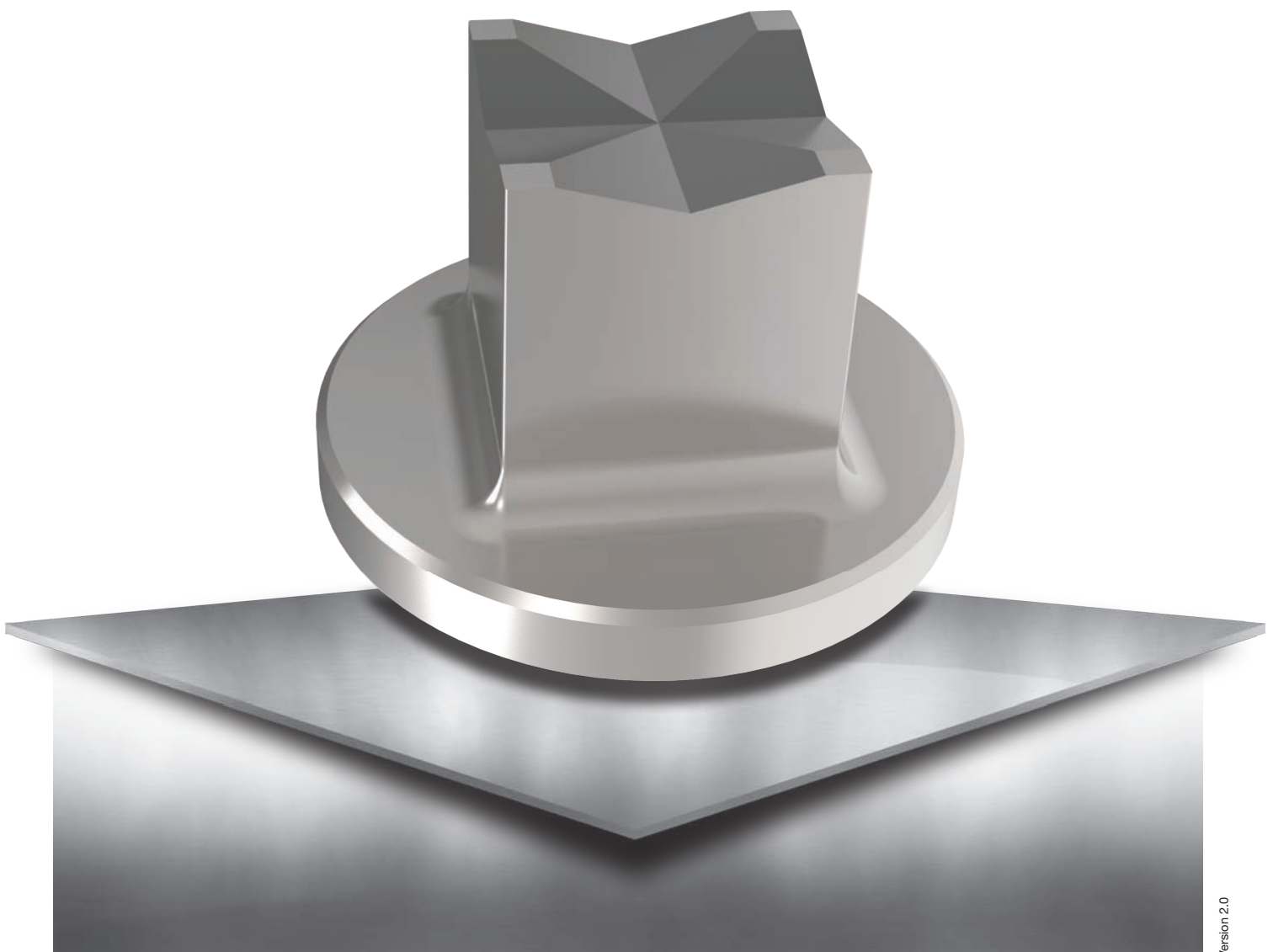
DESCRIPTION	POSITION	PART.-NO.
UPPER PART		
Punch adapter	1	113S40
LETTER MARKING PUNCH INSERT		
Letter, digit or special sign on customer request	2	113P10_?
STRIPPER		
Standard round	3	113PA10
DIE FOR 10-STATION MULTITOOL		
Flat	4	113PM10

Cross references / Additional costs:

ACCESSORIES

RTC cartridge and die carrier -> see page 41

Stripper in polished version for low-scratch material handling



WORKING EFFECTIVELY: EXTRA EQUIPMENT

PASS EXTRA EQUIPMENT FOR YOUR
TRUMPF SYSTEM

INDEX

Spare Parts	Page 52
PASS Push-out Stripper	Page 53
Punch Coatings	Page 54
Draw-Polished	Page 55
Punches with Different Shear Types	Page 56
PASS slug-snap for Dies	Page 57

SPARE PARTS

DESCRIPTION	PART.-NO.
SCREWS	
M5 x 10 for punch chuck Ø 6,00 mm	905006
M6 x 6 for punch chuck Ø 10,50 mm	905019
M8 x 16 for adapter rings size 2/1	905009
M8 x 12 with pins for adapter rings 3/1 - 3/2	905008
M14 x 1,5 x 12 for punch chuck	119991
CYLINDER PIN	
Ø 8 x 16 for adapter ring size 2/1	1-901013
Ø 8 x 16 for adapter ring size 3/1 - 3/2	2-901013
ps:®passfit	
Cylinder pin Ø 3 x 10 for adjusting ring size 1	901003
Adjusting key for punch size 2 + 3	118900006
SLITTING PUNCH BLADE INSERT AND DIE PLATE INSERT	
Center pin Ø 6 x 20 for slitting punch blade adapter	901018
Set of spare screws for die plate adapter M4 x 12 - 6 pieces	1-907005
Set of spare screws for die plate adapter M4 x 12 - 4 pieces	2-907005
MISCELLANEOUS	
Die clip	106991
Stripper pin	110991
Clamping screw M6 x 25 for adjusting ring size 1 + 2	907013
Fixing screw M3 x 8 for adjusting key	907062
Handle for stripper adapter ring „manual“ size 3/2	120326-2

PASS PUSH-OUT STRIPPER

(FOR MACHINE GROUP H / I)

DESCRIPTION	POSITION	PART.-NO.
PUSH-OUT STRIPPER		
Round	1 - 4	1S21201
Square	1 - 4	1S21202
Rectangle	1 - 4	1S21203
Oblong	1 - 4	1S21204
Special shape	1 - 4	1S21200
SPARE PARTS		
Spare screws (4 per set)	2	1S21291
Spare springs (4 per set)	3	1S21292



Additional costs:

Cross references:

see page

STRIPPER:

Polished version for low-scratch material handling

Standard tools

6 - 13

Slitting tools

26 - 28

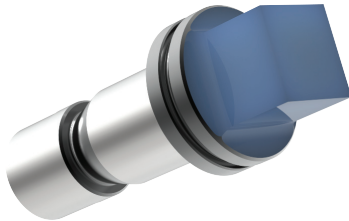
Spare parts

52

PUNCH COATINGS

ADVANTAGE: INCREASES TOOL LIFETIME, REDUCES MATERIAL BUILD UP

TICN



T-MAX



A-MAX



SIZE

DIM.

TICN COATING (FOR WORKING WITH STAINLESS STEEL) ^(*)

0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm
Slitting punch blade insert	- 60,00 mm
Slitting punch blade insert	- 80,00 mm

T-MAX COATING (FOR WORKING WITH GALVANIZED SHEET / ZINCOR) ^(*)

0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm
Slitting punch blade insert	- 60,00 mm
Slitting punch blade insert	- 80,00 mm

A-MAX COATING (FOR DRY PROCESSING WITH ALUMINIUM SHEET) ^(*)

0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm
Slitting punch blade insert	- 60,00 mm
Slitting punch blade insert	- 80,00 mm

Details:

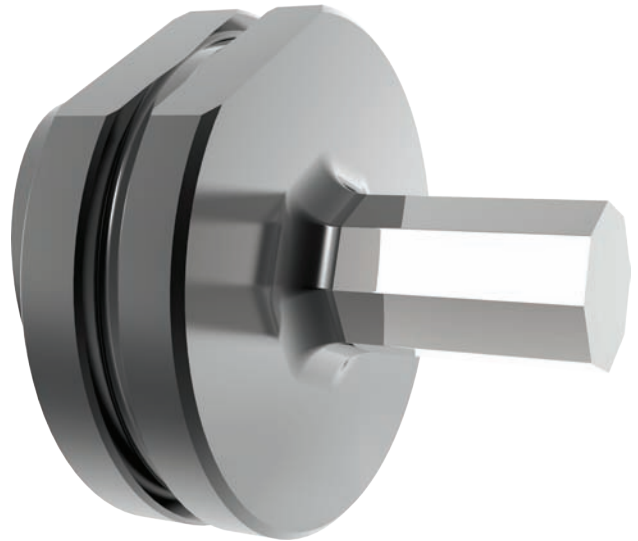
^(*) Suitable for cutting part sizes from Ø 4,00 mm or wide bases of 2,50 mm

DRAW-POLISHED

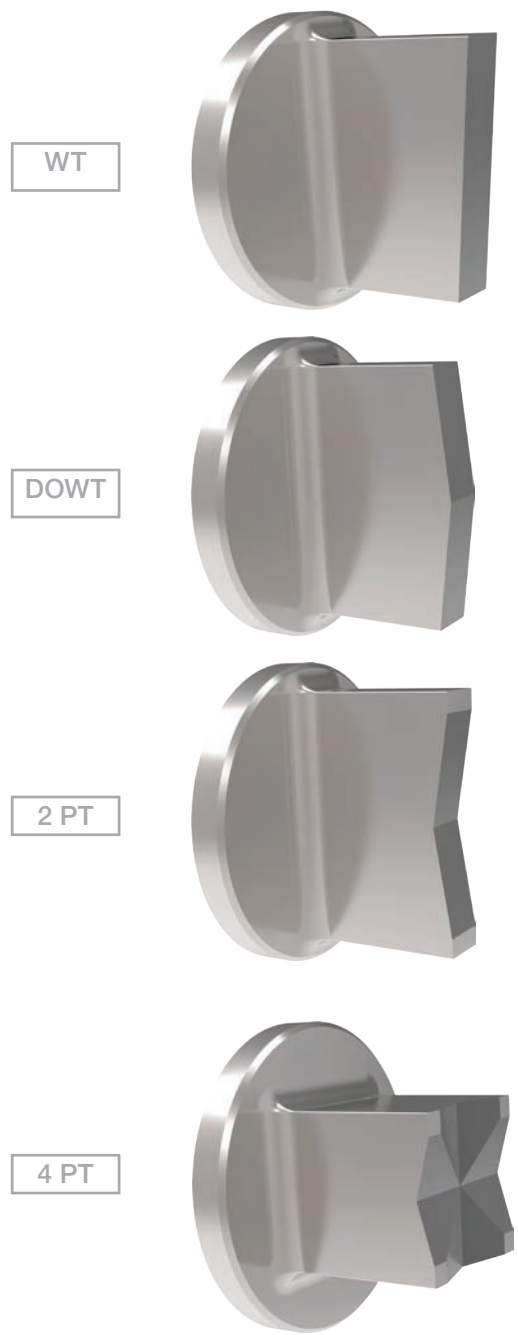
PUNCH EDGES

INCREASES TOOL LIFETIME, REDUCES MATERIAL BUILD UP

SIZE	DIM.
ROUND	
0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm
SQUARE / RECTANGLE / OBLONG	
0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm
O.D. GROUND SPECIAL SHAPES (SPECIAL SHAPE GROUP 1 & 2)	
0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm
EDM REQUIRED SPECIAL SHAPES (SPECIAL SHAPE GROUP 3 & 4)	
0	- 10,50 mm
1	- 30,50 mm
2	- 76,20 mm
3	- 105,00 mm
Multitool	- 16,00 mm



PUNCHES WITH DIFFERENT SHEAR TYPES



SHEAR TYPES	DESCRIPTION
	WT
	DOWT
	2 PT
	4 PT

PASS SLUG-SNAP FOR DIES

SIZE	DIM.
FOR DIES ROUND	
1	- 32,00 mm
2	- 77,00 mm
1 reinforced form	- 32,00 mm
2 reinforced form	- 62,00 mm
Multitool	- 16,00 mm
FOR DIES FORM	
1	- 32,00 mm
2	- 77,00 mm
1 reinforced form	- 32,00 mm
2 reinforced form	- 62,00 mm
Multitool	- 16,00 mm



SLUG-SNAP

Details:

SLUG-SNAP

Special holding bolts are included in the die, clamping the pulling slug positively (better than the slug-stop version, negative cutting part)

The slug-snap version is also more convenient for shapes smaller than 4 mm and clearance smaller/equal 0,1 mm



YOU NEED IT BIG SIZE?

PASS TOOLS SIZE 3 AND SPECIFIC TOOLING FOR BOSCHERT PUNCHING MACHINES

INDEX

PASS Punching Tools (Standard) Size 3	Page 60
PASS Punching Tools (FORM) Size 3	Page 61
PASS Adapter and Manual Adjusting Rings	Page 62
PASS Slitting Tool Size 2	Page 63
PASS Slitting Tool Size 3	Page 64
PASS PU Stripper	Page 65

PASS PUNCHING TOOLS (STANDARD) SIZE 3



DESCRIPTION	DIM. D	PART.-NO.
ROUND		
Punch	76,21 - 105,00 mm	101311C
Die	77,01 - 107,00 mm	106311C
Automatic stripper	78,01 - 107,00 mm	110311C
Manual stripper	78,01 - 107,00 mm	111311C
SQUARE		
Punch	53,91 - 74,25 mm	101312C
Die	54,91 - 75,50 mm	106312C
Automatic stripper	56,01 - 77,00 mm	110312C
Manual stripper	56,01 - 77,00 mm	111312C
RECTANGLE		
Punch	76,21 - 105,00 mm	101313C
Die	77,01 - 107,00 mm	106313C
Automatic stripper	78,01 - 107,00 mm	110313C
Manual stripper	78,01 - 107,00 mm	111313C
OBLONG		
Punch	76,21 - 105,00 mm	101314C
Die	77,01 - 107,00 mm	106314C
Automatic stripper	78,01 - 107,00 mm	110314C
Manual stripper	78,01 - 107,00 mm	111314C

Additional costs:

PUNCH

- Punches with shear (WT / DOWT / etc.) -> see page 56
- Cutting part under 1,00 mm
- 4 x same corner radius
- X3-PM quality -> see page 68

Cross references:

PUNCH

- ps:®passfit - explanation and additional costs 40
- Additional costs for coating 54
- Polished cutting part 55
- Adjusting ring 62

STRIPPER

- Polished version for low-scratch material handling

STRIPPER

- Spare parts 52
- PU stripper 65

DIE

- Slug-stop version (negative cutting part)
- Additional keyway
- Brush version for low-scratch material handling
- X8-PM quality -> see page 68

DIE

- Slug-snap version (for slug problems) - price on request 57
- Adapter rings 62

PASS PUNCHING TOOLS (FORM) SIZE 3

DESCRIPTION		DIM. D	PART.-NO.
SPECIAL SHAPE TOOLS GROUP 1 (SF01, SF02, SF04, SF05)			
Punch		76,21 - 105,00 mm	12131__C1
Die		77,01 - 107,00 mm	12631__C1
Automatic stripper		78,01 - 107,00 mm	12731__C1
Manual stripper		78,01 - 107,00 mm	1273D__C1
SPECIAL SHAPE TOOLS GROUP 2 (SF03, SF07, SF13, SF17)			
Punch		76,21 - 105,00 mm	12131__C2
Die		77,01 - 107,00 mm	12631__C2
Automatic stripper		78,01 - 107,00 mm	12731__C2
Manual stripper		78,01 - 107,00 mm	1273D__C2
SPECIAL SHAPE TOOLS GROUP 3 (SF06, SF08, SF14, SF16)			
Punch		76,21 - 105,00 mm	12131__C3
Die		77,01 - 107,00 mm	12631__C3
Automatic stripper		78,01 - 107,00 mm	12731__C3
Manual stripper		78,01 - 107,00 mm	1273D__C3
SPECIAL SHAPE GROUP 4 (SF09, SF10, SF11, SF12, SF15)			
Punch		76,21 - 105,00 mm	12131__C4
Die		77,01 - 107,00 mm	12631__C4
Automatic stripper		78,01 - 107,00 mm	12731__C4
Manual stripper		78,01 - 107,00 mm	1273D__C4



Additional costs:

PUNCH

Punches with shear (WT / DOWT / etc.) -> see page 56
 Cutting part under 1,00 mm
 X3-PM quality -> see page 68

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PUNCH

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STRIPPER

Polished version for low-scratch material handling

STRIPPER

Spare parts 52
 PU stripper 65

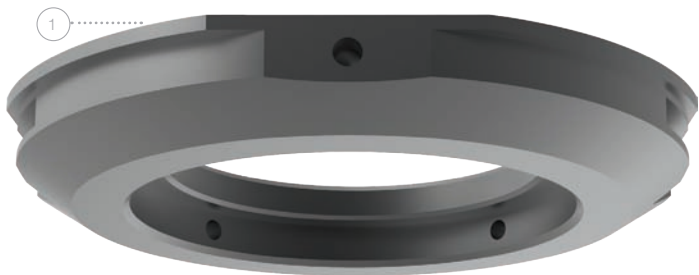
DIE

Slug-stop version (negative cutting part)
 Additional keyway
 Brush version for low-scratch material handling
 X8-PM quality -> see page 68

DIE

Slug-snap version (for slug problems) - price on request 57
 Adapter rings 62

PASS ADAPTER AND MANUAL ADJUSTING RINGS



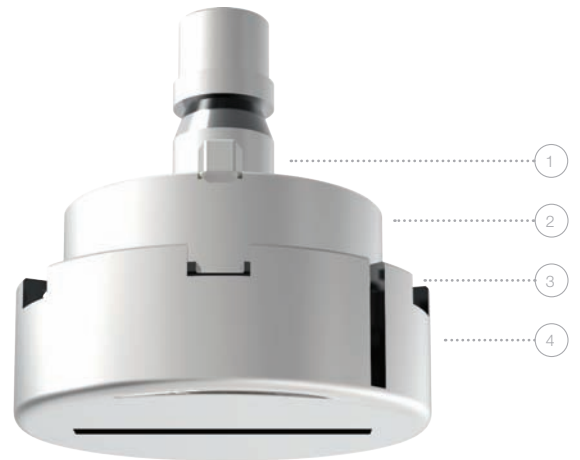
DESCRIPTION	MACHINE GROUP	POSITION	PART.-NO.
ADAPTER RING FOR STRIPPER			
from 3 to 2	G	1	120321
from 3 to 2	C - D	1*	120326
ADAPTER RING FOR DIE			
from 3 to 1	G	2	120310
from 3 to 2	G	2*	120320
ADJUSTING RINGS (MANUAL)			
1	A - D	3*	118102
2	A - D	3*	118202
3 (outside Ø 95 mm)	A - D	3	118302
ps:®passfit ADJUSTING RINGS (MANUAL)			
1	A - D	4*	1181P2
2	A - D	4*	1182P2
3 (outside Ø 95 mm)	A - D	4	1183P2

*no picture

PASS SLITTING TOOL SIZE 2

FOR BOSCHERT PUNCHING MACHINES

DESCRIPTION	POSITION	PART.-NO.
SPRING LOADED SLITTING TOOL SIZE 2 - MEASURE 5 X 30 - 4 X R=0,5 ⁽¹⁾		
Complete upper part	1 - 4	1S0330530
Spare slitting punch blade insert ⁽²⁾	2	1S0440
Spare stripper 6 x 57	4	1S0333
Die cl 0,1 - cl 0,3	5	106T530__
Die cl 0,4 - cl 1,0	5	109T530__
SPRING LOADED SLITTING TOOL SIZE 2 - MEASURE 5 X 40 - 4 X R=0,5 ⁽¹⁾		
Complete upper part	1 - 4	1S0330540
Spare slitting punch blade insert ⁽²⁾	2	1S0441
Spare stripper 6 x 57	4	1S0333
Die cl 0,1 - cl 0,3	5	106T540__
Die cl 0,4 - cl 1,0	5	109T540__
SPRING LOADED SLITTING TOOL SIZE 2 - MEASURE 5 X 56 - 4 X R=0,5 ⁽¹⁾		
Complete upper part	1 - 4	1S0330556
Spare slitting punch blade insert ⁽²⁾	2	1S0442
Spare stripper 6 x 57	4	1S0333
Die cl 0,1 - cl 0,3	5	106T556__
Die cl 0,4 - cl 1,0	5	109T556__
OTHER SPARE PARTS		
Spare springs		
Set of steel springs (2 x big / 2 x small)	3	1S0331



Details / Additional costs:

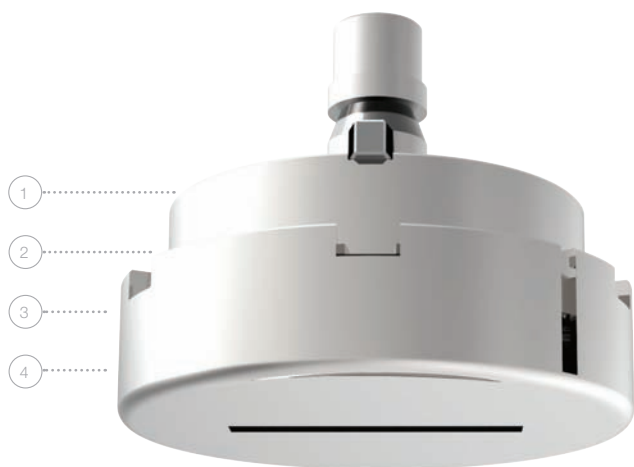
⁽¹⁾ Max sheet thickness: Aluminium s = 4,00 mm,
steel s = 4,00 mm, Stainless steel s = 2,5 mm

⁽²⁾ Slitting punch blade insert general with PASS T-MAX coating

⁽²⁾ Additional costs for reduced dimensional deviation

PASS SLITTING TOOL SIZE 3

FÜR BOSCHERT PUNCHING MACHINES



DESCRIPTION	POSITION	PART.-NO.
SPRING LOADED SLITTING TOOL SIZE 3 - MEASURE 8 X 30 - 4 X R = 1,00 ⁽¹⁾		
Complete upper part	1 - 4	1S0350830
Spare slitting punch blade insert ⁽²⁾	2	1S0446
Spare stripper	4	1S0355830
Die cl 0,3 - cl 1,0	5	109T830__
Die cl 1,2 - cl 1,5	5	109T830__

SPRING LOADED SLITTING TOOL SIZE 3 - MEASURE 8 X 40 - 4 X R = 1,00 ⁽¹⁾		
Complete upper part	1 - 4	1S0350840
Spare slitting punch blade insert ⁽²⁾	2	1S0447
Spare stripper	4	1S0355840
Die cl 0,3	5	106T840__
Die cl 0,4 - cl 1,2	5	109T840__

SPRING LOADED SLITTING TOOL SIZE 3 - MEASURE 8 X 56 - 4 X R = 1,00 ⁽¹⁾		
Complete upper part	1 - 4	1S0350856
Spare slitting punch blade insert ⁽²⁾	2	1S0448
Spare stripper	4	1S0355856
Die cl 0,3	5	106T856__
Die cl 0,4 - cl 1,0	5	109T856__

OTHER SPARE PARTS		
Spare springs		
Set of steel springs (4 x big / 4 x small)	3	

Details / Additional costs:

⁽¹⁾ Max sheet thickness: Aluminium s = 6,00 mm,
steel s = 6,00 mm, Stainless steel s = 3,00 mm

⁽²⁾ Slitting punch blade insert general with PASS T-MAX coating

⁽²⁾ Additional costs for reduced dimensional deviation

PASS PU STRIPPER

SPRING TYPE	PUNCH SHAPE ^(*)	DIM.	PART.-NO.
WITHOUT CONTOUR			
1	Flat size 1	- 12,00 mm	1S013810
1	Whisper size 1	- 12,00 mm	1S013820
2	Flat size 1	- 30,50 mm	1S013830
2	Whisper size 1	- 30,50 mm	1S013840
3	Flat size 2	- 48,00 mm	1S013850
3	Whisper size 2	- 48,00 mm	1S013860
	Flat / Whisper size 2	> 48,00 mm	on request

FOR ROUND PUNCHES			
1	Flat size 1	- 12,00 mm	1S013811
1	Whisper size 1	- 12,00 mm	1S013821
2	Flat size 1	- 30,50 mm	1S013831
2	Whisper size 1	- 30,50 mm	1S013841
3	Flat size 2	- 48,00 mm	1S013851
3	Whisper size 2	- 48,00 mm	1S013861
	Flat / Whisper size 2	> 48,00 mm	on request

FOR FORM PUNCHES			
1	Flat size 1	- 12,00 mm	1S013812
1	Whisper size 1	- 12,00 mm	1S013822
2	Flat size 1	- 30,50 mm	1S013832
2	Whisper size 1	- 30,50 mm	1S013842
3	Flat size 2	- 48,00 mm	1S013852
3	Whisper size 2	- 48,00 mm	1S013862
	Flat / Whisper size 1	> 48,00 mm	on request

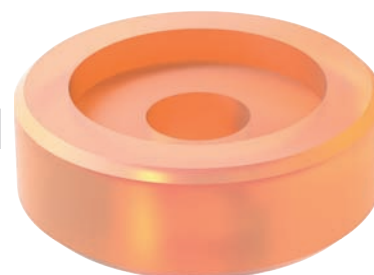
SPRING TYPE 1



SPRING TYPE 2



SPRING TYPE 3

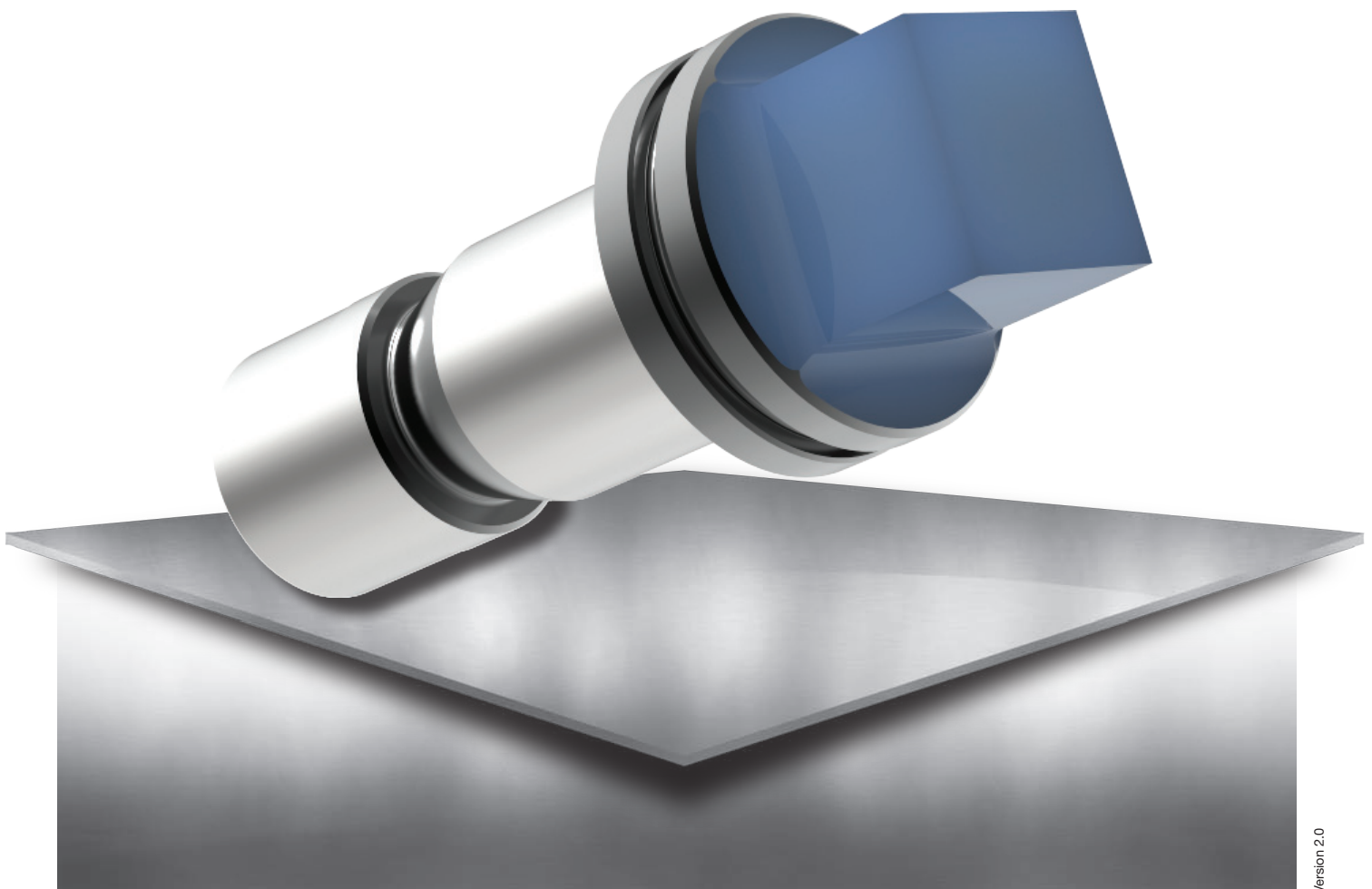


Details:

PUNCH SECTION

^(*) Flat = length 74,00 mm

^(*) Whisper = length 77,00 mm



TECHNICAL INFORMATION

INFORMATION ABOUT OUR TOOLS FOR YOUR TRUMPF SYSTEM

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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 lifetime 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 lifetime.

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

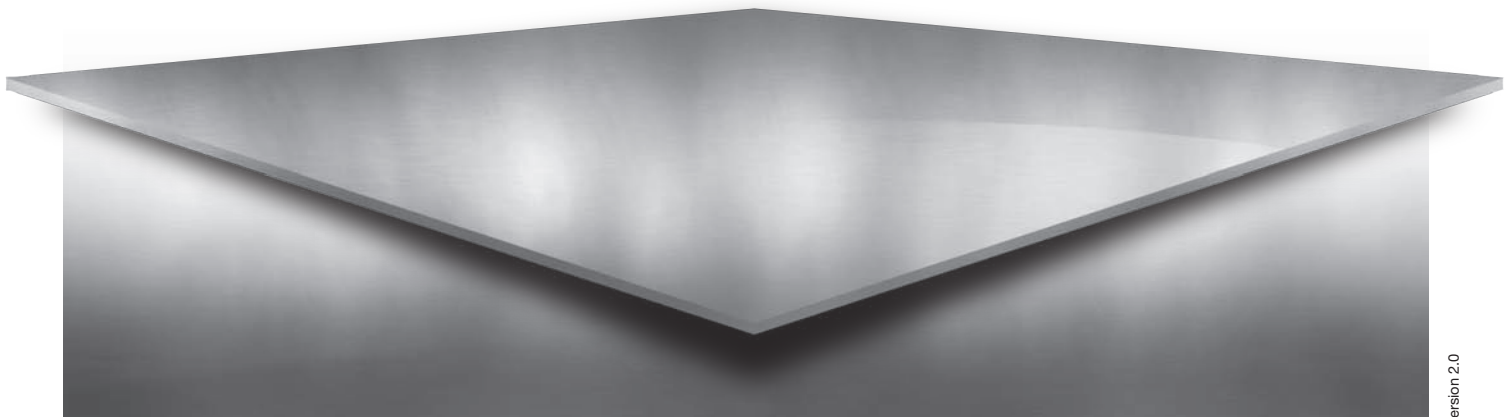
X8-PM

The X8-PM tools are made of a high-end powder-metallurgical steel with 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 contours.

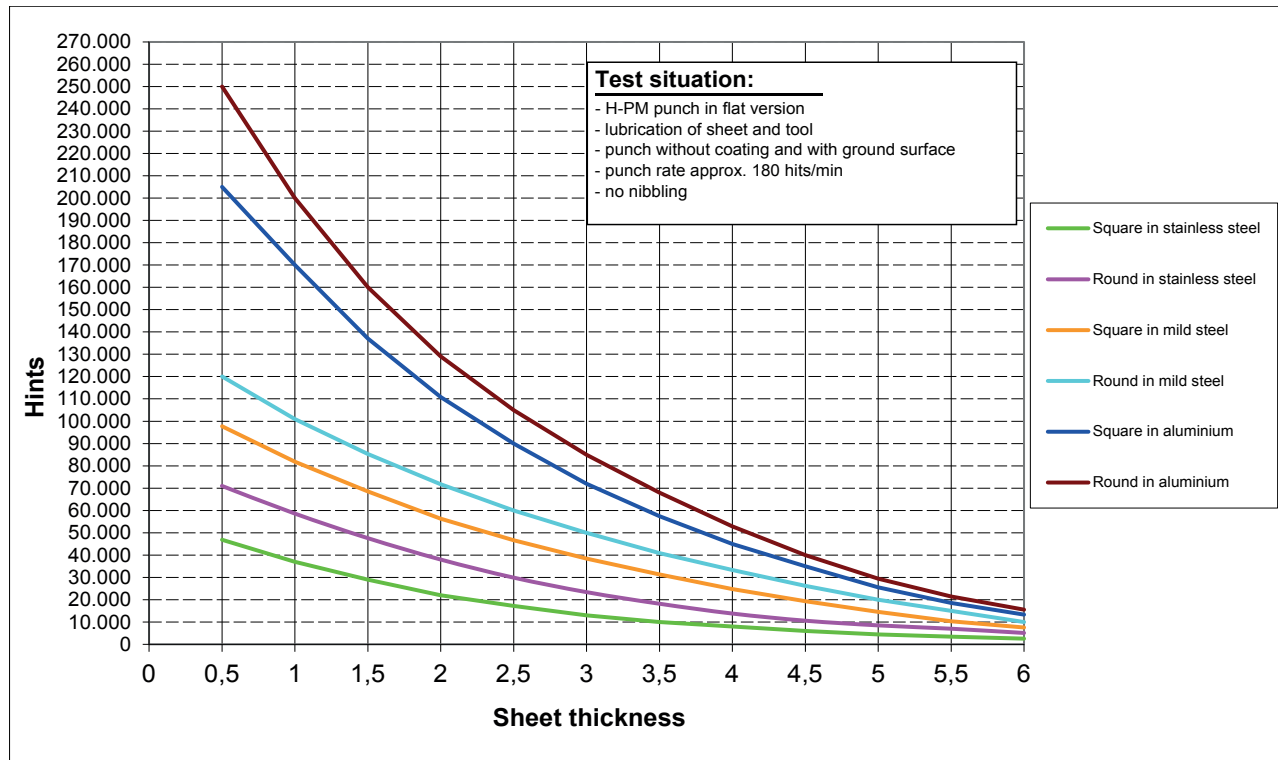
Advantage for customer:

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



LIFETIME OF TOOLS / REGRIND ADVICE

PASS punches and dies are made of high-end special steel in order to guarantee best lifetime 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
Whisper tool	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 fulfill the highest punching demands.

Furthermore we attach great importance to a high quality hardening process by repeated temporing 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.

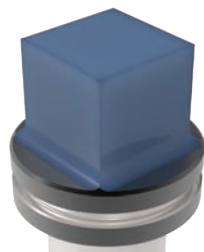
A high punch hardness as well as an excellent grinding surface are important in order to counteract the problem with edge build-up.

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

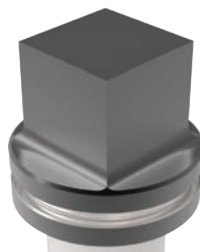
- zinc steel
- aluminium sheets

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



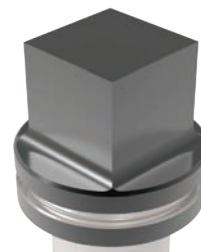
TiCN

for working with stainless steel



A-MAX

for dry processing with aluminium sheet



T-MAX

for working with galvanized sheet

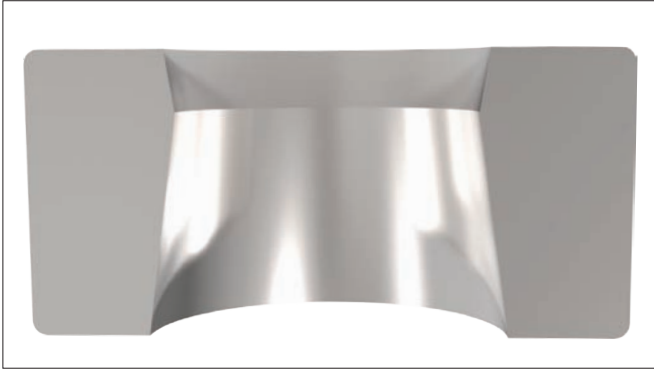
We recommend draw-polished punch edges to increase tool lifetime and reduce material build up (prices on request).



DIE VERSIONS

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

SLUG-STOP (WITHOUT ADDITIONAL COSTS)



PASS dies for tooling system Trumpf are produced in standard version with clearance angle (without additional costs).

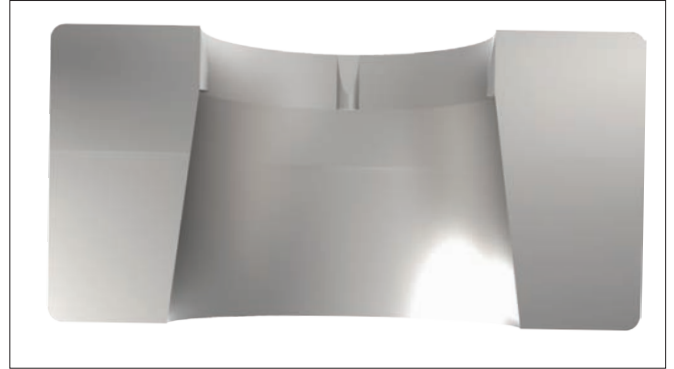
Dies can be produced in slug-stop version in case of problems with pulling slugs. This means that the upper part of the cutting part is produced with a negative angle.

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

This is not recommended for:

- shapes smaller 2,5 mm
- clearance smaller 0,1 mm

SLUG-SNAP (SPECIAL VERSION - ADDITIONAL COSTS)



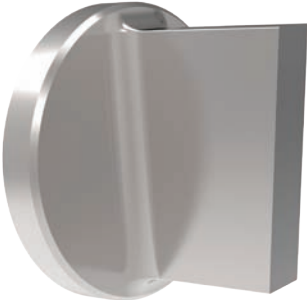
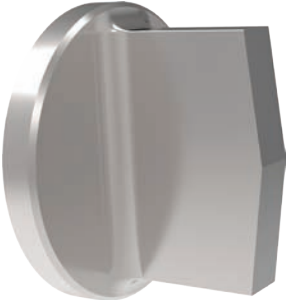
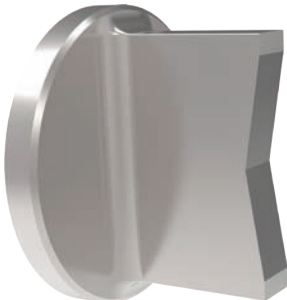
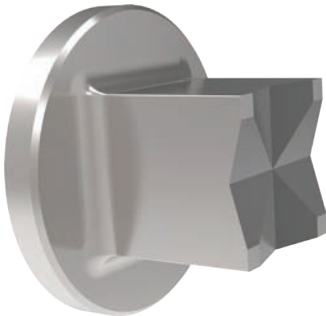
Alternatively we offer our slug-snap version (additional costs).

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

The slug-snap version is also more convenient for:

- shapes smaller than 2,5 mm
- clearance smaller 0,1 mm

PUNCHES WITH DIFFERENT SHEAR TYPES

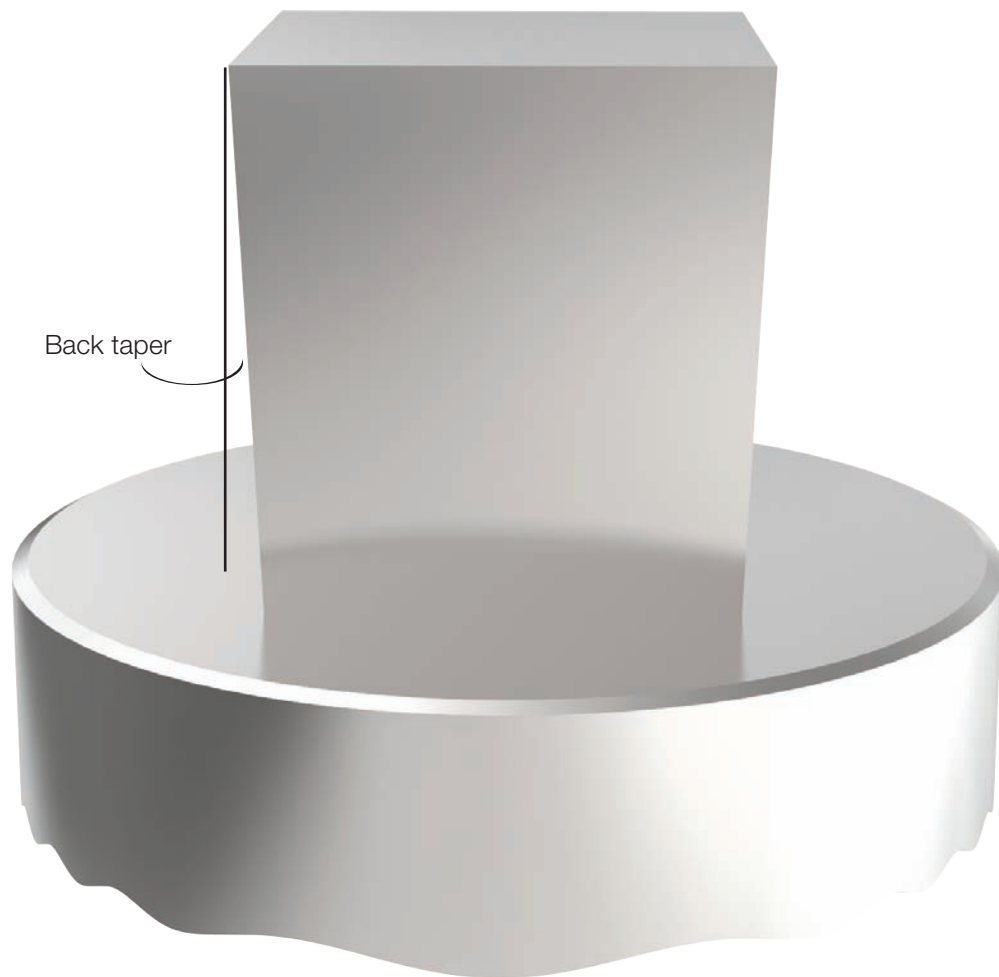
		DESCRIPTION
WT		WT - Advantage: easy regrindable - Disadvantage: lateral forces
DOWT		DOWT - Advantages: easy regrindable no lateral forces - Disadvantage: only reasonable for big contours
2 PT		2 PT - Advantage: no lateral forces optimal die cutting - Disadvantages: only reasonable for big and slim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

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.

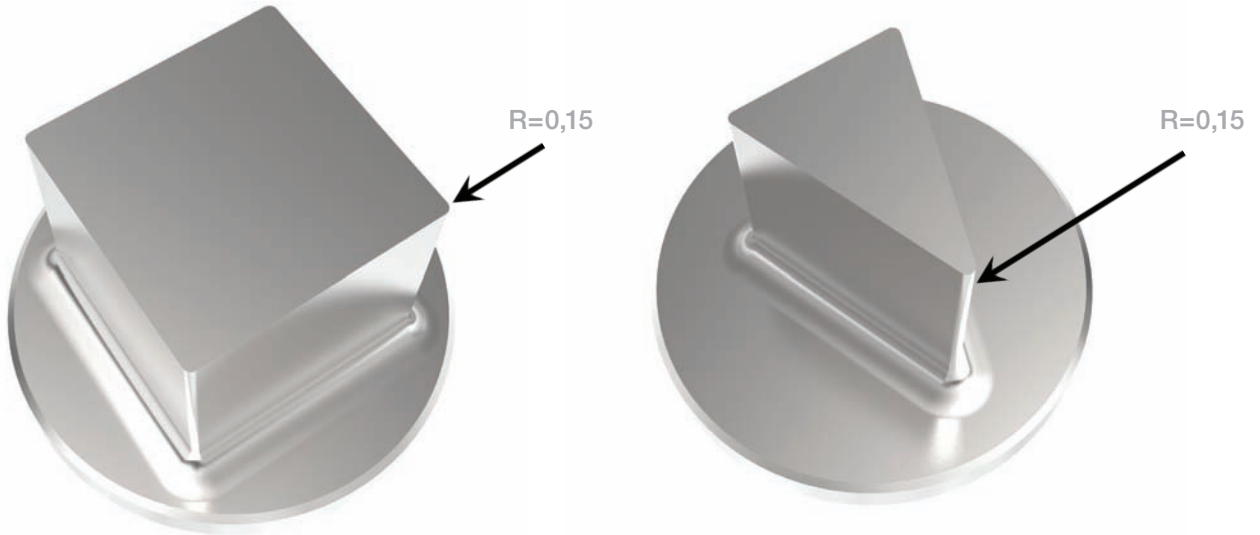
We recommend a line polished version for cutting parts, which have to be produced sink-eroded (special shape with internal contour, e.g. cross-form, U-form, etc.) and in high quality sheets.



PASS CORNER EDGES 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

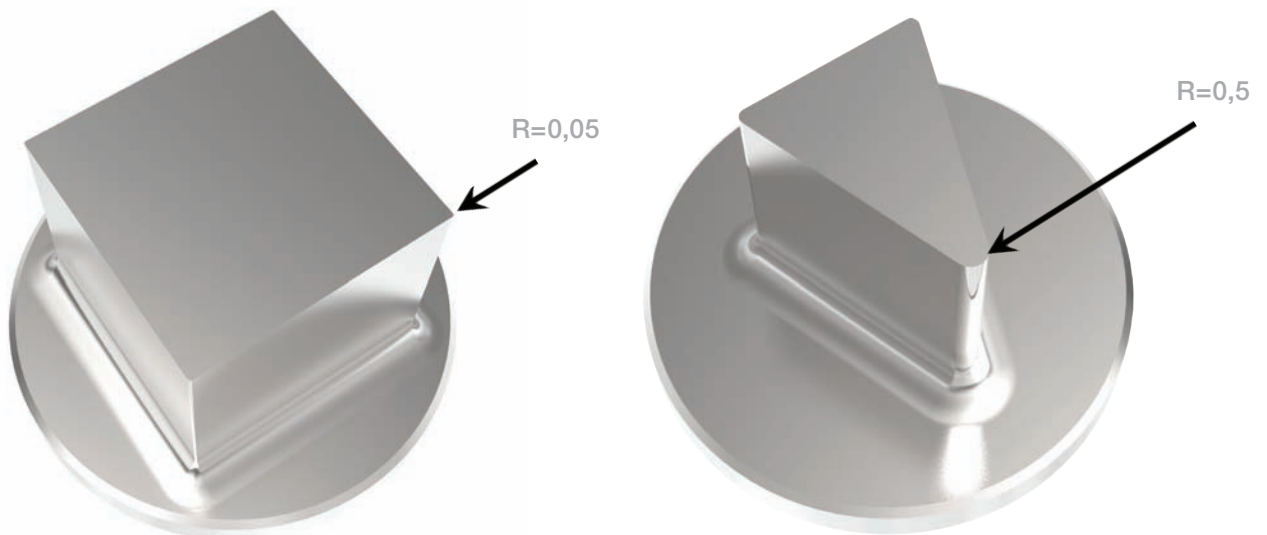


The corner radius can be changed on customer's request.

e.g.:

$R = 0,05$ instead of $R = 0,15$ mm for electronical parts.

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



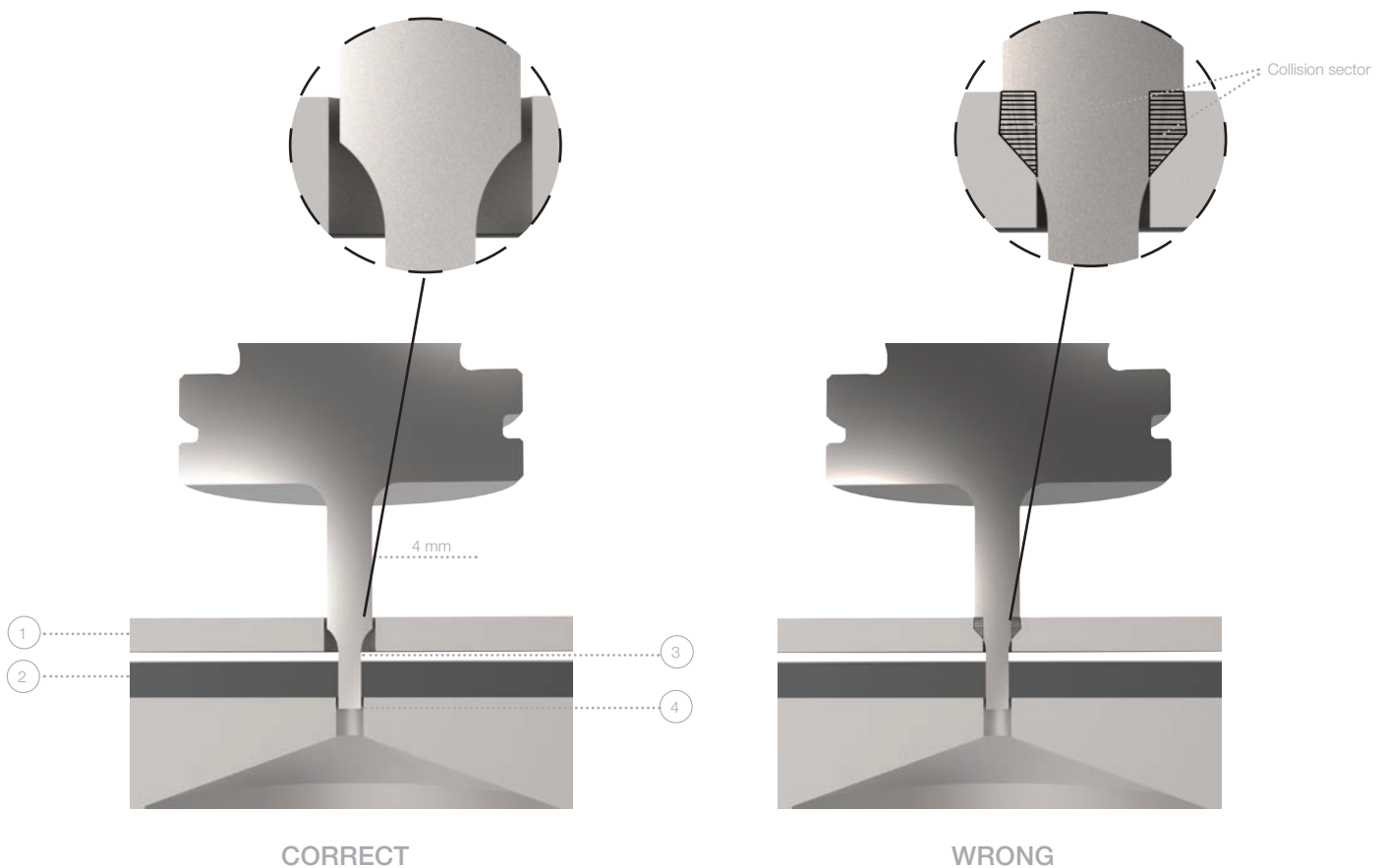
PASS PUNCHES WITH REINFORCED SHOULDER

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 (2), immersion depth (4), stripper thickness (1) and stripper overlap (3).

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, covering the majority of the page. The grid is composed of thin, light gray lines forming a uniform pattern of small squares.

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.

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