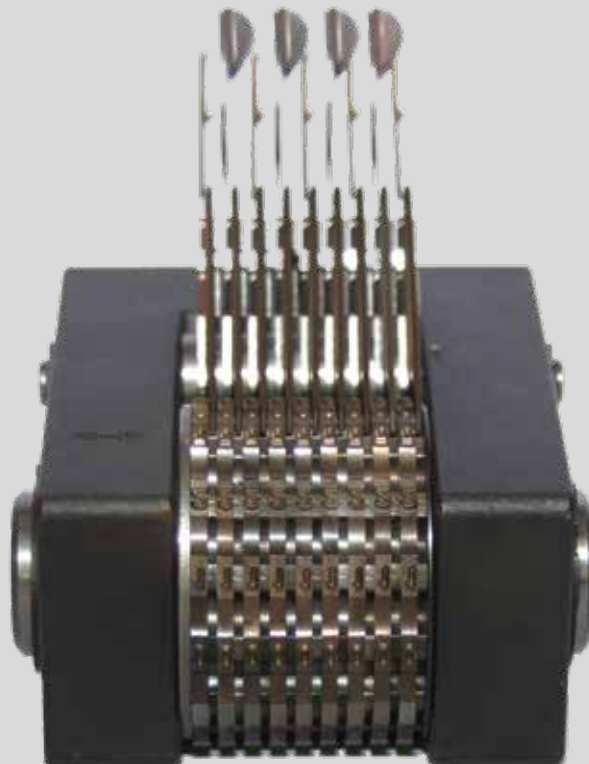


TOX®-Marking Tools

Data sheet 75.20
2021/05



Overview

PPV Marking tool type VNPW

Manually adjustable

- The adjustment of the wheels is done manually by releasing the locking levers. The levers lock the wheel in the desired position.
- Font height from 1 to 8 mm



PPT Marking tool type TNPW

Adjustable via keys

- The adjustment of the wheels is done manually by pressing the key-levers.
- Font height from 1 to 8 mm



PPA Marking tool type ANPW

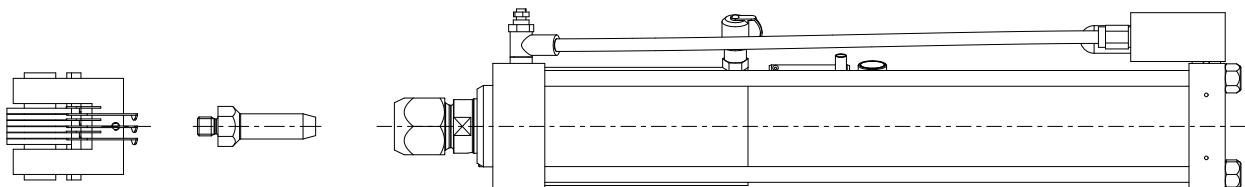
Automatically switching

- The switching takes place automatically after each marking stroke against a fixed stop.
- Font height from 1 to 8 mm



TOX[®]-Powerpackage type RP for embossing operation With anti-torsion device and spring chuck

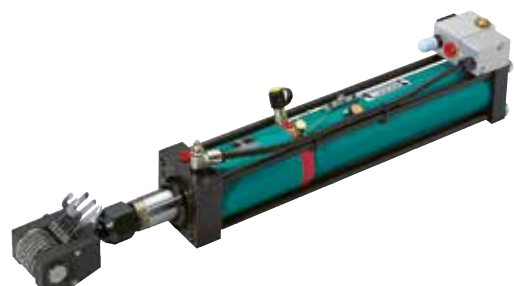
Die spigot for stamping tool and type-holder



As basic equipment for manual working places and production lines can be used as stamping unit.

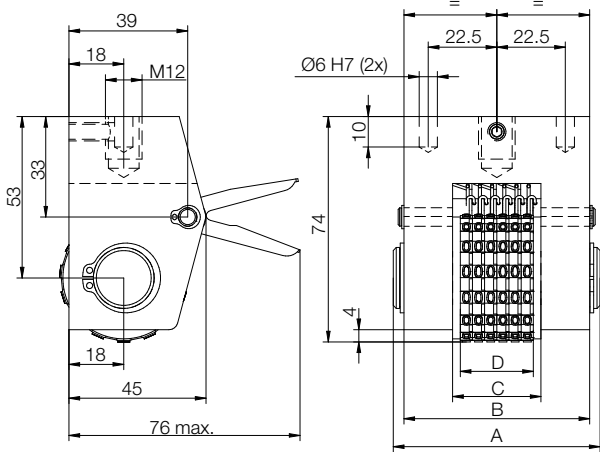
Action:

1. Fast approach
2. Automatically initiated power stroke at any point of the fast approach
3. Return stroke



Refer to data sheet 10.21 TOX[®]-Powerpackage

PPV Marking tool



Robust and manually adjustable marking tool

- Safe and quick setting by pressing the lever and turning the wheel
- Engraving in numbers, letters and characters on request
- Characters similar to DIN 1451 standards
- Special types, special font heights, etc. available on request

Cage	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6
Dimension A	62	68	75	82	92	105
Dimension B	55	61	68	75	85	98
Dimension C	23	29	36	43	53	66

Dimension of the cage C = marking width D + (≥) 2 mm Dimensions in mm

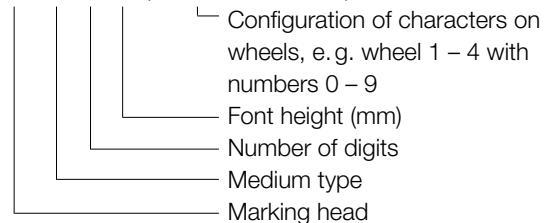
	Medium standard type 01								Medium condensed type 02						Condensed type 03						Number of digits*		
	Division 15				D. 13	D. 11	Division 15				D. 13	D. 11	Division 15				D. 13	D. 11					
Font height	1.5	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8	02
Marking width D	3	4	5	6	8	11	13	17	3	4	5	6	8	9	13	3	3	4	5	7	8	11	03
	4.5	6	7.5	9	12	17	20	26	4.5	6	7.5	9	12.5	14	20	4.5	4.5	6	7.5	11	12.5	17	04
	6	8	10	12	16	23	27	35	6	8	10	12	17	19	27	6	6	8	10	15	17	23	05
	7.5	10	12.5	15	20	29	34	44	7.5	10	12.5	15	21.5	24	34	7.5	7.5	10	12.5	19	21.5	29	06
	9	12	15	18	24	35	41	53	9	12	15	18	26	29	41	9	9	12	15	23	26	35	07
	10.5	14	17.5	21	28	41	48	62	10.5	14	17.5	21	30.5	34	48	10.5	10.5	14	17.5	27	30.5	41	08
	12	16	20	24	32	47	55		12	16	20	24	35	39	55	12	12	16	20	31	35	47	09
13.5	18	22.5	27	36	53	62		13.5	18	22.5	27	39.5	44	62	13.5	13.5	18	22.5	35	39.5	53	10	
15	20	25	30	40	59			15	20	25	30	44	49		15	15	20	25	39	44	59		

*(Number of wheels) Dimensions in mm

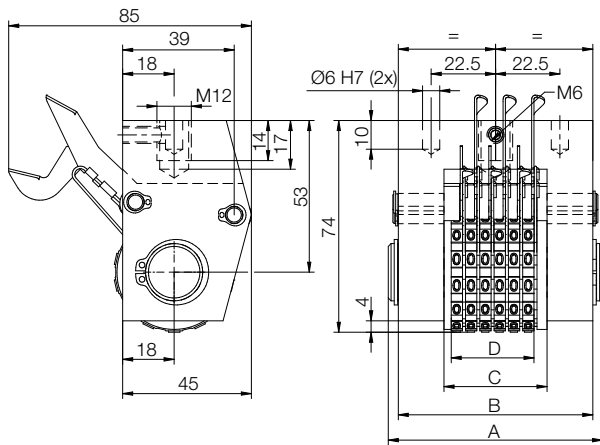
Font „medium standard“, font height 4 mm with 4 characters results in a marking width D of 16 mm and therefore a cage size of 1 must be chosen.

Ordering example:

PPV 01.04.04 (wheel 1 – 4 “0 – 9”)



PPT Marking tool



Advancing marking tool

- Safe and quick switching by pressing the keys. Each wheel can be adjusted individually
- Engraving in numbers, letters and characters on request
- Characters similar to DIN 1451 standards
- Special types, special font heights, etc. available on request

Cage	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6
Dimension A	62	68	75	82	92	105
Dimension B	55	61	68	75	85	98
Dimension C	23	29	36	43	53	66

Dimension of the cage C = marking width D + (≥) 2 mm Dimensions in mm

	Medium standard type 01								Medium condensed type 02								Condensed type 03								Number of digits*					
	Division 14				Division 11				Division 14				Division 11				Division 14				Division 11									
Font height	1.5	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8	
Marking width D	4	5	6	7	9	11	13	17	4	5	6	7	9	11	13	4	4	5	6	7	9	11	4	4	5	6	7	9	11	2
	6.5	8	9.5	11	14	17	20	26	6.5	8	9.5	11	14	17	20	6.5	6.5	8	9.5	11	14	17	6.5	6.5	8	9.5	11	14	17	3
	9	11	13	15	19	23	27	35	9	11	13	15	19	23	27	9	9	11	13	15	19	23	9	9	11	13	15	19	23	4
	11.5	14	16.5	19	24	29	34	44	11.5	14	16.5	19	24	29	34	11.5	11.5	14	16.5	19	24	29	11.5	11.5	14	16.5	19	24	29	5
	14	17	20	23	29	35	41	53	14	17	20	23	29	35	41	14	14	17	20	23	29	35	14	14	17	20	23	29	35	6
	16.5	20	23.5	27	34	41	48	62	16.5	20	23.5	27	34	41	48	16.5	16.5	20	23.5	27	34	41	16.5	16.5	20	23.5	27	34	41	7
	19	23	27	31	39	47	55		19	23	27	31	39	47	55	19	19	23	27	31	39	47	19	19	23	27	31	39	47	8
21.5	26	30.5	35	44	53	62		21.5	26	30.5	35	44	53	62	21.5	21.5	26	30.5	35	44	53	21.5	21.5	26	30.5	35	44	53	9	
24	29	34	39	49	59			24	29	34	39	49	59		24	24	29	34	39	49	59	24	24	29	34	39	49	59	10	

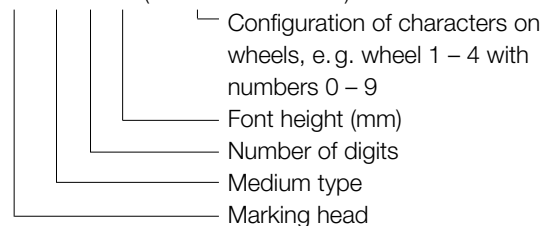
*(Number of wheels)

Dimensions in mm

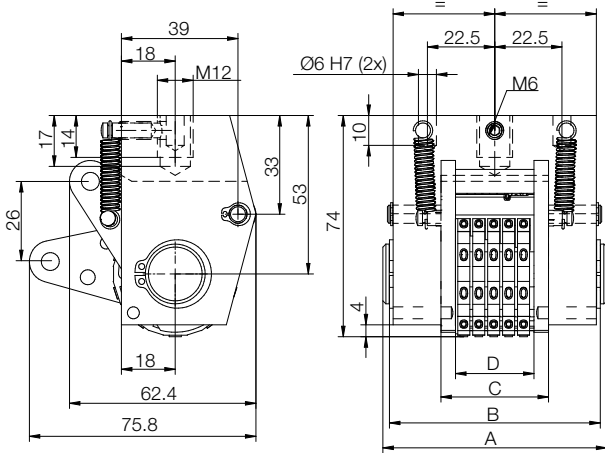
Font „medium standard“, font height 4 mm with 4 characters results in a marking width D of 19 mm and therefore a cage size of 1 must be chosen.

Ordering example:

PPT 01.04.04 (wheel 1 – 4 “0 – 9”)



PPA Marking tool



Automatically switching marking tool

- Safe and quick switching of the marking wheels by pressing the shifting claw, shifting stroke 26mm
- Engraving in numbers, letters and characters on request
- Characters similar to DIN 1451 standards
- Special types, special font heights, etc. available on request

Cage	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6
Dimension A	62	68	75	82	92	105
Dimension B	55	61	68	75	85	98
Dimension C	23	29	36	43	53	66

Dimension of the cage C = marking width D + (≥) 10mm Dimensions in mm

Medium standard type 01

Medium condensed type 02

Condensed type 03

Font height	Division 10								Division 10								Division 10								Number of digits*
	1.5	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8	2	2.5	3	4	5	6	8			
Marking width D	3.7	5	6	7	9	11	13	17	3.7	5	6	7	9	11	13	3.7	3.7	5	6	7	9	11	02		
	5.9	8	9.5	11	14	17	20	26	5.9	8	9.5	11	14	17	20	5.9	5.9	8	9.5	11	14	17	03		
	8.1	11	13	15	19	23	27	35	8.1	11	13	15	19	23	27	8.1	8.1	11	13	15	19	23	04		
	10.3	14	16.5	19	24	29	34	44	10.3	14	16.5	19	24	29	34	10.3	10.3	14	16.5	19	24	29	05		
	12.5	17	20	23	29	35	41	53	12.5	17	20	23	29	35	41	12.5	12.5	17	20	23	29	35	06		
	14.7	20	23.5	27	34	41	48	14.7	20	23.5	27	34	41	48	14.7	14.7	20	23.5	27	34	41	07			
	16.9	23	27	31	39	47	16.9	23	27	31	39	47	16.9	16.9	23	27	31	39	47	08					
19.1	26	30.5	35	44	53	19.1	26	30.5	35	44	53	19.1	19.1	26	30.5	35	44	53	09						
21.3	29	34	39	49	21.3	29	34	39	49	21.3	21.3	29	34	39	49	21.3	21.3	29	34	39	49	10			

*(Number of wheels)

Dimensions in mm

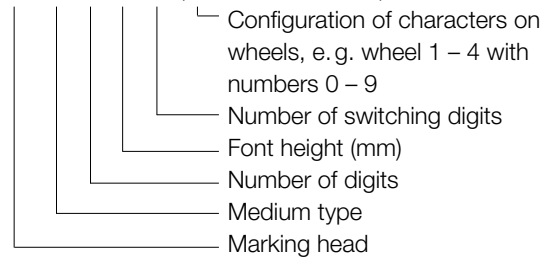
Font „medium standard“, font height 4 mm with 4 characters results in a marking width D of 19 mm and therefore a cage size of 2 must be chosen.

Note

Maximum number of switching digits: 6

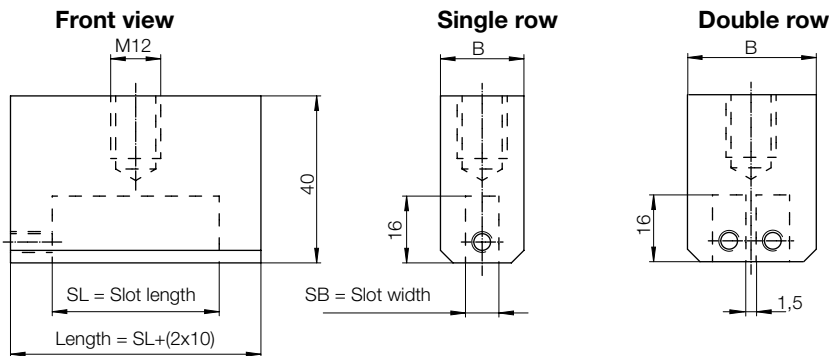
Ordering example:

PPA 01.04.04 A4 (wheel 1 – 4 “0 – 9”)



Stamps holder TH/ Stamps PT

Stamps holder TH



All dimensions in mm
Special versions on request

TH (single row)

	SB	SL	B
TH01	4	15	20
TH01	4	20	20
TH01	4	30	20
TH01	4	50	20
TH01	6	20	20
TH01	6	30	20
TH01	6	40	20
TH01	6	60	20
TH01	6	80	20
TH01	8	20	20
TH01	8	30	20
TH01	8	40	20
TH01	8	60	20

TH (double row)

	SB	SL	B
TH02	4	30	20
TH02	4	40	20
TH02	4	50	20
TH02	6	40	30
TH02	6	60	30
TH02	6	80	30
TH02	8	40	30
TH02	8	60	30
TH02	8	80	30

Items included with delivery

- Stamp holder without stamps
- Clamping shank (optional)

Ordering example:

TH 01.04.15

Can be used with all TOX®-Drives and TOX®-FinePress.

Stamps type PT available individually or in sets

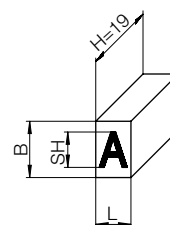
Sizes available

SH = Character height	L = Length	B = Width	H = Height
1.0	1.5	4.0	
1.5	1.5	4.0	Standard: 19 mm
2.0	2.0	4.0	Premium quality: 19 mm
2.5	2.5	6.0	according to ± 0.02
3.0	3.0	6.0	DIN ISO 2768-1
4.0	4.0	8.0	fine
5.0	5.0	8.0	

All dimensions in mm
Other sizes available

Please select the appropriate type holder depending on the number of steel types.

Engraving similar to DIN 1451
medium type – beveled – nickel plated



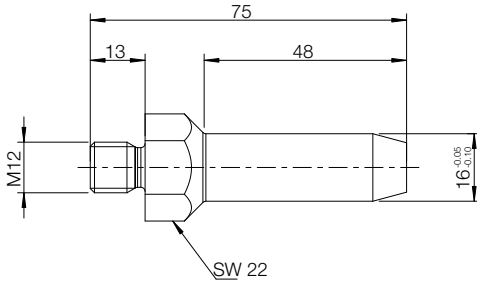
Ordering example:

PT 30.30.60.A

Technical Information

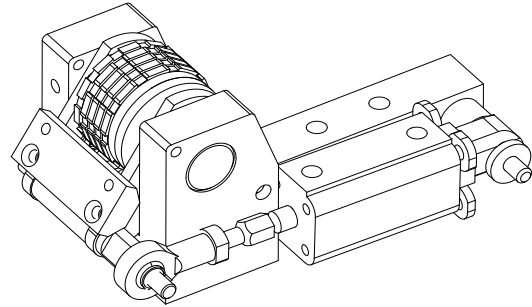
Option:

Clamping shank 16x75 - M12



Special marking tool

Automatically switching with pneumatic cylinder



Material characteristics for marking

Tensile strength R_m (N/mm²) for various materials

Material designation Steel	R_m N/mm ²	Material designation Non-ferrous metals	R_m N/mm ²
DC01 (St1203)	≤ 400	EN AW-5754 (AlMg3)	≤ 290
DC04 (St1403)	≤ 400	EN AW-5182 (AlMg5)	≤ 380
DD11 (StW22)	≤ 440	EN AW-2007 (AlCuMgPb)	≤ 470
S235JR-C (St37-K)	≤ 510	CC482K (CuSn11Pb2-C)	≤ 360
S355J2G3 (St52-3)	≤ 630	CW614N (CuZn39Pb3)	≤ 540
E335 (St60-2)	≤ 710	CW004A (E-Cu57)	≤ 390
X5CrNi18-10 (1.4301)	≤ 700	Pb99.94Cu	≤ 20

Font height in mm	Factor A, to be applied mm ²
1	3.4
1.5	5
2	7
3	10
4	14
5	17
6	20
7	23
8	27
10	32
12	40

Basics for the calculation of the required marking force for marking tools

Formula: $F_p = A \times R_m \times ST$

F_p = Marking force

A = Factor, see table, mm²

R_m = Tensile strength, N/mm²

ST = Number of digits

When selecting the appropriate drive unit, allow about 30 % reserve force to account for wear of the tools and tolerances in material strengths.

Example:

A marking tool with 6 digits, 5 mm font height, for a material with tensile strength $R_m = 400$ N/mm², requires the following marking force:

$$F_p = 17 \text{ mm}^2 \times 400 \text{ N/mm}^2 \times 6 = 40.800 \text{ N}$$

Recommended marking force:

$$40.800 \text{ N} + 30 \% \text{ reserve} = 53.040 \text{ N}$$