



length windows 825 mm.
SACMAD length as 120 mm.

OFFER N° 11

OFFER N. 11/12

11/01/2012

HACO TRADING

BELGIUM

CNC CONTROLLED INTEGRATED WORKING CENTER FOR WINDOW FRAMES "F.30-2.4"



Tenoning + inner profiling of window elements

Tenoning + profiling for pre-squared systems

Sash squaring after assembly with tenoning carriage and profiling side

Sash and frames outside profiling using the profiling side only

Straight tenoning or "tilted tenoning $\pm 60^\circ$ " by means of work-piece interpolation

Single piece tenoning or tenoning of 2 pieces at the same time

CNC automatic positioning of tools for required operations

CNC controlled automatic setting of tenoning depth, tilting and work-piece length

Automatic work-piece rotation (180°) between the first and the second tenoning

Automatic transfer of work-pieces from the tenoning phase to the profiling side

CNC controlled automatic positioning of left/hand profiling fence, according the programmed work-piece width

Standard configuration:

- * Motorized tenoning carriage with variable feed speed, interpolation and automatic work-piece rotation
- * Cutting off / trimming saw (H)
- * 2 tenoning precision spindles, diameter 50 mm, 620 mm long, stroke 560 mm (A-B).
- * 4 profiling precision spindles, diameter 50 mm, 320 mm long, stroke 295mm (C-D-E-F).
- * 1 glass-bead recovery unit (G).
- * Feed system on profiling side with variable feed speed (by means of INVERTER).

Pre-settings :

- * Auxiliary head for hardware grooving (spindle I)
- * 1 upper horizontal spindle unit (spindle L)
- * 1 lower horizontal spindle unit (spindle M)
- * 1 left/hand vertical spindle on profiling side (spindle N)
- * Mechanical and electronic pre-setting for adding a second profiler (right/hand or left/hand)

Electronic control and Software:

ELECTRONIC CONTROL OF EVERY MACHINE OPERATION Y MEANS OF "SENIOR 07" CONTROL with **PERSONAL COMPUTER** Twincat Beckhoff automatic control.

Features:

- Operating system WINDOWS XP prof.
- Processor CPU CORE2 DUO E7600 3.06 GHZ
- Graphic board XGA 1024 x 768
- Colour Monitor LCD 17"
- Memory SDRAM 2 GB DDR2
- Hard Disk 500 GB
- Mouse
- USB 2.0 (front/rear)
- Ethernet Port 10/100 (to send production data and for online-service)

ON LINE-service:

It is possible to carry out trouble-shooting and to correct wrong production data through the tele-service. This service is provided by SAC by means of an internet connection from the machine PC, using the Ethernet connection available on machine.

OPERATION**Manual Mode**

Control activation for single use.

After choosing this mode, the operator can chose the required function from the interface. Controls are then direct with no additional functioning block.

Automatic mode

Activation of control sequences and adjustments.

This is the machine standard operating state.

In this way the control system, according to the chosen working operations, is able to run the machine and detect any error condition.

Configuration Mode

This mode is used to change machine specifications like parameters or settings.

"SENIOR 07" control is provided with a user interface called SEED2000, designed for the complete control of machines and programmable equipment with CNC controlled axis. This system memorizes all working data and recalls them by simply digiting their name from the keyboard.

The working program sets automatically all the units and devices necessary for machining the selected piece.

The working order allows to obtain pieces with dimensions, shapes, quantities and programmed sequences.

Easy and quick introduction of production data, flexible in case of changes, cancellations or modifications of programs.

It is possible to modify tools and machine parameters to let the working cycle match the required production needs.

The PC can interface with external units (other PCs or softwares) to download working data (softwares to enable interfacing are not included).

HYDROSTATIC tool positioning guides. This system separates the surfaces Guide-Slide with an oil film under pressure. The static friction coefficient is therefore avoided.

- * no clearance
- * no mechanical adjustment
- * no wear with use
- * no lubrication of guides
- * no cleaning of guides

Ball screws for spindles vertical positioning

U-movement for profiling spindles, independent and able to operate all at the same time

Feeding devices with variable speed for ALL working phases

Profiling feed system with rubber coated rollers driven by cardan-joints with pneumatically adjustable pressure

On tenoning spindle : device for a perfect anti-splinter function by means of a bar following the work-piece during the exit phase from tool

Work-piece locking on tenoning carriage with pneumatic system

Anti-splinter jump operation on profiling side with Left/hand rotation of the second spindle and time-controlled hydraulic system

Automatic transfer of work-piece from tenoning to profiling side

No tool change is required for the complete machining of the window

(upon request) Possibility to operate profiles on two sides by adding a left/hand unit or a second left/hand profiling machine

Electrics complying with EN 60204 - IEC 204-1 regulations

Machine complying with CE standards

TECHNICAL SPECIFICATIONS

Min work-piece length	250 mm (Max tool dia. 350mm)
Max work-piece length	3000 mm
Min work-piece thickness	40 mm
Max work-piece thickness	100 mm
Min work-piece width	40 mm
Max work-piece width	200 mm (or 100+100mm)
Max tenoning tilting	±60°
Work-piece holding collet speed	0-60 m/min. CNC controlled

CUT-OFF UNIT

Motor power	4 KW
Blade dia	400 mm
Blade speed	3000 rpm

Blade shaft dia	30 mm
Max height of cut	100 mm
Dust extraction upper outlet diameter	100 mm
Dust extraction upper outlet capacity	800 m3/h
Dust extraction lower outlet diameter	100 mm
Dust extraction lower outlet capacity	800 m3/h

1st TENONING SPINDLE (A) with counter-support

Spindle dia	50 mm
Spindle length	620 mm
Spindle vertical stroke (CNC controlled)	560 mm
Base position under table	10 mm
Spindle vertical adjustment speed	4 m/min
Spindle revolving speed	3500 / rpm
Spindle sense of rotation	DX / RH
Standard motor power	7,5 KW
Max tool diameter	320-350mm
1st extraction outlet diameter	100 mm
1st extraction outlet capacity	800 m3/h
2 nd extraction outlet diameter	160 mm
2 nd extraction outlet capacity	2000 m3/h

Device for a perfect anti-splinter function made of a contact bar following the work-piece at the exit of tool operation

2nd TENONING SPINDLE (B) with counter-support

Spindle dia	50 mm
Spindle length	620 mm
Spindle vertical stroke (CNC controlled)	560 mm
Base position under table	10 mm
Spindle vertical adjustment speed	4 m/min
Spindle revolving speed	3500 rpm
Spindle sense of rotation	RH
Standard motor power	7,5 KW
Max tool diameter	320-350mm
1st extraction outlet diameter	100 mm
1st extraction outlet capacity	800 m3/h
2 nd extraction outlet diameter	160 mm
2 nd extraction outlet capacity	2000 m3/h

Device for a perfect anti-splinter function made of a contact bar following the work-piece at the exit of tool operation

TENONING CARRIAGE

Single piece tenoning or tenoning of 2 pieces at the same time (coupled)

90° tenoning or by interpolation (axis X and axis Y) tilted tenoning $\pm 60^\circ$

Carriage movement (axis X and axis Y) by means of precision rack-and-pinion driven by brushless motor, sliding on linear ball guides, dust-proof and chip-proof guides

Work-piece holding collet with speed

Carriage speed.....

CNC controlled automatic setting of tenoning depth, tilting and work-piece length

Automatic work-piece rotation (180°) between the first and the second tenoning

Automatic transfer of work-pieces from the tenoning phase to the profiling side

1st PROFILING SPINDLE (C)

Spindle dia	50 mm
Spindle length	320 mm
Spindle vertical stroke (CNC controlled)	295 mm
Spindle horizontal stroke	60 mm
Base position under table	10 mm
Spindle vertical adjustment speed	5 m/min
Spindle revolving speed	6000 rpm
Spindle sense of rotation	RH
Standard motor power	7.5 Kw
Base tool diameter	110-140 mm
Max tool diameter	240 mm
Extraction outlet diameter	160 mm
Extraction outlet capacity	2000 m3/h

2nd PROFILING SPINDLE (D)

Spindle dia	50 mm
Spindle length	320 mm
Spindle vertical stroke (CNC controlled)	295 mm
Spindle horizontal stroke	60 mm
Base position under table	10 mm
Spindle vertical adjustment speed	5 m/min
Spindle revolving speed	6000 rpm
Spindle sense of rotation	RH-LH
Standard motor power	7.5 Kw
Base tool diameter	110-140 mm
Max tool diameter	240 mm
Extraction outlet diameter	160 mm
Extraction outlet capacity	2000 m3/h

Left/hand rotation for anti-splinter jump operation, operated by hydraulic system to ensure a slow and smooth speed of tool

3rd PROFILING SPINDLE (E)

Spindle dia	50 mm
Spindle length	320 mm
Spindle vertical stroke (CNC controlled)	295 mm
Spindle horizontal stroke	60 mm
Base position under table	10 mm
Spindle vertical adjustment speed	5 m/min
Spindle revolving speed	6000 rpm
Spindle sense of rotation	RH
Standard motor power	7.5 Kw
Base tool diameter	110-140 mm
Max tool diameter	240 mm
Extraction outlet diameter	160 mm
Extraction outlet capacity	2000 m3/h

4th PROFILING SPINDLE (F)

Spindle dia	50 mm
Spindle length	320 mm
Spindle vertical stroke (CNC controlled)	295 mm
Spindle horizontal stroke	60 mm

Base position under table	10 mm
Spindle vertical adjustment speed	5 m/min
Spindle revolving speed	6000 rpm
Spindle sense of rotation.....	RH
Standard motor power	7.5 Kw
Base tool diameter	110-140 mm
Max tool diameter.....	240 mm
Extraction outlet diameter.....	160 mm
Extraction outlet capacity	2000 m3/h

GLASS BEAD RECOVERY UNIT (G)

Motor power	3 (2.2) HP (KW)
Blade dia	200 mm
Blade shaft dia	30 mm
Blade speed	6000 rpm
Blade horizontal adjustment	60 mm
Dust extraction diameter	60 mm
Dust extraction capacity	290 m3/h

LFET/HAND PROFILING FENCE WITH CNC CONTROLLED ELECTRONIC POSITIONING, TO DETERMINE WORK-PIECE CORRECT WIDTH. AUTOMATICALLY RETRACTABLE DURING SASH OUTSIDE PROFILING

FEED UNIT

Motor power	1 (0.74)HP (KW)
Feed speed (variable)	4-20 m/min
Number of feed wheels	22
Diameter of rubber-coated feed wheels.....	145 mm
Wheels pressure (pneumatically variable)	
Cardan joint transmission	
Feed bar vertical adjustment motor	0.5 (0.37)HP (KW)
Automatic vertical adjustment with electronic readout showing vertical positioning on control panel	
Device for CNC controlled automatic change of the side left/hand pressure during profiling, or right/hand pressure during sash or frames squaring	

HYDRAULIC SYSTEM to operate the Hydro- system on positioning guides for spindles A-C-D-N and to control the horizontal positioning of spindles A-C-D-N

Motor power	0.5 (0.37)HP (KW)
Pump capacity.....	12 lt/min
Tank capacity	20 lt
Hydro-pneumatic accumulator capacity	0.7 lt

INCLUDING THE FOLLOWING OPTIONS:

UPPER HORIZONTAL SPINDLE UNIT (L)

Motor power	3 (2.2) HP (KW)
Spindle dia.	30 mm
Spindle length	27 mm
Spindle speed	6000 rpm
Spindle horiz. stroke	70 mm
Min. distance spindle/work-table	120 mm
Max. distance spindle/work-table	190 mm

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Spindle vert. adjustment 70 mm
 Max. tool dia. 200 mm
 Dust extraction outlet diameter 60 mm
 Dust extraction capacity 290 m3/h

LOWER HORIZONTAL SPINDLE UNIT (M)

Motor power 3 (2.2) HP (KW)
 Spindle dia. 30 mm
 Spindle length 82.5 mm
 Spindle speed 6000 rpm
 Spindle horiz. stroke 40 mm
 Min. distance spindle/work-table 65 mm
 Max. distance spindle/work-table 105 mm
 Spindle vert. adjustment 40 mm
 Max. tool dia. 185 mm
 Dust extraction outlet diameter 100 mm
 Dust extraction capacity 800 m3/h

AUXILIARY HEAD FOR HARWARE GROOVING (I)

Motor power 4 (3) HP (KW)
 Spindle dia. 30 mm
 Spindle length 100 mm
 Spindle speed 6000 rpm
 Spindle horiz. stroke 60 mm
 Spindle vertical adjustment 60 mm
 Max. tool dia. 190 mm
 Dust extraction outlet diameter 100 mm
 Dust extraction capacity 800 m3/h
 Device for 2 CNC controlled vertical positionings (Max adjust. 60 mm)

TOTAL AMOUNT EURO 265.500,00

SALES CONDITIONS:

Payment	: 20% with the order – settlement before delivery
Delivery	: TO BE AGREED
Shipment	: Ex-works
Warranty	: 12 months for mechanical components / 6 months for electrical/electronic components
Installation	: included at OUR WORKSHOP with your tooling, to be quoted separately at customer's factory.



WOOD YOU.

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CNC CONTROLLED MACHINING CENTER FOR BORING AND ROUTING WOOD-WINDOWS AND DOORS COMPONENTS - Model "FS. 05"



CNC unit for drilling, milling. It can be integrated in automatic lines

Work-piece loading, unloading and transfer (single or double) is automatically obtained by means of two independent collets (3 closing modes: open, closed, low pressure)

The machine used as a single unit (standing alone).

Possibility to load/unload on opposite sides or on the same side.

POSSIBLE OPERATIONS (according to machine configuration):

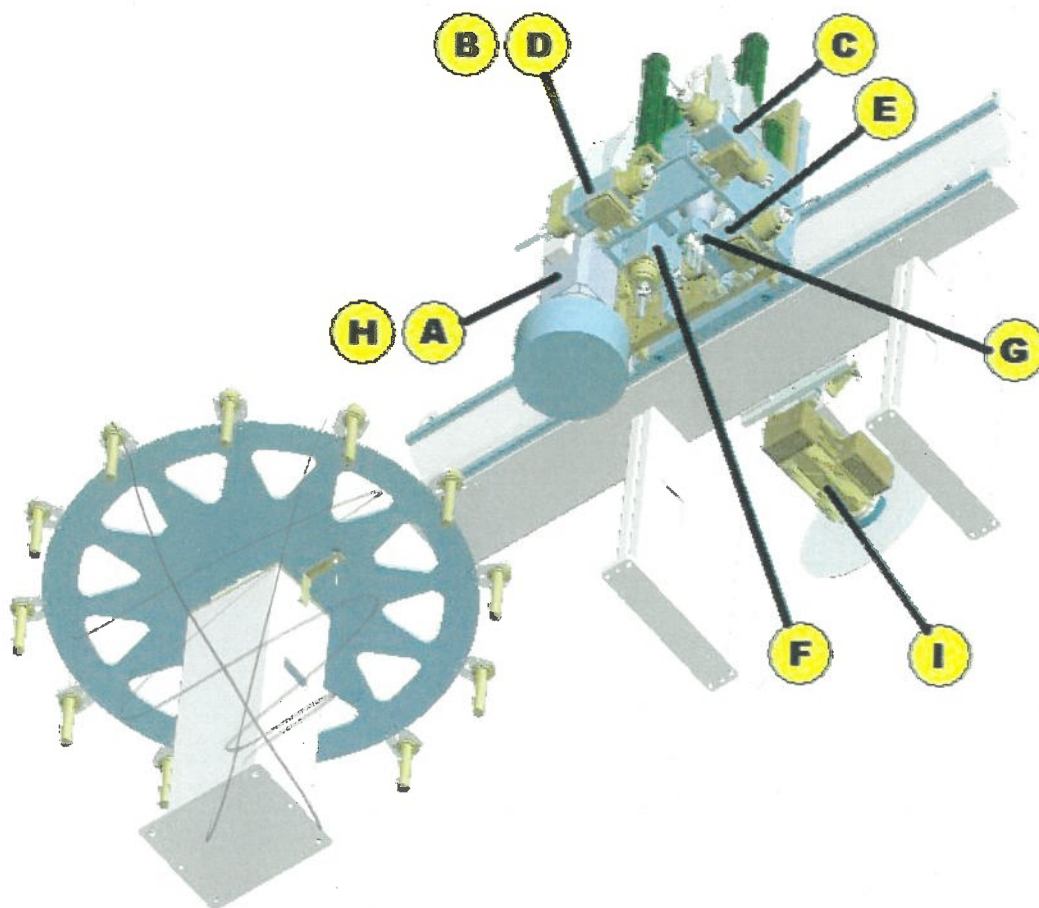
- Glass bead cutting-off at 45°
- Fitting housing – clearance 4
- Reference for fittings positioning – clearance 12
- Hinge housing milling
- Handle drilling (by means of 3-drill device)
- Hardware housing milling
- Hardware cylinder drilling
- Anuba drilling
- Drilling for dowel assembly
- Drilling for mechanical assembly
- Tilted drilling for anuba and water discharging (by means of adjustable tilting module upon request).

MAIN FEATURES

- Possibility to operate single pieces or 2 pieces at the same time.
- Max. working width 200 mm for single piece or 2 pcs 100+100 mm.
- Work-piece thickness 20-120 mm or 50-150 mm.
- Min. work-piece length 250 mm + head/bottom working thickness
- Max. work-piece length 3100 mm (according to the type of operation)

Afgevoerd van oylvaal hout
brosse -> conformatisch
- 1000€ transport
band.

Tot 315 000 €



STANDARD OPERATING UNITS

Electro-spindle C	Axis X	Head and bottom drilling	1.75 Kw	15.000 rpm	Double
Electro-spindle D	Axis Y	Side fittings or slots reference drilling	1.75 Kw	15.000 rpm	Double
Electro-spindle E	Axis Y	Side dowel housing drilling	1.75 Kw	15.000 rpm	Double
Electro-spindle F	Axis Z	Hinge housing milling Glass bead cutting-off Fittings housing – clearance 4	1.75 Kw	15.000 rpm	Single
Electro-spindle G	Axis Z	3-hole handle drilling (head not included)	1.75 Kw	15.000 rpm	Single

- **C** Horizontal drilling/milling unit with double exit for head/bottom drilling (dowels) - **Inverter** 1.75 KW max.speed 15000 rpm.
- **D-E** Cross-wise drilling/milling units with double exit for drilling R/H and L/H face (for dowels and slots) - **Inverter** 1.75 KW max.speed 15000 rpm.
- **F-G** Vertical drilling/milling units for drills, tools and straight drilling units (handle drill, glass beads cutting-off, anuba, and so on) - **Inverter** 1.75 KW max.speed 15000 rpm.

OPERATING UNITS REQUEST

Electro-spindle B	Variable	Adjustable tilting drilling	1.5 Kw	15.000 rpm	Double
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Electro-spindle H	Axis Z	Standard vertical drilling	1.75 Kw	15.000 rpm	Single
Electro-spindle I	Axis X	Head/Botton trimming	3 Kw	3.000 rpm	Single

- **"B"** Programmable tilting drilling unit on continuous axis T, 2-exit for each tilted drill type (water drip, anuba drills) or tilted dowel drills for tilted window. **Inverter** 1,75 KW max. speed 15000 rpm.
- **"H"** Vertical Drilling-Milling unit for drills, tools or straight drilling units (handle hole, glass bead cutting off, anuba, and so on...) **Inverter** 1,75 KW max. speed 15000 rpm.
- **"I"** Cutting off unit for blade max. diameter 500 mm, direct drive 3 KW max. speed 3000 rpm.

Important :

The installation of unit B requires the removal of unit D.

All heads (3-drill handle hole, 2-exit hinges housing or others) are upon request.

ELECTRONIC CONTROL

Beckhoff CNC electronic control with linear and circular interpolation X-Y-Z, up to controlled 7 axes.

- Servo-controlled clamp positioning axes X1 and X2, max speed 50 m/min – independent positioning or electrical axis (coupled).
- Servo-controlled working axes Y and Z, max. speed 50 m/min.
- Axis M for the positioning of the rotating spindle storage (capacity 10 tools).
- Axis C for main electro-spindle "A" orientation (Optional).
- Axis T for controlled tilting of double-exit tilting drilling unit "B" (Optional).
- Machine Supervisor with machine troubleshooting on Beckhoff industrial PC, interface graphic support up to 16 different languages, including special figures (Chinese, Greek, Arab, Japanese, Cyrillic and others).
- Easy use and programming, thanks to the integrated CAD-CAM system, automatic generation of ISO language for the numeric control.
- Automatic operation and movement of work-piece clamps.
- Double anti-collision system to ensure a high safety standard for machine and operator.
- Integrated Software to manage all working options and hardware different solutions.

ON-LINE SERVICE :

It is possible to carry out machine trouble-shooting and correction of errors by means of the "on-line" service provided by SAC. This service is available through INTERNET connection by machine PC (using the ethernet connection available on machine control).

PN F9931400000 – **FS05** STANDARD MACHINE

PN F9931400000 – ELECTRO-SPINDLE **"H"**

PN xxxxxxxxxxxxx – ELECTRO-SPINDLE **"I"**

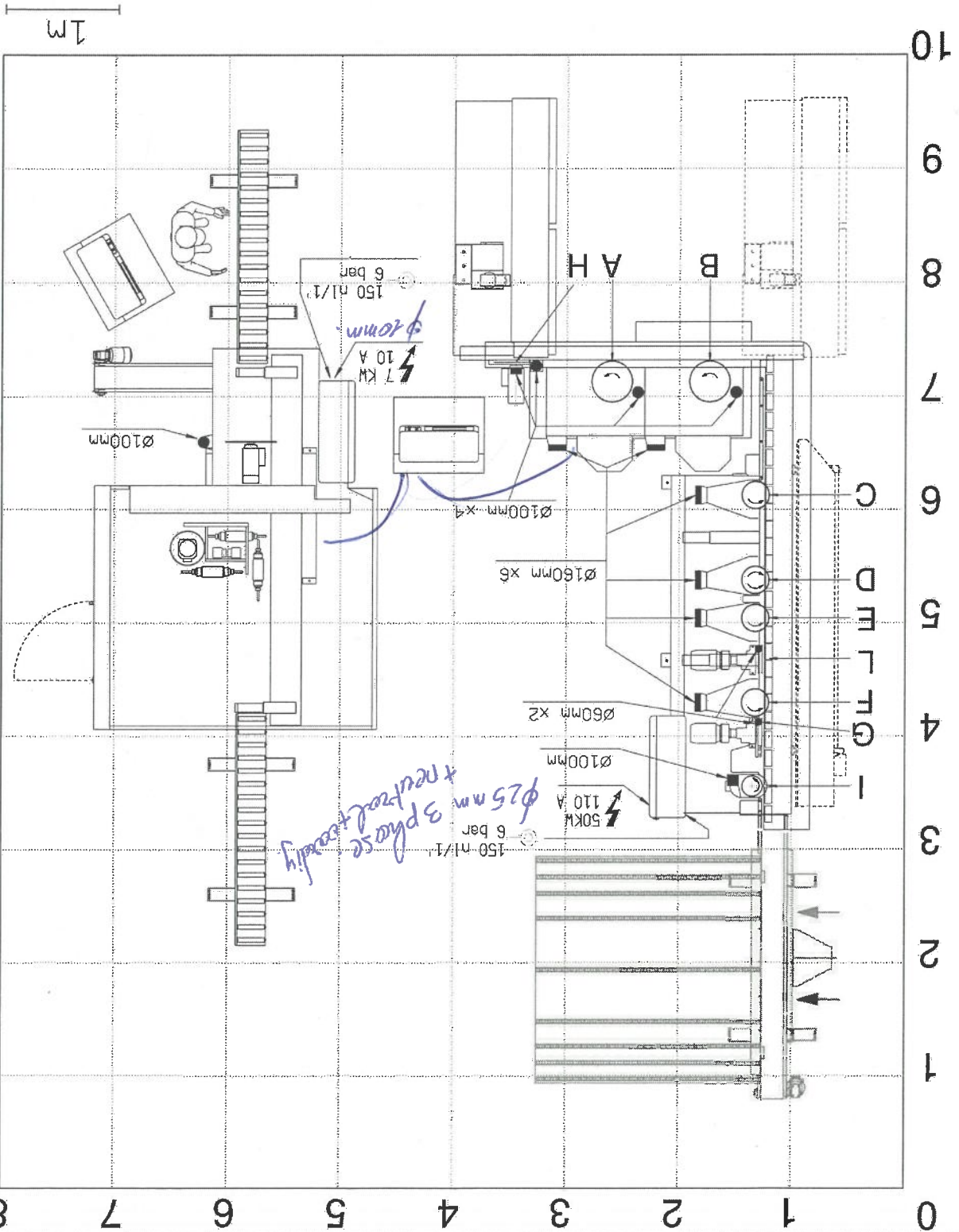
PN F9931400000 – 3-DRILL HEAD FOR HANDLE HOLE

TOTAL AMOUNT.....EURO 112.500,00

BLADE H	100	2	1600
SPINDLE A	160	1	2000
SPINDLE B	100	1	800
SPINDLE B	160	1	2000
SPINDLE C	100	1	800
SPINDLE C	160	1	2000
SPINDLE D	160	1	2000
SPINDLE E	160	1	2000
SPINDLE F	160	1	2000
SPINDLE G	60	1	600
SPINDLE I	100	1	800
SPINDLE L	60	1	600

DIAMETER mm	NR°	CAPACITY m³/h
F30 AIR SPEED 28m/sec		

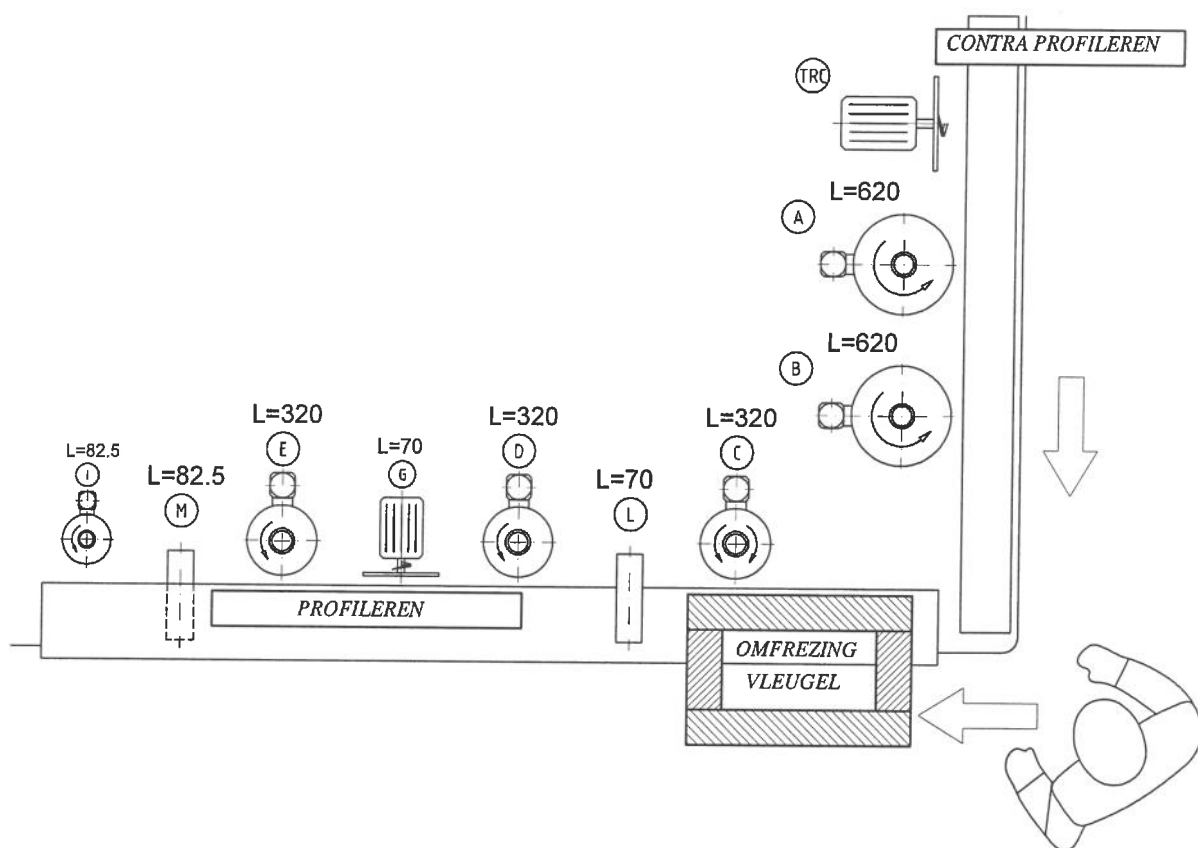
FS.05 AIR SPEED 28m/sec	DIAMETER mm	NR°	CAPACITY m³/h
BLADE H	100	1	800

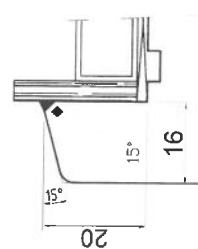
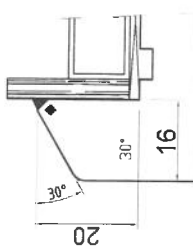
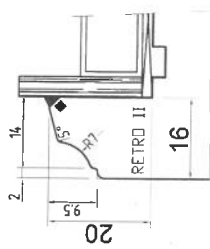
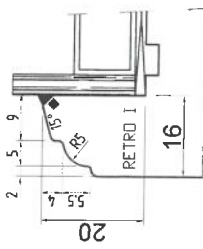


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LAY-OUT VAN TENDELOO		A. Battinani 03/04/2012	
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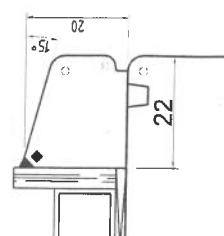
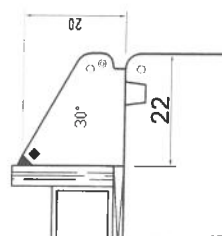
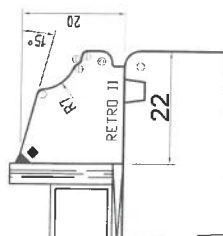
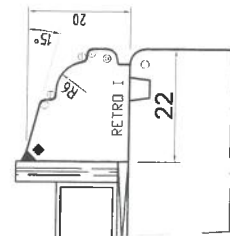
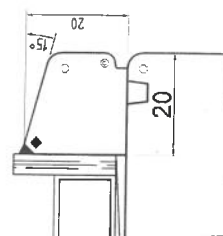
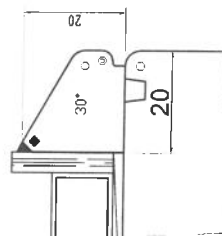
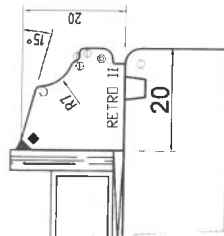
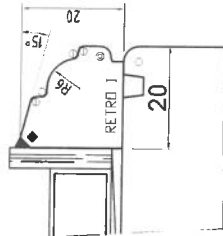
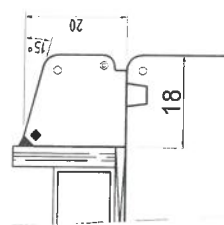
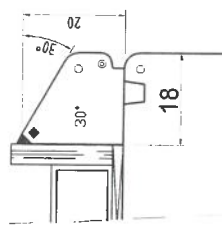
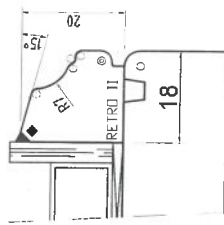
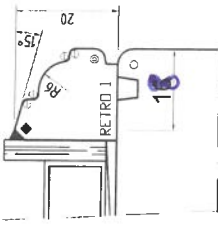
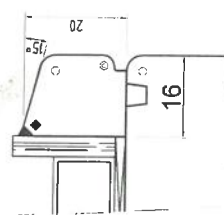
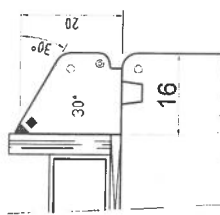
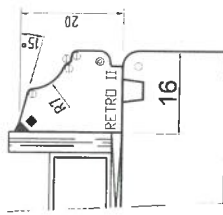
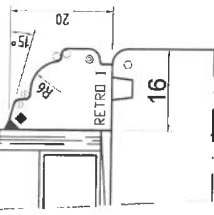
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VAN TENDELOO

VLEUGEL VARIANTEN

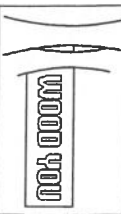
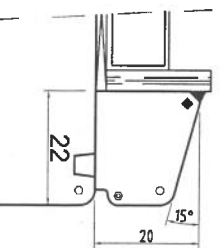
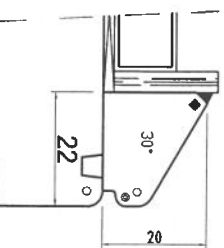
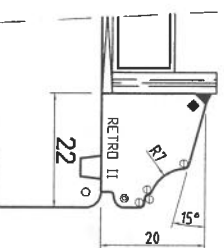
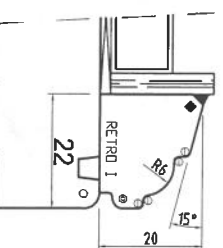
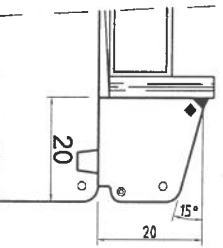
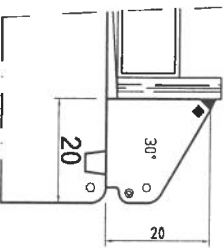
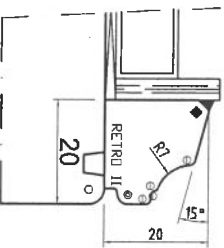
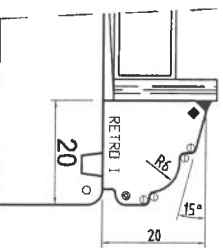
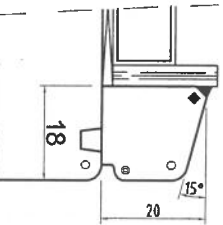
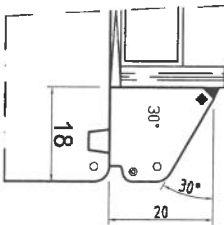
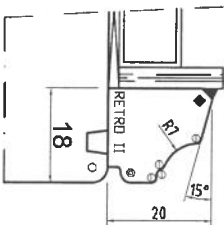
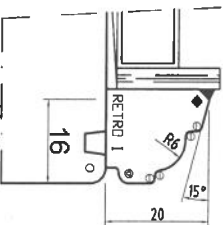
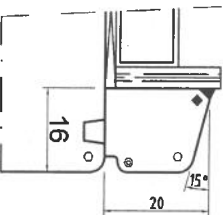
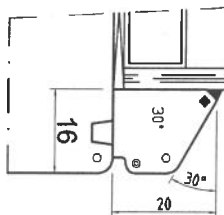
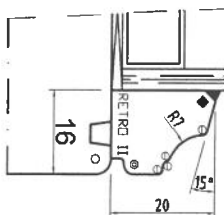
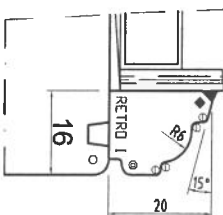
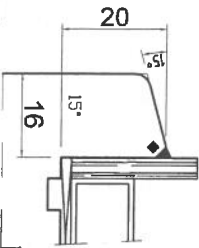
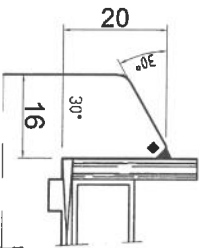
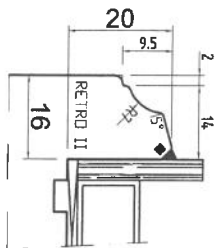
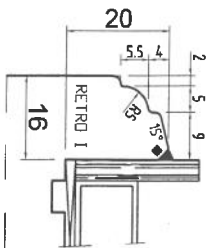


- ◊ = 0.5x45°
- ◊ = 10x45°
- ◊ = 15x45°
- ◊ = 20x45°
- ◊ = 25x45°
- ◊ = 30x45°
- = R10
- ⊗ = R15
- ⊗ = R20
- ⊗ = R25
- ⊗ = R30
- ⊗ = R50

A.T.

13/02/12

00



VAN TENDELOO

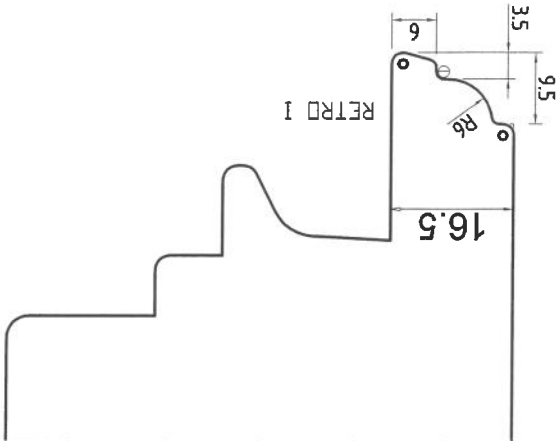
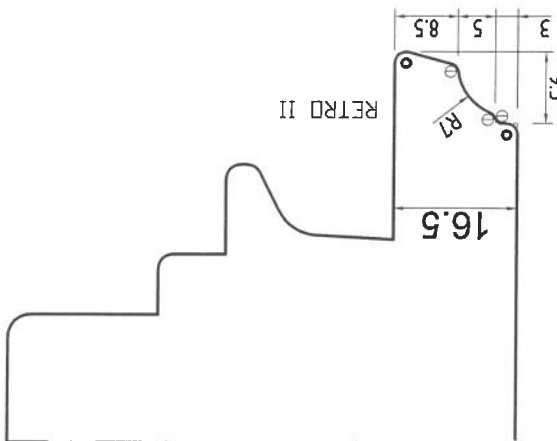
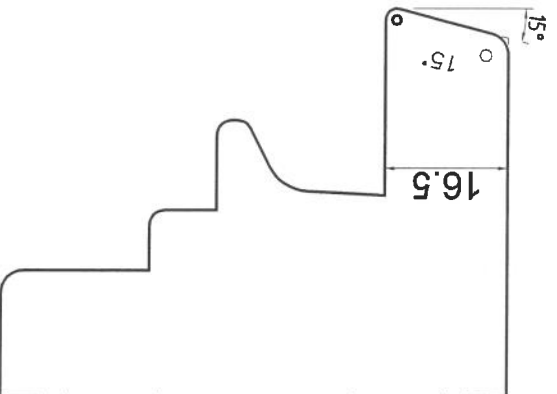
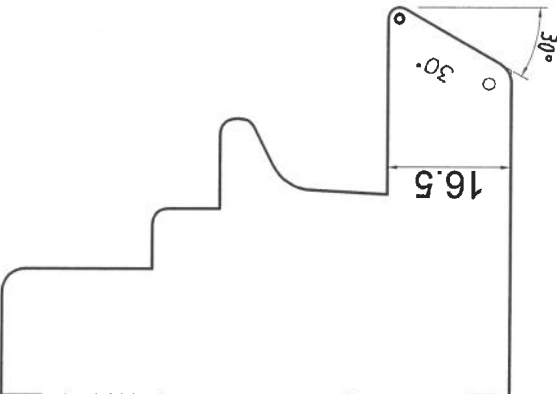
VLEUGEL VARIANTEN

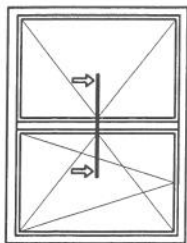
A.T.

00

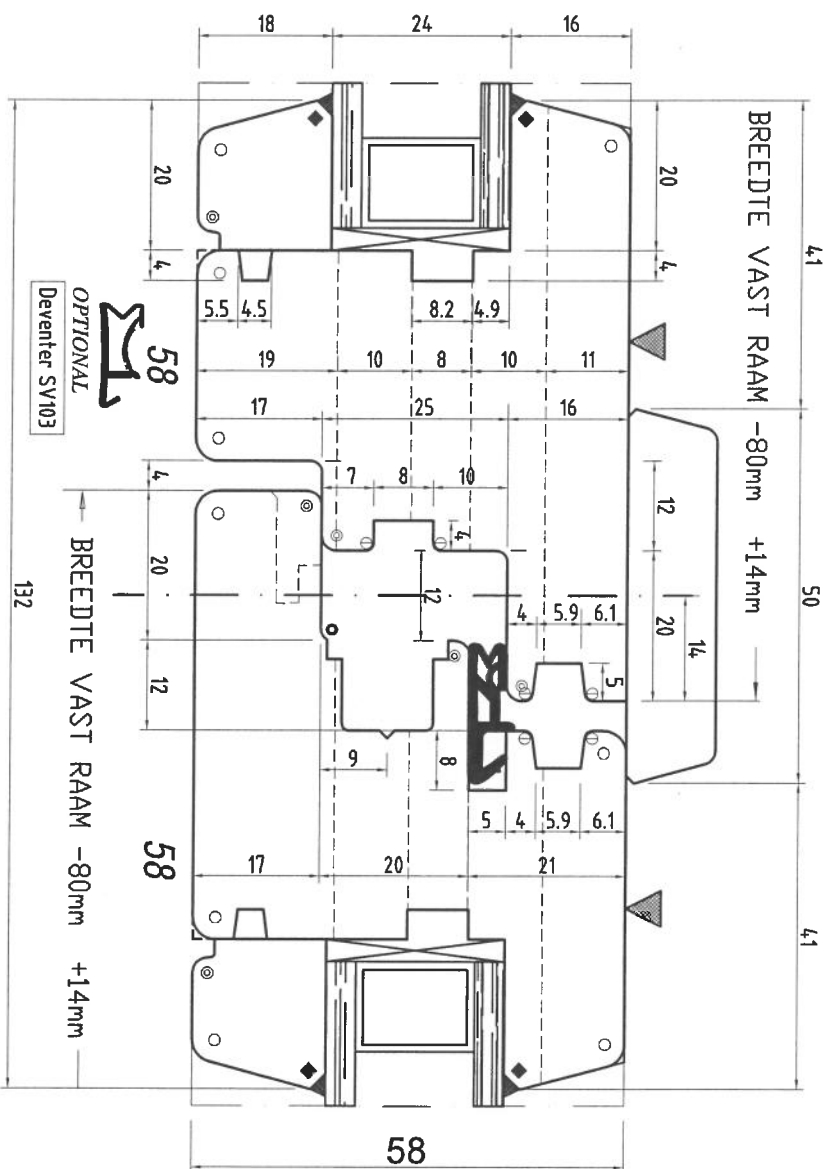
13/02/12

- ◊ = 0.5x45°
- ◊ = 10x45°
- ◊ = 15x45°
- ◊ = 20x45°
- ◊ = 25x45°
- ◊ = 3
- ⊙ = R10
- ⊙ = R15
- ⊙ = R20
- ⊙ = R25
- ⊙ = R30
- ⊙ = R50

WOOD YOU		BLINDRAAM VARIANTEN		01		13/02/12	
WOOD YOU		VAN TENDELOO				A.T.	
		RETRO I 		RETRO II 			
		15° 		30° 			
						◊ = 3.0x45° ◊ = 2.5x45° ◆ = 2.0x45° ◊ = 1.5x45° ◊ = 1.0x45° ◊ = 0.5x45° ⊙ = R2.0 ⊙ = R1.5 ⊙ = R1.0 ● = R5.0 ○ = R3.0 ⊖ = R2.5	



HORIZONTALE DOORSNEDE



VAN TENDELOO

HORIZONTALE DOORSNEDE 58 mm

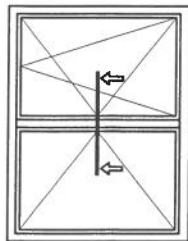
WOOD YOU

A.T.

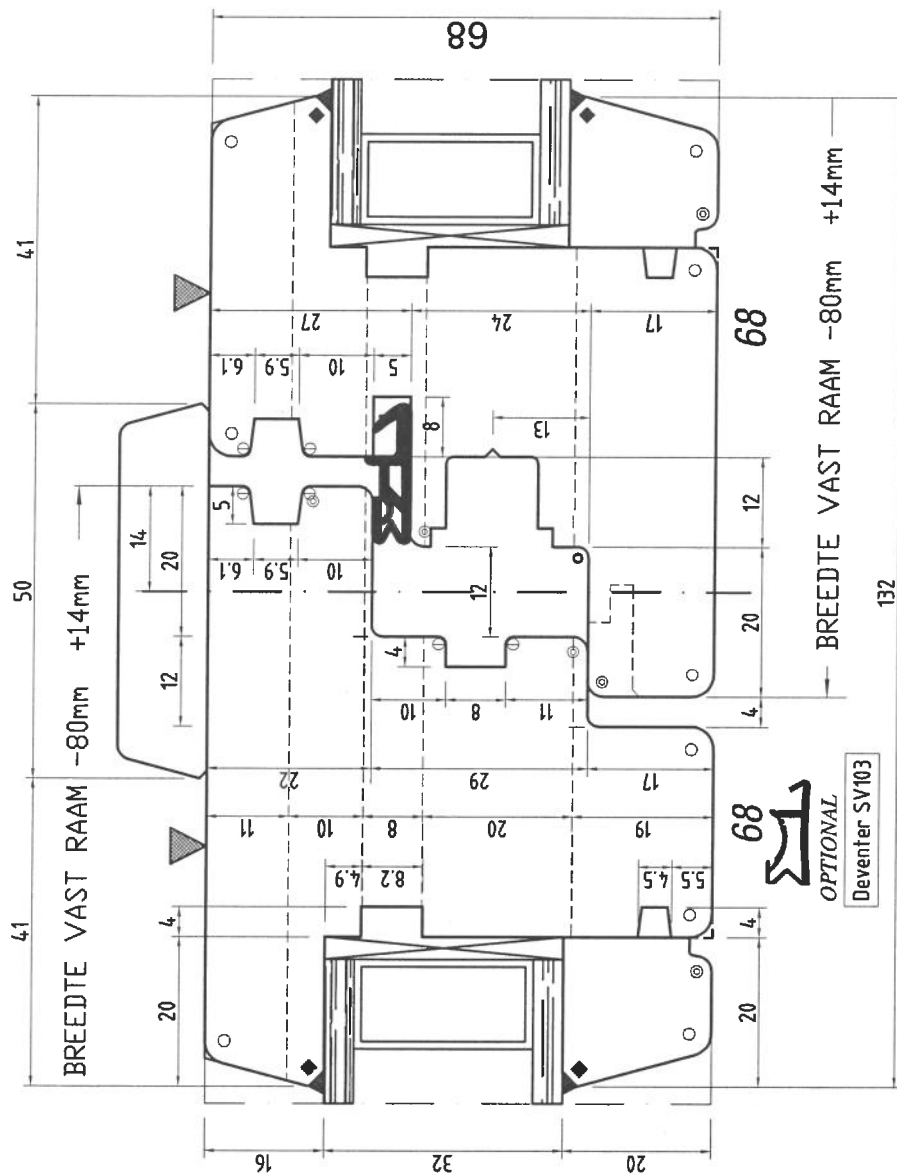
03

13/02/11

- ◇ = 0.5x45°
- ◇ = 10x45°
- ◇ = 15x45°
- ◇ = 20x45°
- ◇ = 25x45°
- ◇ = 30x45°
- ⊖ = R10
- ⊖ = R15
- ⊖ = R20
- ⊖ = R25
- ⊖ = R30
- = R50



HORIZONTALE DOORSNEDE



VAN TENDELOO

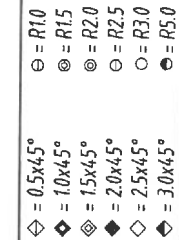
HORIZONTALE DOORSNEDE 68 mm

A.T.

13

13/02/11

- ◊ = 0.5x45°
- ◊ = 1.0x45°
- ◊ = 1.5x45°
- ◊ = 2.0x45°
- ◊ = 2.5x45°
- ◊ = 3.0x45°
- ⊖ = R10
- ⊖ = R15
- ⊖ = R20
- ⊖ = R25
- ⊖ = R30
- ⊖ = R50



VAN TENDELOO

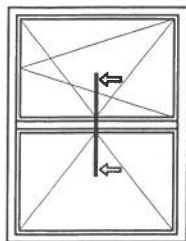
HORIZONTALE DOORSNEDE 78 mm

A.T.

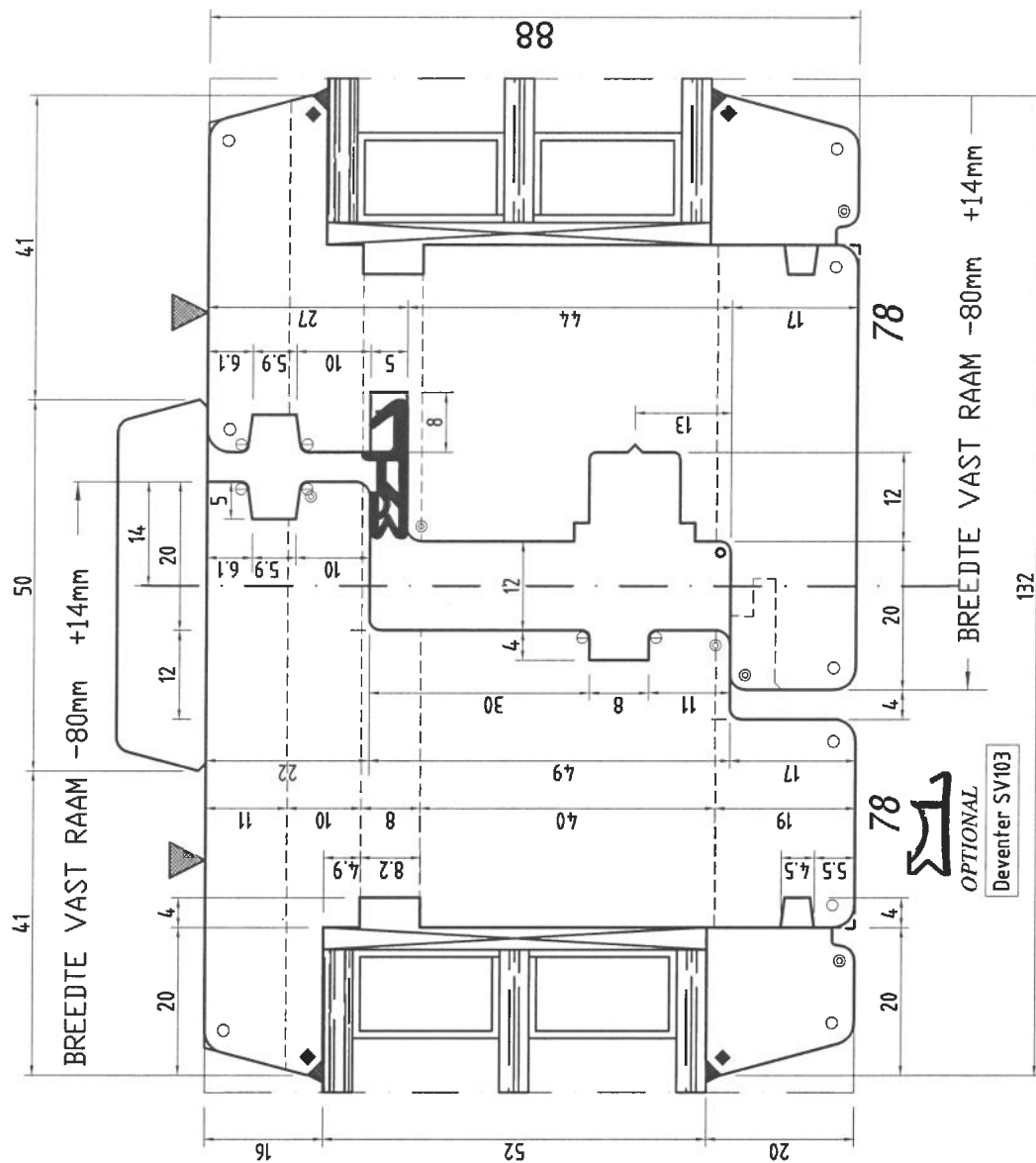
13/02/11

23

wood you



HORIZONTALE DOORSNEDE



VAN TENDELOO

HORIZONTALE DOORSNEDE 88 mm

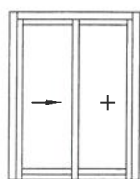
WOOD YOU

A.T.

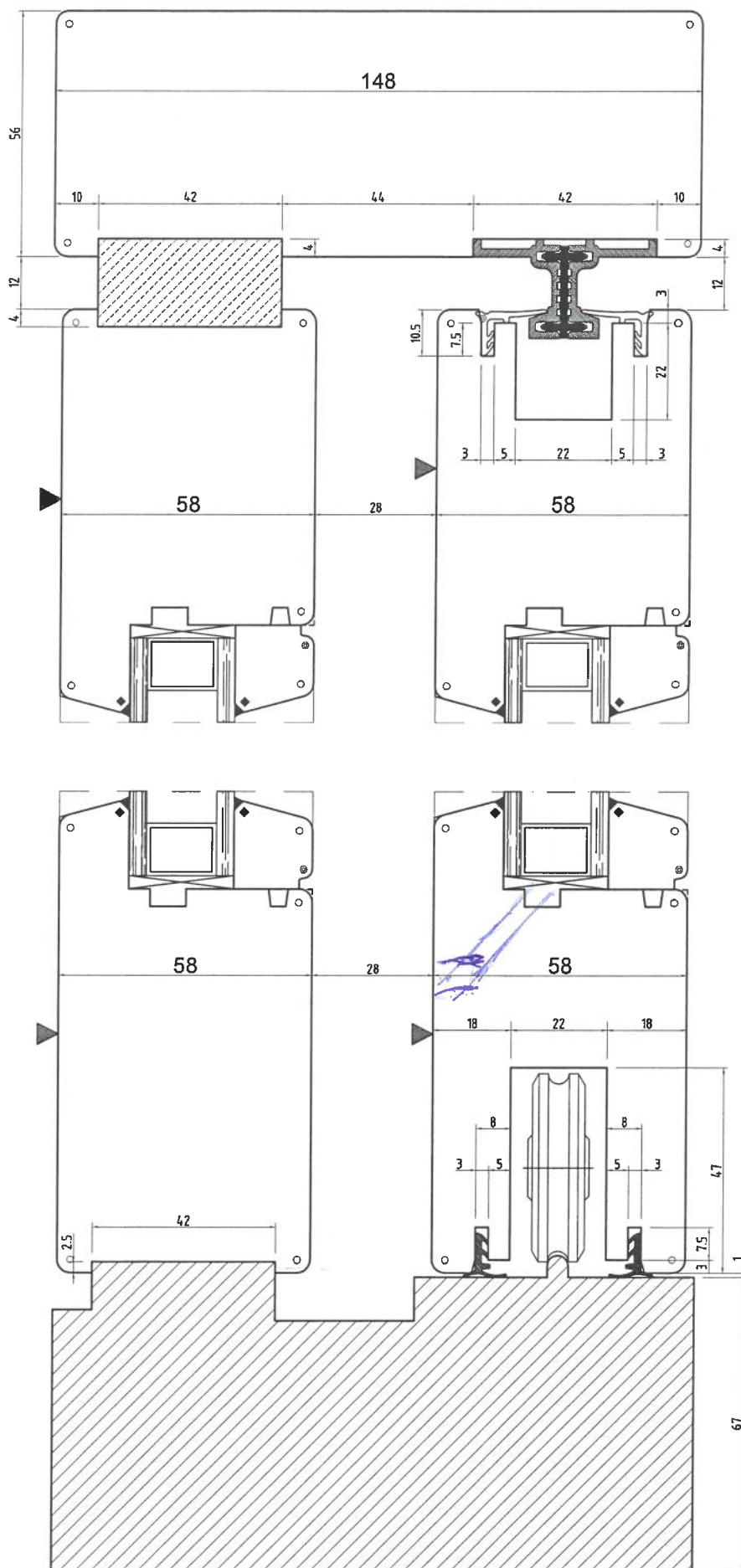
33

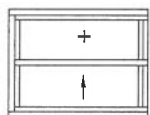
13/02/11

- ◇ = 0.5x45°
- ◇ = 1.0x45°
- ◇ = 1.5x45°
- ◇ = 2.0x45°
- ◇ = 2.5x45°
- ◇ = 3.0x45°
- = R1.0
- ⊙ = R1.5
- ⊙ = R2.0
- ⊙ = R2.5
- ⊙ = R3.0
- ⊙ = R5.0

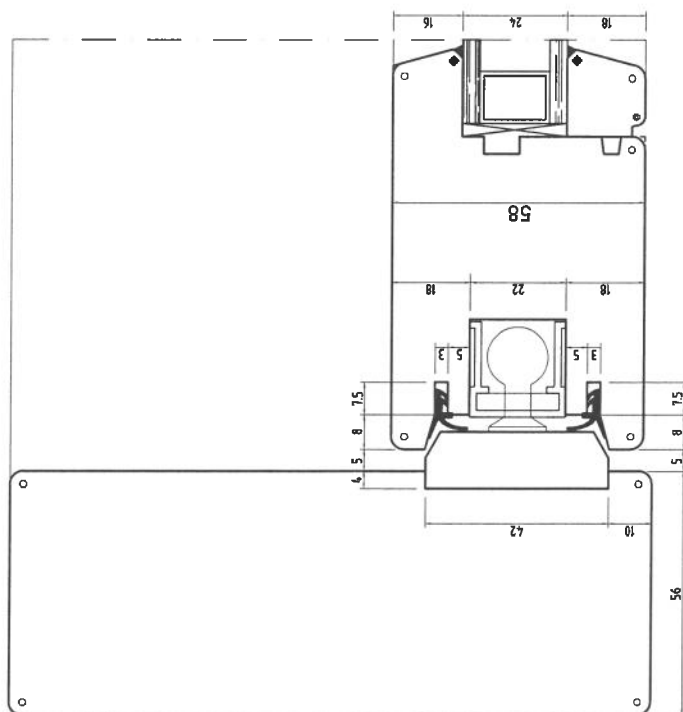
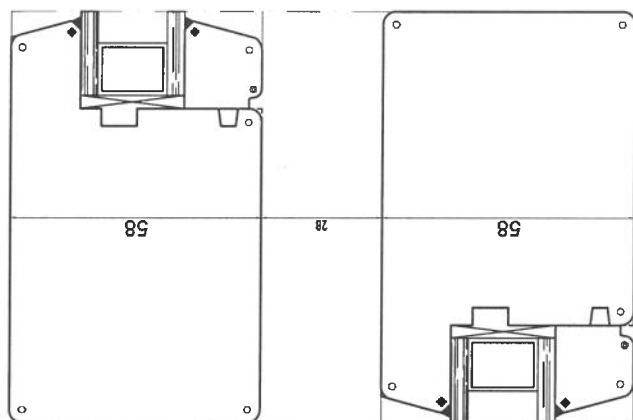
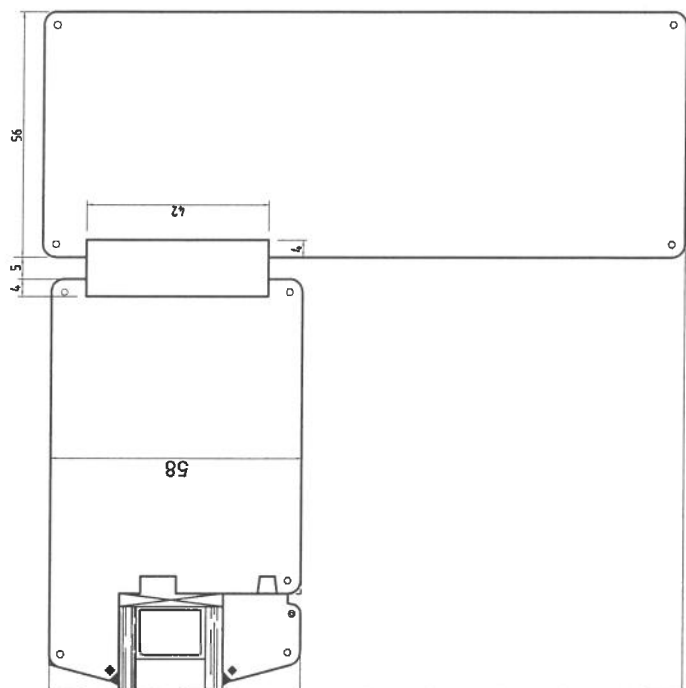


Verticale
Doorsnede





Horizontale
Doorsnede

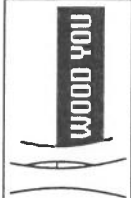


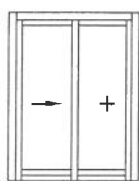
- ⊕ = 0.5x45°
- ⊕ = 1.0x45°
- ⊕ = 1.5x45°
- ⊕ = 2.0x45°
- ⊕ = 2.5x45°
- ⊕ = 3.0x45°
- ⊕ = R10
- ⊕ = R15
- ⊕ = R20
- ⊕ = R25
- ⊕ = R30
- ⊕ = R50

A.T.
13/02/12

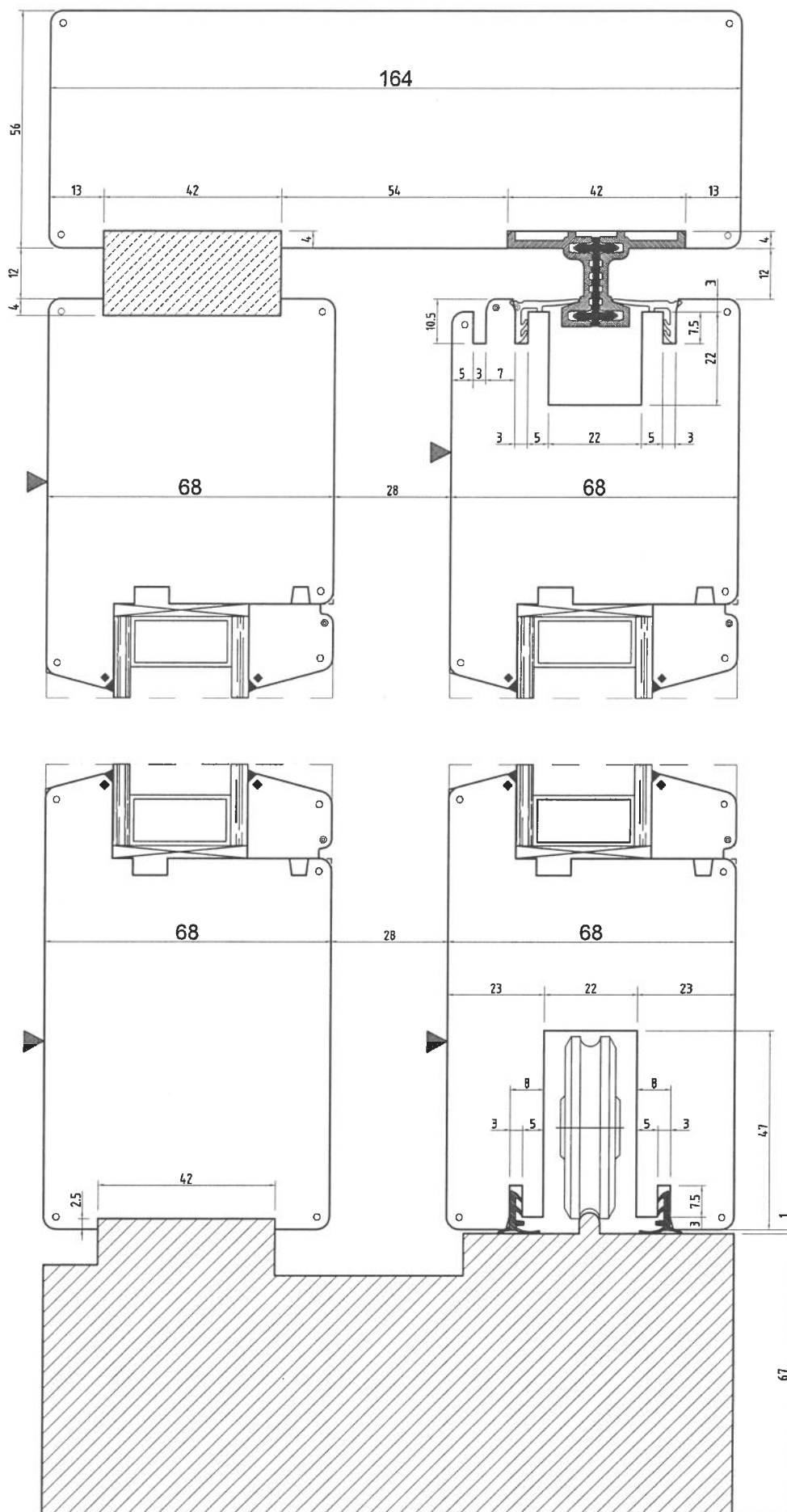
43

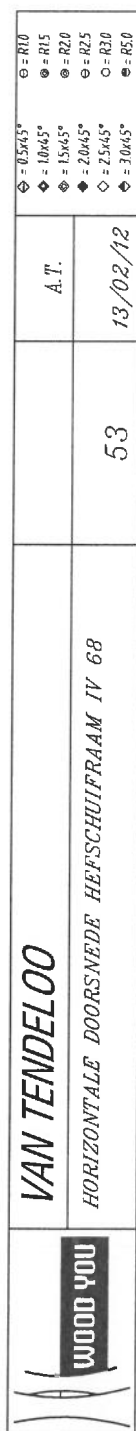
VAN TENDELOO
HORIZONTALE DOORSNEDE HEFSCHUIFRAAM IV 58





Verticale
Doorsnede





VAN TENDELOO

HORIZONTALE DOORSNEDE HEFSCHUIFRAAM IV 68

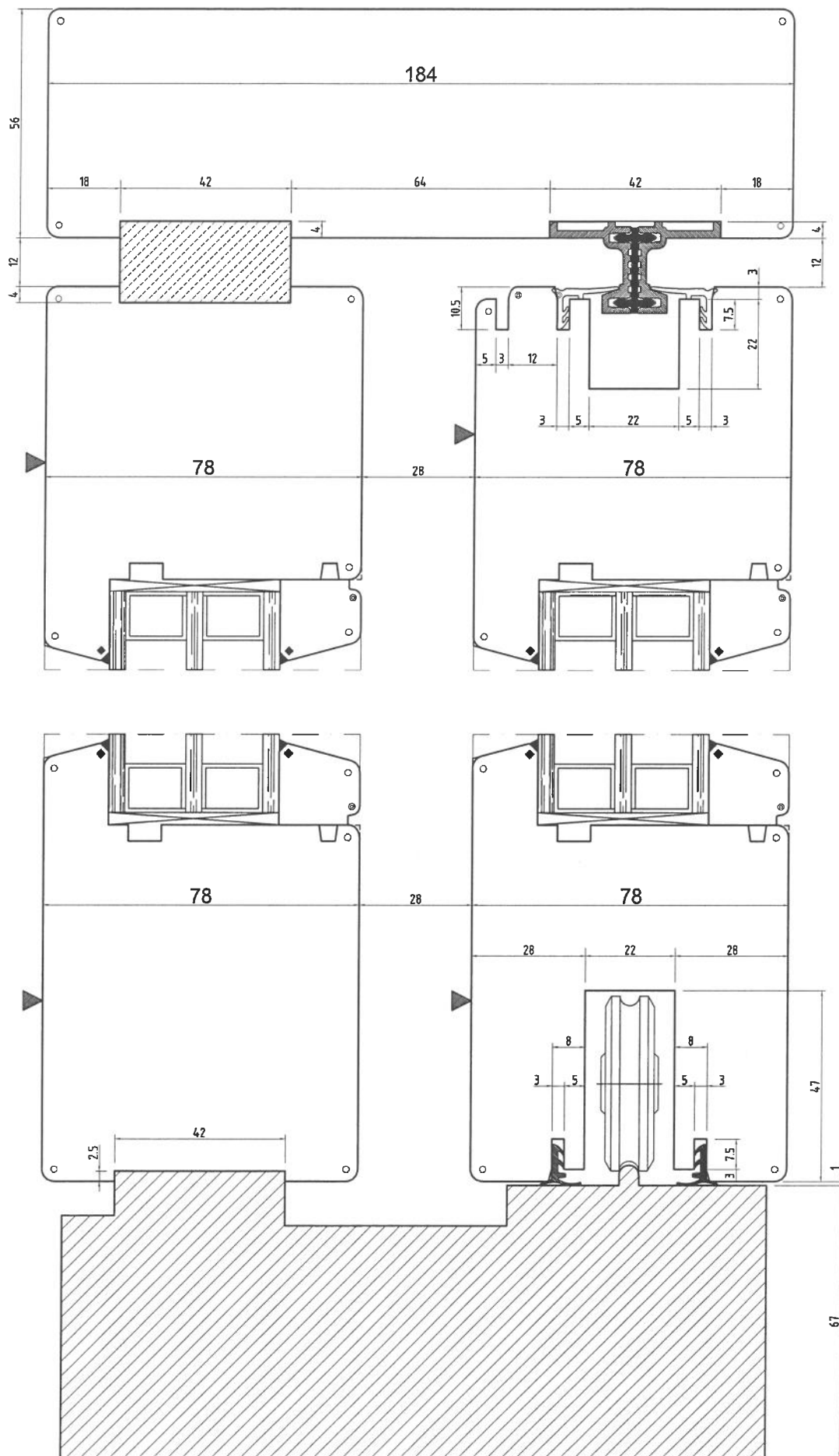
NOY DOOM

A.T.

13/02/12

53

	$= 0.5 \times 45^\circ$	$\ominus = R10$
	$= 1.0 \times 45^\circ$	$\otimes = R15$
	$= 1.5 \times 45^\circ$	$\otimes = R20$
	$= 2.0 \times 45^\circ$	$\ominus = R25$
	$= 2.5 \times 45^\circ$	$\circ = R30$
	$= 3.0 \times 45^\circ$	$\otimes = R50$



Verticale
Doorsnede

VAN TENDELOO

VERTICALE DOORSNEDE HEFSCHUIFRAAM IV 78

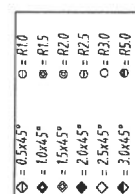
A.T.

62

13/02/12

◇ = 0.5x45°
 ◆ = 1.0x45°
 ◆ = 1.5x45°
 ◆ = 2.0x45°
 ◇ = 2.5x45°
 ◆ = 3.0x45°

⊖ = R10
 ⊖ = R15
 ⊖ = R20
 ⊖ = R25
 ⊖ = R30
 ⊖ = R50



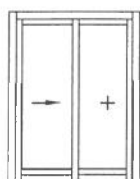
13/02/12

63

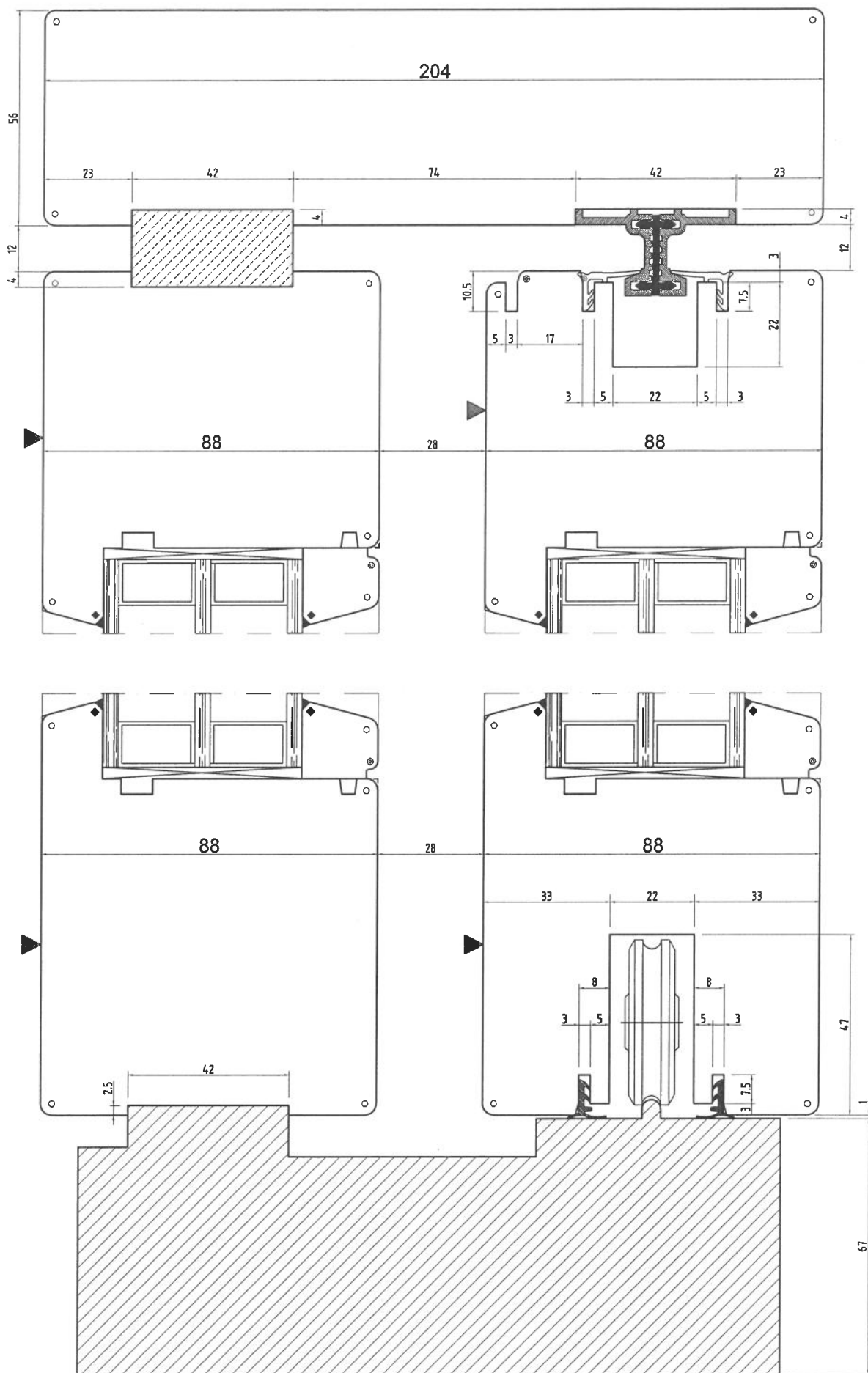
VAN TENDELOO

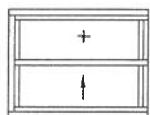
HORIZONTALE DOORSNEDE HEFSCHUIFRAAM IV 78

POH POOM

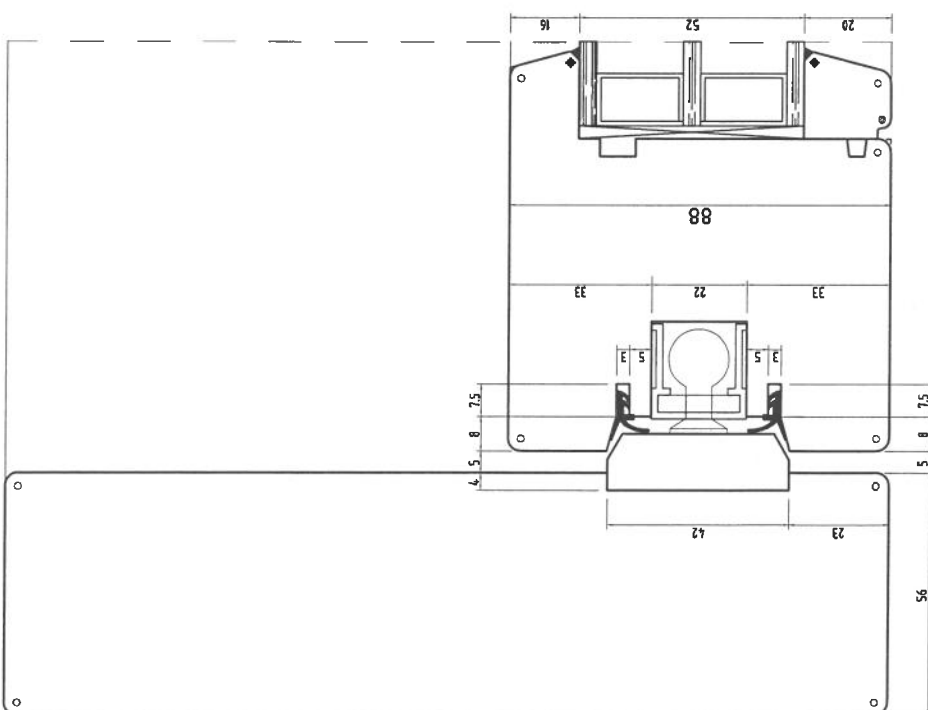
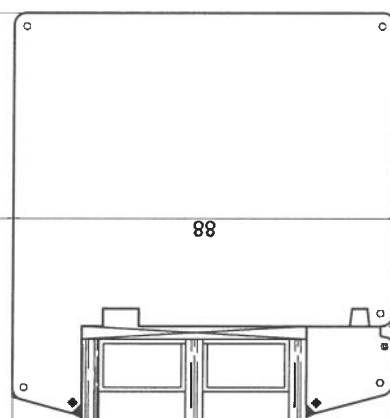
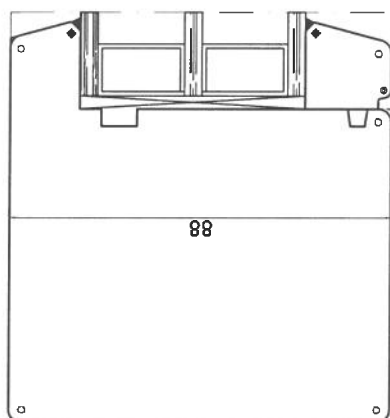
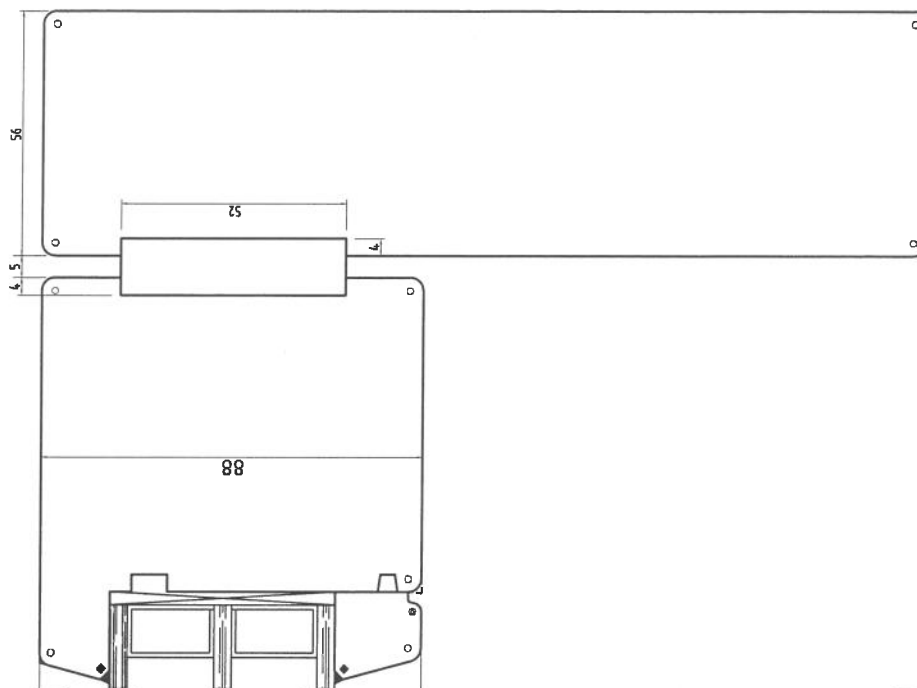


Verticale
Doorsnede





Horizontale
Doorsnede



	VAN TENDELOO		73	A.T.	$\diamond = 0.5 \times 4.5^\circ$ $\diamond = 1.0 \times 4.5^\circ$ $\diamond = 1.5 \times 4.5^\circ$ $\diamond = 2.0 \times 4.5^\circ$ $\diamond = 2.5 \times 4.5^\circ$ $\diamond = 3.0 \times 4.5^\circ$ $\Theta = R1.0$ $\Theta = R1.5$ $\Theta = R2.0$ $\Theta = R2.5$ $\Theta = R3.0$ $\Theta = R5.0$
	HORIZONTALE DOORSNEDE HEFSCHUIFRAAM IV 88				

WOOD YOU

BLINDRAAM VARIANTEN

01

13/02/12

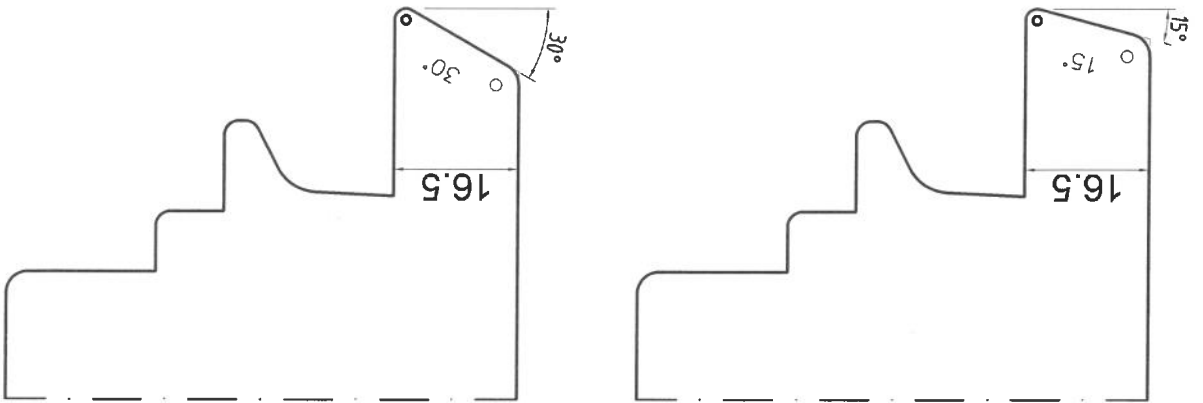
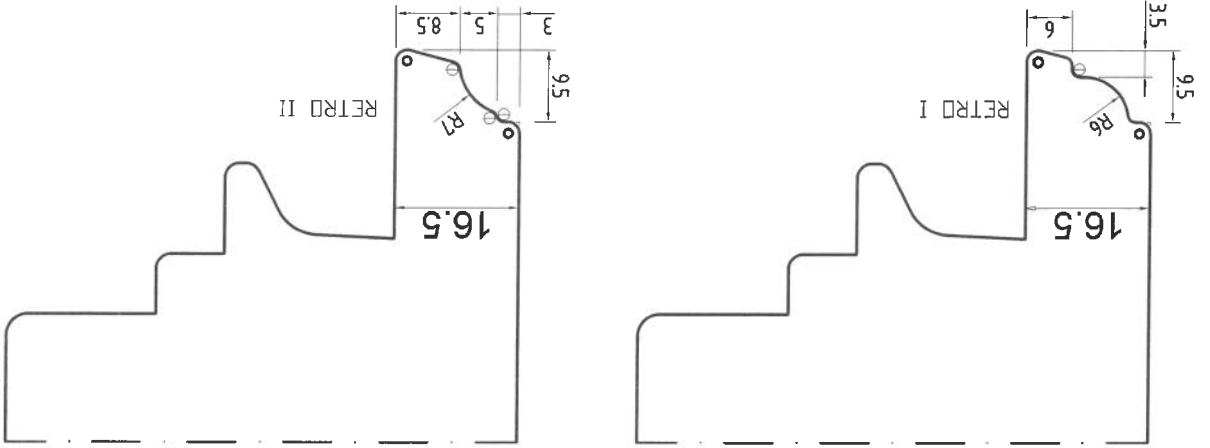
A.T.

VAN TENDELOO

WOOD YOU

RETRO I

RETRO II



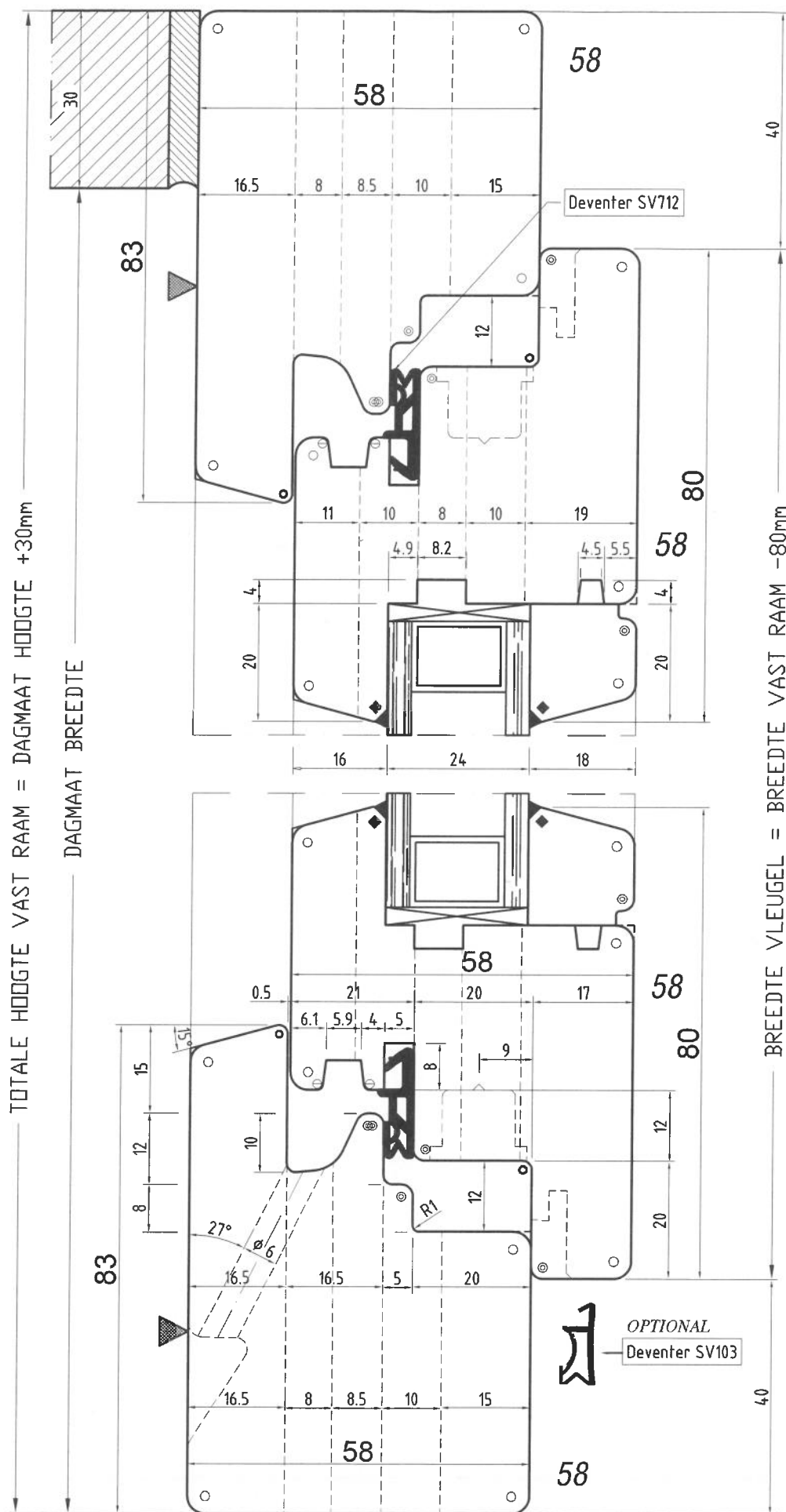
of 0° (=recht)

- ◊ = 3.0x45°
- ◇ = 2.5x45°
- ◆ = 2.0x45°
- ◈ = 1.5x45°
- ◈ = 1.0x45°
- ◈ = 0.5x45°
- ⊙ = R2.0
- ⊙ = R1.5
- ⊙ = R1.0
- ⊙ = R5.0
- = R3.0
- ⊙ = R2.5

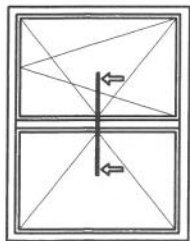
TOTALE HOOGTE VAST RAAM = DAGMAAT HOOGTE + 30mm

DAGMAAT BREEDTE

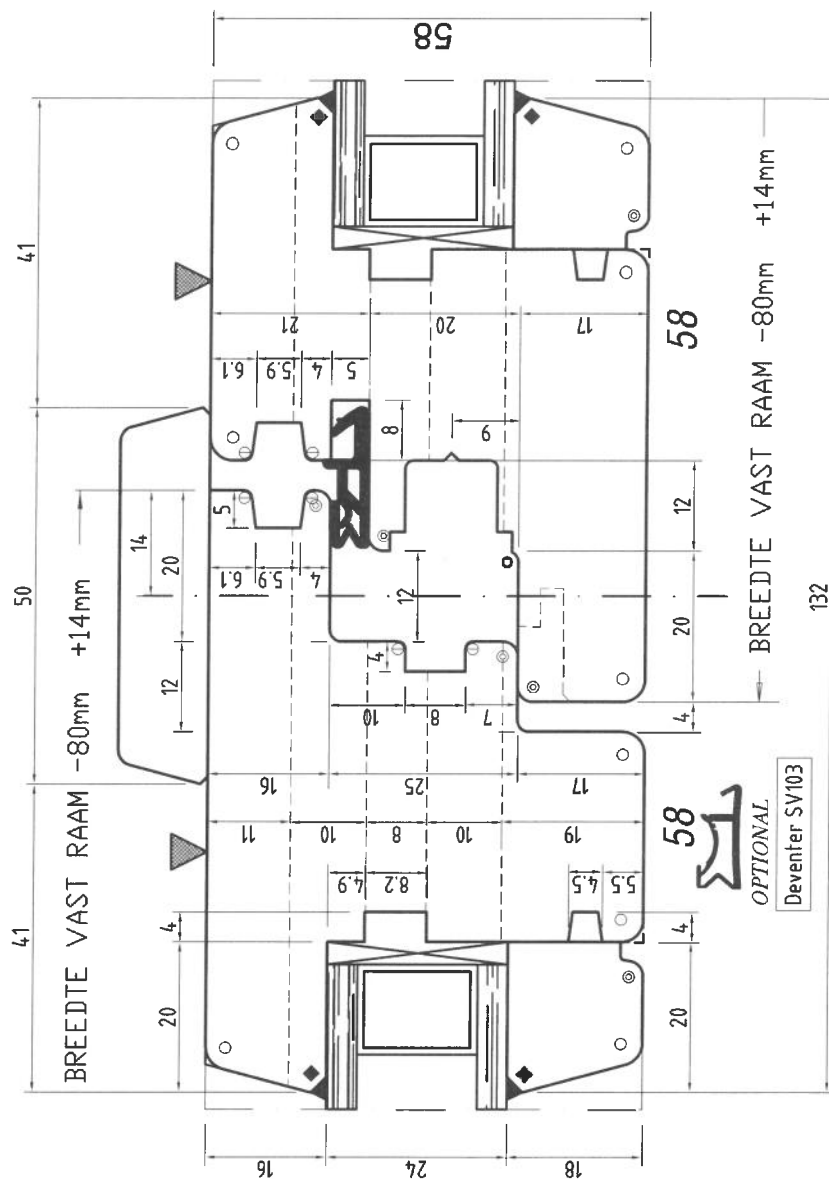
BREEDTE VLEUGEL = BREEDTE VAST RAAM - 80mm



⊖	= R2.5
○	= R3.0
●	= R5.0
⊖	= R1.0
⊗	= R1.5
⊙	= R2.0
◇	= 0.5x45°
◆	= 1.0x45°
◇	= 1.5x45°
◆	= 2.0x45°
◇	= 2.5x45°
◆	= 3.0x45°



HORIZONTALE DOORSNEDE



VAN TENDELOO

HORIZONTALE DOORSNEDE 58 mm

WOOD YOU

◇ = 0.5x45°
 ◆ = 1.0x45°
 ◇ = 1.5x45°
 ◆ = 2.0x45°
 ◇ = 2.5x45°
 ◆ = 3.0x45°

⊖ = R1.0
 ⊗ = R1.5
 ⊙ = R2.0
 ⊖ = R2.5
 ⊙ = R3.0
 ● = R5.0

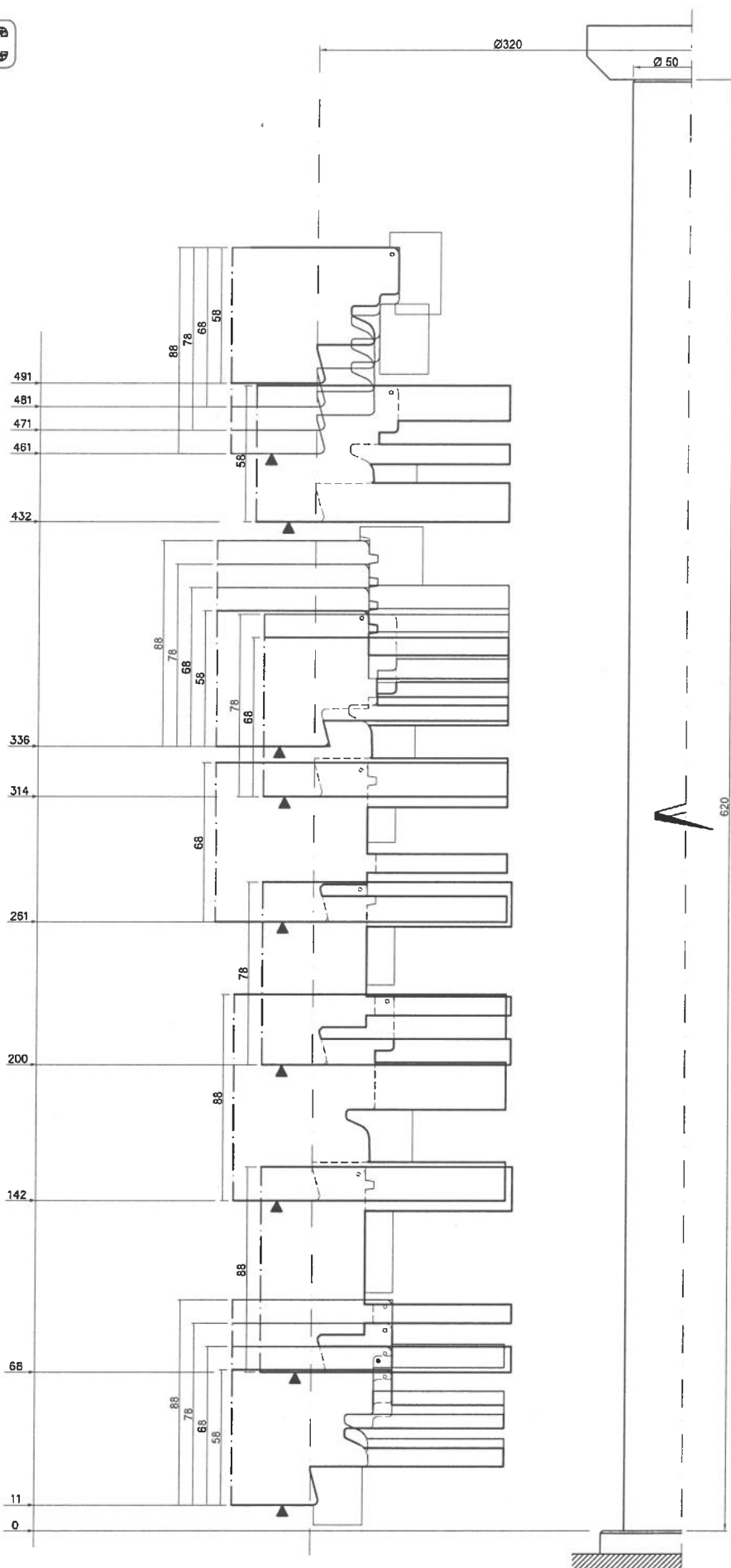
A.T.

13/02/11

03



AS - B-



Machine:
F30 2-3

17+01 - 17+03

Contra Profileren
Blindraam
IV 58-68-78-88
- 2° STAP -

16+07

Gaten Blindraam
IV 58
- 2° STAP -

15+06

Pennen Vleugel
IV 58-68-78-88
- 2° STAP -

14+07

Gaten Blindraam
IV 88
- 2° STAP -

13+08

Gaten Vleugel
IV 68
- 2° STAP -

12+08

Gaten Vleugel
IV 78
- 2° STAP -

11+07

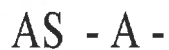
Gaten Blindraam
IV 88
- 2° STAP -

10+08

Gaten Vleugel
IV 88
- 2° STAP -

09+02 09+04 09+05

Pennen Blindraam
IV 58-68-78-88
- 2° STAP -



08+13
08+12
08+10

Gaten Vleugel
IV 58-68-78-88
- 1* STAP -

07

Gaten Blindraam
IV 58-68-78-88
- 1* STAP -

06+15

Pennen Vleugel
IV 58-68-78-88
- 1° STAP -

05+09

Pennen Blindraam
IV 58-68
- 1* STAP -

04+09

Pennen Blindraam
IV 78
- 1* STAP -

03+17

Contra Profileren
Blindraam
IV 58
- 1* STAP -

02+01

Pennen Blindraam
IV 88
- 1* STAP -

Q1+17

Contra Profileren
Blindraam
IV 68-78-88
- 1* STAP -

IV 68-78-88
- 1° STAP -

wegen em. nichtredig.
of dan in 2 stappen
1x AS monoprof
1x AS monoprof

$\diamond = 0x5^{\circ}$ $\ominus = R10$
 $\diamond = 10x5^{\circ}$ $\ominus = R15$
 $\diamond = 15x5^{\circ}$ $\ominus = R20$

This architectural section drawing illustrates a building facade with various vertical dimensions and elevation markers. The drawing is oriented vertically, with the ground level at the bottom. Key features include:

- Vertical Dimensions:**
 - 88, 78, 68, 58 (multiple instances, indicating different height segments)
 - 78 (a larger segment dimension)
- Elevation Markers:**
 - 451 (top right)
 - 398, 392, 382, 372 (middle right)
 - 341 (middle left)
 - 168, 162 (lower middle)
 - 192 (lower middle)
 - 160 (lower middle)
 - 62 (bottom right)
 - 11, 0 (bottom left)
- Structural Elements:**
 - Horizontal lines representing floor slabs and ceiling levels.
 - Vertical lines representing walls and columns.
 - Staircases and ramps indicated by diagonal lines and arrows.
 - Roof profiles and overhangs.

VAN TENDELOO

WOOD YOU

81

03/02/12

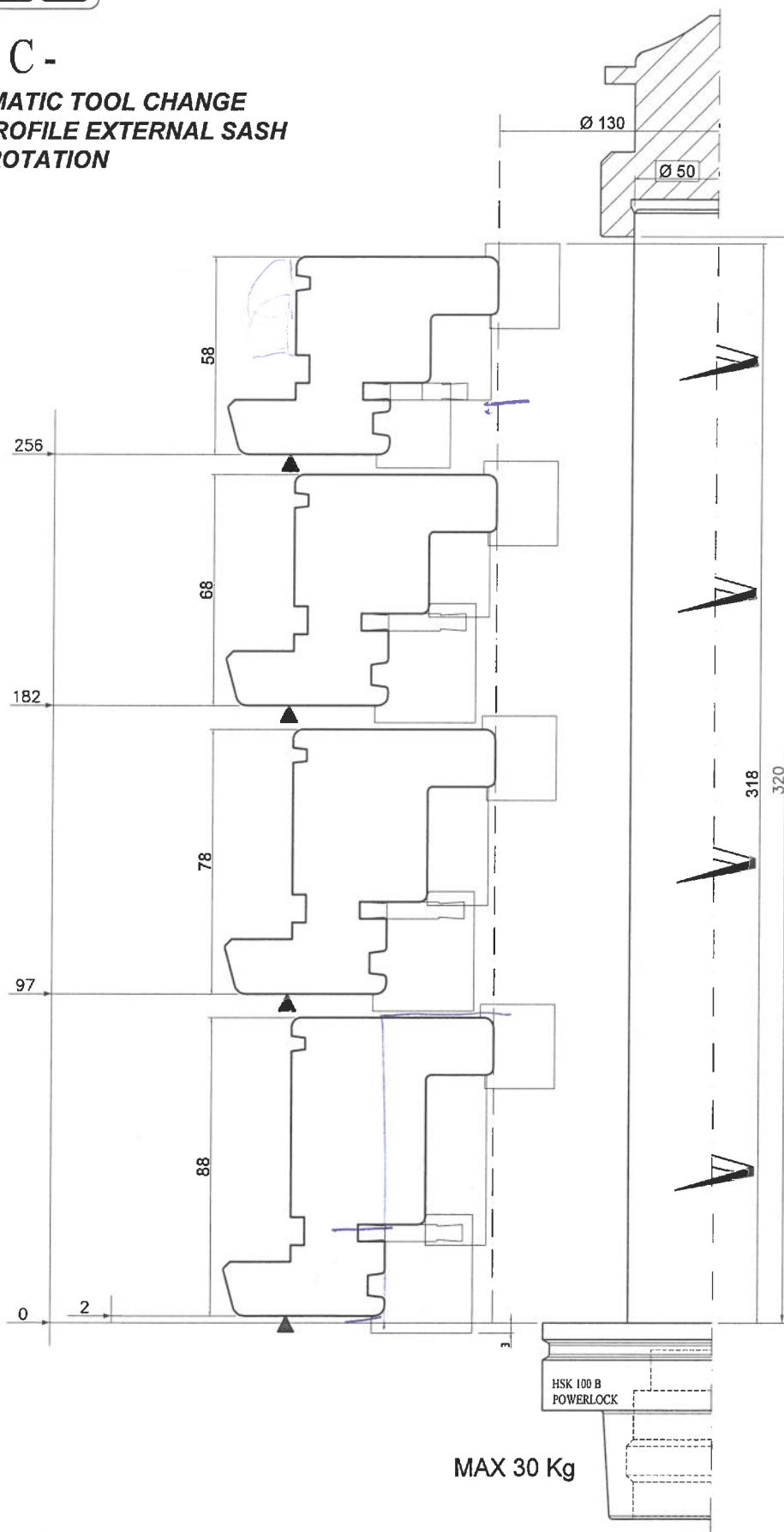
◇ = 0.45°	⊖ = R1.0
◆ = 1.045°	⊖ = R1.5
◆ = 1.545°	⊖ = R2.0
◆ = 2.045°	● = R2.5
◇ = 2.545°	○ = R3.0
◆ = 3.045°	⊕ = R5.0



AS - C -

**AUTOMATIC TOOL CHANGE
FOR PROFILE EXTERNAL SASH
LEFT ROTATION**

Machine:
F30 2-3



25

Omfrezing Vleugel
IV 58 _ Rot. SX

24

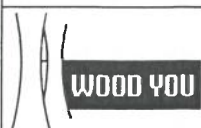
Omfrezing Vleugel
IV 68 _ Rot. SX

23

Omfrezing Vleugel
IV 78 _ Rot. SX

22

Omfrezing Vleugel
IV 88 _ Rot. SX



VAN TENDELOO

84

03/02/12

A.T.

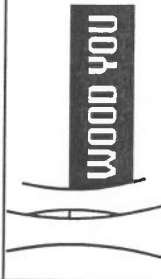
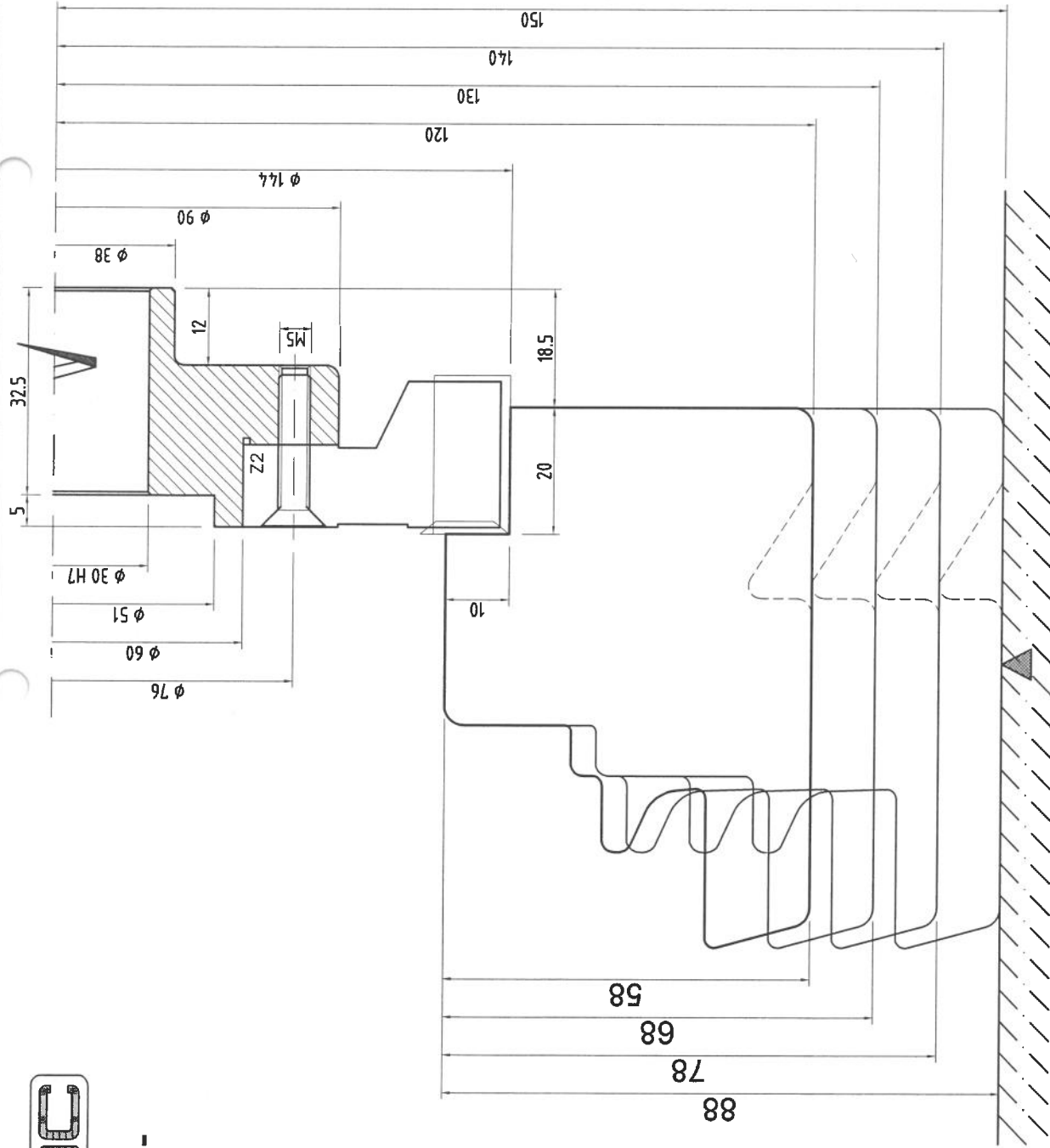
⌀ = 0.5x45° ⌀ = R1.0
◆ = 1.0x45° ⌀ = R1.5
◆ = 1.5x45° ⌀ = R2.0
◆ = 2.0x45° ⌀ = R2.5
◆ = 2.5x45° ⌀ = R3.0
◆ = 3.0x45° ⌀ = R5.0



AS - L -

26

Omfrezing Blindraam
IV 58-68-78-88
- 1" STAP -



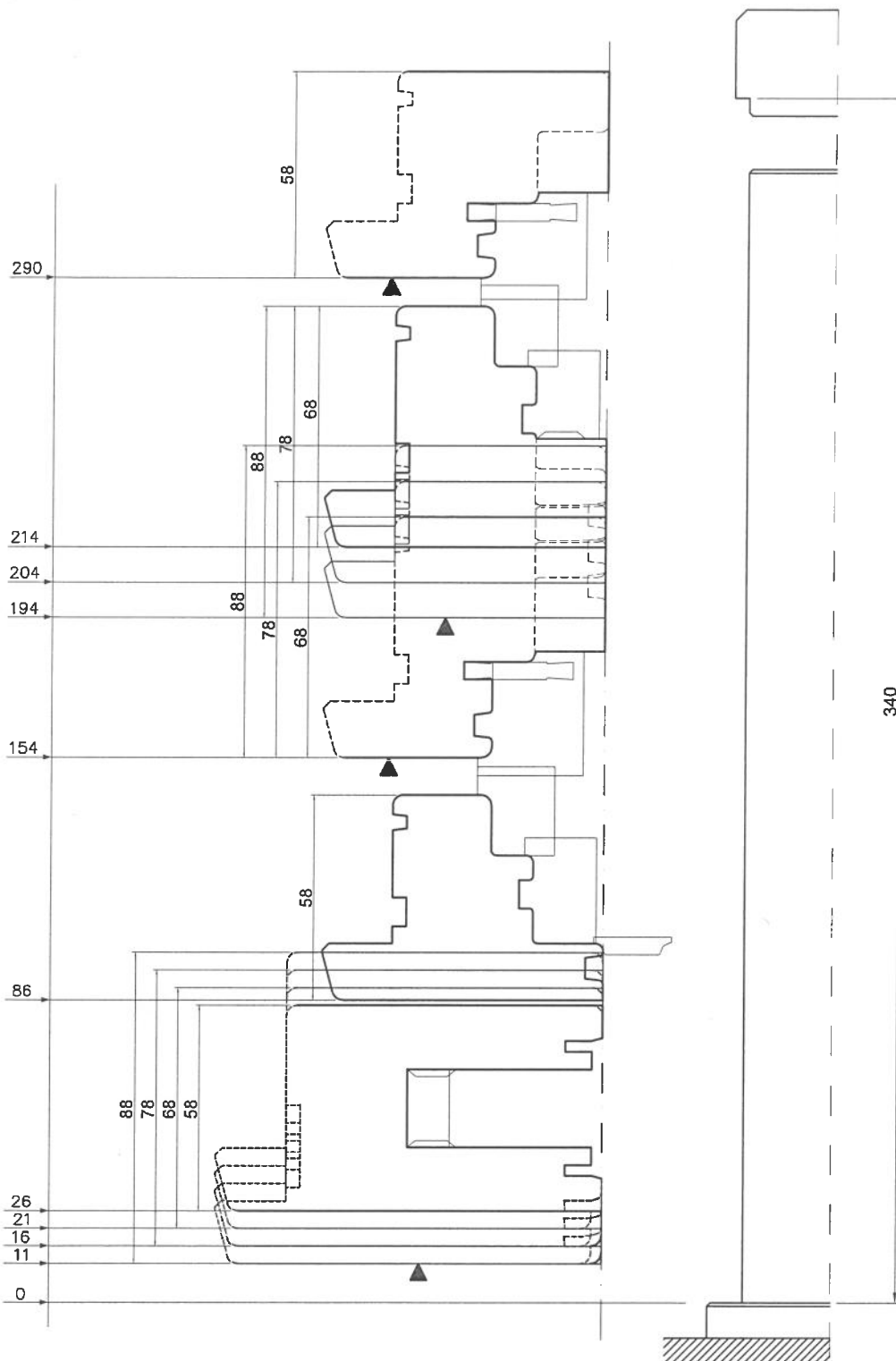
VAN TENDELOO

85

A.T.

13/02/12

- ◇ = 0.5x45°
◆ = 1.0x45°
◇ = 1.5x45°
◆ = 2.0x45°
◇ = 2.5x45°
◆ = 3.0x45°
- ⊖ = R10
● = R15
⊙ = R20
● = R25
○ = R30
● = R50



31+33

Omfrezing Vleugel
IV 58 - 1° STAP

30+33

Profilering Makelaar
IV 58-68-78-88
- 1° STAP -

29+33

Omfrezing Vleugel
IV 68-78-88
- 1° STAP -

28+33

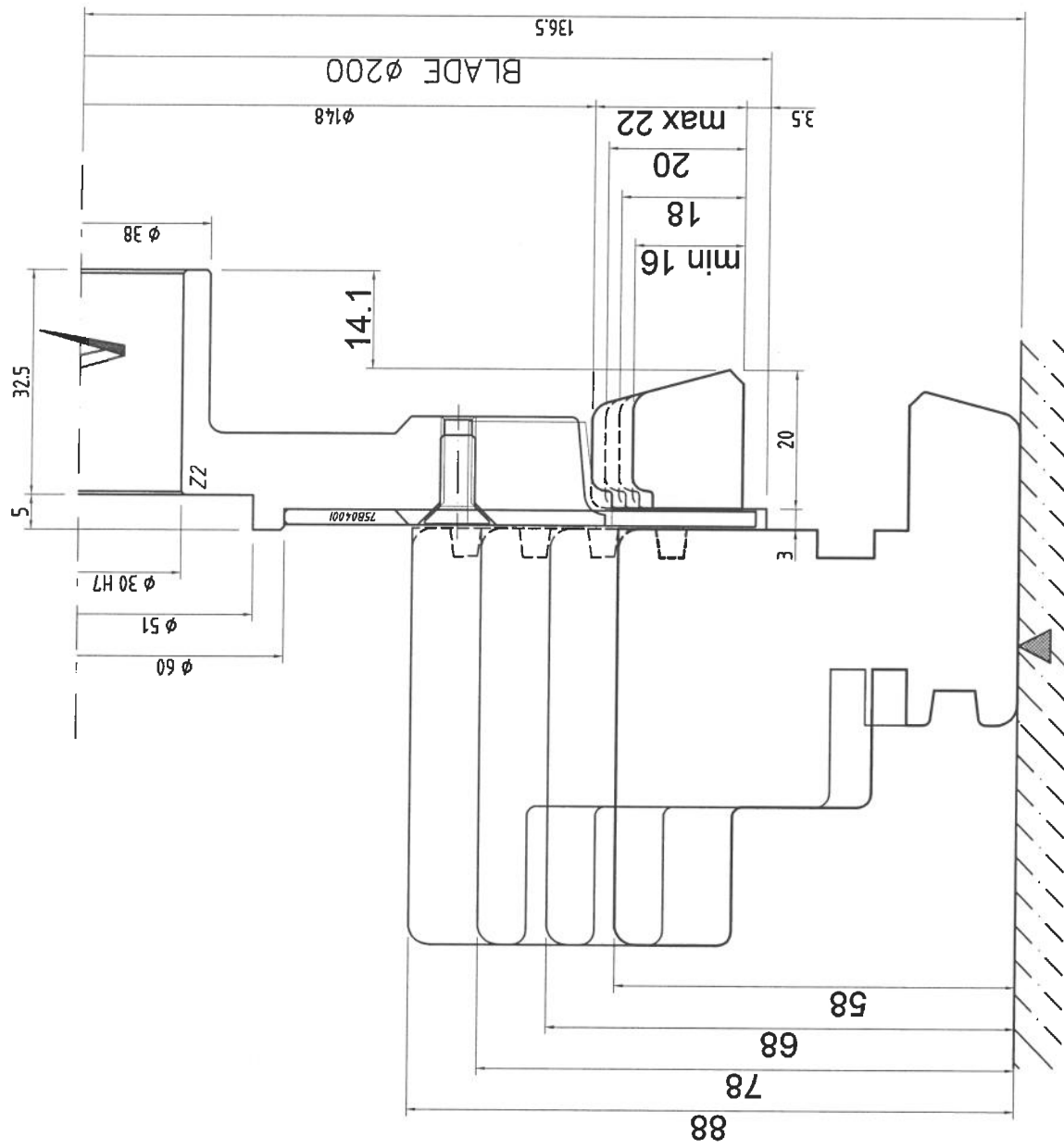
Profilering Makelaar
IV 58 - 1° STAP

20+27

Omfrezing Vleugel
Hefschuifraam
IV 58-68-78-88
- 2° STAP -

 $18+32+35$

Recuperatie Glaslat
IV 58-68-78-88



WOOD YOU

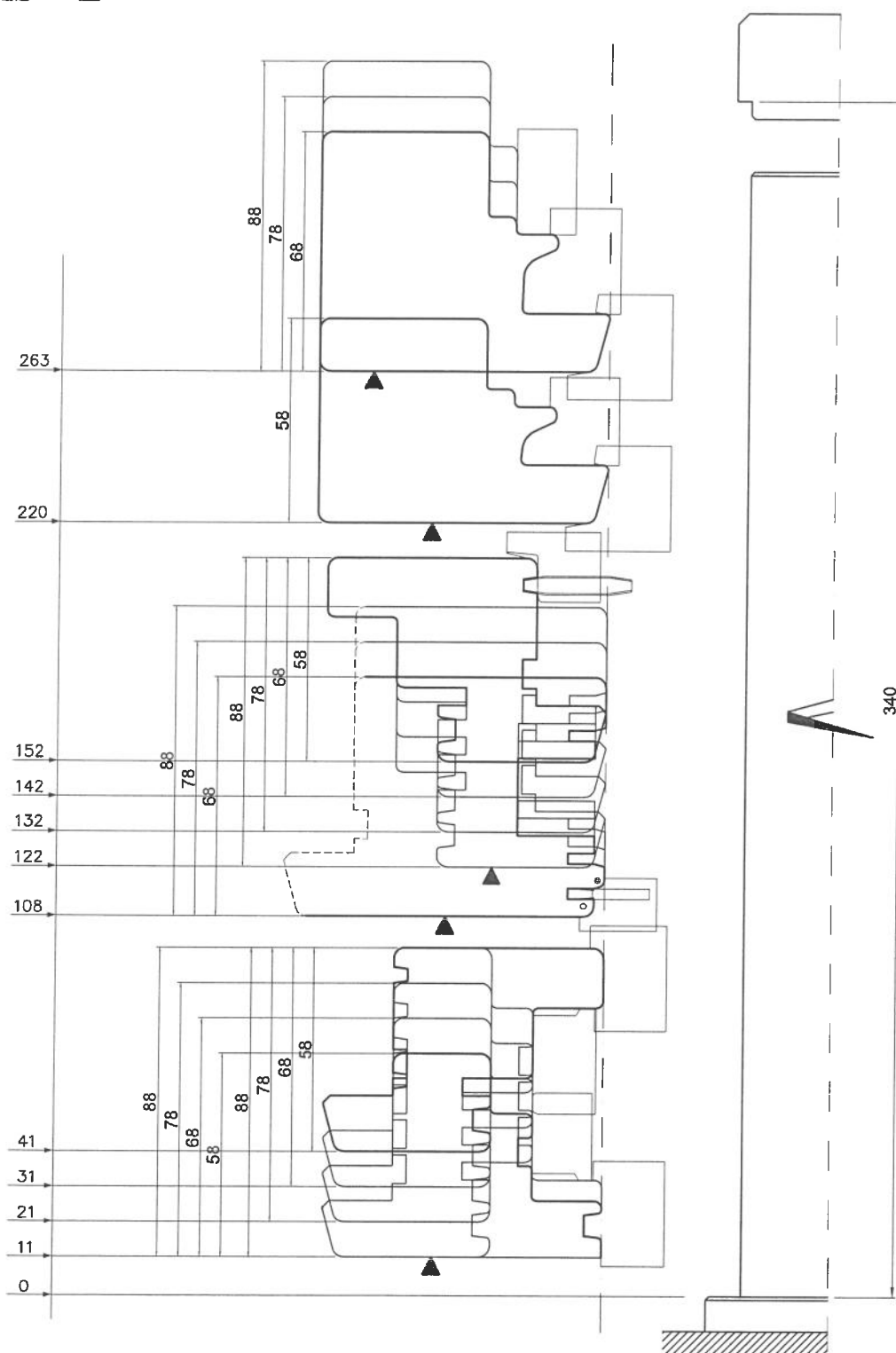
VAN TENDELOO

A.T.

13/02/12

28

◇ = 0.5x45°	⊕ = R1.0
◆ = 1.0x45°	● = R1.5
◇ = 1.5x45°	⊙ = R2.0
◆ = 2.0x45°	● = R2.5
◇ = 2.5x45°	○ = R3.0
◆ = 3.0x45°	⊙ = R5.0



19+37

Profiling Blindraam
IV 68-78-88
- 2° STAP -

21+36

Profiling Blindraam
IV 58
- 2° STAP -

18+32+35

Binnenprofiel Vleugel
IV 58-68-78-88
- 2° STAP -

34+20

Omfrezing Vleugel
Hefschuifraam
IV 68-78-88
- 2° STAP -

29+33

31+33

Omfrezing Vleugel
IV 58-68-78-88
- 2° STAP -

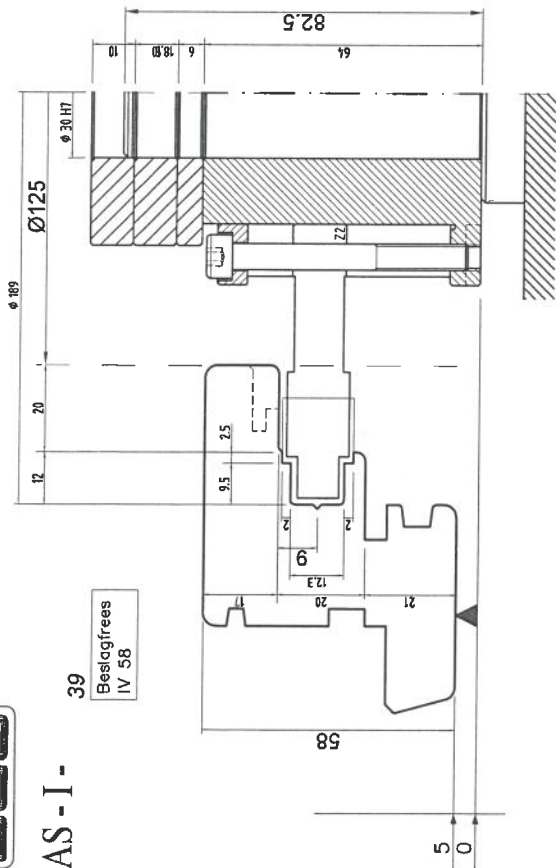
28+33

30+33

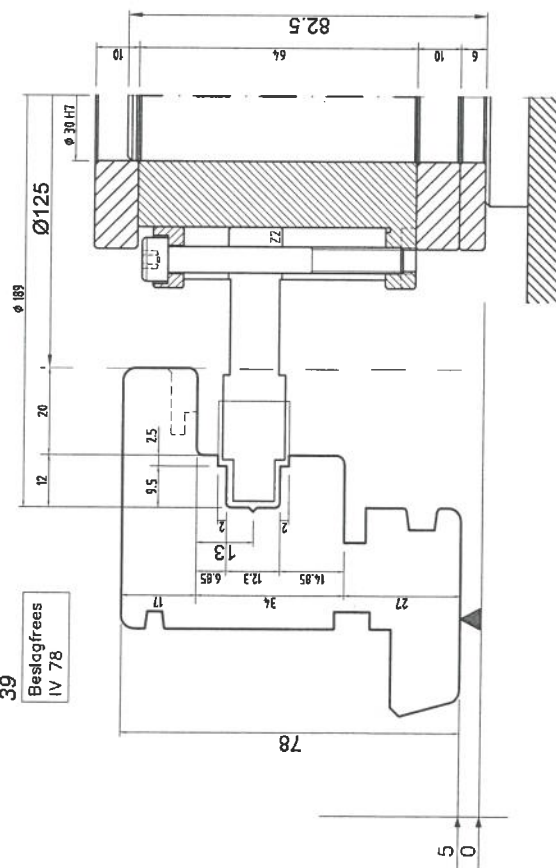
Profiling Makelaar
IV 58-68-78-88
- 2° STAP -

AS-I-

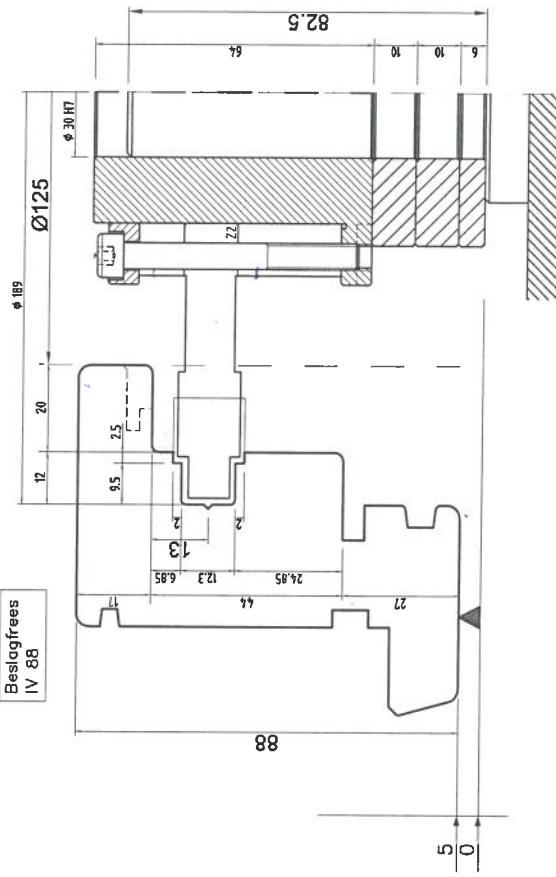
39

Beslagfrees
IV 58

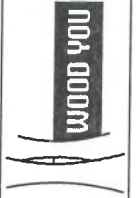
39

Beslagfreees
IV 78

39

Beslagfreees
IV 88

VAN TENDELOO



90

A.T.

13/02/12

$\diamond = 0.5 \times 45^\circ$	$\ominus = R10$
$\blacklozenge = 1.0 \times 45^\circ$	$\circ = R15$
$\diamond = 1.5 \times 45^\circ$	$\oplus = R20$
$\blacklozenge = 2.0 \times 45^\circ$	$\bullet = R25$
$\diamond = 2.5 \times 45^\circ$	$\circ = R30$
$\blacklozenge = 3.0 \times 45^\circ$	$\ominus = R50$

Kaltefein: Densität 0,5

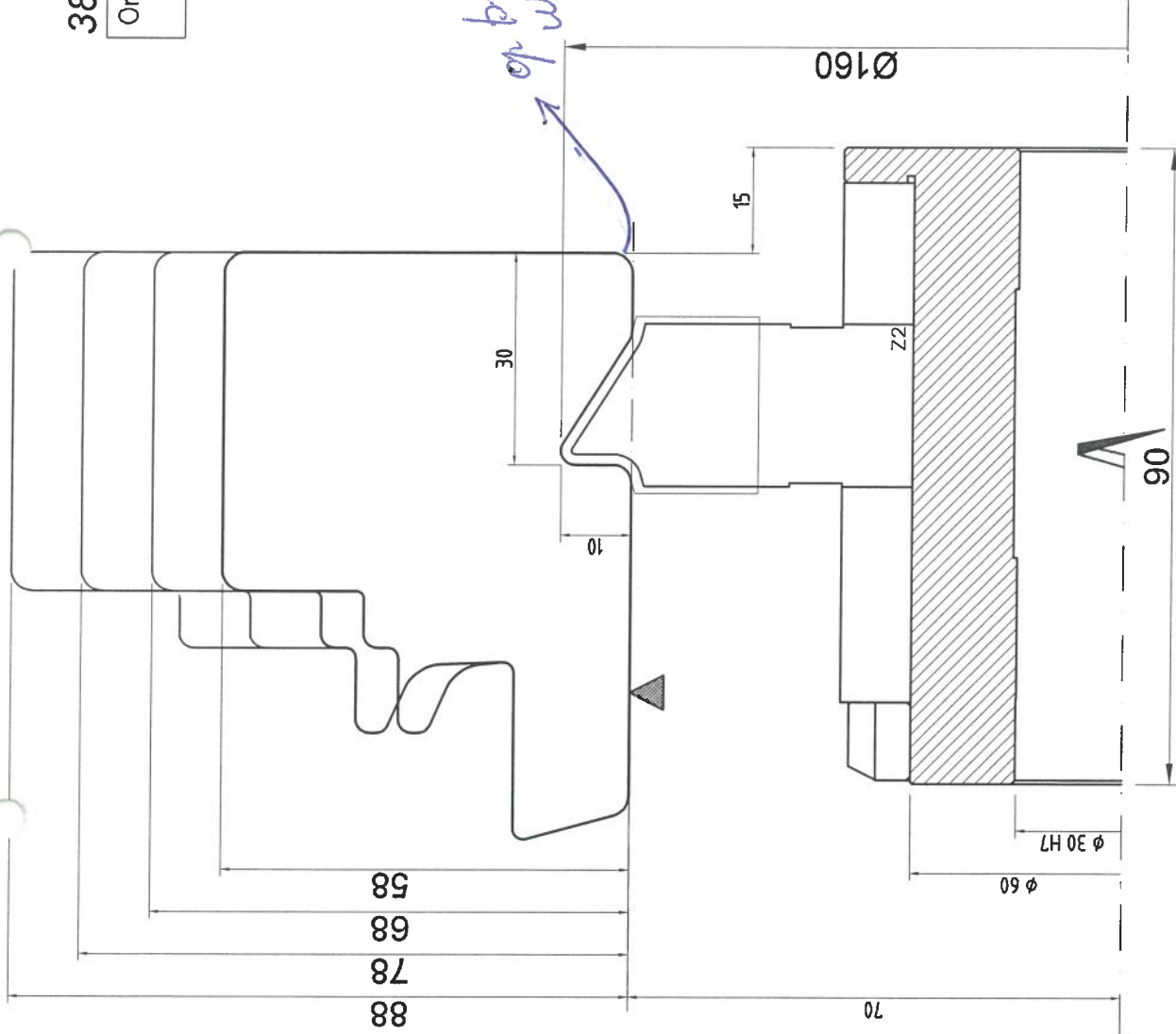


AS - M -

38

Omfrezing Blindraam
IV 58-68-78-88

*blad
op waarm*



VAN TENDELOO

WOOD YOU

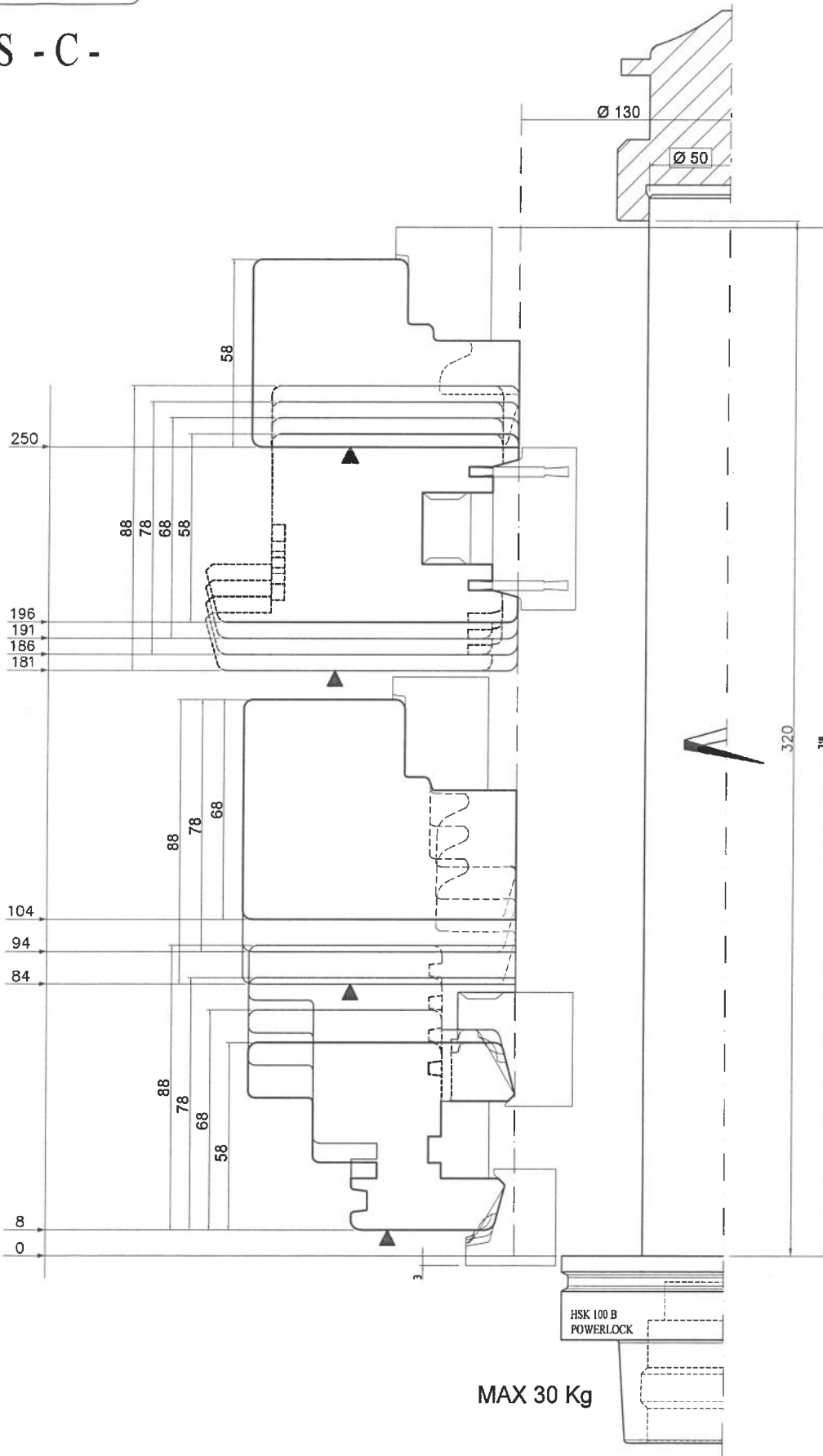
◊ = 0.5x45°
◊ = 1.0x45°
◊ = 1.5x45°
◊ = 2.0x45°
◊ = 2.5x45°
◊ = 3.0x45°

⊖ = R1.0
⊖ = R1.5
⊖ = R2.0
⊖ = R2.5
⊖ = R3.0
⊖ = R5.0

A.T.

13/02/12

89



21+36

Profiling Blindraam
IV 58
- 1° STAP -

20+27 20+34

Omfrezing Vleugel
Hefschuifraam
IV 58-68-78-88
- 1° STAP -

19+37

Profiling Blindraam
IV 68-78-88
- 1° STAP -

18+32+35

Binnenprofiel Vleugel
IV 58-68-78-88
- 1° STAP -

MAX 30 Kg