

X7 at a glance

- 30 % part reduction increases reliability and lowers running costs.
- 2 Latest servo technology supports drives synchronization after format changeover.
- **3** First Can Man machine which can be configurated online for your specific needs.
- 4 One concept with the potential to replace many old(er) ones.





QuickCHANGE downstacker

Two high performance, linear servo drives are used for the downstacking and insertion of the blank into the rollformer. The blank thickness measurement is done right after downstacking and before insertion of the blank into the rollformer.

SmartFORMER

The synchronisation of tinplate entering the rollformer, the rounding process and the impact of the rounded blank at the catchrail is controlled by servo drives (patents pending). Servicing this unit is a "no brainer".



Minimized change parts

The canbody transport also serves as a canbody pre-guidance and it automatically adapts to any canbody diameter you may select at the push of a button. This makes the change of formatdependent guide channel unnecessary.

Accessibility

The entire water- and air supply unit can be swung out and ensures full access to all the vital parts of a welder and therefore eases the maintenance.

Controlled wear

The split nosepiece has to be changed only partially if worn, and even ceramic made ones which are sensitive to tensions cannot break.



X-Plane v2

Optimized for the use with a "flying" powder arm: while the lower welding arm remains fixed in its position, the redressed welding roller is re-adjusted along its flat surface. It also increases the power transmission significantly.



Technical Data

Medium Speed Welding Bodymaker

Production output	400/600 cans/min, 60/100 meter/min		
Body sizes	min. Ø 52 x h 50 mm		
	max. Ø 153 x h 320 mm		
Sheet thickness	0.10 – 0.28 mm		



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Annex 1

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F-Integrity Commitments

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Annex 1

PART A - Price Breakdown

- 1) PROcut 1200 Automatic duplex slitter (Including extra 4 sets of Knives)
- 2) PROcombi NFS 153/5H automatic Necker / Flanger/

Bottom Seamer (special execution)

3) PROcombi NFS 153/5H automatic Necker / Flanger /

Bottom Seamer (special execution)

4) Conveyor system (inside can making area)

5) Conveyor system behind the combination machines

(Minimum110 meters of conveyors+8 v-types+ 8 extension mechanism parts and others necessary for the package)

All engineering work necessary and supervisions of installation and commissioning and performing the performance tests plus training at site is included in the above prices and the total below.

The Equipment above are part of a package to produce from Tin plates entering to Equipment 1 above to the product exiting Equipment 2 and 3 above and continuing via Equipment 5 above to the feeders in front of each press at site. Site being in Sirjan, Kerman Province in Iran.

Client obligations are food and lodging of supervisors of Contractor and arranging for their visas.

It is understood by Contractor that the Robot taking the stack of Blanks from Slitter and the Welder are from Canman whom with has been technical meetings with Contractor for the above mentioned package. Any coordination and arrangements needed for integrity of the package shall be responsibility of all parties CPG, Canman and PROCAN and PROCAN agreed to make the necessary actions for such coordination and arrangements.

All Equipment are delivered to Iranian Port of Bandar Abbas and the freight charges are included in the below total contract price.

Total Contract price,



PART B - Technical Specification of Equipment

1- PROcut 1200 Automatic duplex slitter

Fully automatic duplex slitter with sheet feeder and blank stacker.

The sheets are taken of the inserted pile of sheets, one by one, and fed into the first cutting operation unit where the sheet is cut into 3 strips, these strips are being fed to the second cutting operation where each strip is cut in 3 blanks, hereafter the blanks will be piled up in the end stacker, ready to be transported by the automatic blank robot.

• Speed: max. 40 sheets per minute (1st operation)/ 160 strips per minute (2nd operation)

- Min. sheet size: 600 x 600 mm
- Max. sheet size: 1200 x 1200 mm
- Sheet thickness: 0.16 0.50 mm
- Sheet stack height: max. 400 mm (including pallet)
- Cutting speed: max 80 mtr.
- Trim width: min. 2,5-10 mm
- Change-over time (excluding knives): 15 min
- · Change-over time per knife set (setting): 6 min
- Internet connection: Ethernet
- Squareness ≤ 0,1mm/1000mm
- Power 6 Kw, 3 x 400 VAC+N+Gnd
- Control voltage 24 VDC
- Ambient temperature: +10°C +45°C, humidity max: 85%
- Dimensions: 6700 x 37000 x 1500 mm (depending on configuration)
- Weight: 5145 kgs
- Air consumption: 200 liter/ minute, pressure 5-6 bar (filtered an dry)
- · Colour code: RAL 7035 with RAL 6037 accents
- Including: End-stacker

Knife grinding device

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2- PROcombi NFS 153/5H automatic Necker / Flanger / Bottom Seamer (special execution)

Fully automatic , 5 head, 3 station combination machine equipped with a toolset for necking, curling and flanging and bottom seaming for can size D120 x H300 mm.

The can bodies are automatically transported from the driven infeed conveyor into the first station where the can is necked at the bottom side (diameter will be reduced from 120 mm to 117mm), then the can is transported to the 2nd station where the can is curled (inside curl)) on the top side and flanged on the bottom side, then the can is transported to the 3rd station where the bottom feeder to the bottom side of the can and is seamed on the bottom of the can then the can is transported to the exit conveyor and exit the combination.

•Nr. of stations : 3

Bottom necking station

Bottom flanging and top curling station

Bottom seaming station

- Nr. of heads on each station : 5
- Can diameter range: 120 mm (117mm necked-in) (max 3 mm)
- Can height range: 300 mm (finished can)
- Heads per station: 5 heads
- Production speed: max 150 cans per minute (capable to produce max)
- Power 10,5 Kw, 3 x 400 VAC+N+Gnd
- Control voltage 24 VDC
- Ambient temperature: +10°C +45°C, humidity max: 85%
- Dimensions: 2200 x 1580 x 1680 mm,
- Weight: 9500 kgs
- Air consumption: 50 liter/ minute, pressure 5-6 bar (filtered an dry)
- · Colour code: RAL 7035 with RAL 6037 accents
- •Necking at the bottom from 120 -117 mm (max 3 mm)
- •Flange 2,9 mm +/- 0,3 mm

Seaming: see seaming specification sheet

- •Curling diameter: 2,5 mm +/- 0,2 mm
- Including: tooling for D120/117 x H300mm



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Automatic bottom feeder

This is a fully automatic bottom feeder, the bottoms for the bottom seaming station can be placed on a 2,5 mtr conveyor, from this conveyor the bottom are transported automatically, by two magnetic conveyors, into a magnetic bottom separator device that is placed above the actual bottom feeder of the combination machine

Automation signals to central room: Ethernet (automation hardware Siemens PLC and the possibility of transferring all operation parameters' signal, to be finalized in Technical meeting within one month)

In- and exit conveyor

Standard a 1,5 mtr, in and exit conveyor is included, this is a chain driven can transport conveyor connected to the combination machine, these conveyors have a speed variable motor drive in order to set the optimal speed related to the combination machine speed.

 PROcombi NFS 153/5H automatic Necker / Flanger / Bottom Seamer (special execution)

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•Nr. of stations : 3

Bottom necking station

Bottom flanging and top curling station

Bottom seaming station

• Nr. of heads on each station : 5

• Can diameter range: 120 mm (117mm necked-in) (max 3 mm, depending on material thickness, temper and based on prime quality material)

- Can height range: 300 mm (finished can)
- · Heads per station: 5 heads
- Production speed: max 150 cans per minute (capable to produce max)

- 2.22
- Power 10,5 Kw, 3 x 400 VAC+N+Gnd
- Control voltage 24 VDC
- Ambient temperature: +10°C +45°C, humidity max: 85%
- Dimensions: 2200 x 1580 x 1680 mm,
- Weight: 9500 kgs
- Air consumption: 50 liter/ minute, pressure 5-6 bar (filtered an dry)
- · Colour code: RAL 7035 with RAL 6037 accents

•Necking at the bottom from 120 -117 mm (max 3 mm, depending on material thickness, temper and based on prime quality material)

•Flange 2,9 mm +/- 0,3 mm

Seaming: see seaming specification sheet

- •Curling diameter: 2,5 mm +/- 0,2 mm
- Including: tooling for D120/117 x H300mm

Automatic bottom feeder

This is a fully automatic bottom feeder, the bottoms for the bottom seaming station can be placed on a 2,5 mtr conveyor, from this conveyor the bottom are transported automatically, by two magnetic conveyors, into a magnetic bottom separator device that is placed above the actual bottom feeder of the combination machine

Automation signals to central room: Ethernet

In- and exit conveyor

Standard a 1,5 mtr, in and exit conveyor is included, this is a chain driven can transport conveyor connected to the combination machine, these conveyors have a speed variable motor drive in order to set the optimal speed related to the combination machine speed.

Conveyor system within the can making line
 (See can making line lay-out (section D1 of Annex 1)+ Process description)
 Diameter range: 100-125 mm
 Height range: 200-320 mm

(See Process description + section D5 for detailed pictures)







5- Conveyor system behind the can making line

 (See Process description + section D5 for detailed pictures)
 To be finalized in a Technical meeting within one month after signing date of Contract)
 Diameter range: 100-125 mm
 Height range: 200-320 mm

The responsibility of contractor is to deliver the product of Combi machines to the feeders in front of each press. All necessary items to perform this is included in the scope of this part.

The preliminary routing of the conveyor is attached herein.

Note:

Line control + automation to be approved and finalized at Technical meeting end of January 2019



PART C-Process Description Can Making Line

- The sheets are taken of the inserted pile of sheets, one by one, and fed into the first cutting operation unit where the sheet is cut into 3 strips, these strips are being fed to the second cutting operation where each strip is cut in 3 blanks, hereafter the blanks will be piled up in the end stacker, ready to be transported by the automatic blank robot.
- 2) When the welded cylinders come out of the Canman welder, they are transported horizontally onto the V-type conveyor which turns the cylinders into a vertical position.
- **3)** The chain-driven conveying system will transport the cylinders to an accumulation table, where the cylinders will be divided into the two infeed-conveyors of the combination machines.
- 4) The can bodies are automatically transported from the driven infeed conveyor into the first station where the can is necked at the bottom side (diameter will be reduced from 120 mm to 117mm), then the can is transported to the 2nd station where the can is curled (inside curl) on the top side and flanged on the bottom side, then the can is transported to the 3rd station where the bottom feeder to the bottom side of the can and is seamed on the bottom of the can then the can is transported to the exit conveyor and exit the combination.
- 5) The finished cans come out of the combination machines via 2 conveyor lanes towards the wall (as per client's floor space lay-out)





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Capelle ad IJssel

PART D- Process description Conveying system

after can making

- 1) The cans will be transported via two single lane-conveyors and enter the press area
- 2) According to client's preliminary lay-out (which is an integral part of this contract) the cans are evenly divided into the 8 conveying deviations by a pneumatical feed-stop-system
- 3) The first 4 deviations consist of a 150 degree angle right turn + 2 meters of non-magnetic conveyor + a magnetic V-type conveyor that turns the cans into a horizontal position
- 4) The second 4 deviations consist of a 150 degree angle right turn + 4,5 meters of non-magnetic conveyor + a magnetic V-type conveyor that turns the cans into a horizontal position

Part D1- Preliminary Layout Can Making Line (attached)

Part D2- Can and Seam and other Specification sheets (attached)

Part D3- Bottom Information sheet (attached)

Part D4- Client's press area lay-out (attached)

Part E- Product shape drawing

F-Integrity Committments

It is understood by Contractor that the Robot taking the stack of Blanks from Slitter and the Welder are from Canman whom with has been technical meetings with Contractor for the abovementioned package. Any coordination and arrangements needed for integrity of the package shall be responsibility of all parties CPG, Canman and PROCAN and PROCAN agreed to make the necessary actions for such coordination and arrangements. D1, CAN MAKING LAY OUT 27 12 16



D2 SEAM SPECIFICATION SHEET

SE	AM SPE	CIFICATIONS	2 States		
		destruction of SPE	(CIFICATI	ON SHEET	
DIMENSION		TARGET (mm)	LIMITS (mm)		
			Set Up	Production	
Seam Height	SH	3,1	±0,20		
Countersink Depth	CD	3,4	±0,15		
Body Hook	BH	2,0	±0,10	10,20	
Overlap	0	1,2	1,2	1,1	
End Hook	EH	2,1	±0,10	±0,20	
Body Thickness	ib	0,22	15%		
End Thickness	te	0,22	15%		
Scam Thickness	ST	2"1b+3"1e+0,15 (1.25)	±0.05		
Flange		2,8	ŧ	:0,20	









can conveyor lay out



Straight non-magnetic conveyors



Magnetic V-type conveyor



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<u>Technical Documents + List of</u> <u>Deliverables:</u>

The following technical documents of all delivered equipment will be handed out to the technical end responsible engineers and/ or operators during the commissioning process:

- Manual of Operations
- Manual of Maintenance
- Mechanical Drawings with complete parts list
- Electrical Drawings
- Mechanical Drawings
- Automation and signals
- Designated Use Manual
- Safety Instructions Manual
- As-Built Drawings
- Training Materials
- Performance Tests





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Designated Use, Guarantee, Performance Test & Liquidated Damages

Designated use

The machines are built in accordance with state-of-the -art standards and the universally recognized safety rules. Nevertheless, its use may constitute a risk to life and limb of the user or third parties, or could cause damage to the machine and to other material property if it is not operated according to our operation manual and its instructions or maintained in the same manner according to our maintenance manuals.

The machine must be used only in technically perfect maintained condition (professional and periodic maintenance) in accordance with its designated use and instructions set out in the (to be delivered) instructions of our operation and maintenance manual, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine which PROCAN will include in its training of those operators. Functional disorders, particularly those affecting the safety of the machine, must therefore be rectified immediately which will be taught to the operators by PROCAN.

- 1) The slitter's designated use is solely intended for cutting tinplate sheets into blanks, via a two-operation automatic mechanism.
- 2) The combination machine's designated use is solely intended for necking, flanging, curling and bottom seaming of welded tinplate cylinders.
- 3) The conveying systems' designated use is solely intended for the automatic transport of the cans in vertical position, except at the end of the V-type conveyors, where the can is delivered in a horizontal position (to be approved and finalized in Technical meeting end of January 2019).

Using the equipment for purposes other than stated above and in the Contract is considered contrary to the designated use as per the operation and maintenance manuals of PROCAN.

The Contractor cannot be held liable for damage resulting from any action contrary to instructions taught in trainings and operation and maintenance manuals. Any fault in this regard is what happens by actions of user not stated under the said operation and maintenance and training manuals and the content of Contract and Contract Documents are considered a "fault".

Operating the machine within the limits of its designated use also involves observing the instructions set out in the instruction/operation manual and complying with the inspection and maintenance directives as per maintenance manual.

Unauthorized changes of parts (using non-original parts) to the machine exclude all Contractor's liability from damages resulting therefrom.

Anyhow any deviation of capability of the Equipment supplied with the specifications stated under this Contract is the sole responsibility of the Contractor.

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Guarantee

A 24-month (twenty four months) Guarantee, as mentioned in the Contract has been granted to the Client starting from successful performance tests performed by Contractor.

The part which is claimed to be defective must be visited by Contractor for inspection and verification of breakdown, in the event that online assistance does not solve the problem. If the part results to be defective, the part must be returned to Contractor by any means possible otherwise replaced by Contractor free of charge.

If defect is due to improper material or workmanship, Contractor will replace the faulty part with a new one, free of charge.

The warranty will, however, to be considered null, in case of unauthorized repair, modification or utilization of non-original parts.

Contractor does not accept liability for direct and consequential damages, including personal injuries, resulting from abuse and misuse.

It is understood and agreed that the Equipment parts are available to Client for at least ten years. Contractor also will assist Client to procure the parts from OEM by rendering necessary data and information to Client in order to supply them to end user.

Performance test

Although a production simulation will be carried out by Contractor before shipment in presence of representatives of Client, the Performance Test to which this Annex refers to will be carried out during commissioning at Client's factory to reach the guaranteed parameters all reflecting the parameters showing capabilities and specifications of the Equipment.

In any case the tests should be able to show 3 shift operation continuously for all Equipment supplied.

The description and content of the performance tests will be submitted by Contractor to Client at least 2 months prior to shipment of Equipment to Site.

Client reserves the right to check and verify all the parameters of the equipment, as described in Annex 1 of this Contract.

Liquidated Damages

In the event that the mentioned technical specifications, more specifically the practical production output of the machines do not meet the presented parameters as described in Annex 1 of this Contract, the following Liquidated Damages scheme comes into effect, resulting in the following penalties for Contractor (in percentages of the machine contract price).:

Slitter:

Capacity:

40 sheets per minute = 100% = 0% penalty 39 sheets per minute = 97.5% = 5% of Equipment price and costs related as penalty 38 sheets per minute = 95% = 10% of Equipment price and costs related as penalty Below 95% is not acceptable

<u>Squareness:</u>

0,1 mm/ 1000 mm = within tolerance = 0% penalty Up to 0,105 mm/ 1000 mm = 5% of Equipment price and costs related as penalty Up to 0,110 mm/ 1000 mm = 10% of Equipment price and costs related as penalty Below minimum above is not acceptable

Combination Machine (output):

150 cans per minute = 100% = 0% penalty
147 cans per minute = 98% = 5% of Equipment price and costs related as penalty
144 cans per minute = 96% = 10% of Equipment price and costs related as penalty
Below 96% is not acceptable

Shape (can specification sheet):

Deviations outside of tolerances mentioned in can specification sheet imply a 10% of Equipment price and costs related as penalty and below this range is not acceptable.

Necking tolerances:

Deviations outside of tolerances mentioned in can specification sheet imply a 10% of Equipment price and costs related as penalty and below this range is not acceptable.





Flanging tolerances:

Deviations outside of tolerances mentioned in can specification sheet imply a 10% of Equipment price and costs related as penalty and below that is not acceptable

Curling tolerances:

Deviations outside of tolerances mentioned in can specification sheet imply a 10% of Equipment price and costs related as penalty and below that is not acceptable.

Conveyors:

Deviations outside of tolerances mentioned in Annex 1 imply a 10% of Equipment price and costs related as penalty and below that is not acceptable.

General conditions for the Liquidated Damages to be applicable:

- A) Providing that prime quality tinplate is used (the tin plates are with least possible amount of tin acquirable from market)
- B) Providing that perfectly roll-formed (rounded) and welded cylinders are used

(see can specification sheet)

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Time Schedule

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Approved Vendor list

Bearings: SKF, INA, FAG, NSK (depending on availability)

Pneumatics: Festo, Norgren, SMC

Electrical components: Schneider, Omron, Sick

PLC and HMI: Siemens

Electrical drive motors (servo): Siemens, SEW, Omron, Schneider, Panasonic, Mitsubishi

(Depending on availability)

Conveyors and auxiliaries: Procan (only components used as per this Approved Vendor list)

APPROVAL OF CLIENT IN SELECTION IS NECESSARY



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Two Year Spare Parts

Spare parts list duplex slitter	qty	price	total price
		Euro	Euro
Carbide cutter set (up and down)	8		
sucton cups	50	1000	
Drive belt set	3		11 I I I I I I I I I I I I I I I I I I
sensor set (7 pcs)	set		N 1957 L
Double sheet sensor	set		

Spare parts list combination machine (2x)	qty	price	total price
necking inner and outer mould	5 set x2	E · XmA	
Flanging and curling mould	5 set x 2	4 1420 R	A state of the
infeed screw	1 x 2		8 25 20
seperating knive set	3 x2	- 2 Mar. St.	
seaming roller set	5 x2		
seaming chuck	5 x 2		
sensor set 8 pcs	set x 2		11 X 1 5
Drive belt set	set x 2		
Air cylinders for bottom feeder			mirror and
(3pcs.)	3 x 2	- 276 M	
Air valve Festo	2x2	S. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	1-11-14







Chiller cool water

Chiller warm water (optional)



Material: Oberfläche:			Bemerkung:			
			Technica	I changes re	served	!!
Dimension:	Masse in kg:					
	5145.002 kg					
Bezeichnung: Layout X7 & PFEED Layout			Schutzver	rmerk nach D	IN 34 b	eachten.
			Massstab	Gezeichnet	DM	28.05.2019
			1.23	Geprüft	DM	29.05.2019
			1.20	Filemaker-Nr		
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Machine colour: RAL 9006 = white-aluminium, bright RAL 4008 = signal violet

Ambient: +5°C ... +45°C Relative humidity: max. 85%

min floor loading: 1500 kg/m²

* = powder arm support not included

WP ≙ Welding point

		Remerkung:				
		Technical changes reserved !				
	Schutzvermerk nach DIN 34 beachten.					
		Massstab	Gezeichnet	РВ	29.12.2016	
		1.30	Geprüft	DM	28.11.2019	
		1.00	Filemaker-Nr	017000		
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	Bemerkung:				
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	Schutzver	merk nach D	IN 34 be	ac	hten.
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	1.20	Geprüft	DM	28	8.11.2019
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