



PROPOSAL

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Wipes Folder Overview:

PCMC proposes to furnish one (1) complete four (4) lane Marlin™ crossfolder wet wipe line to include center driven unwind stand, web guide / slit / web separator section, a wetting system, a forming section, 500 cuts per minute per lane cut off unit with infeed, crossfolding section and stacker section for the production of crossfolded pre-moistened wipes.

PCMC's Marlin crossfolder wet wipe line targets high volume and efficient production of wet wipes. This is accomplished through the use of today's market leading technology and wet wipes manufacturing process knowledge.

The Marlin maximizes effective use of space and access for operators, maintenance and material flow.

GENERAL SPECIFICATIONS

Hand	Left hand – web travels right to left as viewed from operator's side
Parent roll web width	864 mm (34.0") (maximum web width)
Slit web width range**	127 mm (5.0") min to 216 mm (8.50") max
Max parent roll diameter	1524 mm (60")

Parent roll core diameter	171 mm (6,75")
Cut speed*	2000 cuts per minute – 4 lanes (500 cuts per minute per lane)
Stacker speed*	100 stacks per minute (25 stacks per minute per lane)
Stack count range	4 – 100 (increments by 1)
Stack height range	10 mm (0.39") to 90 mm (3.54")
Cutoff length range	170 mm (6.69") min to 210 mm (8.26") max
Folded width range	50 mm (1.97") to 115 mm (4.5") – change parts required for 65 mm to 90 mm folded width

* Mechanical design operating speed is 2000 wipes per minute or 100 stacks per minute, whichever comes first.

** A symmetrical product longitudinal fold is required with a slit width between 127 mm – 145 mm (5.0" – 5.7").

NOTE: The machine is designed to run a diverse amount of process choices but the actual output speed of the machine will be dependent upon the combination of the characteristics of the substrate, lotion, folding plate and operator adjustments used.

Range of material to be processed: (within specified tension range)

Airlaid, Spunlace, Nonwoven,	40 gsm – 80 gsm
Hydro-entangled substrates	
Coform (4277-000 Kleenex Facial Cleansing Cloths – Auth.xlsx,	
EQR01466-0 Kleen Test Products Corporation – Lumiere Facial	
Cleansing Wipes)	56gsm

All other substrates are to be approved by PCMC.

Purchaser to submit samples of their material and moistening fluid to Builder in order to evaluate its suitability for the converting process.

SERVICE REQUIREMENTS

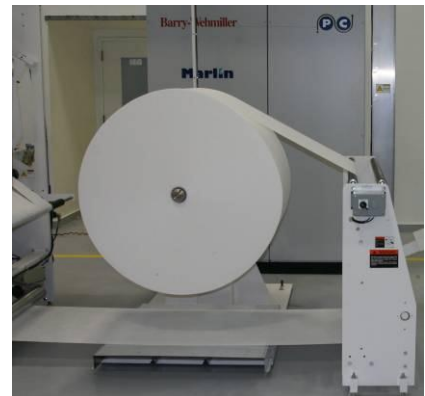
Electric –	480 Volts, 60 Hertz, Three Phase or 380/400 Volt, 50 Hertz, Three Phase
Compressed air –	80 PSIG minimum (5.5 bars)
Air consumption –	8 CFM (estimated)
Max. ambient air temperature –	40° C (104° F)

STANDARD MACHINE FEATURES

Unwind

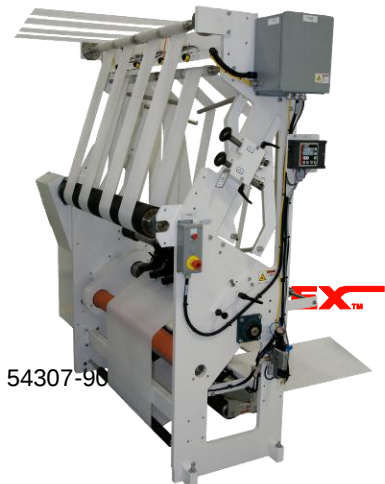
One (1) cantilevered shaft type unwind stand position with center driven electronic drive to accept a single parent roll. Also includes a constant tension system for tension regulation.

- Max roll width: 860 mm (34")
- Max roll diameter: 1500 mm (60")
- Parent roll core diameter: 171 mm (6.75")



Center Web Guide / Separator / Slitters

Separator bars to separate and align webs to wetting tubes. Draw roll with tension cell. Three (3) slitter assemblies, capable of slitting out four (4) webs. Bowed spreader roll. Center guide unit mounted after the unwind.



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Wetting System

Moistening system complete with one (1) self draining lobe pump, driven by a variable speed motor with follower drive, to allow for optimum control of the wetting system. Dairy style hygienic fittings (no threads), with minimal deadheads – 316 stainless where in contact to web, 304 stainless for mounting hardware. Flow meter for close loop control of pump with shut off valve. Pump maximum capacity of 30.8 l/min (8 gpm) theoretical. Individual wick wetting tubes apply liquid to each web, each lane will also have a manual flow meter to balance flow between lanes.

Stainless steel catch pans are located beneath the folding and wetting area, furnished with drain outlets. Liquid drainage system to be provided by Purchaser.

NOTE: Purchaser to furnish gravity feed supply lines and filtration system at intake to pump.

All moistening system components coming in contact with the moistening liquid and web will be of 316 stainless steel or plastic construction.

Moistening system with add on range of 200% to 350% (+/- 5%) liquid weight over dry fabric weight when running at full machine speed (steady state). This assumes the web will satisfactorily absorb and retain this level of liquid saturation throughout the manufacturing process. For a given material type and weight, certain tests may be required to determine what



liquid weight can be satisfactorily absorbed and still allow proper machine operation.

NOTE: The volume and uniformity of liquid application will vary slightly from low speed to high speed. The moistening unit is designed to provide a uniform application rate at a single preset machine speed. Purchaser to submit samples of their material and moistening fluid in order to evaluate suitability of converting process.

Note: KC fluid viscosity is near equivalent of water

Forming Station

The forming station includes a guide roll to assist with web stability prior to the folding process. Four (4) forming plates (Z-fold is standard) are supplied for a longitudinal fold.

NOTE: Folding plates will be designed to fold substrates as defined under the original machine specifications. Tensile strength for substrates should be a minimum of 1.56 PLI (MD Wet) and .65 PLI (CD Wet). These values have been reviewed by PCMC engineering and determined runnable.

Cutoff and Crossfold

Variable speed feed rolls are located prior to rotary cutoff, where the web is cut to the correct length. A two-time rotary pinch cutoff, including knife and anvil roll provides a variable cutoff length based on the amount of web fed into the cutoff:

- Cut off range 170 mm (6.69") to 210 mm (8.26").
- Products are then crossfolded by means of a mechanical tucker unit.
- Products delivered to stacker by gripper roll.



Stacker

Packer mechanism for discharging individual products from gripper roll onto count fingers.

Stacks discharged onto discharge conveyor.

Folded width range: 50 mm (1.96") to 115 mm (4.5") – change parts required for 65 mm to 90 mm folded width

Stack height range: 10 mm (0.39") to 90 mm (3.5")

Stack count range: 4 – 100 (increment by 1)

Width to height ratio up to be at least: 1:1

Product count is determined by an electronic motion control program cam (push button count change).

Discharge Conveyor

Products are discharged from the stacker onto an indexing timing belt conveyor at 90 degrees to machine direction.

Conveyor discharge height is 900 mm (35.4")

Controls

A Rockwell PLC with a color touch screen HMI for machine control is included.

Line drive and Servo system is Rockwell.

NOTE: An optional air conditioner for cabinet cooling required if machine environment exceeds 90°F (32.2°C) ambient temperature.

Standard Rockwell IEC push buttons, IEC motor contactors and IEC motor starters.

Design Standards

The Marlin™ is designed to CE standards. (Translations needed for screens, tags, and manuals are optional)

E-support hardware package: Used to connect from PCMC to a customer's site to facilitate remote diagnostics via high speed broadband connection. Builder will supply Secure Internet Tunnel (SIT) and security software. Purchaser to supply

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Ethernet connection, static IP address, destination network and gateway router IP address and outbound UDP port 22 allowed on firewalls.

E-Pro (Machine Control Features) package: E-Pro is an enhanced operator maintenance, diagnostic, and production report package that brings additional information to the operator's fingertips, allowing for more efficient running of the equipment.

CUSTOMER CHECKOUT

A checkout of two (2) products is included in the base machine price. The products will be identical except for count, which will be 12 & 25 respectively. This checkout is accomplished in one (1) day. Additional checkout time may be available and can be quoted as an option. Requirements must be identified prior to firm quote, specification approval, and/or delivery schedule commitment.

NOTE: Purchaser to send test material to Paper Converting for checkout of machine. Paper Converting to advise Purchaser on amount of test material required allowing sufficient time for shipment.

RECOMMENDED SPARE PARTS PACKAGE

We strongly recommend spare parts funding for the machine being considered as part of your project.

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Price for Marlin™ Crossfolder Wet Wipe Line (US \$)

Budget price for one (1) complete Marlin crossfolder wet wipe line as described above, F.C.A., PCMC facility, Green Bay, WI

Standard Options (US \$)

Addition of secondary unwind for standby roll, with splicing table. Maximum roll diameter is 1500 mm (60") with 171 mm (6.75") cores. **\$Included**

Dual side wetting: Extra set of wetting tubes per web and associated guide rolls. **\$Included**

Compression station and take-away conveyor: Additional conveyor (approx. 2.75 m (9')) to carry product to downstream equipment. Unit includes a turn bar to properly orientate the product. Compression station to compress stacks to improve stack integrity. Compression station to be a top and bottom flat belt with customer furnished conveyor connecting to discharge. **\$Included**

Additional items discussed for their inclusion or purchaser furnished are folding boards provided by purchaser, quick change shaft provided by purchaser, wetting tubes provided by purchaser, builder provided items include, servo driving embosser, rotary unions for embossing rolls, heated hose to connect to rotary unions, hard piping inside guard for embossing rolls, guard lower motor from potential oil leaking, embosser drain pan and ball valve under connection for capture of oil when disconnecting, embosser to have 2" gap opening capability between rolls, web break detection at discharge of embosser using ABB load cell, web break sensor before embosser, quick blade change option, addition of two anvils to slitter anvil shaft. **\$Included**

Additional testing/checkout requirements per additional day **\$Included**

Special Options (US \$)

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Option for Preliminary PO from XXXXX to December XXXXXX

Heated embosser stand to include heater for both embossing rolls, servo driven, bypass capable, wrap detection, web brake infeed and out feed, web guide into embosser

- Top Loading – For quicker upper (patterned) roll changes

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- Swinging Top Caps – Pivot away for quicker roll changes
- One Piece Frame Construction (built almost 100 of these units)
- New Standard PCMC Bearing Housings
- 2" Stroke Pneumatic Cylinder Actuation
- Customer Furnished Rolls
- Rotary unions for each end of customer furnished rolls
- Incoming Servo Controlled Spreader Roll
- Web Exit Load Cell Roll
- Web Wrap Detection
- Lower Roll Doctor Scraper
- Dual Servo Belt Driven Drives
- Guarding of embosser area
- Web break detection prior to Infeed and exit of embosser

\$Included

Change hand of machine to left hand

\$Included

Relocation of control cabinets to rear of machine 12 feet back from OD of parent roll which includes requirement for arc flash

\$Included

Quick change blade option

\$Included

Servo phasing for cut length change

\$Included

Servo dive stacker and pusher

\$Included

Frames design and drilled to accept brackets for compensation rollers

\$Included

Start-up Services

(US \$)

Builder to supply one (1) mechanical and one (1) electrical service technician to check over the installation and start-up the equipment.

Installation/Startup costs, up to \$41,520 are included. This includes labor and travel hours only. Travel and living expenses will be invoiced separately. Start-up costs in excess of the included

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amount will be invoiced per PCMC schedule of technical charges in place at the time services are rendered. Any money remaining after commissioning will be set aside and can be used for future service visits and/or parts at the customer's discretion.

Purchaser is responsible for:

Cost of airfare for technician(s)

Hotel accommodations and living expenses

Local transportation

P.O. required before start-up commences

Tasks will include, but are not limited to:

Verify mechanical and electrical set-ups.

Start-up PLC and verify communications.

Check and adjust the controls and functions of the equipment and bring it to a production condition.

Work week consist of a 7 days per week.

Time to remedy agreed upon warranty issues will not be debited from the allowance and will be reconciled on a weekly basis.

Training

(US \$)

PCMC Task Based Training Program --

To be performed immediately following machine start-up. The training delivery schedule is based on seven (7) work days per week, eight (8) hours per day Monday through Sunday. Class size is limited to six (6) trainees.

Training package includes:

- Two (2) days Operator Training
- One (1) day Mechanical Maintenance Training

* All living expenses are excluded, any travel expenses or layover fees are not included and will be invoiced at rates and charges per the PCMC Schedule of Technical Services in place at the time the services are rendered.

* All training will be presented in English. Customer should provide a translator if needed.

* Additional training sessions can be provided at an additional expense.

* One (1) day controls training can be provided at an additional expense.

Exclusions

Test/checkout materials at PCMC
Liquid mixing tanks
Packaging/wrapping machinery
Conveyors from stacker exit to packaging machinery
Spare parts
Transport to Purchaser's designated site
Installation (riggers at site)

VALIDITY

All prices stated above are based upon order placement within 60 days of the proposal.

DELIVERY

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This PCMC designed Marlin™ crossfolder wet wipe line will be ready for shipment from PCMC based on fulfillment of terms included would be 10 January 2015 after receipt and acceptance of purchase order, receipt of down payment, and Customer approval of PCMC specifications by 15 May 2014. The above figures are estimates based on our current manufacturing schedule. Actual delivery schedule will be based on our manufacturing backlog at the time of order.

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