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DPM & PEM

Two adaptable modules for individual printing & dispensing systems

AVERY DENNISON

Monarch®

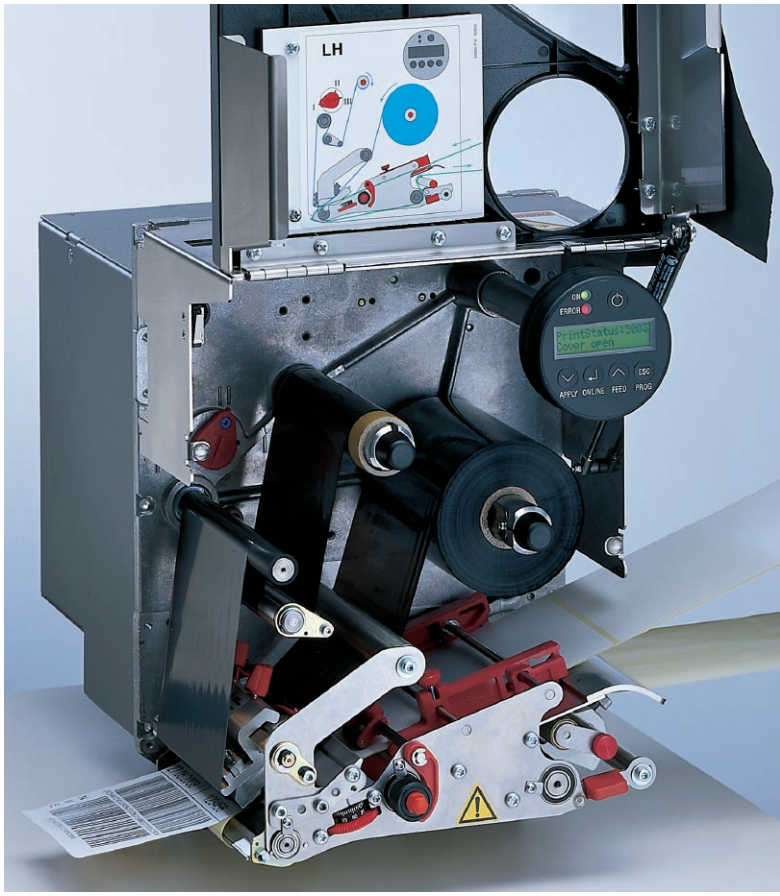
Products and Services

For high performance ...

As a mechanical engineering company or system integrator, you know that your customers expect you to provide complete labelling devices tailored to their requirements. The machines need to be capable of not just printing labels, but also dispensing them onto pallets, boxes and products. Correct and safe labelling is of paramount importance especially within hygienic and demanding customer industries such as food, chemicals or pharmacy.

High performance label printing
To fulfil the requirements of the market, your labelling solutions need to print quickly, deal with large data quantities and guarantee high resolution (300 dpi) printing. Your customer will expect the solution to integrate seamlessly with their production line, our solution provides this integration for you.

Printing precision is key
A powerful print & dispensing module is crucial for the success of your labelling solutions. One that prints perfectly every time, dispenses precisely, and is made to measure for high performance in industrial use.



Printing and dispensing: the DPM (Dispensing Print Module)


Numerous mounting options - a dual-colour combination is depicted here

Flexible printing in batch mode: the PEM (Print Engine Module)

... flexible and precise solutions!

With DPM and PEM we offer two modules for printing and dispensing processes, which can be integrated with any labelling system.

Flexiblity with DPM
DPM is a high performance, robust, label printing and dispensing module in one. It can reliably print and dispense a wide range of labels. This makes it a perfect fit for printing precisely-timed information that needs to be dispensed onto the related product immediately.

Printing and dispensing in 1:1 mode
The DPM deals with the entire identification process in just one working sequence. If you need to deal with label printing and direct dispensing, then our DPM module is the ideal solution. With a maximum print speed of 400 mm/s (24 m/min)* and a resolution of 300 dpi, the DPM can apply in 1:1 mode. At the same time as a label is printed and being dispensed, the system is preparing the data for the next label making this solution perfect for variable data.

Efficiency with PEM
PEM has the ability to print labels in batch mode irrespective of the dispensing time. Printing is decoupled from the dispensing processor (when integrated in a labelling unit) and the labels remain on the carrier material. The printed labels are then forwarded in a loop for further processing (in a labelling machine or a rewinder). In this way, batch mode combines two working operations of different speeds (printing/dispensing), and is therefore the definitive solution for variable product labelling at high dispensing speed.

Independent and flexible
A PEM-based labelling solution is flexible, customisable and can adapt to the production line speed in various industry environments. Static products can be labelled with the same information over a specific time frame. This type of processing is ideally suitable for the food or pharmaceutical industry.

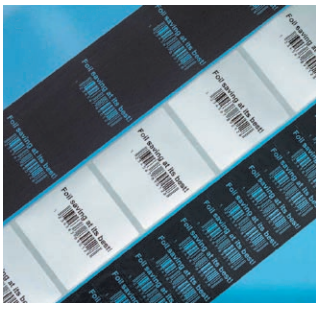
Our PEM solution also has the ability to deal with variable printing where printing speed is independent of the dispensing process.

User-friendly menu navigation
The extensive settings menu incorporates adjusting software parameters, light barriers and printing speeds. Using the menu, the machine can be adapted to almost any print requirements.

The benefits of our DPM and PEM modules

- print speeds of up to 400 mm/s*
- print speed adjustable in 5 mm stages
- heavy-duty module for uninterrupted industrial use
- material efficiency due to foil-saving mechanism
- multilingual, rotatable, user-friendly multifunction display
- system compatibility due to numerous interfaces such as Ethernet, RS-232/422/485, USB-A, USB-B and Centronics
- simple integration due to Easy Plug printer language and MPCL
- plug and play using Monarch Language Interpreter (MLI) emulation
- precise functioning in a wide range of fitting positions
- stand-alone function: computer-independent data input using keyboard connection
- RFID technology with chip protection mode (only with DPM)

DPM: Securing the future through RFID technology



Efficient and economic: automatic foil-saving

*depending on materials used

Little differences with huge impact

Cost effective
DPM and PEM modules are highly cost effective: the foil roll stock of up to 1000m ensures substantial set-up time savings. Less downtime, more output!

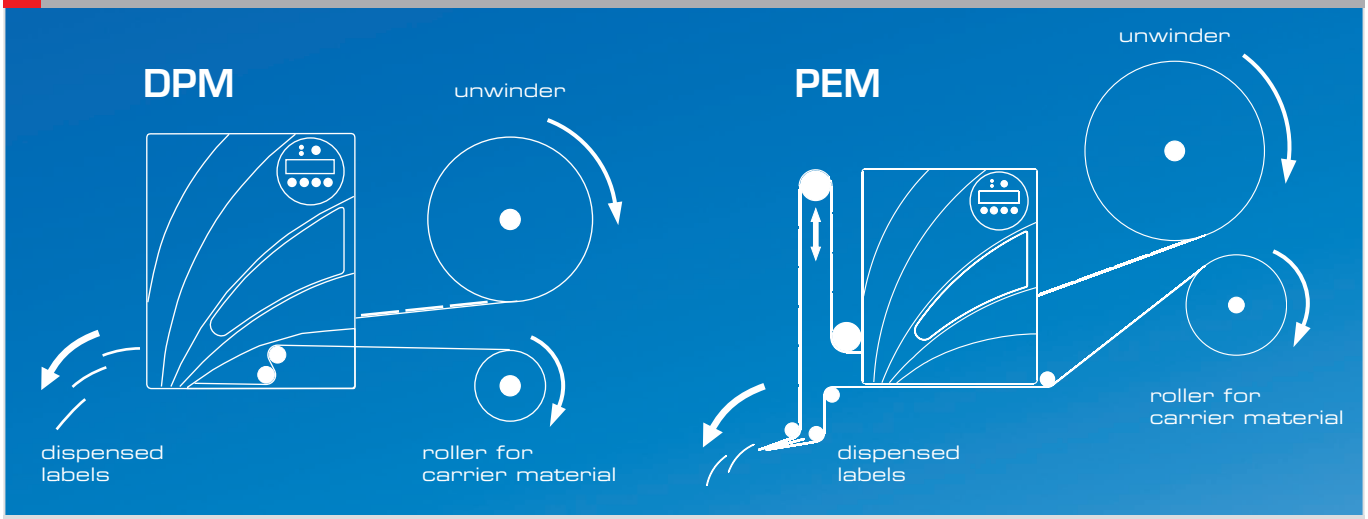
Everything under control
The module is extremely user-friendly bringing time savings, straight forward maintenance and a rapid turnaround of central status queries to your organisation. You can send data and updates direct to all application modules via your network. This means your activities are centralised and controlled giving you the tools to manage the process effectively.

DPM: flexible and high-precision
The DPM labels any product with timed-to-the-second precision and also processes variable data from label to label. Ideal for logistics applications, individual packages in shipment or for individual parts identification.

Speed, performance and efficiency are the DPM's main strengths. A range of peeler and backing paper rewinds ensure flexibility in the application process. The result is perfectly legible error-free product identification.

PEM: speed and performance
The PEM enables extremely high dispensing speeds making it suitable for identification of rapidly-moving products at variable conveyor speeds.

Direct comparison of DPM and PEM features and benefits



DPM features and benefits:	PEM features and benefits:
• works in 1:1 mode	• works in batch mode
• prints and dispenses in one working operation	• decouples print and dispensing process
• precise and inexpensive dispensing using different peeler and backing paper rewind lengths is possible even without applicator	• label dispensing in a loop for high and variable dispensing speeds

Your DPM & PEM at a glance

Printer specifications:	
Printer technology:	thermo transfer or thermo-direct
Printhead:	corner-edge type, preset (changeable), resolution 300 dpi
Print width:	DPM and PEM 4" 106 mm / 5" 127 mm / DPM 6" 160
Print and dispensing speed:	DPM and PEM 4" 5": 50 to 400 mm/sec*; adjustable in 5 mm gradations DPM and PEM 6": 50 to 300 mm/sec*; adjustable in 5 mm gradations
Display:	control unit with five keys and illuminated graphic LC display, 128 x 32 dot; parameter definition via menu or easy-plug commands, 360° pivoted
Electronics:	Processor: 32-Bit AMD MIPS, 400 MHz, 64 MB RAM, 4 MB ROM; Signal-interface USI 24V (error, warning, film end, material end, printer head open, insufficient film stock, dot check, test functions, service note) Compact Flash Card Slot real time clock
Barcodes:	all standard barcodes
2-dimensional barcodes:	Data Matrix Code, Maxi Code, PDF 417, Codablock F, Code 49
Fonts:	17 standard fonts and 3 scalable fonts, TrueType®-fonts supported
Interfaces:	RS 232, D-Sub 9, 2 USB-A host ports, 1 USB-B full speed device port, Centronics and bi-directional parallel, Ethernet 10/100 Base-T and RJ-45
Mains voltage:	100 – 240 V AC +- 10 %, frequency 60/50 Hz
Power consumption:	450 W (operating consumption depending on application)
Options:	Keyboard (USB) for stand-alone operation, remote-display, RFID read-write module (UHF), various applicators, RS 232/422/485 Interface
Weight:	4" 17 kg / 5" 17 kg / DPM 6" 18 kg
Size (H x W x L):	4" and 5" 303 x 246 x 429 mm / 6" 303 x 246 x 483

Material specifications:	
Material specification:	self-adhesive materials for thermo transfer or thermo direct printing
Label length:	10 up to 1,000 mm
Material width:	DPM and PEM 4" 16 – 136 mm / 5" 16 – 136 mm / DPM 6" 16 – 190 mm
Print ribbon length:	up to 1,000 m

RFID specifications for DPM:	
Transponder specifications:	UHF frequencies: 869 Mhz (EU), 902 - 928 Mhz (US), 910 - 914 (Korea) EPC Class 1 Gen 2; 64/96 bit EPC + 512 bit user data (user memory) ISO/IEC 18000 - 6C
Transponder function check:	non-functioning labels are printed with several stripes to identify them.
Data check:	High data security is guaranteed through automatic acknowledgement of successful data transfer at protocol level. Data transfer success can additionally be checked using a check-read process.
Read/write speed:	up to around 1 label/second
Transponder minimum spacing:	2" (approx. 50 mm); Smaller spacing is also possible if necessary (dependent on transponder type; we recommend checking with Avery Dennison)
Transponder location:	Recommended RFID labels for entry-level applications: Article number A9100 = AD 431, article number A9272 = AD 222. Optimum location is dependent on the transponder for high-volume applications. Details available on request.