MC12

CONTROL UNIT FOR MULTI FILLING SYSTEM

– Easy to clean

– User-friendly

– Direct logging of production data

– Control of up to 16 filling units

WORLD LEADERS IN ASEPTIC PERISTALTIC FILLING

Flexicon®

MC 12

MC12 CONTROL UNIT FOR MULTI FILLING SYSTEM

MC12 is the heart of Watson-Marlow Flexicon's Multi Filling System. MC12 is capable of simultaneous control of up to 16 individual filling stations of the same or of a different type.

MC12 is based on the latest microprocessor technology. The MC12 is an extremely flexible tool for use in production as well as in laboratories.

MC12 fulfils all usual requirements and can be extended to include several filling stations, an electronic bottom-up fill system, a printer for documentation logging, a direct link to a balance for dynamic recalibration and more.

MC12 utilises functional and user-friendly software, which communicates with the operator in four languages through an easy-to-read LCD-display. MC12 uses an RS-485 multi-drop network to communicate with other Watson-Marlow Flexicon equipment and can accept total cabling lengths of up to 500 metres.

MC12 has a high degree of immunity against electrical interference and is tested using the most stringent EMC standards.

MC12 is equipped with interfaces such as RS-232 ports and ports for synchronization and communication with other equipment. This enables for instance synchronization with automatic bottle handling systems. Individual software can be developed for this purpose.

MC12 is designed for use in cleanroom environments for production complying with cGMP and its outstanding performance and reliability is demonstrated by the many hundreds of installations world-wide. MC12 is a part of the product program, which has proved Watson-Marlow Flexicon to be the world's leading manufacturer of peristaltic filling systems.

Furthermore, MC12 is also specified by many other filling machine manufacturers world-wide, as an alternative to their own filling devices.

1: An industrial printer connected to MC12 prints out all actual production data and adjustments. Time and date of action are automatically included in each data logging.

2: The foot switch generates a start signal. Furthermore, MC12 can be connected to external systems by input of an electrical start signal after which pump status will be delivered.

3: The smooth membrane key pad secures handy cleaning of MC12. Clear marking and click response on each key makes the operation of MC12 easy.

MC12 THE SOFTWARE

The MC12 software is functional, easy-to-learn, logical, accurate and quick to operate

F1: Volume
Enter desired volume between 0.01 ml and 9999.9 ml

F 2: Tube diameter
Enter the internal tube diameter

F 3: Velocity
Enter desired rotor speed

F 4: Acceleration
Adjust start/stop acceleration

F 5: Reversing
Optional back suction to eliminate drips

F 6: Batch size
Define desired number of fills per start signal

F 7: Delay
Choose delay time between each fill, when batch filling

F 8: Completed fills
Records number of completed fills

F 9: Specific gravity
Enter specific gravity of liquid

F10: Capacity
Displays the achieved number of fills per hour/minute

F11: Accumulated volume
Display of total volume filled since the start of the batch

F12: Maximum flow
Display of the maximum flow rate

F16: Direction
Choice of direction for GD30I (only when connected to GD30I)

F17: Timer 1
Delay from start signal until actual start of filling

F18: Timer 2
Delay of pump start after busy signal

F19: Timer 3
Extension of busy signal, after pump stop

F20: Operator number
Enter operator number

F21: Batch number
Enter batch number

F22: Start log
Start logging of production data

F23: Stop log
Stop logging of production data

F24: Print log
Print the log

F25: Delete log
Delete the log

F26: Log data
Display of available memory in log

F29: Print parameters
Print the current parameters

F31: Save program
Save a complete set of work parameters as a program

F32: Load program
Retrieve a program already saved

F33: Delete program
Delete a program already saved

F34: Print program
Print all the stored programs

F35: Program data
Display of free/used program slots

F40: Mode
Choice of individual, parallel or serial mode

F41: Select filler
Select filling station (drive)

F42: Set date
Set real-time clock: date

F43: Set time
Set real-time clock: time

F44: Display date and time
Display current time and date

F45: Display filler
Display type and version of active filling station

F46: Select language
Choice of language for display and printer (Danish, English, German, French)

F47: Printer set-up
Set-up of printer for data logging

F48: RS-232 set-up
Set-up of RS-232 port for external equipment

F49: Balance set-up
Set-up of dynamic recalibration or fill on scale

F51: Filling needle set-up
Control of filling needle

F53: Drive on/off
Activation/deactivation of individual drives

F58: Set password
Set-up of different passwords for each level of security

F59: Enter password
To select password level

F60: External input mode
An external signal is used to start a fill sequence or to both start and stop a sequence manually

F70: Capacity format
Choice of capacity format on display

F71: Flow rate format
Choice of flow rate format on display
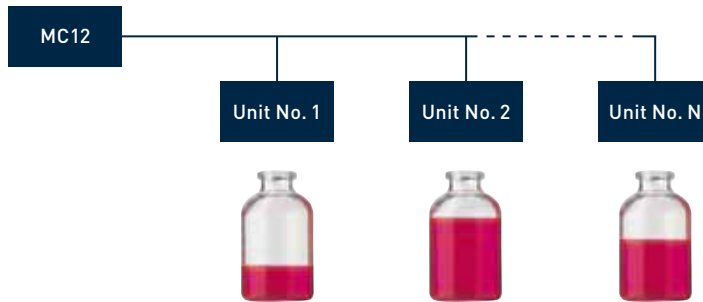
F72: Volume format
Choice of operation in either weight (g) or volume (ml) mode

F80: Reset memory
Erases all current fill parameters while leaving stored programs intact
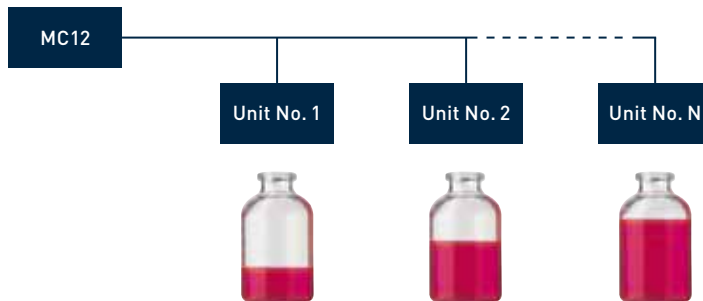
MC12 TECHNICAL SPECIFICATIONS

INDIVIDUAL MODE

MC12 can control up to 16 fillers regardless of the type. MC12 controls each filler using individual parameters such as fill volume, tube diameter, acceleration, use of a sensor for »no bottle – no fill«, activation by an external signal and more. Each filler is calibrated individually.

SERIAL MODE

In serial mode, the total fill is made up from the accumulated volumes delivered by each filling station. The fillers can operate with individual tube diameters, thus giving different fill volumes from each filling needle.

Calibration is carried out on all filling stations simultaneously. A sensor for »no bottle – no fill« may be connected. This set-up is used for medium to large production in fully automatic filling systems, primarily using a star wheel.

PARALLEL MODE
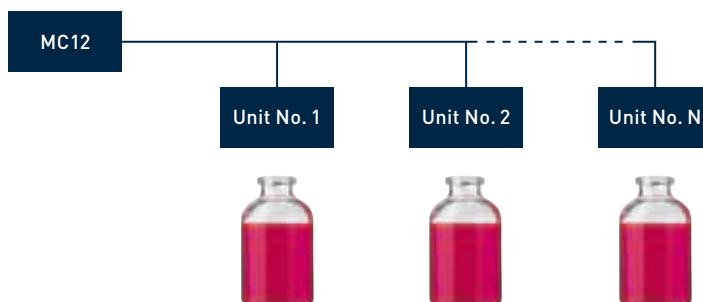
In parallel mode, all connected fillers are synchronized with the same set of parameters. The calibration is carried out individually.

A sensor for »no bottle – no fill« may be connected. This set-up is used for larger production volumes, primarily filled on in-line filling systems.

Mains:
110/230 VAC earthed, 50/60 Hz

Power consumption:
Max. 50 W

Keyboard:
Membrane-type with »click« action

Cabinet:
Anodised aluminium

Ingress protection:
IP31

Weight:
5 kg

Interface:
RS-485 multi-drop

2 x RS-232 fully duplex
Bauds: 300-1200-2400-9600
7 or 8 data bits
Even or odd parity
1 or 2 bits

2 x (5-50 VDC) inputs for start and stop
2 x relay outputs for status

Accessories:
Printer, balances, foot switch, electrical bottom-up fill system, etc.