

Data sheet

MAP Check Combi

On-line O₂ or combined O₂/CO₂ gas analysis
- Quality assurance for flow wrappers working with
modified atmosphere packaging



Benefits / Features

- Less off-line testing, saves operator time
- On-line quality assurance
- Better process control, less product returns
- User-dependent errors are minimised
- Easy to operate
- Extremely fast responding sensors
- Packaging machine interface
- Oxygen measures from 0.001 to 100%
- Carbon dioxide measures from 0 to 100%
- Large touch screen display
- Calibration intervals: 1 year
- Documentation of tests
- 99 set-up programs
- Built-in sample pump
- MCC is delivered with stainless steel cabinet and MCC II is delivered with anodized aluminium cabinet
- Designed for both vertical and horizontal flow packaging machines (flow wrappers)

Introduction to the MAP Check Combi series

MAP Check Combi secures the quality in Modified Atmosphere Packaging through on-line measuring and recording of the gas content in the package before sealing. Alarms are activated if the gas concentrations exceed the user specified levels. The analyser is specifically designed for both vertical and horizontal flow packaging machines.

MAP Check Combi is available in the following versions:

- MAP Check Combi - with spot-test function
- MAP Check Combi II - without spot-test function
- MAP Check Combi II - with automated flow control and without spot test

The MAP Check Combi series is available with oxygen (O₂) sensor or a version measuring oxygen/carbon dioxide (O₂/CO₂) combined.

On-line gas analysis - improved Q.A.

MAP Check Combi offers complete traceability. The measuring data, including any possible alarms during packaging and spot tests, is logged in the memory. Furthermore measuring data can be printed out on an external printer (optional) or transferred to an external computer, e.g. the computer controlling the packaging machines.

MAP Check Combi II, PFC, only:

- Integrated flow controller for controlling and saving gas
- Flow control range from 0-800 litres/min
- Flush back system for cleaning out impurities in the measuring system
- Fast ROI due to gas savings

Packaging machine interface

The gas concentration alarms, system alarms etc. can be communicated to the packaging machines via relay output and RS 232. On certain machines it is possible to interface the program selection function via RS 232 which means that the packaging machine automatically executes the right program selection in the MAP Check Combi. The start-stop function of the entire system can be executed by the packaging machine.

Product program set-up

The gas content alarms for the on-line analyser are defined in product set-up programs (99 programs in total) which can be assigned a name/number to facilitate identification. One touch and the MAP Check Combi sets itself up to a particular product program.

Principle of operation

MAP Check Combi is based on state-of-the-art technology which offers unprecedented advantages both in terms of the sensors and the electronics. A large touch screen based user interface allows for an extremely user-friendly programming of the analyser. Gas alarms (four for both O₂ and CO₂), which are easy to set up, communicate with the packaging machine. The alarms will be activated if the gas content does not follow the specifications. Self-diagnostics with alarm functions is monitoring the functional parameters of the analyser and a spot test can be performed with the random testing device.

The specifications concerning the gas composition in the package - min./max. O₂ and CO₂ - are set up in programs to which a name or a number can be assigned for easy identification. As already mentioned 99 set-up programs are available. A new program is selected by a touch on the screen and the analyser will automatically set up as programmed by the user. The program selection procedure can also be interfaced with the machine. When a program is selected on the machine it will automatically select the right program on the analyser, thus avoiding user-dependent faults.

MAP Check Combi & MAP Check Combi II are tested to be in compliance with EU regulation 1934/2004 on materials and articles intended to come into contact with food.

Matrix MAP Check Combi II, PFC, flow versions

MAP Check Combi PFC Max 650 L/min (vers. 1)		MAP Check Combi PFC Max 800 L/min (vers. 2)	
Inlet pressure	Max flow (L/min)	Inlet pressure	Max flow (L/min)
1.0	100	1.0	125
1.5	150	1.5	190
2.0	200	2.0	250
2.5	250	2.5	315
3.0	300	3.0	375
3.5	350	3.5	440
4.0	400	4.0	500
4.5	450	4.5	560
5.0	500	5.0	625
5.5	550	5.5	690
6.0	600	6.0	750
6.5	650	6.5	800

Technical specifications

Sensors	
O ₂ sensor:	Ceramic, solid state sensor
CO ₂ sensor:	Infrared, dual wavelength sensor

Spot check flow	
MAP Check Combi & MAP Check Combi II:	Approx. 60 ml per minute

Sample flow	
MAP Check Combi & MAP Check Combi II:	375 ml/min +/- 25 ml/min (on-line meas.)

Measuring range	
O ₂ sensor:	0.001 - 100%, auto ranging
CO ₂ sensor:	0 - 100%
Accuracy	
O ₂ sensor:	Max. ±1% of the reading in the calibrated range
CO ₂ sensor:	Max. ±2% of the full range
Response time	
O ₂ sensor:	< 2 secs.
CO ₂ sensor:	< 5 secs.
Heating time	
O ₂ and CO ₂ sensor:	10 minutes from cold state (shorter at temporary interruptions)

Operation	
Display:	Back-lighted touch screen with symbol based keys 99 set-up programs
Alarm:	RS 232 C, 2 relays for gas concentration alarms, 1 relay for system faults, system start/stop via a 24VDC signal from the packaging machine process
Calibration intervals:	O ₂ : 12 months CO ₂ : 12 months
Mechanical data	
Dimensions:	180 x 270 x 470 mm (HxWxD)
Weight:	10 kg
Versions:	MAP Check Combi and MAP Check Combi II can be delivered as built-in and stand-alone
Other features	
Signal output:	RS 232 serial port for external printer or PC, 4-20 mA output (optional)
Power supply:	230 VAC +/- 10%, 50-60 Hz, 180 VA 115 VAC +/- 10%, 50-60 Hz, 180 VA Relay contacts: Max. 48V, 1A, 2 external inputs: 10-32 VDC, 10mA

Proportional flow control unit	
Inlet/Outlet:	Screw-joint, straight 8/6 mm - 1/2 inch or 12/9 mm - 1/2 inch both included
Inlet pressure:	0-6.5 bar
Flow:	Max 800 L/min. (With, straight screw-joint 12/9mm-1/2)

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