

Data sheet

MAP Check Combi

On-line O₂ or combined O₂/CO₂ gas analysis
- All in one concept, ensuring a perfect test result in your modified atmosphere packaging



MAP Check Combi

MAP Check Combi II with or without PFC. Both versions without spot-test unit and handles.

Features / Advantages

- Extremely fast responding sensors
- Built-in random test function
- 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
- Complete self-diagnostics
- Built-in sample pump
- MCC is delivered with stainless steel cabinet and MCC II is delivered with anodized aluminium cabinet
- Each package is tested
- Secure uniform quality in MAP
- User-dependent faults are minimised and the product requires low maintenance
- Easy to operate
- Designed for both vertical and horizontal flow packaging machines

Introduction to the MAP Check Combi

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. Long validity and an absolutely minimum of maintenance are reached with the development of a new single pump system.

MAP Check Combi is available in the following versions:

- MAP Check Combi - delivered with spot-test analyser and handles.
- MAP Check Combi II - without spot-test function and handles.
- MAP Check Combi II with PFC (proportional gas-flow controller).

For both the MCC and MCC II (with/or without PFC) it is possible to offer a version measuring oxygen (O₂) or a version measuring oxygen/carbon dioxide (O₂/CO₂) combined. The exact flow version needed is defined when ordering the MAP Check Combi PFC.

On-line gas analysis - high accuracy sensors

MAP Check Combi offers complete traceability. The measuring data, including any possible alarms during packaging and spot tests, are logged in the buffer 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. The same applies to traceability regarding calibration data, various system and set-up data.

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 the system for impurities

Packaging machine interface

The gas concentration alarms, system alarms etc. are 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 is executed by the packaging machine.

Product program set-up

The gas content alarms for the on-line and the off-line analyser and the gas blending for a certain product are defined in set-up programmes (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 program.

 **PBI Dansensor**

Best choice for gas and permeability instrumentation

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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 (4 for both O₂ and CO₂), which are easy to set up, communicate with the packaging machine and 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. 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 programme is selected on the machine it will automatically select the right program on the analyser, thus avoiding user-dependent faults.

Matrix MAP Check Combi II, PFC, flow versions

MAP Check Combi Max 650 L/min (vers. 1)		MAP Check Combi 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	180
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

Random test and user-friendly documentation

Documentation of tests: Tests, alarms etc. are logged to the internal memory and can be transferred via RS 232 to an external computer and software such as Excel etc. The way MAP Check Combi saves a considerable amount of gas, the oxygen level is maintained - producing maximum uniformity in modified atmosphere packaging and operator dependent faults are reduced.

Technical specifications - MCC/PFC common

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

Sample flow	
MCC:	375 ml/min +/- 25 ml/min (on-line meas.)
MCC PFC:	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:	Mono colour graphic LCD 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 No misreading due to humidity, ambient air pressure, temp. in reference/surrounding air
Mechanical data	
Dimensions:	180 x 270 x 470 mm (HxWxD)
Weight:	10 kg
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
Consignment:	- Carton transportation crate - Operation manual - Mains cable - Set of syringes and complete spot test kit - On-line sample gas kit connector and cables
MCC, PFC	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)

Distributor

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