TecPen MAP –

Mobile device for determination of Oxygen in QC and Production processes

- Measurement of O₂ content in all closed and pierceable containers
- Optochemical O2 sensor system for gaseous media
- High flexibility due to handy design
- Suitable for very low gas volumes
- Easy to use due to factory calibration and built-in display
- Immediate operational readiness, without warm-up time
- High measuring accuracy
- Integrated memory & data transfer via USB
- Replaceable particulate filter
- Automatically 0-point adjustment with every single start





The low weight, easy handling and product-related storage of the data available in digital form make the use of TecPen MAP a routine process without high implementation costs.





Application

- In food Packaging with modified gas atmosphere (MAP packaging)
- In the head space of vials, cell culture vessels, infusion containers, syringes
- In micro-bioreactors

- Organic gases
- Corrosive gases

Technical Specification			
TS-System	TecPen MAP O2		
Measurement range	0-5%		
	Range	Accuracy	
	0-0,5%	± 2% Mev**	
	0,5-2,5%	±3% Mv*	
	2,5-5%	±5% Mv*	
Resolution	0,001%		
Response time at 25°C/ 77°F	<150ms		
Pump flow max.	67 mL		
Temp. range Min./Max	-10°C/ +60°C		
	14°F/	14°F/140°F	
Medium	Gas		
Life time of sensor spot (protective atmosphere; 0-40°C)	24 months		
Power supply	5V USB and LiPo battery		
Rechargeable battery lifetime	> 3h		
Data Interface	USB and Bluetooth 4.0		
Temperature compensation	10-30°C 50-86 °F		
Display	OLED Display		
Cleaning housing	no organic solvents, 40% EtOH		
Parts touching sample	St.1.4404/ PTFE/ Glass		
Case	aluminium anodized		
Protection	IP65		
Main service interval (Service including necessary retrofitting)	3 years		
Sensor cap replacement interval	2 years		
Recommended adjustment by customer	6 months		
Warranty	1 Year ex works		

^{**}Mev = measured end value

- TecPen MAP incl. case
- 1 USB-Cable
- 1 USB-Stick
 - $\circ \quad \text{Certificate of declaration} \\$
 - o User Guide
- 1 pocket
- 12 septa
- 2 Cannula 25/0.8
- 2 Particle filters
- 1 Hose adapter





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Technical Specification		
TS-System	TecPen MAP O2	
Measurement range	0-15% Range Accuracy	
	0-5%	± 2% Mev**
	5-15%	±3% Mv*
Resolution	0,001%	
Response time at 25°C/ 77°F	<150ms	
Pump flow max.	67 mL	
Tomp range Min /May	-10°C/ +60°C	
Temp. range Min./Max	14°F/140°F	
Medium	Gas	
Life time of sensor spot (protective atmosphere; 0- 40°C)	24 months	
Power supply	5V USB and LiPo battery	
Rechargeable battery lifetime	> 3h	
Data Interface	USB and Bluetooth 4.0	
Temperature compensation	10-30°C	
remperature compensation	50-86 °F	
Display	OLED Display	
Cleaning housing	no organic solvents, 40% EtOH	
Parts touching sample	St.1.4404/ PTFE/ Glas	
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TecPen MAP - O₂/CO₂

Mobile device for determination of O₂ and CO₂ in QC and Production processes

- Measurement of O₂ content in all closed and pierceable containers
- Optochemical O2 sensor system for gaseous media
- High flexibility due to handy design
- Suitable for very low gas volumes
- Easy to use due to factory calibration and built-in display
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Advantages

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Application

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- In the head space of vials, cell culture vessels, infusion containers, syringes
- In micro-bioreactors

- Organic gases
- Corrosive gases

TS-System	TecPen MAP O2/CO2			
Measurement range	0-5% O2		0-100% CO2	
	Range	Accuracy	Accuracy	
	0-0,5%	± 2% Mev**	+/- 5% MV	
	0,5-2,5%	±3% Mv*	100% Range +/-5% MV	
	2,5-5%	±5% Mv*		
Resolution	0,0	001%	0,01%	
Response time at 25°C/ 77°F	<150ms		10s	
Pump flow max.	67 mL			
Temp. range Min./Max	-10°C/ +60°C		-25°C/55°C	
	14°F/140°F		-13°F/ 131°F	
Medium	Gas			
Life time of sensor spot (protective	24 months		24 months	
atmosphere; 0- 40°C)	24 111011015			
Power supply	5V USB and LiPo battery			
Rechargeable battery lifetime	> 3h			
Data Interface	USB and Bluetooth 4.0		USB	
Temperature compensation	10-30°C		10-30°C	
remperature compensation	50-86 °F		50-86°F	
Display	OLED Display			
Cleaning housing	no organic solvents, 40% EtOH		40% EtOH	
Parts touching sample	St.1.4404/ PTFE/ Glas			
Case		aluminium ano	dized	
Protection	IP65			
Main service interval (Service including necessary retrofitting)	3 years			
Sensor cap replacement interval	2 '	years	n.a	
Recommended adjustment by customer	6 m	onths	adjustment at power on	
Warranty	1 Year ex works			

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TS-System	Technical Specification					
Range 0-5% ± 2% Mev** +/-5% MV 100% Range +/-5	TS-System	TecPen MAP O2/CO2 Combo				
D-5% ± 2% Mev** +/- 5% MV 100% Range +/-5% MV 5-15% ± 3% Mv* 100% Range +/-5% MV 100% Range +	Measurement range	0-15%		0-100% CO2		
S-15%		Range	Accuracy	Accuracy		
Resolution Response time at 25°C/77°F Response time at 25°C/77°F Pump flow max. Temp. range Min./Max Average Medium Life time of sensor spot (protective atmosphere; 0- 40°C) Power supply Rechargeable battery lifetime Data Interface Display Cleaning housing Cleaning housing Cleaning housing Portection Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Response time at 25°C/77°F		0-5%	± 2% Mev**	+/- 5% MV		
Response time at 25°C/ 77°F < <150ms 10s Pump flow max. 67 mL Temp. range Min./Max 14°F/140°F -13°F/ 131°F Medium Gas Life time of sensor spot (protective atmosphere; 0 - 40°C) 24 months Power supply 5V USB and LiPo battery Rechargeable battery lifetime > 3h Data Interface USB and Bluetooth 4.0 USB Temperature compensation 50-86 °F 50-86°F Display OLED Display Cleaning housing no organic solvents, 40% EtOH Parts touching sample St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 6 months adjustment at power on		5-15%	±3% Mv*	100% Range +/-5% MV		
Pump flow max. Temp. range Min./Max -10°C/ +60°C -25°C/55°C 14°F/140°F -13°F/ 131°F Medium Gas Life time of sensor spot (protective atmosphere; 0 - 40°C) 24 months 24 months Power supply 5V USB and LiPo battery Rechargeable battery lifetime >3h USB and Bluetooth 4.0 USB Temperature compensation USB and Bluetooth 4.0 USB Temperature compensation USB and Bluetooth 4.0 USB Display OLED Display Cleaning housing OLED Display Cleaning housing St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) 3 years Sensor cap replacement interval 2 years n.a Recommended adjustment by customer 6 mont	Resolution	0,00	01%	0,01%		
Temp. range Min./Max -10°C/ +60°C -25°C/55°C 14°F/140°F -13°F/ 131°F Medium Gas Life time of sensor spot (protective atmosphere; 0- 40°C) Power supply Rechargeable battery lifetime Data Interface USB and Bluetooth 4.0 USB Temperature compensation Display Cleaning housing Display Cleaning sample Case Protection Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 10-0°C/ +60°C -25°C/55°C -13°F/ 131°F 24 months 24 months 24 months USB and LiPo battery USB and Bluetooth 4.0 USB 10-30°C 50-86°F 50-86°F 50-86°F S0-86°F S1-4404/ PTFE/ Glass aluminium anodized Protection IP65 Main service including necessary retrofitting) Sensor cap replacement interval 2 years n.a Recommended adjustment by customer	Response time at 25°C/ 77°F	<150ms		10s		
Temp. range Min./Max 14°F/140°F Medium Gas Life time of sensor spot (protective atmosphere; 0- 40°C) Power supply Rechargeable battery lifetime Data Interface USB and Bluetooth 4.0 USB Temperature compensation Display Cleaning housing Parts touching sample Case Protection Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 10°F/140°F 24 months 24 months 24 months 24 months 24 months 10-30°C 10-30°C 10-30°C 50-86°F 50-86°F 50-86°F 50-86°F St.1.4404/ PTFE/ Glass aluminium anodized 1P65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval A years n.a adjustment at power on	Pump flow max.	67 mL				
Medium Gas	Town young Bally /Bally	-10°C/ +60°C		-25°C/55°C		
Life time of sensor spot (protective atmosphere; 0- 40°C) Power supply Rechargeable battery lifetime Data Interface USB and Bluetooth 4.0 USB 10-30°C 10-30°C 10-30°C 50-86°F Display Cleaning housing Cleaning housing Parts touching sample Case Protection Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 24 months	remp. range wim./wax	14°F/140°F		-13°F/ 131°F		
Atmosphere; 0- 40°C) Power supply Rechargeable battery lifetime Data Interface USB and Bluetooth 4.0 USB 10-30°C 10-30°C 50-86°F Display Cleaning housing Parts touching sample Case Protection Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 24 months	Medium	Gas				
Power supply SV USB and LiPo battery	• •	24 months		24 months		
Rechargeable battery lifetime Stand Bluetooth 4.0 USB						
Data Interface USB and Bluetooth 4.0 USB Temperature compensation 10-30°C 10-30°C 50-86°F 50-86°F Display OLED Display Cleaning housing no organic solvents, 40% EtOH Parts touching sample St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) 3 years Sensor cap replacement interval 2 years n.a Recommended adjustment by customer 6 months adjustment at power on	• • • • • • • • • • • • • • • • • • • •	•				
Temperature compensation 10-30°C 50-86 °F 50-86°F Display Cleaning housing no organic solvents, 40% EtOH Parts touching sample St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 10-30°C 50-86°F 50-86°F 50-86°F 50-86°F St.1.4404/ PTFE/ Glass aluminium anodized 1P65 A years n.a adjustment at power on						
Temperature compensation 50-86 °F 50-86°F Display Cleaning housing no organic solvents, 40% EtOH Parts touching sample St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 50-86°F 50-86°F 50-86°F 50-86°F 50-86°F 50-86°F 50-86°F St.1.4404/ PTFE/ Glass aluminium anodized 3 years 1 years n.a 6 months adjustment at power on	Data Interface					
Display Cleaning housing no organic solvents, 40% EtOH Parts touching sample St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 50-86°F 50-86°F 50-86°F 50-86°F St.1.4404/ PTFE/ Glass aluminium anodized 3 years 1 years n.a 6 months adjustment at power on	Temperature compensation					
Cleaning housing no organic solvents, 40% EtOH Parts touching sample St.1.4404/ PTFE/ Glass Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval 2 years n.a Recommended adjustment by customer 6 months adjustment at power on				50-86°F		
Parts touching sample Case aluminium anodized Protection Protection Main service interval (Service including necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer St.1.4404/ PTFE/ Glass aluminium anodized IP65 3 years 7 years 9 n.a 6 months adjustment at power on		. ,				
Case aluminium anodized Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval 2 years n.a Recommended adjustment by customer 6 months adjustment at power on	Cleaning housing	no organic solvents, 40% EtOH				
Protection IP65 Main service interval (Service including necessary retrofitting) Sensor cap replacement interval 2 years n.a Recommended adjustment by customer 6 months adjustment at power on	Parts touching sample	St.1.4404/ PTFE/ Glass				
Main service interval (Service including necessary retrofitting) 3 years Sensor cap replacement interval 2 years n.a Recommended adjustment by customer 6 months adjustment at power on	Case	aluminium anodized				
necessary retrofitting) Sensor cap replacement interval Recommended adjustment by customer 6 months adjustment at power on	Protection	IP65				
Recommended adjustment by customer 6 months adjustment at power on		3 years				
	Sensor cap replacement interval	2 ye	ears	n.a		
Warranty 1 Year ex works	Recommended adjustment by customer	6 mc	onths	adjustment at power on		
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