

# Defender 510/520

## Primary standard digital flow calibrator



### INTRODUCTION

Casella CEL are pleased to announce the arrival of the next generation of primary standard digital flow meters, the Defender 510 and 520.

The Defender 510 is the standard model. The Defender 520 offers enhanced facilities to record ambient temperature and pressure conditions during the calibration process for audit trail purposes. There are 3 variants of each model, covering flow ranges from 5 to 30,000ml/min.

Both models have improved design and operational features offering the user increased versatility in operation and data collection.

### FEATURES

- Primary flow standard
- +/-1% volumetric accuracy
- Calibrated to ISO 17025 & NIST
- Easy to use, simple operation
- Large backlit graphical display
- User-defined flow units
- Rugged ergonomic case
- Single or average readings
- Integrated serial PC interface
- Recording and graphing software
- RoHS compliant

Product Specifications	510			520		
Model	510-L	510-M	510-H	520-L	520-M	520-H
Flow range cc/min	5-500	50-5000	300-30000	5-500	50-5000	300-30000
Weight	820 g			820g		
Dimensions (mm)	(H x W x D) 140 x 150 x 75			(H x W x D) 140 x 150 x 75		
Measurement units	cc/min, cf/min, L/min			cc/min, cf/min, L/min sccm, scf/min, sL/min		
Volumetric Accuracy	1%			1%		
Gas Compatibility	non corrosive gases, non condensing <70%RH			non corrosive gases, non condensing <70%RH		
Max Operating Pressure	15 PSI Absolute			15 PSI Absolute		
Operating modes	Suction, pressure			Suction, pressure		
Measurement cell	Integrated			Integrated		
Temp - Pressure Sensor	No			Yes		
Temperature Units	N/A			Fahrenheit , Centigrade		
Pressure Units	N/A			kPa, PSI, mmHg		
Time per reading	1-15 secs			1-15 secs		
Modes	Single, Auto, Burst			Single, Auto, Burst		
Communications port	Serial RS232			Serial RS232		
Cable	1 metre to PC included			1 metre to PC included		
Software included	Optimizer 110 basic			Optimizer 110 basic		
Battery Type	Lead Acid			Lead Acid		
Run Time (charged)	Backlight on-3hrs, off 8hrs			Backlight on-3hrs, off 8hrs		
AC charger	12VDC, 3.6W			12VDC, 3.6W		
Gas connections	1/4" Barb-1/4" compression optional			1/4" Barb-1/4" compression optional		
Warranty	1 Year, battery 6 months			1 Year, battery 6 months		
Operating Temp Range	0-55°C			0-55°C		
Storage Temp Range	0-70°C			0-70°C		
Operating RH% Range	0-70% Non-condensing			0-70% Non-condensing		
Display	LCD Graphic			LCD Graphic		



### Software:

The Optimizer 110 software (included), allows users to download real-time calibration data direct to PC. The data may be saved to other spreadsheets or programs - such as Excel, with no storage limitations. Optimizer 120 upgrade (available at extra cost) creates a full sampling pump database, allowing entry of pump serial numbers, employee ID, record search, print pre & post calibration certificates, for audit trail purposes.

### Ordering Information:

#### Defender 510:

510-L (5-500ml/min)	P112107
510-M (50-5000ml/min)	P112108
510-H (300-30,000ml/min)	P112109

#### Defender 520:

520-L	P112110
520-M	P112111
520-H	P112112



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.