

FlowAnalyser PF-300, PF-301, PF-302

Technical Specifications



Flow and pressure measurements		Range	Accuracy
Flow	Measuring direction	Bidirectional	
	Temperature compensated	Automatic	
	Pressure compensated	Automatic	
	Humidity compensated	Automatic	
	O ₂ compensated	Automatic	
	High Flow	± 300 L/min	± 1.75 %* or ± 0.1 L/min (for 10..40°C)**
	Low Flow	± 20 L/min	± 1.75 %* or ± 0.04 L/min (for 10..40°C)**
Pressure	High Pressure (P _{High})	0–10 bar	± 1 %* or ± 10 mbar**
	Differential Pressure (P _{Diff}) (PF-300 only)	± 150 mbar	± 0.75 %* or ± 0.1 mbar**
	Relative Pressure (PF-301 and PF-302)	± 150 mbar	± 0.75 %* or ± 0.1 mbar**
	Low Pressure (for PF-302 only)	0–5 mbar	± 1 %* or ± 0.01 mbar**
	Pressure in High Flow Channel (P _{Channel})	0–150 mbar	± 0.75 %* or ± 0.1 mbar**
	Atmospheric Pressure (P _{Amb})	0–1150 mbar (abs)	± 1 %* or ± 5 mbar**
	Vacuum Pressure (for PF-301 only)	± 1000 mbar	± 0.5 %* or ± 2 mbar**
Units	Flow	L/min, L/s, cfm, mL/min, mL/s	
	Pressure	bar, mbar, cmH ₂ O, inH ₂ O, Torr, inHg, hPa, kPa, mmHg, PSI	
Other measurements		Range	Accuracy
Oxygen	Concentration	0–100 %	± 1 % O ₂ **
	Pressure compensated	≤ 150 mbar	
Temperature	In High Flow Channel	0–50 °C	± 1.75 %* or ± 0.5 °C**
Dew point	In High Flow Channel	-10–50 °C	± 2 %* or ± 1 °C**
Humidity	In High Flow Channel	0–100 % RH (non condensing)	± 3 % RH ** from 10 % RH to 80 % RH ± 5 % RH ** for <10 % and >80 % RH
CO ₂	Concentration (with optional OR-703)	0–10 %	± (0.2 % ABS + 2 % REL)
		10–20 %	± (0.3 % ABS + 4 % REL)
N ₂ O	Concentration (with optional OR-703)	0–100 %	± (2 % ABS + 2 % REL)
HAL, ISO, ENF	Concentration (with optional OR-703)	0–8 %	± (0.15 % ABS + 5 % REL)
		8–12 %	± (0.2 % ABS + 10 % REL)
SEV	Concentration (with optional OR-703)	0–10 %	± (0.15 % ABS + 5 % REL)
		10–15 %	± (0.2 % ABS + 10 % REL)
DES	Concentration (with optional OR-703)	0–22 %	± (0.15 % ABS + 5 % REL)
		22–25 %	± (0.2 % ABS + 10 % REL)
Gas types		Air, O ₂ , Air/O ₂ , N ₂ O/O ₂ , He, He/O ₂ , N ₂ , N ₂ O, CO ₂ , customised gas types	
Gas standards		ATP, ATPD, ATPS, AP21, STP, STPH, BTPS, BTPS-A, BTPD, BTPD-A, 0/1013, 20/981, 15/1013, 25/991, 20/1013, NTPD, NTPS	
Ventilation parameters ¹		Range	Accuracy
Breath rate	Rate	1–1000 bpm	±1 bpm or ± 2.5 %**
Time	T _i , T _e	0.05–60 s	± 0.02 s
Ratio	I:E	1:300–300:1	± 2.5 %*
	T _i /T _{total}	0–100 %	± 5 %*
Breath volumes	V _{ti} , V _{te} (@Low Flow)	± 10 L	± 1.75 % or ± 0.10 mL (> 2.4 sL/min)
	V _{ti} , V _{te} (@High Flow)	± 10 L	± 1.75 % or ± 0.20 mL (> 6.0 sL/min)
Minute volume	V _i , V _e	0–300 sL/min	± 2.5 %*
Pressure	P _{Peak} , P _{Mean} , PEEP, P _{Plateau}	0–150 mbar	± 0.75 %* or ± 0.1 mbar**
Peakflow	PF _{Insp} , PF _{Exp}	± 300 sL/min	± 1.75 %* or ± 0.1 sL/min**
Compliance	C _{Stat}	0–1000 mL/mbar	± 3 %* or ± 1 mL/mbar**
Trigger	Adult, Pediatric, HFO, ext. Trigger	Adult, Pediatric, HFO; Adjustable on flow or pressure curves with user-defined limits.	
General information			
Power		100–240 VAC, 50/60 Hz	
Battery		3 hours (with OR-703 2 hours)	
Power consumption		25 VA	
Weight		3.7 kg	
Dimensions (w × d × h)		22 × 25 × 12 cm	
Data Storage		Internal	
Display		Intuitive user interface with numerical measuring values, statistics, volume trigger configuration, gas type selection and calibration menus.	
Interfaces		USB for Windows Software FlowLab, RS-232 for individual communication, TTL for external trigger and TSI4000 Protocol.	
Calibration		Annually	
Conditions Ambient temperature		15–40 °C (59–104 °F)	
Conditions Humidity		10–90 % R.H.***	
Approvals		CE, CSA (North America), IEC 61010-1:2010, IEC 61326-2:2012	



The greater tolerance is valid:

*Tolerance related to the measured value, ** Absolute tolerance, with steady air flow, *** Non-condensing, **** The unit sL/min is based on ambient conditions of 0 °C and 1013.25 mbar (DIN 1343).

¹ Tolerance related to the optimal calibration of the trigger.