DURAG GROUP

7917
Emission Sampling System

For direct sampling of high temperature aerosols
up to 500 °C (932 °F)

- Direct sampling of hot emissions
- Two-stage dilution system

GRIMM AEROSOL TECHNIK
DURAG GROUP

FEATURES

- One control unit for dilution volume flows and temperature settings
- Internal pump for two 9 l/min dilution volume flows
- Volume flow control with temperature stabilized critical orifices
- Includes particle filter, dryer and charcoal absorber for dilution air
- Sampling probe with integrated first-stage diluter to prevent particle formation
- Second (optional) stage diluter for cold dilution

BENEFITS

- Wide range of applications
  - Engine exhaust studies
  - Characterization of burners
  - Measurements in stacks
  - Monitoring emissions from domestic heating
  - Optimization of combustion processes
- Stand-alone operation with integrated flow supply
- Stable and reproducible dilution ratios
- Direct sampling of hot gas emissions up to 500 °C
- Compatible with GRIMM SMPS+C and SMPS+E systems

TECHNICAL DATA

Principle	Two-stage injection diluter
Dilution air	Supplied by internal pump; filtered and dried
Dilution air flow rate	9 l/min; both stages
Flow control	Temperature stabilized critical orifice
Sample air flow rate	Variable (e.g. 0.3 l/min up to 1.2 l/min)
Sampling probe tip	Ø = 8 mm (0.3 in)
Temperature range	Up to 500 °C (932 °F)
Pressure range	± 100 mbar vs ambient pressure
Power supply	230 VAC, 50 Hz or 115 VAC, 60 Hz

Dimensions + Weight	
Sampling probe	L = 97 cm (38.2 inch) Ø = 5 cm (1.96 inch) Approx. 2.5 kg (5.5 lbs)
ESS Controller	21 x 26 x 26 cm (h x w x d) (10.2 x 10.2 x 8.3 inch) Approx. 10 kg (22 lbs)
Sheath air dryer	59 cm (h) Ø at the bottom = 12.5 cm Ø x h: 12.5 x 59 cm (4.9 x 23 inch) Approx. 4.5 kg (9.9 lbs)
Mounting plate with accessories	30 x 73 x 44 cm (h x w x d) (11.8 x 28.7 x 17.3 inch) Approx. 4 kg
Complete system	Approx. 21 kg (46.3 lbs)

Dilution factors	**Variable two stage dilution system, depending on sample flow rate, e.g.:**		
	Sample flow rate	**Dilution stages**	**Dilution factor**
	0.3 l/min	One	1:31
		Two	1:961 (1:31)^2
	0.6 l/min	One	1:16
		Two	1:256 (1:16)^2
	1.0 l/min	One	1:10
		Two	1:100 (1:10)^2
	1.2 l/min	One	1:8.5
		Two	1:72.3 (1:8.5)^2

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