

of **TPF Control B.V.**

This annex is valid from: **05-12-2018 to 30-11-2020**

Replaces annex dated: **30-11-2017**

Location(s) where activities are performed under accreditation

Head Office

Van Heemstraweg 19
 6657 KD
 Boven-Leeuwen
 The Netherlands

Location	Abbreviation/ location code
Van Heemstraweg 19 6657 KD Boven-Leeuwen The Netherlands	BL
On-site at the customer	CU

HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
FG 1 0	FLOW OF GAS				
FG 1 1	Gas volume flow rate	0,5 – 5 ml/min	0.60%		BL
		5 – 50 000 ml/min	0.18%		
		0,5 – 2 500 m ³ /h	0.25%		
FG 1 1	Gas volume flow rate	5 – 50 000 ml/min	0.27%		CU

This annex has been approved by the Board of the Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas
 Director of Operations

¹ Calibration and Measurement Capability (CMC): Demonstrated measurement uncertainty, with coverage probability of 95%, in a given measurement point or measurement range. Measurement uncertainty, *U*, is calculated according to EA-4/02 "Evaluation of the Uncertainty of Measurement in Calibration".

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HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
		3 – 1 000 m ³ /h	0.35%		CU
FG 1 1	Gas mass flow rate	0,5 – 5 ml _n /min	0.60%		
		5 – 50 000 ml _n /min	0.18%		
		0,5 – 2 500 m ³ _n /h	0.25%		BL
FG 1 1	Gas mass flow rate	5 – 100 000 ml _n /min	0.15%	Viscous seal piston provers	
FG 1 1	Gas mass flow rate	5 – 50 000 ml _n /min	0.27%		CU
		3 – 1 000 m ³ _n /h	0.35%		
TE 0 0	TEMPERATURE				
TE 4 1	Self-indicating thermometers	-80 °C to -40 °C	0.30 °C	Using dry block furnace	BL
		-40 °C to 140 °C	0.015 °C	Using oil bath	
		20 °C to 25 °C	0.34 °C	In air	
RH 0 0	HUMIDITY				
RH 1 0	Hygrometers	10 %rh to 95 %rh	1.7 %rh	20 °C – 55 °C	BL
PV 1 0	GAS PRESSURE				

Annex to declaration of accreditation (scope of accreditation)
 Normative document: EN ISO/IEC 17025:2005
 Registration number: **K 149**

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HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
PV 1 1	Absolute pressure	0.2 kPa to 1 000 kPa	$0.7 \cdot 10^{-3} \cdot p + 25 \text{ Pa}$		BL
PV 1 1	Absolute pressure	50 to 115 kPa	$1.7 \cdot 10^{-4} \cdot p$		BL
PV 1 2	Gauge pressure	-95 kPa to 1 000 kPa	$0.7 \cdot 10^{-3} \cdot p_e + 25 \text{ Pa}$		

Remarks:

The flow units ml_n/min and m³_n/h refer to gases under normal (n) conditions of 1013.25 mbar and 0 °C.

The flow units ml_s/min and m³_s/h refer to gases under standard (s) conditions of 1013.25 mbar but different from 0°C.
 The flow units ml/min and m³/h refer to gases under actual (flowing or line) conditions.

Fixed normal densities ρ_n [kg/m³] are used to convert from the flow unit [l_n/min] to the mass flow unit [g/h].
 Densities according to NEN-EN-ISO 6976-2016.