

Explosion protection

Marking	ATEX: II 2G Ex h IIC T4 Gb X IECEX: Ex IIC T4 Gb NEC 500: Class I, Division 2, Group B,C and D NEC 505: Class I, Zone 1, AEx d e ib px IIB resp. IIB+H2 T3 resp. T4 CEC Sec. 18: Ex d e ib px IIC T3 resp. T4 TR CU: II Gb T4 X
---------	--

Technical data

Technology	batch distillation
Method	SAM compliant with: ASTM D86, DIN EN ISO 3405, IP 123 Correlates with: ASTM D4814 (calculation of TV/L) ASTM D4737 (Calculated Cetane Index) RAM correlates with: ASTM D86, DIN EN ISO 3405, IP 123
Measuring range	20 to 420 °C (68 to 788 °F) output of any temperature/distillate amount via Modbus
Repeatability	≤ DIN EN/ASTM e.g. gasoline typ. T@ 50% rec. 1 °C
Reproducibility	≤ DIN EN/ASTM
Measuring cycle	typical time for gasoline/diesel in SAM (in min) IBP: approx. 24/29 50 % recovered: approx. 36/41 FBP: approx. 45/50 cycle time will be reduced by approx. 40 % in RAM
Product streams	up to 3 x sample, 1 validation sample each (additional hardware required)
– Electrical data	
Nominal voltage	230 V AC ± 10 %, 1 phase; 50 Hz; other ratings on request
Maximum power consumption	approx. 600 W
– Protection class	IP 54 (comparable with NEMA 13)
– Ambient conditions	
Ambient temperature	operation 5 to 40 °C (41 to 104 °F) storage 0 to 60 °C (32 to 140 °F)
Ambient humidity	operation 5 to 80 % relative humidity, non-corrosive storage 5 to 85 % relative humidity, non-corrosive
Sample	
Quality	filtered 50 µm, bubble-free (≤ 37 cSt at inlet temperature)
Consumption	approx. 10 to 40 l/h (≥ 10 cSt: max. 15 l/h)
Pressure at inlet	1.5 to 2 bar (21.8 to 29 psi)
Temperature at inlet	depends on application, max. 55 °C (131 °F)
Utilities	
– Instrument air Consumption	During operation: approx. 1 Nm³/h while purging: 8 Nm³/h (~12 min)
Pressure at inlet	2 to 7 bar (29 to 101.5 psi)
Quality	humidity class 2 or better acc. to ISO 8573.1

– Nitrogen Consumption	During operation: max. 0.001 Nm³/h
Pressure at inlet	3.5 to 10 bar (51 to 145 psi)
Quality	Purity ≥ 98%, class 2 or better acc. to ISO 8573-1
– Coolant	max. 60 l/h
Temperature	-10 to 55 °C (14 to 131 °F)
Pressure at inlet	2 to 7 bar (29 to 101.5 psi)
Quality	filtered 50 µm, pH 6 to 8
Signal outputs and inputs	
Analog outputs	temperature at specific distillation batch
Digital outputs	Alarm, Ready/Valid
Digital inputs	Stream Selection, Validation Request, Reset
Electrical data of signal outputs and inputs	
Analog outputs	max. 8 (4 to 20 mA; 1000 Ω) active isolated on request
Analog inputs	4 to 20 mA; 160 Ω
Digital outputs	24 V DC; max. 0.5 A
Digital inputs	high: 15 to 28 V DC low: 0 to 4 V DC
Auxiliary power supply output	24 V DC; max. 0.8 A
Control unit	
Central control unit	Industrial PC
Operating system	Windows 10 Enterprise LTSB
Control software	PACS
User interfaces	
Display	TFT display with touch function 1366 x 768 pixel
Keyboard	virtual keyboard, controlled via TFT display with touch function
Connections	
Tube fittings	Swagelok® 6 mm/12 mm/18 mm other fittings on request
Vent/Drain	open to atmosphere backpressure on request
Weight and dimensions	
Weight	approx. 250 kg
Dimensions (W x H x D)	approx. 1140 x 1900 x 710 mm
Space requirements	right: 150 mm/left: 100 mm
Optional interfaces	
Analog outputs	on request
Analog inputs	density
MODBUS interface	MODBUS/RTU via RS485 or RS422 or FOC is, MODBUS/TCP via FOC is
Remote access	via Ethernet (VDSL or FOC is)