



JFID-FE

Real Time THC Analyzer for TOC in Steam and Condensate



APPLICATION

- Continuous real-time analysis of contamination with hydrocarbons (TOC/THC) directly in process-steam and/or condensate, e.g. at
 - heat exchanger
 - blow-down vessel
 - flash drum
 - condensate recovery
 - LEL monitoring in cooling tower
 - VOC in waste water

BENEFITS

- No-time-consuming sample conditioning (e.g. cooling of the condensate to < 45 °C)
- Quick analyzing results
- Response time < 1 sec
- Low maintenance
- No chemical reagent required
- Self cleaning system

FEATURES

- Proven FID (Flame Ionization Detector)
- Provides monitoring results within seconds
- Reliable control of the whole steam process
- Safe detection of leakages
- Decision if it can be recycled or discharged
- Applicable in both, steam and condensate



TECHNICAL DATA

Model	JFID-FE	Thermo-FID-FE	Thermo-FID-FE
Description	safe area	EEx p zone 1	Ex pz 2/3 G zone 2

Operation

Vacuum system	injectors		
Measurement range	0 – 3 mg org. C/m ³ to 100,000 mg org. C/m ³ , free selectable		
Detection limit	< 0.1 mg org. C/m ³		
Linearity	< 4 % over entire measurement range		
Selectable units	ppm, mg/m ³ , Vol%, %LEL		
Signal output	0/4 mA to 20 mA; load resistance 600 Ω not galvanically isolated		
Ambient temperature	–5 °C to 40 °C		
Response time (T ₉₀)	< 0.5 s if measured value > 20 mg org. C/m ³ , < 5 s if measured value < 20 mg org. C/m ³		
Sample gas (self-drawn)	approx. 25 l/h with 1,013 hPa, optionally approx. 2 l/h; 5 l/h; 60 l/h		
Sample gas pressure	800 to 1,600 mbara	800 to 1,100 mbara	
Air humidity	< 90 % rel. humidity, +20 °C; < 50 % rel. humidity, +40 °C		
Geographical altitude	0 to 1,500 m above sea level		

Construction

Dimensions over all (W x H x D)	500 x 505 x 410 mm	625 x 540 x 410 mm	570 x 590 x 410 mm
Weight	33.5 kg	41 kg	38 kg
Housing	mild steel powder-coated		
Detector temperature	adjustable up to 200 °C		
Catalyst temperature	400 °C		

Utilities

Instrument air	3 to 3.9 barg, < 2 Nm ³ /h quality to ISO 8573-1 1.2.1	3 to 3.9 barg < 2 Nm ³ /h, for prepurge 3.5 Nm ³ /h for normal operation 2.8 Nm ³ /h quality to ISO 8573-1 1.2.1	
Fuel gas	hydrogen 0.7 to 1 barg < 80 ml/min, quality 5.0		
Combustion air	with internal catalyst or optional synthetic air 1 to 1.5 barg < 30 NI/h	synthetic air 3.5 barg < 50 NI/h	
Calibration gas	2 to 2.5 barg < 130 NI/h during calibration concentration 60 % to 80 % of the measurement range in relation to C ₃ H ₈		
Zero gas	with internal catalyst or optional nitrogen 2 to 2.5 barg, < 130 NI/h quality 5.0	synthetic air or nitrogen 2 to 2.5 barg, < 130 NI/h quality 5.0	
Other utilities	depends on configuration, steam is required for heating		
Protection class	IP54 optional IP65	IP65	
Type of protection		Ex II 2G Ex px IIC T2-T4 Gb	Ex II 2/3G Ex pz IIC T2-T4 Gc
Approvals / Signs	CE	BVS 09 ATEX E 119 X CE	BVS 09 ATEX E 144 X (2014/34/EU) CE

Electrics

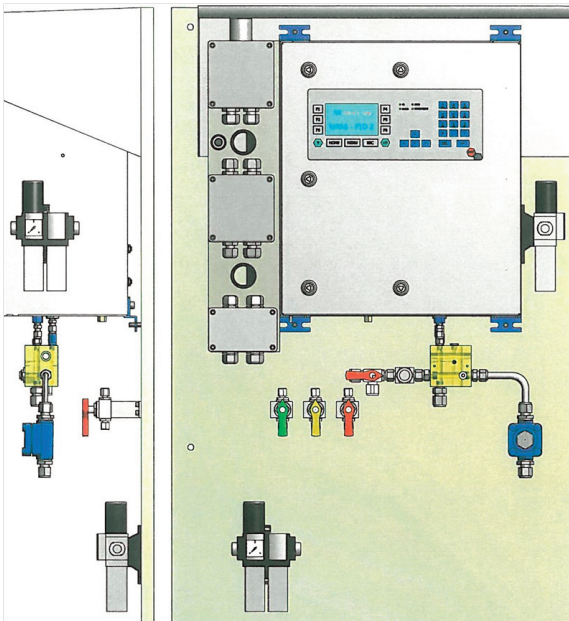
Power supply	115 V ± 10 % or 230 V ± 10 %; 48 Hz to 62 Hz		
Power consumption with supplementary heating system	< 500 W < 1,000 W if applicable		

NOTE: for more detailed specification please consult factory

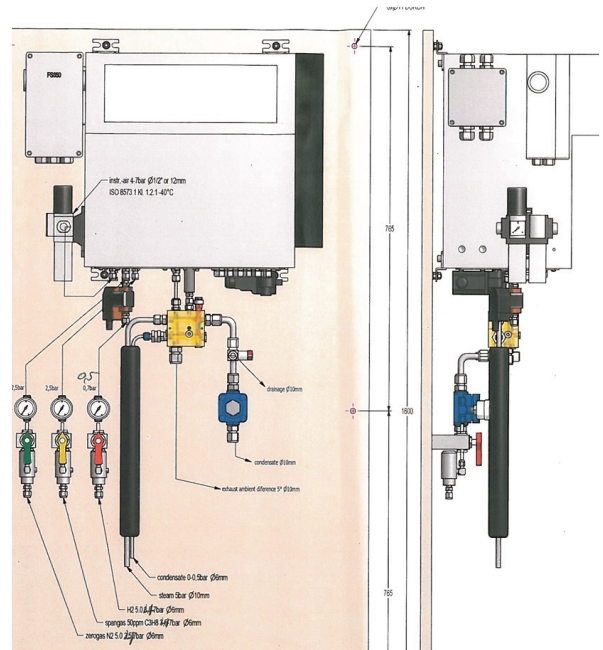
APPLICATIONS

dimensions in mm

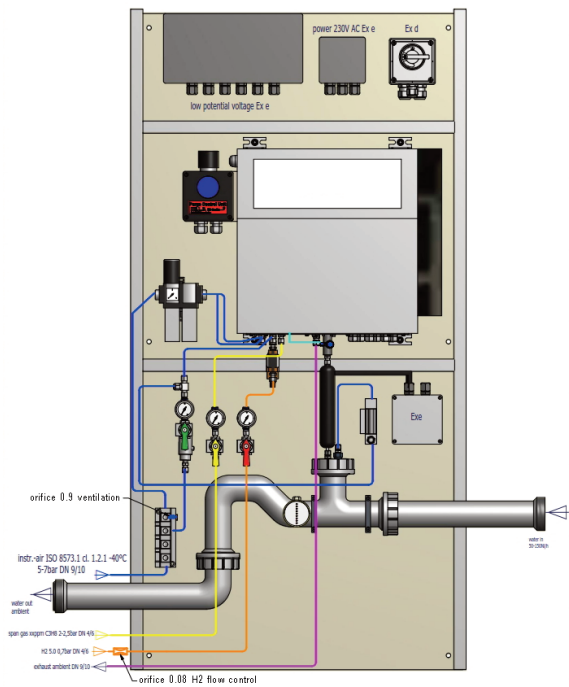
Steam Monitoring



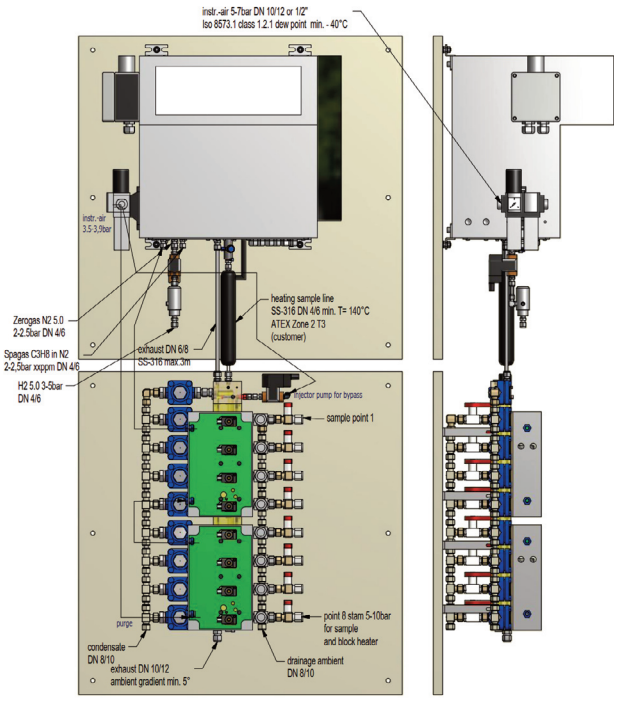
Condensate Monitoring



Waste Water Leak Detection



Multi Channel Monitoring



ORDER CODES

dimensions in mm

Part No.	Description
207.020008	JFID-FE-Steam IP54
207.021008	JFID-FE-Steam IP65
207.021208	Thermo-FID-FE-Steam Ex pz 2/3 G zone 2, IP65
207.020009	JFID-FE-Condensate IP54
207.021009	JFID-FE-Condensate IP65
207.021209	Thermo-FID-FE-Condensate Ex pz 2/3 G zone 2, IP65

Standard included for systems for zone 1 or 2

Part No.	Description
407.950033	Status and alarm board with 4 x 0/4 to 20 mA output, galvanically isolated
407.020048	Conversion kit for external zero air

Options

Part No.	Description
407.950033	Status and alarm board with 4 x 0/4 to 20 mA output, galvanically isolated
407.160149	Multi sampling MSU-block HT-2 steam for model "FE"
407.160150	Multi sampling MSU-block HT-4 steam for model "FE"
407.160151	Multi sampling MSU-block HT-6 steam for model "FE"
407.160152	Multi sampling MSU-block HT-8 steam for model "FE"
207.930000	Inline stripper (safe area)
207.930200	Inline stripper Ex
207.999910	Mounting plate
116.130197	Hook up drawing and documentation
207.999920	ATEX documentation for add-ons
907.050000	Vortex cooler safe area
407.040190	Air pressure regulator with fine filter assembly
DAS 2	Instrument air purifier
DM003 P	Instrument air purifier for Ex area

- TOC in steam
- TOC in condensate
- Condensate recovery
- TOC in heat exchanger
- LEL monitoring in cooling tower
- Leak monitoring in spill water
- Leak monitoring in cooling water