



# 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/113 °F)
- 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	eductor		
Measurement range	0 – 3 mg org. C/m <sup>3</sup> to 100,000 mg org. C/m <sup>3</sup> , free selectable		
Detection limit	< 0.1 mg org. C/m <sup>3</sup>		
Linearity	< 4 % over entire measurement range		
Selectable units	ppm, mg/m <sup>3</sup> , Vol%, %LEL		
Signal output	0/4 mA to 20 mA; load resistance 600 Ω not galvanically isolated		
Ambient temperature	–5 °C to 40 °C (23° to 104 °F)		
Response time (T <sub>90</sub> )	< 0.5 s if measured value > 20 mg org. C/m <sup>3</sup> , < 5 s if measured value < 20 mg org. C/m <sup>3</sup>		
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 (68 °F); < 50 % rel. humidity, +40 °C (104 °F)		
Geographical altitude	0 to 1,500 m (0 to 4,921 ft) above sea level		

### CONSTRUCTION

Dimensions over all (W x H x D)	500 x 505 x 410 mm (19.7 x 19.9 x 16.1 in)	625 x 540 x 410 mm (24.6 x 21.3 x 16.1 in)	570 x 590 x 410 mm (22.4 x 23.2 x 16.1 in)
Weight	33.5 kg (73.9 lbs)	41 kg (90.4 lbs)	38 kg (83.8 lbs)
Housing	mild steel powder-coated		
Detector temperature	adjustable up to 200 °C (392 °F)		
Catalyst temperature	400 °C (752 °F)		

### UTILITIES

Instrument air	3 to 3.9 barg, < 2 Nm <sup>3</sup> /h quality to ISO 8573-1 1.2.1	3 to 3.9 barg < 2 Nm <sup>3</sup> /h, for prepurge 3.5 Nm <sup>3</sup> /h for normal operation 2.8 Nm <sup>3</sup> /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 <sub>3</sub> H <sub>8</sub>		
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		 II 2G Ex px IIC T2-T4 Gb	 II 2/3G Ex pz IIC T2-T4 Gc
Approvals / Signs	CE	BVS 09 ATEX E 119 X (94/9/EC) CE	BVS 09 ATEX E 144 X (94/9/EC) CE

### ELECTRICS

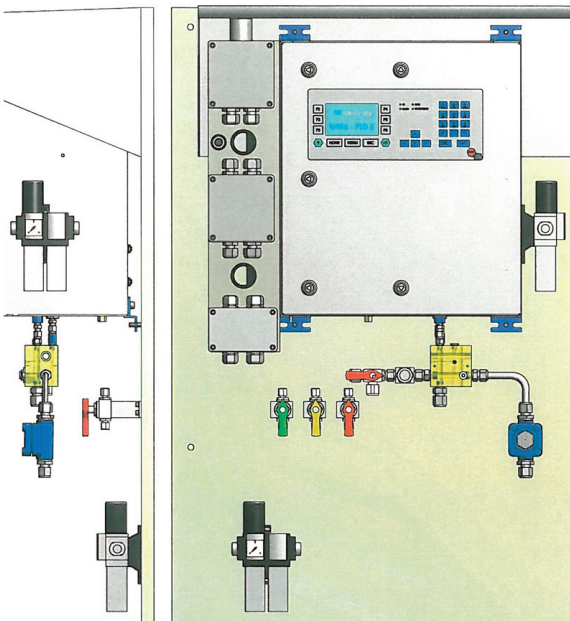
Power supply	115 V ± 10 % or 230 V ± 10 %; 48 Hz to 62 Hz		
Power consumption with supplementary heating system	< 500 W < 1,000 W if applicable		

**NOTE:** for more detailed specification please consult factory

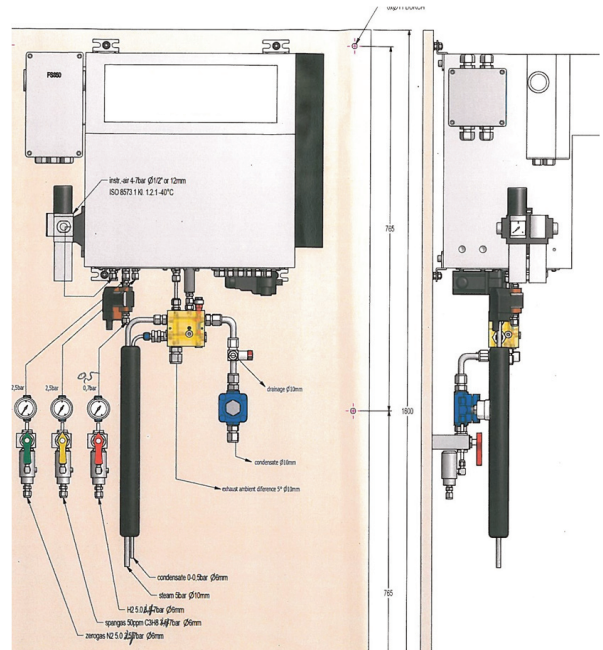
# APPLICATIONS

dimensions in mm

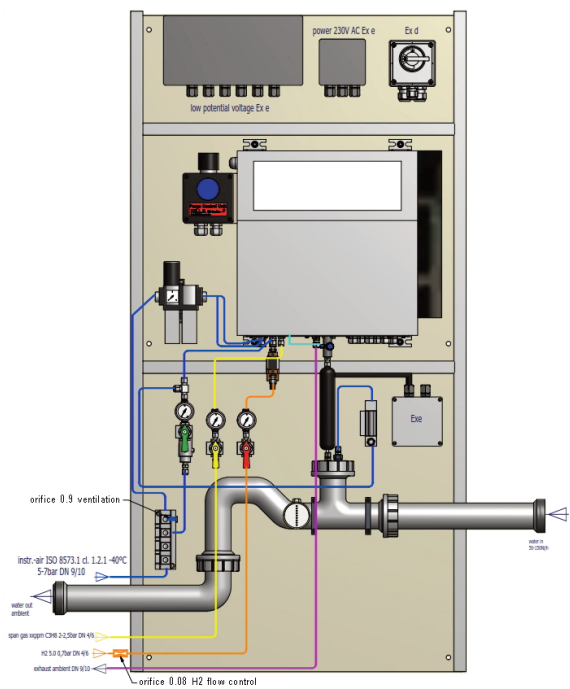
## Steam Monitoring



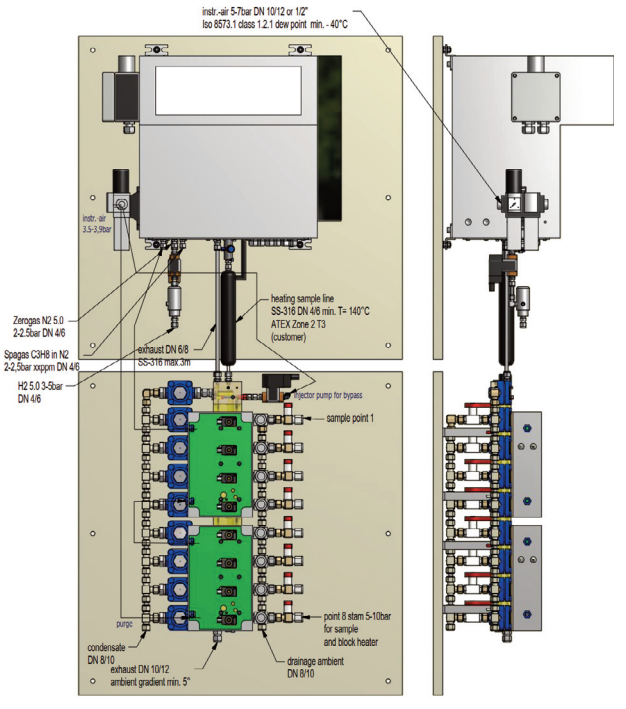
## Condensate Monitoring



## Waste Water Leak Detection



## Multi Channel Monitoring



## ORDER CODES

dimensions in mm

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

### Standard included for systems in zone 1 or 2

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

### OPTIONS

Part No.	Description
116.130197	Hook up drawing and documentation
207.930000	Inline stripper (safe area)
207.930200	Inline stripper Ex
207.999910	Mounting plate
207.999920	ATEX documentation for add-ons
407.040190	Air pressure regulator with fine filter assembly
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"
407.950033	Status and alarm board with 4 x 0/4 to 20 mA output, galvanically isolated
907.050000	Vortex cooler safe area
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