

**AB ORLEN Lietuva – Technical Requirements – Automation and Instrumentation**  
**Data Sheets for Instruments**


Document No. **OL-TR-IR-020B** Rev. **01**

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GENERAL	1	Tag number	Item	FT-3-101_1M, FT-3-101_2M		Q-ty	2	
	2	Service	Nafta					
	3	P&ID No.	Req. / P.O. No.	LK-2, S-100 Nr.40, Nr.45		OLP02838		
	4	Area Classification	Zone 2 - II A - T3					
	5	Amb. Temperature	Min.	Max.	-36°C to 35°C			
	6	Industry/Application	Oil					
LINE	7	Line Number	Equipment No.	V-101/9		GP-1, LK-2, S-100		
	8	Line Size	Inlet	Outlet	12"		10"	
	9	Piping Class	Material		class 300		Steel 20	
	10	Insulation	Tracing		line is insulated		-	
PROCESS DATA	11	Fluid / PED Group	Phase	Nafta	1	Liquid		
	12	Vacuum	Over Pressure	N/A		N/A		
	13	Design Temperature (SEE NOTE 2)	Design Pressure	160° C		19 barg		
	14	Aggressive Components	Organic acids, naphtenic acids, H <sub>2</sub> S - TAN 0,3 mg/KOH g Sulphur - 2,5 % mass					
	15		units	@ Min Flow	@ Norm Flow	@ Max Flow		
	16	Flow Rate	t/h	250	600	650		
	17	Inlet Pressure	barg	11	13	14		
	18	Inlet Temperature	° C	125	135	140		
	19	Inlet Density / Specific Gravity / Molecular Mass	kg/m3	761	752,7	748,5		
	20	Inlet Compressibility Factor	-	0,0925	0,1064	0,1133		
	21	Inlet Specific Heat Ratio (Cp/Cv)	-	1,104	1,104	1,104		
	22	Viscosity	cP	0,9699	0,8613	0,8136		
	23	Critical Pressure	barg	26,2				
	24	Vapour Pressure	bara	5,984	7,105	7,481		
	25	Conductivity	µS/cm	-	-	-		
	26	Meter D.P. Allowed	bar	0,5				
	METERING ELEMENT	27	Type of measurement device	Mass Flowmeter				
		28	Mount Type	Flanged (RF, ASME B16.5)				
29		End Connects	Rating	Size by Vendor	10" 300clas			
30		Flange Face Finish	Ra 125 - 250 RMS					
31		Instrument Range	0 ... 100 % of Qmax					
32		Enclosure Material	Degree of Protection	Low Copper Alu. Alloy with Epox.-Polyester paint.		min IP66		
TRANSMITTER	33	Tube Material	Measuring tube material at least Stainless Steel					
	34	Accuracy	For mass flow ±0.10%, for density ±0.0005g/cm³.					
	35	MFR	Model					
	36	Mounting	Compact, Electronics Integrated with Flow Meter					
	37	Calibrated Range	900 t/h					
	38	Electrical Connection	M20x1.5 - 2 pcs. (cable glands for power supply and signal cables)					
	39	Electrical Certification	Atex Ex d, (Ex i for signals)					
	40	Indicator Housing Material	Alu coated					
	41	Electrical Certification	YES					
	42	Output Signal	Load	4...20mA + HART, Ex i passive				
	43	Other Output Signal 2	4...20mA , Ex i passive (for density)					
	44	Other Output Signal 3	4...20mA , Ex i passive (for temperature )					
TESTS	45	Power Supply	230VAC					
	46	Accuracy	Repeatability	±0,1%				
	47	Protection	IP66					
	48	Hydro. Pressure	YES					
PURCHASE	49	Leakage						
	50	Vendor						
	51	Supplier						
	52	Purchase Order Number						

**Notes:**

1. Norms and documentation. 'Dimensional drawing; Calculations; PED certification; ATEX Certificate; Material certificate acc. to EN10204 3.1; Certificate of calibration.
2. Steaming conditions shall be taken into consideration (i.e. steaming temperature of 180 °C)
3. Device must be additionally calibrated for accurate density measurement.
4. Necessary parameters required flow rate , density, temperature measurement.
5. Existing mass flowmeter "Micro Motion" Sensor model: CMFHC3M814N4C6EZZZ, transmitter model: 2700R15ADFEZZZ changing to a new one type. (See attached and line scheme )

					<b>DATA SHEET</b>				
					<b>Mass Flowmeter (CORIOLIS)</b>				
Rev.	Date	By	Chk.	Appr.	Description	Dwg.No.	Sht.	Rev.	