Faure Herman

Counting every drop

FH83Neo

Ultrasonic flowmeters

www.faureherman.com

FH83Neo

A versatile ultrasonic flowmeter to meet your process needs

The Faure Herman FH83Neo is an evolution of the original FH8300 ultrasonic meter series.
This ultrasonic flowmeter is designed to measure all types of liquids — both conductive or non-conductive.
Thanks to its variety of digital and analog inputs/outputs, the FH83Neo easily interfaces with any process management system.
The capability to provide 1, 2 or 3 beams allows the FH83Neo to adapt to application specific accuracy and flow profile requirements.

Applications

- Oil production
- Detection of pipeline leaks
- Refinery, chemical and petrochemical
- Energy generation
- Water treatment
- Industrial process management

Key competitive advantages

- High measurement dynamics
- Reduced energy costs
- Low and simple maintenance
- Minimum implementation cost
- Easy integration into industrial management systems
- Measurement of all liquids
- Integrity of production processes
- Easy cleaning

Lower total cost of ownership with ultrasonic technology

Main features

- Linearization of the calibration curves
- Excellent reliability and stability of measurement
- Bi-directional measurement
- No pressure drop
- Transducers replacement under operating conditions
- Local and remote electronics
- Communication ports

Innovative transducers

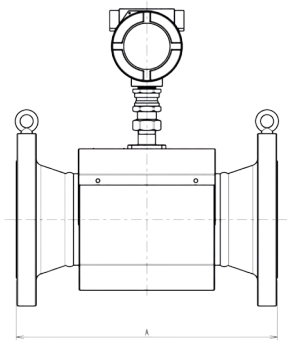
Derived from the latest technological innovations, the transducers on the FH83Neo guarantee excellent measurement reliability.
The stability of the measurement over time is a characteristic of capital importance for applications such as leak detection or monitoring of industrial manufacturing processes. The possibility of replacing transducers under load makes it possible to maintain the continuity of production or product transfer by pipeline, thus facilitating on-site maintenance.

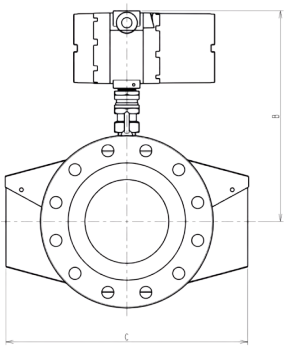
Nr of beams	Accuracy Class (Linearity)	
	Class 1	Class 2
1	± 1.00%	± 2.00%
2	± 0.50%	± 1.00%
3	± 0.25%	± 0.50%

Maximum Viscosity Ranges: Available by Meter Size, Accuracy Class & Turn Down Ratio (TDR)

TDR	Accuracy	Maximum Viscosity (cSt): Available by Meter Size - Single Product Calibration											
		50 (2″)	80 (3″)	100 (4″)	150 (6″)	200 (8″)	250 (10″)	300 (12″)	350 (14″)	400 (16″)	450 (18″)	500 (20″)	600 (24″)
10:1*	Class 1	1	2	2	3	4	5	6	7	8	10	11	12
	Class 2	5	7	11	14	22	25	30	35	40	48	50	60
5:1*	Class 1	2	3	4	6	8	10	12	14	16	19	22	24
	Class 2	10	14	21	28	44	50	60	70	80	86	100	120
3:1*	Class 1	3	6	7	9	12	15	18	21	24	30	33	36
	Class 2	15	30	35	45	60	75	90	105	120	150	165	180

*For any other applications, please consult your Faure Herman representative.





STANDARD SIZES: Flanges ANSI 150 TO ANSI 900

SIZES		A (#150/#300)		A (#600/#900)		B		C		WEIGHT (≈ #150)		Flowrates					
												Minimum detection (V=0.05 m/s)		Minimum linear (V=0.5 m/s)		Maximum linear (V=12 m/s)	
in	mm	in	mm	in	mm	in	mm	in	mm	Lbs	kg	BPH	m³/h	BPH	m³/h	BPH	m³/h
2	50	11.8	300	15.7	400	12.4	315	13.4	340	44	20	2.20	0.35	22.0	3.50	519	82.5
3	80	13.8	450	17.7	500	13.2	335	14.6	370	79	36	4.72	0.75	47.2	7.50	1 157	184
4	100	15.7	450	19.7	500	14.4	365	15.7	400	84	38	8.49	1.35	84.9	13.5	2 013	320
6	150	18.7	480	21.7	550	15.7	400	18.1	460	126	57	19.0	3.02	190	30.2	4 573	727
8	200	21.7	550	23.6	600	16.7	425	20.1	510	203	92	33.3	5.30	333	53.0	8 007	1 273
10	250	23.6	600	29.5	750	17.7	450	22.4	570	271	123	54.4	8.65	544	86.5	13 089	2 081
12	300	27.6	700	31.5	800	18.7	475	24.8	630	419	190	78.9	12.6	789	126	19 008	3 022
14	350	29.5	750	33.5	850	19.7	500	26.0	660	487	221	96.9	15.4	969	154	23 266	3 699
16	400	31.5	800	35.4	900	20.7	525	28.3	720	635	288	129	20.5	1 289	205	30 977	4 925
18	450	33.5	850	37.4	950	21.7	550	30.3	770	783	355	166	26.4	1 661	264	39 789	6 326
20	500	35.4	900	39.4	1 000	22.6	575	32.3	820	975	442	208	33.0	2 076	330	49 702	7 902
22	550	36.6	930	41.3	1 050	23.6	600	35.4	900	1 217	552	252	40.0	2 516	400	60 716	9 653
24	600	37.4	950	43.3	1 100	24.6	625	37.0	940	1 438	652	305	48.5	3 051	485	72 836	11 580

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The logic of FHVIEW

Our FHView software is a PC-compatible software for the configuration and operation of the Faure Herman ultrasound product line. This product line includes ultrasonic flowmeters for both custody transfer and non-custody transfer applications. The communication between FHView and the FH83Neo is carried out using the MODBUS protocol through an RS485 serial link.

Specifications

Environment

Ambient temperature range	-40 to +60°C (-40 to 140°F)
Process temperature range	-50 to +100°C (-58 to 212°F)
Storage temperature	-40 to + 70° C (-40 to + 158° F)
Climate protection	IP 66 / NEMA 4X

Safety: ATEX II 2 G (Zone 1, Division 1 Groups C&D)

Transducer classification	Ex db IIB T6 to T4 Gb / INERIS 21ATEX0035X
Housing classification	Ex db IIB T6 Gb / INERIS 21ATEX0036X
Remote control classification	Ex ib IIB T4 Gb / LCIE 03 ATEX 6240 X

Mechanical Specifications

Standard sizes	DN 50 to DN 600 (2" to 24") (Others on request)
Maximum operating pressure	150 bar (2180 PSI)
Flowmeter body material	Carbon Steel Stainless Steel Other materials on request
Flanges	ANSI 150/300/600/900
Transducers	Removable under operating conditions

Performance

Precision classes FH83Neo-1	± 1.00% to ± 2.00%
FH83Neo-2	± 0.50% to ± 1.00%
FH83Neo-3	± 0.25% to ± 0.50%
Repeatability	0.2%
Minimum flow detection	0.05 m/s
Density range	400 to 1,500 kg/m³
Pressure Drop	negligible

Electronics

Power supply	24 Vdc 8W - 230 Vac
Inputs	4 -20 mA
Output	(x2) 4-20mA (flow and/or speed of sound) (X1) or (X2) pulse with galvanic isolation Frequency 0 -10 kHz with galvanic isolation (X1) or (X2) potential free contacts (alarms)
Serial communication	Modbus RTU through RS 485 with galvanic isolation
Software	FHView configuration and analysis software

Installation conditions

Standard	Straight length upstream, (x10) to (x30) D depending on the flow conditions Straight length down stream, (x3) D

Options

Communication	HART (optional)
Local LCD display	(X4) alphanumeric lines
History of events	Flow, speed of sound...
Remote converter	Distance < 5m

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