Base Load Power Hub (BLPH)

ULTRASONIC FLOWMETER

ULTRASONIC FLOWMETER SIZING CALCULATION

Document Number: 1724001317-IN-CA-00005

Document Class: 2

04	25/02/2025	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
03	16/01/2025	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
02	04/12/2024	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
01	15/10/2024	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
00	28/08/2024	Issue for Review (IFR)	BH DC	Tom Griffin	Niall Townsend
Rev.	Date	Description	Prepared	Reviewed	Approved

Baker Hughes

This document undergoes an issuance cycle within EDMS "Fusionlive".
Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00	01	02	03	04			
1	Cover	X	X	X	X	X			
2	Table of Contents	X	X	X	X	X			
3	Revision / Change Log / Hold List	X	X	X	X	X			
4	ULTRASONIC FLOWMETER SIZING CALCULATION - ULTRASONIC FLOWMETER	X	X	X	X	X			

This document undergoes an issuance cycle within EDMS "Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Construction (AFC)
02	Accepted for Construction (AFC)
03	Accepted for Construction (AFC)
04	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1.	
2.	
3.	
4.	

This document undergoes an issuance cycle within EDMS "Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

G-FAST RESULTS SUMMARY

Flowmeter Application Calculator and Test System® Ver. 2.73, Dec-6-2023

Customer Name: ROSSETTI MARINO
CPO#: 2721420
Tag Number: 43-FT-001

Pipe Data

Pipe Material:	316 Stainless Steel	
Pipe Size:	10	in
Pipe Schedule:	10S	
Outer Diameter:	10.75	in
Inner Diameter:	10.42	in
Wall thickness:	0.165	in
Interal Area:	0.59219	ft²

Fluid Data

Fluid Name/Type: Gas Composition Tab 100%H2

Variables	Min	Nom	Max	Units
Provided Flowrate	153.00	1,067.00	2,381.50	kg/Hour
Velocity	6.43	44.80	100.00	m/s
Temperature	25.00	25.00	25.00	°C
Pressure	40	40	40	kPa
Density	0.120	0.120	0.120	kg/m³
Sound Speed	1314.8	1314.8	1314.8	m/s
Reynold's No.	23,059	160,787	358,874	

Base Temperature	15.6	°C
Base Pressure	101	kPa
Barometric Pressure	101	kPa
Molecular Weight	2.02	
Max Allowed Vel.	100	m/s

Configuration Data

Transducer Configuration: Custom, Diameter (45°)
Traverses/Paths: 1 Traverse , 1 Path
Transducer Material: 316SS
PREAMP GAIN: 40

minimun measurable 0.75 kg/h / 0.03 m/s
estimated accuracy 155%

Repeatability Results (% of Reading)

Accuracy/repeatability calculated is based on velocity

	Temperature		
Flow Rate:	Min	Nom	Max
Min	0.76%		
Nom		0.75%	
Max			0.75%

Calculations evaluated at **specified** conditions:

Min Flow @ Min Temp, Min Pressure, and Min Density (if applicable)
Max Flow @ Max Temp, Max Pressure, and Max Density (if applicable)

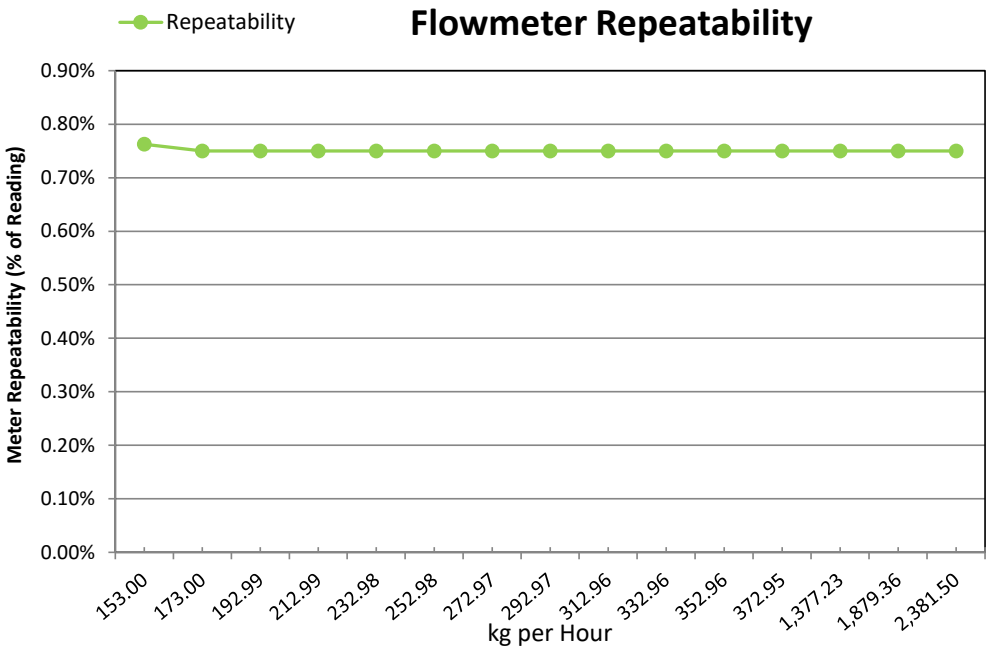
Calibrated Accuracy Results (% of Reading)

	Temperature		
Flow Rate:	Min	Nom	Max
Min	0.76%		
Nom		0.75%	
Max			0.75%

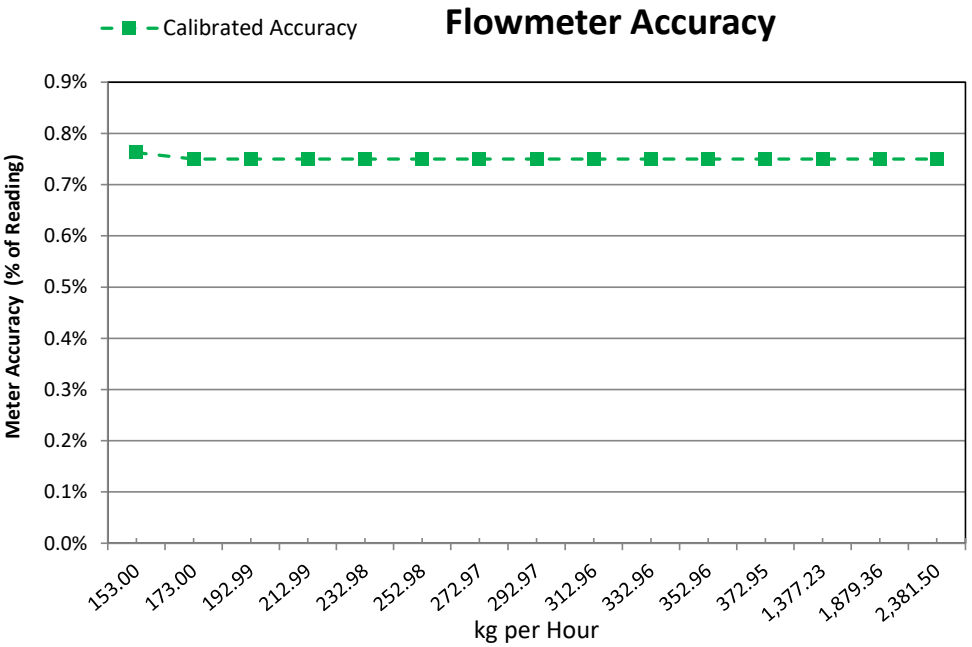
Calculations evaluated at **specified** conditions:

Min Flow @ Min Temp, Min Pressure, and Min Density (if applicable)
Max Flow @ Max Temp, Max Pressure, and Max Density (if applicable)

Baker Hughes Confidential



kg / Hour	Repeat-ability
153	0.8%
173	0.8%
193	0.8%
213	0.8%
233	0.8%
253	0.8%
273	0.8%
293	0.8%
313	0.8%
333	0.8%
353	0.8%
373	0.8%
1,377	0.8%
1,879	0.8%
2,382	0.8%



kg / Hour	Calibrated Accuracy
153	0.8%
173	0.8%
193	0.8%
213	0.8%
233	0.8%
253	0.8%
273	0.8%
293	0.8%
313	0.8%
333	0.8%
353	0.8%
373	0.8%
1,377	0.8%
1,879	0.8%
2,382	0.8%

Baker Hughes Confidential