FN-MASS FLOWMETER

Golden Rules
(주)골든룰

FLOWMETER CALCULATION SHEET

1	DATE		2020년 10월 26일		
2	COMPANY		현대자동차 1,250 L/min		
3	MODEL		KC-7730OP-FM153B		
4	OPERATING ELEMENT DATA				
5	FLUID		H2 Gas	MOLE FRACTION	
6	FLUID STATE		Gas State	HYDROGEN	1.000000
7	MOLECULAR WEIGHT	[g/mol]	2.01588		
8	THROAT DIAMETER at 20˚C	[mm]	1.860		
9	PIPE INNER DIAMETER	[mm]	6.000		
10	CONNECTION		KS 10K S0 STS304		
11	PIPE MATERIAL		STS304		
12	DEVICE MATERIAL		STS304		
13	STANDARD		D-5.0D Orifice		
14	PRESSURE LOSS COEFFICIENT		15.929388		
15	PRESSURE LOSS	[kPa]	88.845130		
16	UPSTREAM CONDITION				
17	PRESSURE	[kPa]	10000.00		
18	TEMPERATURE	[˚C]	85.00		
19	VELOCITY	[m/s]	10.408916		
20	PROCESS DATA				
21	MASS FLOW RATE	[kg/h]	6.831110		
22	VOLUME FLOW RATE	[m3/h]	1.061979		
23	NORMAL VOLUME FLOW RATE	[Nm3/h]	76.000553		
24	ENERGY FLOW RATE	[MJ/h]	33.152358		
25	DIFFERENTIAL PRESSURE	[Pa]	100000.00		
26	DENSITY	[kg/m3]	6.432433		
27	VISCOSITY	[μPa-s]	10.299795		
28	SONIC VELOCITY	[m/s]	1517.228737		
29	REYNOLDS NUMBER(Re)	[-]	39000		
30	ISENTROPIC EXPONENT	[-]	1.480735		
31	COMPRESSIBILITY FACTOR	[-]	1.052422		
32	SPECIFIC HEAT (Op)	[Kj/KGk]	14.600574		
33	ENTHALPY	[Kj/KG]	4853.143479		
34	UNCERTAINTY				

FLOW RATE	MASS FLOW ACCURACY[%]	PRESSURE DROP [Pa]	VELOCITY [m/s]	Re
m X 1.00	0.5	100000.000000	10.408916	39000
m X 0.75	0.5	75000.000000	9.023904	33806
m X 0.56	0.5	56250.000000	7.822361	29301
m X 0.24	0.5	23730.468750	5.094023	19071

NOTE :