FN MASS FLOWMETER

FLOWMETER CALCULATION SHEET

1	DATE	2020년 10월 12일		
2	COMPANY	Golden Rules Co.,Ltd.		
3	MODEL	KC-7730OP-FM153B		
4	OPERATING ELEMENT DATA			
5	FLUID	MIXED GAS(NH3,N2,H2)	MOLE FRACTION	
6	FLUID STATE	Gas State	AMMONIA	0.003000
7	MOLECULAR WEIGHT [g/mol]	21.507128	HYDROGEN	0.249
8	THROAT DIAMETER at 20˚C [mm]	7.548	NITROGEN	0.748
9	PIPE INNER DIAMETER [mm]	22.200		
10	CONNECTION	KS 10K S0 STS304		
11	PIPE MATERIAL	STS304		
12	DEVICE MATERIAL	STS304		
13	STANDARD	D-5.0D Orifice		
14	PRESSURE LOSS COEFFICIENT	13.124928		
15	PRESSURE LOSS [kPa]	17.355359		
16	UPSTREAM CONDITION			
17	PRESSURE [kPa]	743.00		
18	TEMPERATURE [˚C]	40.00		
19	VELOCITY [m/s]	5.694917		
20	PROCESS DATA			
21	MASS FLOW RATE [kg/h]	48.670955		
22	VOLUME FLOW RATE [m3/h]	7.941423		
23	NORMAL VOLUME FLOW RATE [Nm3/h]	50.721371		
24	ENERGY FLOW RATE [MJ/h]	20.270879		
25	DIFFERENTIAL PRESSURE [Pa]	20000.00		
26	DENSITY [kg/m3]	6.128745		
27	VISCOSITY [μPa-s]	17.806424		
28	SONIC VELOCITY [m/s]	413.436227		
29	REYNOLDS NUMBER(Re) [-]	43472		
30	ISENTROPIC EXPONENT [-]	1.409937		
31	COMPRESSIBILITY FACTOR [-]	1.001408		
32	SPECIFIC HEAT (Op) [Kj/KGk]	1.362848		
33	ENTHALPY [Kj/KG]	416.488223		
34	UNCERTAINTY			

FLOW RATE	MASS FLOW ACCURACY[%]	PRESSURE DROP [Pa]	VELOCITY [m/s]	Re
m X 1.00	0.5	20000.000000	5.694917	43472
m X 0.75	0.5	15000.000000	4.942748	37725
m X 0.56	0.5	11250.000000	4.288271	32725
m X 0.24	0.5	4746.093750	2.796794	21332

NOTE :