

Long Radius Nozzle Flow Meter Calculation Sheet

Design Company	Silver Automation Instruments Ltd.				
Contract No.:		Tag No.		Install Position	Horizontal
Product:	Long Radius Nozzle Flow Meter	Tap	Radius taps	Fluids	Superheated Steam
Operation Condition					
Scale Range(t/h)	190	Absolute Pressure(Mpa)	2.169	ALLOW. PRESS. LOSS	None
Max Range(t/h)	190	Atmospheric pressure(Mpa)	0.1013	Pipe absolute roughness	0.03
Normal Flow(t/h)	130	Operation temperature(°C)	400	Throttling Device Expansion Coefficient mm/mm °C	0.000175
Min Flow(t/h)	57	Pipe ID(mm)	362	Pipe Expansion Coefficient mm/mm °C	0.00001338
		ISENTROPIC. EXPONENT(K_0)	1.2842		
Result					
Scale DP(Kpa)	80	Scale Reynolds	7520069	High ratio long axis(mm)	181
Max DP(Kpa)	80	Max Reynolds	7520069	High ratio short axis (mm)	61.888
Normal DP(Kpa)	37.4515	Normal Reynolds	5145310	Low ratio long axis (mm)	----
Min DP(Kpa)	7.2	Min Reynolds	2256021	Low ratio short axis (mm)	----
Density(kg/m ³)	7.1935	BETA(β) RATIO	0.6591	Flow expansion coefficient(z)	0.98681
Viscosity(mPa.s)	0.0246	Hole Diameter(mm)@20 °C	238.224±0.124	Pressure Loss(Kpa)	31.704
Compressibility factor (Z)	--	Discharge Coeffic (C)	0.99416	Uncertainty (± %)	2