

FE-SIZING

Project . BINAK

ISO Orifice Plate - Concentric - Flange Taps - Gas Flow

Tag number FE-2131

Input data

Fluid	GAS
Maximum gas flow	8924 kg/h
Normal gas flow	8664.07 kg/h
Meter inlet pressure	18.1 barg
Differential range	250 mbar
Flow temperature	59.88 degC
Molecular weight	24.52
Cp/Cv specific heat ratio	1.278
Viscosity @ FTP	.012 cp
Pipe inside diameter	6 in
Density @ FTP	18.08 kg/m3
Critical pressure	bara
Critical temperature	degC
Base pressure	14.69595 psia
Base temperature	59 degF
Barometric pressure	14.7 psia
Element material	301 stainless steel
Pipe material	Carbon steel

Output data

Orifice diameter	73.3536 mm
Beta ratio	.481322
Normal flow differential	235.6 mbar
Uncertainty percent	.595 percent
Reynolds number	1674599
Max pressure loss	186.5 mbar
Max power loss	3.439 hp
Flow status	
Minimum plate thickness	3.175 mm
Thermal expansion factor	1.00062
Discharge coefficient	.60231
Gas expansion factor	.995867
Base pressure factor	1
Base temperature factor	1

Modified Mass English, basic calculation, calculate size

Source - ISO 5167-2:2003. Orifice plates

InstruCalc Ver.9.0.3.

Notes