

How to calculate the energy efficiency:

SFI Vortex Sizing

File Utilities Help

Open Save Print Email PDF Fluid data Calculate meters Energy efficiency Configuration

Customer data

Customer: Tag-No: Reference: PA no: VK no: Pos:

Physical data of fluid

State: Superheated steam

Operating Unit Reference

Temperature: 190.0 °C

Pressure: 5.0 bar gauge

Density: 2.91956 kg/m³

Viscosity: 0.0155993 mPa.s

Enthalpy: 2828.47 kJ/kg

Converted values

190.0 °C 6.013 bar abs. 2.91956 kg/m³ 0.015763 mPa.s

Flow type: mass operational

max. flowrate: 6000.0 kg/h

power operational

4714.12 kW

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Sizing results Result filter Recalculate meters

Device	Nomina...	Nominal pre...	Flow range [kg/h]
SITRANS FX300	DN 100		309.78 - 6213.59
SITRANS FX300	4"		309.78 - 6213.59
SITRANS FX300	DN 150		701.79 - 14076.85
SITRANS FX300	6"		701.79 - 14076.85
SITRANS FX300	DN 200		1318.24 - 26441.97
SITRANS FX300	8"		1318.24 - 26441.97

Velocity Pressure loss Error Reynolds number

Graph Data

Velocity [m/s]

77.2 57.7 43.1 23.5 3.99

309.8 2207.0 4103.0 6000.0 [kg/h]

Energy efficiency calculator

Energy price

60.0 € / MWh

Process data

Fluid: Steam, Superheated steam

Temperature: 190.0 °C

Pressure: 5.0 bar gauge

Density: 2.91956 kg/m³

Flow type: mass

max. flowrate: 6000.0 kg/h

mean flowrate: 50.0 %

Energy cost per year: 1,238,869.86 €

Varying process data

Temperature: 190 °C

Pressure: 5 bar gauge

Density: 2.4179 kg/m³

Uncertainty: 17.2 %

Unidentified energy costs per year: 212,872.79 €

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