

PROVIDER OF

Apps for Process Simulation

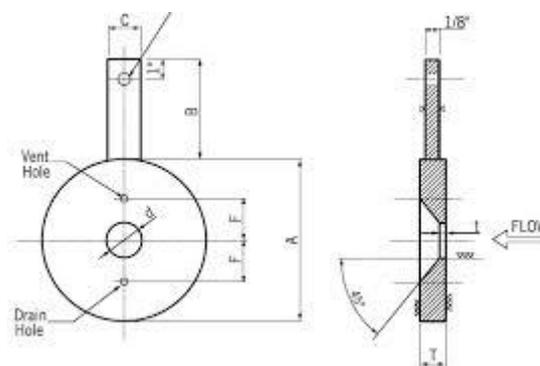
BPT software tools enhance the capabilities of your process simulation tools to improve your engineers efficiency and accuracy

[VIEW OUR SOFTWARE](#)

BPT-ROX™

Model Restriction Orifices, Venturi and Orifice Plate Flow Meters rigorously in your Simulator

- Improve model accuracy
- Improve model readability
- Works both in steady state and dynamic mode
- Do away with spreadsheets that need to be verified over and over again
- Improve compressor anti surge studies



The bottom line

Make models where orifice plates look like orifice plates and where there is no need to verify how the original creator of the model set up his spreadsheet to do the orifice flow or pressure drop calculation.

BPT was founded 1998 in Norway. We develop and provide Apps for Process Simulation™. We deliver independent and trusted third-party specialist consultancy services to the upstream oil & gas industry, combining experience with leading edge simulation tools using our Apps.

For additional information please contact us at
+47 67 56 99 90 or send an e-mail to info@bpt.no
<http://www.bpt.no>

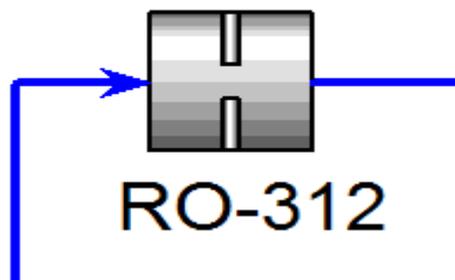
Registration and postal address:

Billington Process Technology A/S
Hiltoaasen 36, 1341 Slependsen, Norway



What is BPT-ROX™

BPT-ROX™ is an extension to the most commonly used process simulators. It will model restriction orifices using the HEM method and orifice plate flow meters and venturi flow meters using the ISO5167 method. The extension works both in steady state and in dynamics.



Restriction Orifices

In the restriction orifice mode the calculation is using the HEM (Homogeneous Equilibrium Model) method that is identical to the HEM method used in PSX, the BPT safety valve model. This ensures that the restriction orifice will produce accurate results for single phase as well as for multi-phase flow.

BPT-ROX, Orifice and venturi rating: RO-312

Calculation Results				
	Inlet	Orifice	Outlet	
Pressure	26.15	26.09	26.09	Ideal Nozzle Flux (kg/m ² .s)
Velocity	0.6183	25.29	0.6195	Flow is choked
Mach Number	0.001	0.060	0.001	Discharge Coefficient
Rho * V ²	6.952	1.161e+004	6.963	Viscosity Coefficient
Reynolds	2.2e+05	1.4e+06	2.2e+05	Derated Flux (kg/m ² .s)
Mass Density	18.19	18.15	18.14	DP Measured at Taps
Mass VFrac	1.000	1.000	1.000	
Volume VFrac	1.000	1.000	1.000	

Create Excel Report

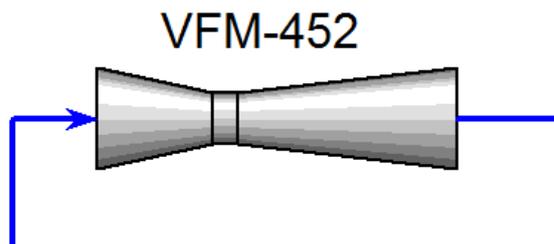
Design Rating Worksheet **Performance** Dynamics About

Delete Ignored

Flow Meter Modelling

BPT-ROX™ uses the ISO5167 method to calculate the flow or pressure drop of an orifice plate flow meter or a venturi flow meter. The PFD icon can be changed to reflect the type of Equipment that is modelled.

An Excel report can be generated at the click of a button.



Orifice Plate or Venturi Rating Model	
Case Name	ROX.hsc
Case Path	\\psf\Dropbox\Cases\
Case up to date	No
Date/Time	23/02/2015 15:32
Orifice Plate or Venturi Rating Model	RO-312
CONNECTIONS	
Inlet Stream	4 Outlet Stream 9-2
Operation Type	Restriction Orifice
PARAMETERS	
Pressure Drop	kPa 2513.80 Taps Pressure Drop kPa Empty
RATING INFORMATION	
Orifice Area	mm ² 120 Valve elevation m 0
Orifice diameter	mm 12.4
Venturi Finish	Machined Convergent Diameter mm 250.0 Inlet Outlet
Pressur tap location	D and D/2 tapings Elevation (Base) m 0.0 0.0
Discharge Coef. Method	Use Gas Coef. Elevation (Ground) m 0.0 0.0
Gas Discharge Coefficient	0.975
Liquid Discharge Coefficient	0.650
Discharge Coefficient	0.98
Viscosity Coefficient	1.00
STREAM PROPERTIES	
Feed	Product
Vapour Fraction	1.000 Vapour Fraction 1.000

