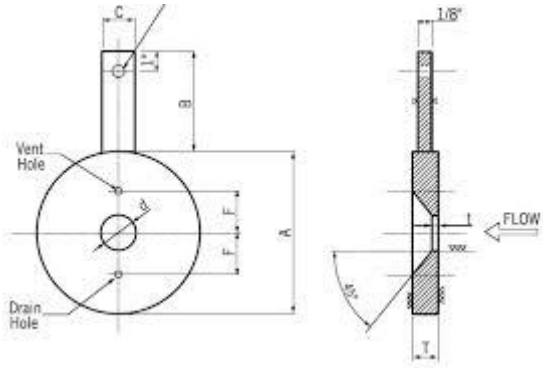
Model Restriction Orifices, Venturi and Orifice Plate Flow Meters rigorously in your Simulator

- 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.

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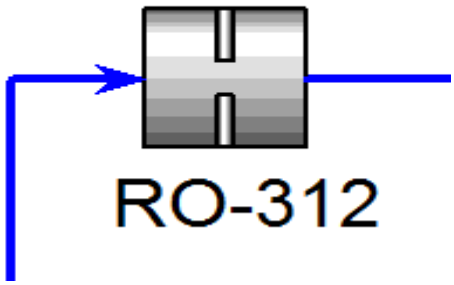
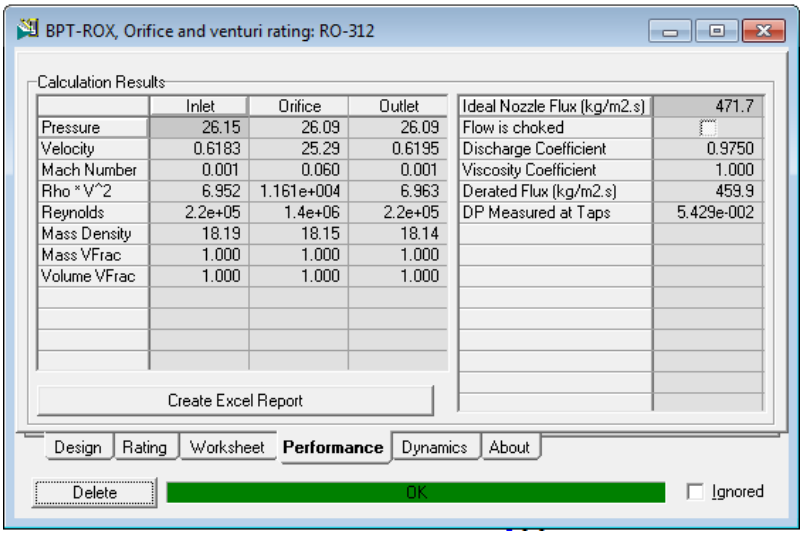
What is BPT-ROX™

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

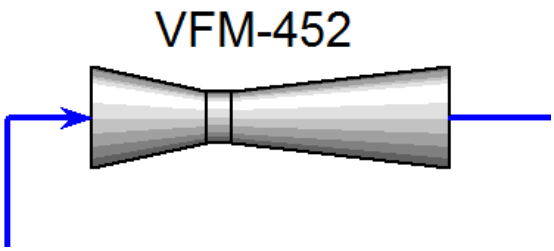
In the restriction orifice mode the calculation is using the HEM (Homogeneous Equilibrium Model) method that is identical to the HEM method used in PSX, the BPT safety valve model. This ensures that the restriction orifice will produce accurate results for single phase as well as for multi-phase flow.

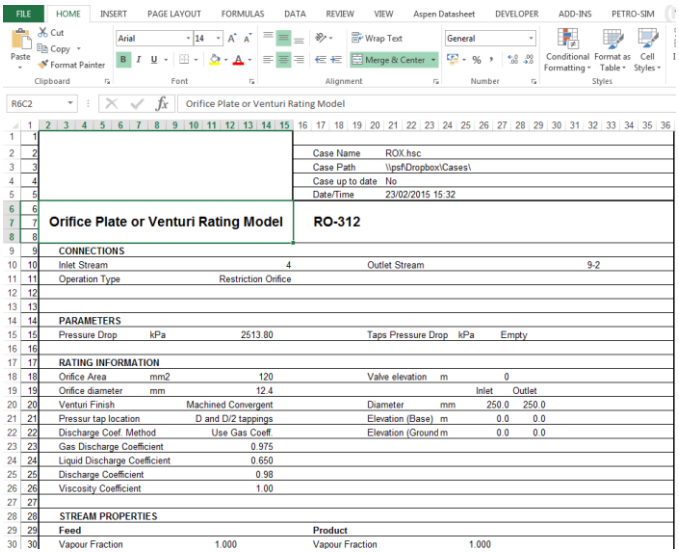


Flow Meter Modelling

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	\\psft\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	mm2	120	Valve elevation	m	0
Orifice diameter	mm	12.4			Inlet Outlet
Venturi Finish		Machined Convergent	Diameter	mm	250.0 250.0
Pressur tap location		D and D/2 tappings	Elevation (Base)	m	0.0 0.0
Discharge Coef. Method		Use Gas Coeff.	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