

Discharge Report

Workspace: 71850-Elaborati di calcolo-00

Study: Sergnano

Equipment Item: Compressione-Sovratemperatura

71850-Elaborati di calcolo-00\Sergnano\Compressione-Sovratemperatura

Material	Gas Naturale Stogit	
East	0	m
North	0	m

Scenario (Leak) : 25 mm

71850-Elaborati di calcolo-00\Sergnano\Compressione-Sovratemperatura\25 mm

Weather: Category 2/F

INPUT DATA

Inventory data

Mass in vessel	100000	kg
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Stagnation Data (upstream end for long pipe)

Initial pressure (gauge)	146	bar
Initial temperature	45	degC
Fluid state	Pressurized gas	

Scenario data

Phase to be released	Vapour	
Hole diameter	25	mm
Discharge coefficient	0,62	fraction

OUTPUT DATA

Mass flow rate	8,70049	kg/s
Release duration	7200	s

Orifice or pipe exit data (before atmospheric expansion)

Pressure	75,5196	bar
Temperature	-3,71552	degC
Liquid mass fraction	0	fraction



Velocity at vena contracta
(at exit for pipe releases) 397,835 m/s

Discharge coefficient	0,62
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Final Data (after atmospheric expansion)

Temperature	-38,4025	degC
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Liquid mass fraction	0	fraction
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Droplet diameter	0	um
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Expanded diameter	0,203983	m
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Velocity	300	m/s
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Weather: Category 5/D

INPUT DATA

Inventory data

Mass in vessel	100000	kg
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Stagnation Data (upstream end for long pipe)

Initial pressure (gauge)	146	bar
Initial temperature	45	degC
Fluid state	Pressurized gas	

Scenario data

Phase to be released	Vapour	
Hole diameter	25	mm
Discharge coefficient	0,62	fraction

OUTPUT DATA

Mass flow rate	8,70049	kg/s
Release duration	7200	s

Orifice or pipe exit data (before atmospheric expansion)

Pressure	75,5196	bar
Temperature	-3,71552	degC
Liquid mass fraction	0	fraction
Velocity at vena contracta (at exit for pipe releases)	397,835	m/s
Discharge coefficient	0,62	

Final Data (after atmospheric expansion)

Temperature	-38,4025	degC
Liquid mass fraction	0	fraction
Droplet diameter	0	um
Expanded diameter	0,203983	m
Velocity	300	m/s

