

# Discharge Report

Workspace: 71850-Elaborati di calcolo-00

Study: Sergnano

Equipment Item: Compressione

71850-Elaborati di calcolo-00\Sergnano\Compressione

Material	Gas Naturale Stogit	
East	0	m
North	0	m

## Scenario (Leak) : 10 mm

71850-Elaborati di calcolo-00\Sergnano\Compressione\10 mm

Weather: Category 2/F

### INPUT DATA

#### Inventory data

Mass in vessel	<b>100000</b>	kg
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#### Stagnation Data (upstream end for long pipe)

Initial pressure (gauge)	<b>146</b>	bar
Initial temperature	<b>25</b>	degC
Fluid state	<b>Pressurized gas</b>	

#### Scenario data

Phase to be released	Vapour	
Hole diameter	<b>10</b>	mm
Discharge coefficient	<b>0,62</b>	fraction

### OUTPUT DATA

Mass flow rate	1,51169	kg/s
Release duration	7200	s

#### Orifice or pipe exit data (before atmospheric expansion)

Pressure	73,9449	bar
Temperature	-22,0263	degC
Liquid mass fraction	<b>0</b>	fraction



Velocity at vena contracta  
(at exit for pipe releases) 376,607 m/s

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

Temperature	-70,7838	degC
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Liquid mass fraction	0	fraction
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Droplet diameter	0	um
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Expanded diameter	<b>0,0788428</b>	m
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Velocity	300	m/s
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## Weather: Category 5/D

## INPUT DATA

## Inventory data

Mass in vessel	<b>100000</b>	kg
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## Stagnation Data (upstream end for long pipe)

Initial pressure (gauge)	<b>146</b>	bar
Initial temperature	<b>25</b>	degC
Fluid state	<b>Pressurized gas</b>	

## Scenario data

Phase to be released	Vapour	
Hole diameter	<b>10</b>	mm
Discharge coefficient	<b>0,62</b>	fraction

## OUTPUT DATA

Mass flow rate	1,51169	kg/s
Release duration	7200	s

## Orifice or pipe exit data (before atmospheric expansion)

Pressure	73,9449	bar
Temperature	-22,0263	degC
Liquid mass fraction	<b>0</b>	fraction
Velocity at vena contracta (at exit for pipe releases)	376,607	m/s
Discharge coefficient	0,62	

## Final Data (after atmospheric expansion)

Temperature	-70,7838	degC
Liquid mass fraction	0	fraction
Droplet diameter	0	um
Expanded diameter	<b>0,0788428</b>	m
Velocity	300	m/s

