

# Discharge Report

**Workspace: 72341-3InvioGN**

**Study: Invio GN a metanodotto**

**Equipment Item: 10R Bracci scarico GN**

72341-3InvioGN\Invio GN a metanodotto\10R Bracci scarico GN

Material	<b>GAS NATURALE</b>	
East	0	m
North	0	m

## Scenario (Leak) : 60mm

72341-3InvioGN\Invio GN a metanodotto\10R Bracci scarico GN\60mm

**Weather: Category 2/F**

### INPUT DATA

#### Inventory data

Mass in vessel	<b>169,58</b>	kg
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#### Stagnation Data (upstream end for long pipe)

Initial pressure (gauge)	<b>80</b>	bar
Initial temperature	<b>50</b>	degC
Fluid state	<b>Pressurized gas</b>	

#### Scenario data

Phase to be released	Vapour	
Hole diameter	<b>60</b>	mm
Discharge coefficient	<b>0,62</b>	fraction

### OUTPUT DATA

Mass flow rate	25,5506	kg/s
Release duration	6,63703	s

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

Pressure	43,4562	bar
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Temperature	3,52734	degC
Liquid mass fraction	<b>0</b>	fraction
Velocity at vena contracta (at exit for pipe releases)	404,685	m/s
Discharge coefficient	0,62	

### Final Data (after atmospheric expansion)

Temperature	-5,13687	degC
Liquid mass fraction	0	fraction
Droplet diameter	0	um
Expanded diameter	<b>0,374222</b>	m
Velocity	300	m/s

## Weather: Category 5/D

### INPUT DATA

#### Inventory data

Mass in vessel	169,58	kg
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#### Stagnation Data (upstream end for long pipe)

Initial pressure (gauge)	80	bar
Initial temperature	50	degC
Fluid state	Pressurized gas	

#### Scenario data

Phase to be released	Vapour	
Hole diameter	60	mm
Discharge coefficient	0,62	fraction

### OUTPUT DATA

Mass flow rate	25,5506	kg/s
Release duration	6,63703	s

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

Pressure	43,4562	bar
Temperature	3,52734	degC
Liquid mass fraction	0	fraction
Velocity at vena contracta (at exit for pipe releases)	404,685	m/s
Discharge coefficient	0,62	

#### Final Data (after atmospheric expansion)

Temperature	-5,13687	degC
Liquid mass fraction	0	fraction
Droplet diameter	0	um
Expanded diameter	0,374222	m
Velocity	300	m/s



