




Calculation header

Identifier *BINAK*
 Tag No. *RO-2131A/B/C*

Medium selection and state

Medium  *Water*
 State  *Liquid*
☐ Liquid contains dissolved gas


Inlet properties

Operating temperature	t1	<i>59.88</i>	°C
Operating pressure	p1	<i>18.1</i>	bar(g)
Vapor pressure (t1)	pv1 	<i>-0.81489</i>	bar(g)
Operating density (t1, p1)	ρ1 	<i>984.05</i>	kg/m³
<input checked="" type="radio"/> Dynamic viscosity (t1, p1)	η1 	<i>0.46732</i>	cP

Pipeline

<input checked="" type="radio"/> Pipe class	 <i>ANSI</i>
Size class	NPS  <i>2"</i>
Schedule	SCH  <i>Schedule 10s</i>




Orifice plate

Throttle	<i>Single stage</i>
Type of orifice plate	<i>Single-hole orifice</i>
Type of bore	<i>Cylindrical bore</i>
<input type="checkbox"/> Flow coefficient	C  <i>0.79083</i> -





Operating data

☒ Safety-related application

Calculation

Permanent pressure loss	Δω	<i>17.9</i>	bar
Throttle orifice (20°C)	d 	<i>8.6746</i>	mm
<input checked="" type="radio"/> Mass flow rate	qm	<i>10,000.0</i>	kg/h
<input type="radio"/> Volume flow rate (operating conditions)	qv 	<i>44.742</i>	GPM(US)
Flow type	 <i>Incipient cavitation</i>		



Calculated auxiliary values

Sound pressure level (A-weighted)	LpAe 	82.6	dB(A)
Diameter ratio	β 	0.15833	-
Flow velocity in pipeline	u1 	3.9283	ft/s
Flow velocity in pipeline	u2 	3.9322	ft/s

Outlet properties

Operating pressure	p2 	0.2	bar(g)
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Hint:

-  Incipient cavitation
-  Approximate value: Min. orifice thickness for Δp - E,min

Confirmation:

-  The fluid data is calculated thermodynamically by means of FLUIDCAL

Legend

-  Calculated value
-  Lookup value
-  Hint
-  Confirmation