


<b>PROJECT :</b>			<b>DATE :</b>	
<b>SUBJECT :</b>			<b>BY :</b>	S.R.M.
<b>REF FILE :</b>			<b>REV :</b>	A
<b>UNIT :</b>			<b>DOC NO.:</b>	

### Line Hydraulic Calculation

General Data		section 1	section 2	section 3	section 4
Pressure	barg	50.00	45.39	43.89	43.75
Normal Flow Rate	kg/hr	50000.00	50000.00	50000.00	0.00
Liquid Density	kg/m <sup>3</sup>	36.00	32.68	28.69	50.00
Liquid Viscosity	cp	0.0100	0.0100	0.0100	0.0100

Line Hydraulic Data		section 1	section 2	section 3	section 4
Pipe Length	m	18	22	15	0
Nominal Pipe Size	inch	3	4	6	12
Pipe Schedule No.		40	40	40	40
Pipe Roughness (DEF.)	inch	0.00180	0.00180	0.00180	0.00180

Fittings Quantity					
* tee flow thru run	no.	0	0	0	0
* tee flow thru branch	no.	0	0	0	0
* elbow 90 deg LR (Flanged/Butt-welding)	no.	0	0	0	0
* elbow 90 deg LR (screwed)	no.	0	0	0	0
* elbow 45 deg LR (Flanged/Butt-welding)	no.	0	0	0	0
* elbow 45 deg LR (screwed)	no.	0	0	0	0
* gate valve	no.	0	0	0	0
* ball valve	no.	0	0	0	0
* globe valve	no.	0	0	0	0
* butterfly valve	no.	0	0	0	0
* check valve swing	no.	0	0	0	0
* check valve lift	no.	0	0	0	0
* check valvestop lift	no.	0	0	0	0
* check valve tilting disk	no.	0	0	0	0
* foot valve hinged disk	no.	0	0	0	0
* foot valve poppet disk	no.	0	0	0	0
* reducer	n*k	0	0	0	0
* entrance loss	no.	0	0	0	0
* exit loss	no.	0	0	0	0

Calculation Results					
Sum N*K		0	0	0	0
Suction Flow Rate (Rated)	m <sup>3</sup> /hr	1388.89	1529.83	1742.75	0.00
Pipe Internal Diameter	mm	77.93	102.26	154.05	303.23
Pipe Internal Area	m <sup>2</sup>	0.0048	0.0082	0.0186	0.0722
Velocity	m/s	80.89	51.74	25.97	0.00
Reynolds No.		2.27E+07	1.73E+07	1.15E+07	0.00E+00
y		2.30E+14	3.72E+14	7.36E+14	#DIV/0!
z		3.13E-45	2.42E-43	1.71E-40	#DIV/0!
Friction Factor		0.0169	0.0160	0.0147	#DIV/0!
<b>Pressure drop</b>	<b>bar</b>	<b>4.6064</b>	<b>1.5022</b>	<b>0.1382</b>	<b>#DIV/0!</b>