



PROJECT :			DATE :	
PROJ. NO.:			BY :	S.R.M
CLIENT :			REV :	
UNIT :			DOC NO.:	

Y Type Strainer Pressure Drop Calculation

Liquid		
Connection Type	----	Flanged
Strainer Nominal Size	in	2
Mass flow rate	m ³ /hr	15
Density	kg/m ³	764
Viscosity	cp	1.10
Kv	m ³ /hr/bar	60.3
Pressure Drop	bar	0.043

Gas / Steam		
Connection Type	----	Threaded
Strainer Nominal Size	in	3
Upstream Pressure	bara	17
Mass flow rate	m ³ /hr	180
Density	kg/m ³	8
Kv	m ³ /hr/bar	137.9
Pressure Drop	bar	0.010

Notes


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T Type Strainer Pressure Drop Calculation

Liquid		
Connection Type	----	Flanged
Strainer Nominal Size	in	4
Mass flow rate	m ³ /hr	50
Density	kg/m ³	1000
Viscosity	cp	0.70
Kv	m ³ /hr/bar	241.4
Pressure Drop	bar	0.061

Gas / Steam		
Connection Type	----	Flanged
Strainer Nominal Size	in	10
Upstream Pressure	bara	20
Mass flow rate	m ³ /hr	18000
Density	kg/m ³	1
Kv	m ³ /hr/bar	1465.5
Pressure Drop	bar	0.012

Notes

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Basket Strainer Pressure Drop Calculation

Fluid Data		
Service (Equipment/line No)	P-51-001	
Volumetric Flow Rate	m3/hr	2271.2934
Fluid Density	kg/m3	764
Fluid Viscosity	cp	1.10
Clogged Condition percent	%	50

Strainer Data		
Inlet Pipe Internal Dia	m	0.1524
Mesh Size	----	40
Pore Size	micron	440
Open Area Fraction	----	0.30
Basket Diameter	m	0.254
Effective Length of Basket	m	0.9
No of baskets	----	1
Basket Free Area	m2	0.231

100% Clean Condition		
Basket Free Area / Pipe Area	---	12.6
Superficial Velocity	m/sec	2.737
Re	---	2788
C	----	1.40
Mesh Pressure drop	bar	0.148
Housing Pressure drop	bar	0.012
Total Pressure Drop	bar	0.160

50% Clogged Condition		
Open Area Fraction	----	0.15
Re	---	5576
C	----	1.41
Mesh Pressure drop	bar	0.622
Housing Pressure drop	bar	0.012
Total Pressure Drop	bar	0.634

Notes