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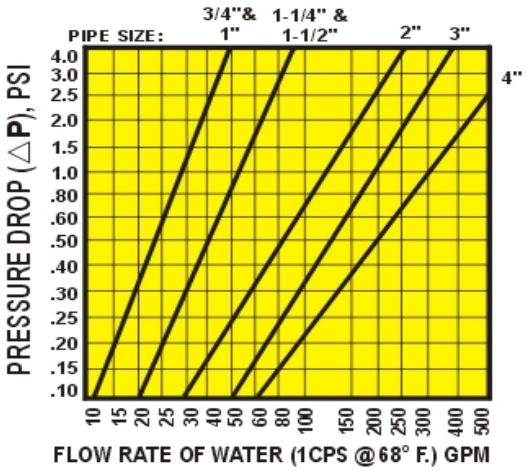
Technical Data

Sizing Filter Bag Applications

HOUSING PRESSURE DROP

The graph to the right gives the clean pressure drop through the size 1 & size 2 housings with a perforated filter bag basket without a filter bag installed for water, 1 cps @ 68° F. Please note bag pressure drop must be added to this value.



1. From the pipe size and flow rate, determine the pressure drop for water

2. Multiply the value obtained in step 1 by the proper viscosity correction factor from chart to the right.

VISCOSITY, CPS								
1 (h_2O)	50	100	200	400	600	800	1000	2000
1.0	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.8

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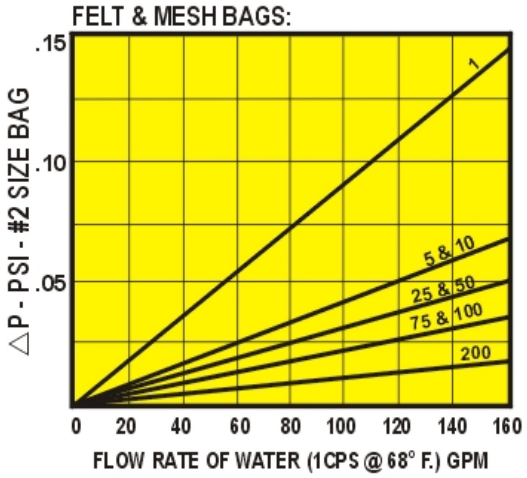
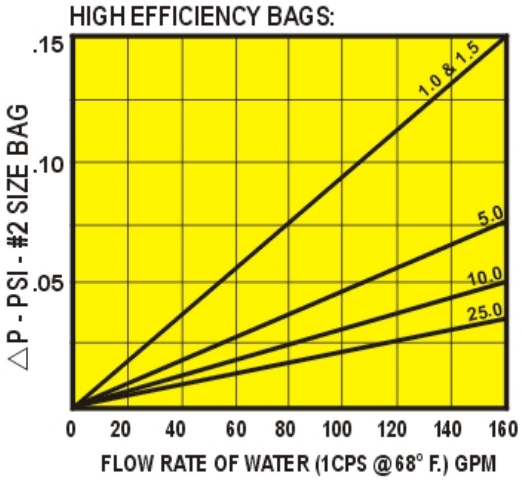
FILTER BAG PRESSURE DROP

The graphs below give the clean pressure drop through a #2 size bag for water, 1 cps @ 68°F.





To determine the pressure drop caused by the filter bag, follow these steps:

Step 1 Using the type of bag, micron rating and flow rate, determine the pressure drop for water, 1 cps @ 68°F., for a size #2 bag.

Step 2 Correct for bag size from the Bag Size Correction table at the right if the bag size is different than a #2 size.

If the viscosity of the liquid is greater than 1 cps (water @ 68°F.), multiply the result ofrom step 2 by the proper correction factor from the Viscosity Correction table at the right.

VISCOSITY CORRECTION	
VISCOSITY CPS	CORRECTION FACTOR
50	4.5
100	8.3
200	16.6
400	27.7
800	50.5
1000	56.2
1500	77.2
2000	113.6
4000	161.0
6000	250.0
8000	325.0
10,000	430.0

BAG SIZE CORRECTION		
BAG SIZE	DIA. X LENGTH	MULTIPLY BY
1	7.2 X 16	2.25
2	7.2 X 32	1.0
3	4.3 X 8	9.0
4	4.3 X 14	4.5

The value obtained in Step 3 is the clean pressure frop caused by the filter bag.

Summary

For new application, the clean pressure drop of the system, housing and bag should be 2.0 PSI or less. The lower the value is, the more contaminant a bag will hold. For applications with low dirt loading, this value can go to 3.0 PSI or more. Consult the factory for recommendations when the clean pressure drop of the system exceeds 3.0 PSI.

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CONVERSION FACTORS

MESH	MICRON	INCHES
4	5205	0.2030
8	2487	0.0970
10	1923	0.0750
14	1307	0.0510
18	1000	0.0394
20	840	0.0331
25	710	0.0280
30	590	0.0232
35	500	0.0197
40	520	0.0165
45	350	0.0138
50	297	0.0117
60	250	0.0098
70	210	0.0083
80	177	0.0070
100	149	0.0059
120	125	0.0049
140	105	0.0041
170	88	0.0035
200	74	0.0029
230	62	0.0024
270	53	0.0021
325	44	0.0017
400	37	0.0015
550	25	0.0009
800	15	0.0006
1250	10	0.0004
-------	5	0.0002

SUSPENDED SOLID CONVERSION TABLE		
PPM	%	TBS./1000 GAL.
10,000	1.0000	80.0
8.000	.8000	70.0
6,000	.6000	50.0
4,000	.4000	35.0
2,000	.2000	15.0
1,000	.1000	9.0
800	.0800	6.5
600	.0600	5.5
400	.0400	3.5
200	.0200	1.75
100	.0100	.85
80	0080	.65
60	.0060	.50
40	.0040	.35
20	.0020	.175
10	.0010	.08
8	.0008	.065
6	.0006	.055
4	.0004	.035
2	.0002	.0175
1	.0001	.0003

VISCOSITY EQUIVALENT	
SSU (SAY BOLT SECONDS UNIVERSAL)	CPS. (CENTIPOISE)
30	1
50	5
100	20
200	40
300	65
400	85
500	105
600	130
700	150
800	175
900	195
1000	210
2000	425
3000	625
4000	860
5000	1050
6000	1300
7000	1500
8000	1700
9000	1960
10,000	2150

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Cubic Inches	By	To Get
Atmosphere	014.7	PSI
Centimeters	000.384	Inches
Cubic Centimeters	000.061	Inches
Cubic Feet	007.480	Gallons
Cubic Feet	000.173	Cubic Inches
Cubic Feet/Minute	007.48	GPM
Cubic Inches	000.004	Gallons
Cubic Inches	016.387	Cubic cm.
Cubic Inches	000.00058	CubicFeet
Cubic Meters	264.17	Gallons
Cubic Meters	035.31	Cubic Feet
Feet	030.48	Centimeters
Feet	000.3048	Meters
Feet of Water	000.4335	PSI

Multiply	By	To Get
Feet of Water	0000.883	Inches of Hg.
Gallons	0000.883	Imp. Gallons
Gallons	0231.0	Cubic Inches
Gallons	0000.1337	Cubic Feet
Gallons Per Minute	0000.1337	Cubic Feet/min.
Inches	0000.0254	Meters
Kilograms	0002.205	Pounds
Kilograms/Sq. cm.	0014.2233	PSI
Kilograms/Sq. mm.	1422.33	PSI
Liters	0000.264	Gallons
Meters	0003.281	Feet
PSI	0002.31	Feet of Water
PSI	0002.036	Inches of Hg.
Pounds of Water	0000.112	Gallons