

# HANDY FORMULAS

## CENTRIFUGAL PUMP DATA

$$\text{Feet of Head} = \frac{\text{PSI} \times 2.31}{\text{Sp. Gr.}}$$

$$\text{PSI} = \text{Feet of Head} \times \text{Sp. Gr.} \times .433$$

$$\text{HP Req'd.} = \frac{(\text{GPM}) (\text{Ft. of head}) (\text{Sq. Gr.})}{(3960) (\text{pump efficiency})}$$

$$\text{HP (water)} \times \text{Sp. Gr. (solution)} = \text{HP (solution)}$$

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Cubic Feet x 7.48025 = U.S. Gallons  
U.S. Gallon x .1336 = 1.0 Cubic Feet

1 Gallon water = 8.3453 lbs.  
1.0 Litre = .2642 Gallons

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## MATERIAL SELECTION (Rules of thumb)

PVC to 140 F.  
CPVC to 200F.

POLYPRO to 180 F.  
PVDF (Kynar) to 280 F.

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## SIZING FILTER SYSTEMS (Rules of thumb)

Turnover for Electro Chemical Bath = Two times/Hour  
Turnover for Electroless Bath = Ten times/Hour

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## COMPARATIVE PARTICLE SIZE

U.S. MESH	INCHES	MICRONS	MILLIMETERS	U.S. MESH	INCHES	MICRONS	MILLIMETERS
3	.265	6730	6.73	40	.0165	420	.42
3½	.223	5660	5.66	45	.0138	354	.35
4	.187	4760	4.76	50	.0117	297	.297
5	.157	4000	4.00	60	.0098	250	.250
6	.132	3360	3.36	70	.0083	210	.210
7	.111	2830	2.83	80	.0070	177	.177
8	.0937	2380	2.38	100	.0059	149	.149
10	.0787	2000	2.00	120	.0049	125	.125
12	.0661	1680	1.68	140	.0041	105	.105
14	.0555	1410	1.41	170	.0035	88	.088
16	.0469	1190	1.19	200	.0029	74	.074
18	.0394	1000	1.00	230	.0024	63	.063
20	.0331	841	.84	270	.0021	53	.053
25	.0280	707	.71	325	.0017	44	.044
30	.0232	595	.59	400	.0015	37	.037
35	.0197	500	.50				