

ACCESSORY FLOWTUBES

For Use with FL-3000 Series Rotameters, Multi-Tube Assemblies and Gas Proportioners



B

The flow tubes shown on this page can be installed into any of the 150 mm rotameters shown on pages B-32 and B-33. Flow capacities shown are based on calibrations with air and water at 21°C (70°F) and 14.7 psia. For other fluids or conditions, the following equations provide rough approximations.



$$Q_a = Q_g \times \sqrt{\frac{G \times T_a \times P_o}{T_o \times P_a}}$$

where:

- Q_a = equivalent air flow scale reading at Standard Conditions
- Q_g = true flow of metered gas
- G = specific gravity of metered gas
- T_a = absolute temperature at flow conditions, deg R or deg K
- T_o = absolute temperature at Standard Conditions deg R (530) or deg K (294)
- P_a = pressure at flow conditions, psia
- P_o = pressure at Standard Conditions, (14.7 psia)

$$Q_w = Q_L \times \sqrt{\frac{d_f \cdot d_w}{d_f \cdot d_L} \times \frac{d_L}{d_w}}$$

where:

- Q_w = equivalent water flow capacity at Standard Conditions
- Q_L = maximum flow of metered liquid
- d_f = density of float selected, (See Table, right), (g/ml)
- d_L = density of metered liquid, (g/ml)
- d_w = density of water at Standard Conditions, (1.0 g/ml) (Does not include viscosity effect)

150 mm Flowtube, gas flow capacities of routine gases. cc/min, 10:1 range

MOST POPULAR MODELS HIGHLIGHTED!

Model No.	Price	Air	Water	Argon	CO ₂	He	H	N	O
FLT-45G	\$66	19	0.196	15	23	16	37	20	17
FLT-45SA	66	30	0.392	24	37	26	59	31	27
FLT-45ST	66	60.6	0.94	49	72	53	123	62	54
FLT-45C	66	110	1.91	90	127	101	232	114	99
FLT-45T	98	121	2.13	99	139	112	256	125	109
FLT-41G	66	49	0.49	44	56	46	94	48	42
FLT-41SA	66	73	0.98	60	84	69	149	76	70.4
FLT-41ST	66	143	2.34	113	150	133	301	143	131
FLT-41C	66	247	4.7	202	251	260	567	255	228
FLT-41T	98	264	5.1	222	263	288	602	274	244
FLT-61G	66	93	0.9	75.6	103	90	208	92	81
FLT-61C	66	444	8.5	373	445	519	1120	462	407
FLT-61T	76	484	9.2	393	470	555	1225	495	433
FLT-02G	66	374	5.5	305	355	450	1021	382	340
FLT-02SA	66	513	10.0	429	472	681	1497	520	472
FLT-02ST	66	814	20.4	676	728	1290	2496	824	753
FLT-02C	66	1222	33.7	1020	1072	2221	3876	1220	1131
FLT-02T	76	1331	36.1	1085	1134	2356	4257	1310	1206
FLT-03G	66	844	16.5	687	725	1490	2620	827	772
FLT-03SA	66	1093	26.1	910	944	2059	3546	1110	1024
FLT-03ST	66	1682	44.6	1380	1420	3397	5547	1662	1545
FLT-03C	66	2423	70.5	1996	2039	5120	8170	2405	2246
FLT-03T	76	2576	75.6	2131	2163	5437	8717	2575	2364
FLT-04G	66	2313	54	1949	2048	4880	7817	2395	2169
FLT-04SA	66	3079	78	2605	2620	6458	10455	3142	2860
FLT-04ST	66	4562	133	3903	3990	9770	15855	4685	4341
FLT-04C	66	6621	201	5665	5743	14500	22790	6845	6307
FLT-04T	76	6932	212	6040	6018	15420	24252	7080	6690
FLT-05G	66	3922	84	3151	3374	7803	13105	3868	3485
FLT-05SA	66	5188	126	4175	4388	10336	16108	5090	4652
FLT-05ST	66	7825	217	6384	6308	15960	27804	7722	6992
FLT-05C	66	11154	329	9460	9222	23509	37553	10973	10082
FLT-05T	76	11965	353	9627	9475	25131	39998	11628	10741
FLT-39G	66	8678	210	7366	7485	19426	29840	8916	8269
FLT-39SA	81	11357	306	9539	9557	25400	40006	11524	10706
FLT-39ST	66	16737	506	14131	14051	38576	59995	17021	15710
FLT-39C	76	23752	747	20166	19854	56220	83052	24071	22432
FLT-39T	98	25252	790	21414	21115	60596	90410	25709	23790
FLT-40G	76	23742	541	19761	18989	53100	85812	23512	21350
FLT-40SA	81	30711	806	24563	23855	70100	110100	29930	27181
FLT-40ST	76	45227	1288	35300	34287	103647	159699	43000	39567
FLT-40C	76	66346	1881	47890	46311	146500	221872	59580	54902
FLT-40T	98	69940	2001	51997	49009	189826	234423	63826	57960

Comes complete with operator's manual and correlation sheets for air and water.

* Suffix refers to float: G = black glass, SA = sapphire, ST = 316 stainless steel, C = carboly, T = tantalum. Minimum flow is equal to 10% of the maximum listed.

For highest precision, field calibration is required.

Material	Density g/ml
Glass	2.53
Sapphire	3.98
Stainless steel	8.04
Carboly	14.98
Tantalum	16.58

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