ELMRIDGE® Liqui-Jet® Gas Scrubbers

TLG Series

GAS SCRUBBING - GAS COOLING - PARTICULATE REMOVAL
HUMIDIFYING - CONDENSING - LOW DRAFT EVACUATION

ELMRIDGE "TLG" Series Liqui-Jet Gas Scrubbers are designed to entrain and scrub proportionately large volumes of air or gas at low draft using water or other liquid as the motive fluid. The high-velocity jet of liquid from the Scrubber nozzle entrains the suction gas and creates a draft. Gases, vapors, fumes, dust etc., are drawn into the Scrubber where they mix intimately with, and are washed by, the scrubbing liquid. The washed fluid stream is then discharged and clean air and clean non-condensable gases are separated from the washing liquid. A disengagement or separator tank is typically required at the discharge of the scrubber. Operating characteristics (water motive/air suction), for standard models are shown below, and special units are also available to meet your specifications. Standard materials of construction are Carbon Steel, Cast Iron, 316L Stainless Steel, PVC, CPVC, PVDF, FRP, and polypropylene. Other materials are available upon request. Threaded connections are standard on smaller units (3" Suction and smaller), and Flanged connections are standard on larger units (3" Suction and larger).

Table 1

Suction Capacity (cfm 70 Deg. F Dry Air) for a TLG3 Liqui-Jet Gas Scrubber using 70 deg. F Water

Total Draft (in-WC Diff.)	Operating Water Pressure (psig)								
	20	30	40	50	60	80	100	120	140
0	28.4	39.7	45.8	53.0	58.5	67.5	78.0	88.4	94.0
1/4	23.6	36.0	42.7	51.0	56.3	65.0	76.0	86.5	92.0
1/2	19.1	31.5	40.5	48.2	53.3	63.2	74.0	84.5	90.0
3/4	13.0	27.4	38.4	46.2	51.4	61.2	71.0	82.4	88.0
1	5.7	22.3	34.1	42.6	49.5	59.5	70.1	81.6	87.7
2		7.1	22.0	32.4	40.2	51.5	62.2	75.4	82.6
3			7.9	21.8	30.8	45.5	56.5	69.5	78.3
4				8.5	21.2	37.1	50.5	63.5	73.2
5					12.1	29.3	43.5	57.1	68.8
6						22.1	36.7	51.1	63.3
7						9.3	30.0	45.8	58.4
8							20.9	38.9	52.3
9							12.1	31.3	47.7
10								23.3	40.6
12								6.7	27.4
14									12.5
Power Water Consumption (usgpm)	3.5	4.2	4.9	5.5	6.0	7.0	7.8	8.5	9.2

GAS SCRUBBING

SEE INDIVIDUAL DIMENSIONAL DRAWINGS BY STYLE

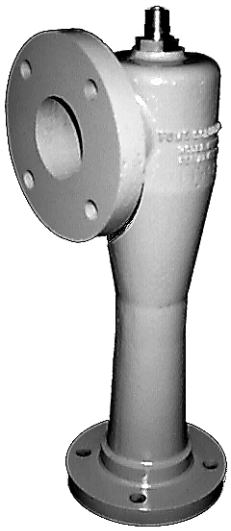
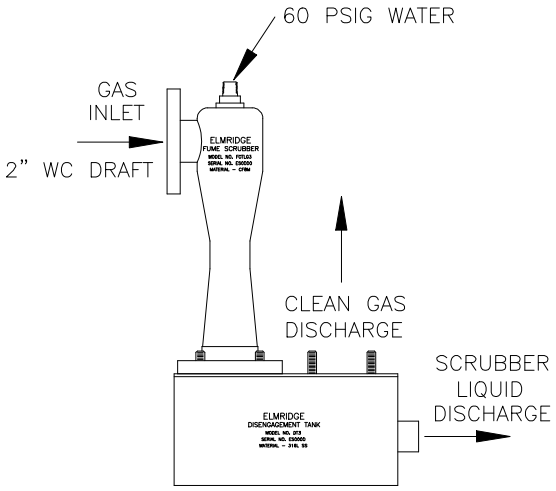


Table 2 **Capacity Factors**

Model	TLG0	TLG1	TLG2	TLG3	TLG4	TLG5	TLG6	TLG7	TLG8	TLG9	TLG10	TLG11	TLG12	TLG13	TLG14	TLG15	TLG16	TLG17
Capacity Factor	0.165	0.30	0.55	1.00	1.80	3.24	4.30	5.7	7.6	10.1	13.3	17.7	23.5	31.2	41.4	55	73	97

APPLICATION EXAMPLES



EXAMPLE 1:

A Gas-Scrubber and Disengagement Tank is required to cool and scrub 150 cfm of non-condensable gas from a process vessel while maintaining a 2" WC draft on the vessel. Discharge from the Disengagement Tank is to atmosphere. Water of a suitable temperature is available at 60 psig.

1. From Table 1, the TLG3 Scrubber operating with 60 psig water has a capacity of 40.2 cubic feet per minute at a 2 in-WC total draft.

2. As the required capacity is 150 cfm, the required Capacity Factor is:

   150 / 40.2 = 3.73

3. The TLG6 exhauster with a Capacity Factor of 4.30 should be used.

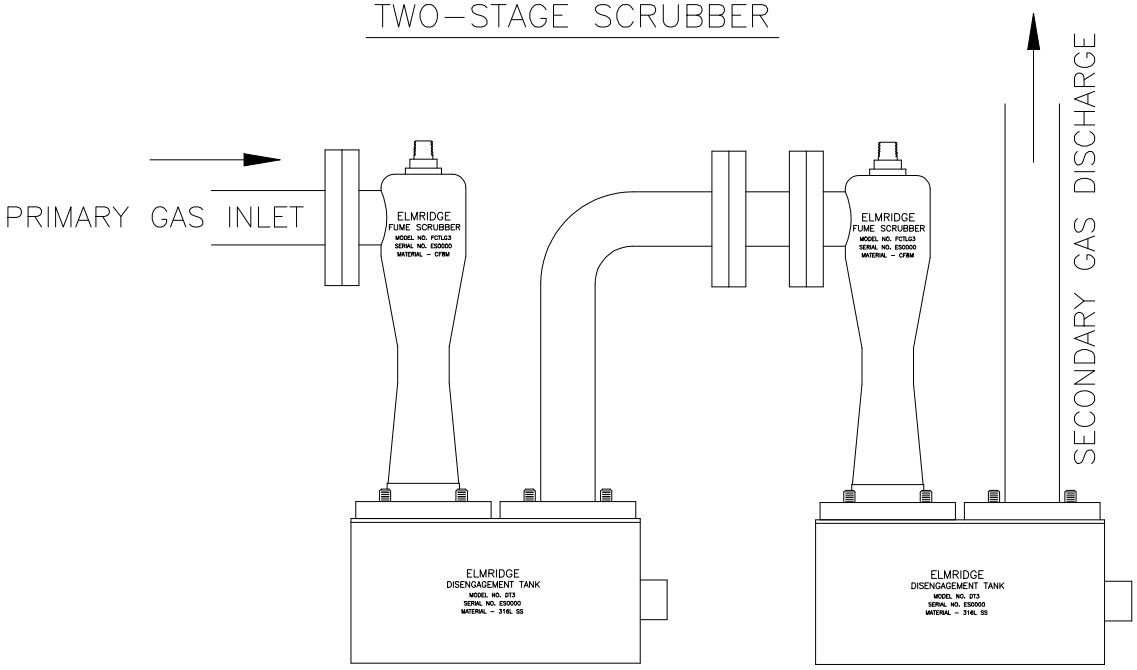
4. The amount of 60 psig water required to operate the TLG6 Scrubber is:

   4.30 x 6.0 = 25.8 usgpm

5. Note that the water pressure and hence water flowrate could be reduced somewhat while still achieving the necessary suction flowrate and draft.

SEE INDIVIDUAL DIMENSIONAL DRAWINGS BY STYLE

TWO–STAGE SCRUBBER



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