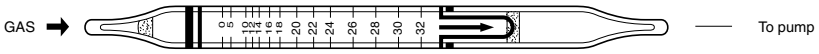
Tube No.
177SA WATER VAPOUR



1. PERFORMANCE

1) Measuring range : 1.7-33.8 mg/ℓ
Number of pump strokes 1(100mℓ)
From 10 % RH(20 ℃ = 68 ° F) to 100 % RH(32 ℃ = 90 ° F)
〔40 % RH (40 ℃ = 104 ° F〕
2) Sampling time : 20 seconds/1 pump stroke
3) Detectable limit : 0.2 mg/ℓ
4) Shelf life : 3 years
5) Operating temperature : 0 ~ 40 ℃
6) Temperature compensation : Necessary (See "TEMPERATURE CORRECTION TABLE")
7) Reading : Direct reading from the scale calibrated by 1 pump stroke
8) Colour change : Greenish yellow → Purple

2. RELATIVE STANDARD DEVIATION

RSD-low : 10 % RSD-mid. : 10 % RSD-high : 5 %

3. CHEMICAL REACTION

By reacting with Magnesium perchlomate, PH indicator is discoloured.

$H_2O + Mg(ClO_4)_2 \rightarrow Mg(ClO_4)_2H_2O$

4. CALIBRATION OF THE TUBE

VAPOR PRESSURE METHOD

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	Coexistence
Methanol		0.3%	Unclear stain is produced.
Ethanol		0.3%	〃
Ethyl acetone		0.3%	〃
Acetone		0.5%	〃
Ammonia		0.2%	Purple and purplish red stains are produced and higher readings are given.
Nitrogen dioxide		0.2%	Unclear stain is produced.

TEMPERATURE CORRECTION TABLE

Scale Readings	True Concentration																		
	0 ℃ 32 ° F	5 ℃ 41 ° F	10 ℃ 50 ° F	12 ℃ 54 ° F	14 ℃ 57 ° F	16 ℃ 61 ° F	18 ℃ 64 ° F	20 ℃ 68 ° F	22 ℃ 72 ° F	24 ℃ 75 ° F	26 ℃ 79 ° F	28 ℃ 82 ° F	30 ℃ 86 ° F	32 ℃ 90 ° F	34 ℃ 93 ° F	36 ℃ 97 ° F	38 ℃ 100 ° F	40 ℃ 104 ° F
0	100 4.8	50 3.4	30 2.8	20 2.1	18 2.2	15 2.0	12 1.8	10 1.7	9 1.7	8 1.7	7.5 1.8	7 1.9	6.5 2.0	6 2.0	5.5 2.1	5 2.1	5 2.3	4 2.0
5		100 6.8	50 4.7	30 3.2	26 3.1	20 2.7	18 2.8	15 2.5	12 2.3	9 1.9	8 2.0	8 2.2	7.5 2.3	7 2.4	6.5 2.4	6 2.5	5.5 2.5	5 2.6
10			100 9.4	70 7.5	48 5.8	35 4.8	28 4.3	24 4.2	18 3.5	15 3.3	13 3.2	10 2.7	9 2.7	8.5 2.9	8 3.0	7.5 3.1	7 3.2	3.3
12				100 10.7	80 9.6	50 6.8	40 6.2	30 5.2	25 4.9	20 4.4	17 4.1	14 3.8	12 3.6	10 3.4	9.5 3.6	9 3.8	8 3.5	6 3.1
14					100 12.0	80 10.9	55 8.5	40 6.9	35 6.8	26 5.7	20 4.9	18 4.9	15 4.5	13 4.4	11 4.1	10 4.2	9 4.2	9 4.6
16						100 13.6	80 12.3	55 9.5	45 8.7	35 7.6	26 6.6	20 5.7	18 5.5	15 5.4	13 5.3	11 5.0	9 5.1	9 5.1
18							100 15.4	80 13.8	55 10.7	45 9.8	35 8.5	27 7.3	22 6.7	19 6.4	17 6.4	15 6.3	13 6.0	12 6.1
20								100 17.2	80 15.5	60 13.1	48 11.7	38 10.3	29 8.8	24 8.1	20 7.5	18 7.5	16 7.4	14 7.2
22									100 19.4	80 17.4	62 15.1	50 13.6	40 12.1	30 10.1	25 9.4	22 9.2	19 8.8	17 8.7
24										100 21.8	80 19.5	62 16.9	50 15.2	40 13.5	30 11.3	27 11.3	23 10.6	20 10.2
26											100 24.4	80 21.8	64 19.4	50 17.0	40 15.0	32 13.3	28 12.9	25 12.8
28												100 27.1	80 24.2	64 21.6	50 18.8	40 16.7	32 14.8	28 14.3
30													100 30.3	80 27.0	64 24.1	50 20.1	40 18.5	34 17.4
32														100 33.8	80 30.1	64 26.7	48 22.2	40 20.4