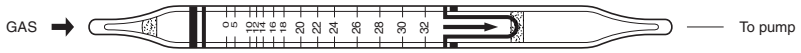
Tube No.
177SA WATER VAPOUR



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.

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

4. CALIBRATION OF THE TUBE

VAPOR PRESSURE METHOD

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	%	Coexistence
Methanol		0.3	Unclear stain is produced.
Ethanol		0.3	〃
Ethyl acetate		0.3	〃
Acetone		0.5	〃
Nitrogen dioxide		0.2	〃
Ammonia		0.02	Purple and purplish red stains are produced and higher readings are given.

TEMPERATURE CORRECTION TABLE

Tube Readings	Corrected 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	100.0 4.8	50.0 3.4	30.0 2.8	20.0 2.1	18.0 2.2	15.0 2.0	12.0 1.8	10.0 1.7	9.0 1.7	8.0 1.7	7.5 1.8	7.0 1.9	6.5 2.0	6.0 2.0	5.5 2.1	5.0 2.1	5.0 2.3	4.0 2.0
5		100.0 6.8	50.0 4.7	30.0 3.2	26.0 3.1	20.0 2.7	18.0 2.8	15.0 2.5	12.0 2.3	9.0 1.9	8.0 2.0	8.0 2.2	7.5 2.3	7.0 2.4	6.5 2.4	6.0 2.5	5.5 2.5	5.0 2.6
10			100.0 9.4	70.0 7.5	48.0 5.8	35.0 4.8	28.0 4.3	24.0 4.2	18.0 3.5	15.0 3.3	13.0 3.2	10.0 2.7	9.0 2.7	8.5 2.9	8.0 3.0	7.5 3.1	7.0 3.2	6.5 3.3
12				100.0 10.7	80.0 9.6	50.0 6.8	40.0 4.8	30.0 5.1	25.0 4.9	20.0 4.4	17.0 4.1	14.0 3.8	12.0 3.6	10.0 3.4	9.5 3.6	9.0 3.8	8.0 3.5	7.0 3.5
14					100.0 12.0	80.0 10.9	55.0 8.5	40.0 6.9	35.0 6.8	26.0 5.7	20.0 4.9	18.0 4.9	15.0 4.5	13.0 4.4	11.0 4.1	10.0 4.2	9.0 4.2	9.0 4.6
16						100.0 13.6	80.0 12.3	55.0 9.5	45.0 8.7	35.0 7.6	27.0 6.6	21.0 5.7	18.0 5.5	15.0 5.4	14.0 5.3	12.0 5.0	11.0 5.1	10.0 5.1
18							100.0 15.4	80.0 13.8	55.0 10.7	45.0 9.8	35.0 8.5	27.0 7.3	22.0 6.7	19.0 6.4	17.0 6.4	15.0 6.3	13.0 6.0	12.0 6.1
20								100.0 17.2	80.0 15.5	60.0 13.1	48.0 11.7	38.0 10.3	29.0 8.8	24.0 8.1	20.0 7.5	18.0 7.5	16.0 7.4	14.0 7.2
22									100.0 19.4	80.0 17.4	62.0 15.1	50.0 13.6	40.0 12.1	30.0 10.1	25.0 9.4	22.0 9.2	19.0 8.8	17.0 8.7
24										100.0 21.8	80.0 19.5	62.0 16.9	50.0 15.2	40.0 13.5	30.0 11.3	27.0 11.3	23.0 10.6	20.0 10.2
26											100.0 24.4	80.0 21.8	64.0 19.4	50.0 17.0	40.0 15.0	32.0 13.3	28.0 12.9	25.0 12.8
28												100.0 27.2	80.0 24.2	64.0 21.6	50.0 18.8	40.0 16.7	32.0 14.8	28.0 14.3
30													100.0 30.3	80.0 27.0	64.0 24.1	50.0 20.1	40.0 18.5	34.0 17.4
32														100.0 33.8	80.0 30.1	64.0 26.7	48.0 22.2	40.0 20.4