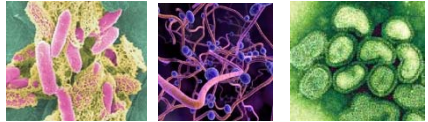
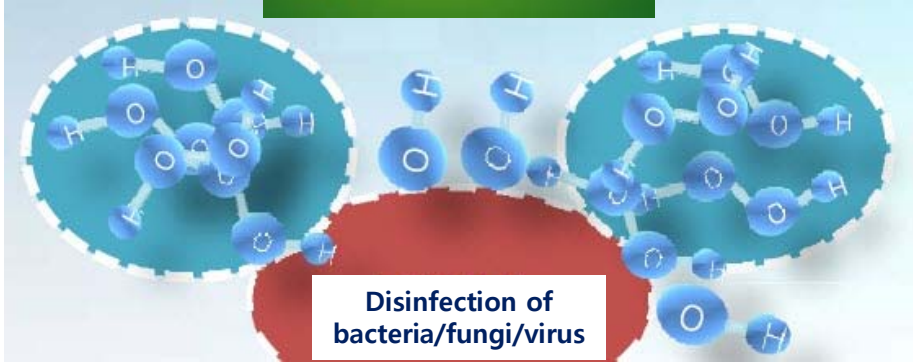


# H<sub>2</sub>O<sub>2</sub> Vapor Decomposition



# H<sub>2</sub>O<sub>2</sub> Vapor Decomposition Test at Flow Reactor

## Test unit



Catalyst reactor



Catalyst  
(Purelyst MD-101S)

## Data logger



H<sub>2</sub>O<sub>2</sub> vapor analyzer  
(RM09-1000m, Interscan)



Syringe pump

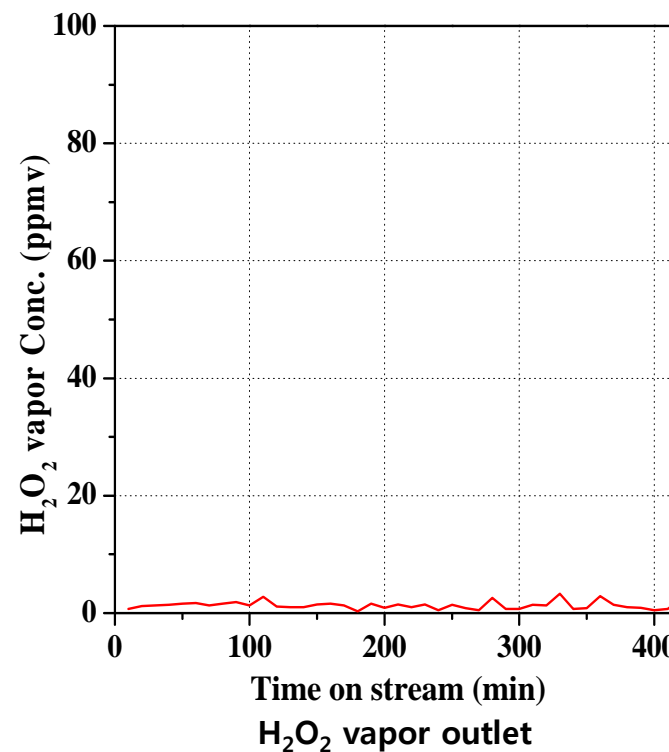
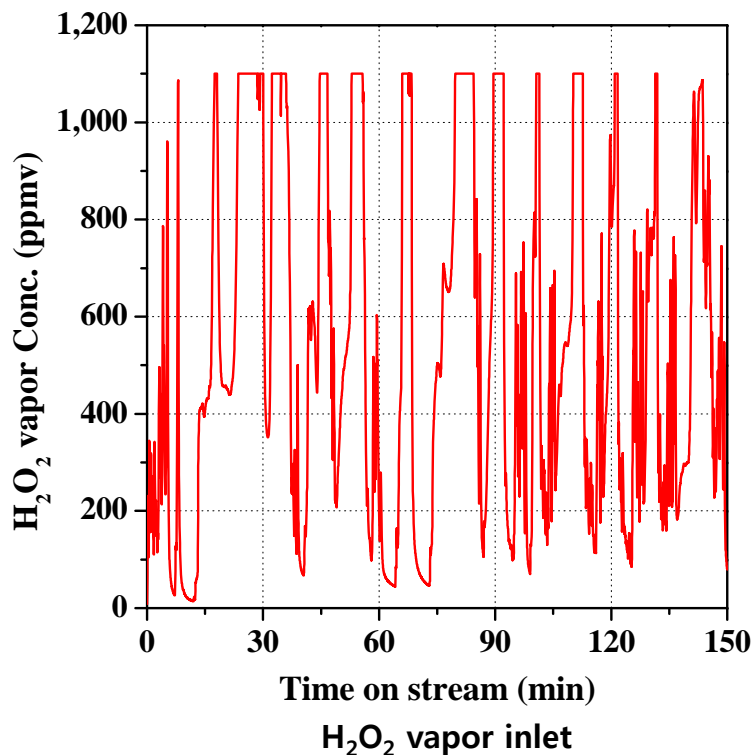


Heating line

# H<sub>2</sub>O<sub>2</sub> Vapor Decomposition Test at Flow Reactor



## Test result



Test result

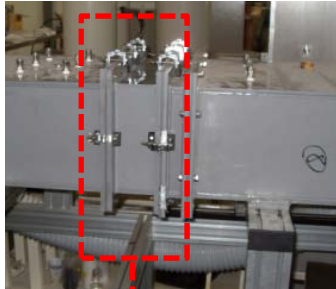
## Test condition

Subject	Content	Subject	Content
Catalyst	Purelyst MD-101S	Gas flow	Air – 5 slm, H <sub>2</sub> O <sub>2</sub> 34.5 wt% solution – 35 µl/min, H <sub>2</sub> O <sub>2</sub> Conc. - 1,589 ppmv
Shape	Sphere	Space velocity	120,000 h <sup>-1</sup>
Size/Volume	2~3 mm Φ/10 cm <sup>3</sup>		

# H<sub>2</sub>O<sub>2</sub> Vapor Decomposition Test at Chamber



## Test unit



Catalyst reactor



Catalyst  
(Purelyst MD-101H)



Closed chamber

Chamber volume : 4 m<sup>3</sup>  
Catalyst volume : 2,103 cm<sup>3</sup> (= 14.5 cm x 14.5 cm x 10.0 cm)  
H<sub>2</sub>O<sub>2</sub> vaporization at hot plate



H<sub>2</sub>O<sub>2</sub> vapor analyzer  
(RM09-1000m, Interscan)



H<sub>2</sub>O<sub>2</sub> vaporization



# H<sub>2</sub>O<sub>2</sub> Vapor Decomposition Test at Chamber

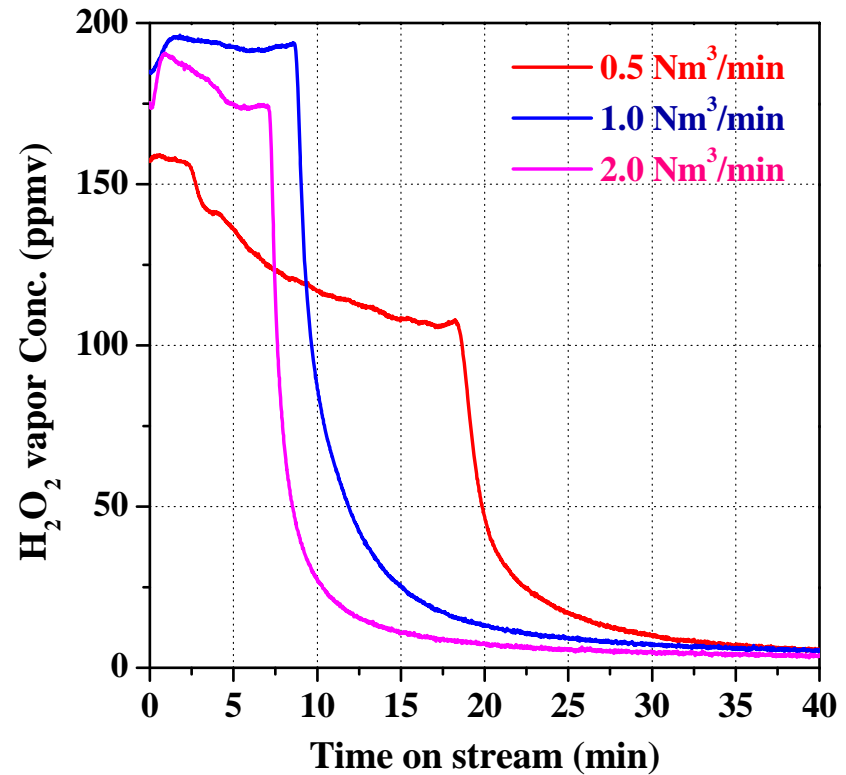


## Test result

### Test condition

Subject	Content
Catalyst	Purelyst MD-101H
Shape	Honeycomb
Volume	2,103 cm <sup>3</sup> (= 14.5 cm × 14.5 cm × 10.0 cm)
Cell density	200 cells/in <sup>2</sup>
H <sub>2</sub> O <sub>2</sub> (l) flow	30 ml/min (34.5 wt%)

\* H<sub>2</sub>O<sub>2</sub> vapor Conc. by analyzer : 150~200 ppmv



Effect of flow rate on H<sub>2</sub>O<sub>2</sub> vapor decomposition

### Test result

Flow rate of fan	Time to reach each H <sub>2</sub> O <sub>2</sub> vapor concentration (min)				
	100 ppmv	50 ppmv	10 ppmv	5 ppmv	1 ppmv
0.5 Nm <sup>3</sup> /min	18.7	19.9	29.7	40.9	-
1.0 Nm <sup>3</sup> /min	18.7	11.9	23.1	38.6	-
2.0 Nm <sup>3</sup> /min	7.6	8.5	16.0	25.4	103.2