

(19)
(12)(KR)
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(24)2003 05 12
10-0383307
2003 04 25(21) 10-2000-0005992
(22) 2000 02 09(65) 2001-0103142
(43) 2001 11 23

(73)

134

(72)

105

407 204

925 7

721 1408

(74)

:

(54)

, (3) 가 (1) 가 (2) 가 (5)
) , 가 가 (7)
 . / 가 .

5a

, , , ,

1
 2 (a)~(d) 1 /

- 2 -

h : (Convective heat transfer coefficient)
d : (jet diameter)
k : (thermal conductivity) , (sherwood number)=Sh

$$Sh = \frac{h_m d}{D_{naph}}$$

hm : (convective-dimensionalized number)
d :
Dnaph: (naphthalene vapo diffusivity in air) .

$$\left(\frac{Nu}{Sh}\right) = \left(\frac{Pr}{Sc}\right)^n$$

Sc, Pr, (schmidt number), n,

가 .

가 . /

가

2(a) $x/d=0.0$ (H/d=4) 2(b) H/d=2 2(c) (H/d=10) 2(d) (H/d=0.5)

가 . $y/d=0, x/d=0, 6, 12, 18, 24$. $y/d=3$
/

3 H/d / 가 . H/d . H/d가 2 . H/d가

가
가
가
가
가

(5) , 4 (1) (4) (5) 가

(2) (5) , (2) d ,

(2) (2) S/d 3~10,

(4) (3) H/d 0.5~10,

(5) (de/d) 1~3(de ,),

(3) (5) (Hm/d) 0.5~9 ,

(2) - (in-line) (staggered) 5 (a) (2) (4)

(3) (b) (5) (7) (7)

(5)가 (8)

가 가 2 3

가 /

(5) 6 6 (H/d=0.5~1.5)

가 (2) (3)

(1) (3) (2)

(re-entrainment) 가 (1) (5) 가 (2)

(2) (3) 가 5 (a)(b) (5) 가 (7)

가 (3) 가 (7) (8)

(6) 7 y/d=3.0 (3) , (a) , (b) (H

m/d=1.0) ((7) (3) 가 (H

(5) (1) (3) 가

(5) 가 가

8 (a)(b) (Hm/d=1.0) , z/d=0.1

가 , z/d=0.1 1mm

8(a) 8(b) (5) 가 (5) 가

7 8 , (5)

9(a)(b) 10 (a)(b) /

(5) /

11 Sh Sh Hm (3)

.0 (Hm/d=1.5) . H/d=1.5 (5) . Hm/d=1

(5) (Hm/d=0.5, (3)

(12(b), x/d=±3.0) (5)

12 (5)가 H/d=1.5, 2.0

(5)가 (Hm/d=0.5) / H/d=1.0

가 가 H/d=1.5 2.0 Hm/d=0.5

(5) 13.25% 5.08% /

H/d=1.5 Hm/d=0.5 H/d=1

가 .

,

/

가

(57)

1.

가

,

가

가

가

,

가

2.

1

,

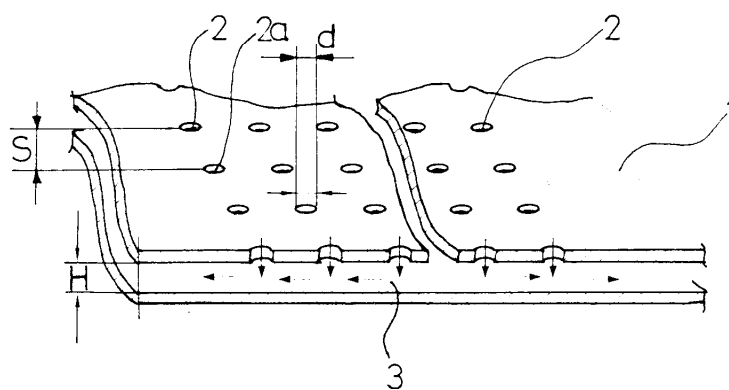
3.

1

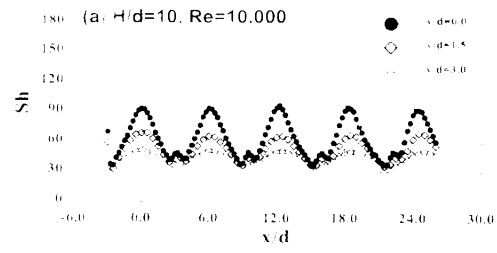
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가

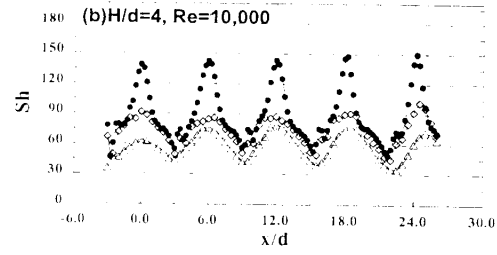
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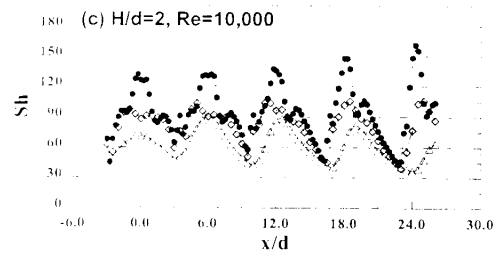
2a



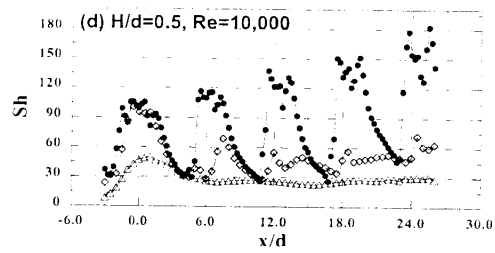
2b



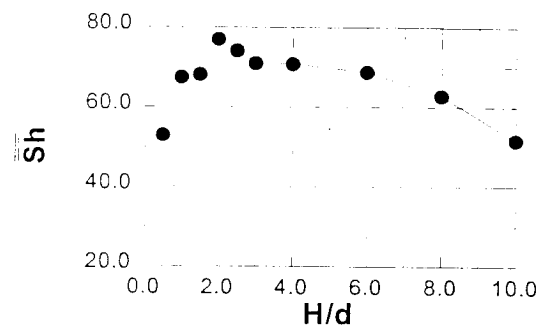
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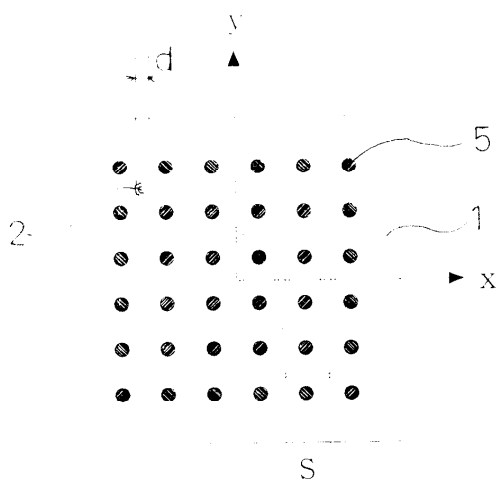
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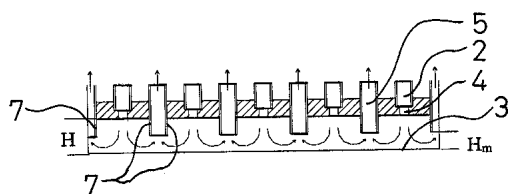
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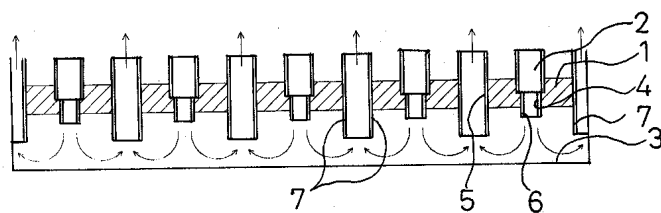
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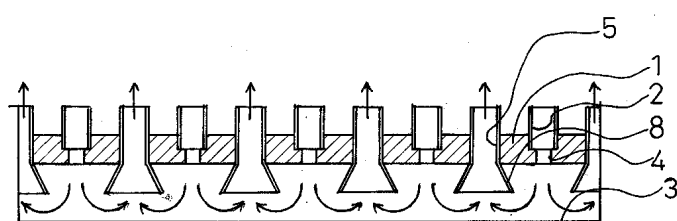
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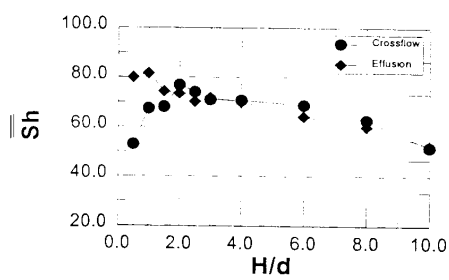
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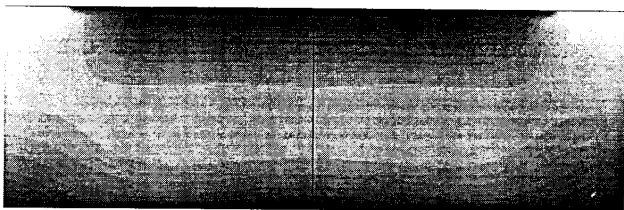
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6

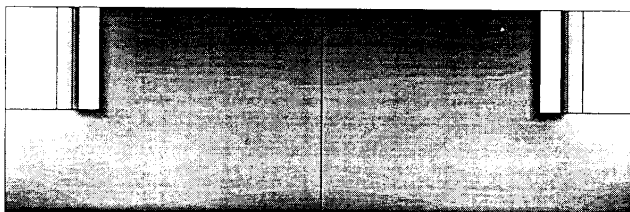


7a



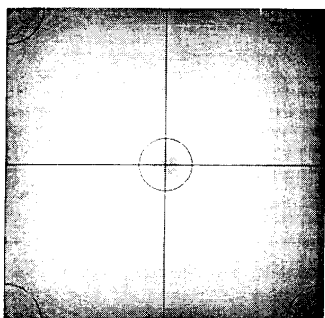
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9.67
9.33
9.00
8.67
8.33
8.00
7.67
7.33
7.00
6.67
6.33
6.00

7b



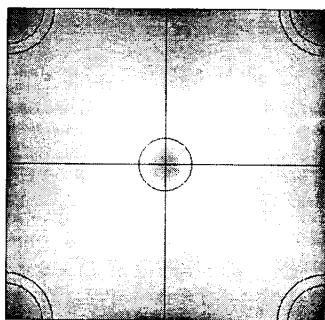
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3.67
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3.00
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2.33
2.00
1.67
1.33
1.00
6.67
3.33
0.00

8a

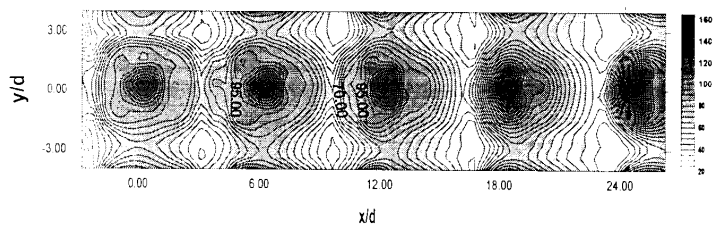


1.00
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9.67
10.00

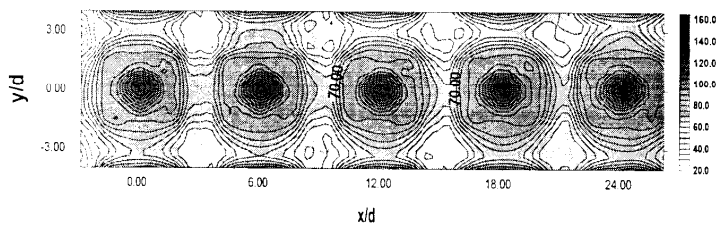
8b



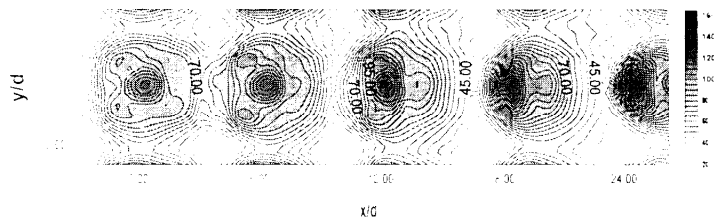
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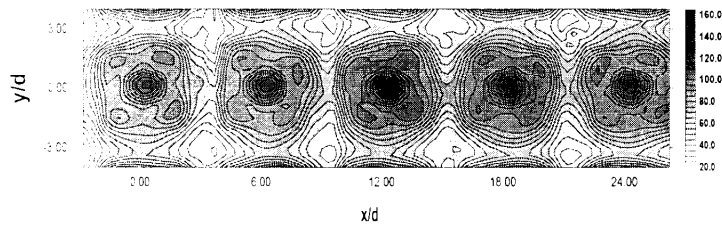
9b



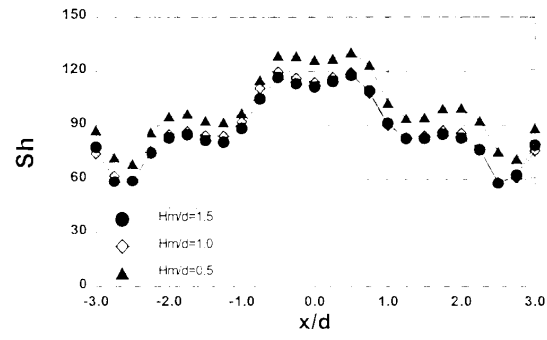
10a



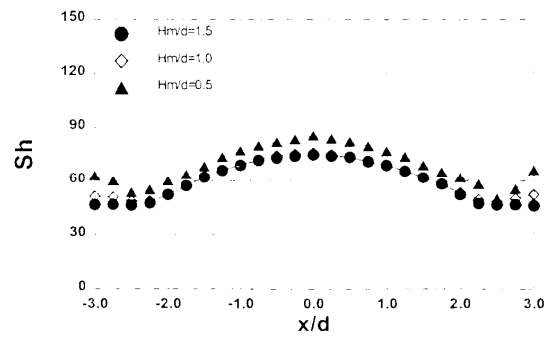
10b



11a

(a) $y/d=0.0$

11b

(b) $y/d=3.0$

