

(19)
(12)(KR)
(A)(51) 。 Int. Cl. ⁷
F25B 27/00(11)
(43)2001 - 0103142
2001 11 23(21) 10 - 2000 - 0005992
(22) 2000 02 09(71) 2 301 207
27 - 10 102(72) 2 301 207
27 - 10 102

(74)

:

(54)

5) , (3) 가 (1) 가 (2) (7) (

, / 가 .

5a

, , , ,

- 1
- 2 (a)~(d) 1 /
- 3 /
- 4 (a) (b)
- 5 (a)
, (b)
- 6 /
- 7 (a) (b)
- 8 (a) (b)
- 9 10 / , (a) ,
(b)
- 11 / , (a) $H/d = 1.5$
, (b) . (Hm/d)
- 12 - /

*

*

1: 2:

3: 4:

5:() 6:

7: 8:

impingement jets) . , 가 . (Arrays of i

, , , .

, 가 / 가 , 가 .

(2a) (S), 1 (1) (2) (3) (1) (3) (H) .

가 / 가 .

Ids number), (Prandtl number), (Non - dimensionalized number) (Reyno (Nusselt number) .

$$Nu = \frac{hd}{k} \quad \text{(Heat transfer coefficient)} \quad = Nu$$

h : (Convective heat transfer coefficient)

d : (jet diameter)

k : (thermal conductivity) ,

(sherwood number) = Sh

$$Sh = \frac{h_s d}{D_s}$$

hm : (convective - dimensionalized number)

d :

D_{naph} : (naphthalene vapo diffusivity in air) .

, ,

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

Pr , ,

Sc , (schmidt number) ,

n , .

가 .

/ 가

가 가 .

가 . 2 가

/ 가

2(a) $x/d=0.0$ 가 / .

(H/d=4) 2(b) H/d=2 (H/d=10) 2(c) / 가

, 2(d) (H/d=0.5)

가 .

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

3 H/d / . H/d . H/d가

가 H/d가 2

/ / .

가 , 가 , 가

가
/

4 12

4 (3) /

(1) (4) (5) (2)

(3)

(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)

(3) 5 (a) (2) (4)

(6) 가 (2)

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

(8)

(5)

가 가 2 3

가 /

/ /

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

/ 6 /

가 (2) (3)

/

(1) (3)

(re - entrainment) 가 (1) (5) (2)

/ (5) 가 (5)

5 (a)(b) (5) 가 (7)

(2) (3) 가 가

/ 가 (7) (8) 가
가 , (2) (6)
(3) 가 .

7 $y/d=3.0$, (a) , (b) (
 $Hm/d=1.0$) ((7) (3) 가 (
). (5) (1) (3) 가 .
(5) 가 가 가 .

8 (a) (b) ($Hm/d=1.0$) , $z/d=0.1$ 가
 , $z/d=0.1$ 1mm . (5) 8(
a) 8(b) (5) 가 , (3) 가
가 .

7 8 , (5)
/

9(a) (b) 10 (a) (b) /
(5) / .

11 Sh Sh . Hm (3) Hm
(5) . $H/d=1.5$ (5) . $Hm/d=1.0$ (Hm
 $/d=1.5$) $Hm/d=0.5$, (3)
(5) (12(b), $x/d=\pm 3.0$)
가 (5) .

12 (5) $H/d=1.5, 2.0$ (5)
($Hm/d=0.5$) /
가 가
5) $H/d=1.5$ $Hm/d=0.5$ 13.25% 5.08% / $H/d=1$ (
 $/d=1.5$ $Hm/d=0.5$ $H/d=1.5$ 2.0 $Hm/d=0.5$. H
가 .

, / 가 .

(57)

1.

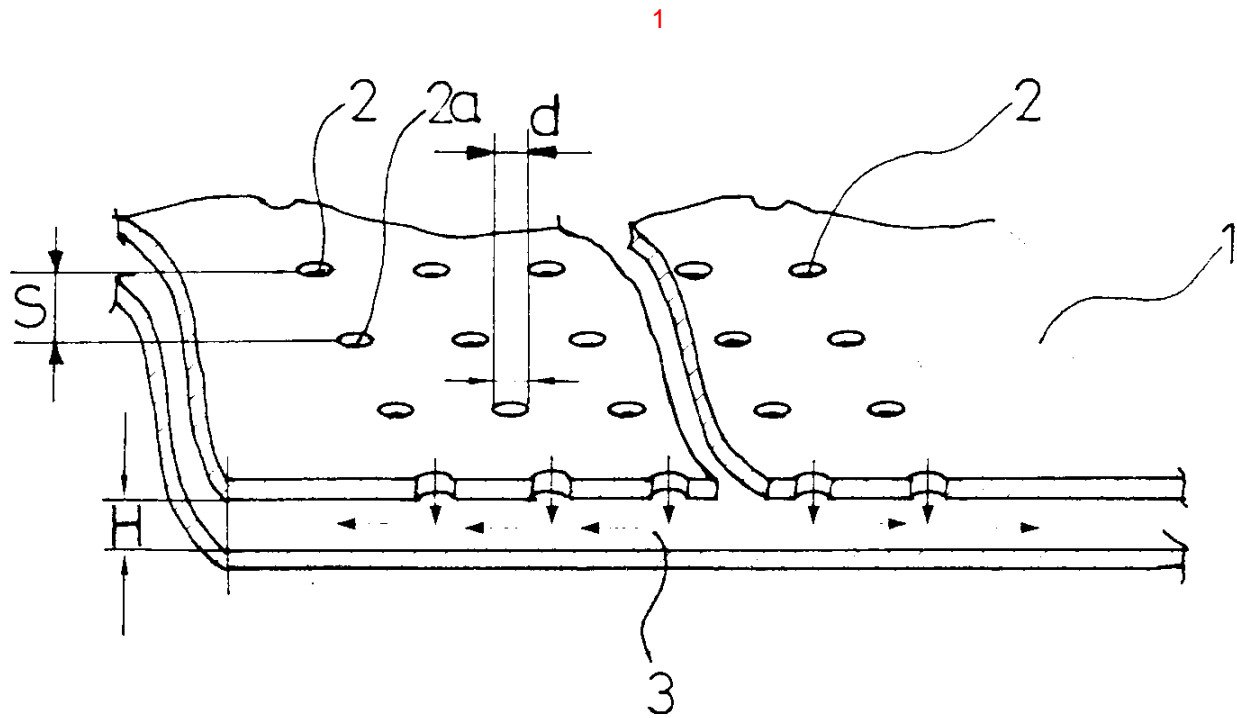
가 , ,
가 가 가 ,
가 가 가 ,
가 .

2.

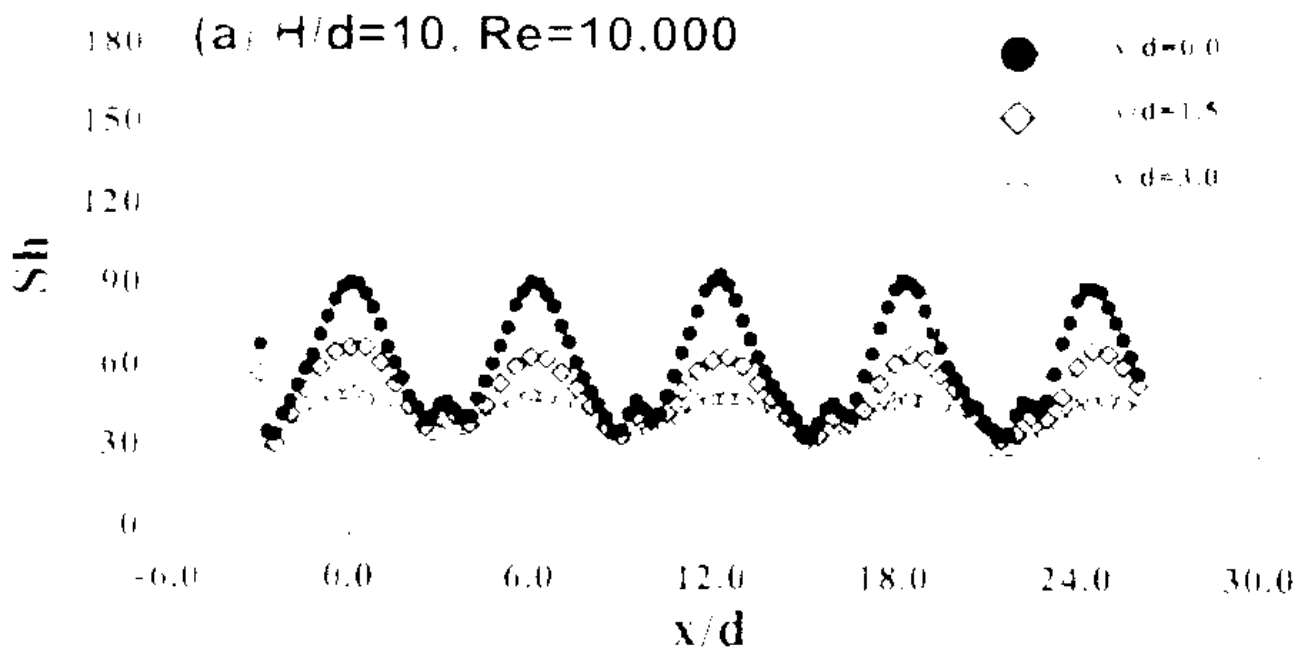
1 , .

3.

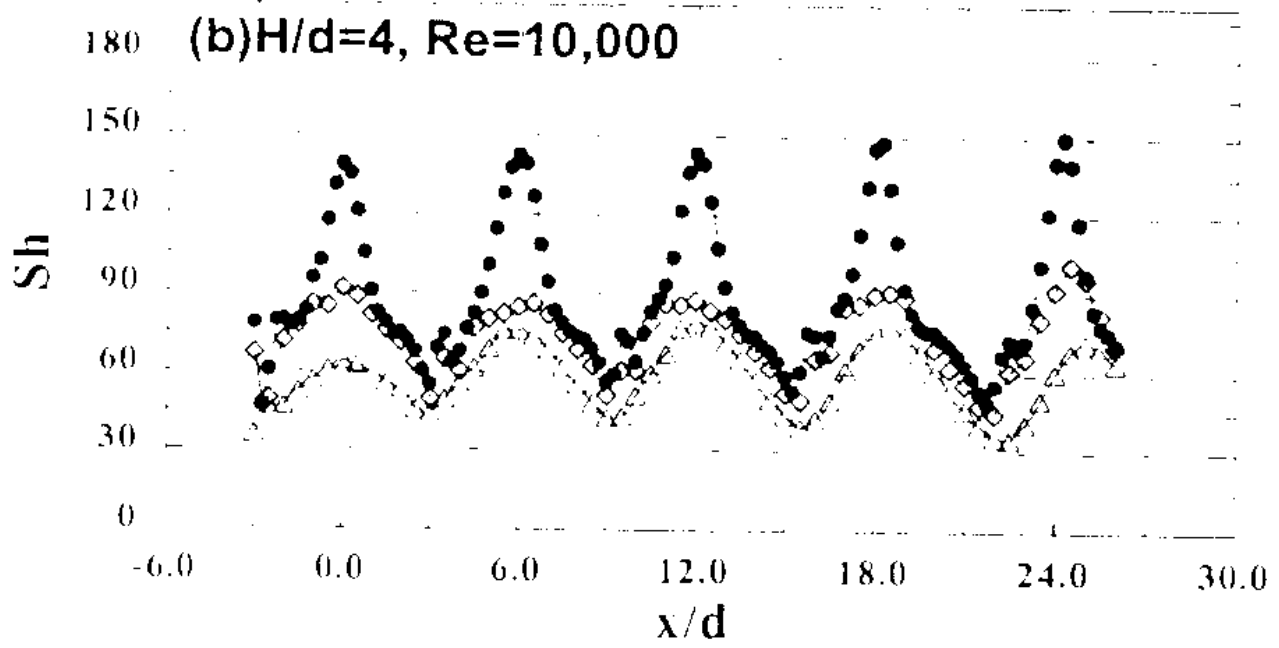
1 ,
가 .



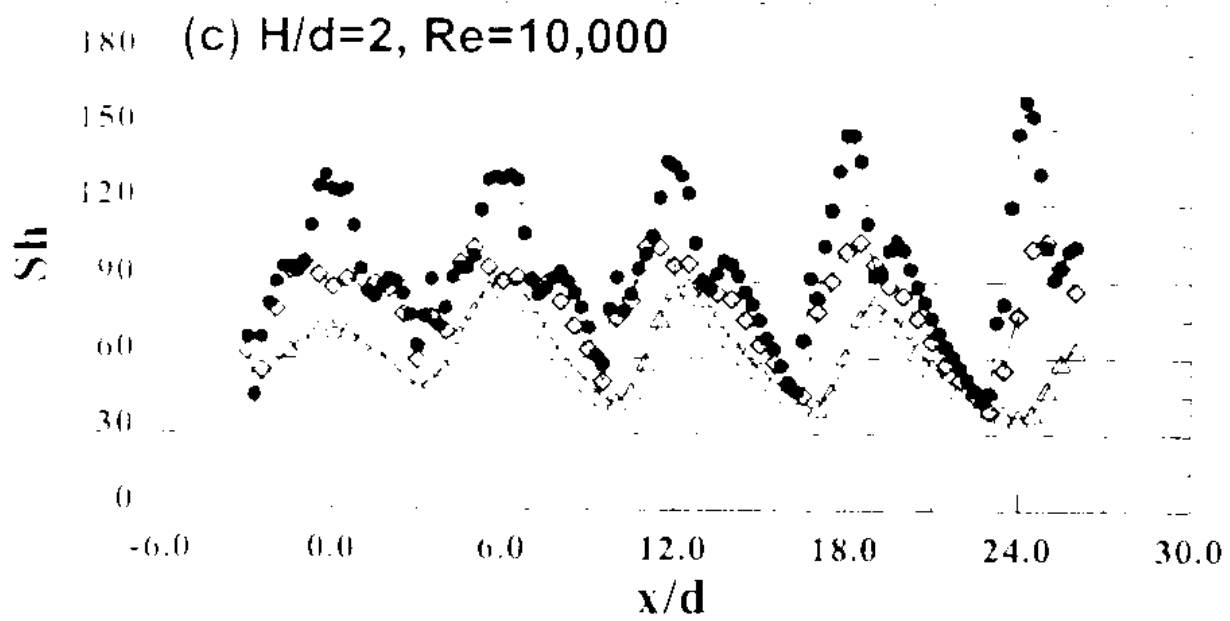
2a



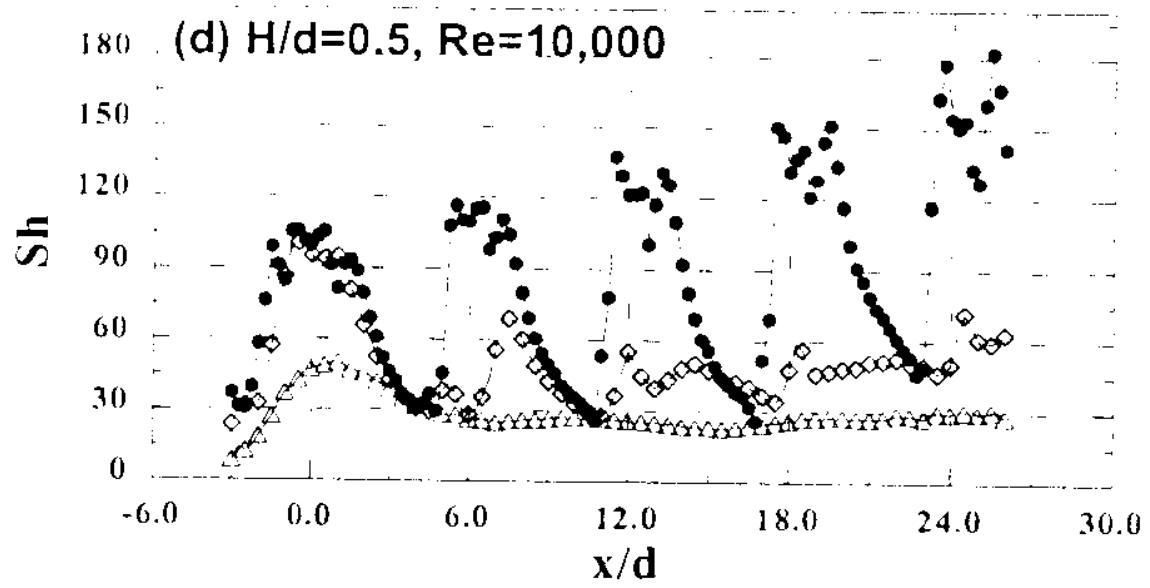
2b



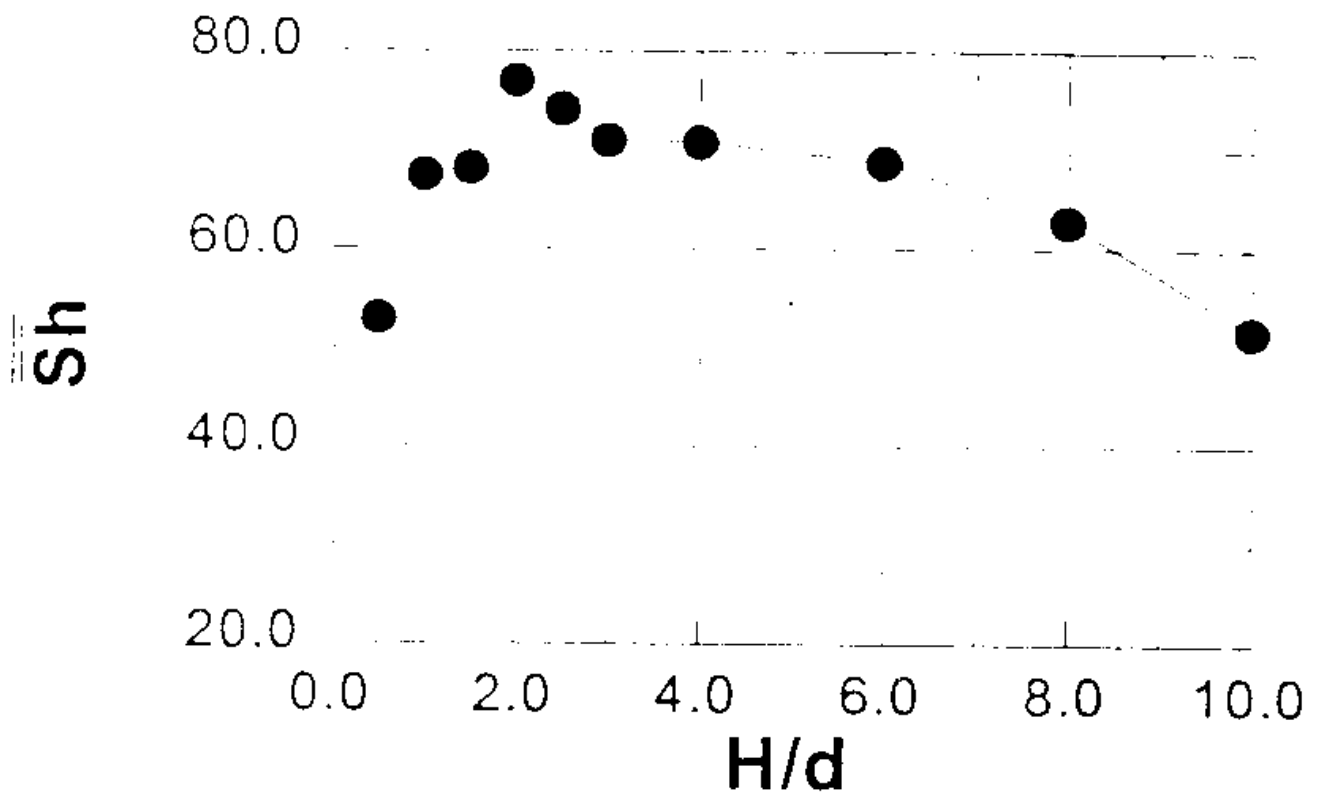
2c



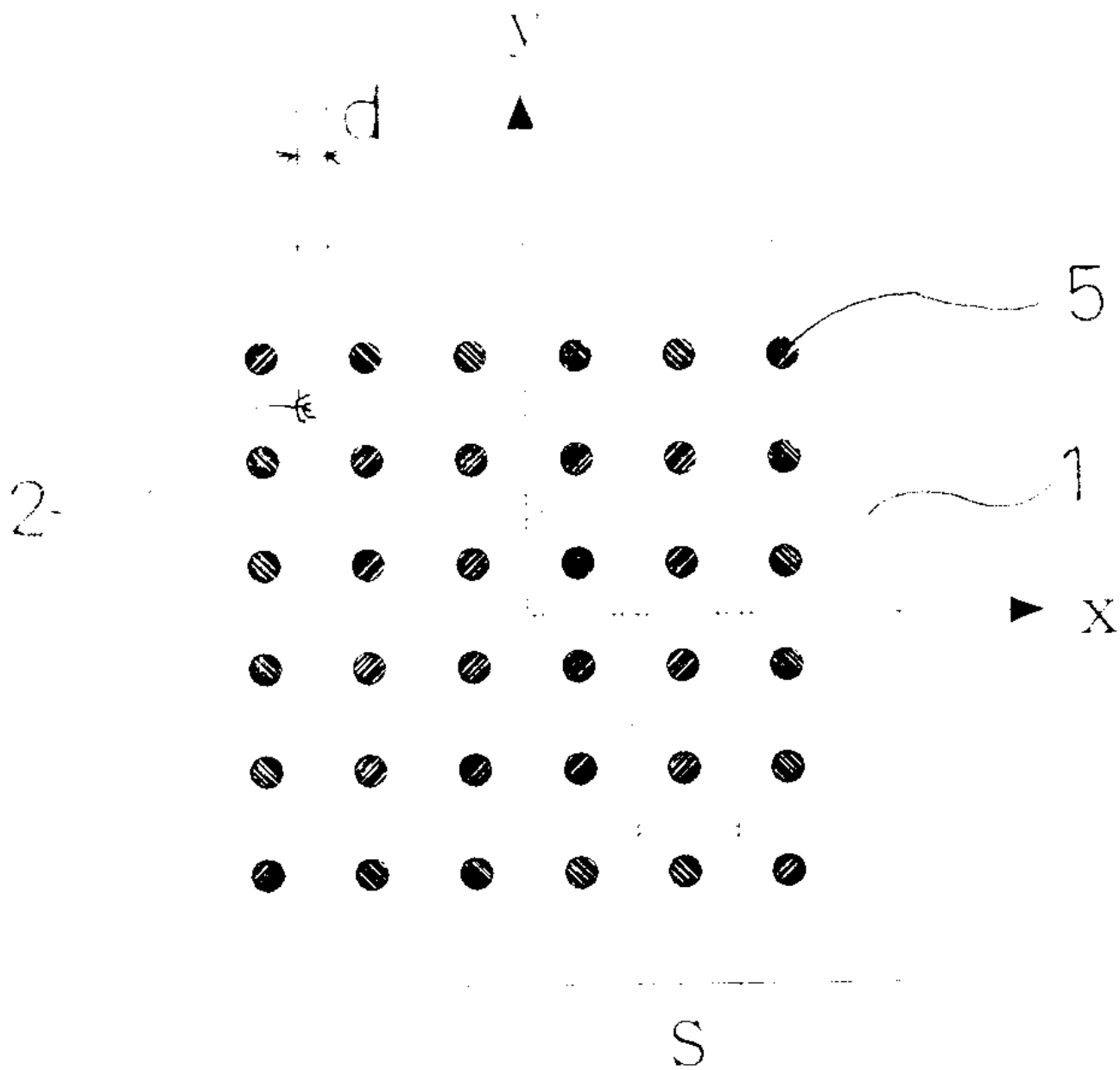
2d



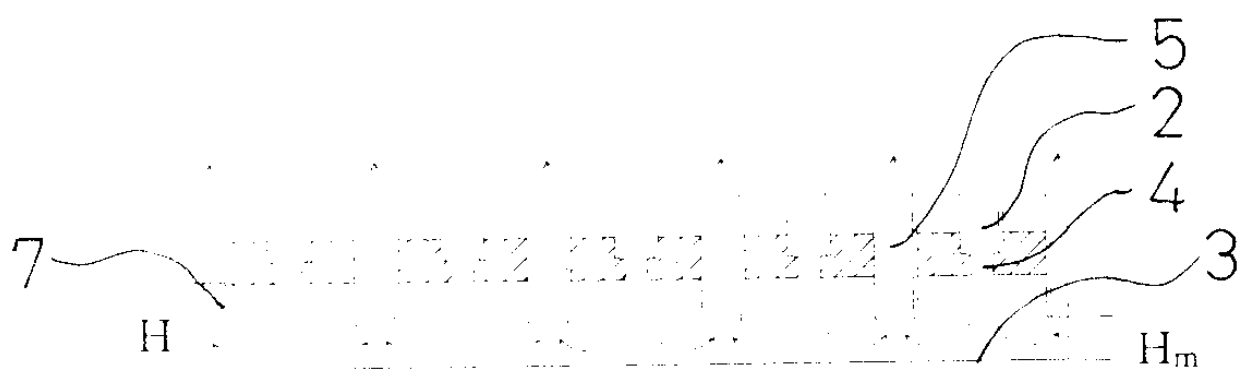
3



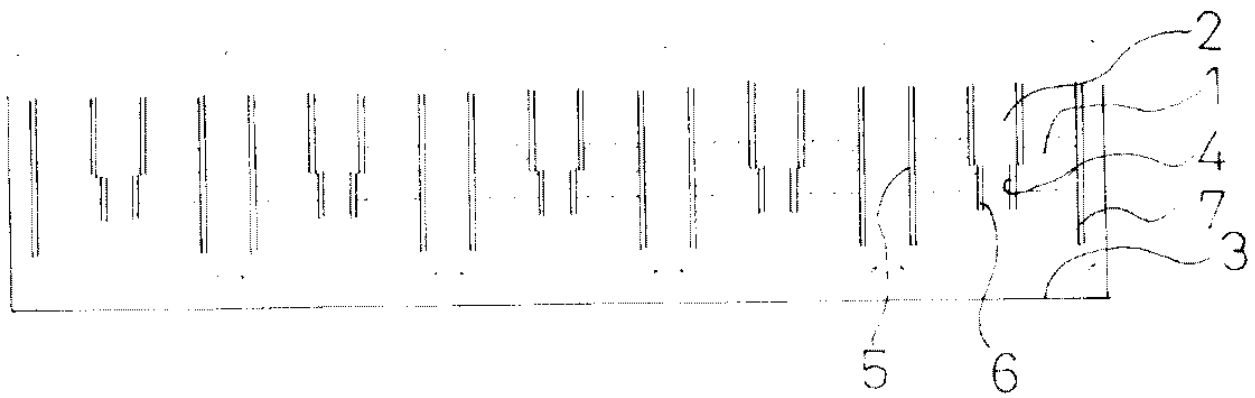
4a



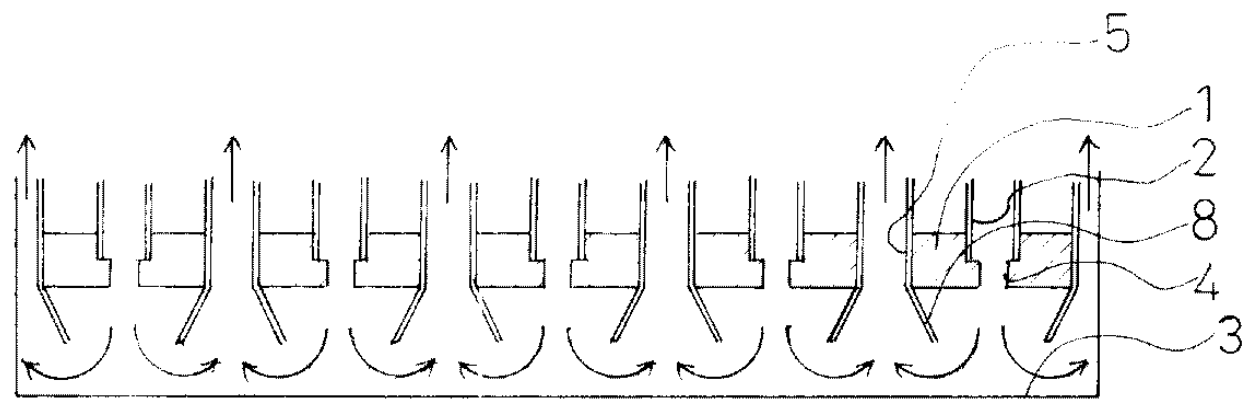
4b



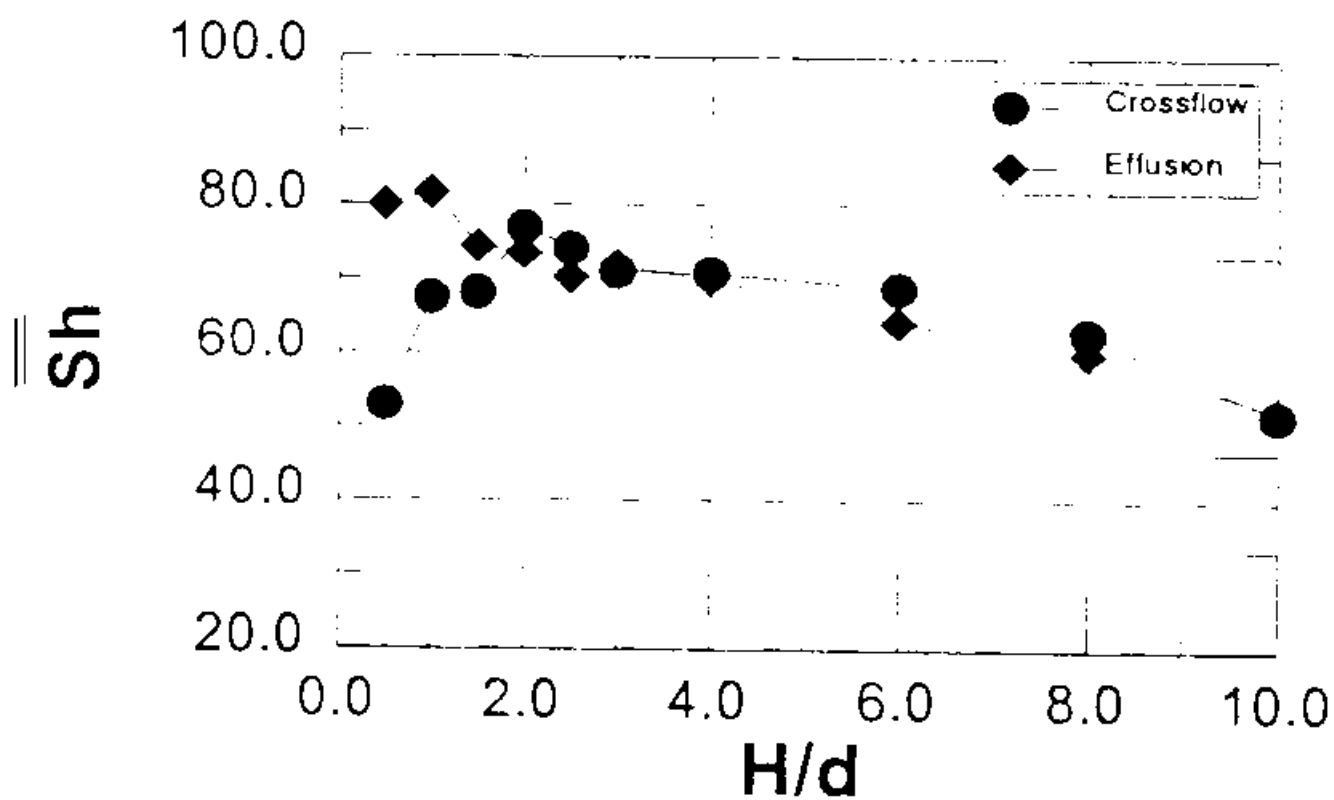
5a



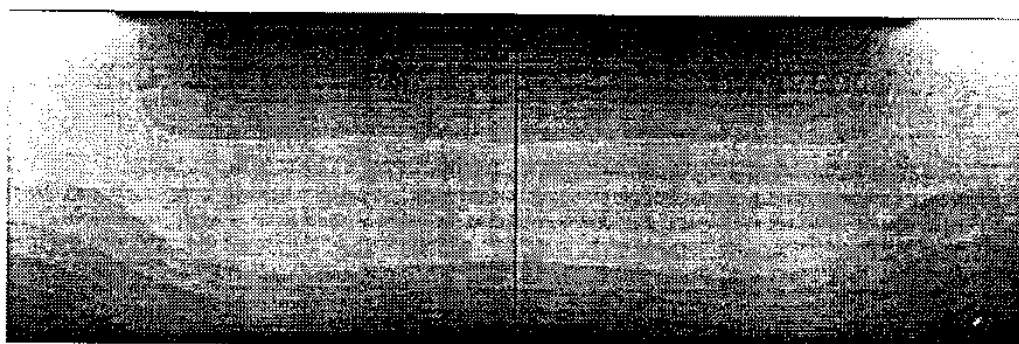
5b



6

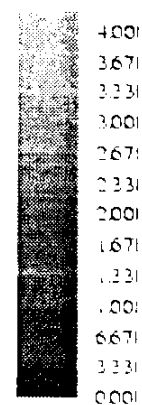
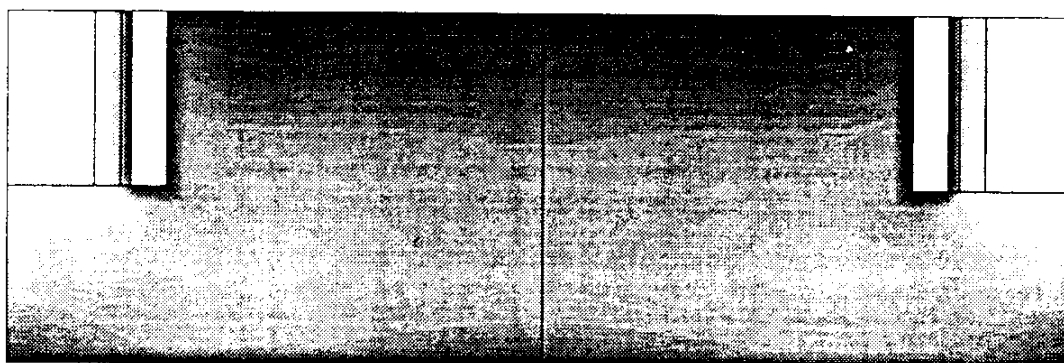


7a

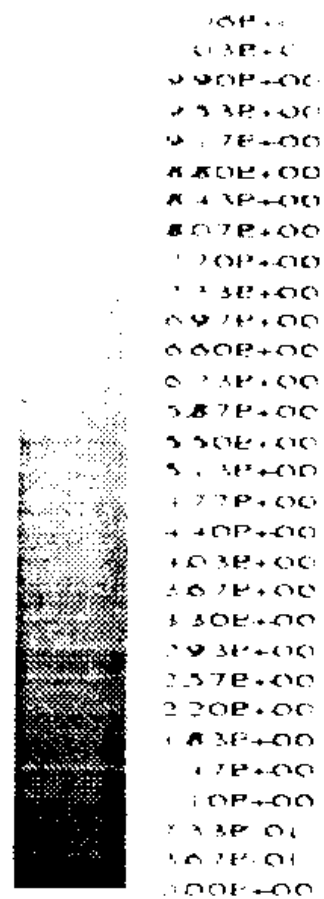
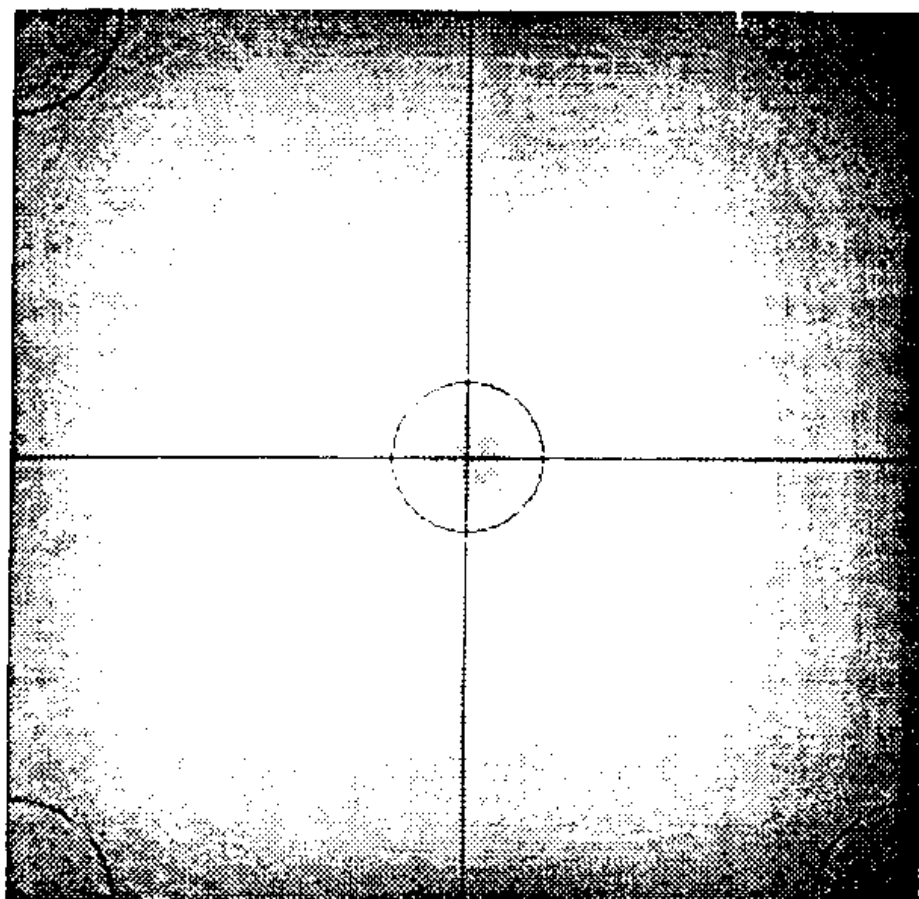


1.001
9.671
9.231
9.001
8.671
8.331
8.001
7.671
7.331
7.001
6.671
6.331
6.001

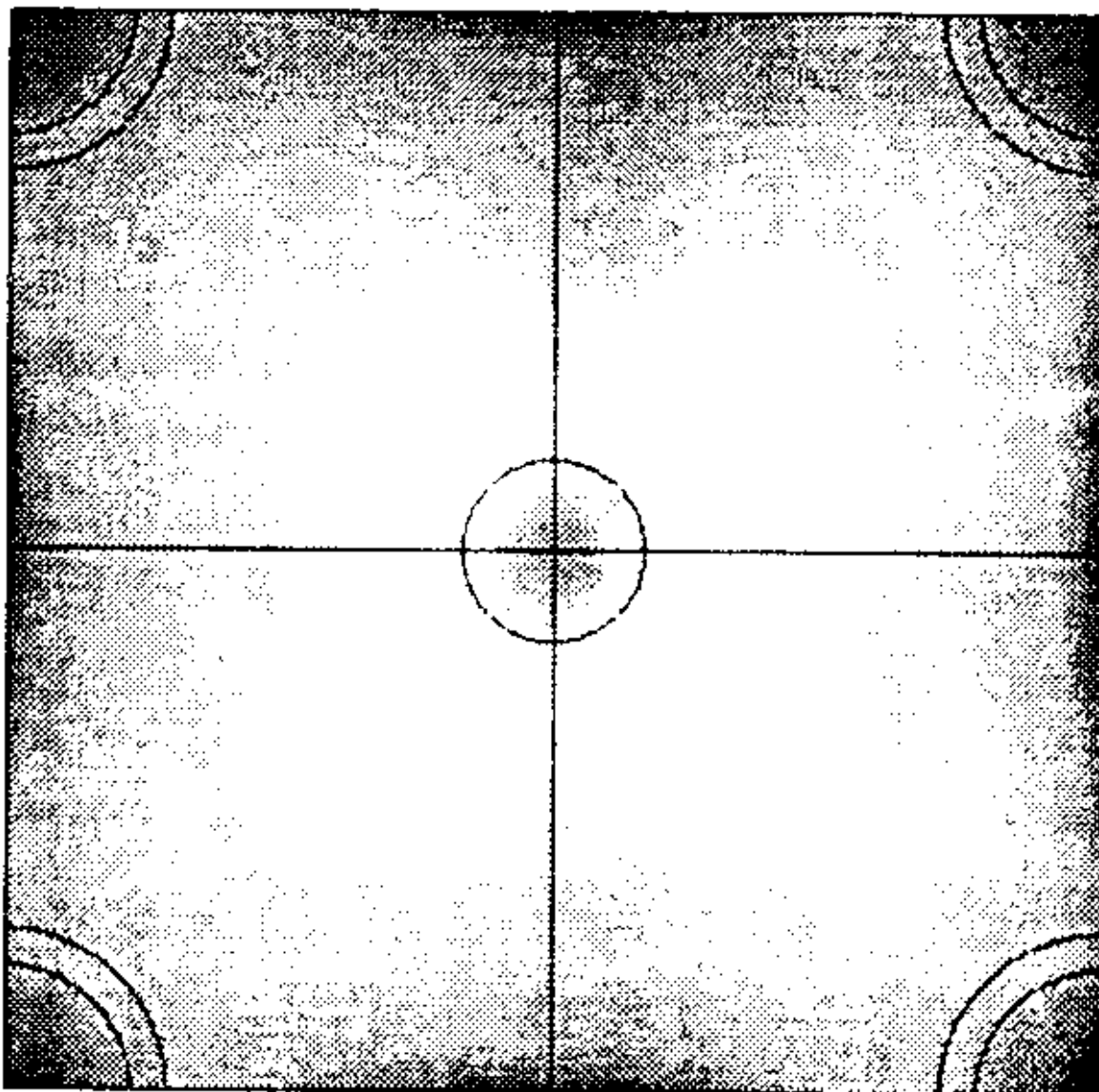
7b



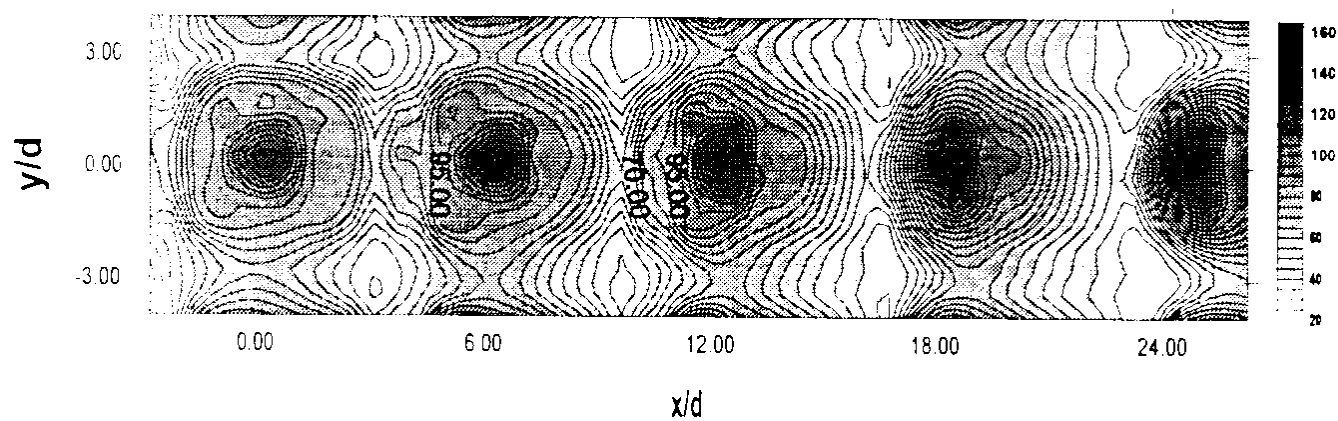
8a



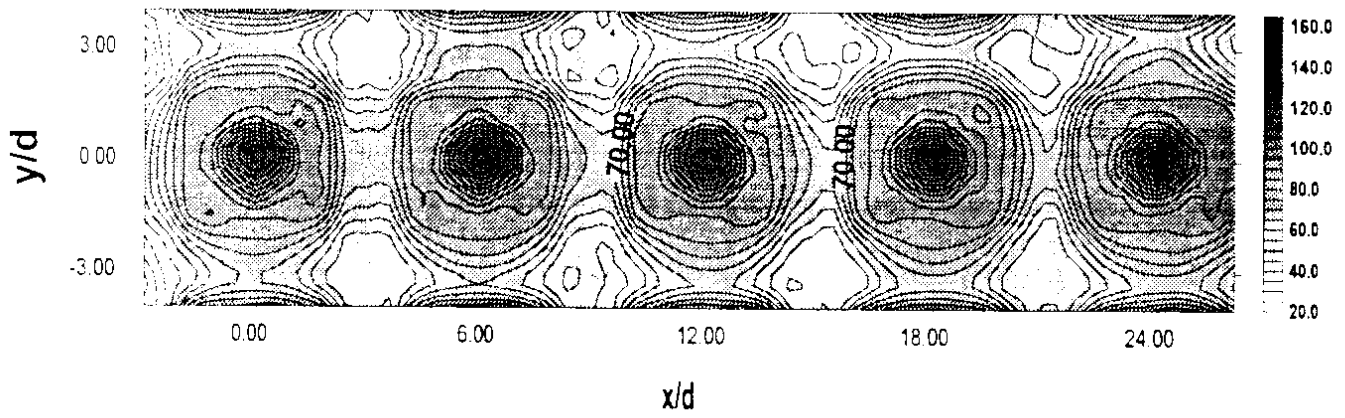
8b



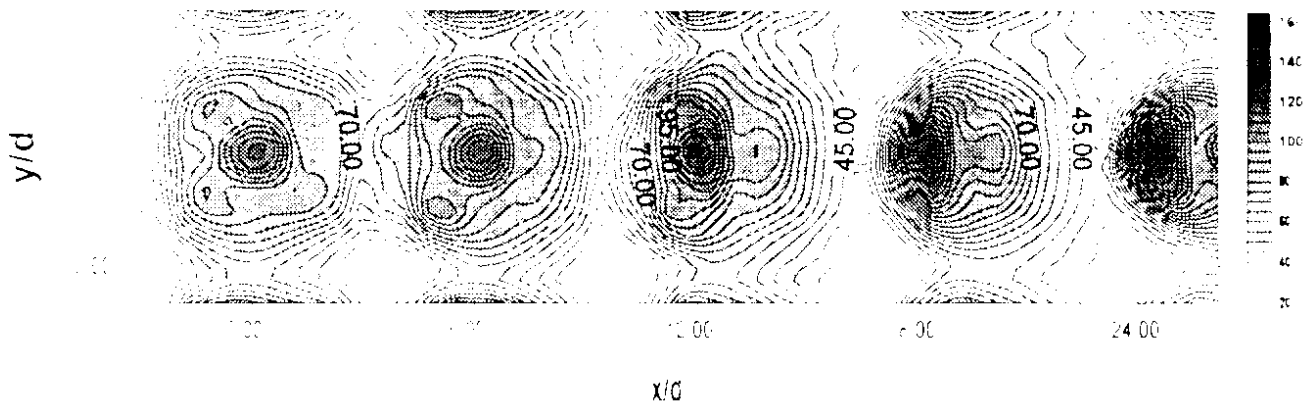
9a



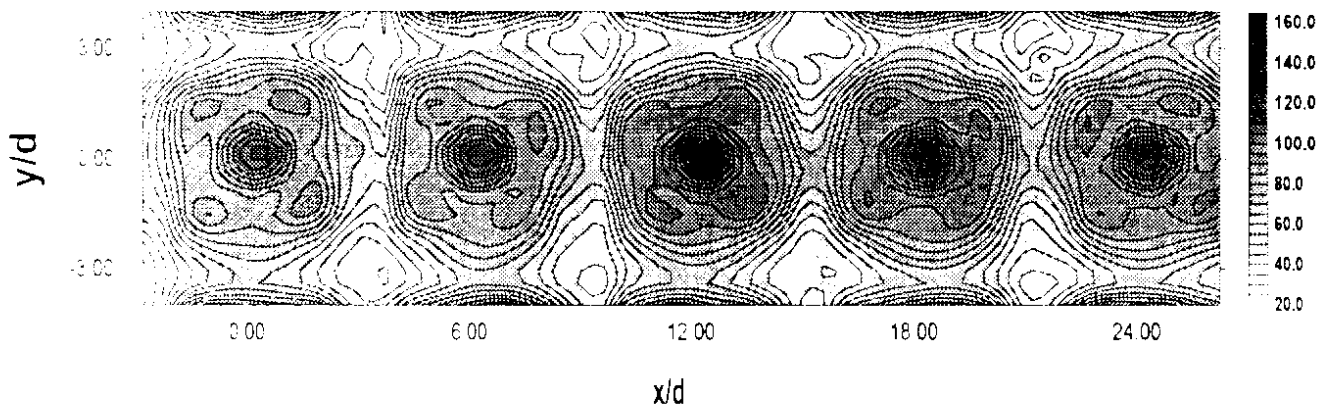
9b



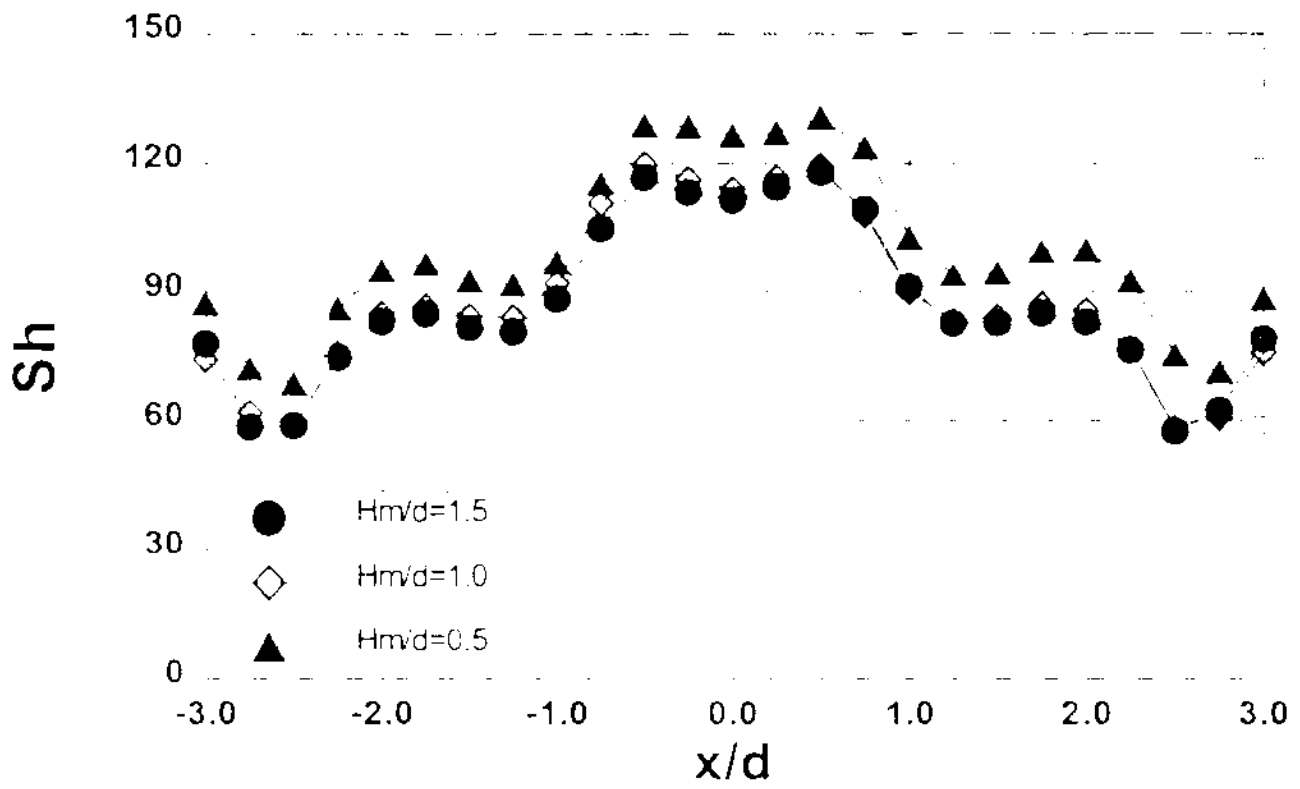
10a



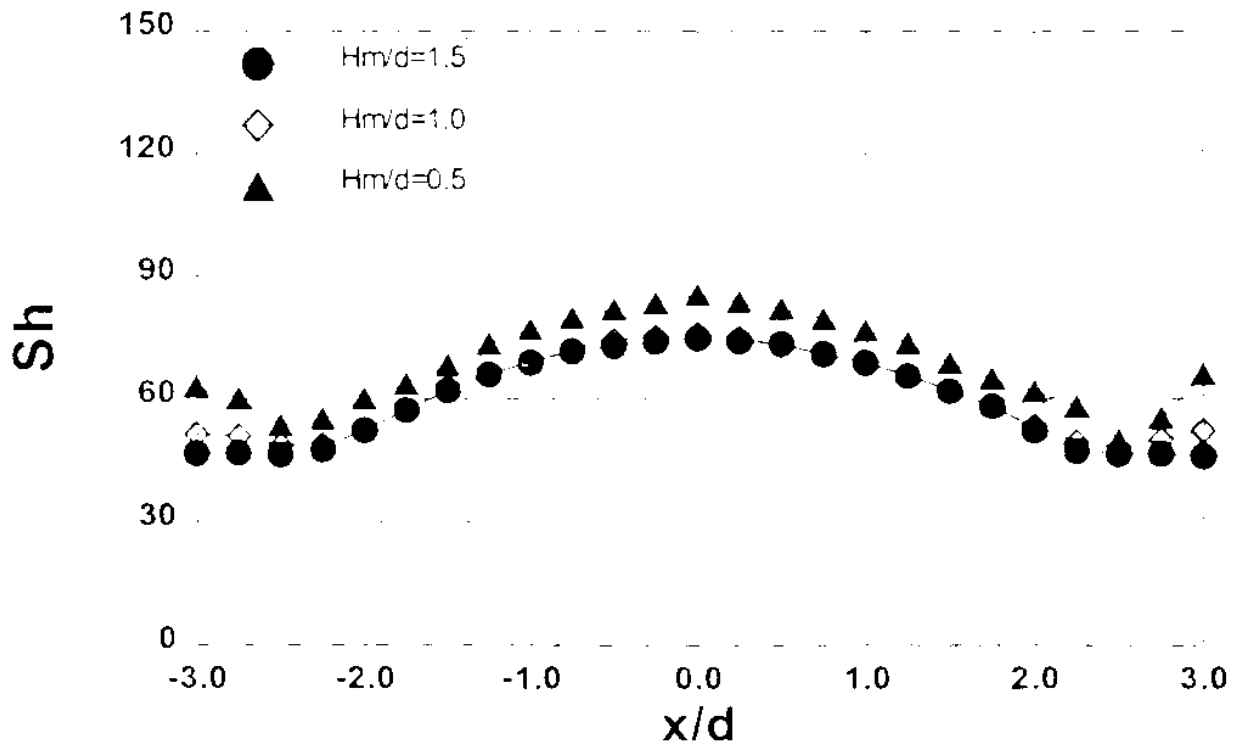
10b



11a

(a) $y/d=0.0$

11b

(b) $y/d=3.0$

12

