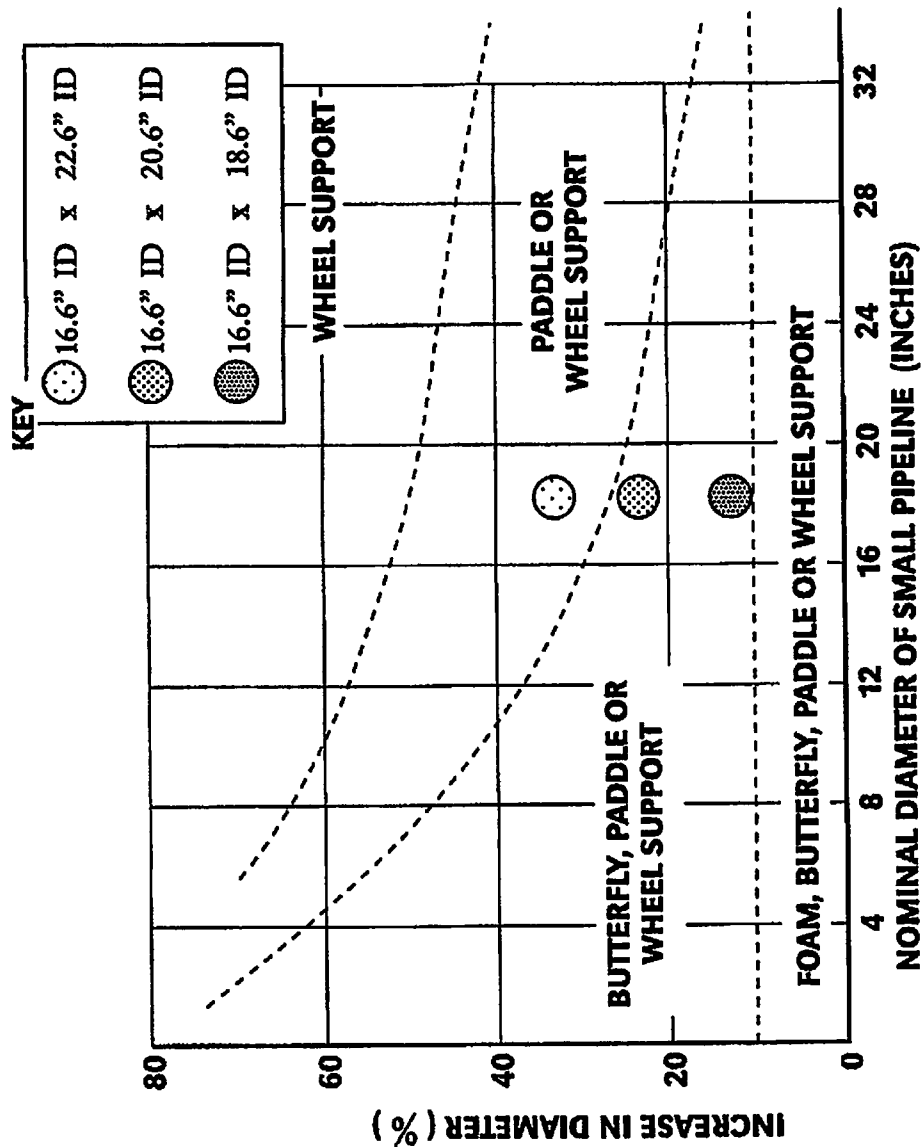




**Fig. 1**  
(PRIOR ART)

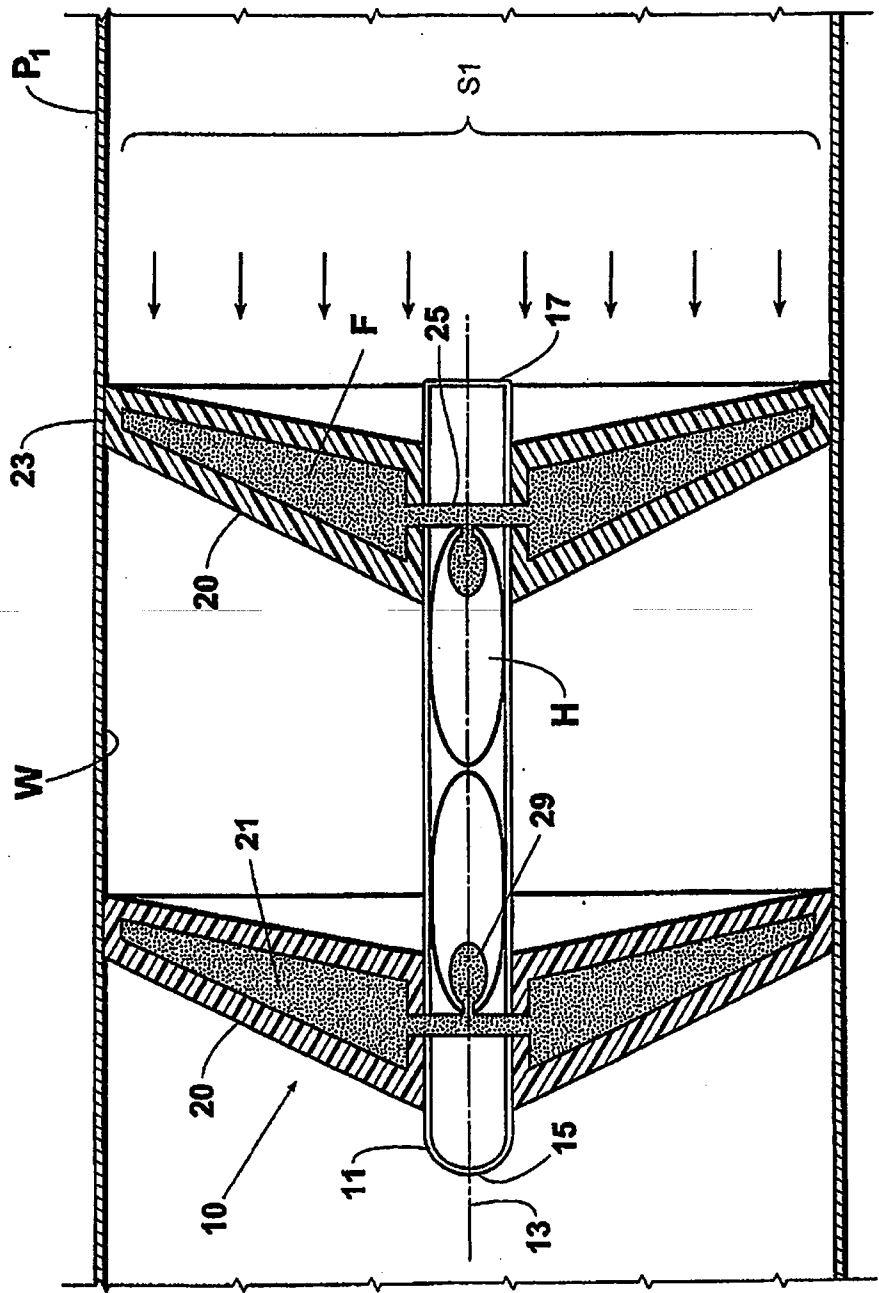


Fig. 2

+

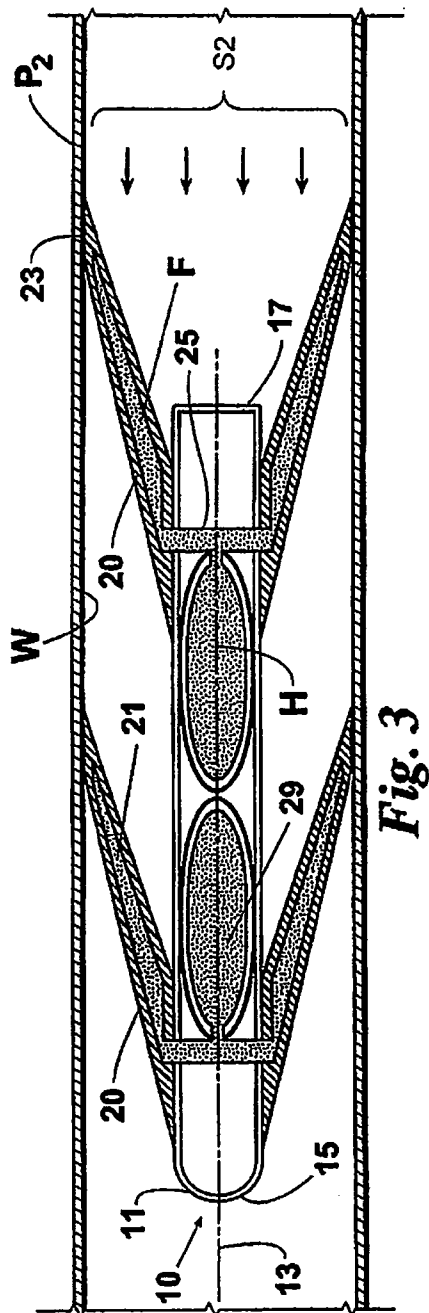


Fig. 3

3/6

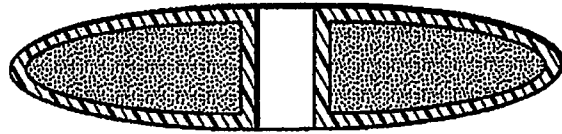


Fig. 6A

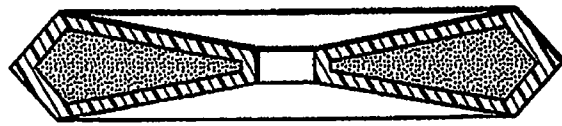


Fig. 6B

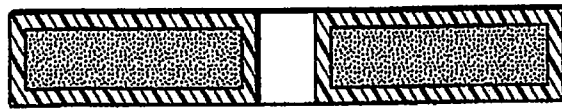


Fig. 6C

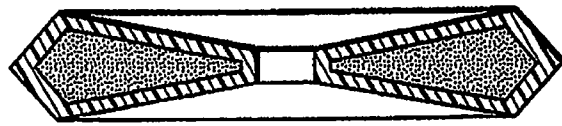


Fig. 6D

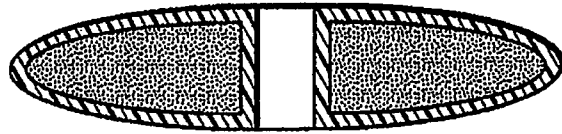
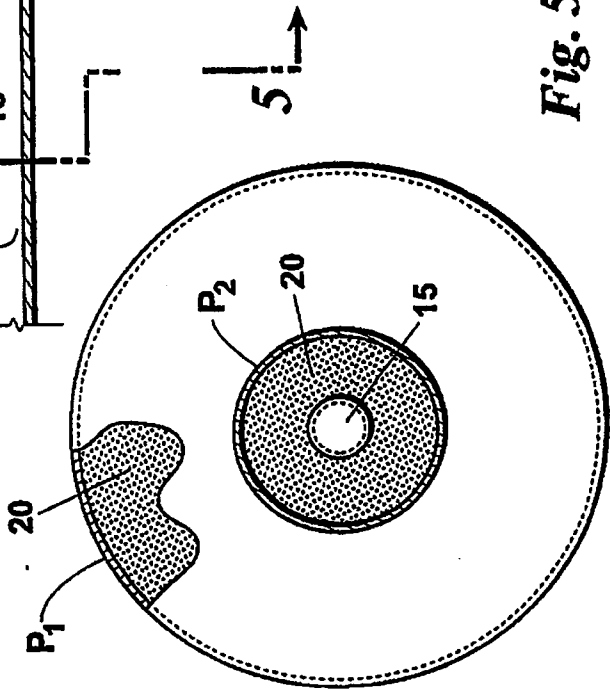
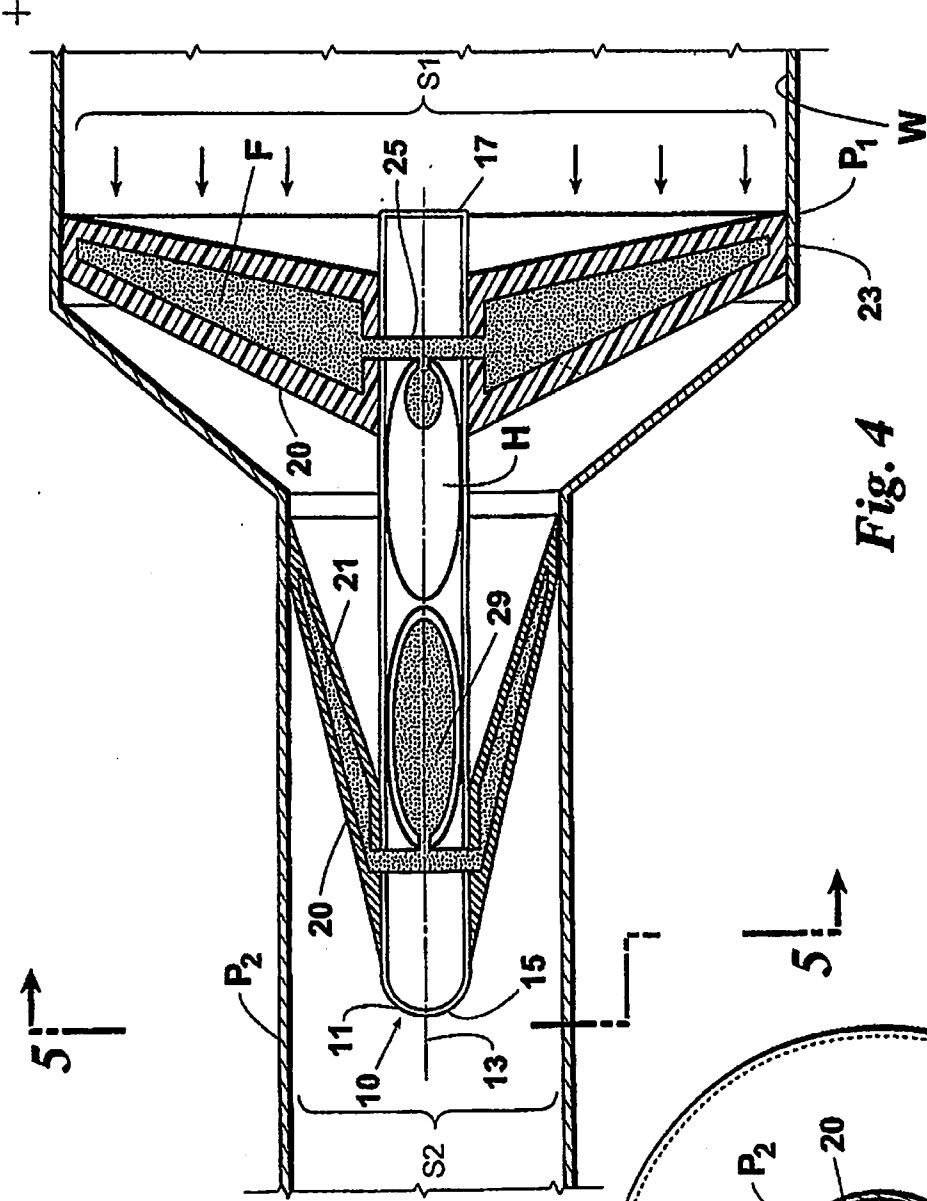
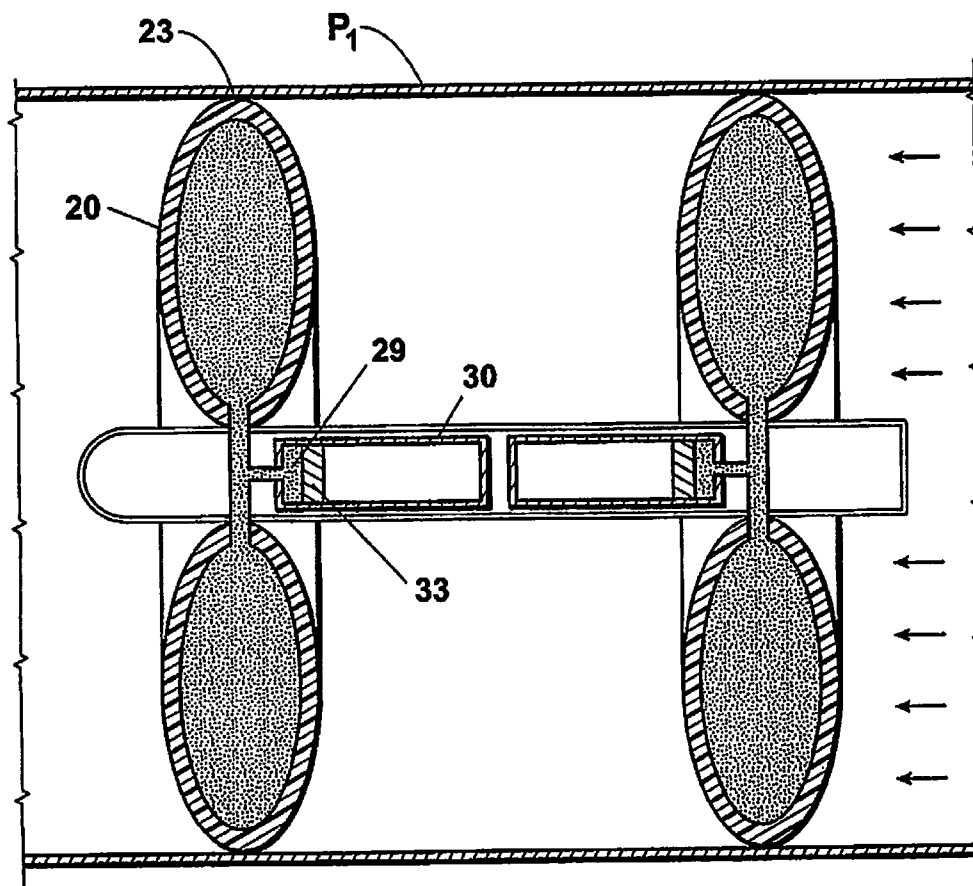
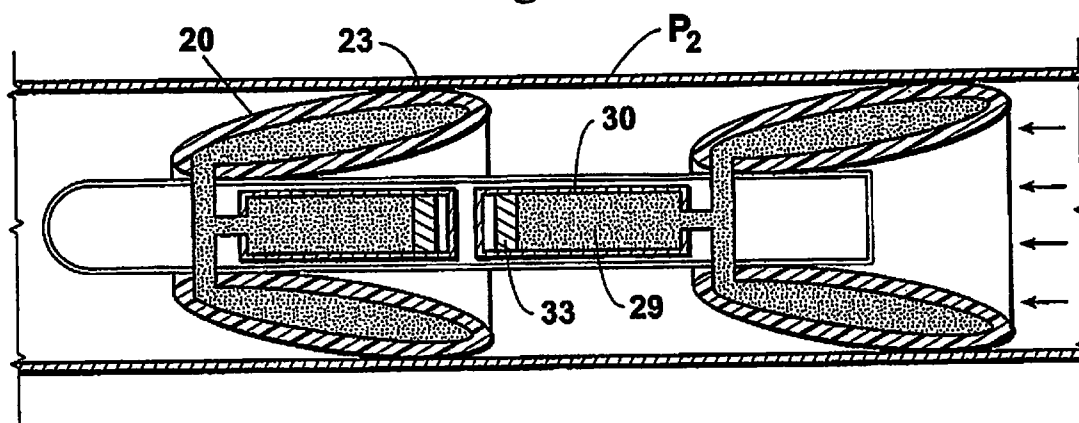


Fig. 6E

+



5/6

*Fig. 7**Fig. 8*

| TO PIPE SIZE (mm)   |      | 50   | 80   | 100  | 150  | 200  | 250  | 300  | 350  | 400  | 450  | 500   | 550   | 600   | 650   | 700   | 750   | 800   | 1000  | 1050  |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FROM PIPE SIZE (mm) | 50   | 1.00 | 1.60 | 2.00 | 3.00 | 4.00 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 20.00 | 21.00 |
|                     | 80   | 0.63 | 1.00 | 1.25 | 1.80 | 2.50 | 3.15 | 3.75 | 4.38 | 5.00 | 5.63 | 6.25  | 6.88  | 7.50  | 8.13  | 8.75  | 9.38  | 10.00 | 12.50 | 13.13 |
|                     | 100  | 0.50 | 0.80 | 1.00 | 1.50 | 2.00 | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00  | 5.50  | 6.00  | 6.50  | 7.00  | 7.50  | 8.00  | 10.00 | 10.50 |
|                     | 150  | 0.33 | 0.53 | 0.67 | 1.00 | 1.33 | 1.67 | 2.00 | 2.33 | 2.67 | 3.00 | 3.33  | 3.67  | 4.00  | 4.33  | 4.67  | 5.00  | 5.33  | 6.67  | 7.00  |
|                     | 200  | 0.25 | 0.40 | 0.50 | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 | 2.25 | 2.50  | 2.75  | 3.00  | 3.25  | 3.50  | 3.75  | 4.00  | 5.00  | 5.25  |
|                     | 250  | 0.20 | 0.32 | 0.40 | 0.60 | 0.80 | 1.00 | 1.20 | 1.40 | 1.60 | 1.80 | 2.00  | 2.2   | 2.40  | 2.60  | 2.80  | 3.00  | 3.20  | 4.00  | 4.20  |
|                     | 300  | 0.17 | 0.27 | 0.33 | 0.50 | 0.67 | 0.83 | 1.00 | 1.17 | 1.33 | 1.50 | 1.67  | 1.85  | 2.00  | 2.17  | 2.33  | 2.50  | 2.67  | 3.33  | 3.50  |
|                     | 350  | 0.14 | 0.23 | 0.29 | 0.43 | 0.57 | 0.71 | 0.86 | 1.00 | 1.14 | 1.29 | 1.43  | 1.57  | 1.71  | 1.86  | 2.00  | 2.14  | 2.29  | 2.86  | 3.00  |
|                     | 400  | 0.13 | 0.20 | 0.25 | 0.38 | 0.50 | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 | 1.25  | 1.38  | 1.50  | 1.63  | 1.75  | 1.88  | 2.00  | 2.50  | 2.63  |
|                     | 450  | 0.11 | 0.18 | 0.22 | 0.33 | 0.44 | 0.56 | 0.67 | 0.78 | 0.89 | 1.00 | 1.11  | 1.22  | 1.33  | 1.44  | 1.56  | 1.67  | 1.78  | 2.22  | 2.33  |
|                     | 500  | 0.10 | 0.16 | 0.20 | 0.30 | 0.40 | 0.50 | 0.60 | 0.70 | 0.80 | 0.90 | 1.00  | 1.10  | 1.20  | 1.30  | 1.40  | 1.50  | 1.60  | 2.00  | 2.10  |
|                     | 550  | 0.09 | 0.15 | 0.18 | 0.27 | 0.36 | 0.45 | 0.55 | 0.64 | 0.73 | 0.82 | 0.91  | 1.00  | 1.09  | 1.18  | 1.27  | 1.36  | 1.45  | 1.82  | 1.91  |
|                     | 600  | 0.08 | 0.13 | 0.17 | 0.25 | 0.33 | 0.42 | 0.50 | 0.58 | 0.67 | 0.75 | 0.83  | 0.92  | 1.00  | 1.08  | 1.17  | 1.25  | 1.33  | 1.67  | 1.76  |
|                     | 650  | 0.08 | 0.12 | 0.15 | 0.23 | 0.31 | 0.38 | 0.46 | 0.54 | 0.62 | 0.69 | 0.77  | 0.85  | 0.92  | 1.00  | 1.08  | 1.15  | 1.23  | 1.54  | 1.62  |
|                     | 700  | 0.07 | 0.11 | 0.14 | 0.21 | 0.29 | 0.36 | 0.43 | 0.50 | 0.57 | 0.64 | 0.71  | 0.79  | 0.86  | 0.93  | 1.00  | 1.07  | 1.14  | 1.43  | 1.50  |
|                     | 750  | 0.07 | 0.11 | 0.13 | 0.20 | 0.27 | 0.33 | 0.40 | 0.47 | 0.53 | 0.60 | 0.67  | 0.73  | 0.80  | 0.87  | 0.93  | 1.00  | 1.07  | 1.33  | 1.40  |
|                     | 800  | 0.06 | 0.10 | 0.13 | 0.19 | 0.25 | 0.31 | 0.38 | 0.44 | 0.50 | 0.56 | 0.63  | 0.69  | 0.75  | 0.81  | 0.88  | 0.94  | 1.00  | 1.25  | 1.31  |
|                     | 1000 | 0.05 | 0.08 | 0.10 | 0.15 | 0.20 | 0.25 | 0.30 | 0.35 | 0.40 | 0.45 | 0.50  | 0.55  | 0.60  | 0.65  | 0.70  | 0.75  | 0.80  | 1.00  | 1.02  |
|                     | 1050 | 0.05 | 0.08 | 0.10 | 0.14 | 0.19 | 0.24 | 0.29 | 0.33 | 0.38 | 0.43 | 0.48  | 0.52  | 0.57  | 0.62  | 0.67  | 0.71  | 0.76  | 0.95  | 1.00  |

Fig. 9