

**Потеря давления на трение в трубе R и расчетная скорость протекания V в зависимости от расхода воды V̇**

Трубы SDR 11 (PN10)      Температура : 20°C  
 Удельный вес : 998,00 кг/м<sup>3</sup>      d : наружный диаметр (мм)      V̇: расход (л/сек)  
 Кин. Вязкость : 1,02 x 10<sup>-6</sup> м<sup>2</sup>/сек.      s : толщина стенок (мм)      R: перепад давления (мбар/м)  
 шероховатость: 0,007 мм      d<sub>i</sub> : внутренний диаметр (мм)      V: скорость (м/сек)

| d x s |                | 20x2,3 | 25x2,3 | 32x2,9 | 40x3,7 | 50x4,6 | 63x5,8 | 75x6,8 | 90x8,2 | 110x10,0 |
|-------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| V̇    | d <sub>i</sub> | 15,4   | 20,4   | 26,2   | 32,6   | 40,8   | 51,4   | 61,4   | 73,6   | 90,0     |
| 0.01  | R              | 0.07   | 0.02   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.05   | 0.03   | 0.02   | 0.01   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00     |
| 0.02  | R              | 0.15   | 0.05   | 0.02   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.11   | 0.06   | 0.04   | 0.02   | 0.02   | 0.01   | 0.01   | 0.00   | 0.00     |
| 0.03  | R              | 0.40   | 0.07   | 0.03   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.16   | 0.09   | 0.06   | 0.04   | 0.02   | 0.01   | 0.01   | 0.01   | 0.00     |
| 0.04  | R              | 0.65   | 0.17   | 0.03   | 0.01   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.22   | 0.12   | 0.07   | 0.05   | 0.03   | 0.02   | 0.01   | 0.01   | 0.01     |
| 0.05  | R              | 0.95   | 0.25   | 0.08   | 0.02   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.27   | 0.15   | 0.09   | 0.06   | 0.04   | 0.02   | 0.02   | 0.01   | 0.01     |
| 0.06  | R              | 1.30   | 0.34   | 0.11   | 0.04   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.32   | 0.18   | 0.11   | 0.07   | 0.05   | 0.03   | 0.02   | 0.01   | 0.01     |
| 0.07  | R              | 1.69   | 0.45   | 0.14   | 0.05   | 0.02   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.38   | 0.21   | 0.13   | 0.08   | 0.05   | 0.03   | 0.02   | 0.02   | 0.01     |
| 0.08  | R              | 2.13   | 0.56   | 0.17   | 0.06   | 0.02   | 0.00   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.43   | 0.24   | 0.15   | 0.10   | 0.06   | 0.04   | 0.03   | 0.02   | 0.01     |
| 0.09  | R              | 2.61   | 0.69   | 0.21   | 0.08   | 0.03   | 0.01   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.48   | 0.28   | 0.17   | 0.11   | 0.07   | 0.04   | 0.03   | 0.02   | 0.01     |
| 0.10  | R              | 3.13   | 0.82   | 0.25   | 0.09   | 0.03   | 0.01   | 0.00   | 0.00   | 0.00     |
|       | V              | 0.54   | 0.31   | 0.19   | 0.12   | 0.08   | 0.05   | 0.03   | 0.02   | 0.02     |
| 0.12  | R              | 4.30   | 1.13   | 0.35   | 0.12   | 0.04   | 0.01   | 0.01   | 0.00   | 0.00     |
|       | V              | 0.65   | 0.37   | 0.22   | 0.14   | 0.09   | 0.06   | 0.04   | 0.03   | 0.02     |
| 0.14  | R              | 5.63   | 1.47   | 0.45   | 0.16   | 0.06   | 0.02   | 0.01   | 0.00   | 0.00     |
|       | V              | 0.75   | 0.43   | 0.26   | 0.17   | 0.11   | 0.07   | 0.05   | 0.03   | 0.02     |
| 0.16  | R              | 7.11   | 1.85   | 0.57   | 0.20   | 0.07   | 0.02   | 0.01   | 0.00   | 0.00     |
|       | V              | 0.86   | 0.49   | 0.30   | 0.19   | 0.12   | 0.08   | 0.05   | 0.04   | 0.03     |
| 0.18  | R              | 8.75   | 2.27   | 0.69   | 0.25   | 0.09   | 0.03   | 0.01   | 0.01   | 0.00     |
|       | V              | 0.97   | 0.55   | 0.33   | 0.22   | 0.14   | 0.09   | 0.06   | 0.04   | 0.03     |
| 0.20  | R              | 10.54  | 2.73   | 0.83   | 0.29   | 0.10   | 0.03   | 0.01   | 0.01   | 0.00     |
|       | V              | 1.08   | 0.61   | 0.37   | 0.24   | 0.15   | 0.10   | 0.07   | 0.05   | 0.03     |
| 0.30  | R              | 21.68  | 5.58   | 1.69   | 0.60   | 0.20   | 0.07   | 0.03   | 0.01   | 0.00     |
|       | V              | 1.61   | 0.92   | 0.56   | 0.36   | 0.23   | 0.14   | 0.10   | 0.07   | 0.05     |
| 0.40  | R              | 36.35  | 9.30   | 2.80   | 0.98   | 0.34   | 0.11   | 0.05   | 0.02   | 0.01     |
|       | V              | 2.15   | 1.22   | 0.74   | 0.48   | 0.31   | 0.19   | 0.14   | 0.09   | 0.06     |
| 0.50  | R              | 54.45  | 13.86  | 4.16   | 1.46   | 0.50   | 0.17   | 0.07   | 0.03   | 0.01     |
|       | V              | 2.69   | 1.53   | 0.93   | 0.60   | 0.38   | 0.24   | 0.17   | 0.12   | 0.08     |
| 0.60  | R              | 75.91  | 19.23  | 5.75   | 2.01   | 0.69   | 0.23   | 0.10   | 0.04   | 0.02     |
|       | V              | 3.23   | 1.83   | 1.11   | 0.72   | 0.46   | 0.29   | 0.20   | 0.14   | 0.09     |
| 0.70  | R              | 100.67 | 25.41  | 7.57   | 2.64   | 0.90   | 0.30   | 0.13   | 0.05   | 0.02     |
|       | V              | 3.76   | 2.14   | 1.30   | 0.84   | 0.53   | 0.34   | 0.24   | 0.16   | 0.11     |
| 0.80  | R              | 128.71 | 32.37  | 9.62   | 3.35   | 1.14   | 0.38   | 0.16   | 0.07   | 0.03     |
|       | V              | 4.30   | 2.45   | 1.48   | 0.96   | 0.61   | 0.39   | 0.27   | 0.19   | 0.13     |
| 0.90  | R              | 159.98 | 40.11  | 11.89  | 4.13   | 1.40   | 0.47   | 0.20   | 0.08   | 0.03     |
|       | V              | 4.84   | 2.75   | 1.67   | 1.08   | 0.69   | 0.43   | 0.30   | 0.21   | 0.14     |
| 1.00  | R              | 194.48 | 48.61  | 14.39  | 4.99   | 1.69   | 0.56   | 0.24   | 0.10   | 0.04     |
|       | V              | 5.38   | 3.06   | 1.86   | 1.20   | 0.76   | 0.48   | 0.34   | 0.24   | 0.16     |
| 1.20  | R              | 273.06 | 67.91  | 20.02  | 6.93   | 2.34   | 0.78   | 0.33   | 0.14   | 0.05     |
|       | V              | 6.45   | 3.67   | 2.23   | 1.44   | 0.92   | 0.58   | 0.41   | 0.28   | 0.19     |
| 1.40  | R              | 364.35 | 90.23  | 26.51  | 9.15   | 3.08   | 1.02   | 0.44   | 0.18   | 0.07     |
|       | V              | 7.53   | 4.28   | 2.60   | 1.68   | 1.07   | 0.68   | 0.47   | 0.33   | 0.22     |
| 1.60  | R              | 468.27 | 115.52 | 33.83  | 11.65  | 3.92   | 1.30   | 0.55   | 0.23   | 0.09     |
|       | V              | 8.60   | 4.89   | 2.97   | 1.92   | 1.22   | 0.77   | 0.54   | 0.38   | 0.25     |
| 1.80  | R              | 584.76 | 143.77 | 41.99  | 14.43  | 4.85   | 1.60   | 0.68   | 0.29   | 0.11     |
|       | V              | 9.68   | 5.50   | 3.34   | 2.16   | 1.37   | 0.87   | 0.61   | 0.42   | 0.28     |
| 2.00  | R              | 713.78 | 174.96 | 50.97  | 17.48  | 5.86   | 1.94   | 0.82   | 0.34   | 0.13     |
|       | V              | 10.75  | 6.12   | 3.71   | 2.40   | 1.53   | 0.97   | 0.68   | 0.47   | 0.31     |
| 2.20  | R              | 855.29 | 209.07 | 60.78  | 20.81  | 6.96   | 2.30   | 0.97   | 0.41   | 0.16     |
|       | V              | 11.83  | 6.73   | 4.08   | 2.63   | 1.68   | 1.06   | 0.74   | 0.52   | 0.35     |

Температура : 20°C

Трубы  
SDR 11 (PN10)

Удельный вес : 998,00 кг/м<sup>3</sup>

Кин. Вязкость : 1,02 x 10<sup>-6</sup> м<sup>2</sup>/сек.

шероховатость: 0,007 мм

d : наружный диаметр (мм)

s : толщина стенок (мм)

d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)

R: перепад давления (мбар/м)

V: скорость (м/сек)

| d x s |                | 20x2,3  | 25x2,3  | 32x2,9  | 40x3,7 | 50x4,6 | 63x5,8 | 75x6,8 | 90x8,2 | 110x10,0 |
|-------|----------------|---------|---------|---------|--------|--------|--------|--------|--------|----------|
| Ṁ     | d <sub>i</sub> | 15,4    | 20,4    | 26,2    | 32,6   | 40,8   | 51,4   | 61,4   | 73,6   | 90,0     |
| 2.40  | R              | 1009.27 | 246.10  | 71.39   | 24.40  | 8.15   | 2.69   | 1.14   | 0.48   | 0.18     |
|       | V              | 12.90   | 7.34    | 4.45    | 2.87   | 1.83   | 1.16   | 0.81   | 0.56   | 0.38     |
| 2.60  | R              | 1175.70 | 286.04  | 82.81   | 28.26  | 9.43   | 3.10   | 1.31   | 0.55   | 0.21     |
|       | V              | 13.98   | 7.95    | 4.82    | 3.11   | 1.98   | 1.26   | 0.88   | 0.61   | 0.41     |
| 2.80  | R              | 1354.55 | 328.87  | 95.04   | 32.38  | 10.79  | 3.55   | 1.50   | 0.63   | 0.24     |
|       | V              | 15.05   | 8.56    | 5.19    | 3.35   | 2.14   | 1.35   | 0.95   | 0.66   | 0.44     |
| 3.00  | R              | 1545.81 | 374.59  | 108.07  | 36.77  | 12.24  | 4.02   | 1.70   | 0.71   | 0.27     |
|       | V              | 16.13   | 9.17    | 5.57    | 3.59   | 2.29   | 1.45   | 1.01   | 0.71   | 0.47     |
| 3.20  | R              | 1749.47 | 423.19  | 121.89  | 41.42  | 13.77  | 4.52   | 1.90   | 0.80   | 0.30     |
|       | V              | 17.20   | 9.79    | 5.94    | 3.83   | 2.44   | 1.55   | 1.08   | 0.75   | 0.50     |
| 3.40  | R              | 1965.52 | 474.66  | 136.52  | 46.34  | 15.39  | 5.04   | 2.12   | 0.89   | 0.34     |
|       | V              | 18.28   | 10.40   | 6.31    | 4.07   | 2.60   | 1.64   | 1.15   | 0.80   | 0.53     |
| 3.60  | R              | 2193.94 | 529.02  | 151.93  | 51.51  | 17.09  | 5.59   | 2.36   | 0.98   | 0.37     |
|       | V              | 19.35   | 11.01   | 6.68    | 4.31   | 2.75   | 1.74   | 1.22   | 0.85   | 0.57     |
| 3.80  | R              | 2434.73 | 586.24  | 168.14  | 56.94  | 18.87  | 6.17   | 2.60   | 1.08   | 0.41     |
|       | V              | 20.43   | 11.62   | 7.05    | 4.55   | 2.90   | 1.84   | 1.28   | 0.89   | 0.60     |
| 4.00  | R              | 2687.87 | 646.32  | 185.14  | 62.63  | 20.74  | 6.78   | 2.85   | 1.19   | 0.45     |
|       | V              | 21.51   | 12.23   | 7.42    | 4.79   | 3.05   | 1.93   | 1.35   | 0.94   | 0.63     |
| 4.20  | R              | 2953.38 | 709.27  | 202.93  | 68.58  | 22.69  | 7.41   | 3.11   | 1.30   | 0.49     |
|       | V              | 22.58   | 12.84   | 7.79    | 5.03   | 3.21   | 2.03   | 1.42   | 0.99   | 0.66     |
| 4.40  | R              | 3231.22 | 775.07  | 221.51  | 74.79  | 24.72  | 8.06   | 3.39   | 1.41   | 0.53     |
|       | V              | 23.66   | 13.46   | 8.16    | 5.27   | 3.36   | 2.13   | 1.49   | 1.04   | 0.69     |
| 4.60  | R              | 3521.41 | 843.74  | 240.88  | 81.25  | 26.83  | 8.75   | 3.67   | 1.53   | 0.58     |
|       | V              | 24.73   | 14.07   | 8.53    | 5.51   | 3.51   | 2.22   | 1.55   | 1.08   | 0.72     |
| 4.80  | R              | 3823.94 | 915.25  | 261.03  | 87.97  | 29.02  | 9.45   | 3.97   | 1.65   | 0.63     |
|       | V              | 25.81   | 14.68   | 8.91    | 5.75   | 3.66   | 2.32   | 1.62   | 1.13   | 0.75     |
| 5.00  | R              | 4138.79 | 989.62  | 281.96  | 94.94  | 31.30  | 10.19  | 4.27   | 1.78   | 0.67     |
|       | V              | 26.88   | 15.29   | 9.28    | 5.99   | 3.82   | 2.42   | 1.69   | 1.18   | 0.79     |
| 5.20  | R              | 4465.98 | 1066.84 | 303.68  | 102.17 | 33.65  | 10.95  | 4.59   | 1.91   | 0.72     |
|       | V              | 27.96   | 15.90   | 9.65    | 6.23   | 3.97   | 2.51   | 1.76   | 1.22   | 0.82     |
| 5.40  | R              | 4805.49 | 1146.91 | 326.17  | 109.65 | 36.09  | 11.73  | 4.92   | 2.04   | 0.77     |
|       | V              | 29.03   | 16.51   | 10.02   | 6.47   | 4.12   | 2.61   | 1.82   | 1.27   | 0.85     |
| 5.60  | R              | 5157.32 | 1229.83 | 349.46  | 117.39 | 38.61  | 12.54  | 5.25   | 2.18   | 0.83     |
|       | V              | 30.11   | 17.13   | 10.39   | 6.71   | 4.27   | 2.71   | 1.89   | 1.32   | 0.88     |
| 5.80  | R              | 5521.47 | 1315.59 | 373.52  | 125.38 | 41.20  | 13.38  | 5.60   | 2.33   | 0.88     |
|       | V              | 31.18   | 17.74   | 10.76   | 6.95   | 4.43   | 2.80   | 1.96   | 1.36   | 0.91     |
| 6.00  | R              | 5897.93 | 1404.19 | 398.36  | 133.62 | 43.88  | 14.24  | 5.96   | 2.47   | 0.93     |
|       | V              | 32.26   | 18.35   | 11.13   | 7.19   | 4.58   | 2.90   | 2.03   | 1.41   | 0.94     |
| 6.20  | R              | 6286.70 | 1495.64 | 423.98  | 142.12 | 46.64  | 15.12  | 6.33   | 2.63   | 0.99     |
|       | V              | 33.33   | 18.96   | 11.50   | 7.43   | 4.73   | 3.00   | 2.09   | 1.46   | 0.97     |
| 6.40  | R              | 6687.79 | 1589.93 | 450.38  | 150.87 | 49.48  | 16.03  | 6.70   | 2.78   | 1.05     |
|       | V              | 34.41   | 19.57   | 11.87   | 7.66   | 4.89   | 3.09   | 2.16   | 1.51   | 1.01     |
| 6.60  | R              | 7101.18 | 1687.05 | 477.56  | 159.87 | 52.40  | 16.97  | 7.09   | 2.94   | 1.11     |
|       | V              | 35.48   | 20.18   | 12.24   | 7.90   | 5.04   | 3.19   | 2.23   | 1.55   | 1.04     |
| 6.80  | R              | 7526.87 | 1787.02 | 505.52  | 169.12 | 55.40  | 17.93  | 7.49   | 3.11   | 1.17     |
|       | V              | 36.56   | 20.80   | 12.62   | 8.14   | 5.19   | 3.29   | 2.30   | 1.60   | 1.07     |
| 7.00  | R              | 7964.87 | 1889.83 | 534.25  | 178.63 | 58.48  | 18.91  | 7.90   | 3.28   | 1.23     |
|       | V              | 37.63   | 21.41   | 12.99   | 8.38   | 5.34   | 3.38   | 2.36   | 1.65   | 1.10     |
| 7.50  | R              | 9113.69 | 2159.26 | 609.48  | 203.49 | 66.52  | 21.49  | 8.97   | 3.71   | 1.40     |
|       | V              | 40.32   | 22.94   | 13.91   | 8.98   | 5.73   | 3.62   | 2.53   | 1.76   | 1.18     |
| 8.00  | R              |         | 2446.41 | 689.57  | 229.92 | 75.06  | 24.21  | 10.09  | 4.18   | 1.57     |
|       | V              |         | 24.46   | 14.84   | 9.58   | 6.11   | 3.86   | 2.70   | 1.88   | 1.26     |
| 9.00  | R              |         | 3073.84 | 864.26  | 287.48 | 93.61  | 30.13  | 12.54  | 5.18   | 1.95     |
|       | V              |         | 27.52   | 16.70   | 10.78  | 6.87   | 4.35   | 3.04   | 2.12   | 1.42     |
| 10.00 | R              |         | 3772.04 | 1058.29 | 351.28 | 114.13 | 36.66  | 15.23  | 6.29   | 2.36     |
|       | V              |         | 30.58   | 18.55   | 11.98  | 7.63   | 4.83   | 3.38   | 2.35   | 1.57     |

**Трубы SDR 7.4 (PN16)**  
 Температура : 20°C  
 Удельный вес : 998,00 кг/м<sup>3</sup>  
 Кин. Вязкость : 1,02 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
 шероховатость: 0,007 мм

d : наружный диаметр (мм)  
 s : толщина стенок (мм)  
 d<sub>i</sub> : внутренний диаметр (мм)  
 V̇: расход (л/сек)  
 R: перепад давления (мбар/м)  
 V: скорость (м/сек)

| d x s |                | 20x2,8  | 25x3,5 | 32x4,4 | 40x5,5 | 50x6,9 | 63x8,6 | 75x10,3 | 90x12,3 | 110x15,1 |
|-------|----------------|---------|--------|--------|--------|--------|--------|---------|---------|----------|
| V̇    | d <sub>i</sub> | 14,4    | 18,0   | 23,2   | 29,0   | 36,2   | 45,8   | 54,4    | 65,4    | 79,8     |
| 0.01  | R              | 0.09    | 0.03   | 0.01   | 0.01   | 0.00   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.06    | 0.04   | 0.02   | 0.02   | 0.01   | 0.01   | 0.00    | 0.00    | 0.00     |
| 0.02  | R              | 0.28    | 0.10   | 0.03   | 0.01   | 0.00   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.12    | 0.08   | 0.05   | 0.03   | 0.02   | 0.01   | 0.01    | 0.01    | 0.00     |
| 0.03  | R              | 0.55    | 0.19   | 0.06   | 0.02   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.18    | 0.12   | 0.07   | 0.05   | 0.03   | 0.02   | 0.01    | 0.01    | 0.01     |
| 0.04  | R              | 0.89    | 0.31   | 0.10   | 0.02   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.25    | 0.16   | 0.09   | 0.06   | 0.04   | 0.02   | 0.02    | 0.01    | 0.01     |
| 0.05  | R              | 1.30    | 0.46   | 0.14   | 0.03   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.31    | 0.20   | 0.12   | 0.08   | 0.05   | 0.03   | 0.02    | 0.01    | 0.01     |
| 0.06  | R              | 1.78    | 0.62   | 0.19   | 0.07   | 0.01   | 0.01   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.37    | 0.24   | 0.14   | 0.09   | 0.06   | 0.04   | 0.03    | 0.02    | 0.01     |
| 0.07  | R              | 2.32    | 0.81   | 0.24   | 0.09   | 0.03   | 0.01   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.43    | 0.27   | 0.17   | 0.11   | 0.07   | 0.04   | 0.03    | 0.02    | 0.01     |
| 0.08  | R              | 2.92    | 1.01   | 0.31   | 0.11   | 0.04   | 0.01   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.49    | 0.31   | 0.19   | 0.12   | 0.08   | 0.05   | 0.03    | 0.02    | 0.02     |
| 0.09  | R              | 3.57    | 1.24   | 0.37   | 0.13   | 0.05   | 0.02   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.55    | 0.35   | 0.21   | 0.14   | 0.09   | 0.05   | 0.04    | 0.03    | 0.02     |
| 0.10  | R              | 4.29    | 1.48   | 0.45   | 0.16   | 0.06   | 0.02   | 0.01    | 0.00    | 0.00     |
|       | V              | 0.61    | 0.39   | 0.24   | 0.15   | 0.10   | 0.06   | 0.04    | 0.03    | 0.02     |
| 0.12  | R              | 5.90    | 2.03   | 0.61   | 0.21   | 0.08   | 0.02   | 0.01    | 0.00    | 0.00     |
|       | V              | 0.74    | 0.47   | 0.28   | 0.18   | 0.12   | 0.07   | 0.05    | 0.04    | 0.02     |
| 0.14  | R              | 7.72    | 2.66   | 0.80   | 0.28   | 0.10   | 0.03   | 0.01    | 0.01    | 0.00     |
|       | V              | 0.86    | 0.55   | 0.33   | 0.21   | 0.14   | 0.08   | 0.06    | 0.04    | 0.03     |
| 0.16  | R              | 9.77    | 3.35   | 1.01   | 0.35   | 0.12   | 0.04   | 0.02    | 0.01    | 0.00     |
|       | V              | 0.98    | 0.63   | 0.38   | 0.24   | 0.16   | 0.10   | 0.07    | 0.05    | 0.03     |
| 0.18  | R              | 12.02   | 4.12   | 1.23   | 0.43   | 0.15   | 0.05   | 0.02    | 0.01    | 0.00     |
|       | V              | 1.10    | 0.71   | 0.43   | 0.27   | 0.17   | 0.11   | 0.08    | 0.05    | 0.04     |
| 0.20  | R              | 14.49   | 4.96   | 1.48   | 0.51   | 0.18   | 0.06   | 0.03    | 0.01    | 0.00     |
|       | V              | 1.23    | 0.78   | 0.47   | 0.30   | 0.19   | 0.12   | 0.09    | 0.06    | 0.04     |
| 0.30  | R              | 29.87   | 10.15  | 3.01   | 1.04   | 0.36   | 0.12   | 0.05    | 0.02    | 0.01     |
|       | V              | 1.84    | 1.18   | 0.71   | 0.45   | 0.29   | 0.18   | 0.13    | 0.09    | 0.06     |
| 0.40  | R              | 50.18   | 16.96  | 5.01   | 1.72   | 0.60   | 0.19   | 0.09    | 0.04    | 0.01     |
|       | V              | 2.45    | 1.57   | 0.95   | 0.61   | 0.39   | 0.24   | 0.17    | 0.12    | 0.08     |
| 0.50  | R              | 75.27   | 25.33  | 7.45   | 2.55   | 0.88   | 0.29   | 0.13    | 0.05    | 0.02     |
|       | V              | 3.07    | 1.96   | 1.18   | 0.76   | 0.49   | 0.30   | 0.22    | 0.15    | 0.10     |
| 0.60  | R              | 105.06  | 35.22  | 10.32  | 3.52   | 1.22   | 0.40   | 0.18    | 0.07    | 0.03     |
|       | V              | 3.68    | 2.35   | 1.42   | 0.91   | 0.58   | 0.36   | 0.26    | 0.18    | 0.12     |
| 0.70  | R              | 139.47  | 46.60  | 13.61  | 4.63   | 1.60   | 0.52   | 0.23    | 0.10    | 0.04     |
|       | V              | 4.29    | 2.75   | 1.65   | 1.06   | 0.68   | 0.42   | 0.30    | 0.21    | 0.14     |
| 0.80  | R              | 178.46  | 59.46  | 17.31  | 5.88   | 2.02   | 0.66   | 0.29    | 0.12    | 0.05     |
|       | V              | 4.91    | 3.14   | 1.89   | 1.21   | 0.78   | 0.48   | 0.34    | 0.24    | 0.16     |
| 0.90  | R              | 222.01  | 73.78  | 21.43  | 7.27   | 2.50   | 0.81   | 0.36    | 0.15    | 0.06     |
|       | V              | 5.52    | 3.53   | 2.13   | 1.36   | 0.87   | 0.55   | 0.39    | 0.27    | 0.18     |
| 1.00  | R              | 270.07  | 89.54  | 25.94  | 8.78   | 3.01   | 0.97   | 0.43    | 0.18    | 0.07     |
|       | V              | 6.13    | 3.92   | 2.36   | 1.51   | 0.97   | 0.61   | 0.43    | 0.30    | 0.20     |
| 1.20  | R              | 379.67  | 125.35 | 36.16  | 12.20  | 4.17   | 1.34   | 0.59    | 0.24    | 0.09     |
|       | V              | 7.36    | 4.71   | 2.84   | 1.82   | 1.17   | 0.73   | 0.52    | 0.36    | 0.24     |
| 1.40  | R              | 507.14  | 166.84 | 47.96  | 16.14  | 5.51   | 1.77   | 0.78    | 0.32    | 0.12     |
|       | V              | 8.59    | 5.49   | 3.31   | 2.12   | 1.36   | 0.85   | 0.60    | 0.42    | 0.28     |
| 1.60  | R              | 652.38  | 213.96 | 61.30  | 20.57  | 7.01   | 2.25   | 0.99    | 0.41    | 0.16     |
|       | V              | 9.82    | 6.27   | 3.78   | 2.42   | 1.55   | 0.97   | 0.69    | 0.48    | 0.32     |
| 1.80  | R              | 815.32  | 266.68 | 76.18  | 25.51  | 8.67   | 2.77   | 1.22    | 0.50    | 0.19     |
|       | V              | 11.04   | 7.06   | 4.26   | 2.72   | 1.75   | 1.09   | 0.78    | 0.54    | 0.36     |
| 2.00  | R              | 995.91  | 324.96 | 92.59  | 30.94  | 10.49  | 3.35   | 1.47    | 0.61    | 0.23     |
|       | V              | 12.27   | 7.84   | 4.73   | 3.03   | 1.94   | 1.21   | 0.86    | 0.60    | 0.40     |
| 2.20  | R              | 1194.10 | 388.80 | 110.51 | 36.85  | 12.48  | 3.98   | 1.75    | 0.72    | 0.28     |
|       | V              | 13.50   | 8.63   | 5.20   | 3.33   | 2.14   | 1.33   | 0.95    | 0.65    | 0.44     |

Температура : 20°C

Трубы  
SDR 7.4 (PN16)

Удельный вес : 998,00 кг/м<sup>3</sup>  
Кин. Вязкость : 1,02 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
шероховатость: 0,007 мм

d : наружный диаметр (мм)  
s : толщина стенок (мм)  
d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)  
R: перепад давления (мбар/м)  
V: скорость (м/сек)

| d x s |                | 20x2,8  | 25x3,5  | 32x4,4  | 40x5,5 | 50x6,9 | 63x8,6 | 75x10,3 | 90x12,3 | 110x15,1 |
|-------|----------------|---------|---------|---------|--------|--------|--------|---------|---------|----------|
| Ṁ     | d <sub>i</sub> | 14,4    | 18,0    | 23,2    | 29,0   | 36,2   | 45,8   | 54,4    | 65,4    | 79,8     |
| 2.40  | R              | 1409.88 | 458.16  | 129.94  | 43.25  | 14.62  | 4.66   | 2.04    | 0.84    | 0.32     |
|       | V              | 14.72   | 9.41    | 5.67    | 3.63   | 2.33   | 1.45   | 1.03    | 0.71    | 0.48     |
| 2.60  | R              | 1643.20 | 533.03  | 150.87  | 50.14  | 16.93  | 5.39   | 2.36    | 0.97    | 0.37     |
|       | V              | 15.95   | 10.20   | 6.15    | 3.93   | 2.52   | 1.58   | 1.12    | 0.77    | 0.52     |
| 2.80  | R              | 1894.05 | 613.42  | 173.29  | 57.50  | 19.38  | 6.16   | 2.69    | 1.10    | 0.42     |
|       | V              | 17.18   | 10.98   | 6.62    | 4.24   | 2.72   | 1.70   | 1.21    | 0.83    | 0.56     |
| 3.00  | R              | 2162.41 | 699.29  | 197.21  | 65.34  | 22.00  | 6.98   | 3.05    | 1.25    | 0.48     |
|       | V              | 18.40   | 11.76   | 7.09    | 4.54   | 2.91   | 1.82   | 1.29    | 0.89    | 0.60     |
| 3.20  | R              | 2448.26 | 790.65  | 222.61  | 73.65  | 24.77  | 7.85   | 3.43    | 1.40    | 0.54     |
|       | V              | 19.63   | 12.55   | 7.57    | 4.84   | 3.11   | 1.94   | 1.38    | 0.95    | 0.64     |
| 3.40  | R              | 2751.58 | 887.48  | 249.50  | 82.44  | 27.69  | 8.77   | 3.83    | 1.57    | 0.60     |
|       | V              | 20.86   | 13.33   | 8.04    | 5.14   | 3.30   | 2.06   | 1.47    | 1.01    | 0.68     |
| 3.60  | R              | 3072.38 | 989.79  | 277.86  | 91.70  | 30.76  | 9.73   | 4.24    | 1.74    | 0.67     |
|       | V              | 22.09   | 14.12   | 8.51    | 5.45   | 3.50   | 2.18   | 1.55    | 1.07    | 0.72     |
| 3.80  | R              | 3410.63 | 1097.56 | 307.71  | 101.43 | 33.99  | 10.74  | 4.68    | 1.91    | 0.73     |
|       | V              | 23.31   | 14.90   | 8.98    | 5.75   | 3.69   | 2.30   | 1.64    | 1.13    | 0.76     |
| 4.00  | R              | 3766.32 | 1210.79 | 339.03  | 111.63 | 37.37  | 11.80  | 5.14    | 2.10    | 0.80     |
|       | V              | 24.54   | 15.69   | 9.46    | 6.05   | 3.88   | 2.42   | 1.72    | 1.19    | 0.80     |
| 4.20  | R              | 4139.46 | 1329.48 | 371.82  | 122.29 | 40.90  | 12.90  | 5.62    | 2.29    | 0.88     |
|       | V              | 25.77   | 16.47   | 9.93    | 6.35   | 4.08   | 2.55   | 1.81    | 1.25    | 0.84     |
| 4.40  | R              | 4530.03 | 1453.62 | 406.08  | 133.43 | 44.58  | 14.05  | 6.11    | 2.49    | 0.95     |
|       | V              | 26.99   | 17.25   | 10.40   | 6.66   | 4.27   | 2.67   | 1.90    | 1.31    | 0.88     |
| 4.60  | R              | 4938.02 | 1583.20 | 441.81  | 145.03 | 48.41  | 15.24  | 6.63    | 2.70    | 1.03     |
|       | V              | 28.22   | 18.04   | 10.87   | 6.96   | 4.47   | 2.79   | 1.98    | 1.37    | 0.92     |
| 4.80  | R              | 5363.43 | 1718.23 | 479.01  | 157.09 | 52.39  | 16.48  | 7.16    | 2.92    | 1.12     |
|       | V              | 29.45   | 18.82   | 11.35   | 7.26   | 4.66   | 2.91   | 2.07    | 1.43    | 0.96     |
| 5.00  | R              | 5806.25 | 1858.70 | 517.67  | 169.62 | 56.53  | 17.77  | 7.72    | 3.14    | 1.20     |
|       | V              | 30.67   | 19.61   | 11.82   | 7.56   | 4.85   | 3.03   | 2.16    | 1.49    | 1.00     |
| 5.20  | R              | 6266.49 | 2004.62 | 557.80  | 182.62 | 60.81  | 19.10  | 8.29    | 3.38    | 1.29     |
|       | V              | 31.90   | 20.39   | 12.29   | 7.87   | 5.05   | 3.15   | 2.24    | 1.55    | 1.04     |
| 5.40  | R              | 6744.13 | 2155.96 | 599.39  | 196.07 | 65.23  | 20.48  | 8.89    | 3.62    | 1.38     |
|       | V              | 33.13   | 21.18   | 12.77   | 8.17   | 5.24   | 3.27   | 2.33    | 1.61    | 1.08     |
| 5.60  | R              | 7239.17 | 2312.74 | 642.44  | 209.99 | 69.81  | 21.90  | 9.50    | 3.86    | 1.47     |
|       | V              | 34.36   | 21.96   | 13.24   | 8.47   | 5.44   | 3.39   | 2.41    | 1.67    | 1.12     |
| 5.80  | R              | 7751.60 | 2474.96 | 686.96  | 224.37 | 74.54  | 23.36  | 10.13   | 4.12    | 1.57     |
|       | V              | 35.58   | 22.75   | 13.71   | 8.77   | 5.63   | 3.52   | 2.50    | 1.73    | 1.16     |
| 6.00  | R              | 8281.43 | 2642.60 | 732.93  | 239.22 | 79.41  | 24.87  | 10.78   | 4.38    | 1.67     |
|       | V              | 36.81   | 23.53   | 14.18   | 9.08   | 5.83   | 3.64   | 2.59    | 1.79    | 1.20     |
| 6.20  | R              | 8828.66 | 2815.67 | 780.36  | 254.52 | 84.44  | 26.43  | 11.45   | 4.65    | 1.77     |
|       | V              | 38.04   | 24.31   | 14.66   | 9.38   | 6.02   | 3.76   | 2.67    | 1.85    | 1.24     |
| 6.40  | R              | 9393.26 | 2994.17 | 829.25  | 270.29 | 89.61  | 28.03  | 12.14   | 4.93    | 1.88     |
|       | V              | 39.26   | 25.10   | 15.13   | 9.68   | 6.21   | 3.88   | 2.76    | 1.90    | 1.28     |
| 6.60  | R              | 9975.26 | 3178.10 | 879.60  | 286.51 | 94.92  | 29.67  | 12.84   | 5.21    | 1.99     |
|       | V              | 40.49   | 25.88   | 15.60   | 9.98   | 6.41   | 4.00   | 2.84    | 1.96    | 1.32     |
| 6.80  | R              |         | 3367.44 | 931.41  | 303.20 | 100.39 | 31.36  | 13.57   | 5.50    | 2.10     |
|       | V              |         | 26.67   | 16.08   | 10.29  | 6.60   | 4.12   | 2.93    | 2.02    | 1.36     |
| 7.00  | R              |         | 3562.21 | 984.67  | 320.34 | 106.00 | 33.09  | 14.31   | 5.80    | 2.21     |
|       | V              |         | 27.45   | 16.55   | 10.59  | 6.80   | 4.24   | 3.02    | 2.08    | 1.40     |
| 7.50  | R              |         | 4072.86 | 1124.19 | 365.21 | 120.67 | 37.62  | 16.25   | 6.58    | 2.50     |
|       | V              |         | 29.41   | 17.73   | 11.35  | 7.28   | 4.55   | 3.23    | 2.23    | 1.50     |
| 8.00  | R              |         | 4617.36 | 1272.80 | 412.94 | 136.26 | 42.42  | 18.31   | 7.41    | 2.82     |
|       | V              |         | 31.37   | 18.91   | 12.10  | 7.77   | 4.85   | 3.45    | 2.38    | 1.60     |
| 9.00  | R              |         | 5807.92 | 1597.24 | 516.99 | 170.17 | 52.84  | 22.77   | 9.20    | 3.49     |
|       | V              |         | 35.29   | 21.28   | 13.62  | 8.74   | 5.45   | 3.88    | 2.68    | 1.80     |
| 10.00 | R              |         | 7133.79 | 1957.96 | 632.44 | 207.72 | 64.35  | 27.69   | 11.17   | 4.23     |
|       | V              |         | 39.22   | 23.64   | 15.13  | 9.71   | 6.06   | 4.31    | 2.98    | 2.00     |

Температура : 60°C

Трубы  
SDR 7.4 (PN16)

Удельный вес : 983,20 кг/м<sup>3</sup>  
Кин. Вязкость : 0,47 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
шероховатость: 0,007 мм

d : наружный диаметр (мм)  
s : толщина стенок (мм)  
d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)  
R: перепад давления (мбар/м)  
V: скорость (м/сек)

| d x s |                | 20x2,8  | 25x3,5 | 32x4,4 | 40x5,5 | 50x6,9 | 63x8,6 | 75x10,3 | 90x12,3 | 110x15,1 |
|-------|----------------|---------|--------|--------|--------|--------|--------|---------|---------|----------|
| Ṁ     | d <sub>i</sub> | 14,4    | 18,0   | 23,2   | 29,0   | 36,2   | 45,8   | 54,4    | 65,4    | 79,8     |
| 0.01  | R              | 0.07    | 0.02   | 0.01   | 0.00   | 0.00   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.06    | 0.04   | 0.02   | 0.02   | 0.01   | 0.01   | 0.00    | 0.00    | 0.00     |
| 0.02  | R              | 0.22    | 0.08   | 0.02   | 0.01   | 0.00   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.12    | 0.08   | 0.05   | 0.03   | 0.02   | 0.01   | 0.01    | 0.01    | 0.00     |
| 0.03  | R              | 0.43    | 0.15   | 0.05   | 0.02   | 0.00   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.18    | 0.12   | 0.07   | 0.05   | 0.03   | 0.02   | 0.01    | 0.01    | 0.01     |
| 0.04  | R              | 0.71    | 0.25   | 0.07   | 0.03   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.25    | 0.16   | 0.09   | 0.06   | 0.04   | 0.02   | 0.02    | 0.01    | 0.01     |
| 0.05  | R              | 1.04    | 0.36   | 0.11   | 0.04   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.31    | 0.20   | 0.12   | 0.08   | 0.05   | 0.03   | 0.02    | 0.01    | 0.01     |
| 0.06  | R              | 1.43    | 0.49   | 0.15   | 0.05   | 0.02   | 0.01   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.37    | 0.24   | 0.14   | 0.09   | 0.06   | 0.04   | 0.03    | 0.02    | 0.01     |
| 0.07  | R              | 1.88    | 0.65   | 0.19   | 0.07   | 0.02   | 0.01   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.43    | 0.27   | 0.17   | 0.11   | 0.07   | 0.04   | 0.03    | 0.02    | 0.01     |
| 0.08  | R              | 2.37    | 0.81   | 0.24   | 0.08   | 0.03   | 0.01   | 0.00    | 0.00    | 0.00     |
|       | V              | 0.49    | 0.31   | 0.19   | 0.12   | 0.08   | 0.05   | 0.03    | 0.02    | 0.02     |
| 0.09  | R              | 2.92    | 1.00   | 0.30   | 0.10   | 0.04   | 0.01   | 0.01    | 0.00    | 0.00     |
|       | V              | 0.55    | 0.35   | 0.21   | 0.14   | 0.09   | 0.05   | 0.04    | 0.03    | 0.02     |
| 0.10  | R              | 3.53    | 1.20   | 0.36   | 0.12   | 0.04   | 0.01   | 0.01    | 0.00    | 0.00     |
|       | V              | 0.61    | 0.39   | 0.24   | 0.15   | 0.10   | 0.06   | 0.04    | 0.03    | 0.02     |
| 0.12  | R              | 4.88    | 1.66   | 0.49   | 0.17   | 0.06   | 0.02   | 0.01    | 0.00    | 0.00     |
|       | V              | 0.74    | 0.47   | 0.28   | 0.18   | 0.12   | 0.07   | 0.05    | 0.04    | 0.02     |
| 0.14  | R              | 6.43    | 2.18   | 0.65   | 0.22   | 0.08   | 0.03   | 0.01    | 0.00    | 0.00     |
|       | V              | 0.86    | 0.55   | 0.33   | 0.21   | 0.14   | 0.08   | 0.06    | 0.04    | 0.03     |
| 0.16  | R              | 8.17    | 2.77   | 0.82   | 0.28   | 0.10   | 0.03   | 0.01    | 0.01    | 0.00     |
|       | V              | 0.98    | 0.63   | 0.38   | 0.24   | 0.16   | 0.10   | 0.07    | 0.05    | 0.03     |
| 0.18  | R              | 10.11   | 3.42   | 1.01   | 0.35   | 0.12   | 0.04   | 0.02    | 0.01    | 0.00     |
|       | V              | 1.10    | 0.71   | 0.43   | 0.27   | 0.17   | 0.11   | 0.08    | 0.05    | 0.04     |
| 0.20  | R              | 12.23   | 4.13   | 1.22   | 0.42   | 0.14   | 0.05   | 0.02    | 0.01    | 0.00     |
|       | V              | 1.23    | 0.78   | 0.47   | 0.30   | 0.19   | 0.12   | 0.09    | 0.06    | 0.04     |
| 0.30  | R              | 25.64   | 8.59   | 2.51   | 0.86   | 0.30   | 0.10   | 0.04    | 0.02    | 0.01     |
|       | V              | 1.84    | 1.18   | 0.71   | 0.45   | 0.29   | 0.18   | 0.13    | 0.09    | 0.06     |
| 0.40  | R              | 43.60   | 14.51  | 4.22   | 1.43   | 0.49   | 0.16   | 0.07    | 0.03    | 0.01     |
|       | V              | 2.45    | 1.57   | 0.95   | 0.61   | 0.39   | 0.24   | 0.17    | 0.12    | 0.08     |
| 0.50  | R              | 66.02   | 21.86  | 6.33   | 2.14   | 0.73   | 0.24   | 0.10    | 0.04    | 0.02     |
|       | V              | 3.07    | 1.96   | 1.18   | 0.76   | 0.49   | 0.30   | 0.22    | 0.15    | 0.10     |
| 0.60  | R              | 92.86   | 30.62  | 8.82   | 2.97   | 1.02   | 0.33   | 0.14    | 0.06    | 0.02     |
|       | V              | 3.68    | 2.35   | 1.42   | 0.91   | 0.58   | 0.36   | 0.26    | 0.18    | 0.12     |
| 0.70  | R              | 124.10  | 40.78  | 11.71  | 3.93   | 1.34   | 0.43   | 0.19    | 0.08    | 0.03     |
|       | V              | 4.29    | 2.75   | 1.65   | 1.06   | 0.68   | 0.42   | 0.30    | 0.21    | 0.14     |
| 0.80  | R              | 159.70  | 52.31  | 14.97  | 5.02   | 1.71   | 0.55   | 0.24    | 0.10    | 0.04     |
|       | V              | 4.91    | 3.14   | 1.89   | 1.21   | 0.78   | 0.48   | 0.34    | 0.24    | 0.16     |
| 0.90  | R              | 199.66  | 65.23  | 18.61  | 6.22   | 2.11   | 0.68   | 0.30    | 0.12    | 0.05     |
|       | V              | 5.52    | 3.53   | 2.13   | 1.36   | 0.87   | 0.55   | 0.39    | 0.27    | 0.18     |
| 1.00  | R              | 243.96  | 79.51  | 22.62  | 7.55   | 2.56   | 0.82   | 0.36    | 0.15    | 0.06     |
|       | V              | 6.13    | 3.92   | 2.36   | 1.51   | 0.97   | 0.61   | 0.43    | 0.30    | 0.20     |
| 1.20  | R              | 345.54  | 112.15 | 31.76  | 10.56  | 3.57   | 1.14   | 0.50    | 0.20    | 0.08     |
|       | V              | 7.36    | 4.71   | 2.84   | 1.82   | 1.17   | 0.73   | 0.52    | 0.36    | 0.24     |
| 1.40  | R              | 464.39  | 150.23 | 42.38  | 14.05  | 4.73   | 1.50   | 0.66    | 0.27    | 0.10     |
|       | V              | 8.59    | 5.49   | 3.31   | 2.12   | 1.36   | 0.85   | 0.60    | 0.42    | 0.28     |
| 1.60  | R              | 600.48  | 193.70 | 54.47  | 18.00  | 6.05   | 1.92   | 0.84    | 0.34    | 0.13     |
|       | V              | 9.82    | 6.27   | 3.78   | 2.42   | 1.55   | 0.97   | 0.69    | 0.48    | 0.32     |
| 1.80  | R              | 753.77  | 242.57 | 68.01  | 22.42  | 7.51   | 2.37   | 1.03    | 0.42    | 0.16     |
|       | V              | 11.04   | 7.06   | 4.26   | 2.72   | 1.75   | 1.09   | 0.78    | 0.54    | 0.36     |
| 2.00  | R              | 924.25  | 296.81 | 83.00  | 27.30  | 9.13   | 2.88   | 1.25    | 0.51    | 0.20     |
|       | V              | 12.27   | 7.84   | 4.73   | 3.03   | 1.94   | 1.21   | 0.86    | 0.60    | 0.40     |
| 2.20  | R              | 1111.90 | 356.43 | 99.44  | 32.64  | 10.89  | 3.43   | 1.49    | 0.61    | 0.23     |
|       | V              | 13.50   | 8.63   | 5.20   | 3.33   | 2.14   | 1.33   | 0.95    | 0.65    | 0.44     |

Температура : 60°C

Трубы  
SDR 7.4 (PN16)

Удельный вес : 983,20 кг/м<sup>3</sup>  
Кин. Вязкость : 0,47 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
шероховатость: 0,007 мм

d : наружный диаметр (мм)  
s : толщина стенок (мм)  
d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)  
R: перепад давления (мбар/м)  
V: скорость (м/сек)

| d x s |                | 20x2,8  | 25x3,5  | 32x4,4  | 40x5,5 | 50x6,9 | 63x8,6 | 75x10,3 | 90x12,3 | 110x15,1 |
|-------|----------------|---------|---------|---------|--------|--------|--------|---------|---------|----------|
| Ṁ     | d <sub>i</sub> | 14,4    | 18,0    | 23,2    | 29,0   | 36,2   | 45,8   | 54,4    | 65,4    | 79,8     |
| 2.40  | R              | 1316.70 | 421.40  | 117.33  | 38.43  | 12.80  | 4.02   | 1.75    | 0.71    | 0.27     |
|       | V              | 14.72   | 9.41    | 5.67    | 3.63   | 2.33   | 1.45   | 1.03    | 0.71    | 0.48     |
| 2.60  | R              | 1538.65 | 491.74  | 136.66  | 44.69  | 14.86  | 4.66   | 2.02    | 0.82    | 0.31     |
|       | V              | 15.95   | 10.20   | 6.15    | 3.93   | 2.52   | 1.58   | 1.12    | 0.77    | 0.52     |
| 2.80  | R              | 1777.73 | 567.42  | 157.43  | 51.40  | 17.07  | 5.35   | 2.32    | 0.94    | 0.36     |
|       | V              | 17.18   | 10.98   | 6.62    | 4.24   | 2.72   | 1.70   | 1.21    | 0.83    | 0.56     |
| 3.00  | R              | 2033.95 | 648.45  | 179.63  | 58.56  | 19.42  | 6.08   | 2.63    | 1.07    | 0.41     |
|       | V              | 18.40   | 11.76   | 7.09    | 4.54   | 2.91   | 1.82   | 1.29    | 0.89    | 0.60     |
| 3.20  | R              | 2307.29 | 734.83  | 203.28  | 66.18  | 21.92  | 6.85   | 2.96    | 1.20    | 0.46     |
|       | V              | 19.63   | 12.55   | 7.57    | 4.84   | 3.11   | 1.94   | 1.38    | 0.95    | 0.64     |
| 3.40  | R              | 2597.75 | 826.54  | 228.35  | 74.25  | 24.56  | 7.66   | 3.31    | 1.34    | 0.51     |
|       | V              | 20.86   | 13.33   | 8.04    | 5.14   | 3.30   | 2.06   | 1.47    | 1.01    | 0.68     |
| 3.60  | R              | 2905.33 | 923.60  | 254.86  | 82.77  | 27.34  | 8.52   | 3.68    | 1.49    | 0.57     |
|       | V              | 22.09   | 14.12   | 8.51    | 5.45   | 3.50   | 2.18   | 1.55    | 1.07    | 0.72     |
| 3.80  | R              | 3230.01 | 1025.99 | 282.80  | 91.75  | 30.27  | 9.42   | 4.07    | 1.65    | 0.63     |
|       | V              | 23.31   | 14.90   | 8.98    | 5.75   | 3.69   | 2.30   | 1.64    | 1.13    | 0.76     |
| 4.00  | R              | 3571.80 | 1133.72 | 312.18  | 101.17 | 33.35  | 10.37  | 4.47    | 1.81    | 0.69     |
|       | V              | 24.54   | 15.69   | 9.46    | 6.05   | 3.88   | 2.42   | 1.72    | 1.19    | 0.80     |
| 4.20  | R              | 3930.70 | 1246.78 | 342.98  | 111.05 | 36.56  | 11.36  | 4.90    | 1.98    | 0.75     |
|       | V              | 25.77   | 16.47   | 9.93    | 6.35   | 4.08   | 2.55   | 1.81    | 1.25    | 0.84     |
| 4.40  | R              | 4306.69 | 1365.17 | 375.21  | 121.37 | 39.92  | 12.39  | 5.34    | 2.16    | 0.82     |
|       | V              | 26.99   | 17.25   | 10.40   | 6.66   | 4.27   | 2.67   | 1.90    | 1.31    | 0.88     |
| 4.60  | R              | 4699.79 | 1488.89 | 408.87  | 132.14 | 43.43  | 13.46  | 5.79    | 2.34    | 0.89     |
|       | V              | 28.22   | 18.04   | 10.87   | 6.96   | 4.47   | 2.79   | 1.98    | 1.37    | 0.92     |
| 4.80  | R              | 5109.98 | 1617.94 | 443.96  | 143.37 | 47.08  | 14.58  | 6.27    | 2.53    | 0.96     |
|       | V              | 29.45   | 18.82   | 11.35   | 7.26   | 4.66   | 2.91   | 2.07    | 1.43    | 0.96     |
| 5.00  | R              | 5537.26 | 1752.32 | 480.47  | 155.04 | 50.87  | 15.74  | 6.77    | 2.73    | 1.03     |
|       | V              | 30.67   | 19.61   | 11.82   | 7.56   | 4.85   | 3.03   | 2.16    | 1.49    | 1.00     |
| 5.20  | R              | 5981.64 | 1892.02 | 518.41  | 167.16 | 54.80  | 16.94  | 7.28    | 2.93    | 1.11     |
|       | V              | 31.90   | 20.39   | 12.29   | 7.87   | 5.05   | 3.15   | 2.24    | 1.55    | 1.04     |
| 5.40  | R              | 6443.10 | 2037.06 | 557.78  | 179.73 | 58.87  | 18.19  | 7.81    | 3.14    | 1.19     |
|       | V              | 33.13   | 21.18   | 12.77   | 8.17   | 5.24   | 3.27   | 2.33    | 1.61    | 1.08     |
| 5.60  | R              | 6921.66 | 2187.41 | 598.58  | 192.74 | 63.09  | 19.48  | 8.36    | 3.36    | 1.27     |
|       | V              | 34.36   | 21.96   | 13.24   | 8.47   | 5.44   | 3.39   | 2.41    | 1.67    | 1.12     |
| 5.80  | R              | 7417.30 | 2343.09 | 640.80  | 206.21 | 67.45  | 20.81  | 8.92    | 3.59    | 1.36     |
|       | V              | 35.58   | 22.75   | 13.71   | 8.77   | 5.63   | 3.52   | 2.50    | 1.73    | 1.16     |
| 6.00  | R              | 7930.03 | 2504.09 | 684.44  | 220.12 | 71.95  | 22.18  | 9.51    | 3.82    | 1.44     |
|       | V              | 36.81   | 23.53   | 14.18   | 9.08   | 5.83   | 3.64   | 2.59    | 1.79    | 1.20     |
| 6.20  | R              | 8459.84 | 2670.42 | 729.51  | 234.48 | 76.60  | 23.59  | 10.11   | 4.06    | 1.53     |
|       | V              | 38.04   | 24.31   | 14.66   | 9.38   | 6.02   | 3.76   | 2.67    | 1.85    | 1.24     |
| 6.40  | R              | 9006.74 | 2842.07 | 776.00  | 249.28 | 81.38  | 25.05  | 10.73   | 4.31    | 1.63     |
|       | V              | 39.26   | 25.10   | 15.13   | 9.68   | 6.21   | 3.88   | 2.76    | 1.90    | 1.28     |
| 6.60  | R              | 9570.72 | 3019.04 | 823.92  | 264.54 | 86.31  | 26.55  | 11.37   | 4.56    | 1.72     |
|       | V              | 40.49   | 25.88   | 15.60   | 9.98   | 6.41   | 4.00   | 2.84    | 1.96    | 1.32     |
| 6.80  | R              |         | 3201.32 | 873.26  | 280.24 | 91.38  | 28.09  | 12.02   | 4.82    | 1.82     |
|       | V              |         | 26.67   | 16.08   | 10.29  | 6.60   | 4.12   | 2.93    | 2.02    | 1.36     |
| 7.00  | R              |         | 3388.94 | 924.03  | 296.38 | 96.59  | 29.67  | 12.69   | 5.09    | 1.92     |
|       | V              |         | 27.45   | 16.55   | 10.59  | 6.80   | 4.24   | 3.02    | 2.08    | 1.40     |
| 7.50  | R              |         | 3881.23 | 1057.17 | 338.70 | 110.24 | 33.82  | 14.45   | 5.79    | 2.18     |
|       | V              |         | 29.41   | 17.73   | 11.35  | 7.28   | 4.55   | 3.23    | 2.23    | 1.50     |
| 8.00  | R              |         | 4406.78 | 1199.20 | 383.81 | 124.78 | 38.22  | 16.31   | 6.53    | 2.46     |
|       | V              |         | 31.37   | 18.91   | 12.10  | 7.77   | 4.85   | 3.45    | 2.38    | 1.60     |
| 9.00  | R              |         | 5557.56 | 1509.93 | 482.39 | 156.49 | 47.82  | 20.37   | 8.14    | 3.05     |
|       | V              |         | 35.29   | 21.28   | 13.62  | 8.74   | 5.45   | 3.88    | 2.68    | 1.80     |
| 10.00 | R              |         | 6841.26 | 1856.20 | 592.11 | 191.74 | 58.46  | 24.87   | 9.92    | 3.72     |
|       | V              |         | 39.22   | 23.64   | 15.13  | 9.71   | 6.06   | 4.31    | 2.98    | 2.00     |

Температура : 20°C

Трубы  
SDR 6 (PN20)

Удельный вес : 998,00 кг/м<sup>3</sup>

Кин. Вязкость : 1,0037 x 10<sup>-6</sup> м<sup>2</sup>/сек.

шероховатость: 0,007 мм

d : наружный диаметр (мм)

s : толщина стенок (мм)

d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)

R: перепад давления (мбар/м)

V: скорость (м/сек)

| d x s |                | 20x3,4  | 25x4,2 | 32x5,4 | 40x6,7 | 50x8,3 | 63x10,5 | 75x12,5 | 90x15,0 | 110x18,4 |
|-------|----------------|---------|--------|--------|--------|--------|---------|---------|---------|----------|
| Ṁ     | d <sub>i</sub> | 13,2    | 16,6   | 21,2   | 26,6   | 33,4   | 42,0    | 50,0    | 60,0    | 73,2     |
| 0.01  | R              | 0.13    | 0.05   | 0.02   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.07    | 0.05   | 0.03   | 0.02   | 0.01   | 0.01    | 0.01    | 0.00    | 0.00     |
| 0.02  | R              | 0.27    | 0.11   | 0.04   | 0.02   | 0.01   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.15    | 0.09   | 0.06   | 0.04   | 0.02   | 0.01    | 0.01    | 0.01    | 0.00     |
| 0.03  | R              | 0.83    | 0.16   | 0.06   | 0.02   | 0.01   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.22    | 0.14   | 0.08   | 0.05   | 0.03   | 0.02    | 0.02    | 0.01    | 0.01     |
| 0.04  | R              | 1.34    | 0.46   | 0.15   | 0.03   | 0.01   | 0.01    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.29    | 0.19   | 0.11   | 0.07   | 0.05   | 0.03    | 0.02    | 0.01    | 0.01     |
| 0.05  | R              | 1.96    | 0.67   | 0.21   | 0.07   | 0.02   | 0.01    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.36    | 0.23   | 0.14   | 0.09   | 0.06   | 0.04    | 0.03    | 0.02    | 0.01     |
| 0.06  | R              | 2.68    | 0.91   | 0.29   | 0.10   | 0.02   | 0.01    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.44    | 0.28   | 0.17   | 0.11   | 0.07   | 0.04    | 0.03    | 0.02    | 0.01     |
| 0.07  | R              | 3.50    | 1.19   | 0.37   | 0.13   | 0.04   | 0.01    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.51    | 0.32   | 0.20   | 0.13   | 0.08   | 0.05    | 0.04    | 0.02    | 0.02     |
| 0.08  | R              | 4.41    | 1.49   | 0.47   | 0.16   | 0.06   | 0.02    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.58    | 0.37   | 0.23   | 0.14   | 0.09   | 0.06    | 0.04    | 0.03    | 0.02     |
| 0.09  | R              | 5.41    | 1.83   | 0.57   | 0.20   | 0.07   | 0.02    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.66    | 0.42   | 0.25   | 0.16   | 0.10   | 0.06    | 0.05    | 0.03    | 0.02     |
| 0.10  | R              | 6.49    | 2.19   | 0.69   | 0.24   | 0.08   | 0.03    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.73    | 0.46   | 0.28   | 0.18   | 0.11   | 0.07    | 0.05    | 0.04    | 0.02     |
| 0.12  | R              | 8.93    | 3.01   | 0.94   | 0.32   | 0.11   | 0.04    | 0.02    | 0.01    | 0.00     |
|       | V              | 0.88    | 0.56   | 0.34   | 0.22   | 0.14   | 0.09    | 0.06    | 0.04    | 0.03     |
| 0.14  | R              | 11.71   | 3.94   | 1.23   | 0.42   | 0.14   | 0.05    | 0.02    | 0.01    | 0.00     |
|       | V              | 1.02    | 0.65   | 0.40   | 0.25   | 0.16   | 0.10    | 0.07    | 0.05    | 0.03     |
| 0.16  | R              | 14.82   | 4.97   | 1.54   | 0.53   | 0.18   | 0.06    | 0.03    | 0.01    | 0.00     |
|       | V              | 1.17    | 0.74   | 0.45   | 0.29   | 0.18   | 0.12    | 0.08    | 0.06    | 0.04     |
| 0.18  | R              | 18.26   | 6.11   | 1.90   | 0.64   | 0.22   | 0.07    | 0.03    | 0.01    | 0.01     |
|       | V              | 1.31    | 0.83   | 0.51   | 0.32   | 0.21   | 0.13    | 0.09    | 0.06    | 0.04     |
| 0.20  | R              | 22.03   | 7.36   | 2.28   | 0.77   | 0.26   | 0.09    | 0.04    | 0.02    | 0.01     |
|       | V              | 1.46    | 0.93   | 0.57   | 0.36   | 0.23   | 0.14    | 0.10    | 0.07    | 0.05     |
| 0.30  | R              | 45.55   | 15.10  | 4.64   | 1.57   | 0.53   | 0.18    | 0.08    | 0.03    | 0.01     |
|       | V              | 2.19    | 1.39   | 0.85   | 0.54   | 0.34   | 0.22    | 0.15    | 0.11    | 0.07     |
| 0.40  | R              | 76.68   | 25.28  | 7.73   | 2.60   | 0.88   | 0.29    | 0.13    | 0.05    | 0.02     |
|       | V              | 2.92    | 1.85   | 1.13   | 0.72   | 0.46   | 0.29    | 0.20    | 0.14    | 0.09     |
| 0.50  | R              | 115.23  | 37.82  | 11.51  | 3.86   | 1.30   | 0.43    | 0.19    | 0.08    | 0.03     |
|       | V              | 3.65    | 2.31   | 1.42   | 0.90   | 0.57   | 0.36    | 0.26    | 0.18    | 0.12     |
| 0.60  | R              | 161.08  | 52.65  | 15.97  | 5.34   | 1.79   | 0.60    | 0.26    | 0.11    | 0.04     |
|       | V              | 4.38    | 2.78   | 1.70   | 1.08   | 0.68   | 0.43    | 0.31    | 0.21    | 0.14     |
| 0.70  | R              | 214.14  | 69.75  | 21.09  | 7.03   | 2.35   | 0.78    | 0.34    | 0.14    | 0.06     |
|       | V              | 5.11    | 3.24   | 1.98   | 1.26   | 0.80   | 0.50    | 0.36    | 0.25    | 0.17     |
| 0.80  | R              | 274.34  | 89.09  | 26.86  | 8.93   | 2.98   | 0.99    | 0.43    | 0.18    | 0.07     |
|       | V              | 5.84    | 3.70   | 2.27   | 1.44   | 0.91   | 0.58    | 0.41    | 0.28    | 0.19     |
| 0.90  | R              | 341.64  | 110.64 | 33.27  | 11.04  | 3.68   | 1.22    | 0.53    | 0.22    | 0.09     |
|       | V              | 6.57    | 4.17   | 2.55   | 1.62   | 1.03   | 0.65    | 0.46    | 0.32    | 0.21     |
| 1.00  | R              | 416.00  | 134.39 | 40.31  | 13.35  | 4.45   | 1.47    | 0.64    | 0.27    | 0.10     |
|       | V              | 7.30    | 4.63   | 2.83   | 1.80   | 1.14   | 0.72    | 0.51    | 0.35    | 0.24     |
| 1.20  | R              | 585.80  | 188.43 | 56.28  | 18.57  | 6.17   | 2.03    | 0.89    | 0.37    | 0.14     |
|       | V              | 8.76    | 5.56   | 3.40   | 2.16   | 1.37   | 0.86    | 0.61    | 0.42    | 0.28     |
| 1.40  | R              | 783.57  | 251.12 | 74.73  | 24.58  | 8.14   | 2.68    | 1.17    | 0.48    | 0.19     |
|       | V              | 10.22   | 6.48   | 3.97   | 2.52   | 1.60   | 1.01    | 0.71    | 0.49    | 0.33     |
| 1.60  | R              | 1009.18 | 322.41 | 95.63  | 31.37  | 10.37  | 3.40    | 1.48    | 0.61    | 0.23     |
|       | V              | 11.68   | 7.41   | 4.53   | 2.88   | 1.83   | 1.15    | 0.82    | 0.57    | 0.38     |
| 1.80  | R              | 1262.55 | 402.25 | 118.96 | 38.93  | 12.84  | 4.20    | 1.83    | 0.76    | 0.29     |
|       | V              | 13.14   | 8.33   | 5.10   | 3.24   | 2.05   | 1.29    | 0.92    | 0.64    | 0.43     |
| 2.00  | R              | 1543.61 | 490.61 | 144.71 | 47.26  | 15.55  | 5.08    | 2.21    | 0.91    | 0.35     |
|       | V              | 14.60   | 9.26   | 5.67   | 3.60   | 2.28   | 1.44    | 1.02    | 0.71    | 0.47     |
| 2.20  | R              | 1852.31 | 587.45 | 172.87 | 56.33  | 18.50  | 6.04    | 2.62    | 1.08    | 0.41     |
|       | V              | 16.06   | 10.19  | 6.23   | 3.96   | 2.51   | 1.58    | 1.12    | 0.78    | 0.52     |

Температура : 20°C

Трубы  
SDR 6 (PN20)

Удельный вес : 998,00 кг/м<sup>3</sup>  
Кин. Вязкость : 1,0037 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
шероховатость: 0,007 мм

d : наружный диаметр (мм)  
s : толщина стенок (мм)  
d<sub>i</sub> : внутренний диаметр (мм)

Ṽ: расход (л/сек)  
R: перепад давления (мбар/м)  
V: скорость (м/сек)

| d x s |                | 20x3,4  | 25x4,2  | 32x5,4  | 40x6,7 | 50x8,3 | 63x10,5 | 75x12,5 | 90x15,0 | 110x18,4 |
|-------|----------------|---------|---------|---------|--------|--------|---------|---------|---------|----------|
| Ṽ     | d <sub>i</sub> | 13,2    | 16,6    | 21,2    | 26,6   | 33,4   | 42,0    | 50,0    | 60,0    | 73,2     |
| 2.40  | R              | 1316.70 | 421.40  | 117.33  | 38.43  | 12.80  | 4.02    | 1.75    | 0.71    | 0.27     |
|       | V              | 14.72   | 9.41    | 5.67    | 3.63   | 2.33   | 1.45    | 1.03    | 0.71    | 0.48     |
| 2.60  | R              | 1538.65 | 491.74  | 136.66  | 44.69  | 14.86  | 4.66    | 2.02    | 0.82    | 0.31     |
|       | V              | 15.95   | 10.20   | 6.15    | 3.93   | 2.52   | 1.58    | 1.12    | 0.77    | 0.52     |
| 2.80  | R              | 1777.73 | 567.42  | 157.43  | 51.40  | 17.07  | 5.35    | 2.32    | 0.94    | 0.36     |
|       | V              | 17.18   | 10.98   | 6.62    | 4.24   | 2.72   | 1.70    | 1.21    | 0.83    | 0.56     |
| 3.00  | R              | 2033.95 | 648.45  | 179.63  | 58.56  | 19.42  | 6.08    | 2.63    | 1.07    | 0.41     |
|       | V              | 18.40   | 11.76   | 7.09    | 4.54   | 2.91   | 1.82    | 1.29    | 0.89    | 0.60     |
| 3.20  | R              | 2307.29 | 734.83  | 203.28  | 66.18  | 21.92  | 6.85    | 2.96    | 1.20    | 0.46     |
|       | V              | 19.63   | 12.55   | 7.57    | 4.84   | 3.11   | 1.94    | 1.38    | 0.95    | 0.64     |
| 3.40  | R              | 2597.75 | 826.54  | 228.35  | 74.25  | 24.56  | 7.66    | 3.31    | 1.34    | 0.51     |
|       | V              | 20.86   | 13.33   | 8.04    | 5.14   | 3.30   | 2.06    | 1.47    | 1.01    | 0.68     |
| 3.60  | R              | 2905.33 | 923.60  | 254.86  | 82.77  | 27.34  | 8.52    | 3.68    | 1.49    | 0.57     |
|       | V              | 22.09   | 14.12   | 8.51    | 5.45   | 3.50   | 2.18    | 1.55    | 1.07    | 0.72     |
| 3.80  | R              | 3230.01 | 1025.99 | 282.80  | 91.75  | 30.27  | 9.42    | 4.07    | 1.65    | 0.63     |
|       | V              | 23.31   | 14.90   | 8.98    | 5.75   | 3.69   | 2.30    | 1.64    | 1.13    | 0.76     |
| 4.00  | R              | 3571.80 | 1133.72 | 312.18  | 101.17 | 33.35  | 10.37   | 4.47    | 1.81    | 0.69     |
|       | V              | 24.54   | 15.69   | 9.46    | 6.05   | 3.88   | 2.42    | 1.72    | 1.19    | 0.80     |
| 4.20  | R              | 3930.70 | 1246.78 | 342.98  | 111.05 | 36.56  | 11.36   | 4.90    | 1.98    | 0.75     |
|       | V              | 25.77   | 16.47   | 9.93    | 6.35   | 4.08   | 2.55    | 1.81    | 1.25    | 0.84     |
| 4.40  | R              | 4306.69 | 1365.17 | 375.21  | 121.37 | 39.92  | 12.39   | 5.34    | 2.16    | 0.82     |
|       | V              | 26.99   | 17.25   | 10.40   | 6.66   | 4.27   | 2.67    | 1.90    | 1.31    | 0.88     |
| 4.60  | R              | 4699.79 | 1488.89 | 408.87  | 132.14 | 43.43  | 13.46   | 5.79    | 2.34    | 0.89     |
|       | V              | 28.22   | 18.04   | 10.87   | 6.96   | 4.47   | 2.79    | 1.98    | 1.37    | 0.92     |
| 4.80  | R              | 5109.98 | 1617.94 | 443.96  | 143.37 | 47.08  | 14.58   | 6.27    | 2.53    | 0.96     |
|       | V              | 29.45   | 18.82   | 11.35   | 7.26   | 4.66   | 2.91    | 2.07    | 1.43    | 0.96     |
| 5.00  | R              | 5537.26 | 1752.32 | 480.47  | 155.04 | 50.87  | 15.74   | 6.77    | 2.73    | 1.03     |
|       | V              | 30.67   | 19.61   | 11.82   | 7.56   | 4.85   | 3.03    | 2.16    | 1.49    | 1.00     |
| 5.20  | R              | 5981.64 | 1892.02 | 518.41  | 167.16 | 54.80  | 16.94   | 7.28    | 2.93    | 1.11     |
|       | V              | 31.90   | 20.39   | 12.29   | 7.87   | 5.05   | 3.15    | 2.24    | 1.55    | 1.04     |
| 5.40  | R              | 6443.10 | 2037.06 | 557.78  | 179.73 | 58.87  | 18.19   | 7.81    | 3.14    | 1.19     |
|       | V              | 33.13   | 21.18   | 12.77   | 8.17   | 5.24   | 3.27    | 2.33    | 1.61    | 1.08     |
| 5.60  | R              | 6921.66 | 2187.41 | 598.58  | 192.74 | 63.09  | 19.48   | 8.36    | 3.36    | 1.27     |
|       | V              | 34.36   | 21.96   | 13.24   | 8.47   | 5.44   | 3.39    | 2.41    | 1.67    | 1.12     |
| 5.80  | R              | 7417.30 | 2343.09 | 640.80  | 206.21 | 67.45  | 20.81   | 8.92    | 3.59    | 1.36     |
|       | V              | 35.58   | 22.75   | 13.71   | 8.77   | 5.63   | 3.52    | 2.50    | 1.73    | 1.16     |
| 6.00  | R              | 7930.03 | 2504.09 | 684.44  | 220.12 | 71.95  | 22.18   | 9.51    | 3.82    | 1.44     |
|       | V              | 36.81   | 23.53   | 14.18   | 9.08   | 5.83   | 3.64    | 2.59    | 1.79    | 1.20     |
| 6.20  | R              | 8459.84 | 2670.42 | 729.51  | 234.48 | 76.60  | 23.59   | 10.11   | 4.06    | 1.53     |
|       | V              | 38.04   | 24.31   | 14.66   | 9.38   | 6.02   | 3.76    | 2.67    | 1.85    | 1.24     |
| 6.40  | R              | 9006.74 | 2842.07 | 776.00  | 249.28 | 81.38  | 25.05   | 10.73   | 4.31    | 1.63     |
|       | V              | 39.26   | 25.10   | 15.13   | 9.68   | 6.21   | 3.88    | 2.76    | 1.90    | 1.28     |
| 6.60  | R              | 9570.72 | 3019.04 | 823.92  | 264.54 | 86.31  | 26.55   | 11.37   | 4.56    | 1.72     |
|       | V              | 40.49   | 25.88   | 15.60   | 9.98   | 6.41   | 4.00    | 2.84    | 1.96    | 1.32     |
| 6.80  | R              |         | 3201.32 | 873.26  | 280.24 | 91.38  | 28.09   | 12.02   | 4.82    | 1.82     |
|       | V              |         | 26.67   | 16.08   | 10.29  | 6.60   | 4.12    | 2.93    | 2.02    | 1.36     |
| 7.00  | R              |         | 3388.94 | 924.03  | 296.38 | 96.59  | 29.67   | 12.69   | 5.09    | 1.92     |
|       | V              |         | 27.45   | 16.55   | 10.59  | 6.80   | 4.24    | 3.02    | 2.08    | 1.40     |
| 7.50  | R              |         | 3881.23 | 1057.17 | 338.70 | 110.24 | 33.82   | 14.45   | 5.79    | 2.18     |
|       | V              |         | 29.41   | 17.73   | 11.35  | 7.28   | 4.55    | 3.23    | 2.23    | 1.50     |
| 8.00  | R              |         | 4406.78 | 1199.20 | 383.81 | 124.78 | 38.22   | 16.31   | 6.53    | 2.46     |
|       | V              |         | 31.37   | 18.91   | 12.10  | 7.77   | 4.85    | 3.45    | 2.38    | 1.60     |
| 9.00  | R              |         | 5557.56 | 1509.93 | 482.39 | 156.49 | 47.82   | 20.37   | 8.14    | 3.05     |
|       | V              |         | 35.29   | 21.28   | 13.62  | 8.74   | 5.45    | 3.88    | 2.68    | 1.80     |
| 10.00 | R              |         | 6841.26 | 1856.20 | 592.11 | 191.74 | 58.46   | 24.87   | 9.92    | 3.72     |
|       | V              |         | 39.22   | 23.64   | 15.13  | 9.71   | 6.06    | 4.31    | 2.98    | 2.00     |



Температура : 60°C

Трубы  
SDR 6 (PN20)

Удельный вес : 983,20 кг/м<sup>3</sup>  
Кин. Вязкость : 0,47 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
шероховатость: 0,007 мм

d : наружный диаметр (мм)  
s : толщина стенок (мм)  
d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)  
R: перепад давления (мбар/м)  
V: скорость (м/сек)

| d x s |                | 20x3,4  | 25x4,2 | 32x5,4 | 40x6,7 | 50x8,3 | 63x10,5 | 75x12,5 | 90x15,0 | 110x18,4 |
|-------|----------------|---------|--------|--------|--------|--------|---------|---------|---------|----------|
| Ṁ     | d <sub>i</sub> | 13,2    | 16,6   | 21,2   | 26,6   | 33,4   | 42,0    | 50,0    | 60,0    | 73,2     |
| 0.01  | R              | 0.06    | 0.03   | 0.01   | 0.00   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.07    | 0.05   | 0.03   | 0.02   | 0.01   | 0.01    | 0.01    | 0.00    | 0.00     |
| 0.02  | R              | 0.33    | 0.11   | 0.04   | 0.01   | 0.00   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.15    | 0.09   | 0.06   | 0.04   | 0.02   | 0.01    | 0.01    | 0.01    | 0.00     |
| 0.03  | R              | 0.65    | 0.22   | 0.07   | 0.02   | 0.01   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.22    | 0.14   | 0.08   | 0.05   | 0.03   | 0.02    | 0.02    | 0.01    | 0.01     |
| 0.04  | R              | 1.07    | 0.36   | 0.11   | 0.04   | 0.01   | 0.00    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.29    | 0.19   | 0.11   | 0.07   | 0.05   | 0.03    | 0.02    | 0.01    | 0.01     |
| 0.05  | R              | 1.58    | 0.53   | 0.17   | 0.06   | 0.02   | 0.01    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.36    | 0.23   | 0.14   | 0.09   | 0.06   | 0.04    | 0.03    | 0.02    | 0.01     |
| 0.06  | R              | 2.17    | 0.73   | 0.23   | 0.08   | 0.03   | 0.01    | 0.00    | 0.00    | 0.00     |
|       | V              | 0.44    | 0.28   | 0.17   | 0.11   | 0.07   | 0.04    | 0.03    | 0.02    | 0.01     |
| 0.07  | R              | 2.85    | 0.96   | 0.30   | 0.10   | 0.03   | 0.01    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.51    | 0.32   | 0.20   | 0.13   | 0.08   | 0.05    | 0.04    | 0.02    | 0.02     |
| 0.08  | R              | 3.61    | 1.21   | 0.37   | 0.13   | 0.04   | 0.01    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.58    | 0.37   | 0.23   | 0.14   | 0.09   | 0.06    | 0.04    | 0.03    | 0.02     |
| 0.09  | R              | 4.44    | 1.49   | 0.46   | 0.16   | 0.05   | 0.02    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.66    | 0.42   | 0.25   | 0.16   | 0.10   | 0.06    | 0.05    | 0.03    | 0.02     |
| 0.10  | R              | 5.36    | 1.79   | 0.55   | 0.19   | 0.06   | 0.02    | 0.01    | 0.00    | 0.00     |
|       | V              | 0.73    | 0.46   | 0.28   | 0.18   | 0.11   | 0.07    | 0.05    | 0.04    | 0.02     |
| 0.12  | R              | 7.43    | 2.47   | 0.76   | 0.26   | 0.09   | 0.03    | 0.01    | 0.01    | 0.00     |
|       | V              | 0.88    | 0.56   | 0.34   | 0.22   | 0.14   | 0.09    | 0.06    | 0.04    | 0.03     |
| 0.14  | R              | 9.80    | 3.25   | 1.00   | 0.34   | 0.11   | 0.04    | 0.02    | 0.01    | 0.00     |
|       | V              | 1.02    | 0.65   | 0.40   | 0.25   | 0.16   | 0.10    | 0.07    | 0.05    | 0.03     |
| 0.16  | R              | 12.47   | 4.13   | 1.27   | 0.43   | 0.14   | 0.05    | 0.02    | 0.01    | 0.00     |
|       | V              | 1.17    | 0.74   | 0.45   | 0.29   | 0.18   | 0.12    | 0.08    | 0.06    | 0.04     |
| 0.18  | R              | 15.44   | 5.10   | 1.56   | 0.52   | 0.18   | 0.06    | 0.03    | 0.01    | 0.00     |
|       | V              | 1.31    | 0.83   | 0.51   | 0.32   | 0.21   | 0.13    | 0.09    | 0.06    | 0.04     |
| 0.20  | R              | 18.70   | 6.16   | 1.88   | 0.63   | 0.21   | 0.07    | 0.03    | 0.01    | 0.01     |
|       | V              | 1.46    | 0.93   | 0.57   | 0.36   | 0.23   | 0.14    | 0.10    | 0.07    | 0.05     |
| 0.30  | R              | 39.33   | 12.84  | 3.89   | 1.30   | 0.44   | 0.14    | 0.06    | 0.03    | 0.01     |
|       | V              | 2.19    | 1.39   | 0.85   | 0.54   | 0.34   | 0.22    | 0.15    | 0.11    | 0.07     |
| 0.40  | R              | 67.05   | 21.75  | 6.55   | 2.18   | 0.73   | 0.24    | 0.11    | 0.04    | 0.02     |
|       | V              | 2.92    | 1.85   | 1.13   | 0.72   | 0.46   | 0.29    | 0.20    | 0.14    | 0.09     |
| 0.50  | R              | 101.74  | 32.83  | 9.83   | 3.25   | 1.08   | 0.36    | 0.16    | 0.07    | 0.02     |
|       | V              | 3.65    | 2.31   | 1.42   | 0.90   | 0.57   | 0.36    | 0.26    | 0.18    | 0.12     |
| 0.60  | R              | 143.35  | 46.05  | 13.74  | 4.53   | 1.50   | 0.49    | 0.22    | 0.09    | 0.03     |
|       | V              | 4.38    | 2.78   | 1.70   | 1.08   | 0.68   | 0.43    | 0.31    | 0.21    | 0.14     |
| 0.70  | R              | 191.84  | 61.40  | 18.25  | 6.00   | 1.98   | 0.65    | 0.28    | 0.12    | 0.05     |
|       | V              | 5.11    | 3.24   | 1.98   | 1.26   | 0.80   | 0.50    | 0.36    | 0.25    | 0.17     |
| 0.80  | R              | 247.17  | 78.87  | 23.36  | 7.66   | 2.53   | 0.83    | 0.36    | 0.15    | 0.06     |
|       | V              | 5.84    | 3.70   | 2.27   | 1.44   | 0.91   | 0.58    | 0.41    | 0.28    | 0.19     |
| 0.90  | R              | 309.33  | 98.43  | 29.07  | 9.50   | 3.13   | 1.02    | 0.45    | 0.18    | 0.07     |
|       | V              | 6.57    | 4.17   | 2.55   | 1.62   | 1.03   | 0.65    | 0.46    | 0.32    | 0.21     |
| 1.00  | R              | 378.30  | 120.09 | 35.37  | 11.54  | 3.79   | 1.24    | 0.54    | 0.22    | 0.08     |
|       | V              | 7.30    | 4.63   | 2.83   | 1.80   | 1.14   | 0.72    | 0.51    | 0.35    | 0.24     |
| 1.20  | R              | 536.63  | 169.66 | 49.75  | 16.16  | 5.29   | 1.72    | 0.75    | 0.31    | 0.12     |
|       | V              | 8.76    | 5.56   | 3.40   | 2.16   | 1.37   | 0.86    | 0.61    | 0.42    | 0.28     |
| 1.40  | R              | 722.10  | 227.54 | 66.47  | 21.52  | 7.03   | 2.28    | 0.99    | 0.41    | 0.15     |
|       | V              | 10.22   | 6.48   | 3.97   | 2.52   | 1.60   | 1.01    | 0.71    | 0.49    | 0.33     |
| 1.60  | R              | 934.65  | 293.71 | 85.53  | 27.61  | 8.99   | 2.91    | 1.26    | 0.52    | 0.20     |
|       | V              | 11.68   | 7.41   | 4.53   | 2.88   | 1.83   | 1.15    | 0.82    | 0.57    | 0.38     |
| 1.80  | R              | 1174.24 | 368.14 | 106.90 | 34.42  | 11.18  | 3.61    | 1.56    | 0.64    | 0.24     |
|       | V              | 13.14   | 8.33   | 5.10   | 3.24   | 2.05   | 1.29    | 0.92    | 0.64    | 0.43     |
| 2.00  | R              | 1440.86 | 450.83 | 130.60 | 41.95  | 13.59  | 4.38    | 1.89    | 0.78    | 0.29     |
|       | V              | 14.60   | 9.26   | 5.67   | 3.60   | 2.28   | 1.44    | 1.02    | 0.71    | 0.47     |
| 2.20  | R              | 1734.48 | 541.76 | 156.60 | 50.19  | 16.23  | 5.22    | 2.25    | 0.92    | 0.35     |
|       | V              | 16.06   | 10.19  | 6.23   | 3.96   | 2.51   | 1.58    | 1.12    | 0.78    | 0.52     |

Температура : 60°C

Трубы  
SDR 6 (PN20)

Удельный вес : 983,20 кг/м<sup>3</sup>  
Кин. Вязкость : 0,47 x 10<sup>-6</sup> м<sup>2</sup>/сек.  
шероховатость: 0,007 мм

d : наружный диаметр (мм)  
s : толщина стенок (мм)  
d<sub>i</sub> : внутренний диаметр (мм)

Ṁ: расход (л/сек)  
R: перепад давления (мбар/м)  
V: скорость (м/сек)

| d x s |                | 20x3,4  | 25x4,2  | 32x5,4  | 40x6,7 | 50x8,3 | 63x10,5 | 75x12,5 | 90x15,0 | 110x18,4 |
|-------|----------------|---------|---------|---------|--------|--------|---------|---------|---------|----------|
| Ṁ     | d <sub>i</sub> | 13,2    | 16,6    | 21,2    | 26,6   | 33,4   | 42,0    | 50,0    | 60,0    | 73,2     |
| 2.40  | R              | 2055.09 | 640.92  | 184.91  | 59.15  | 19.10  | 6.13    | 2.64    | 1.08    | 0.41     |
|       | V              | 17.52   | 11.11   | 6.80    | 4.32   | 2.74   | 1.73    | 1.22    | 0.85    | 0.57     |
| 2.60  | R              | 2402.67 | 748.30  | 215.52  | 68.83  | 22.18  | 7.11    | 3.05    | 1.25    | 0.47     |
|       | V              | 18.98   | 12.04   | 7.37    | 4.68   | 2.97   | 1.87    | 1.33    | 0.92    | 0.61     |
| 2.80  | R              | 2777.21 | 863.90  | 248.42  | 79.21  | 25.48  | 8.16    | 3.50    | 1.43    | 0.54     |
|       | V              | 20.44   | 12.96   | 7.93    | 5.04   | 3.20   | 2.01    | 1.43    | 0.99    | 0.66     |
| 3.00  | R              | 3178.71 | 987.72  | 283.63  | 90.30  | 29.01  | 9.27    | 3.97    | 1.62    | 0.61     |
|       | V              | 21.90   | 13.89   | 8.50    | 5.40   | 3.42   | 2.16    | 1.53    | 1.06    | 0.71     |
| 3.20  | R              | 3607.15 | 1119.75 | 321.12  | 102.10 | 32.75  | 10.46   | 4.48    | 1.83    | 0.69     |
|       | V              | 23.36   | 14.81   | 9.07    | 5.76   | 3.65   | 2.30    | 1.63    | 1.13    | 0.76     |
| 3.40  | R              | 4062.53 | 1259.99 | 360.91  | 114.61 | 36.72  | 11.71   | 5.01    | 2.04    | 0.77     |
|       | V              | 24.82   | 15.74   | 9.63    | 6.12   | 3.88   | 2.45    | 1.73    | 1.20    | 0.80     |
| 3.60  | R              | 4544.85 | 1408.43 | 402.99  | 127.82 | 40.90  | 13.02   | 5.57    | 2.27    | 0.85     |
|       | V              | 26.28   | 16.67   | 10.20   | 6.47   | 4.11   | 2.59    | 1.84    | 1.27    | 0.85     |
| 3.80  | R              | 5054.09 | 1565.07 | 447.36  | 141.74 | 45.30  | 14.41   | 6.15    | 2.50    | 0.94     |
|       | V              | 27.74   | 17.59   | 10.76   | 6.83   | 4.34   | 2.73    | 1.94    | 1.34    | 0.90     |
| 4.00  | R              | 5590.26 | 1729.91 | 494.02  | 156.37 | 49.92  | 15.86   | 6.77    | 2.75    | 1.03     |
|       | V              | 29.20   | 18.52   | 11.33   | 7.19   | 4.57   | 2.88    | 2.04    | 1.41    | 0.95     |
| 4.20  | R              | 6153.35 | 1902.94 | 542.96  | 171.69 | 54.76  | 17.38   | 7.41    | 3.01    | 1.13     |
|       | V              | 30.66   | 19.44   | 11.90   | 7.55   | 4.79   | 3.02    | 2.14    | 1.48    | 0.99     |
| 4.40  | R              | 6743.35 | 2084.17 | 594.18  | 187.73 | 59.81  | 18.97   | 8.08    | 3.28    | 1.23     |
|       | V              | 32.12   | 20.37   | 12.46   | 7.91   | 5.02   | 3.17    | 2.24    | 1.55    | 1.04     |
| 4.60  | R              | 7360.27 | 2273.60 | 647.70  | 204.46 | 65.09  | 20.62   | 8.78    | 3.56    | 1.33     |
|       | V              | 33.58   | 21.30   | 13.03   | 8.27   | 5.25   | 3.31    | 2.35    | 1.63    | 1.09     |
| 4.80  | R              | 8004.09 | 2471.21 | 703.49  | 221.90 | 70.57  | 22.34   | 9.51    | 3.85    | 1.44     |
|       | V              | 35.04   | 22.22   | 13.60   | 8.63   | 5.48   | 3.45    | 2.45    | 1.70    | 1.13     |
| 5.00  | R              | 8674.83 | 2677.01 | 761.57  | 240.04 | 76.28  | 24.12   | 10.26   | 4.16    | 1.55     |
|       | V              | 36.50   | 23.15   | 14.16   | 8.99   | 5.71   | 3.60    | 2.55    | 1.77    | 1.18     |
| 5.20  | R              | 9372.46 | 2891.00 | 821.93  | 258.88 | 82.20  | 25.97   | 11.04   | 4.47    | 1.67     |
|       | V              | 37.96   | 24.07   | 14.73   | 9.35   | 5.94   | 3.74    | 2.65    | 1.84    | 1.23     |
| 5.40  | R              |         | 3113.18 | 884.57  | 278.42 | 88.34  | 27.89   | 11.85   | 4.80    | 1.79     |
|       | V              |         | 25.00   | 15.30   | 9.71   | 6.16   | 3.88    | 2.76    | 1.91    | 1.28     |
| 5.60  | R              |         | 3343.55 | 949.50  | 298.67 | 94.69  | 29.87   | 12.68   | 5.13    | 1.91     |
|       | V              |         | 25.93   | 15.86   | 10.07  | 6.39   | 4.03    | 2.86    | 1.98    | 1.32     |
| 5.80  | R              |         | 3582.10 | 1016.70 | 319.61 | 101.27 | 31.92   | 13.54   | 5.48    | 2.04     |
|       | V              |         | 26.85   | 16.43   | 10.43  | 6.62   | 4.17    | 2.96    | 2.05    | 1.37     |
| 6.00  | R              |         | 3828.83 | 1086.18 | 341.26 | 108.05 | 34.03   | 14.43   | 5.83    | 2.17     |
|       | V              |         | 27.78   | 17.00   | 10.79  | 6.85   | 4.32    | 3.06    | 2.12    | 1.42     |
| 6.20  | R              |         | 4083.75 | 1157.95 | 363.60 | 115.05 | 36.21   | 15.35   | 6.20    | 2.31     |
|       | V              |         | 28.70   | 17.56   | 11.15  | 7.08   | 4.46    | 3.16    | 2.19    | 1.47     |
| 6.40  | R              |         | 4346.85 | 1231.99 | 386.65 | 122.27 | 38.46   | 16.29   | 6.58    | 2.45     |
|       | V              |         | 29.63   | 18.13   | 11.51  | 7.31   | 4.60    | 3.27    | 2.26    | 1.51     |
| 6.60  | R              |         | 4618.13 | 1308.31 | 410.40 | 129.70 | 40.77   | 17.27   | 6.97    | 2.59     |
|       | V              |         | 30.56   | 18.70   | 11.87  | 7.53   | 4.75    | 3.37    | 2.33    | 1.56     |
| 6.80  | R              |         | 4897.60 | 1386.91 | 434.84 | 137.35 | 43.15   | 18.26   | 7.37    | 2.74     |
|       | V              |         | 31.48   | 19.26   | 12.23  | 7.76   | 4.89    | 3.47    | 2.40    | 1.61     |
| 7.00  | R              |         | 5185.24 | 1467.79 | 459.99 | 145.22 | 45.59   | 19.29   | 7.78    | 2.89     |
|       | V              |         | 32.41   | 19.83   | 12.59  | 7.99   | 5.04    | 3.57    | 2.47    | 1.65     |
| 7.50  | R              |         | 5940.14 | 1679.95 | 525.91 | 165.82 | 51.98   | 21.97   | 8.85    | 3.28     |
|       | V              |         | 34.72   | 21.25   | 13.49  | 8.56   | 5.40    | 3.83    | 2.65    | 1.77     |
| 8.00  | R              |         | 6746.15 | 1906.34 | 596.20 | 187.76 | 58.79   | 24.82   | 9.98    | 3.70     |
|       | V              |         | 37.04   | 22.66   | 14.39  | 9.13   | 5.76    | 4.08    | 2.83    | 1.89     |
| 9.00  | R              |         | 8511.49 | 2401.81 | 749.89 | 235.68 | 73.62   | 31.02   | 12.45   | 4.61     |
|       | V              |         | 41.67   | 25.50   | 16.19  | 10.27  | 6.47    | 4.59    | 3.18    | 2.13     |
| 10.00 | R              |         |         | 2954.18 | 921.03 | 288.95 | 90.07   | 37.90   | 15.19   | 5.61     |
|       | V              |         |         | 28.33   | 17.99  | 11.42  | 7.19    | 5.10    | 3.53    | 2.36     |