

Planung / Auslegung

Rohrreibungsgefälle R und rechnerische Fließgeschwindigkeit v in Abhängigkeit vom Durchfluss \dot{V}

20°

Fusiotherm®-Rohre SDR 6 (PN 20)

Temperatur: 20 °C

Rauigkeit: 0,0070 mm

sp. Dichte: 998,2 kg/m³

kin. Zähigkeit: 1,004 x 10⁻⁶ m²/s

| \dot{V} | | Di- men- sion | 16,0 mm | 20,0 mm | 25,0 mm | 32,0 mm | 40,0 mm | 50,0 mm | 63,0 mm | 75,0 mm | 90,0 mm | 110,0 mm |
|------------------------------|---------------|---------------------|---------------------------|------------|------------|------------|------------|---------------------------|------------|------------|------------|-------------|
| 0,01 l/s | 0,60 l/min | R | 0,36 | 0,13 | 0,04 | 0,01 | 0,01 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| | | v | 0,11m/s | 0,07m/s | 0,05m/s | 0,03m/s | 0,02m/s | 0,01m/s | 0,01m/s | 0,01m/s | 0,00m/s | 0,00m/s |
| 0,02 l/s | 1,20 l/min | R | 1,14 | 0,41 | 0,14 | 0,04 | 0,02 | 0,01 | 0,00 | 0,00 | 0,00 | 0,00 |
| | | v | 0,23m/s | 0,15m/s | 0,09m/s | 0,06m/s | 0,04m/s | 0,02m/s | 0,01m/s | 0,01m/s | 0,01m/s | 0,00m/s |
| 0,03 l/s | 1,80 l/min | R | 2,28 | 0,81 | 0,28 | 0,09 | 0,03 | 0,01 | 0,00 | 0,00 | 0,00 | 0,00 |
| | | v | 0,34m/s | 0,22m/s | 0,14m/s | 0,08m/s | 0,05m/s | 0,03m/s | 0,02m/s | 0,02m/s | 0,01m/s | 0,01m/s |
| 0,04 l/s | 2,40 l/min | R | 3,73 | 1,32 | 0,45 | 0,14 | 0,05 | 0,02 | 0,01 | 0,00 | 0,00 | 0,00 |
| | | v | 0,45m/s | 0,29m/s | 0,18m/s | 0,11m/s | 0,07m/s | 0,05m/s | 0,03m/s | 0,02m/s | 0,01m/s | 0,01m/s |
| 0,05 l/s | 3,00 l/min | R | 5,49 | 1,94 | 0,66 | 0,21 | 0,07 | 0,02 | 0,01 | 0,00 | 0,00 | 0,00 |
| | | v | 0,57m/s | 0,37m/s | 0,23m/s | 0,14m/s | 0,09m/s | 0,06m/s | 0,04m/s | 0,03m/s | 0,02m/s | 0,01m/s |
| 0,06 l/s | 3,60 l/min | R | 7,54 | 2,66 | 0,90 | 0,28 | 0,10 | 0,03 | 0,01 | 0,01 | 0,00 | 0,00 |
| | | v | 0,68m/s | 0,44m/s | 0,28m/s | 0,17m/s | 0,11m/s | 0,07m/s | 0,04m/s | 0,03m/s | 0,02m/s | 0,01m/s |
| 0,07 l/s | 4,20 l/min | R | 9,87 | 3,47 | 1,17 | 0,37 | 0,13 | 0,04 | 0,01 | 0,01 | 0,00 | 0,00 |
| | | v | 0,79m/s | 0,51m/s | 0,32m/s | 0,20m/s | 0,13m/s | 0,08m/s | 0,05m/s | 0,04m/s | 0,02m/s | 0,02m/s |
| 0,08 l/s | 4,80 l/min | R | 12,47 | 4,38 | 1,47 | 0,46 | 0,16 | 0,05 | 0,02 | 0,01 | 0,00 | 0,00 |
| | | v | 0,91m/s | 0,58m/s | 0,37m/s | 0,23m/s | 0,14m/s | 0,09m/s | 0,06m/s | 0,04m/s | 0,03m/s | 0,02m/s |
| 0,09 l/s | 5,40 l/min | R | 15,34 | 5,37 | 1,81 | 0,57 | 0,19 | 0,07 | 0,02 | 0,01 | 0,00 | 0,00 |
| | | v | 1,02m/s | 0,66m/s | 0,42m/s | 0,25m/s | 0,16m/s | 0,10m/s | 0,06m/s | 0,05m/s | 0,03m/s | 0,02m/s |
| 0,10 l/s | 6,00 l/min | R | 18,47 | 6,46 | 2,17 | 0,68 | 0,23 | 0,08 | 0,03 | 0,01 | 0,01 | 0,00 |
| | | v | 1,13m/s | 0,73m/s | 0,46m/s | 0,28m/s | 0,18m/s | 0,11m/s | 0,07m/s | 0,05m/s | 0,04m/s | 0,02m/s |
| 0,12 l/s | 7,20 l/min | R | 25,51 | 8,90 | 2,98 | 0,93 | 0,32 | 0,11 | 0,04 | 0,02 | 0,01 | 0,00 |
| | | v | 1,36m/s | 0,88m/s | 0,55m/s | 0,34m/s | 0,22m/s | 0,14m/s | 0,09m/s | 0,06m/s | 0,04m/s | 0,03m/s |
| 0,16 l/s | 9,60 l/min | R | 42,60 | 14,79 | 4,93 | 1,54 | 0,52 | 0,18 | 0,06 | 0,03 | 0,01 | 0,00 |
| | | v | 1,81m/s | 1,17m/s | 0,74m/s | 0,45m/s | 0,29m/s | 0,18m/s | 0,12m/s | 0,08m/s | 0,06m/s | 0,04m/s |
| 0,18 l/s | 10,8 l/min | R | 52,61 | 18,24 | 6,07 | 1,89 | 0,64 | 0,22 | 0,07 | 0,03 | 0,01 | 0,01 |
| | | v | 2,04m/s | 1,32m/s | 0,83m/s | 0,51m/s | 0,32m/s | 0,21m/s | 0,13m/s | 0,09m/s | 0,06m/s | 0,04m/s |
| 0,20 l/s | 12,0 l/min | R | 63,59 | 22,00 | 7,31 | 2,27 | 0,77 | 0,26 | 0,09 | 0,04 | 0,02 | 0,01 |
| | | v | 2,27m/s | 1,46m/s | 0,92m/s | 0,57m/s | 0,36m/s | 0,23m/s | 0,14m/s | 0,10m/s | 0,07m/s | 0,05m/s |
| 0,30 l/s | 18,0 l/min | R | 132,57 | 45,52 | 15,02 | 4,63 | 1,57 | 0,53 | 0,18 | 0,08 | 0,03 | 0,01 |
| | | v | 3,40m/s | 2,19m/s | 1,39m/s | 0,85m/s | 0,54m/s | 0,34m/s | 0,22m/s | 0,15m/s | 0,11m/s | 0,07m/s |
| 0,40 l/s | 24,0 l/min | R | 224,51 | 76,63 | 25,16 | 7,73 | 2,60 | 0,88 | 0,29 | 0,13 | 0,05 | 0,02 |
| | | v | 4,53m/s | 2,92m/s | 1,85m/s | 1,13m/s | 0,72m/s | 0,46m/s | 0,29m/s | 0,20m/s | 0,14m/s | 0,09m/s |
| 0,50 l/s | 30,0 l/min | R | 338,95 | 115,12 | 37,63 | 11,51 | 3,86 | 1,30 | 0,43 | 0,19 | 0,08 | 0,03 |
| | | v | 5,67m/s | 3,65m/s | 2,31m/s | 1,42m/s | 0,90m/s | 0,57m/s | 0,36m/s | 0,25m/s | 0,18m/s | 0,12m/s |
| 0,60 l/s | 36,0 l/min | R | 475,62 | 160,87 | 52,38 | 15,97 | 5,34 | 1,79 | 0,60 | 0,26 | 0,11 | 0,04 |
| | | v | 6,80m/s | 4,38m/s | 2,77m/s | 1,70m/s | 1,08m/s | 0,68m/s | 0,43m/s | 0,31m/s | 0,21m/s | 0,14m/s |
| 0,70 l/s | 42,0 l/min | R | 634,34 | 213,78 | 69,37 | 21,09 | 7,04 | 2,35 | 0,79 | 0,34 | 0,14 | 0,05 |
| | | v | 7,93m/s | 5,12m/s | 3,23m/s | 1,98m/s | 1,26m/s | 0,80m/s | 0,51m/s | 0,36m/s | 0,25m/s | 0,17m/s |
| 0,80 l/s | 48,0 l/min | R | 814,99 | 273,78 | 88,57 | 26,85 | 8,94 | 2,99 | 1,00 | 0,43 | 0,18 | 0,07 |
| | | v | 9,07m/s | 5,85m/s | 3,70m/s | 2,27m/s | 1,44m/s | 0,91m/s | 0,58m/s | 0,41m/s | 0,28m/s | 0,19m/s |
| \dot{V} = Durchfluss [l/s] | | | R = Druckgefälle [mbar/m] | | | | | v = Geschwindigkeit [m/s] | | | | |

Planung / Auslegung

Rohrreibungsgefälle R und rechnerische Fließgeschwindigkeit v in Abhängigkeit vom Durchfluss \dot{V}

20°

Fusiotherm®-Rohre SDR 6 (PN 20)

Temperatur: 20 °C

Rauigkeit: 0,0070 mm

sp. Dichte: 998,2 kg/m³

kin. Zähigkeit: 1,004 x 10⁻⁶ m²/s

| \dot{V} | | Di- men- sion | 16,0 mm | 20,0 mm | 25,0 mm | 32,0 mm | 40,0 mm | 50,0 mm | 63,0 mm | 75,0 mm | 90,0 mm | 110,0 mm |
|------------------------------|---------------|---------------------|---------------------------|------------|------------|------------|------------|---------------------------|------------|------------|------------|-------------|
| 0,90 l/s | 54,0 l/min | R | 1017,48 | 340,84 | 109,97 | 33,25 | 11,05 | 3,69 | 1,23 | 0,53 | 0,22 | 0,09 |
| | | v | 10,20m/s | 6,58m/s | 4,16m/s | 2,55m/s | 1,62m/s | 1,03m/s | 0,65m/s | 0,46m/s | 0,32m/s | 0,21m/s |
| 1,00 l/s | 60,0 l/min | R | 1241,75 | 414,91 | 133,53 | 40,28 | 13,37 | 4,45 | 1,48 | 0,64 | 0,27 | 0,10 |
| | | v | 11,33m/s | 7,31m/s | 4,62m/s | 2,83m/s | 1,80m/s | 1,14m/s | 0,72m/s | 0,51m/s | 0,35m/s | 0,24m/s |
| 1,20 l/s | 72,0 l/min | R | 1755,44 | 584,00 | 187,12 | 56,21 | 18,60 | 6,17 | 2,05 | 0,89 | 0,37 | 0,14 |
| | | v | 13,60m/s | 8,77m/s | 5,54m/s | 3,40m/s | 2,16m/s | 1,37m/s | 0,87m/s | 0,61m/s | 0,42m/s | 0,28m/s |
| 1,40 l/s | 84,0 l/min | R | 2355,79 | 780,86 | 249,26 | 74,61 | 24,61 | 8,15 | 2,70 | 1,17 | 0,49 | 0,19 |
| | | v | 15,86m/s | 10,23m/s | 6,47m/s | 3,97m/s | 2,52m/s | 1,60m/s | 1,01m/s | 0,71m/s | 0,50m/s | 0,33m/s |
| 1,60 l/s | 96,0 l/min | R | 3042,63 | 1005,40 | 319,89 | 95,44 | 31,40 | 10,38 | 3,43 | 1,48 | 0,62 | 0,24 |
| | | v | 18,13m/s | 11,69m/s | 7,39m/s | 4,53m/s | 2,88m/s | 1,83m/s | 1,15m/s | 0,81m/s | 0,57m/s | 0,38m/s |
| 1,80 l/s | 108 l/min | R | 3815,83 | 1257,54 | 398,96 | 118,68 | 38,95 | 12,85 | 4,24 | 1,83 | 0,76 | 0,29 |
| | | v | 20,40m/s | 13,15m/s | 8,32m/s | 5,10m/s | 3,24m/s | 2,05m/s | 1,30m/s | 0,92m/s | 0,64m/s | 0,43m/s |
| 2,00 l/s | 120 l/min | R | 4675,33 | 1537,22 | 486,44 | 144,32 | 47,26 | 15,56 | 5,12 | 2,21 | 0,92 | 0,35 |
| | | v | 22,66m/s | 14,61m/s | 9,24m/s | 5,67m/s | 3,60m/s | 2,28m/s | 1,44m/s | 1,02m/s | 0,71m/s | 0,47m/s |
| 2,20 l/s | 132 l/min | R | 5621,05 | 1844,39 | 582,30 | 172,34 | 56,32 | 18,51 | 6,09 | 2,62 | 1,09 | 0,41 |
| | | v | 24,93m/s | 16,08m/s | 10,17m/s | 6,23m/s | 3,96m/s | 2,51m/s | 1,59m/s | 1,12m/s | 0,78m/s | 0,52m/s |
| 2,40 l/s | 144 l/min | R | 6652,96 | 2179,03 | 686,53 | 202,74 | 66,13 | 21,70 | 7,12 | 3,07 | 1,27 | 0,48 |
| | | v | 27,20m/s | 17,54m/s | 11,09m/s | 6,80m/s | 4,32m/s | 2,74m/s | 1,73m/s | 1,22m/s | 0,85m/s | 0,57m/s |
| 2,60 l/s | 156 l/min | R | 7771,02 | 2541,12 | 799,10 | 235,50 | 76,68 | 25,12 | 8,24 | 3,54 | 1,47 | 0,56 |
| | | v | 29,46m/s | 19,00m/s | 12,01m/s | 7,37m/s | 4,68m/s | 2,97m/s | 1,88m/s | 1,32m/s | 0,92m/s | 0,61m/s |
| 2,80 l/s | 168 l/min | R | 8975,22 | 2930,62 | 920,01 | 270,62 | 87,97 | 28,78 | 9,42 | 4,05 | 1,68 | 0,64 |
| | | v | 31,73m/s | 20,46m/s | 12,94m/s | 7,93m/s | 5,04m/s | 3,20m/s | 2,02m/s | 1,43m/s | 0,99m/s | 0,66m/s |
| 3,00 l/s | 180 l/min | R | 10265,53 | 3347,53 | 1049,24 | 308,09 | 100,00 | 32,66 | 10,68 | 4,59 | 1,90 | 0,72 |
| | | v | 34,00m/s | 21,92m/s | 13,86m/s | 8,50m/s | 5,40m/s | 3,42m/s | 2,17m/s | 1,53m/s | 1,06m/s | 0,71m/s |
| 3,20 l/s | 192 l/min | R | 11641,93 | 3791,84 | 1186,78 | 347,91 | 112,75 | 36,78 | 12,02 | 5,15 | 2,13 | 0,81 |
| | | v | 36,26m/s | 23,38m/s | 14,79m/s | 9,07m/s | 5,76m/s | 3,65m/s | 2,31m/s | 1,63m/s | 1,13m/s | 0,76m/s |
| 3,40 l/s | 204 l/min | R | 13104,41 | 4263,53 | 1332,63 | 390,07 | 126,24 | 41,13 | 13,42 | 5,75 | 2,38 | 0,90 |
| | | v | 38,53m/s | 24,85m/s | 15,71m/s | 9,63m/s | 6,12m/s | 3,88m/s | 2,45m/s | 1,73m/s | 1,20m/s | 0,80m/s |
| 3,60 l/s | 216 l/min | R | 14652,97 | 4762,59 | 1486,78 | 434,56 | 140,46 | 45,71 | 14,90 | 6,38 | 2,64 | 1,00 |
| | | v | 40,79m/s | 26,31m/s | 16,63m/s | 10,20m/s | 6,48m/s | 4,11m/s | 2,60m/s | 1,83m/s | 1,27m/s | 0,85m/s |
| 3,80 l/s | 228 l/min | R | 16287,59 | 5289,02 | 1649,23 | 481,40 | 155,40 | 50,51 | 16,45 | 7,04 | 2,91 | 1,10 |
| | | v | 43,06m/s | 27,77m/s | 17,56m/s | 10,77m/s | 6,84m/s | 4,34m/s | 2,74m/s | 1,94m/s | 1,34m/s | 0,90m/s |
| 4,00 l/s | 240 l/min | R | 18008,27 | 5842,81 | 1819,97 | 530,56 | 171,07 | 55,54 | 18,07 | 7,73 | 3,19 | 1,21 |
| | | v | 45,33m/s | 29,23m/s | 18,48m/s | 11,33m/s | 7,20m/s | 4,57m/s | 2,89m/s | 2,04m/s | 1,41m/s | 0,95m/s |
| 4,20 l/s | 252 l/min | R | 19814,99 | 6423,96 | 1998,99 | 582,05 | 187,46 | 60,80 | 19,77 | 8,45 | 3,49 | 1,32 |
| | | v | 47,59m/s | 30,69m/s | 19,41m/s | 11,90m/s | 7,56m/s | 4,79m/s | 3,03m/s | 2,14m/s | 1,49m/s | 0,99m/s |
| 4,40 l/s | 264 l/min | R | 21707,77 | 7032,46 | 2186,30 | 635,88 | 204,57 | 66,28 | 21,53 | 9,20 | 3,80 | 1,43 |
| | | v | 49,86m/s | 32,15m/s | 20,33m/s | 12,46m/s | 7,92m/s | 5,02m/s | 3,18m/s | 2,24m/s | 1,56m/s | 1,04m/s |
| 4,60 l/s | 276 l/min | R | 23686,58 | 7668,31 | 2381,89 | 692,02 | 222,41 | 71,99 | 23,36 | 9,98 | 4,12 | 1,55 |
| | | v | 52,13m/s | 33,61m/s | 21,25m/s | 13,03m/s | 8,28m/s | 5,25m/s | 3,32m/s | 2,34m/s | 1,63m/s | 1,09m/s |
| \dot{V} = Durchfluss [l/s] | | | R = Druckgefälle [mbar/m] | | | | | v = Geschwindigkeit [m/s] | | | | |

Planung / Auslegung

Rohrreibungsgefälle R und rechnerische Fließgeschwindigkeit v in Abhängigkeit vom Durchfluss \dot{V}

20°

Fusiotherm®-Rohre SDR 6 (PN 20)

Temperatur: 20 °C

Rauigkeit: 0,0070 mm

sp. Dichte: 998,2 kg/m³

kin. Zähigkeit: 1,004 x 10⁻⁶ m²/s

| \dot{V} | | Di- men- sion | 16,0 mm | 20,0 mm | 25,0 mm | 32,0 mm | 40,0 mm | 50,0 mm | 63,0 mm | 75,0 mm | 90,0 mm | 110,0 mm |
|------------------------------|---------------|---------------------|---------------------------|------------|------------|------------|------------|---------------------------|------------|------------|------------|-------------|
| 4,80 l/s | 288 l/min | R | 25751,44 | 8331,50 | 2585,76 | 750,49 | 240,96 | 77,92 | 25,27 | 10,78 | 4,45 | 1,68 |
| | | v | 54,39m/s | 35,08m/s | 22,18m/s | 13,60m/s | 8,64m/s | 5,48m/s | 3,46m/s | 2,44m/s | 1,70m/s | 1,13m/s |
| 5,00 l/s | 300 l/min | R | | 9022,03 | 2797,90 | 811,28 | 260,24 | 84,08 | 27,24 | 11,62 | 4,79 | 1,81 |
| | | v | | 36,54m/s | 23,10m/s | 14,16m/s | 9,00m/s | 5,71m/s | 3,61m/s | 2,55m/s | 1,77m/s | 1,18m/s |
| 5,20 l/s | 312 l/min | R | | 9739,91 | 3018,31 | 874,39 | 280,23 | 90,46 | 29,28 | 12,49 | 5,14 | 1,94 |
| | | v | | 38,00m/s | 24,03m/s | 14,73m/s | 9,36m/s | 5,94m/s | 3,75m/s | 2,65m/s | 1,84m/s | 1,23m/s |
| 5,40 l/s | 324 l/min | R | | 10485,12 | 3247,00 | 939,82 | 300,94 | 97,06 | 31,40 | 13,38 | 5,51 | 2,07 |
| | | v | | 39,46m/s | 24,95m/s | 15,30m/s | 9,72m/s | 6,16m/s | 3,90m/s | 2,75m/s | 1,91m/s | 1,28m/s |
| 5,60 l/s | 336 l/min | R | | 11257,66 | 3483,96 | 1007,57 | 322,36 | 103,89 | 33,58 | 14,30 | 5,89 | 2,22 |
| | | v | | 40,92m/s | 25,88m/s | 15,86m/s | 10,08m/s | 6,39m/s | 4,04m/s | 2,85m/s | 1,98m/s | 1,32m/s |
| 5,80 l/s | 348 l/min | R | | 12057,54 | 3729,18 | 1077,64 | 344,50 | 110,94 | 35,83 | 15,25 | 6,28 | 2,36 |
| | | v | | 42,38m/s | 26,80m/s | 16,43m/s | 10,44m/s | 6,62m/s | 4,19m/s | 2,95m/s | 2,05m/s | 1,37m/s |
| 6,00 l/s | 360 l/min | R | | 12884,75 | 3982,67 | 1150,02 | 367,36 | 118,21 | 38,15 | 16,23 | 6,68 | 2,51 |
| | | v | | 43,84m/s | 27,72m/s | 17,00m/s | 10,80m/s | 6,85m/s | 4,33m/s | 3,06m/s | 2,12m/s | 1,42m/s |
| 6,20 l/s | 372 l/min | R | | 13739,29 | 4244,43 | 1224,72 | 390,93 | 125,70 | 40,54 | 17,24 | 7,09 | 2,66 |
| | | v | | 45,31m/s | 28,65m/s | 17,56m/s | 11,16m/s | 7,08m/s | 4,48m/s | 3,16m/s | 2,19m/s | 1,47m/s |
| 6,40 l/s | 384 l/min | R | | 14621,17 | 4514,45 | 1301,73 | 415,22 | 133,41 | 43,00 | 18,28 | 7,51 | 2,82 |
| | | v | | 46,77m/s | 29,57m/s | 18,13m/s | 11,52m/s | 7,30m/s | 4,62m/s | 3,26m/s | 2,26m/s | 1,51m/s |
| 6,60 l/s | 396 l/min | R | | 15530,37 | 4792,74 | 1381,05 | 440,22 | 141,35 | 45,53 | 19,35 | 7,95 | 2,99 |
| | | v | | 48,23m/s | 30,50m/s | 18,70m/s | 11,88m/s | 7,53m/s | 4,76m/s | 3,36m/s | 2,33m/s | 1,56m/s |
| 6,80 l/s | 408 l/min | R | | 16466,89 | 5079,29 | 1462,69 | 465,93 | 149,50 | 48,12 | 20,44 | 8,39 | 3,15 |
| | | v | | 49,69m/s | 31,42m/s | 19,26m/s | 12,24m/s | 7,76m/s | 4,91m/s | 3,46m/s | 2,41m/s | 1,61m/s |
| 7,00 l/s | 420 l/min | R | | 17430,75 | 5374,10 | 1546,64 | 492,36 | 157,88 | 50,79 | 21,56 | 8,85 | 3,32 |
| | | v | | 51,15m/s | 32,34m/s | 19,83m/s | 12,60m/s | 7,99m/s | 5,05m/s | 3,57m/s | 2,48m/s | 1,65m/s |
| 7,50 l/s | 450 l/min | R | | 19959,93 | 6147,28 | 1766,63 | 561,54 | 179,78 | 57,75 | 24,49 | 10,04 | 3,77 |
| | | v | | 54,81m/s | 34,65m/s | 21,25m/s | 13,50m/s | 8,56m/s | 5,41m/s | 3,82m/s | 2,65m/s | 1,77m/s |
| 8,00 l/s | 480 l/min | R | | 22659,89 | 6972,08 | 2001,06 | 635,17 | 203,05 | 65,13 | 27,60 | 11,31 | 4,24 |
| | | v | | 58,46m/s | 36,96m/s | 22,66m/s | 14,40m/s | 9,13m/s | 5,77m/s | 4,07m/s | 2,83m/s | 1,89m/s |
| 9,00 l/s | 540 l/min | R | | 28572,11 | 8776,52 | 2513,23 | 795,77 | 253,72 | 81,18 | 34,33 | 14,04 | 5,25 |
| | | v | | 65,77m/s | 41,59m/s | 25,50m/s | 16,20m/s | 10,27m/s | 6,50m/s | 4,58m/s | 3,18m/s | 2,13m/s |
| 10,0 l/s | 600 l/min | R | | | 10787,40 | 3083,09 | 974,11 | 309,86 | 98,90 | 41,76 | 17,05 | 6,37 |
| | | v | | | 46,21m/s | 28,33m/s | 17,99m/s | 11,41m/s | 7,22m/s | 5,09m/s | 3,54m/s | 2,36m/s |
| 12,0 l/s | 720 l/min | R | | | 15428,32 | 4395,84 | 1383,98 | 438,49 | 139,40 | 58,69 | 23,89 | 8,90 |
| | | v | | | 55,45m/s | 34,00m/s | 21,59m/s | 13,70m/s | 8,66m/s | 6,11m/s | 4,24m/s | 2,84m/s |
| 14,0 l/s | 840 l/min | R | | | 20894,66 | 5939,17 | 1864,66 | 588,89 | 186,56 | 78,35 | 31,82 | 11,83 |
| | | v | | | 64,69m/s | 39,66m/s | 25,19m/s | 15,98m/s | 10,11m/s | 7,13m/s | 4,95m/s | 3,31m/s |
| 16,0 l/s | 960 l/min | R | | | | 7712,99 | 2416,10 | 760,99 | 240,38 | 100,73 | 40,82 | 15,14 |
| | | v | | | | 45,33m/s | 28,79m/s | 18,26m/s | 11,55m/s | 8,15m/s | 5,66m/s | 3,78m/s |
| 18,0l/s | 1080 l/min | R | | | | 9717,25 | 3038,24 | 954,77 | 300,83 | 125,81 | 50,88 | 18,84 |
| | | v | | | | 50,99m/s | 32,39m/s | 20,54m/s | 12,99m/s | 9,17m/s | 6,37m/s | 4,25m/s |
| \dot{V} = Durchfluss [l/s] | | | R = Druckgefälle [mbar/m] | | | | | v = Geschwindigkeit [m/s] | | | | |

Planung / Auslegung

Rohrreibungsgefälle R und rechnerische Fließgeschwindigkeit v in Abhängigkeit vom Durchfluss \dot{V}

20°

Fusiotherm®-Rohre SDR 6 (PN 20)

Temperatur: 20 °C

Rauigkeit: 0,0070 mm

sp. Dichte: 998,2 kg/m³

kin. Zähigkeit: 1,004 x 10⁻⁶ m²/s

| \dot{V} | | Di- men- sion | 16,0 mm | 20,0 mm | 25,0 mm | 32,0 mm | 40,0 mm | 50,0 mm | 63,0 mm | 75,0 mm | 90,0 mm | 110,0 mm |
|------------------------------|---------------|---------------------|---------------------------|------------|------------|------------|------------|---------------------------|------------|------------|------------|-------------|
| 20,0 l/s | 1200 l/min | R | | | | 11951,91 | 3731,06 | 1170,21 | 367,89 | 153,59 | 62,01 | 22,91 |
| | | v | | | | 56,66m/s | 35,99m/s | 22,83m/s | 14,44m/s | 10,19m/s | 7,07m/s | 4,73m/s |
| 22,0 l/s | 1320 l/min | R | | | | 14416,97 | 4494,54 | 1407,28 | 441,56 | 184,05 | 74,19 | 27,37 |
| | | v | | | | 62,32m/s | 39,59m/s | 25,11m/s | 15,88m/s | 11,20m/s | 7,78m/s | 5,20m/s |
| 24,0 l/s | 1440 l/min | R | | | | 17112,39 | 5328,65 | 1665,98 | 521,81 | 217,19 | 87,41 | 32,19 |
| | | v | | | | 67,99m/s | 43,19m/s | 27,39m/s | 17,32m/s | 12,22m/s | 8,49m/s | 5,67m/s |
| 26,0 l/s | 1560 l/min | R | | | | | 6233,40 | 1946,30 | 608,66 | 253,01 | 101,69 | 37,40 |
| | | v | | | | | 46,79m/s | 29,68m/s | 18,77m/s | 13,24m/s | 9,20m/s | 6,14m/s |
| 28,0 l/s | 1680 l/min | R | | | | | 7208,77 | 2248,23 | 702,08 | 291,50 | 117,01 | 42,97 |
| | | v | | | | | 50,39m/s | 31,96m/s | 20,21m/s | 14,26m/s | 9,90m/s | 6,62m/s |
| 30,0 l/s | 1800 l/min | R | | | | | 8254,76 | 2571,76 | 802,08 | 332,65 | 133,38 | 48,92 |
| | | v | | | | | 53,98m/s | 34,24m/s | 21,65m/s | 15,28m/s | 10,61m/s | 7,09m/s |
| 32,0 l/s | 1920 l/min | R | | | | | 9371,36 | 2916,89 | 908,66 | 376,48 | 150,78 | 55,24 |
| | | v | | | | | 57,58m/s | 36,52m/s | 23,10m/s | 16,30m/s | 11,32m/s | 7,56m/s |
| 34,0 l/s | 2040 l/min | R | | | | | 10558,56 | 3283,62 | 1021,81 | 422,96 | 169,23 | 61,93 |
| | | v | | | | | 61,18m/s | 38,81m/s | 24,54m/s | 17,32m/s | 12,03m/s | 8,04m/s |
| 36,0 l/s | 2160 l/min | R | | | | | 11816,37 | 3671,94 | 1141,52 | 472,11 | 188,71 | 68,99 |
| | | v | | | | | 64,78m/s | 41,09m/s | 25,98m/s | 18,33m/s | 12,73m/s | 8,51m/s |
| 38,0 l/s | 2280 l/min | R | | | | | | 4081,85 | 1267,80 | 523,92 | 209,23 | 76,41 |
| | | v | | | | | | 43,37m/s | 27,43m/s | 19,35m/s | 13,44m/s | 8,98m/s |
| 40,0 l/s | 2400 l/min | R | | | | | | 4513,35 | 1400,65 | 578,39 | 230,79 | 84,20 |
| | | v | | | | | | 45,65m/s | 28,87m/s | 20,37m/s | 14,15m/s | 9,45m/s |
| 42,0 l/s | 2520 l/min | R | | | | | | 4966,44 | 1540,06 | 635,51 | 253,38 | 92,36 |
| | | v | | | | | | 47,94m/s | 30,32m/s | 21,39m/s | 14,85m/s | 9,93m/s |
| 44,0 l/s | 2640 l/min | R | | | | | | 5441,11 | 1686,03 | 695,29 | 277,00 | 100,89 |
| | | v | | | | | | 50,22m/s | 31,76m/s | 22,41m/s | 15,56m/s | 10,40m/s |
| 46,0 l/s | 2760 l/min | R | | | | | | 5937,36 | 1838,56 | 757,73 | 301,66 | 109,78 |
| | | v | | | | | | 52,50m/s | 33,20m/s | 23,43m/s | 16,27m/s | 10,87m/s |
| 48,0 l/s | 2880 l/min | R | | | | | | 6455,20 | 1997,65 | 822,82 | 327,35 | 119,03 |
| | | v | | | | | | 54,78m/s | 34,65m/s | 24,45m/s | 16,98m/s | 11,34m/s |
| 50,0 l/s | 3000 l/min | R | | | | | | 6994,62 | 2163,29 | 890,56 | 354,08 | 128,65 |
| | | v | | | | | | 57,07m/s | 36,09m/s | 25,46m/s | 17,68m/s | 11,82m/s |
| 52,0 l/s | 3120 l/min | R | | | | | | 7555,63 | 2335,50 | 960,96 | 381,84 | 138,64 |
| | | v | | | | | | 59,35m/s | 37,53m/s | 26,48m/s | 18,39m/s | 12,29m/s |
| 54,0 l/s | 3240 l/min | R | | | | | | 8138,21 | 2514,27 | 1034,01 | 410,63 | 148,99 |
| | | v | | | | | | 61,63m/s | 38,98m/s | 27,50m/s | 19,10m/s | 12,76m/s |
| 56,0 l/s | 3360 l/min | R | | | | | | 8742,37 | 2699,59 | 1109,71 | 440,45 | 159,71 |
| | | v | | | | | | 63,92m/s | 40,42m/s | 28,52m/s | 19,81m/s | 13,23m/s |
| 58,0 l/s | 3480 l/min | R | | | | | | 9368,11 | 2891,46 | 1188,06 | 471,30 | 170,79 |
| | | v | | | | | | 66,20m/s | 41,86m/s | 29,54m/s | 20,51m/s | 13,71m/s |
| \dot{V} = Durchfluss [l/s] | | | R = Druckgefälle [mbar/m] | | | | | v = Geschwindigkeit [m/s] | | | | |

Planung / Auslegung

Rohrreibungsgefälle R und rechnerische Fließgeschwindigkeit v in Abhängigkeit vom Durchfluss \dot{V}

20°

Fusiotherm®-Rohre SDR 6 (PN 20)

Temperatur: 20 °C

Rauigkeit: 0,0070 mm

sp. Dichte: 998,2 kg/m³

kin. Zähigkeit: 1,004 x 10⁻⁶ m²/s

| \dot{V} | | Di- men- sion | 16,0 mm | 20,0 mm | 25,0 mm | 32,0 mm | 40,0 mm | 50,0 mm | 63,0 mm | 75,0 mm | 90,0 mm | 110,0 mm |
|------------------------------|---------------|---------------------|---------------------------|------------|------------|------------|------------|---------------------------|------------|------------|------------|-------------|
| 60,0 l/s | 3600 l/min | R | | | | | | | 3089,90 | 1269,07 | 503,18 | 182,23 |
| | | v | | | | | | | 43,31m/s | 30,56m/s | 21,22m/s | 14,18m/s |
| 62,0 l/s | 3720 l/min | R | | | | | | | 3294,89 | 1352,72 | 536,09 | 194,04 |
| | | v | | | | | | | 44,75m/s | 31,58m/s | 21,93m/s | 14,65m/s |
| 64,0 l/s | 3840 l/min | R | | | | | | | 3506,43 | 1439,03 | 570,04 | 206,21 |
| | | v | | | | | | | 46,19m/s | 32,59m/s | 22,64m/s | 15,13m/s |
| 66,0 l/s | 3960 l/min | R | | | | | | | 3724,53 | 1527,99 | 605,01 | 218,74 |
| | | v | | | | | | | 47,64m/s | 33,61m/s | 23,34m/s | 15,60m/s |
| 68,0 l/s | 4080 l/min | R | | | | | | | 3949,18 | 1619,59 | 641,01 | 231,64 |
| | | v | | | | | | | 49,08m/s | 34,63m/s | 24,05m/s | 16,07m/s |
| 70,0 l/s | 4200 l/min | R | | | | | | | 4180,39 | 1713,85 | 678,05 | 244,89 |
| | | v | | | | | | | 50,53m/s | 35,65m/s | 24,76m/s | 16,54m/s |
| 72,0 l/s | 4320 l/min | R | | | | | | | 4418,16 | 1810,76 | 716,11 | 258,52 |
| | | v | | | | | | | 51,97m/s | 36,67m/s | 25,46m/s | 17,02m/s |
| 74,0 l/s | 4440 l/min | R | | | | | | | 4662,47 | 1910,31 | 755,20 | 272,50 |
| | | v | | | | | | | 53,41m/s | 37,69m/s | 26,17m/s | 17,49m/s |
| 76,0 l/s | 4560 l/min | R | | | | | | | 4913,34 | 2012,52 | 795,32 | 286,85 |
| | | v | | | | | | | 54,86m/s | 38,71m/s | 26,88m/s | 17,96m/s |
| 78,0 l/s | 4680 l/min | R | | | | | | | 5170,76 | 2117,38 | 836,47 | 301,56 |
| | | v | | | | | | | 56,30m/s | 39,73m/s | 27,59m/s | 18,43m/s |
| \dot{V} = Durchfluss [l/s] | | | R = Druckgefälle [mbar/m] | | | | | v = Geschwindigkeit [m/s] | | | | |