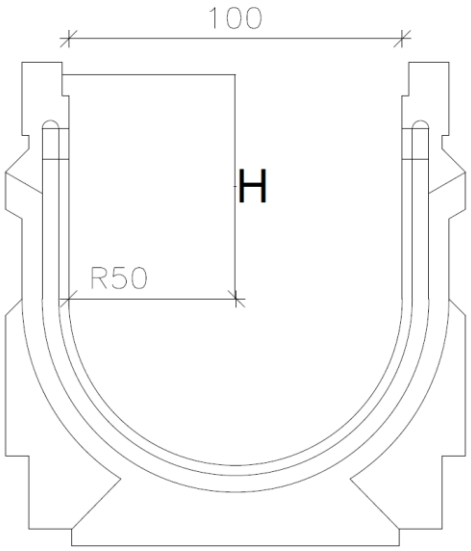

Channel Capacity

$$Q = \frac{1}{n} \times \frac{A^{5/3}}{P^{2/3}} \times S^{0,5}$$

Q= The total discharge (m3 /s)
A=The Total area (section wise) of the channel
P = Wetted perimeter of the channel
S is the longitudinal slope of the channel
n = The Manning roughness coefficient. 0,009
Assumptions: 100% filled, clean, new channels. Channel 1 to 10 has a 10‰ slope all others are calculated with a 5‰ slope.

Note that this is channel capacities. If mounted with a grate or a reduced outlet, these can be reducing capacity, depending on their shape and size.

Example:

A10-15:

$$Q = \frac{1}{0,008} \times \frac{0,019726875^{\frac{5}{3}}}{0,473075^{\frac{2}{3}}} \times 0,005^{0,5} \approx 0,02096712 = 21\ l/s$$

The channels are calculated as shown above and the results put in the below table.

Maximum outlet of channel number - the A10 system	
Outlet from	***Q [l/s]***
A10-1 *(10‰ slope.)*	10,8
A10-2 *(10‰ slope.)*	12,4
A10-3 *(10‰ slope.)*	14,0
A10-4 *(10‰ slope.)*	15,6
A10-5 *(10‰ slope.)*	17,2
A10-6 *(10‰ slope.)*	18,9
A10-7 *(10‰ slope.)*	20,5
A10-8 *(10‰ slope.)*	22,2
A10-9 *(10‰ slope.)*	24,0
A10-10 *(10‰ slope.)*	25,5
A10-11 *(5‰ slope.)*	18,6
A10-12 *(5‰ slope.)*	19,1
A10-13 *(5‰ slope.)*	19,7
A10-14 *(5‰ slope.)*	20,4
A10-15 *(5‰ slope.)*	21,0