

6.6.3	Hydraulics In channels - A15			POLYSAN®
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Channel Capacity

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

Q= The total discharge (m³ /s)

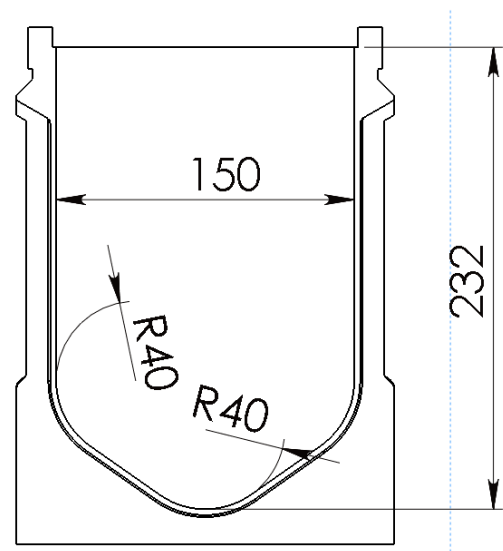
A=The Total area (section wise) of the channel

P = Wetted perimeter of the channel

S is the longitudinal slope of the channel

n = The Manning roughness coefficient.

Assumptions: 100% filled, clean, new channels. 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:

A15-10.0:

Width = 150 mm, R=40mm, Internal height total = 232 mm, n = 0,007 gives the below results:

$$Q = \frac{1}{0,007} \times \frac{(0,03193846)^{5/3}}{(0,03193846)^{2/3}} \times 0,005^{0,5} \approx 0,3226272 \text{ m}^3/\text{s}$$

Max. Outlet is 323 l/s