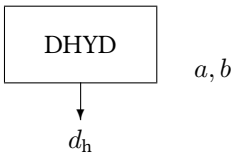
## Block DHYD

The DHYD block calculates the hydraulic diameter of a rectangular channel.






| | |
|---|---|
| **Name** | DHYD |
| **Function** | st0016 |
| **Inputs** | 0 |
| **Outputs** | 1 |
| **Parameters** | 2 |
| **Strings** | 0 |
| **Group** | C |

### Inputs

None

### Outputs

| | |
|---|---|
| 1 | Hydraulic diameter $d_\mathrm{h}$ / m |

### Parameters

| | |
|---|---|
| 1 | Channel width $a$ / m |
| 2 | Channel height $b$ / m |

### Strings

None

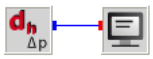
### Description

The hydraulic diameter $d_\mathrm{h}$ is defined as the diameter of a concentric tube which has the same pressure drop per length as a channel with rectangular cross section when the velocity of the air flux is equal to the velocity in the channel with rectangular cross section. The hydraulic diameter is calculated by

$$d_\mathrm{h} = \frac{2ab}{a+b}$$

The side ratio of the rectangle should not exceed 1:5.

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The DHYD block calculates the hydraulic diameter for a channel width of 0.3 m and a height of 0.2 m. The SCREEN block displays the result

```
0.240000
```