Valve parameters

valve parameterization : K_v coefficient (SI)

flow coefficient

K_v coefficient at maximum : K_{v_max}

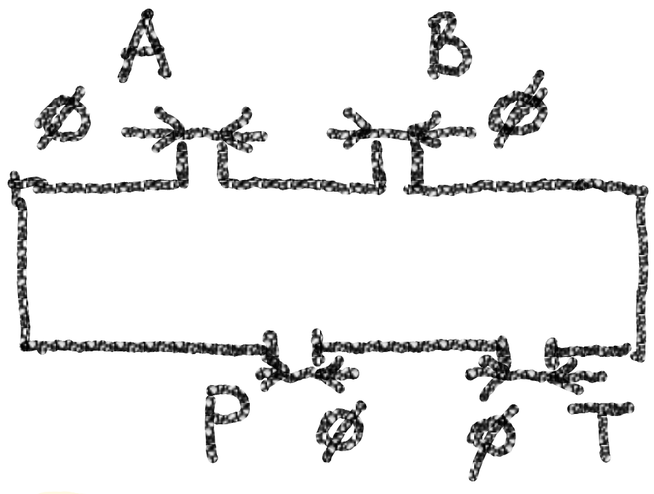
K_v coefficient at leakage : K_{v_min}

Valve opening fraction offsets : P → A

B → T

Cross-section Area at ports : P → B

A → T



part_cross_section

laminar_flow_ratio

Laminar flow pressure ratio :

is the ratio beetwen downstream and upstream pressure. When this ratio is reached, it will transite to laminar regime.

Reference temperature :

T_0

Reference density :

ρ_0 (rho_0)

Actuator parameters :

Cross-section area : S_A, S_B

init displacement : $x0$, $-L + x0$

Dead volume : V_{0A} , V_{0B}

Cross section at port cs_A , cs_B

Hard Stop

upper bound : L_{max}

lower bound : L_{min}

Contact stiffnes : K_{hs_up}
at upper

at lower : K_{hs_low}

Contact damping

at upper : B_{hs_up}

at lower : B_{hs_low}

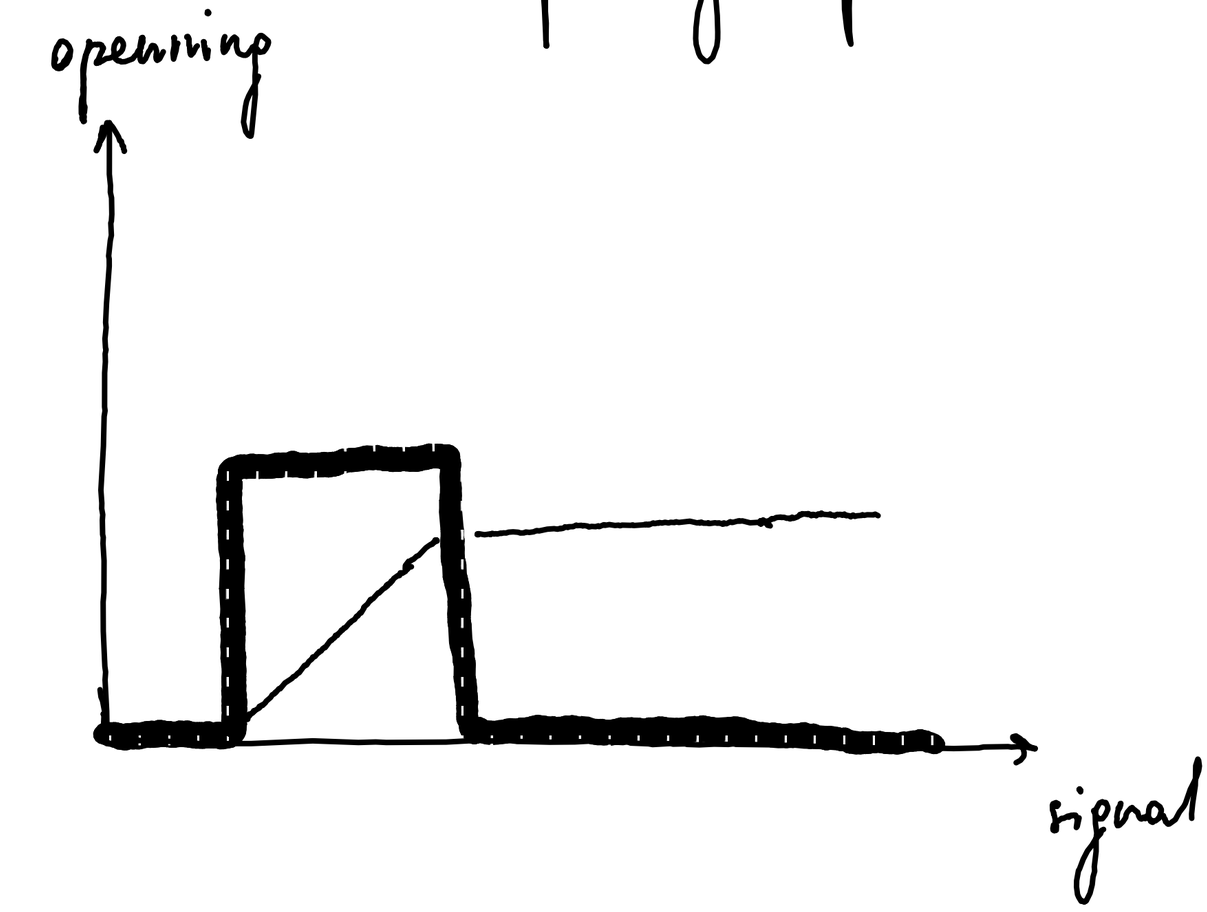
Translation Damping

beta ?

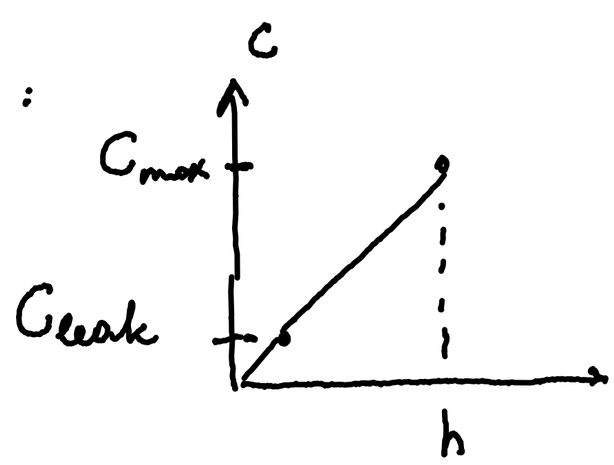
Mass

$M + M_L$

Valve opening parametrization



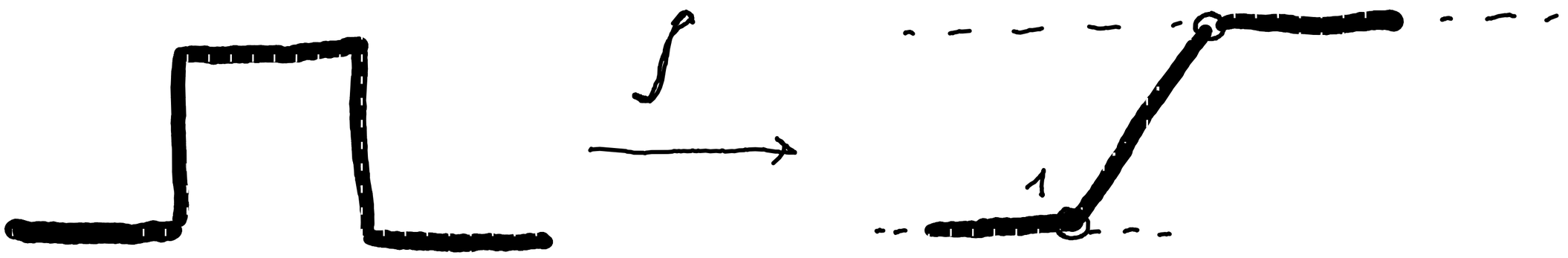
Linear :



C - sonic conductance

$C = f(h)$

h - orifice opening fraction



input x ⟶ $\int x$ output

$\int x + X_0$ 1. X_0 = leakage flow

2. maximum flow

Sync test

Skaja zlata ♡