

q-weighted average

(1)
$$< A >_t = \frac{1}{Q(t)} \int_{t_0}^t A(t) q(t) dt$$

where

t	time-line
t_0	initial time
$A(t)$	time-based variable
$q(t)$	volumetric flowrate
$Q(t)$	cumulative flow $Q(t) = \int_{t_0}^t q(t) dt$

See also