## Evacuation time

the time **t** required to evacuate a system
from an initial pressure **P0** to a final presssure **P1**
is estimated with the following equation:

**t = (V/S).Ln(P0/P1)**

t: evacuation time [h]

V: system volume [m³]

S: average pump suction capacity [m³/h]

P0: initial pressure at t0

P1: final pressure at t1

N.B.: The equation is applicable for reasonably tight systems (neglecting a possible leakage and /or degassing), and when the pump suction capacity S is nearly constant over the entire operating range.

Site Map www.vacuum-guide.com

## Example

A 1000 m³ system must be evacuated from atmospheric pressure to 200 mbarA in 10mn.

**S = (V/t).Ln(P0/P1)**

**S = (1000/10).Ln(1000/200)**

**S = 160 m³/mn**

system volume, V = 1000 m³

evacuation time, t = 10 mn

initial pressure P0 = 1013 mbarA

final pressure P1 = 200 mbarA

**required pump suction capacity, S = 160 m³/mn**