

Normalized Pseudo-Pressure = P

(1)
$$P_{\Psi}(p) = \frac{p_{ref} \cdot \Psi(p)}{\Psi(p_{ref})} = p_{ref} \cdot \int_0^p \frac{p \, dp}{\mu(p) Z(p)} \bigg/ \int_0^{p_{ref}} \frac{p \, dp}{\mu(p) Z(p)}$$

where

p_{ref}	reference pressure
$\Psi(p_{ref})$	Pseudo-Pressure at reference pressure p_{ref}
$\Psi(p)$	Pseudo-Pressure at pressure p
$\mu(p)$	dynamic fluid viscosity
$Z(p)$	fluid compressibility factor

It is widely used in [Pressure Diffusion @model](#) and transient data analysis (PTA / RTA) of [strongly compressible fluids](#).

The choice of reference pressure p_{ref} is made by engineer depending on common sense and objectives of the study.

The usual practise is to select $p_{ref} = p(t = 0)$ as the [bottom-hole pressure](#) at initial time moment.

In case the [Normalized Pseudo-Pressure](#) is used to linearize the [Pressure Diffusion](#) equation the choice of reference pressure is not going to affect the solution.

[Normalized Pseudo-Pressure](#) does represent a [pressure](#) in terms of physical property and has the same [dimension](#) unlike [Pseudo-Pressure](#).

See also

[Physics](#) / [Mechanics](#) / [Continuum mechanics](#) / [Fluid Mechanics](#) / [Fluid Dynamics](#) / [Pressure Diffusion](#) / [Pressure Diffusion @model](#)

[Petroleum Industry](#) / [Upstream](#) / [Subsurface E&P Disciplines](#) / [Well Testing](#) / [Pressure Testing](#)

[[Pseudo-Pressure](#)]