

# ***Interactive comment on “A new technique using the aero-infiltrometer to characterise the natural soils based on the measurements of infiltration rate and soil moisture content” by M. A. Fulazzaky et al.***

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Response to Referee #2 Comments No. 02

We are aware that a review of the literatures related to the movement of fluids into the ground is the important considerations for supporting theoretical insights of this article, especially concerning air diffusion. The citation of the literatures related to water infiltration into the ground would have been quite enough. Some literatures related to air diffusion into the ground such as the literatures by Wang et al., 1997, Ippisch et

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al. (2006), Kutlu and Ersahin (2008), Han et al. (2010), Liu et al. (2011), Valiantzas (2011), and Liu and Xie (2013) have been cited in the text of this manuscript to have an insight into air diffusion.

The reasons of selection of 6 cm have been provided in the text as follows: “a depth of 6 cm is sufficiently accurate to minimise deformation of soil. The inner wall of air injection nozzle provides like air jacket to diffuse air from the surface to subsurface land. This is analogous to inner tube functioning of a double-ring infiltrometer when water infiltrates”. (P. 12721, L. 13-16)

The use of unit “psi” for pressure is useful for facilitating reading the real measurements of air pressure drop by the aero-infiltrometer (see also Reply to Referee # 3 Comments). Even though the conversion of unit “pressure” from psi to Pa (SI unit) is not difficult, all the related figures and table need to be corrected properly and thus, as a consequence, all the statements related to the existing units used need to be rewritten throughout the manuscript.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/10/C6808/2013/hessd-10-C6808-2013-supplement.pdf>

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 12717, 2013.

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