Table 7: Comparison of the pressure gradient between experiments and correlations for zeotropic mixtures

Condensation			Evaporation		
R744/R32/R1234ze(E) (n =128)	$\overline{\varepsilon}$	σ	R744/R32/R1234ze(E) (n =156)	$\overline{\varepsilon}$	σ
Cavallini et al. (1997)	0.08	0.18	Goto et al. (2001, 2007)	-0.38	0.14
Goto et al. (2001, 2007)	-0.42	0.11	Newell and Shah (2001)	-0.02	0.25
Yonemoto and Koyama (2007)	-0.24	0.22	Kubota et al. (2001)	-0.10	0.13
Newell and Shah (2001)	-0.35	0.21	Filho et al. (2004)	0.50	0.19

Table A.1 Measurement uncertainties.

measurement points		instruments, max. reading	uncertainty
refrig. temp.	U_{T_r}	K type sheathed thermocouple, ϕ 1 mm	±0.05 °C
refrig. flow rate	U_{W_r}	Coriolis mass flow meter, Max. 50 kg h^{-1}	±0.05 kg h^{-1} (0.1% of reading, zero stability; 0.0072 kg h^{-1})
refrig. absolute pressure	U_P	absolute pressure transducer, Max. 1 MPa$_{abs}$	± 2 kPa (0.2% of reading)
refrig. differential pressure	$U_{\Delta P}$	differential pressure transducer, Max. ±100 kPa	±0.3 kPa (0.3% of reading)
refrig. composition	$U_{X_{R32}}$	TCD type gas-chromatograph	±0.03 by mass
tube wall temp.	$U_{T_{wo}}$	T type thermocouple, ϕ 0.127 mm	±0.05 °C
water temp.	$U_{T_{H2O}}$	Pt resistance thermometer, ϕ 2.0 mm (PT100Ω 4wire-1mA)	±0.03 °C
water flow rate	$U_{V_{H2O}}$	gear type volumetric flow meter, Max. 300 L h^{-1} (Oval, ECO OVAL, LGV45A30)	±1.5 L h^{-1} (0.5% of reading)