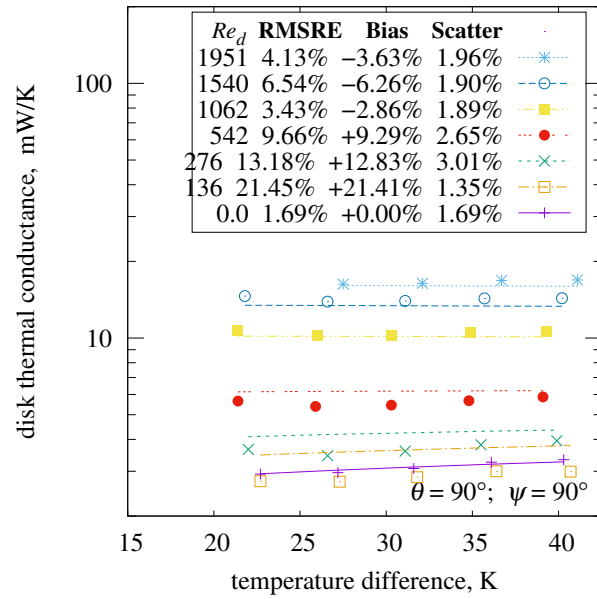
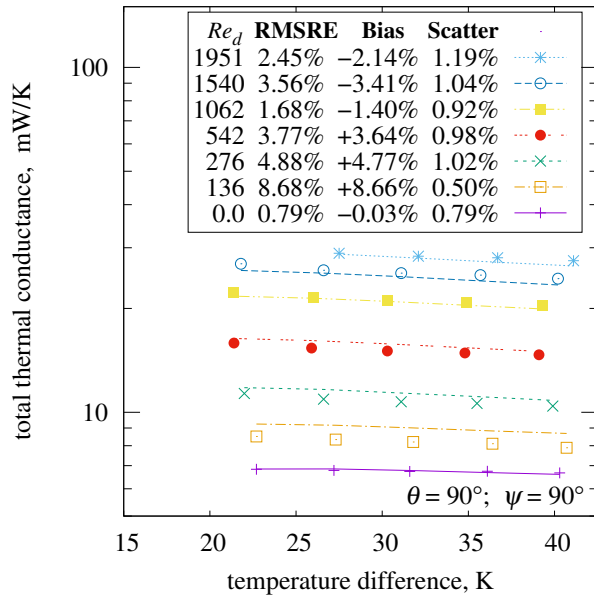
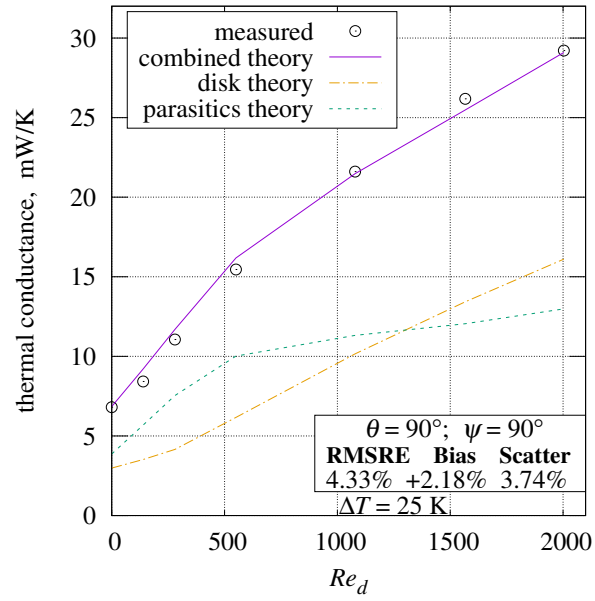
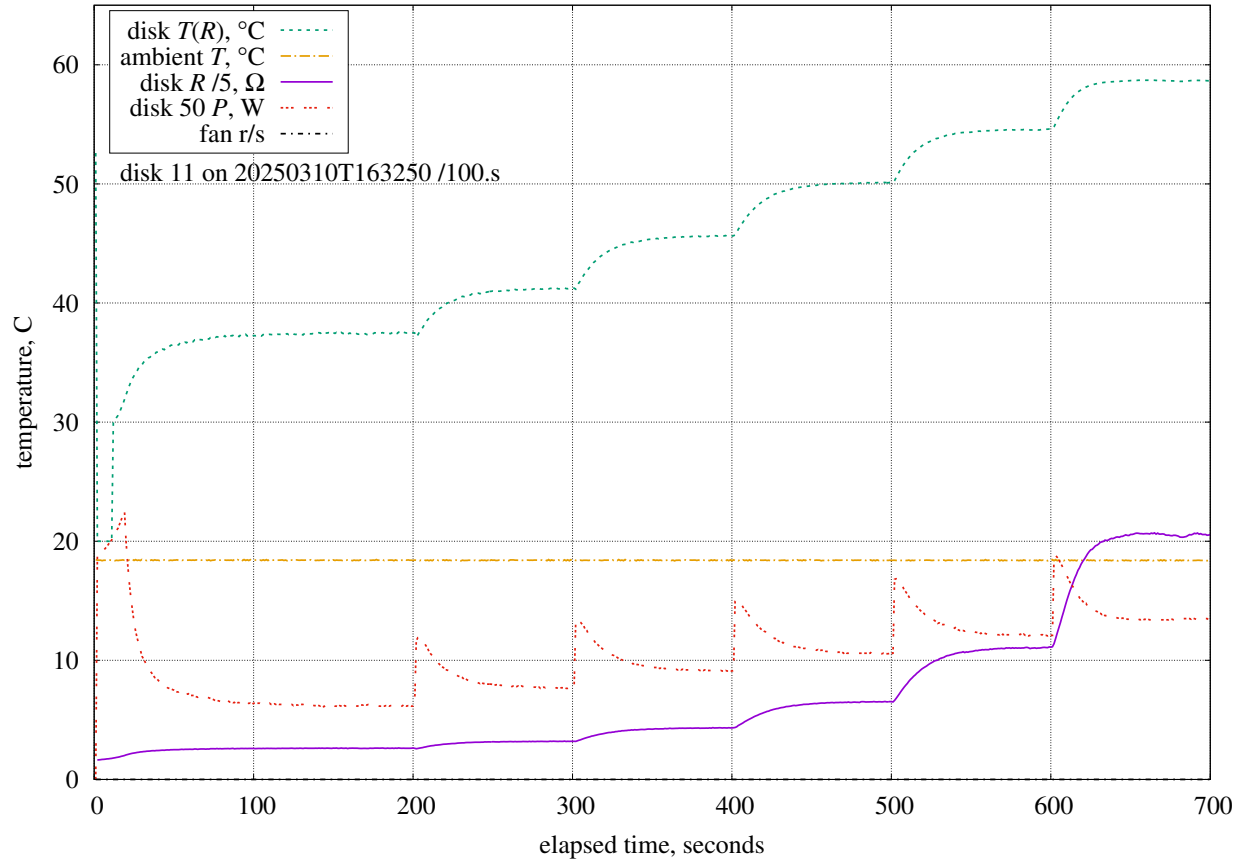


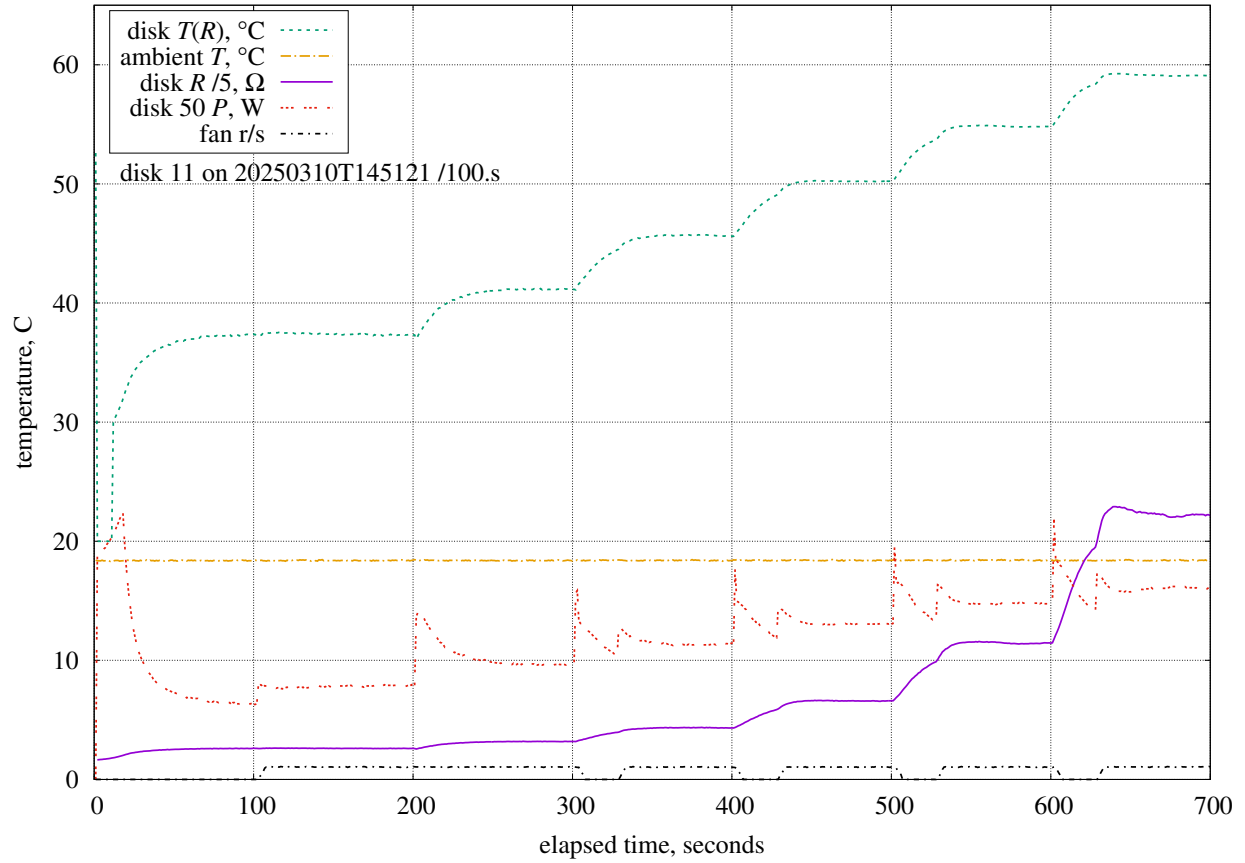




$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 0.000$ m/s (0 r/min)

Estimated measurement uncertainties of natural convection at $\theta = 90.0$.

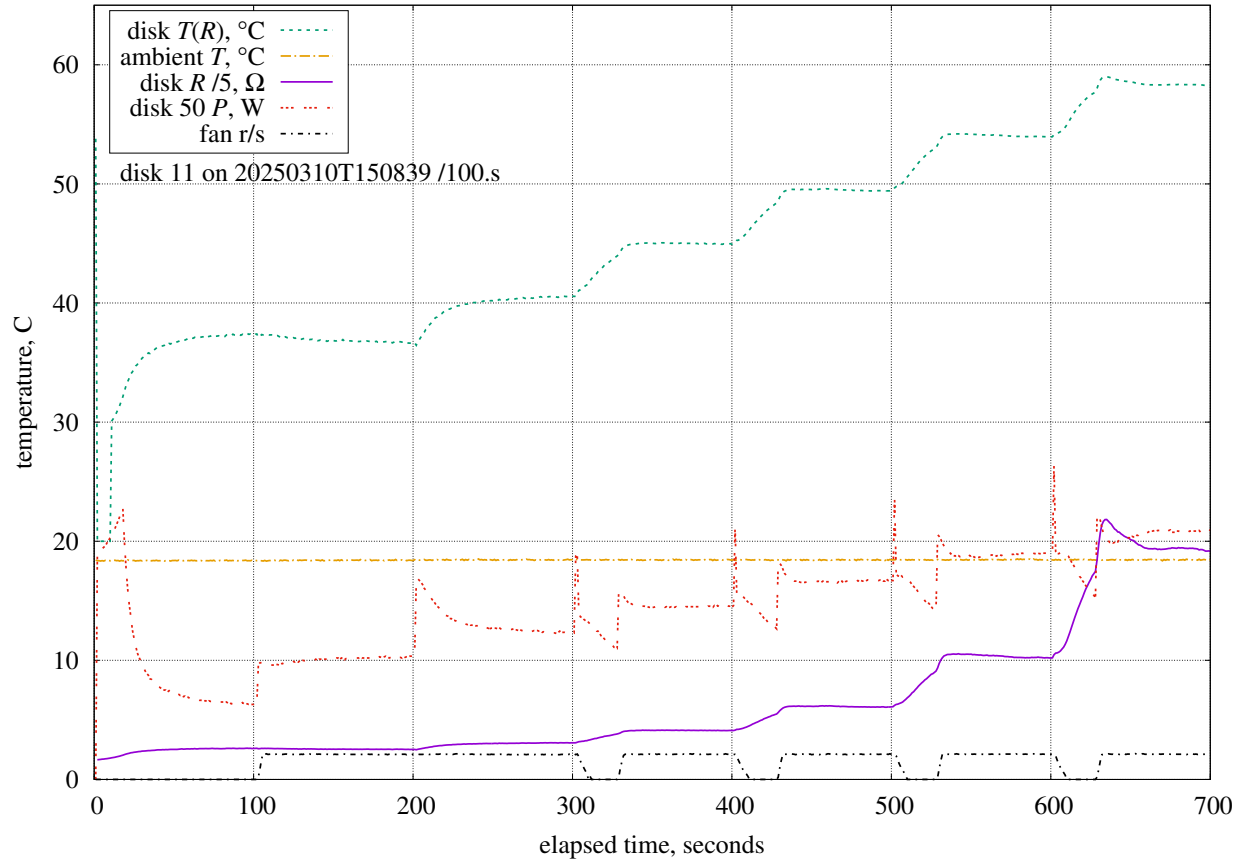
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.31%/K	0.10.K	0.43%	LM35C differential
P	99.7.kPa	+0.0001%/Pa	1.5.kPa	0.21%	MPXH6115A6U air pressure
C_S	0.420	-6.07%	0.050	0.30%	rim shape factor
D_o	2.81.mm	+2747%/m	500.um	1.37%	tube outer diameter
D_i	1.11.mm	+6171%/m	200.um	1.23%	tube inner diameter
D_g	166.um	-300%/m	750.um	0.23%	tube air gap
L_{wire}	38.0.mm	+1251%/m	500.um	0.63%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.148%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.32%	ABS thermal conductivity
d	12.0.mm	+3415%/m	100.um	0.34%	disk diameter
θ	90.0.°	+1.44%/°	0.20.°	0.29%	plate angle
				2.48%	combined bias uncertainty



$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 0.189 \text{ m/s}$ (63 r/min)

Estimated measurement uncertainties at $Re = 139$.

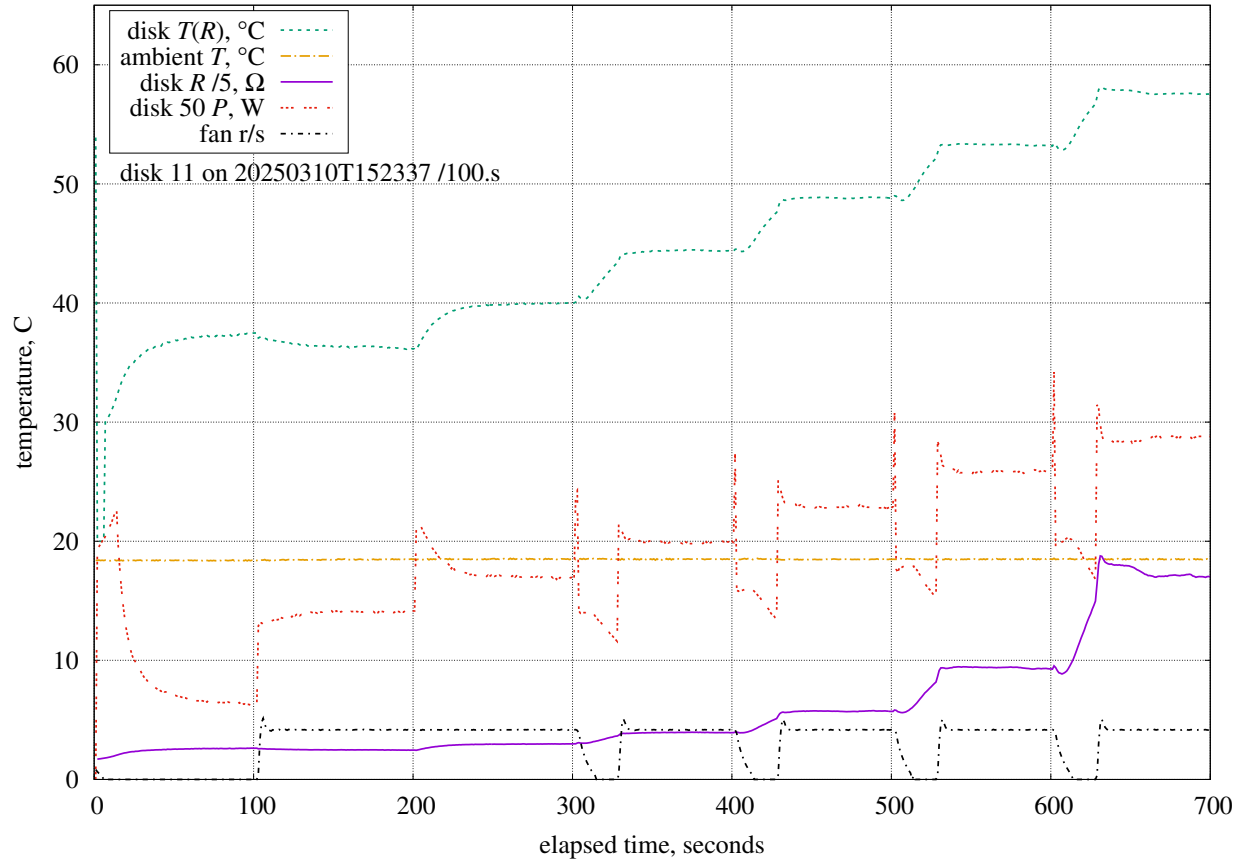
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.13%/K	0.10.K	0.41%	LM35C differential
P	99.7.kPa	+0.0002%/Pa	1.5.kPa	0.35%	MPXH6115A6U air pressure
η	0.340	+54.1%	0.007	0.37%	anemometer calibration
D_i	1.11.mm	+8538%/m	200.um	1.71%	tube inner diameter
D_g	166.um	-403%/m	750.um	0.30%	tube air gap
L_{wire}	38.0.mm	+1678%/m	500.um	0.84%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.166%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.49%	ABS thermal conductivity
d	12.0.mm	+3400%/m	100.um	0.34%	disk diameter
				2.57%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	62.7.r/min	+0.293%/(r/min)	1.1.r/min	0.33%	fan rotation rate
				2.65%	RSS combined uncertainty



$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 0.381 \text{ m/s}$ (127 r/min)

Estimated measurement uncertainties at $Re = 280$.

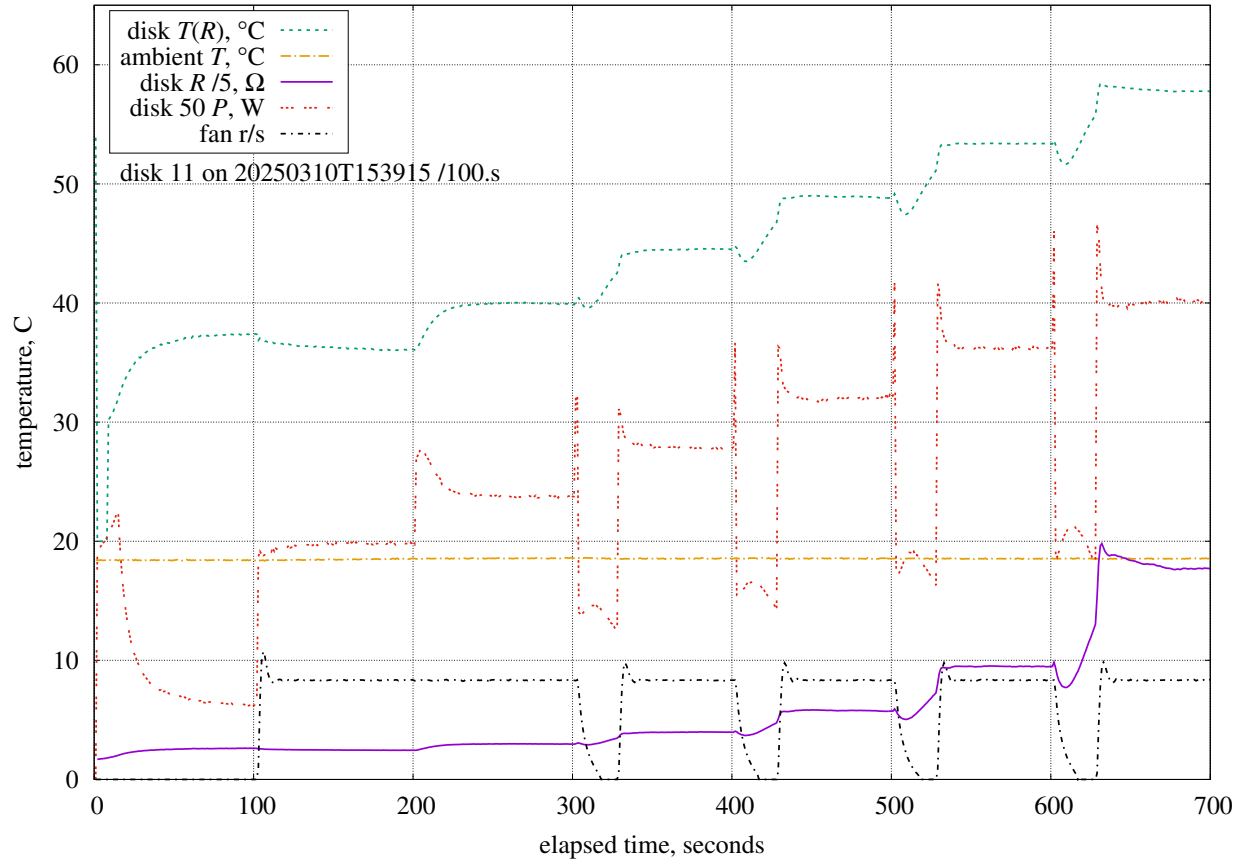
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.05%/K	0.10.K	0.40%	LM35C differential
P	99.7.kPa	+0.0005%/Pa	1.5.kPa	0.75%	MPXH6115A6U air pressure
η	0.340	+145%	0.007	0.99%	anemometer calibration
Re_0	600	-0.0061%	60	0.37%	integration lower-bound
D_o	2.81.mm	+5296%/m	500.um	2.65%	tube outer diameter
D_i	1.11.mm	+11917%/m	200.um	2.38%	tube inner diameter
D_g	166.um	-513%/m	750.um	0.38%	tube air gap
L_{wire}	38.0.mm	+2137%/m	500.um	1.07%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.186%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.66%	ABS thermal conductivity
d	12.0.mm	+3697%/m	100.um	0.37%	disk diameter
				4.33%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	127.r/min	+0.390%/(r/min)	0.93.r/min	0.36%	fan rotation rate
				4.39%	RSS combined uncertainty



$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 0.748$ m/s (250 r/min)

Estimated measurement uncertainties at $Re = 550$.

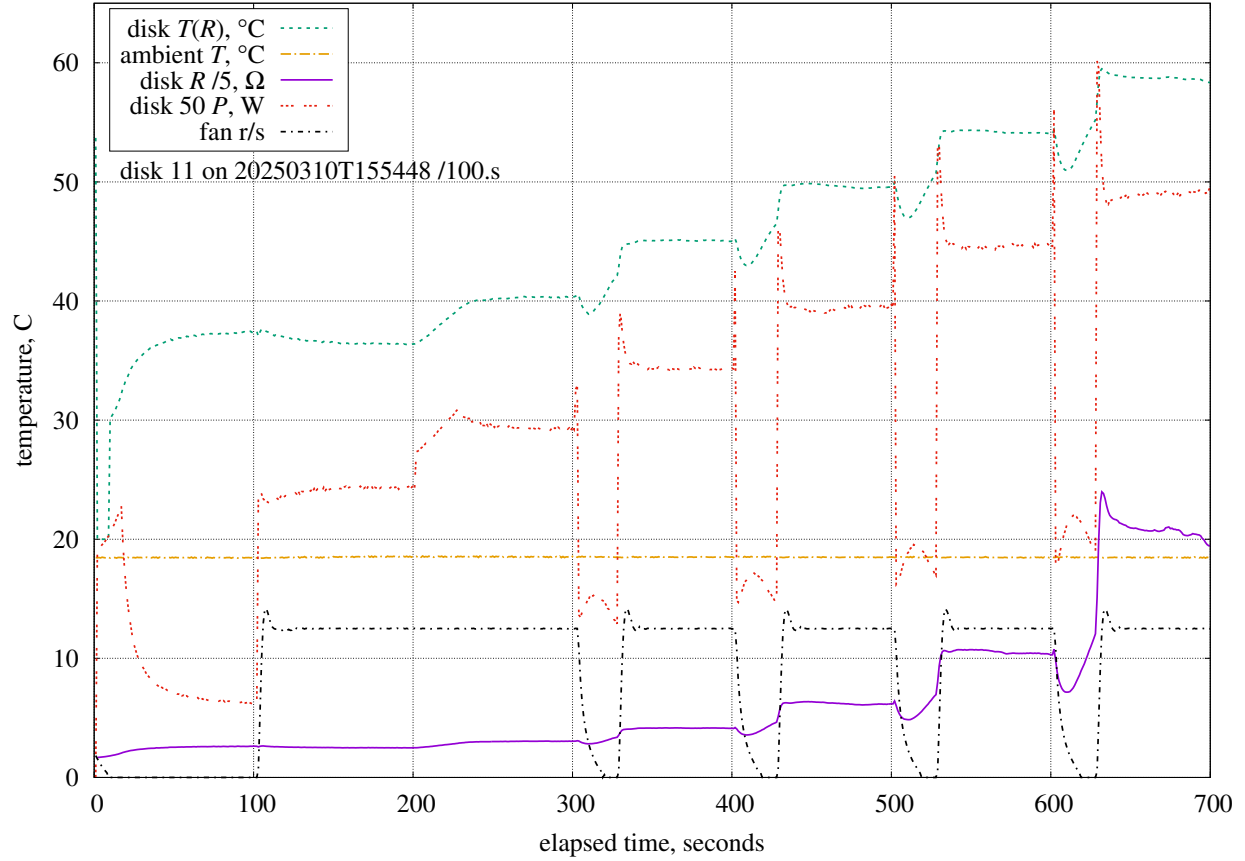
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.99%/K	0.10.K	0.40%	LM35C differential
P	99.7.kPa	+0.0004%/Pa	1.5.kPa	0.55%	MPXH6115A6U air pressure
η	0.340	+114%	0.007	0.77%	anemometer calibration
Re_0	600	-0.0093%	60	0.56%	integration lower-bound
D_o	2.81.mm	-5194%/m	500.um	2.60%	tube outer diameter
D_i	1.11.mm	+15116%/m	200.um	3.02%	tube inner diameter
D_g	166.um	-613%/m	750.um	0.46%	tube air gap
L_{wire}	38.0.mm	+2554%/m	500.um	1.28%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.194%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.74%	ABS thermal conductivity
d	12.0.mm	+4948%/m	100.um	0.49%	disk diameter
				4.73%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	250.r/min	+0.154%/(r/min)	1.1.r/min	0.18%	fan rotation rate
				4.75%	RSS combined uncertainty



$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 1.467 \text{ m/s}$ (500 r/min)

Estimated measurement uncertainties at $Re = 1078$.

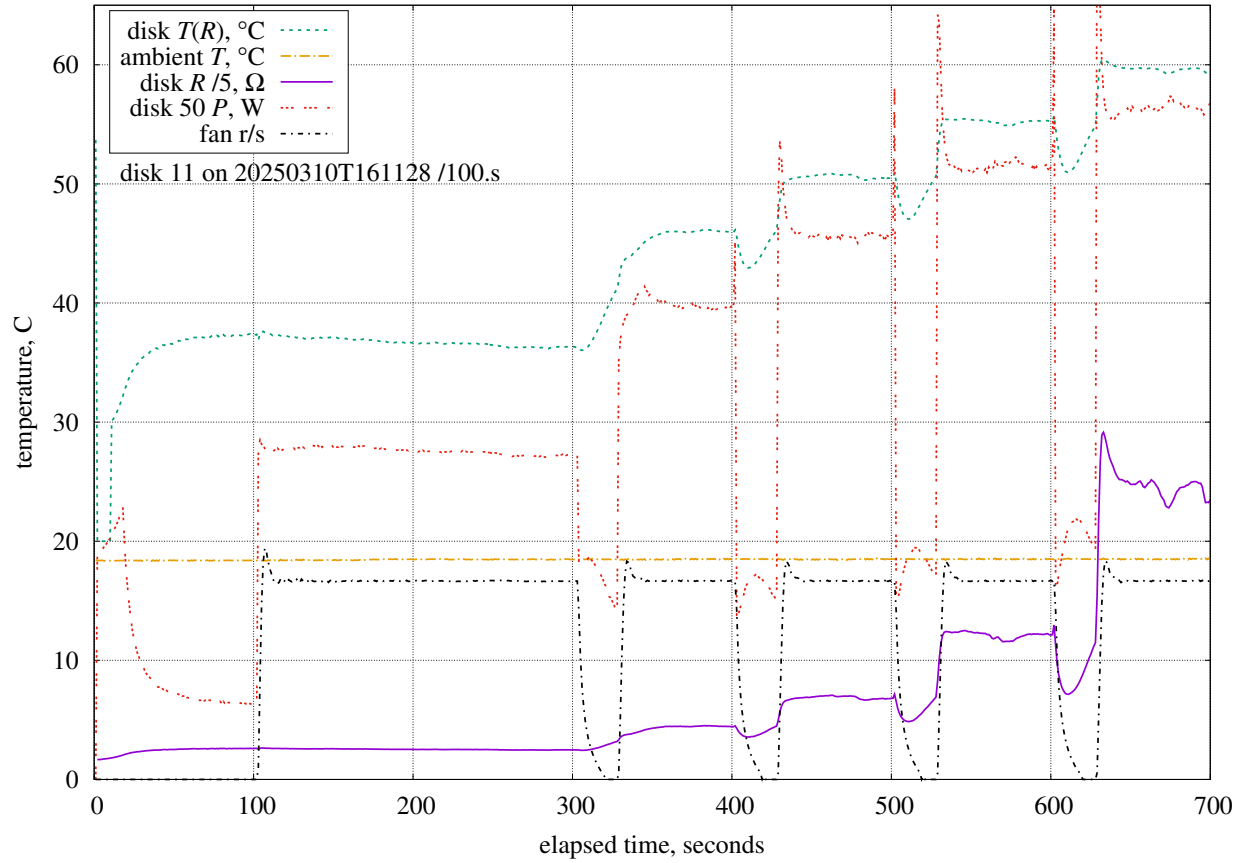
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.98%/K	0.10.K	0.40%	LM35C differential
P	99.7.kPa	+0.0003%/Pa	1.5.kPa	0.47%	MPXH6115A6U air pressure
η	0.340	+96.4%	0.007	0.66%	anemometer calibration
Re_0	600	-0.010%	60	0.61%	integration lower-bound
D_o	2.81.mm	-9110%/m	500.um	4.55%	tube outer diameter
D_i	1.11.mm	+13165%/m	200.um	2.63%	tube inner diameter
D_g	166.um	-587%/m	750.um	0.44%	tube air gap
L_{wire}	38.0.mm	+2446%/m	500.um	1.22%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.166%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.48%	ABS thermal conductivity
d	12.0.mm	+6439%/m	100.um	0.64%	disk diameter
				5.76%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	500.r/min	+0.066%/(r/min)	1.7.r/min	0.11%	fan rotation rate
				5.77%	RSS combined uncertainty



$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 2.130 \text{ m/s}$ (750 r/min)

Estimated measurement uncertainties at $Re = 1567$.

Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.97%/K	0.10.K	0.40%	LM35C differential
P	99.7.kPa	+0.0004%/Pa	1.5.kPa	0.65%	MPXH6115A6U air pressure
η	0.340	+124%	0.007	0.84%	anemometer calibration
Re_0	600	-0.010%	60	0.61%	integration lower-bound
D_o	2.81.mm	-5518%/m	500.um	2.76%	tube outer diameter
D_i	1.11.mm	+11746%/m	200.um	2.35%	tube inner diameter
D_g	166.um	-566%/m	750.um	0.42%	tube air gap
L_{wire}	38.0.mm	+2359%/m	500.um	1.18%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.148%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.32%	ABS thermal conductivity
d	12.0.mm	+7235%/m	100.um	0.72%	disk diameter
				4.32%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	750.r/min	+0.056%/(r/min)	0.82.r/min	0.05%	fan rotation rate
				4.32%	RSS combined uncertainty



$\theta = 90.0^\circ$; $\psi = 90.0^\circ$; $V = 2.725 \text{ m/s}$ (1000 r/min)

Estimated measurement uncertainties at $Re = 2004$.

Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.97%/K	0.10.K	0.40%	LM35C differential
P	99.7.kPa	+0.0005%/Pa	1.5.kPa	0.69%	MPXH6115A6U air pressure
η	0.340	+120%	0.007	0.81%	anemometer calibration
Re_0	600	-0.0098%	60	0.59%	integration lower-bound
D_o	2.81.mm	-5002%/m	500.um	2.50%	tube outer diameter
D_i	1.11.mm	+11501%/m	200.um	2.30%	tube inner diameter
D_g	166.um	-571%/m	750.um	0.43%	tube air gap
L_{wire}	38.0.mm	+2378%/m	500.um	1.19%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.141%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.26%	ABS thermal conductivity
d	12.0.mm	+7623%/m	100.um	0.76%	disk diameter
				4.13%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	1000.r/min	+0.041%/(r/min)	1.7.r/min	0.07%	fan rotation rate
				4.13%	RSS combined uncertainty