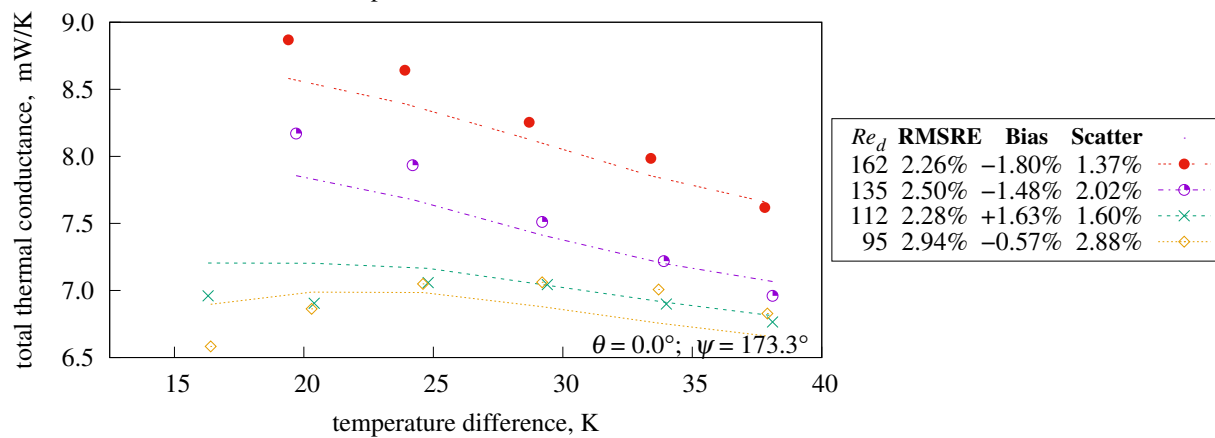
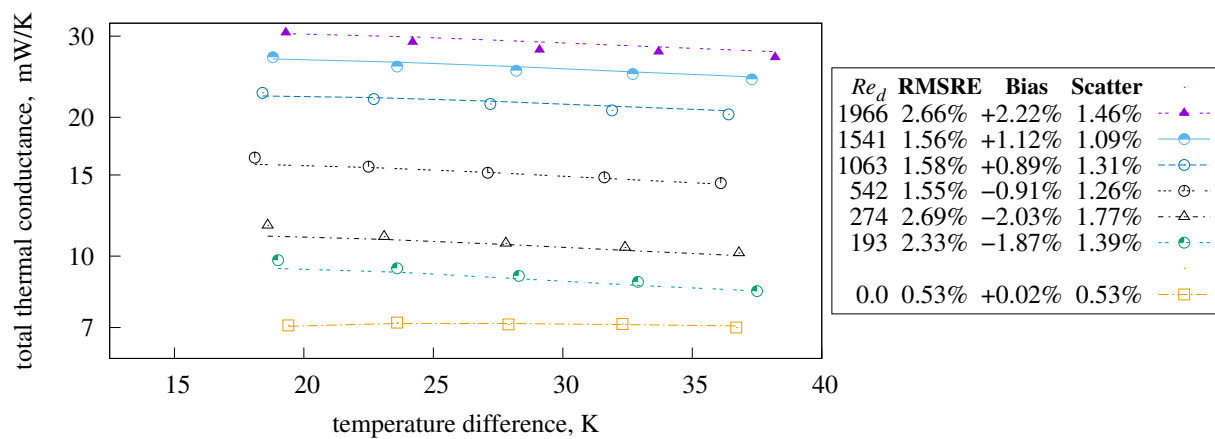
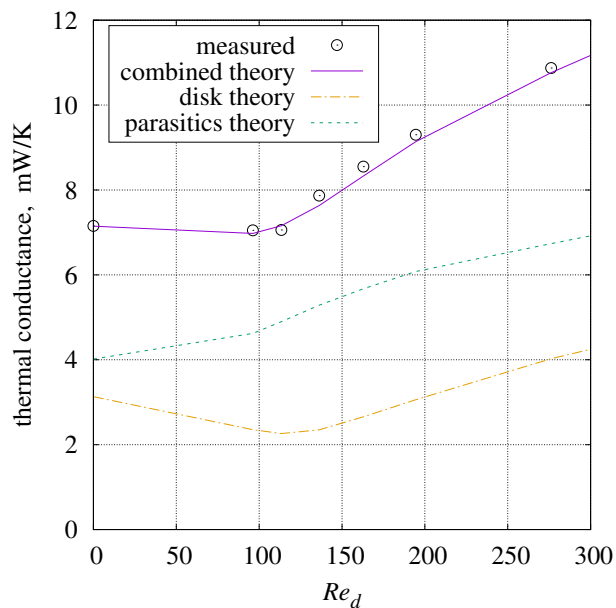
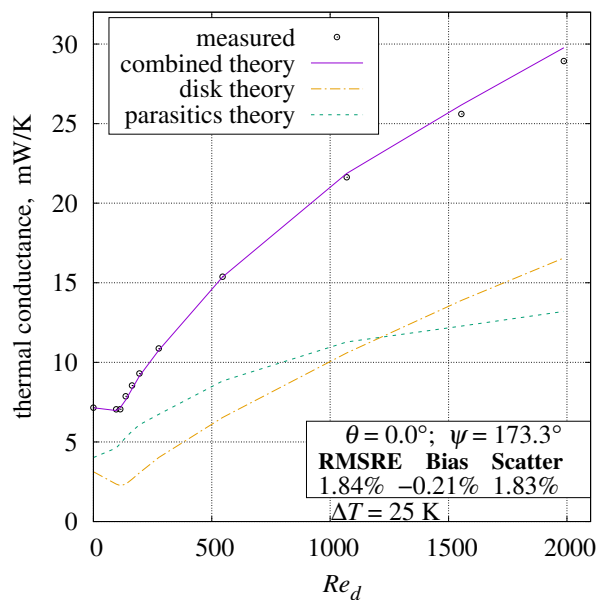
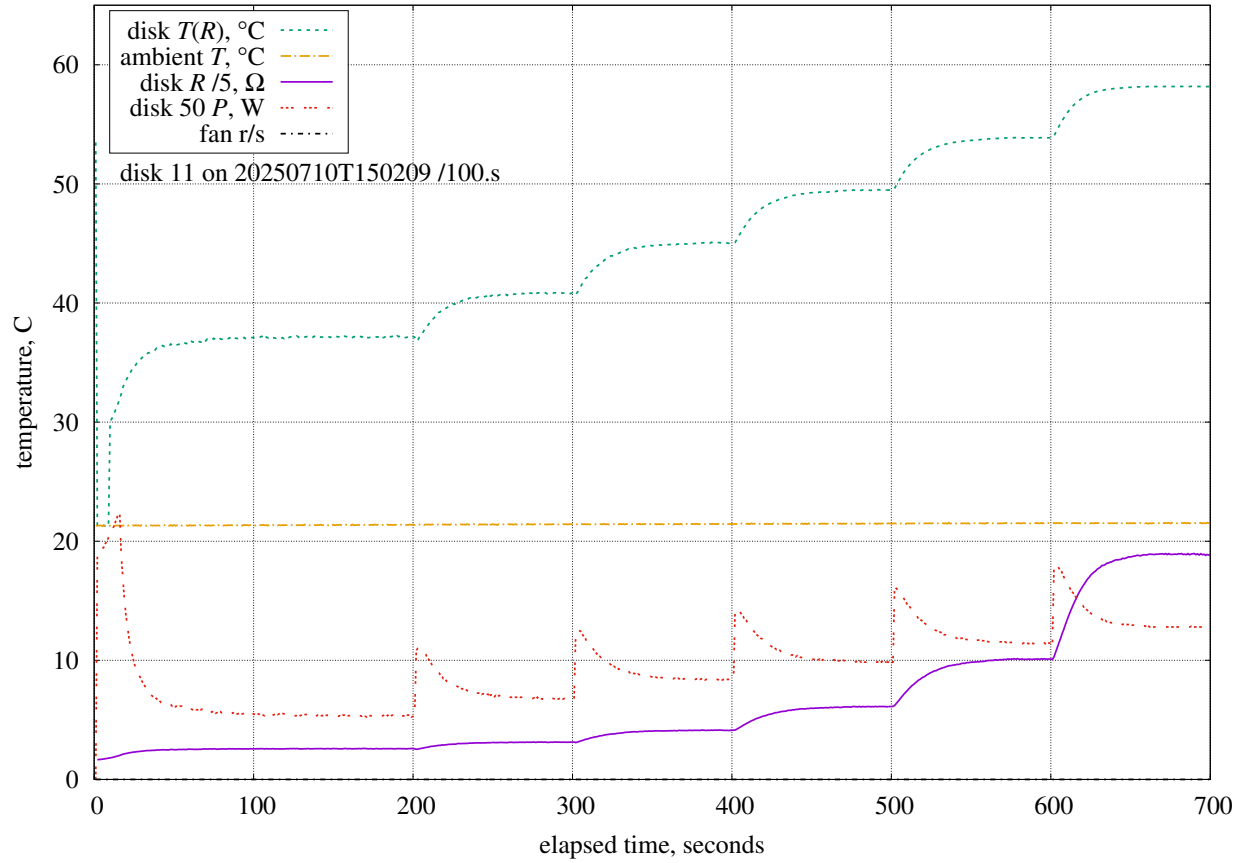


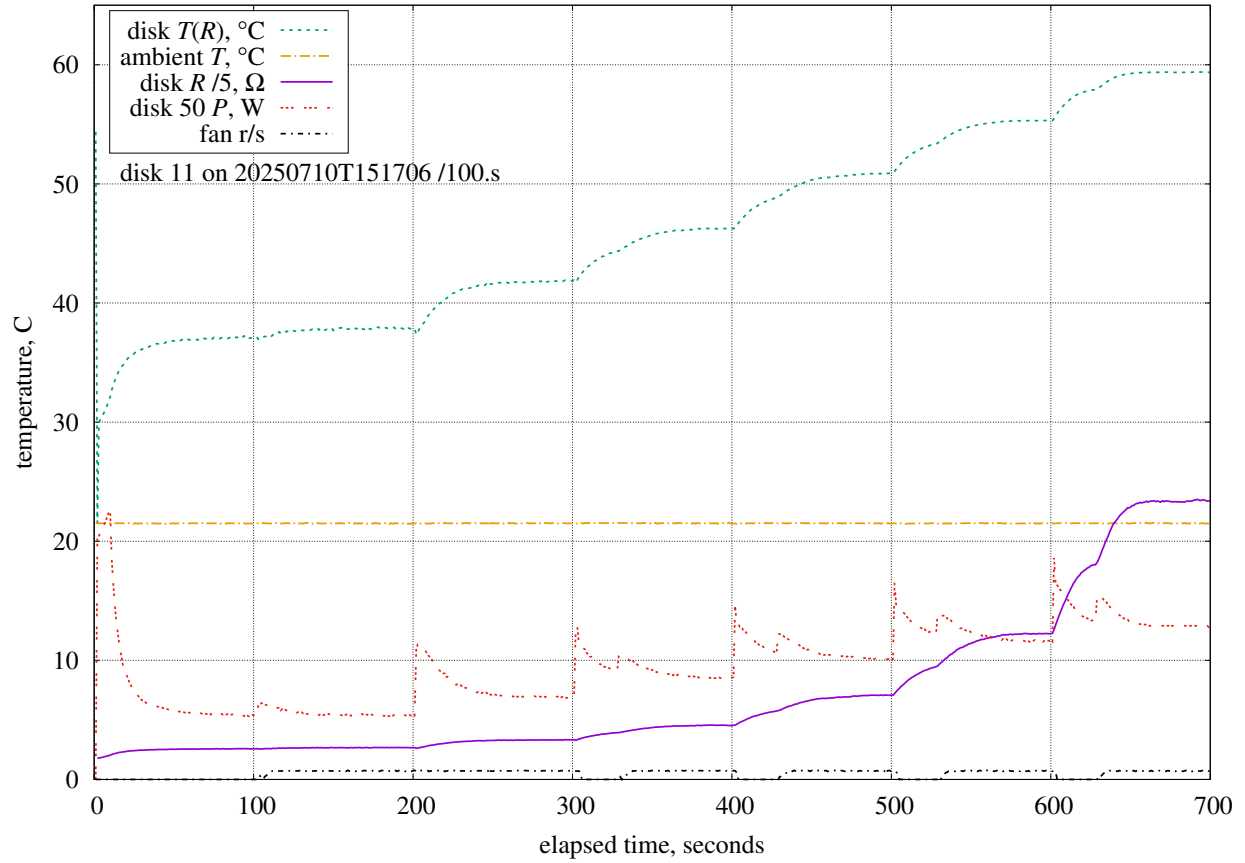




$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.000$ m/s (0 r/min)

Estimated measurement uncertainties of natural convection at $\theta = 0.0$.

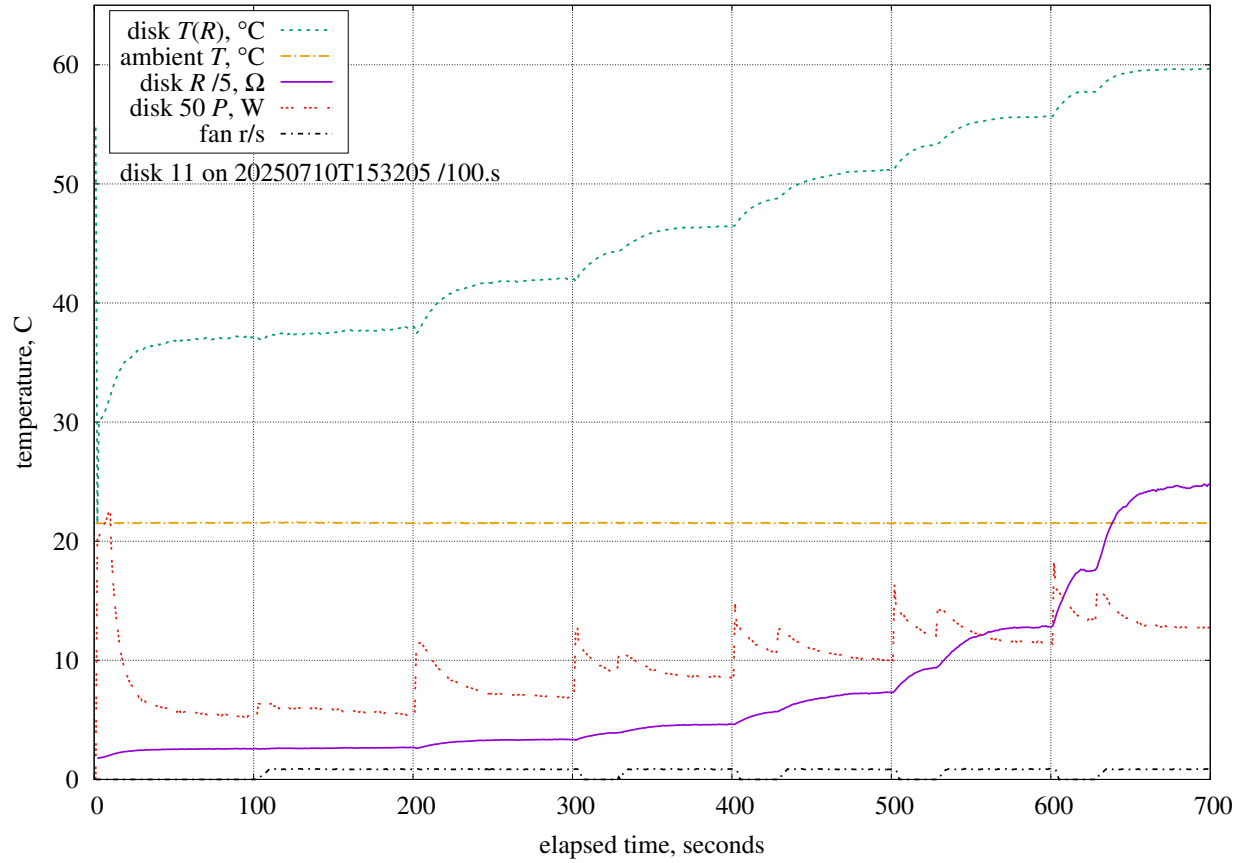
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.41%/K	0.10.K	0.44%	LM35C differential
P	101.kPa	+0.0002%/Pa	1.5.kPa	0.28%	MPXH6115A6U air pressure
Re_0	600	+0.0046%	60	0.28%	integration lower-bound
D_o	2.81.mm	+3887%/m	500.um	1.94%	tube outer diameter
D_i	1.11.mm	+4098%/m	200.um	0.82%	tube inner diameter
L_{wire}	38.0.mm	+969%/m	500.um	0.48%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.121%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.08%	ABS thermal conductivity
d	12.0.mm	+4871%/m	100.um	0.49%	disk diameter
θ	50.0.m°	+3.63%/°	0.20.°	0.73%	plate angle
				2.65%	combined bias uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.132 \text{ m/s}$ (44 r/min)

Estimated measurement uncertainties at $Re = 96$.

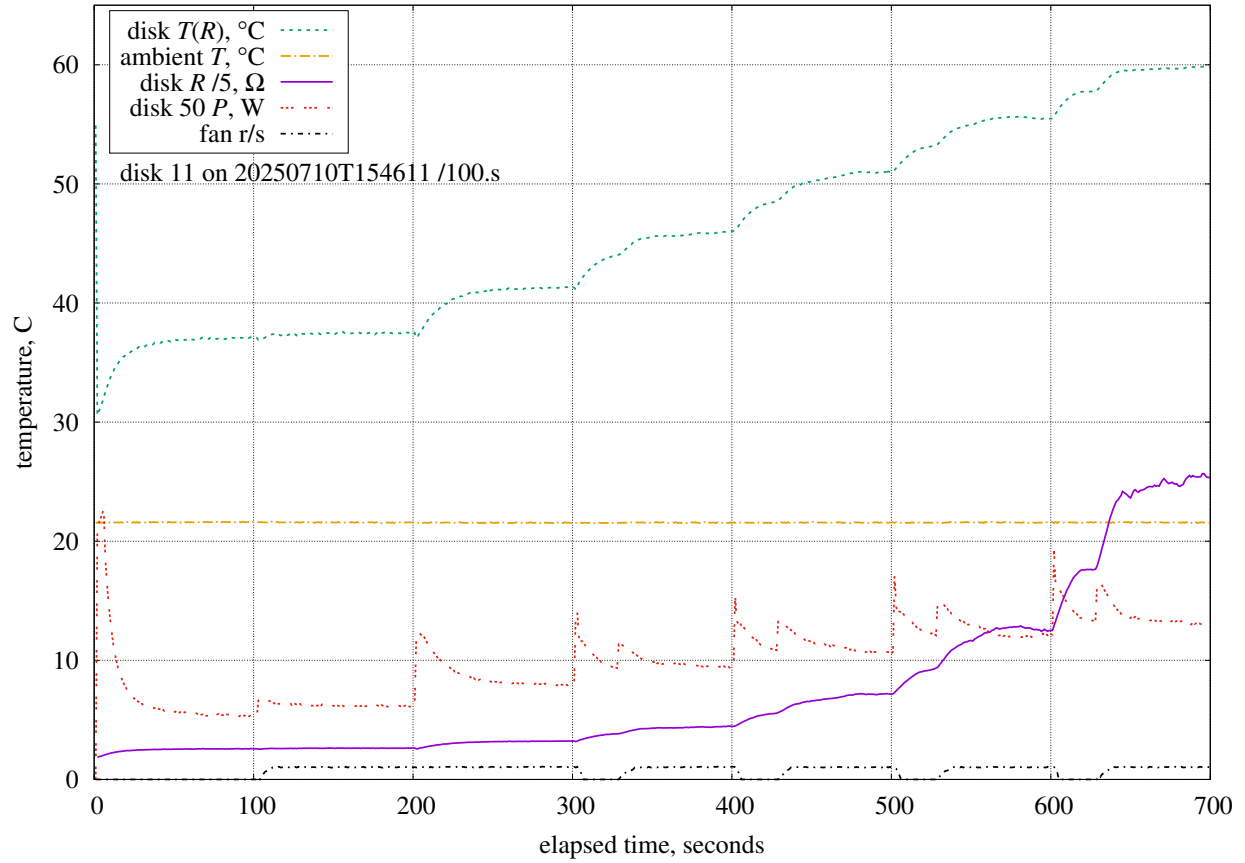
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.16%/K	0.10.K	0.42%	LM35C differential
P	101.kPa	+0.0002%/Pa	1.5.kPa	0.31%	MPXH6115A6U air pressure
η	0.340	+41.4%	0.007	0.28%	anemometer calibration
Re_0	600	+0.0084%	60	0.50%	integration lower-bound
D_o	2.81.mm	+1162%/m	500.um	0.58%	tube outer diameter
D_i	1.11.mm	+3996%/m	200.um	0.80%	tube inner diameter
L_{wire}	38.0.mm	+1054%/m	500.um	0.53%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.140%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.25%	ABS thermal conductivity
d	12.0.mm	+4028%/m	100.um	0.40%	disk diameter
θ	50.0.m°	-1.64%/°	0.20.°	0.33%	plate angle
				1.94%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	43.8.r/min	+0.322%/(r/min)	1.7.r/min	0.54%	fan rotation rate
				2.22%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.156 \text{ m/s}$ (52 r/min)

Estimated measurement uncertainties at $Re = 113$.

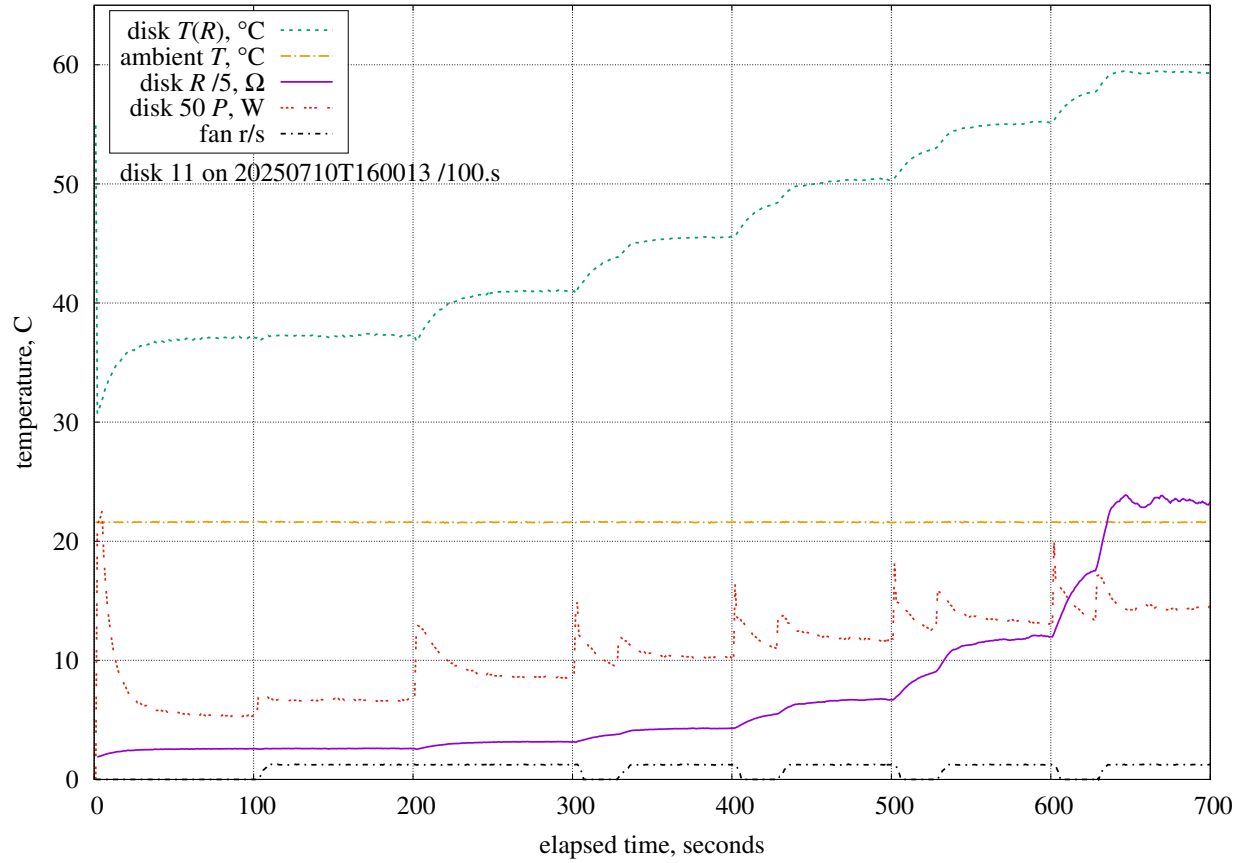
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.10%/K	0.10.K	0.41%	LM35C differential
P	101.kPa	+0.0002%/Pa	1.5.kPa	0.35%	MPXH6115A6U air pressure
η	0.340	+57.1%	0.007	0.39%	anemometer calibration
Re_0	600	+0.0055%	60	0.33%	integration lower-bound
D_o	2.81.mm	+816%/m	500.um	0.41%	tube outer diameter
D_i	1.11.mm	+4753%/m	200.um	0.95%	tube inner diameter
D_g	166.um	-275%/m	750.um	0.21%	tube air gap
L_{wire}	38.0.mm	+1146%/m	500.um	0.57%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.147%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.32%	ABS thermal conductivity
d	12.0.mm	+3888%/m	100.um	0.39%	disk diameter
θ	50.0.m°	-1.54%/°	0.20.°	0.31%	plate angle
				2.00%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	51.6.r/min	+0.376%/(r/min)	1.0.r/min	0.38%	fan rotation rate
				2.14%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.187$ m/s (62 r/min)

Estimated measurement uncertainties at $Re = 136$.

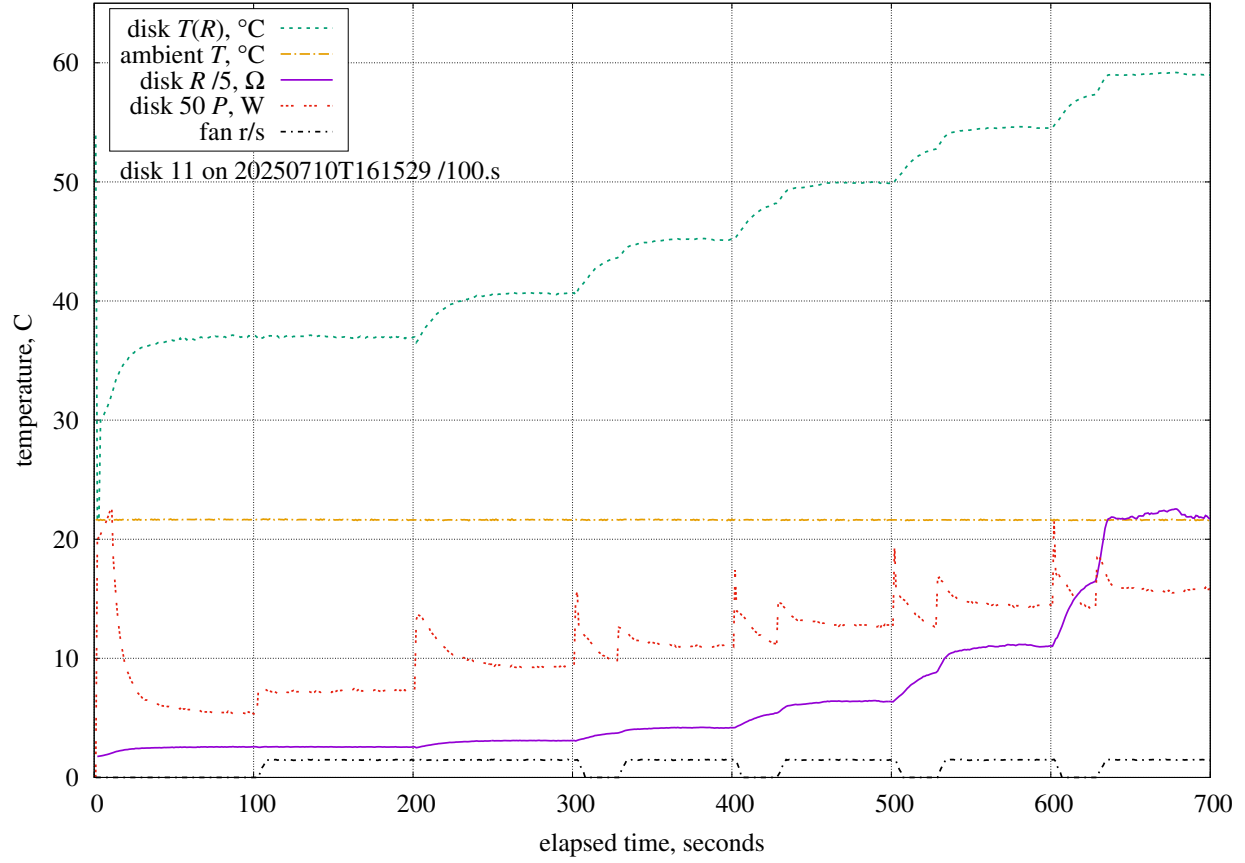
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.92%/K	0.10.K	0.39%	LM35C differential
P	101.kPa	+0.0004%/Pa	1.5.kPa	0.53%	MPXH6115A6U air pressure
η	0.340	+118%	0.007	0.80%	anemometer calibration
Re_0	600	-0.0084%	60	0.50%	integration lower-bound
C_B	0.541	+2.53%	0.100	0.25%	bypass coefficient
D_i	1.11.mm	+5427%/m	200.um	1.09%	tube inner diameter
D_g	166.um	-300%/m	750.um	0.22%	tube air gap
L_{wire}	38.0.mm	+1249%/m	500.um	0.62%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.152%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.36%	ABS thermal conductivity
d	12.0.mm	+4438%/m	100.um	0.44%	disk diameter
θ	50.0.m°	-1.39%/°	0.20.°	0.28%	plate angle
				2.28%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	62.0.r/min	+0.649%/(r/min)	1.3.r/min	0.84%	fan rotation rate
				2.83%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.223 \text{ m/s}$ (74 r/min)

Estimated measurement uncertainties at $Re = 163$.

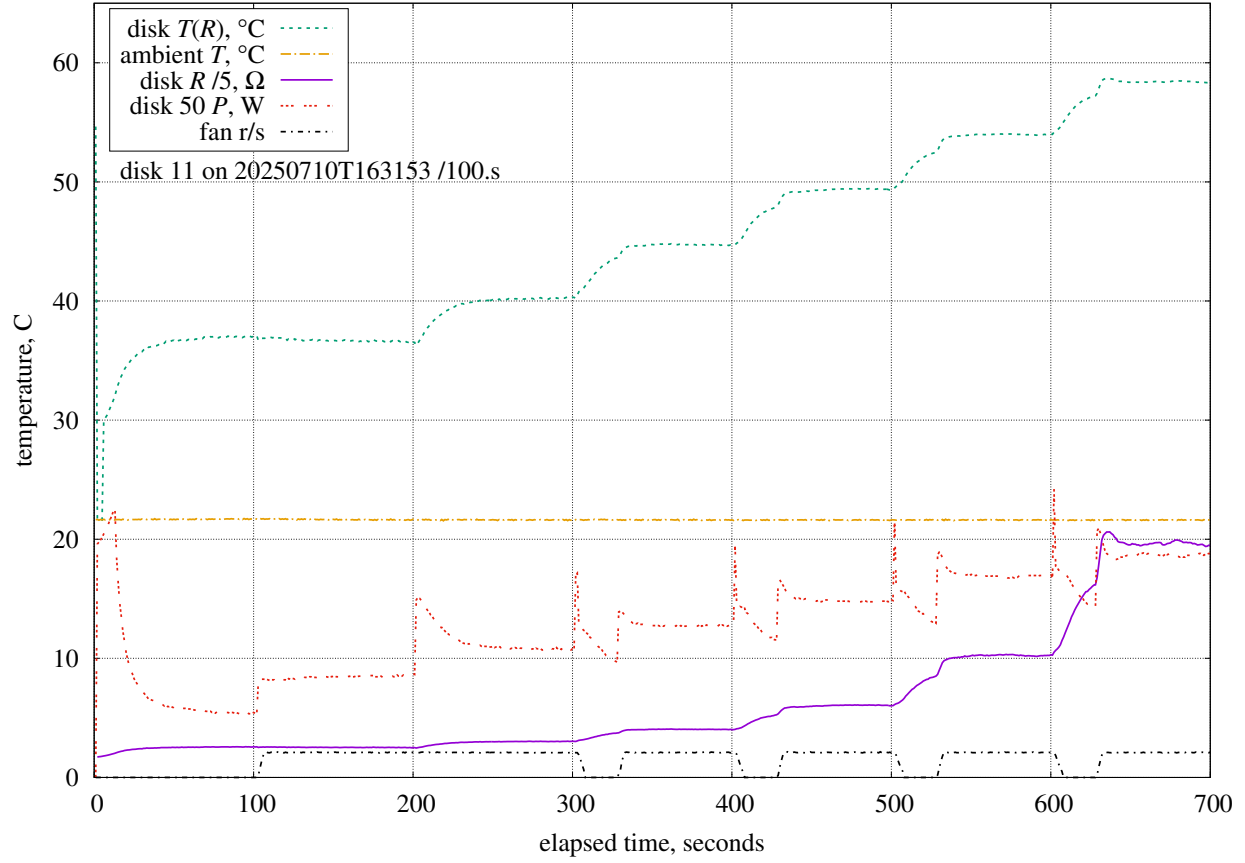
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.88%/K	0.10.K	0.39%	LM35C differential
P	101.kPa	+0.0004%/Pa	1.5.kPa	0.60%	MPXH6115A6U air pressure
η	0.340	+138%	0.007	0.94%	anemometer calibration
Re_0	600	-0.012%	60	0.73%	integration lower-bound
C_B	0.541	+5.10%	0.100	0.51%	bypass coefficient
D_i	1.11.mm	+5998%/m	200.um	1.20%	tube inner diameter
D_g	166.um	-316%/m	750.um	0.24%	tube air gap
L_{wire}	38.0.mm	+1316%/m	500.um	0.66%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.153%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.37%	ABS thermal conductivity
d	12.0.mm	+4874%/m	100.um	0.49%	disk diameter
θ	50.0.m°	-1.23%/°	0.20.°	0.25%	plate angle
				2.51%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	74.2.r/min	+0.633%/(r/min)	0.98.r/min	0.62%	fan rotation rate
				2.80%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.267$ m/s (89 r/min)

Estimated measurement uncertainties at $Re = 195$.

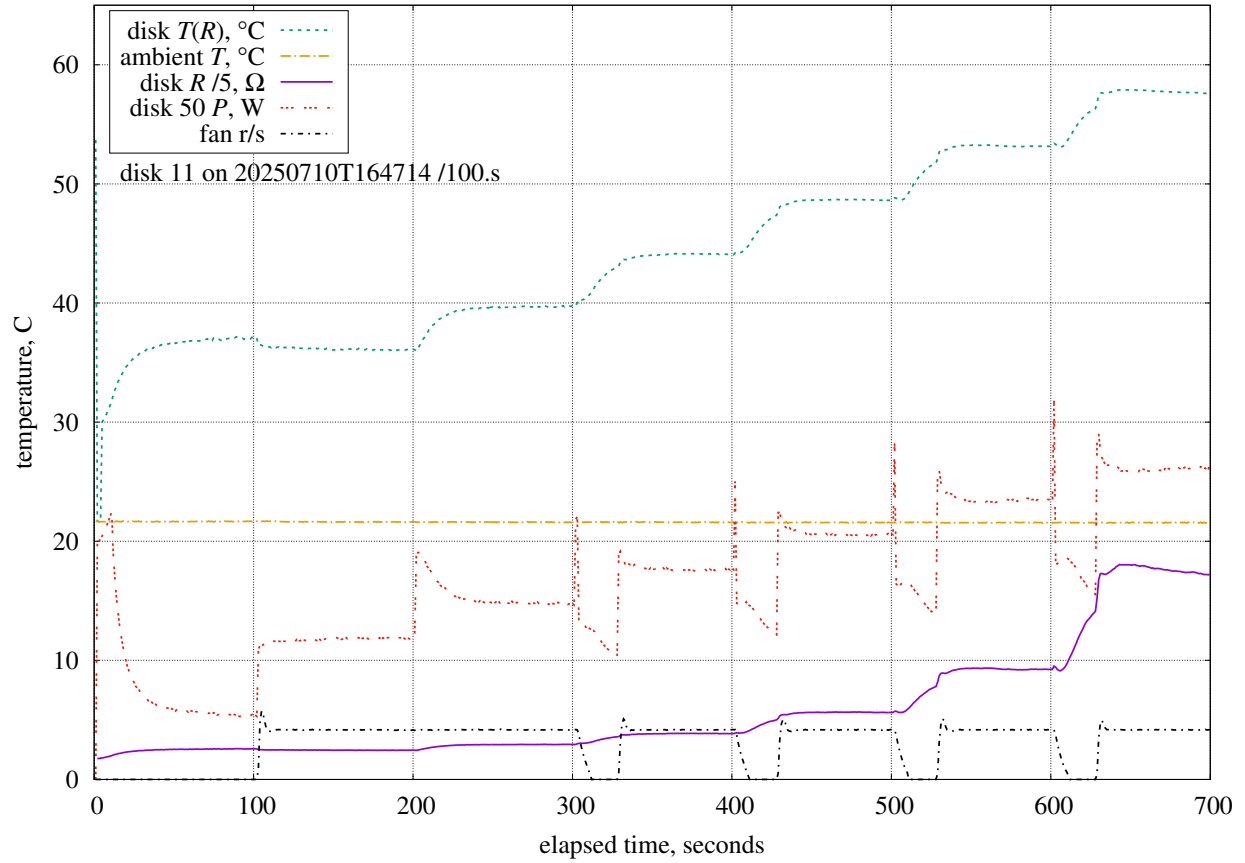
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.89%/K	0.10.K	0.39%	LM35C differential
P	101.kPa	+0.0004%/Pa	1.5.kPa	0.63%	MPXH6115A6U air pressure
η	0.340	+142%	0.007	0.96%	anemometer calibration
Re_0	600	-0.013%	60	0.75%	integration lower-bound
C_B	0.541	+6.62%	0.100	0.66%	bypass coefficient
D_o	2.81.mm	-752%/m	500.um	0.38%	tube outer diameter
D_i	1.11.mm	+6526%/m	200.um	1.31%	tube inner diameter
D_g	166.um	-330%/m	750.um	0.25%	tube air gap
L_{wire}	38.0.mm	+1376%/m	500.um	0.69%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.152%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.36%	ABS thermal conductivity
d	12.0.mm	+5182%/m	100.um	0.52%	disk diameter
θ	50.0.m°	-1.08%/°	0.20.°	0.22%	plate angle
				2.65%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	88.6.r/min	+0.544%/(r/min)	1.1.r/min	0.61%	fan rotation rate
				2.92%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.379$ m/s (126 r/min)

Estimated measurement uncertainties at $Re = 276$.

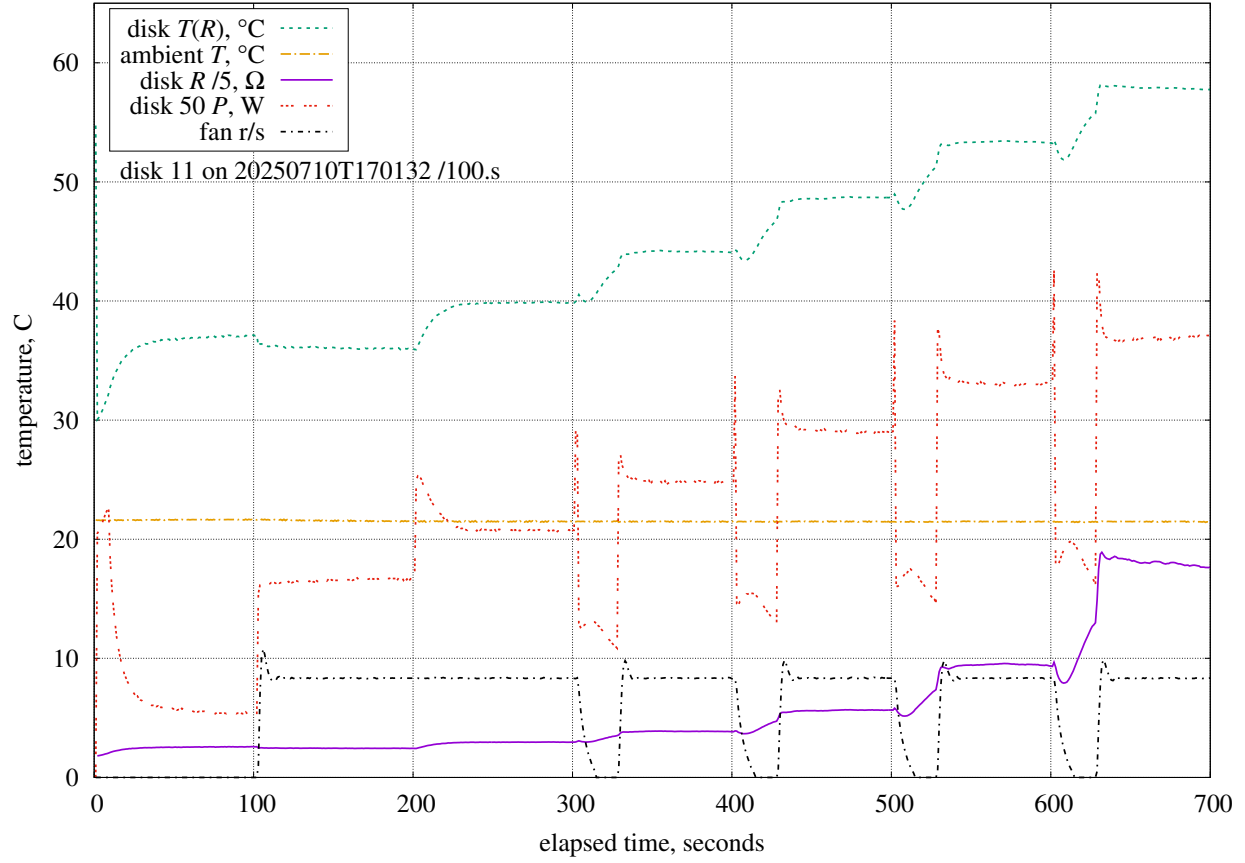
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.92%/K	0.10.K	0.39%	LM35C differential
P	101.kPa	+0.0003%/Pa	1.5.kPa	0.41%	MPXH6115A6U air pressure
η	0.340	+95.4%	0.007	0.65%	anemometer calibration
Re_0	600	-0.011%	60	0.68%	integration lower-bound
C_B	0.541	+7.64%	0.100	0.76%	bypass coefficient
D_o	2.81.mm	-6936%/m	500.um	3.47%	tube outer diameter
D_i	1.11.mm	+7046%/m	200.um	1.41%	tube inner diameter
D_g	166.um	-345%/m	750.um	0.26%	tube air gap
L_{wire}	38.0.mm	+1437%/m	500.um	0.72%	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. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.33%	ABS thermal conductivity
d	12.0.mm	+5691%/m	100.um	0.57%	disk diameter
				4.30%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	126.r/min	+0.258%/(r/min)	0.90.r/min	0.23%	fan rotation rate
				4.33%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 0.748$ m/s (250 r/min)

Estimated measurement uncertainties at $Re = 546$.

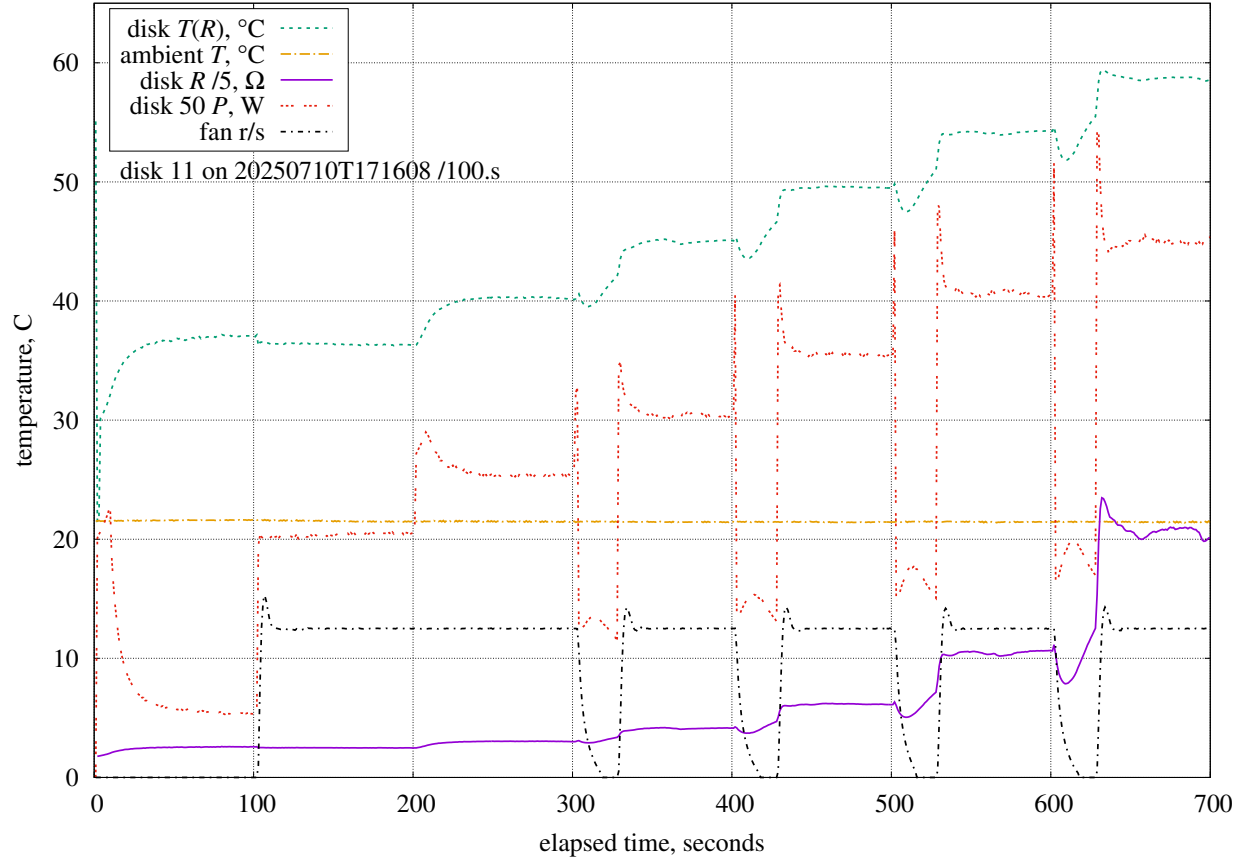
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.96%/K	0.10.K	0.40%	LM35C differential
P	101.kPa	+0.0005%/Pa	1.5.kPa	0.81%	MPXH6115A6U air pressure
η	0.340	+168%	0.007	1.14%	anemometer calibration
Re_0	600	-0.0097%	60	0.58%	integration lower-bound
C_B	0.541	+8.52%	0.100	0.85%	bypass coefficient
D_o	2.81.mm	+1147%/m	500.um	0.57%	tube outer diameter
D_i	1.11.mm	+9250%/m	200.um	1.85%	tube inner diameter
D_g	166.um	-413%/m	750.um	0.31%	tube air gap
L_{wire}	38.0.mm	+1722%/m	500.um	0.86%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.150%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.34%	ABS thermal conductivity
d	12.0.mm	+6258%/m	100.um	0.63%	disk diameter
				3.16%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	250.r/min	+0.228%/(r/min)	0.99.r/min	0.23%	fan rotation rate
				3.19%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 1.467$ m/s (500 r/min)

Estimated measurement uncertainties at $Re = 1070$.

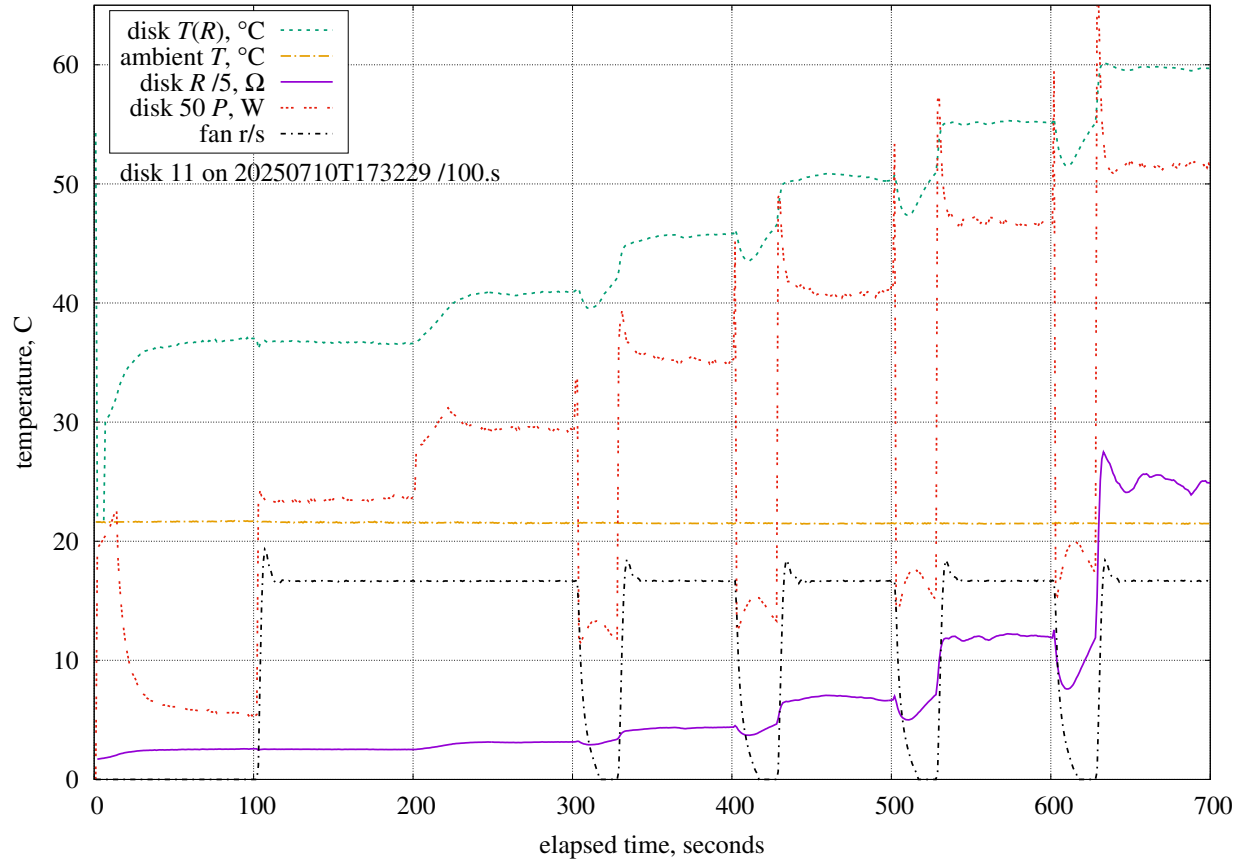
Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+4.03%/K	0.10.K	0.40%	LM35C differential
P	101.kPa	+0.0004%/Pa	1.5.kPa	0.59%	MPXH6115A6U air pressure
η	0.340	+111%	0.007	0.75%	anemometer calibration
Re_0	600	-0.0070%	60	0.42%	integration lower-bound
C_B	0.541	+7.25%	0.100	0.72%	bypass coefficient
D_o	2.81.mm	-4660%/m	500.um	2.33%	tube outer diameter
D_i	1.11.mm	+11695%/m	200.um	2.34%	tube inner diameter
D_g	166.um	-491%/m	750.um	0.37%	tube air gap
L_{wire}	38.0.mm	+2048%/m	500.um	1.02%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.153%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.37%	ABS thermal conductivity
d	12.0.mm	+6680%/m	100.um	0.67%	disk diameter
				4.03%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	500.r/min	+0.075%/(r/min)	1.1.r/min	0.09%	fan rotation rate
				4.03%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 2.131 \text{ m/s}$ (750 r/min)

Estimated measurement uncertainties at $Re = 1554$.

Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.95%/K	0.10.K	0.39%	LM35C differential
P	100.kPa	+0.0004%/Pa	1.5.kPa	0.66%	MPXH6115A6U air pressure
η	0.340	+127%	0.007	0.87%	anemometer calibration
Re_0	600	-0.011%	60	0.66%	integration lower-bound
C_B	0.541	+9.72%	0.100	0.97%	bypass coefficient
D_o	2.81.mm	-5317%/m	500.um	2.66%	tube outer diameter
D_i	1.11.mm	+12229%/m	200.um	2.45%	tube inner diameter
D_g	166.um	-512%/m	750.um	0.38%	tube air gap
L_{wire}	38.0.mm	+2133%/m	500.um	1.07%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.150%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.34%	ABS thermal conductivity
d	12.0.mm	+7336%/m	100.um	0.73%	disk diameter
				4.41%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	750.r/min	+0.058%/(r/min)	0.84.r/min	0.05%	fan rotation rate
				4.41%	RSS combined uncertainty



$\theta = 0.0^\circ$; $\psi = 173.3^\circ$; $V = 2.725$ m/s (1000 r/min)

Estimated measurement uncertainties at $Re = 1987$.

Symbol	Nominal	Sensitivity	Bias	Uncertainty	Component
ΔT	25.0.K	+3.96%/K	0.10.K	0.40%	LM35C differential
P	100.kPa	+0.0004%/Pa	1.5.kPa	0.67%	MPXH6115A6U air pressure
η	0.340	+117%	0.007	0.80%	anemometer calibration
Re_0	600	-0.011%	60	0.63%	integration lower-bound
C_B	0.541	+10.0%	0.100	1.00%	bypass coefficient
D_o	2.81.mm	-5537%/m	500.um	2.77%	tube outer diameter
D_i	1.11.mm	+12308%/m	200.um	2.46%	tube inner diameter
D_g	166.um	-517%/m	750.um	0.39%	tube air gap
L_{wire}	38.0.mm	+2156%/m	500.um	1.08%	wire length
k_{ABS}	179. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	+0.145%/ $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	9.0. $\frac{\text{mW}}{\text{K}\cdot\text{m}}$	1.30%	ABS thermal conductivity
d	12.0.mm	+7688%/m	100.um	0.77%	disk diameter
				4.47%	combined bias uncertainty
Symbol	Nominal	Sensitivity	Variability	Uncertainty	Component
ω	1000.r/min	+0.040%/(r/min)	1.4.r/min	0.05%	fan rotation rate
				4.47%	RSS combined uncertainty