

Related information for chapter 2

Further reading

SDI-12: <http://www.sdi-12.org/>

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- Philip J. R. (1963) The damping of a fluctuating concentration by continuous sampling through a tube, *Australian Journal of Physics*, 16:454-463.
- Suyker A. E. and Verma S. B. (1993) Eddy correlation measurement of CO₂ flux using a closed-path sensor: Theory and field tests against an open-path sensor, *Boundary-Layer Meteorology*, 64:391-407.
- Wilczak J. M., Oncley S. P. and Stage S.A. (2001) Sonic anemometer tilt correction algorithms, *Boundary-Layer Meteorology*, 99:127-150.
- Yasuda Y. and Watanabe T. (2001) Comparative measurements of CO₂ flux over a forest using closed-path and open-path CO₂ analyzers, *Boundary-Layer Meteorology*, 100:191-208.

Devices and instruments

2.1

Ultrasonic anemometer thermometers (SATs)

- SONIC CORPORATION, Japan (TR-61A/B/C, TR-90AH, SAT-540/550)
<http://www.u-sonic.co.jp/english/>
- Applied Technologies, Inc., US ("K" Style Probe) <http://www.apptech.com/>
- Gill Instruments, Ltd., UK (WindMaster, R3, HS) <http://www.gill.co.uk/>
- R.M. Young Company, US (Model 81000) <http://www.youngusa.com/>
 - Product list <http://www.youngusa.com/products/>
 - Price list <http://www.youngusa.com/PRICELIST.pdf>
- METEK Meteorologische Messtechnik GmbH, Germany (USA-1)
<http://www.metek.de/>
- Campbell Scientific, Inc., US (CSAT3) <http://www.campbellsci.com/>

2.2

Open-path CO₂/H₂O gas analyzers

- LI-COR, Inc., US (LI-7500 family) <http://www.licor.com>
- ADC BioScientific Ltd., UK (OP-2) <http://www.adc.co.uk/>
- Campbell Scientific, Inc., US (KH20) <http://www.campbellsci.com/>

2.3

Closed-path CO₂ gas analyzers

- LI-COR, Inc., US (LI-6262, LI-7000) <http://www.licor.com/>

2.4

Closed-path CO₂ gas analyzer

- LI-COR, Inc., US (LI-820, LI-840) <http://www.licor.com/>

Air sampling devices

- Dylec, Inc., Japan <http://www.dylec.co.jp/> [in Japanese]
- MEIWAFOFOSIS CO., LTD, Japan <http://www.meiwafosis.com/> [in Japanese]

System building

- CLIMATEC, Inc., Japan <http://www.weather.co.jp/> [in Japanese]

Control modules

- Campbell Scientific, Inc., US (SDM-CD16AC) <http://www.campbellsci.com/>

2.5

Programmable data loggers

- Campbell Scientific, Inc., US <http://www.campbellsci.com/index.cfm>

Gas chromatographs

- SHIMADZU CORPORATION, Japan <http://www.shimadzu.com/>
- Agilent Technologies, Inc., US <http://www.home.agilent.com/>

Soft ionization mass spectrometers

- Ionicon Analytik Gesellschaft m.b.H., Germany <http://www.ptrms.com/>
- V&F Analyse- und Messtechnik GmbH, Germany <http://www.vandf.com/>

Tunable diode laser spectrometers

- Los Gatos Research, Inc., US (DLT-100) <http://www.lgrinc.com/>
- Picarro Inc., US (G2311-f) <http://www.picarro.com/>
- Campbell Scientific, Inc., US <http://www.campbellsci.com/>

Chemiluminescent analyzers

- Hills-Scientific, US <http://hills-scientific.com/>
- Yanaco New Science Inc., Japan <http://english.yanaco.co.jp/>

2.6

Data loggers

- Campbell Scientific, Inc., US <http://www.campbellsci.com/>
- TAIYO KEIKI Co., Ltd., Japan (the sole agent of Campbell)
<http://www.taiyokeiki.co.jp/> [in Japanese]
- HIOKI E.E. CORPORATION, Japan (MEMORY HiLOGGER LR8430-20)
<http://www.hioki.com/>
- KEYENCE CORPORATION, Japan (NR-1000) <http://www.keyence.com/>
- TEAC CORPORATION, Japan (es8) <http://www.teac.co.jp/indexe.html>
- OMRON Corporation, Japan (ZR-RX20/40A) <http://www.omron.com/>

RS-232-to-RS-422/485 Converters

- Moxa Inc., US (TCC-80) <http://www.moxa.com/>

Cables for RS-232-to-USB conversion

- I-O DATA DEVICE, INC., Japan (USB-RSAQ5 series)
<http://www.iodata.com/>
<http://www.iodata.jp/product/mobile/serial/>
[in Japanese]
- RATO Systems international, Inc., Japan (REX-USB60F)
<http://www.ratocsystems.com/english/>
<http://www.ratocsystems.com/products/rs232c.html>
[in Japanese]

2.7

Oscilloscope

- NF CORPORATION, Japan <http://www.nfcorp.co.jp/english/>
- IWATSU TEST INSTRUMENTS CORPORATION, Japan
http://www.iti.iwatsu.co.jp/index_e.html

Digital multimeter

- NF CORPORATION, Japan <http://www.nfcorp.co.jp/english/>
- ADC CORPORATION, Japan <http://www.adcmt.com/index.htm>

Low pass filter

- NF CORPORATION, Japan <http://www.nfcorp.co.jp/english/>

Noise cut transformer

- DENKENSEIKI Research Institute Co., Ltd., Japan <http://www.denkenseiki.co.jp/english/>

UPS

- DENKENSEIKI Research Institute Co., Ltd., Japan <http://www.denkenseiki.co.jp/english/>
- OMRON Corporation, Japan <http://www.omron.com/>
<http://www.omron.co.jp/ped-j/dengen/product/ups/> [in Japanese]
- SANWA SUPPLY INC., Japan <http://www.sanwa.co.jp/> [in Japanese]
- SANYO DENKI CO., LTD., Japan <http://www.sanyodenki.co.jp/en/>

Parts and supplies (Some examples)

- Paper towel, ("Kimwipes" S.Ply 4.4"×8.4" /Bx 280): Kimberly-Clark Corporation, US
<http://www.kimberly-clark.com/> [2.2]
- Tube connectors: NIHON PISCO CO., LTD, Japan <http://www.pisco.co.jp/english/pisco.htm> [2.3]
- Tube connectors: Swagelok Company, US <http://www.swagelok.com/> [2.3]
- Tubes and PTFE products: CHUKOH CHEMICAL INDUSTRIES, LTD, Japan
<http://www.chukoh.co.jp/eng/> [2.3]
- Tubes and polyethylene products: HAGITEC CO.,LTD., Japan
<http://www.hagitec.co.jp/homeeng.htm> [2.3]
- Filters: Advantec Toyo Kaisha, Ltd., Japan <http://www.advantec.co.jp/english/> [2.3]
- Filters: Millipore Corporation, US <http://www.millipore.com/> [2.3]
- Seal tape and PTFE products: NITTO DENKO CORPORATION, Japan
<http://www.nitto.com/> [2.3]
- Mass flow controllers: Yamatake Corporation, Japan <http://www.azbil.com> [2.3]
- Mass flow controllers and flowmeters: KOFLOC (KOJIMA INSTRUMENTS INC.), Japan
http://www.kofloc.co.jp/kofloc_e/index.html [2.3]
- Solenoid valves: CKD Corporation, Japan <http://www.ckd.co.jp/english/> [2.3]
- Solenoid valves: TAKASAGO ELECTRIC, INC., Japan
<http://www.takasago-elec.com/> [2.3, 2.4]
- Solenoid valves: KOGANEI CORPORATION, Japan <http://www1.koganei.co.jp/en/> [2.3]
- Dehumidifiers: Perma Pure LLC, US <http://www.permapure.com/> [2.3]
- Pumps: Enomoto Micro Pump Mfg. Co., Ltd., Japan <http://www.emp.co.jp/> [in Japanese] [2.3, 2.4]
- Pumps: KNF Neuberger GmbH, Germany <http://www.knf.com/> [2.3]
- Pumps: Gast Manufacturing, Inc., US <http://www.gastmfg.com/> [2.3]
- Programmable relay (ZEN): OMRON Corporation, Japan
<http://www.ia.omron.com/> [2.3]
- Programmable relay (SDM-CD16AC): Campbell Scientific, Inc. US
<http://www.campbellsci.com/> [2.3]

20. Swagelok, Gaugeable tube fittings and adapter fitting: Swagelok Company, US
<http://www.swagelok.com/> [2.4]
21. Three-way solenoid valves (FSS-0306YN): Flon Industry, Japan
<http://www.flon-ind.com/> [in Japanese] [2.5]

