

Pressure meters for various
applications and adjustments

ecom[®] DP



ecom PRODUCTS OFFER YOU MANY BENEFITS...



EXTREMELY EFFICIENT.

The high output level (up to 2.6 liters/minute) not only enables ecom analyzers to provide a fast reading: It also makes it possible to bridge long distances during sampling, or negative pressure in the application. Manometers also provide readings in record time.



EXTREMELY ACCURATE.

The reading accuracy of gas sensors (CO, NO, SO₂) is determined and adjusted at 5, 20 and 40°C in the climatic test chamber using standardized test gases. High-quality sensors provide a perfect reading for pressure measurements.



EXTREMELY COMPLETE.

ecom analyzers are sold and designed as an entity (device, probe, probe hose, case). In addition: Printer paper and filter, a solid shoulder strap, PC software and Apps.



EXTREMELY COOL.

The drier, the better: The gas to be measured is continually cooled to 5°C using a gas cooler. This way, the drying process is controlled. Collected condensate can be easily emptied in some cases this occurs in automatic mode.



EXTREMELY FAR-REACHING.

ecom analyzers communicate wirelessly: Via Bluetooth as well as radio (highest range with the most stable connection). This way instruments can be remote-controlled via e.g. smartphones or ecom remote control unit.



EXTREMELY ROBUST.

Hard on the outside - even harder on the inside! Almost all ecom measuring devices are housed in an ultra-light aluminium casing. Its durability pays off in its daily use - especially in rougher conditions.



EXTREMELY SAFE.

The condensation control protects from moisture. An automatic CO shut-off (flushing of the CO sensor) without interruption of the measuring process ensures the long lifespan of the CO sensor. Each ecom instrument has its own „safety equipment.“



EXTREMELY LOSS-FREE.

To measure the full concentration of extremely water soluble gases an inner PTFE coated hose or a heated sampling system are available. This guarantees the fast and condensate free flue gas transport.

...BY EVERY APPLICATION.

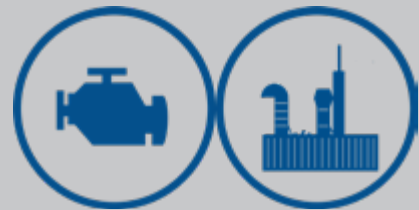
HEATING

Combustion gas analysers, pressure meters, leak detectors and more for the HVAC handicraft, chimney-sweep and heating after-sales service. For control and adjustment works in order to reduce emissions and to optimize the efficiency of heating plants.



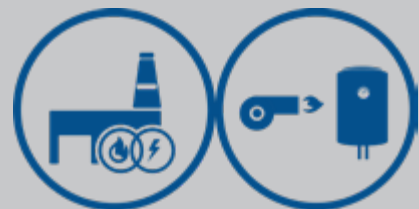
ENGINES

For control and adjustment works among all by commissioning of gas engines, thermal power blocks, etc. as well for the perfect measurement of water-soluble gases like nitrogen oxide – especially recommended for the NO_x measurement.



COMBUSTION

Combustion gas analysers, pressure meters, leak detectors and more for control and adjustment works at burners and large-scale firing plants in order to reduce emissions, to arrange for a more efficient combustion process and to optimize the thermal process.



INDUSTRY

Combustion gas analysers, pressure meters, leak detectors and more for the perfect preparation of water-soluble gases (i.a. NO₂ and SO₂) by industrial applications (like e.g. aluminium process, coke oven plants, cement processing, power plants, refineries, waste incineration...).



Overview of technical data

✓ Standard • Option x Not possible

Pressure meter model			UNO200	DP	DP Engine	DP Profi Set	DP3
Application Operation purpose							
Chimney draught measurement			x	•	x	x	•
Fine pressure measurement			x	x	x	x	•
Gas burner adjustment Device connection pressure (flow pressure) Nozzle pressure (flow pressure) Gas operation pressure (plant pressure) Static pressure			✓	✓	✓	✓	✓
Check of gas pipelines Tightness check according to TRGI (150 hPa) Stress test according to TRGI (1 bar) Leak rate measurement in relation to usability test according to TRGI			x	•	x	•	✓
Blower pressure			✓	✓	x	✓	✓
Check of water pipelines (wet or dry) Tightness check of compression connectors (6 bar) Tightness check according to DIN EN 804-4 - drinking water resp. air pressure (up to 11 bar)			x	x	x	x	•
Check of sewage plants According to DIN 1610			x	x	x	x	•
Check of liquid gas pipelines Tightness check according to TRF (150 hPa) Strength test according to TRF (1 bar)			x	x	x	x	•
Check of heating plants according DIN 18380 2,5 or 3 bar - according to response pressure of safety valve			x	x	x	x	•
4 Pa test			x	x	x	x	•
Flow pressure			x	x	x	x	•
Parallel measurements with a second pressure sensor			x	•	•	•	•
Tightness check at gas valves			x	x	x	✓	x
Adjustment of gas engines Gas pressure check (± 80 hPa to 8 bar) Differential pressure at intercooler (± 20 to 700 hPa) Exhaust excess pressure (± 5 to 120 hPa) Difference pressure at BlowBy-filter (5 to 50 hPa) Crank case pressure (- 5 to 100 hPa)			x	x	✓	x	x
Range	Resolution	Accuracy					
0 - 70 hPa	0,01 hPa	< 3 % of measured value	x	•	x	x	x
0 - 200 hPa	0,01 hPa	1 % of measured value	✓	x	x	x	x
0 - 1500 hPa	0,1 hPa	3 % of measured value (depending on installed sensor higher)	x	•	x	✓	✓
0 - 1 bar	0,1 bar	0,3 % full scale value	x	x	✓	x	x
0 - 10 bar	0,001 bar	0,5 % full scale value	x	x	•	x	x
0 - 20 bar	0,01 bar	0,5 % full scale value	x	x	x	x	•
0 - 40 bar	0,01 bar	0,5 % full scale value	x	x	x	x	•
Two parallel measurements possible			x	•	•	•	•
Indication							
Integral display, one-line			✓	x	x	x	x
Integral display, multi-line			x	✓	✓	✓	✓
Printer							
Data transfer capability to infrared printer			x	✓	✓	✓	x
Thermal quick-printer, integral			x	x	x	x	✓
Power supply							
Customary one-way batteries			✓	✓	✓	✓	x
Rechargeable batteries			x	•	•	•	x
Lithium-Ion battery			x	x	x	x	✓
Main power/ battery operation			x	✓	✓	✓	✓
Battery charger included			x	x	x	x	✓

Pressure meter model	UNO200	DP	DP Engine	DP Profi Set	DP3
Connections					
USB interface for data transfer	x	✓	✓	✓	✓
Multi-function interface (AUX connection)	x	x	x	x	✓
Data processing					
Internal memory	x	✓	✓	✓	x
SD card as memory	x	x	x	x	✓
Long-lasting measurements on SD card	x	x	x	x	✓
Data exchange with PC program (DP Logger)	x	✓	✓	✓	x
Data exchange with PC program (DP3 Report)	x	x	x	x	✓
Transport					
Fabrics protection pouch	✓	x	x	x	x
Plastics transport case	x	•	•	✓	x
Hardtop transport case	x	x	x	x	✓
Accessories					
Simultaneous temperature measurement	x	x	x	x	✓
TRGI kit (hoses, quick-couplings, various test stopples, one-pipe counter cap, stop valve)	x	•	x	x	✓
Adjustment kit for gas burners (3 connection hoses, 2 stopples, cross-piece with stop valve, bellow)	x	x	x	✓	x
Hoses set for operation pressure up to 1 bar (2 hoses with quick-/screw coupling)	x	x	•	x	x
Hoses set for operation pressure up to 10 bar (2 hoses with quick-/screw coupling)	x	x	•	x	x

ecom[®] DP

PRESSURE MEASUREMENT



ecom-DP

PRESSURE METER FOR VARIOUS APPLICATIONS AND
ADJUSTMENTS OF GAS BURNERS

- Device connection pressure (flow pressure)
- Nozzle pressure (flow pressure)
- Gas operating pressure (system pressure)
- Idle pressure
- Basic version with one sensor (0-1.500 hPa)
- Optional extension with a 2nd pressure sensor (0-70 hPa) for parallel or separate measuring
- Both sensors with a resolution of 0.1 hPa and an accuracy of < 0.3% of the full scale value
- 6 adjustable units: hPa, cmH₂O, mmHg, PSI, H₂O, Hg
- Backlit graphic display
- Min./max. feature (saves the lowest and highest measured reading)
- Data hold (manual intermittent storage of a particular reading)
- Adjustable damping
- Data storage and datalogging
- Adjustable parameters for individual tests
- Optional measuring routines (TRGI test, leak tests on the gas fitting, etc.)
- Fixation magnet on back side
- Free download of "ecom-DP Logger" PC Software

Dimensions (W x H x D) approx 170 x 75 x 35 mm

Weight approx 0,3 kg (batteries incl.)

ecom-DP ENGINE

FOR MEASUREMENTS AND ADJUSTMENTS ON ENGINES

- Basic version with one sensor (0-10 bar) with a resolution of 0,001 bar and an accuracy of 0,5% of the full scale value
- Optional extension with a 2nd pressure sensor (0-1 bar) with a resolution of 0,0001 bar and an accuracy of 0,3% of the full scale value
- Gas pressure control (± 80 hPa to 8 bar)
- Differential pressure measurements in the intercooler (± 20 to 700 hPa)
- Exhaust gas overpressure measurement (± 5 to 120 hPa)
- Differential pressure measurement in the Blow By Filter (5 to 50 hPa)
- Crank case pressure measurement (-5 to 100 hPa)
- Differential pressure measurement in gas heaters / gas burners (connection pressure, nozzle pressure, operation pressure and static pressure)
- Free download of "ecom-DP Logger" PC Software

ACCESSORIES

- Hose set - for an operating pressure of up to 1 bar
- Hose set - for an operating pressure of up to 10 bar
- Infrared printer



ACCURATE



SAFE



COMPLETE

ecom-DP PROFI-SET

FOR TESTS AND ADJUSTMENTS ON GAS BURNERS

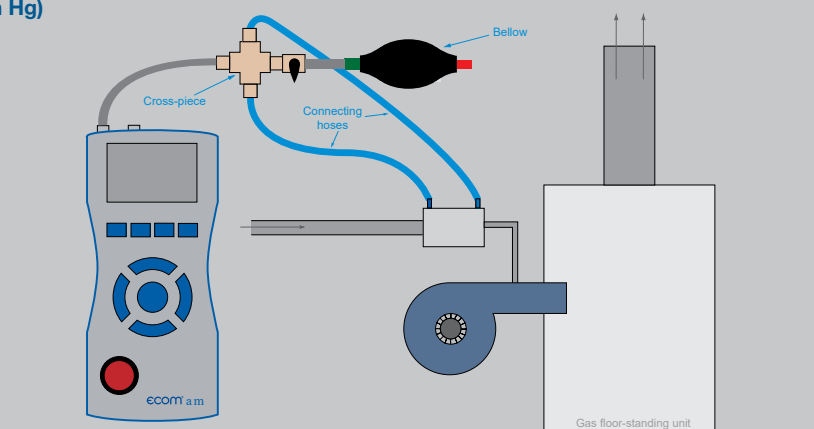
- Pressure measurement in gas burners
- Leak testing in the gas fittings (± 100 to 150 hPa)
- Testing of the gas connection pressure
- Measurements of the adjusted gas pressure
- Adjustment of the gas pressure monitor
- Adjustment of the air pressure monitor
- Basic version with with one sensor (0-1.500 hPa)
- 2nd pressure sensor (0-70 hPa) for parallel pressure measurement optional
- Back-lit graphic display
- Min./max. feature (saves the lowest and highest measured reading)
- Data hold (manual intermittent storage of a particular reading)
- Switch between units (hPa, cmH₂O, mmHg, PSI, Inch H₂O, Inch Hg)
- Adjustable damping
- Data storage and datalogging
- Adjustable parameters for individual tests
- Fixation magnet on back side
- Free download of "ecom-DP Logger" PC Software

Dimensions (W x H x D) approx 170 x 75 x 35 mm

Weight approx 0,3 kg (batteries incl.)

SET CONTENTS

- ecom-DP
- 3 PVC connecting tubes
- 2 stopples
- Crosspiece with stopcock
- Bellows (ball)
- Transport case (330 x 260 x 75 mm)



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ecom[®] DP3

PRESSURE MEASUREMENT



ecom-DP3

COMPACT PRESSURE METER

- Fully automated pressure testing
- Fully automated leak rate determination (does not require gas sampling)
- Instant usability check
- Internal pump for up to 1.5 bar pressurization
- Built-in thermal quick printer
- Safe, fully automated test routines
- Free pressure measurement programmable
- For gas (TRGI), liquid gas (TRF), water (TRWI) and waste water pipeline testing
- For additional measurements up to 40 bar (using external sensors*)

Dimensions (W x H x D) approx 430 x 170 x 380 mm

Weight approx 8 kg – complete

MEASUREMENT RANGE

- 0 - 1,5 bar (with internal pump / internal sensor)
- 0 - 20 bar (accessory / external sensor)
- 0 - 40 bar (accessory / external sensor)

FOR PERFORMING THE FOLLOWING MEASUREMENTS

- Load testing according to TRGI 2018
- Tightness test according to TRGI 2018
- Fully automatic leak rate determination without feeding device
- Testing of LPG pipes according to TRF
- Testing of drinking water systems according to DIN EN 806-4 (with external pressure sensor*)
- Testing of heating systems according to DIN 18380 (with external pressure sensor*)
- Testing of sewage systems according to DIN 1610 (with sealing bubbles set*)
- Heating check according to DIN EN 15378
- 4 Pa test*
- Freely specifiable pressure measurement
- Differential temperature (with corresponding temperature sensor*)

* Accessory/Option

RESOLUTION

- 0,01 hPa (ecom-DP3)
- 10 hPa (accessories/ external sensor)

LEAK VOLUME

- 0 - 8 l/ h (at 0,1 l/ h resolution)



ROBUST



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PRODUCT FEATURES / SCOPE OF DELIVERY

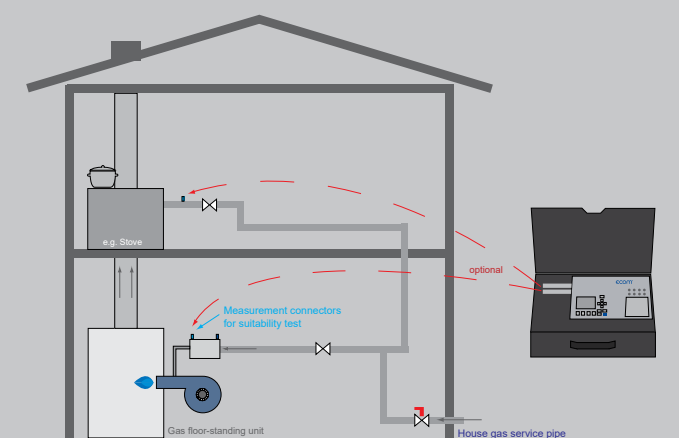
- Fitted in ultralight, durable aluminum housing
- Temperature monitoring (0-100°C with 0.1 °C resolution)
- Built-in thermal quick-printer for the documentation of safety-relevant checks (includes printer paper and replacement paper roll)
- High-quality rechargeable lithium-ion battery
- SD card for data storage (for easy PC backup)
- Hardtop transport case made of durable plastic
- PC software on USB drive

OPTIONS

- 4-Pa test
- Parallel pressure measurement possible

OTHER INCLUDED ACCESSORIES

- Silicone tube (100 mm) with fast coupling for connection to the pressure test ports
- Tube (2.8 m) with fast couplings
- Y-hose adapter
- Two cone-shaped test plugs (1/2"- 3/4" // 3/4" – 1 1/4")
- T-piece for overpressure valve with fast coupling
- Two high pressure test plugs (3/8" auf 1/2" // 3/8" auf 3/4") with fast coupling
- Shut-off valve, mini ball valve and fast coupling
- Single-tube meter cap
- T-piece for overpressure valve with fast coupling



USEFUL

ecom-LSG

DETECTION OF FLAMEABLE GASES

- With bar graph
- Display range: up to 0.5 vol.%;
Response time: < 2 seconds
- Display: backlit bar graph
- Display approx 20 x 7 mm
- 1 -14 bars (10 bars approx 1.000 ppm CH₄)
- Power supply: 2 batteries/ accus micro (AAA)
- Battery life: > 8 h
- Warm-up time: approx 3 minutes
- Sensor temperature compensation: -5 °C to +40 °C

Dimensions (W x H x D): Housing approx 155 x 35 x 22 mm

Swan-neck: approx 355 mm long

Weight: approx 200 g



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ecom-UNO

DIFFERENTIAL PRESSURE METER IN POCKET FORMAT

Adjustment of gas burners:

- Device connection pressure (flow pressure)
- Nozzle pressure (flow pressure)
- Gas operating pressure (system pressure)
- Idle pressure
- Measurement range: ± 200 hPa, ± 2.038 mmH₂O,
 $\pm 2,9$ psi, ± 150 mmHg
- Switchable units: hPa/mbar, mmH₂O, psi, mmHg
- Resolution: 0,01 hPa / 0,01 mmH₂O / 0,01 psi / 0,01 mmHg
- Accuracy: ca. 1% of measure value
- Overload: 300 hPa / 3.060 mmH₂O / 4,35 psi / 225 mmHg
- With fixation magnet on back side

Dimensions (W x H x D): approx 106 x 64 x 28 mm

Weight: approx 150 g (with batteries)



ACCESSORIES



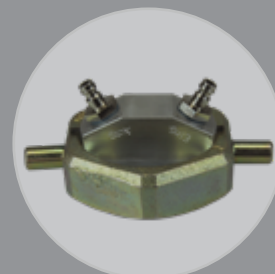
Transport case

Made of plastic - with foam insert including recesses for ecom-LSG and all accessories.



Measuring nozzle G $\frac{1}{8}$ MS and G $\frac{1}{4}$ MS

For connecting the silicone measuring hose from the ecom-DP3. Attachment to the gas system to provide an (additional) measuring port. Can in many cases replace the existing hex screw of a gas meter.



Single pipe counter cap

With union 2 $\frac{3}{4}$ ".
For counter G10/G16 with quick coupling.



Double pipe counter cap

Threaded test piece for $\frac{3}{4}$ " and 1 $\frac{1}{4}$ "
Needed quantity: 2 pieces



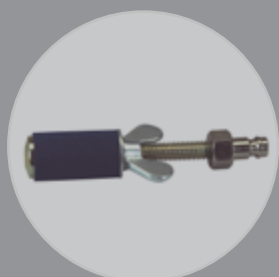
T-Room sensor (PT 2000)

With magnet, no cone, measuring range from -20 bis 100°C, resolution 0,1°C, accuracy $\pm 1^\circ\text{C}$, incl. 3 m cable and adapter for the measuring instrument.



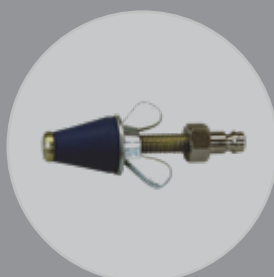
Pressure sensor

With measuring range from 0-20 bar and 0-40 bar. Incl. connection cable for 4-20 mA input on the ecom-DP3 incl. threaded adapter, e.g. for testing drinking water systems according to DIN EN 804-4.



Test plug

Test plug, cylindrical
 $\varnothing 14,5 \text{ mm} - 52 \text{ mm}$
with quick coupling.



Test plug

Test plug; conical $\varnothing 12-22 \text{ mm}$ -
with quick coupling
Test plug; conical $\varnothing 35-65 \text{ mm}$ -
with quick coupling.



ecom-P Thermal printer

With infrared interface for wireless data transmission from ecom-DP.

Other accessories on demand.

ecom[®]

improve the important

HEADQUARTER

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