



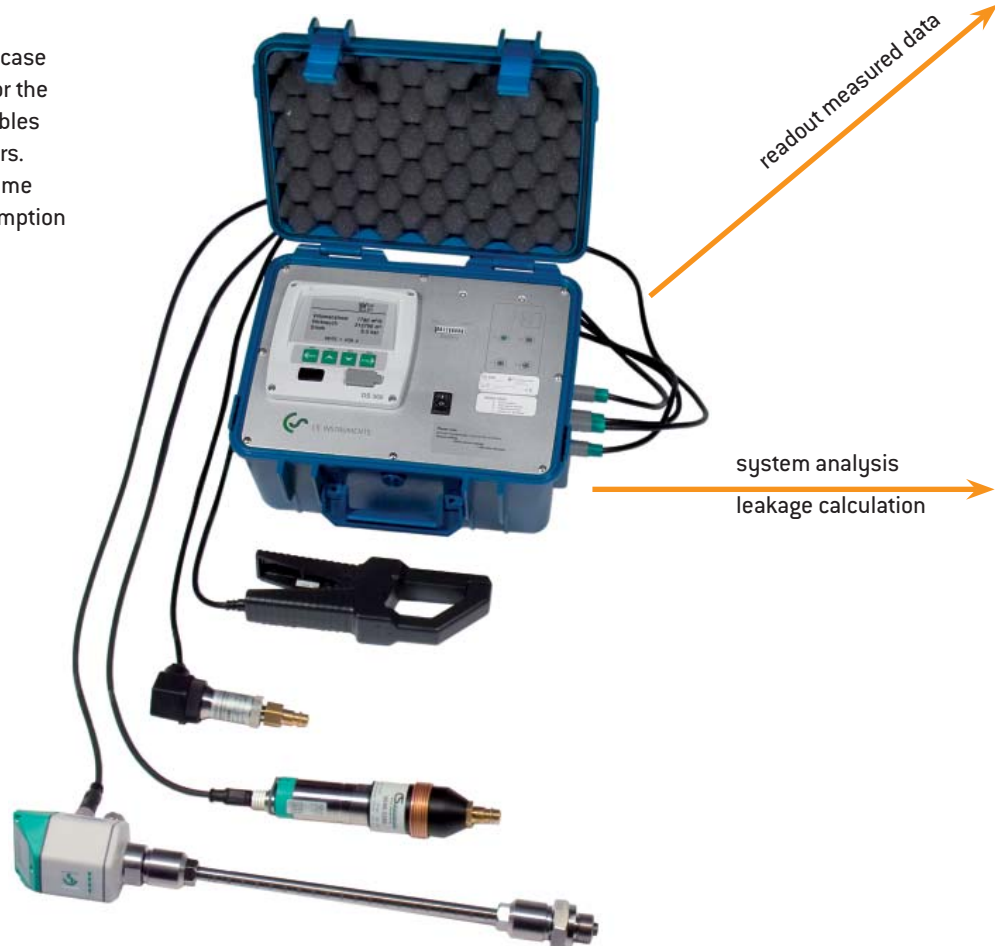
Dew point  Pressure  Current  Temperature 

DS 300 mobile version – Energy analysis – Consumption measurement – Leakage calculation

The all-rounder DS 300 mobile version in a robust case is the ideal multifunction measuring instrument for the mobile use. The internal rechargeable battery enables mains-independent measurements of up to 4 hours. Up to 4 parameters can be recorded at the same time (consumption, pressure dew point, current consumption and pressure).

Special features

- All relevant measured data at a glance:
 - Actual air consumption in m³/h or m³/min
 - Total air consumption in m³
 - Pressure dew point in °C_{td}
 - Line pressure in bar
 - Current consumption in A
 - Temperature in °C
- Data logger for 1 million measured values
- Min-, Max-, average values available on-site without any PC
- The data transfer to the PC is effected via USB interface



Technical data DS 300 mobile

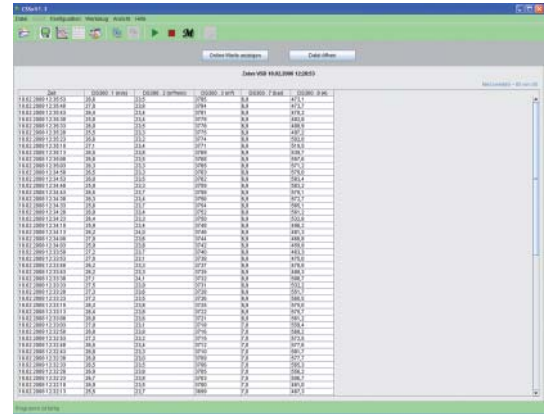
Inputs:	2 digital inputs for VA 400 resp. FA 410 2 x analogue inputs for pressure sensors, clamp-on ammeters, temp. sensors
Interface:	USB
Keypad:	4 keys
Power supply:	100-240 VAC, 50-60 Hz internal rechargeable battery for 4 hours
Accuracy:	See probe data on pages 6, 23, 25
Operating temp.:	0...50 °C
Transport temp.:	-20...70 °C
Data logger:	1 million meas. values start/stop time, meas. rate freely adjustable
Case dimensions:	DS 300 mobile version 280 x 230 x 155 mm

Description	Order no.
Set DS 300 mobile version consisting of:	0602 0002
DS 300 mobile version with data logger for 1 million measured values including 2 analogue inputs, in a robust case	0500 3225
Consumption sensor VA 400 max. (185 m/s) including certificate, 5 m cable	0695 0122
FA 410, dew point sensor, -80...20 °C _{td} , incl. mobile meas. chamber, 5 m cable	0699 0411
Precision pressure probe CS 16 (0...16 bar)	0694 3555
Connection cable for pressure probe, 5 m, with ODU plug for DS 300 mobile	0553 0110
Clamp-on ammeter 0...500 A, with 5 m cable	0554 0500
CS Analysis Software for leakage and cost calculation including CS Soft Professional software for data evaluation in graphic and table form	0599 2011
Case for probes (dimensions: 480 x 360 x 120 mm)	0554 6005
Additional accessories, not included in the set:	
CS Soft Professional software for data evaluation in graphic and table form including USB interface	0554 7010
Extension cable 5 m for probes	0553 0103
Temperature sensors see page 23	
Connection cable for third-party sensors (open ends), 5 m, with ODU plug for DS 300 mobile version	0553 0110



CS Soft Professional

By means of the CS Soft Professional software and a USB cable the measured data is transferred to the PC and filed there. At the push of a button the data can be displayed in graphic or in table form. The Export function enables to export the measured data into an Excel® file.



CS Analysis Software

By means of the CS Analysis Software the measured data filed in the PC can be analysed.

The following parameters of the system can be analysed by means of the CS Analysis Software:

- Load time [h], non-load time [h], stop time [h]
- No. of loadings/releases (load cycles)
- Full load energy [kWh]
- Non-load cycle energy [kWh]
- Total energy [kWh]
- Total consumption [m³]



1. System analysis

A compressor station is monitored by means of DS 300 for a period of at least one week.

2. Leakage calculation

1. How is leakage determined?

The easiest way is the leakage determination on production-free days, e. g. weekends, holidays, at the end of a shift. During this time the compressor carries compressed air which is required

to keep a constant pressure. According to statistics even if production is effected day and night there is at least one short period of time during which all load is switched off, e. g. maintenance times. This period of time can be determined with the CS Analysis Software.

Compressed air analysis with leakage calculation

Period of emasurement 31.12.2006 until 31.01.2007, measuring rate 1 second.

Compressed air consumption		
Total consumption: 1,309,013 m ³	Average consumption: 1,805 m ³ /h	Maximum consumption: 2,400 m ³ /h
Leakage		
Leakage in total: 299,000 m ³	Average leakage: 415 m ³ /h	Leakage rate: 23 %
Energy data		
Total energy consumpt.: 129,000 KWh	Energy costs: 129,000 KWh x 0.11 € = 14,190 €	Energy costs per m ³ : 14,190 €/1,309,013 m ³ = 0.011€/m ³
Further measuring data		
Maximum pressure: 7 bar	Minimum pressure: 5.8 bar	Average value: 6 bar
Maximum dew point: -11 °Ctd	Minimum dew point: -50 °Ctd	
Leakage costs:	299,000 m ³ x 0.011 € = 3,289 € for 1 month	

2. What has to be done by the user?

The user has to enter the following parameters:

- Current costs per kWh
- Meas. rate, duration of measurement

3. Which evaluations does the user get?

Apart from graphic evaluation with curve progressions of all measured data the customer will get information on:

- The total air consumption in m³
- The leakage in total in m³ and % of the total air consumption
- The current consumption in kWh
- The costs per m³ of produced compressed air in €
- The costs of the leakage in €
- The pressure progression
- The pressure dew point progression