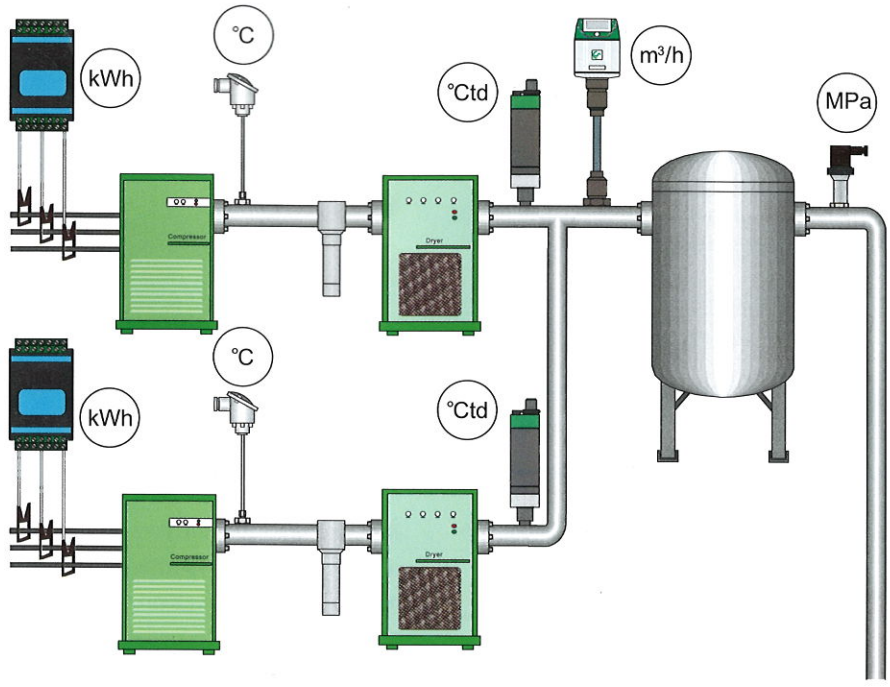
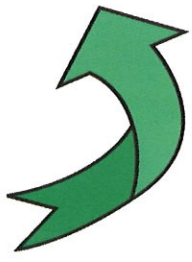
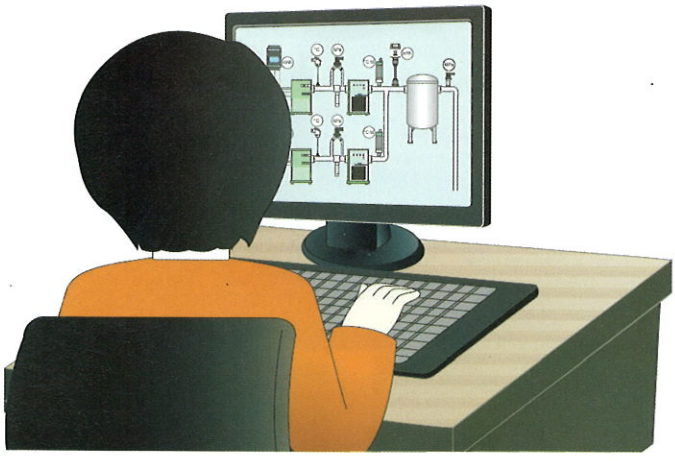
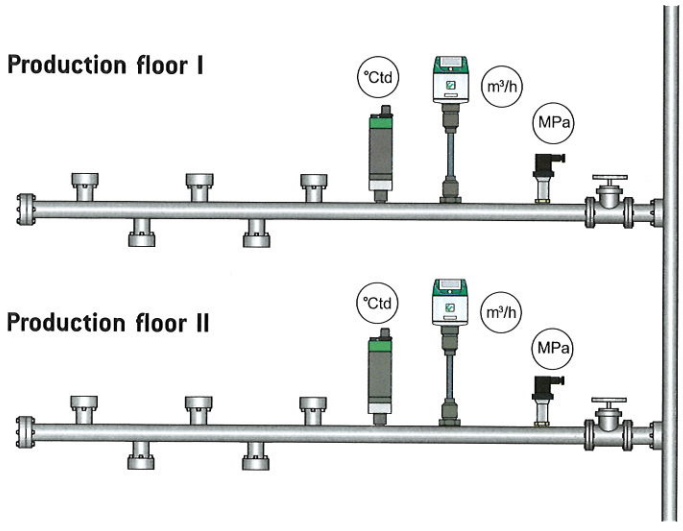




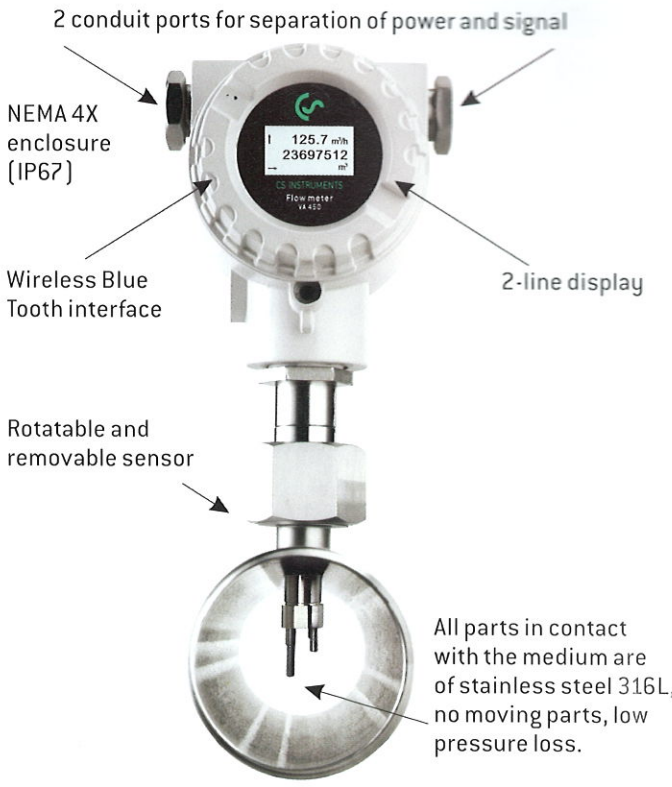


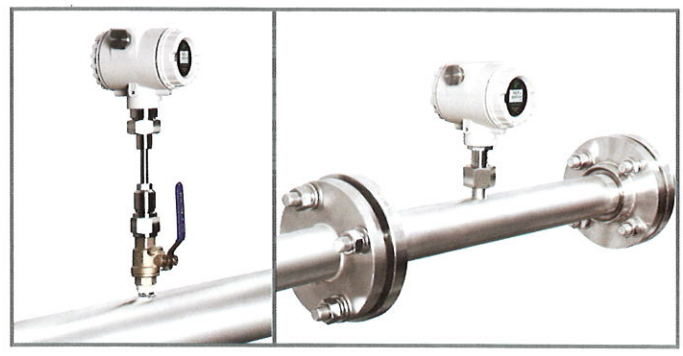


Modern compressed air systems not only exist of compressors, dryers and pipes. The industry is demanding permanent monitoring of parameters such as pressure, air, energy consumption, dew point and particles and giving indications whenever values are out of valid ranges.

Parameters should be available to the operator not only in the compressor room, but also in the office. This product guide contains solutions for these cases. As a result all relevant parameters can be available at the office PC at any time.

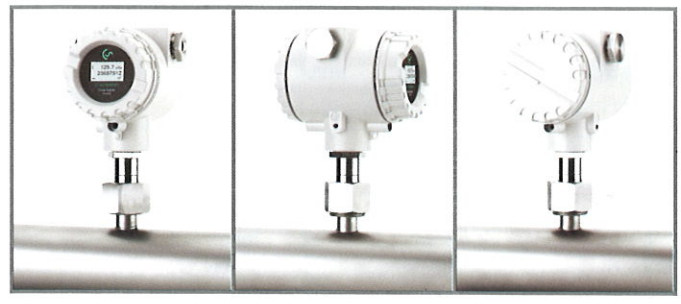
In this brochure you will find solutions for the monitoring of your gas / compressed air system.





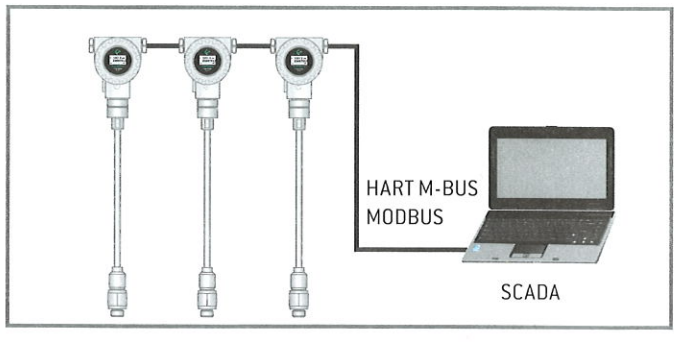
Insertion type installation through ball valve

In line type installation through flanges or R thread



Sensor head can be rotated in 90° steps through the screw nut

Sensor configuration through wireless Blue Tooth connection



Industrial communication through MODBUS, M-BUS, HART

Volumetric flow ranges VA 450 / VA 452

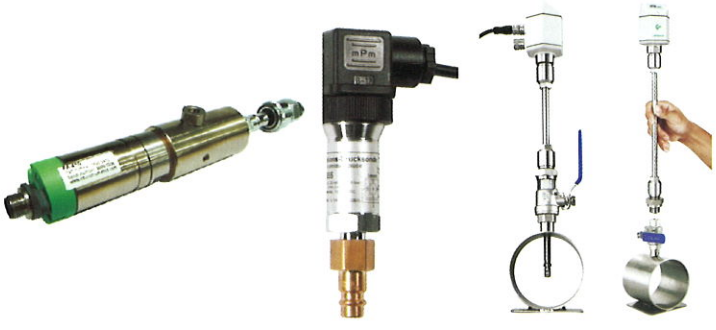
Inch	DN	Di[mm]	S-Range [m³/h]	M-Range [m³/h]
½"	DN15	16.1	0.2~45.6	0.4~91.0
¾"	DN20	21.7	0.4~89.1	0.9~177.8
1"	DN25	27.3	0.7~147.7	1.5~294.7
1 ¼"	DN32	36.0	1.3~266.6	2.6~531.5
1½"	DN40	41.9	1.8~366.7	3.6~731.9
2"	DN50	53.1	3.0~600.1	6.0~1198.6
2½"	DN65	68.9	5.0~1027	10~2049
3"	DN80	80.9	7.0~1424	14~2843
4"	DN100	100.3	10~2196	21~4383
5"	DN125	133.7	20~3912	38~7807
6"	DN150	162.3	29~5772	58~11519
8"	DN200	200.0	43~8786	88~17533
10"	DN250	250.0	69~13744	137~27429
12"	DN300	300.0	99~19815	198~39544

Stated flow values are at standard conditions of Ps=1000hPa and Ts=20°C with medium air.

Data recorder DS 300-P

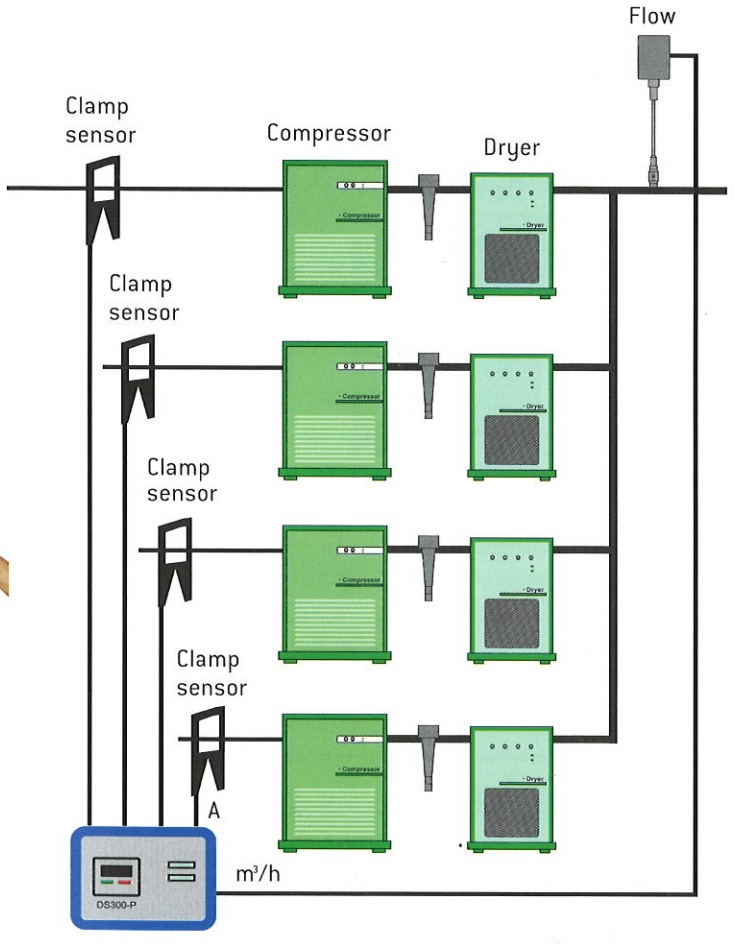
Features DS 300-P

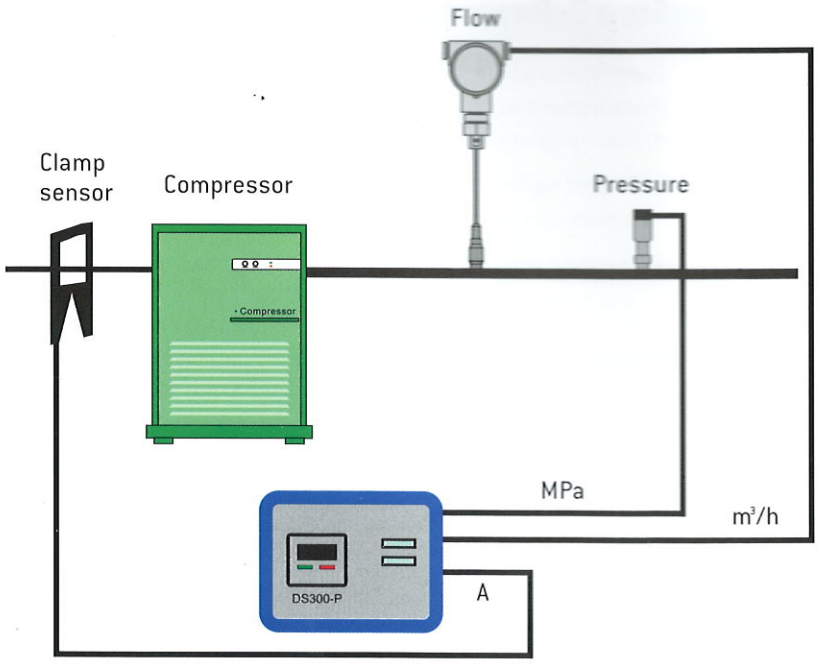
- Easy installation of sensors:
  Flow senor is inserted into the pipe through a 1/2" ball valve
  Amps sensor is clamped on one of the compressor life supplies
  Pressure sensor is clicked onto a fast connector
- Available measurement values:
  Total consumption in m^3
  Pressure dew point in °Ctd
  Line pressure in MPa (bar)
  Current consumption in A
  Temperature in °C
- Data recorder with 1,000,000 values
- Mains supply with short term battery operations



Easy sensor connection through Quick-Disconnectors or through ball valves

DS 300-P6 can record up to 4 amps channels plus flow and dew point. In bigger systems where more than 4 amp channels are required, a number of DS 300-P can be used, and the recorded measurement data utilized in a single analyzes.

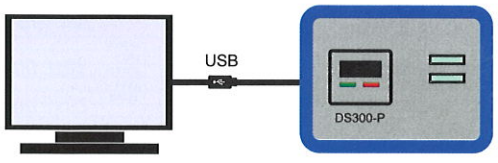




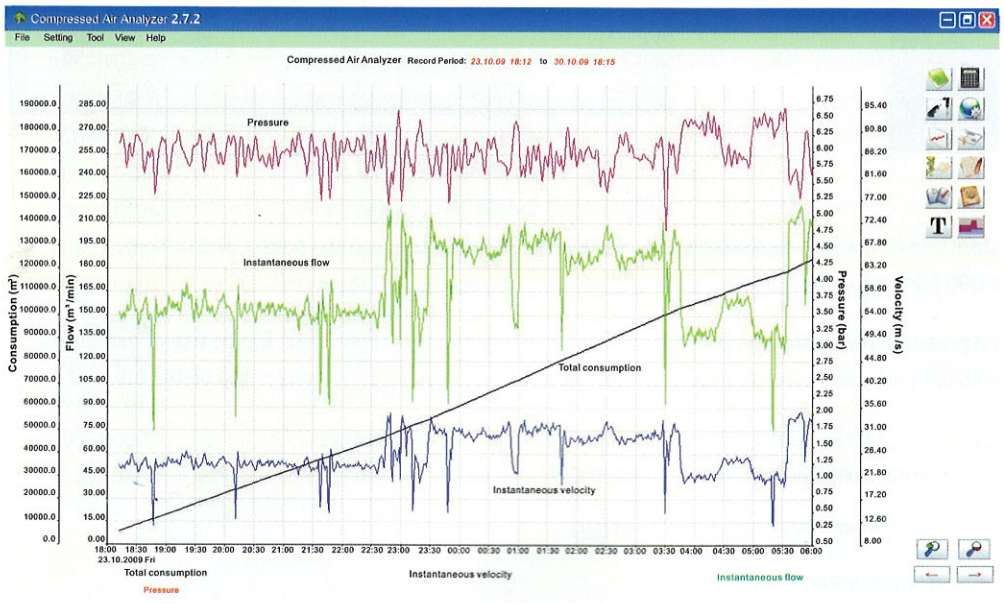
Compressor efficiency analyzes with VA 450 flow sensor installed at the compressor outlet with current c sensor and pressure sensor.

Step 2: Analyzes with Compressed Air Analyzer

After recording the data on the site, DS 300-P will be taken back to office for analyzes. The data is transferred to the appropriate PC and evaluated by the compressed air analyzer (CAA),which is especially designed to evaluate compressed air systems and allow the user to easily generate the required reports for the customer.



Memory read out and configuration of DS 300-P through PC and USB port



Graphical analyzes of air consumption and pressure profile

Available types of analyzes

1. Flow analyzes
Cost calculation is based on a flow measurement.

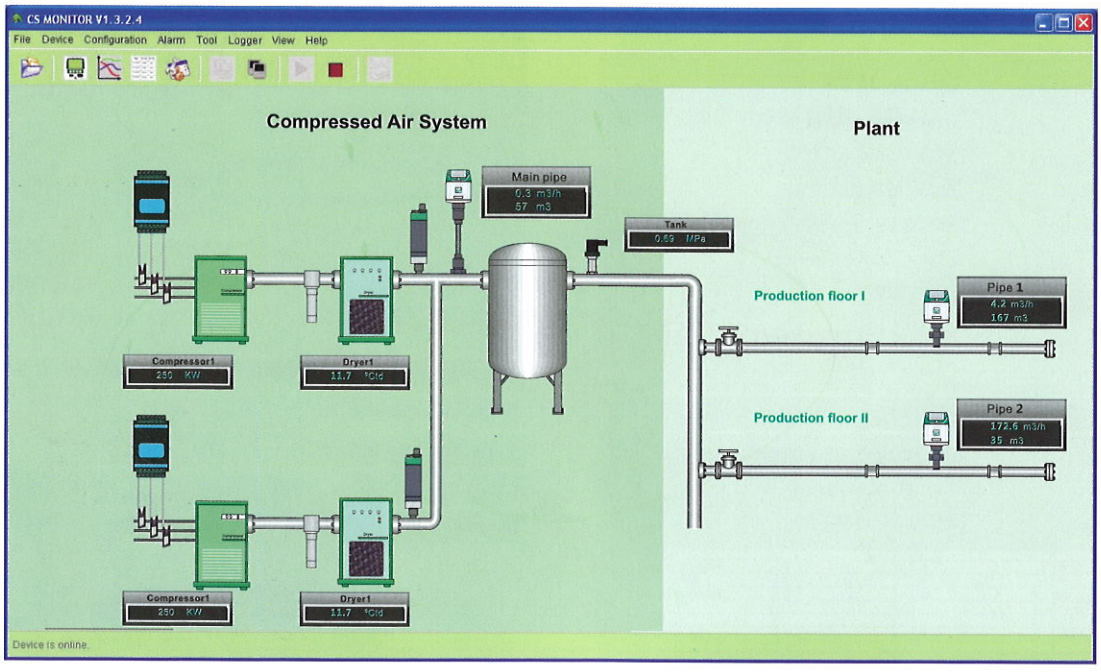
2. Compressor analyzes
Cost calculation is based on amps measurement of compressor. In this analyzes the flow values are calculated based on the compressor specs.

3. System analyzes
This is a combination of 1 and 2.

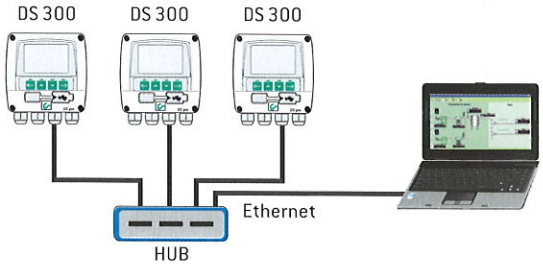
Monitoring Gas / Compressed Air Consumption

In times where energy conservation is a top priority for all progressive enterprises, the measurement of flow rates and consumption is becoming more and more important. However, measurement is just one step forward, in order having a complete picture of the gas and compressed air consumption in a factory a permanent monitoring, an graphical/statistical analyzes and a convenient reporting is required. For this purpose we have developed a software which is doing just that: **CS-Monitor.**

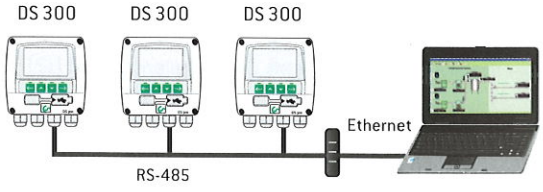
CS-Monitor(CSM) comes in two versions: - CSM-M (multiple devices support)
- CSM-S (only one device at a time)



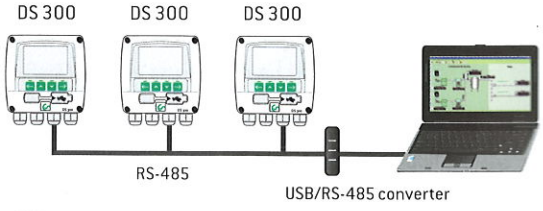
Acquiring measurement data



CS-Monitor acquiring measurement data through Ethernet from several remote units



CS-Monitor acquiring measurement data through Ethernet / RS-485 gateway

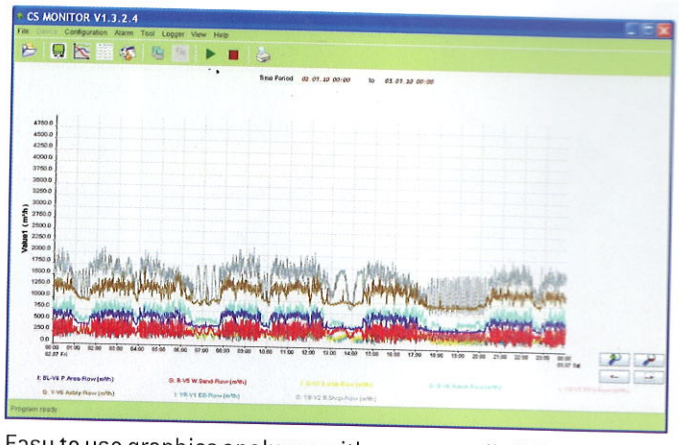


CS-Monitor acquiring measurement data through RS-485 from several remote units

Features

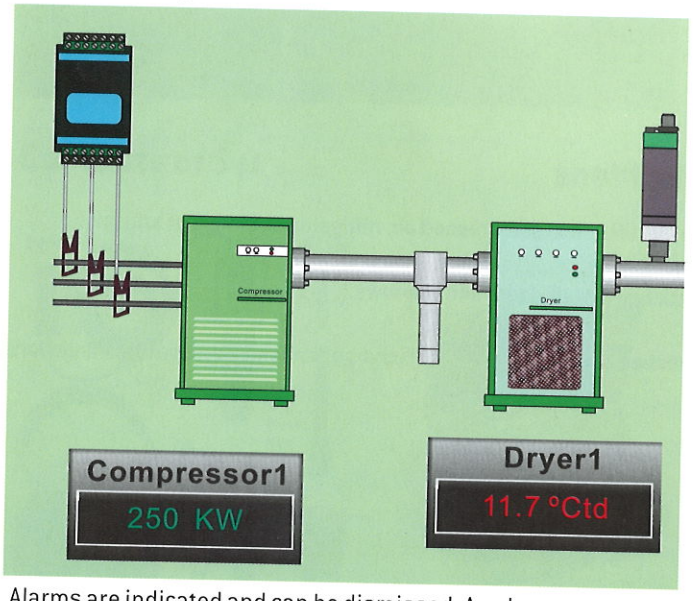
- Communicates with up to 30 remote units (DS 300)
- Communicates through Ethernet, RS-485, RS-485/ Ethernet gateway
- Unlimited recording size (up to maximum files size of windows)
- All sensor values can be displayed online
- User can add his own plant schematics as a background picture to the online screen
- Alarm monitoring and recording of alarm history
- Graphical analyzes of up to 10 channels on one screen and up to 4 different physical units
- Export to MS-Excel
- Optional consumption report generator for convenient reporting and analyzing

Analyzing Measurement Data



Easy to use graphics analyzes with zoom, scroll, different value axis.

Monitoring Alarms

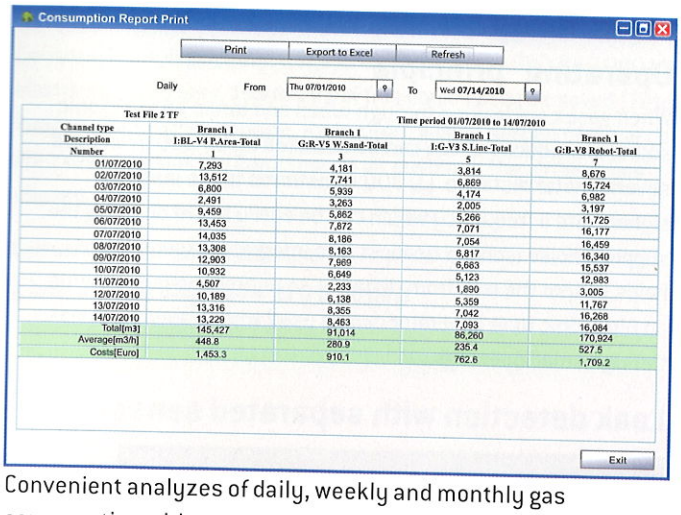


Alarms are indicated and can be dismissed. An alarm history informs about the past situation

Order form

Order No.	Description
0554 7010	CS-Monitor CSM-S + DS Configuration, including USB cable, 2 pcs of serial number
0599 2020	CS-Monitor CSM-M Basic package up to 5 DS 300
0599 2021	CS-Monitor CSM-M Basic package up to 10 DS 300
0599 2022	CS-Monitor CSM-M Basic package up to 20 DS 300
0599 2023	CS-Monitor CSM-M Basic package up to 30 DS 300
0599 7010	CSM-S Software license
0598 7010	Upgrade CSM-S
0598 2020	Upgrade CSM-M
A1101	Consumption report generator for CSM-M
0554 0331	RS-485 / USB converter
0554 0010	RS-485 / Ethernet gateway

Reporting Measurement Data



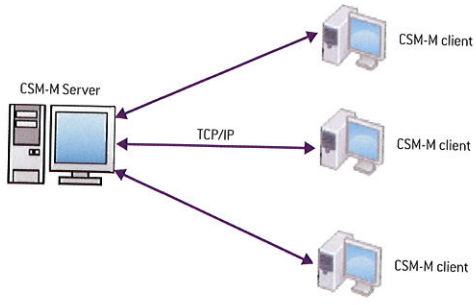
Convenient analyzes of daily, weekly and monthly gas consumption with costs.

Exporting Measurement Data

Consumption Report

Consumption report Month July			Time period 01/07/2010 to 14/07/2010		
Channel type	Branch 1	Branch 1	Branch 1	Sum 1	Main 1
Description	Channel 9	Channel 11	Channel 13		Channel 7
Number	9		11	13	7
01/07/2010	4,963	14,780	3,749	23,492	23,899
02/07/2010	9,584	27,756	6,627	43,967	43,766
03/07/2010	5,922	14,501	4,346	24,769	24,777
04/07/2010	3,068	5,780	1,522	10,370	10,210
05/07/2010	7,247	19,561	4,570	31,378	30,976
06/07/2010	9,788	26,977	6,663	43,428	43,104
07/07/2010	10,098	27,762	6,524	44,384	44,153
08/07/2010	10,005	26,545	6,095	42,645	42,533
09/07/2010	9,919	26,023	5,997	41,939	41,679
10/07/2010	7,399	22,551	4,668	34,618	34,512
11/07/2010	2,968	8,440	1,650	13,058	12,980
12/07/2010	9,422	20,710	3,920	34,052	33,977
13/07/2010	12,586	26,674	5,547	44,807	44,366
14/07/2010	12,727	26,543	5,450	44,720	44,112
Total[m³]	115,696	294,603	67,328	477,627	475,044
Average[m³/h]	357	909	208	1,474	1,414
Costs[Euro]	11,570	29,460	6,733	47,763	47,504

Consumption report exported to MS-Excel.



CSM is continually developed with new features. One of the additional features available soon is the client application. It provides data analyzes on other Pcs not only within the LAN but also on PC through the internet. Please contact our sales offices for further information.