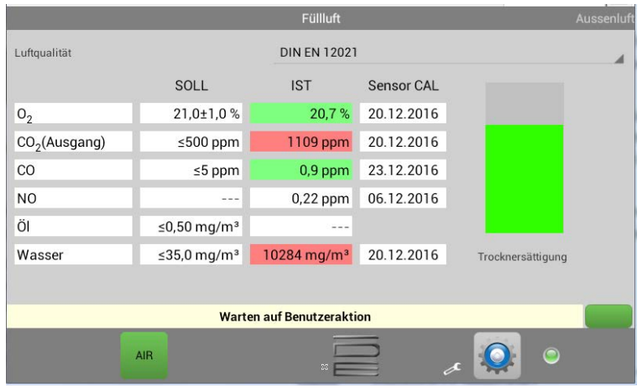
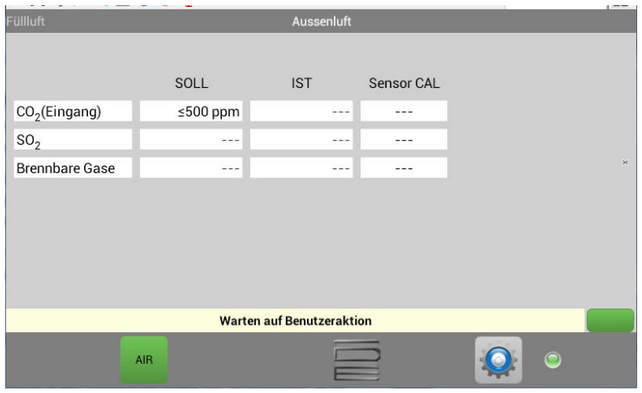
AIRSAVE ULTIMATE - Proven Safety Anytime Anywhere

CO_2 flushing.
After replacement of a dryer cartridge there will be a higher CO_2 concentration in the compressed breathing-air in the cartridge, because for a while the molecular sieve absorbs CO_2 from the air and releases it back into the dryer cartridge when the pressure drops, e.g. because the compressor is switched off. When a IDE-compressor is started, this air with increased CO_2 concentration is expelled from the filter housing. We recommend flushing the IDE compressor system for about 2 minutes to prevent air with increased CO_2 concentration from entering into scuba cylinders. Open the flush valve to expel the contaminated air. Not all high pressure compressors of all manufacturers are equipped with flush valves, but our technicians can retrofit them.
All IDE compressors have a - usually automatic - flushing system.
If flushing does not improve the CO_2 measurement within a few minutes the compressor will be stopped.
In this case we recommend using our AIRSRUBBER CO_2-washer.

Pressure reducer
The pressure reducer that is integrated into the different units allows the measuring device to be connected directly to the filling panel as well as directly to a breathing-air / scuba cylinder. Permanently installed units are equipped with a magnet valve that prevents a pressure drop in the compressor system after the measuring process is finished.





Ihr kompetenter Ansprechpartner

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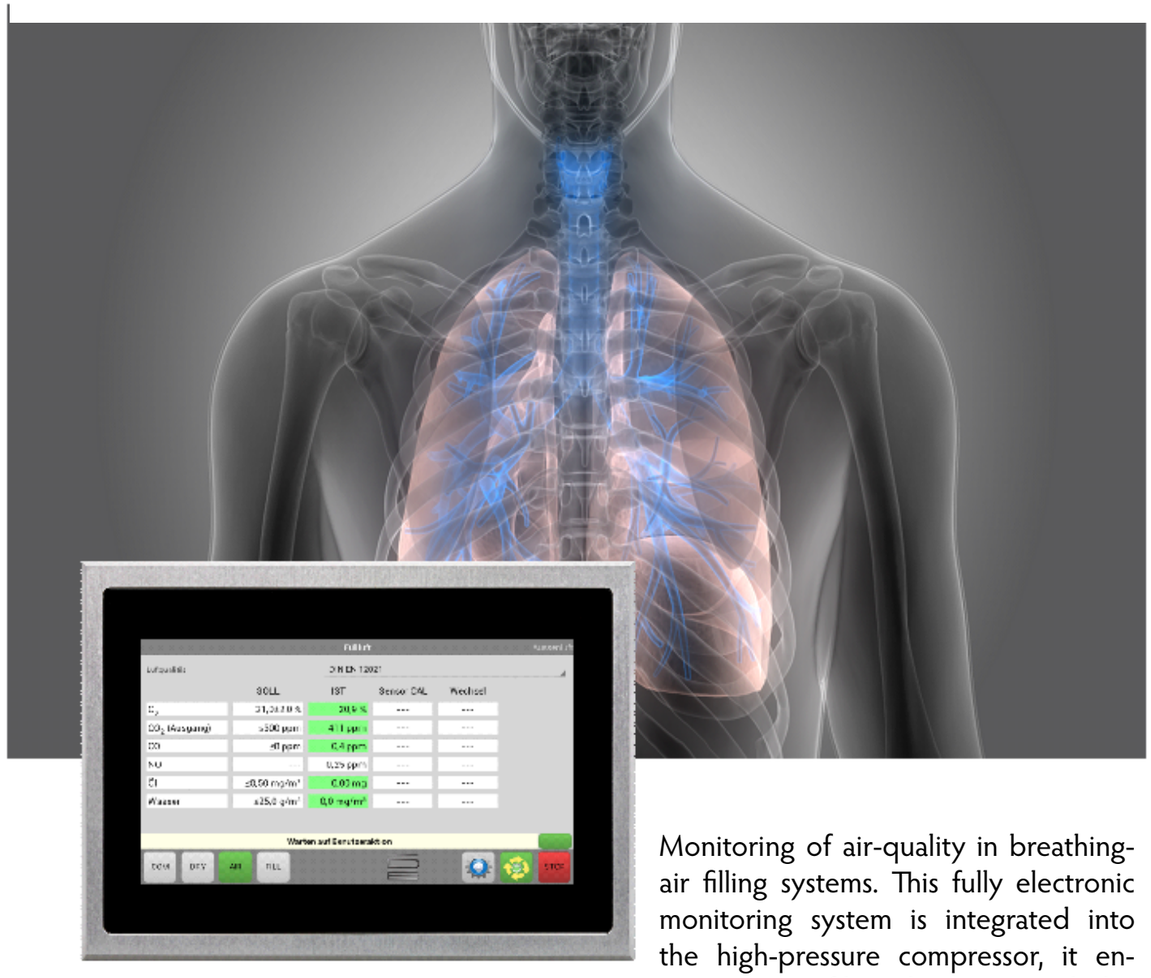
AIRSAVE ULTIMATE
safeguarding air-quality



√ HIGH QUALITY SENSORS

√ FROM SCIENTIFIC APPLICATIONS

√ DURABLE, PRECISE MEASUREMENTS

√ DATA LOGGING, USB, NETWORK, PRINTER

Monitoring of air-quality in breathing-air filling systems. This fully electronic monitoring system is integrated into the high-pressure compressor, it ensures purity of breathing-air, it includes saturation monitoring for drying agents in breathing-air high-pressure compressors, it is protected as a utility model.
AIRSAVE ULTIMATE is the first device, which monitors CO, CO_2, O_2, SO_2, NO, NO_2,H_2O, dew point, residual oil, temperature, and absolute humidity in mg^3, and controls the compressor accordingly.

AIRSAVE ULTIMATE and DIN EN 12021: 2014

For many years little attention was paid to the monitoring of breathing-air. DIN 3188 and the later European Standard DIN EN 12021 were considered as more or less discretionary provisions. Still many operators do not realize their responsibility and the consequences of their attitude.

Most operators settle for checking concentrations of contaminants once or several times a year with detector tubes and measuring saturation in the dryer cartridges.

If they carefully read this and other international standards, they would see that this is not sufficient. The European Standard 12021-2014 is absolutely mandatory and every operator of a filling station must ensure that breathing-air meets the provisions of the standard at all times.

Many operators still do not consider the standard to be mandatory, and only a few of them buy and install one of the optional monitoring systems manufacturers offer.

Already in 2009 IDE Compressors Manufaktur was the very first compressor manufacturer to introduce and market a compressor-integrated permanently working online-monitoring system.

IDE Compressors has always been conscious of our responsibility as a manufacturer of breathing-air compressors - since September 2016 we deliver all stationary professional compressors of the IDE line with the new and refined IDE ULTIMATE online air-quality monitoring system with HMI and touchscreen as standard equipment.

Every 2 seconds the monitoring system tests the compressed air after the filter, with the highest quality sensors used and tested in science. it measures the concentrations of CO_2, CO, O_2, water in mg per m^3, temperature, saturation in the dryer cartridge, and, optionally at the customer's request, also NO and SO_2.

Another option is measuring the oil content according to VOC regulations, and with us as the only manufacturer, also residual oil in aerosol form (drops) with concentrations of as little as 0.001 mg per m^3.

The latest version of DIN EN 12021-2014 has a somewhat clearer wording and includes an additional reference to DIN 8573 regarding residual oil. The VOC measurement alone is not sufficient to meet the requirements of DIN 8573 for medical air.

There is also an option to install a second sensor unit, which measures for CO_2, combustible gases and temperature in the intake air before it enters the compressor, and controls the compressor accordingly.

All measurements are saved in the unit and can be obtained via USB or LAN interface in the form of an excel-compatible file.
Optionally, the values can also be transferred to your smartphone using the IDE-APP.

IDE offers an optional label printer to print out these data to stick them onto the filled cylinder.

Only a system like this can truly ensure that the system always delivers pure breathing-air, which meets the provisions of DIN EN 12021:2014 and other standards, and that the operator is never exposed to any liability risk.

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TECHNICAL DATA

MEASURING DATA	AIRSAVE ULTIMATE stationär/ portabe	AIRSAVE ULTIMATE external
	CO, CO_2, O_2, SO_2, NO, NO_2 pressure dew point (tdp), humidity / absolute water in mg^3, pressure (P), temperature (T), aerosols, residual oil with concentrations down to 0.001 mg per m^3, upgradeable for monitoring other gases*	CO_2, SO_2, NO, NO_2 combustible gases (propane, butane, and methane) humidity in mg^3, temperature (T), upgradeable for monitoring other gases*

PRESSURE RANGES		
all gases	expanded to ambient pressure	ambient pressure
pressure dewpoint	200 bar or 300 bar in compliance with DIN EN 12021:2014	

MEASURE PRINCIPLES		
CO_2	infrarotspektroscopy (NDIR)	infrarotspektroscopy (NDIR)
CO, SO_2, NO, NO_2	electrochemical sensors	electrochemical Sensors
O_2	zirkonium Oxide up to 100% (unlimited lifespan)	
humidity/water	capacitive measurement	capacitive measurement
pressure dewpoint	aluminum oxide sensor	
residual oil	calorimetric spectrometric ion exchange method	
combustible gases		infrarotspektroscopy (NDIR)

MEASURE PARAMETERS		
CO_2		0 – 2000 ppm
CO	0 – 20 ppm	0 – 20 ppm
SO^2,	0 – 20 ppm	0- 20 ppm
NO	0 – 100 ppm	0 – 100 ppm
O^2	0 – 100 %	
humidity/water	capacitive measurement	capacitive measurement
temperature	-35 - 100°C	-35 - 100°C
pressure dewpoint	+10 bis -100°C	
Residual oil OIL CONTROL	0,001 – 9,999 $mg\|m^3$	
Residual oil OIL GUARD	0,5 or 0,1 $mg\|m^3$ default values.	

* some of the described sensors and functions are optional