Quick Rescue with Plenty of Time

The closed-circuit breathing apparatus PSS BG 4 plus – shown here with the housing shell removed – provides up to four hours of clean breathing air. The two-liter gas cylinder [1] holds 400 liters of oxygen at a pressure of 200 bars. When the valve [2] is open, an average of 1.66 liters of oxygen per minute flow from the pressure reducer [3] and into the inhalation side. An increased amount of oxygen will be provided via the minimum valve [4] if required. The hose [5] leads the oxygen to the mask [6], the directional valve opens easily during inhalation.

The exhaled air, with its increased CO_2 concentration, is led via the exhalation hose [7] through the absorber [8], which holds 2.7 kilograms of soda lime to remove the hazardous gas. The breathing bag [9] has a capacity of 5.5 liters and functions as a "counter-lung," taking in the purified air and returning it to the cycle via the breathing air cooler [10]. This can, for example, hold a block of ice to ensure that the air fed back into the inhalation circuit remains below a temperature of 35 degrees Celsius. The springs [11] exert a defined force on the breathing bag via the bridge [12], resulting in a slight positive pressure which provides the unit with additional protection against hazardous gases.

The switchbox [13] issues a warning via the "Bodyguard 2" (U.S.: "Sentinel") [14] when the cylinder valve has not been opened. This monitor shows a range of information, including the remaining operational time and pressure.