

PRECISION DIGITAL GAS MIXING APPARATUS

The precision digital gas mixer is a universal, mobile apparatus capable of adjusting the required mixture of the gas, selected by the user, with air.

The apparatus is completely automatic, requiring only the connection of the selected gas, the air and the electric power.

The mixing process is of totally closed system. When the specified input pressures resp. the possible minimum differential pressure are set, the mixture will be produced independently of the ambient pressure. Due to the closed system mixing, neither the ambient temperature nor the moisture content will influence the produced mixture. The mixing unit does not require oil lubrication. Thus no oil vapour will get into the mixture that would settle onto the cadmium disc of the spark test apparatus resp. into the gap of the MESG apparatus, that would make measuring impossible.

Accuracy of the mixing apparatus is better than 0.1 vol.%, which is unconditionally required, since this will guarantee the possibility of performing measurements at all when spark test and the MESG apparatuses are used. In case of certain flammable gases the curve of the percent by volume – ignition energy is so steep, that the produced mixture cannot be ignited if the mixing error exceeds 0.1 vol.%.

The gas mixer is provided with the preparatory devices guaranteeing approximately equal pressure at both inputs of the mixer unit. It is also equipped with balancing devices minimising gas resp. air fluctuation at the inputs.



The apparatus is computer controlled. The programmed gas-air mixture values for the MESG and the spark test apparatus can be displayed on the screen while further gas-air mixtures can be set by the user.

The operation of the apparatus is very simple, user friendly. Having connected the selected gas and the air the user chooses the mixture to be made then starts the mixing process. Needle valves guarantee approximately equal pressure at both inputs. The required gas-air mixture is available at the output.

The apparatus has a great advantage of producing the required gas-air mixture in the total range from 0,22 to 100 vol.% without the application of auxiliary units (e.g. gear wheel pairs).



Technical parameters:

- Computer controlled automatic apparatus.
- Gas/air mixing range:
 - 0,22 vol.% to 30 vol.%
with better than $\pm 0,1$ vol.% accuracy
 - 0,22 vol.% to 100 vol.%
with better than $\pm 0,1$ vol.% accuracy
- Selection of the gas/air mixing ratio:
 - Automatic.
- Inlet pressure:
 - gas inlet – appr. 1 bar
 - air inlet – appr. 1 bar
- Quantity of the delivered gas/air mixture:

0,22 vol. % – 30 vol.%	233 l/h – 165 l/h
0,22 vol. % – 100 vol %	233 l/h – 86 l/h
- Mains supply:
 - 230 V / 50 Hz