**Gas Mixer**: **VarioMix**

**Compact gasmixer with proportional mixing valve.**

Gas mixer varioMixfor the production of mixtures of two gases

Highlights

• **Individual adjustment of mixture and flow rate**

• **High mixing precision**

• Infinitely variable up to 205 l/min (related to air)

• **Does not depend on input pressure differences due to integrated constant pressure regulation**

• Mixture production stops automatically when gas supply is interrupted

• Does not depend on the input pressure difference due to integrated   
constant pressure regulation

• Gas inlet filters protect the device against contamination

• Cost savings due to the avoidance of storage of different premixes

• Low maintenance

• Compact, space saving and sturdy design

• Easy to operate and to assemble

• No power supply required

Accessories:

• Safety devices for use with fuel gas

Maintenance:

Gas mixers are to be tested for leaks at least once a month.

The inlet filters are only to be cleaned and exchanged by qualified person..

Gas mixers are only to be opened and repaired by the manufacturer.

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| **Technical Data:** | | | | | | |
| **Carrier Gas:** | Argon (Ar) | | Nitrogen(N2) | | Air | |
| **Additive Gas:** | Carbon Dioxide (CO2)  Helium (He)  Nitrogen (N2)  Hydrogen (H2)  Oxygen (O2) | | Carbon Dioxide (CO2)  Helium (He)  Hydrogen ( H2)  Oxygen (O2) | | Carbon Dioxide (CO2)  Oxygen (O2) | |
| **Mixing Range:** | 5 – 95 Vol % | | | | | |
| **Inlet Pressure:** | Min -.5 MPa (5bar)  Max – 1 MPa (10 bar) | | | | | |
| **Outlet Pressure:** | 0.4 – 0.9 MPa (4-9 bar) depending on the inlet pressure | | | | | |
| **Mixed Gas Capacity:** | 1 – 188 l/min, infinitely variable (related to Nitrogen) | | | | | |
| **Mixing Precision:** | ± 0,5 % abs: 1-5 Vol. % additive gas ± 10 % of nominal value: >5-20 Vol. % additive gas ± 2 % abs: > 20 Vol. % additive gas | | | | | |
| **Temperature:** | -10 to + 50°C | | | | | |
| **Connection**  **Inlet**  **Outlet** | G1/4-F  G1/4F  Optional: G1/4-M E560 quick plug-in connection for 8mm hose | | | | | |
| **Material:** | Housing: aluminium, anodisd: in built parts: Brass , stainless steel, elastomer | | | | | |
| **Measure & Weight**  **Without connection:** | Height  88mm | Width  130mm | | Depth  68mm | | Weight  Approx. 1.62kg |

Further gas mixer versions for the production of gas mixtures of two gases are available on request

Type: **varioMix**

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| Flow table (Nl/min, related to air) \*1) | | | | | | | | | | | | | | | | | |
|  | Outlet  pressure [bar] → \*3) | 0,75 | 1,25 | 1,75 | 2,2 | 2,7 | 3,2 | 3,65 | 4,15 | 4,5 | 5,1 | 5,6 | 6,0 | 6,5 | 7,0 | 7,5 | 8,0 | |
| Inlet presure [bar] \*2) ↓ | Working pressure [bar] ↓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 2,5 bis 10 | 1,2 | 32 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 1,7 | 46 | 35 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 2,2 | 59 | 52 | 37 |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 2,7 | 69 | 64 | 54 | 42 |  |  |  |  |  |  |  |  |  |  |  |  | |
| 3,2 | 84 | 79 | 72 | 62 | 44 |  |  |  |  |  |  |  |  |  |  |  | |
| 3,7 | 94 | 91 | 79 | 77 | 64 | 47 |  |  |  |  |  |  |  |  |  |  | |
| 4,1 | 104 | 101 | 96 | 91 | 82 | 69 | 52 |  |  |  |  |  |  |  |  |  | |
| 4,6 | 116 | 114 | 109 | 104 | 96 | 79 | 72 | 52 |  |  |  |  |  |  |  |  | |
| 5,1 | 129 | 126 | 124 | 119 | 111 | 104 | 91 | 77 | 57 |  |  |  |  |  |  |  | |
| 5,6 | 138 | 138 | 136 | 133 | 124 | 119 | 109 | 96 | 82 | 62 |  |  |  |  |  |  | |
| 6,1 | 151 | 151 | 148 | 143 | 138 | 133 | 126 | 116 | 101 | 87 | 62 |  |  |  |  |  | |
| 6,5 | 163 | 163 | 161 | 158 | 153 | 148 | 141 | 133 | 124 | 109 | 94 | 64 |  |  |  |  | |
| 7,0 | 173 | 173 | 171 | 168 | 163 | 158 | 151 | 143 | 138 | 129 | 114 | 96 | 64 |  |  |  | |
| 7,5 | 183 | 183 | 180 | 178 | 176 | 173 | 168 | 161 | 153 | 143 | 133 | 119 | 94 | 72 |  |  | |
| 8,0 | 193 | 193 | 193 | 190 | 188 | 183 | 178 | 173 | 163 | 153 | 148 | 131 | 124 | 106 | 79 |  | |
| 8,5 | 205 | 205 | 205 | 203 | 200 | 195 | 193 | 185 | 178 | 173 | 163 | 153 | 141 | 129 | 104 | 84 | |
| \*1) Max flow valve at 100% (all shown pressure information are for fluent pressures)  \*2) Constant Inlet pressure. Must be 1,5 bar higher than working pressure.  \*3) The outlet pressure depends on the quantity of users and has to be controlled at the pipeline. | | | | | | | | | | | | | | | | | | |

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| Application table:   |  |  |  | | --- | --- | --- | | Gas mixture CO2/Ar | | | | % CO2 | % Ar | Conversion factor | | 5 | 95 | 0,987 | | 10 | 90 | 0,975 | | 15 | 85 | 0,962 | | 20 | 80 | 0,951 | | 25 | 75 | 0,940 |  |  |  |  | | --- | --- | --- | | Gas mixture He/Ar | | | | %  He | % Ar | Conversion factor | | 5 | 95 | 0,874 | | 10 | 90 | 0,896 | | 15 | 85 | 0,919 | | 20 | 80 | 0,943 | | 25 | 75 | 0,970 | | 40 | 60 | 1,068 | | 50 | 50 | 1,152 | | |  |  |  | | --- | --- | --- | | Gas mixture CO2/N2 | | | | %  **CO2** | % **N2** | Conversion factor | | 5 | 95 | 1.002 | | 10 | 90 | 0.989 | | 15 | 85 | 0.975 | | 20 | 80 | 0.962 | | 25 | 75 | 0.950 | | 40 | 60 | 0.916 | | 50 | 50 | 0.895 | | Application example:   |  |  | | --- | --- | | Gas mixture: 15% CO2 in Ar | | | Consumption: | 3 work places each14 l/min=42 l/min | | Flow rate (air): | 42 x 0,962 = 44 l/min | | Outlet pressure: | 2,2 bar | | Flow regulator: | (44 : 62) x 100 = 71 % | | Working pressure: | 3,2 bar | | Inlet pressure: | 3,2 + 1,5 ≥ 4,7 bar | |  | | | Gas mixture: 25% He in Ar | | | Consumption: | 5 work places each 20 l/min = 100 l/min | | Flow rate (air): | 100 x 0,970 = 103 l/min | | Outlet pressure:: | 3,65 bar | | Flow regulator: | (103 : 126) x 100 = 82 % | | Working pressure: | 6,1 bar | | Inlet pressure:: | 6,1 + 1,5 ≥ 7,6 bar | |

Certification/ Technical Standards/ Rules

TRBS German Technical rules for operation safety, DVS German Association for Welding, Cutting and Allied Processes,   
DGUV German Employer´s liability insurance association rules and regulations.

Standards/ Approvals

Company certified according to   
ISO 9001:2015 and ISO 14001:2015,   
CE-marking according to: Pressure Equipment Directive 2014/68/EU

(Subject to change without notice)