**Gas Mixer**: **iMix**compact

**Compact gas mixer with integrated constant pressure regulators and diffusion mixing system.**

Gas mixer iMix*compact* for the production of mixtures of two gases

Highlights

• Gas mixer i**Mix***compact* for the production of up to two predefined and
pre-adjusted gas mixtures of two gases

• Optimal factory calibration according to customer‘s requirement(within the permissible range)

• Infinitely variable up to 200 l/min (related to Nitrogen)

• **High accuracy, according to ISO 14175**

• No accidental mixture changes

• Mixture production stops automatically when gas supply is interrupted

• **Does not depend on gas withdrawal variations**

• No additional buffer vessel needed for discontinuous withdrawal of gas

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

• Sturdy and compact design, low maintenance

• No power supply required

Maintenance:

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

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

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| **Technical Data:** |
| **Carrier Gas:** | Argon (Ar) | Nitrogen(N2) |
| **Additive Gas:** | Carbon dioxide (CO2)Helium (He)Nitrogen (N2) | Carbon Dioxide (CO2)Helium (He) |
| **Mixing Range:** | 5 – 95 Vol% |
| **Inlet Pressure:** | Min 0.5 MPa (5bar)Max 1 MPa (10 bar) |
| **Outlet Pressure:** | 0.4 – 0.8 MPa (4-8 bar) depending on the inlet pressure |
| **Mixed Gas Capacity:** | 5 – 200 l/min, infineitely variable (releated 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-FOptional: G1/4-M-EN560 quick plug-in connection for 8mm hose |
| **Material:** | Housing: aluminium, anodisd: in built parts: Brass , stainless steel, elastomer |
| **Measure & Weight****Without connection:** | Height88mm | Width80mm | Depth68mm | WeightApprox. 1.05kg |

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

Type: **iMix***compact*

Flow capacity in l/min related to Nitrogen:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outlet pressure [bar] → | 0,5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Inlet pressure[bar] ↓ |  |  |  |  |  |  |  |  |  |
| 4 | 75,0 | 68,8 | 50,0 | - | - | - | - | - | - |
| 5 | 114,6 | 106,3 | 89,6 | 62,5 | - | - | - | - | - |
| 6 | 139,6 | 135,4 | 125,0 | 104,2 | 77,1 | - | - | - | - |
| 7 | 175,0 | 166,7 | 158,3 | 141,7 | 118,8 | 87,5 | - | - | - |
| 8 | 208,3 | 200,0 | 193,8 | 181,3 | 160,4 | 135,4 | 100,0 | - | - |
| 9 | 237,5 | 231,3 | 225,0 | 216,7 | 197,9 | 177,1 | 143,8 | 110,4 | - |
| 10 | 262,5 | 258,3 | 250,0 | 245,8 | 237,5 | 208,3 | 195,8 | 158,3 | 118,8 |

The following table shows the correction factors as an example for different gas mixtures.

When selecting another gas mixture, the flow capacity will be different and can be calculated by a correction factor.

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| **Application table:** |  | **Application table:** |
| **Gas mixture** |  | **Gas mixture**  |
| Vol.% CO2 | Vol.%Ar | Correction factor |  | Vol.%O2 | Vol.%Ar | Correction factor |
| 18 | 82 | 0,8812 |  | 4 | 96 | 0,8224 |
| 4 | 96 | 0,8336 |  | 10 | 90 | 0,826 |
| 25 | 75 | 0,9050 |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Vol.% CO2 | Vol.%N2 | Correction factor |  | Vol.%O2 | Vol.%N2 | Correction factor |
| 30 | 70 | 1,048 |  | 4 | 96 | 0,9952 |
| 5 | 95 | 1,008 |  | 25 | 75 | 0,9700 |
| 80 | 20 | 1,128 |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Vol.%He | Vol.%Ar | Correction factor |  | Vol.%O2 | Vol.%CO2 | Correction factor |
| 20 | 80 | 0,866 |  | 50 | 50 | 1,020 |
| 60 | 40 | 0,958 |  | 85 | 15 | 0,922 |
| Vol.%He | Vol.%N2 | Correction factor |  |  |  |  |
| 10 | 90 | 1,005 |  |  |  |  |

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| **Application example:** |
| Gas mixture setting: |
| Gas mixture: | 18 % CO2 in Ar |
| Correction factor:  | 0,8812 |
| Consumption: | 18 Nl/min |
| Flow regulator:  | 18 x 0,8812 = 15,9 Nl/min |