**Gas Mixer**: **iMix**classic

**Compact gas mixer with integrated constant pressure regulators**

**and diffusion mixing system.**

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

Highlights

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

• Infinitely variable up to 800 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**

• Gas inlet filters protect the device against contamination

• 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 -.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: **iMix***classic*

Flow capacity in l/min releated to Nitrogen:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Outlet pressure  [bar] → | 0,5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Inlet pressure [bar] ↓ |  |  |  |  |  |  |  |  |  |
| 4 | 300,0 | 275,0 | 200,0 | - | - | - | - | - | - |
| 5 | 458,3 | 425,0 | 358,3 | 250,0 | - | - | - | - | - |
| 6 | 558,3 | 541,7 | 500,0 | 416,7 | 308,3 | - | - | - | - |
| 7 | 700,0 | 666,7 | 633,3 | 566,7 | 475,0 | 350,0 | - | - | - |
| 8 | 833,3 | 800,0 | 775,0 | 725,0 | 641,7 | 541,7 | 400,0 | - | - |
| 9 | 950,0 | 925,0 | 900,0 | 866,7 | 791,7 | 708,3 | 575,0 | 441,7 | - |
| 10 | 1050,0 | 1033,3 | 1000,0 | 983,3 | 950,0 | 833,3 | 783,3 | 633,3 | 475,0 |

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.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Application table:** | | |  | **Application table:** | | |
| **Gas mixture** | | |  | **Gas mixture** | | |
| Vol.%  CO2 | Vol.% Ar | Correction factor |  | Vol.% CO2 | Vol.% N2 | Correction factor |
| 18 | 82 | 0,8812 |  | 30 | 70 | 1,048 |
| 4 | 96 | 0,8336 |  | 5 | 95 | 1,008 |
| 25 | 75 | 0,9050 |  | 80 | 20 | 1,128 |
| Vol.% He | Vol.% Ar | Correction factor |  | Vol.% He | Vol.% N2 | Correction factor |
| 20 | 80 | 0,866 |  | 10 | 90 | 1,005 |
| 60 | 40 | 0,958 |  |  |  |  |
| Vol.% O2 | Vol.% Ar | Correction factor |  | Vol.% O2 | Vol.% N2 | Correction factor |
| 4 | 96 | 0,8224 |  | 4 | 96 | 0,9952 |
| 10 | 90 | 0,8260 |  | 25 | 75 | 0,9700 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vol.% O2 | Vol.% O2 | Correction factor |  |  |  |
| 50 | 50 | 1,020 |  |  |  |
| 85 | 15 | 0,922 |  |  |  |

|  |  |
| --- | --- |
| **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 |

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)