

Gas mixer: *iMixclassic*

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

Gas mixer *iMixclassic* 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**
- **Tested and certified under SK mark SK 449-001**
- 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



Certified
SK 449-001



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.

| Technical Data: | | | | |
|---------------------|---|--------|---|-----------------|
| Carrier gas: | Argon (Ar) | | Nitrogen (N ₂) | |
| Additive gas: | Carbon dioxide (CO ₂) Helium (He) Nitrogen (N ₂) | | Carbon dioxide (CO ₂) Helium (He) | |
| Mixing range: | 5 – 95 Vol. % | | | |
| Inlet pressure: | min. 0.5 MPa (5 bar) max. 1 MPa (10 bar) | | | |
| Outlet pressure: | 0,4 – 0,9 MPa (4 - 9 bar) depending on the inlet pressure | | | |
| Mixed gas capacity: | 1 - 800 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 | | | |
| Inlet connection: | G1/4-F | | | |
| Outlet connection: | G1/4 F Optional: G1/4-M EN560 quick plug-in connection for 8 mm hose | | | |
| Material: | Housing: aluminum, anodised; | | In-built parts: brass, stainless steel, Elastomer | |
| Measure and weight: | height: | width: | depth: | weight: |
| without connection | 88 mm | 130 mm | 68 mm | approx. 1,62 kg |

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

Type: iMixclassic

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 | 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:

| Gas mixture | | |
|-----------------------|----------|-------------------|
| Vol.% CO ₂ | Vol.% Ar | Correction factor |
| 18 | 82 | 0,8812 |
| 4 | 96 | 0,8336 |
| 25 | 75 | 0,9050 |

| Vol.% He | Vol.% Ar | Correction factor |
|----------|----------|-------------------|
| 20 | 80 | 0,866 |
| 60 | 40 | 0,958 |

| Vol.% O ₂ | Vol.% Ar | Correction factor |
|----------------------|----------|-------------------|
| 4 | 96 | 0,8224 |
| 10 | 90 | 0,8260 |

| Vol.% O ₂ | Vol.% O ₂ | Correction factor |
|----------------------|----------------------|-------------------|
| 50 | 50 | 1,020 |
| 85 | 15 | 0,922 |

Application table:

| Gas mixture | | |
|-----------------------|----------------------|-------------------|
| Vol.% CO ₂ | Vol.% N ₂ | Correction factor |
| 30 | 70 | 1,048 |
| 5 | 95 | 1,008 |
| 80 | 20 | 1,128 |

| Vol.% He | Vol.% N ₂ | Correction factor |
|----------|----------------------|-------------------|
| 10 | 90 | 1,005 |

| Vol.% O ₂ | Vol.% N ₂ | Correction factor |
|----------------------|----------------------|-------------------|
| 4 | 96 | 0,9952 |
| 25 | 75 | 0,9700 |

Application example:

| Gas mixture setting: | |
|----------------------|----------------------------|
| Gas mixture: | 18 % CO ₂ in Ar |
| Correction factor: | 0,8812 |
| Consumption: | 18 NI/min |
| Flow regulator: | 18 x 0,8812 = 15,9 NI/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)