

## Gas mixer: *iMixcompact*

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

Gas mixer *iMixcompact* for the production of mixtures of two gases

#### Highlights

- Gas mixer *iMixcompact* 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.

Technical Data:				
Carrier gas:	Argon (Ar)		Nitrogen (N <sub>2</sub> )	
Additive gas	Carbon dioxide (CO <sub>2</sub> ) Helium (He) Nitrogen (N <sub>2</sub> )		Carbon dioxide (CO <sub>2</sub> ) Helium (He)	
Mixing range:	5 – 95 Vol. %			
Inlet pressure:	min. 0,5 MPa (5 bar) max. 1 MPa (10 bar)			
Outlet pressure:	0.4 -0.8 MPa (4 - 8 bar) depending on the inlet pressure			
Mixed gas capacity:	5 - 200 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 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	80 mm	68 mm

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

## Type: iMixcompact

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.

### Application table:

Gas mixture		
Vol.% CO <sub>2</sub>	Vol.% Ar	Correction factor
18	82	0,8812
4	96	0,8336
25	75	0,9050
Vol.% CO <sub>2</sub>	Vol.% N <sub>2</sub>	Correction factor
30	70	1,048
5	95	1,008
80	20	1,128
Vol.% He	Vol.% Ar	Correction factor
20	80	0,866
60	40	0,958
Vol.% He	Vol.% N <sub>2</sub>	Correction factor
10	90	1,005

### Application table:

Gas mixture		
% O <sub>2</sub>	% Ar	Correction factor
4	96	0.8224
10	90	0.826
% O <sub>2</sub>	% N <sub>2</sub>	Correction factor
4	96	0.9952
25	75	0.9700
% O <sub>2</sub>	% CO <sub>2</sub>	Correction factor
50	50	1.020
85	15	0.922

### Application example:

Gas mixture setting:	
Gas mixture:	18 % CO <sub>2</sub> in Ar
Correction factor:	0,8812
Consumption:	18 l/min
Flow regulator:	18 : 0,8812 = 20 l/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)