

## 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**
- **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**
- 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:				
<b>Carrier gas:</b>	Argon (Ar)		Nitrogen (N <sub>2</sub> )	
<b>Additive gas</b>	Carbon dioxide (CO <sub>2</sub> ) Helium (He) Nitrogen (N <sub>2</sub> )		Carbon dioxide (CO <sub>2</sub> ) Helium (He)	
<b>Mixing range:</b>	5 – 95 Vol. %			
<b>Inlet pressure:</b>	min. 0,5 MPa (5 bar) max. 1 MPa (10 bar)			
<b>Outlet pressure:</b>	0,4 -0,8 MPa (4 - 8 bar) depending on the inlet pressure			
<b>Mixed gas capacity:</b>	1 - 200 l/min, infinitely variable (related to Nitrogen)			
<b>Mixing precision:</b>	± 0,5 % abs: 1-5 Vol. % additive gas ± 10 % of nominal value: >5-20 Vol. % additive gas ± 2 % abs: > 20 Vol. % additive gas			
<b>Temperature:</b>	-10 to +50°C			
<b>Connection Inlet: Outlet</b>	G1/4-F Optional: G1/4-M EN560 quick plug-in connection for 8 mm hose			
<b>Material:</b>	Housing: aluminum, anodised;		In-built parts: brass, stainless steel, Elastomer	
<b>Measure and weight:</b>	height:	width:	depth:	weight:
<b>without connection</b>	88 mm	80 mm	68 mm	approx. 1,05 kg

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		
Vol.% O <sub>2</sub>	Vol.% Ar	Correction factor
4	96	0,8224
10	90	0,826

Vol.% O <sub>2</sub>	Vol.% N <sub>2</sub>	Correction factor
4	96	0,9952
25	75	0,9700

Vol.% O <sub>2</sub>	Vol.% 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 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)