

Gas mixer: iMixproVario

Gas mixer with variably adjustable mixture of two gases

Gas mixer iMixproVario for the production of mixtures of two gases with integrated equal pressure regulators and diffusion mixing system.

Highlights

- **Individually adjustable gas mixture** (within the technical limits)
- Infinitely variable up to 100 m³/h (related to Nitrogen)
- **High accuracy, according to ISO 14175**
- 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 for production of the gas mixture
- Inlet and outlet pressure regulator (pre-adjusted)

Optional:

- **Integrated gas analysis for process control**
- Inlet gas filter GF



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)	Carbon dioxide (CO ₂)	
Additive gas:	Carbon dioxide (CO ₂) Helium (He) Nitrogen (N ₂) Oxygen (O)	Carbon dioxide (CO ₂) Helium (He) Oxygen (O)	Oxygen (O)	
Mixing range:	2 mixed gases: 2 – 95 Vol. %			
Inlet pressure:	min. 0,4 MPa (4 bar) max. 1 MPa (10 bar)			
Outlet pressure:	0,05 – 0,8 MPa (0,5 - 8 bar) depending on the inlet pressure			
Mixed gas capacity:	1 – 50 / 100 m ³ /h, 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 up to +50°C			
Connection EN560 Gas inlet/Gas outlet:	50 m ³ /h Inlet G1/2"RH M Outlet G1/2"RH M	100m ³ /h Inlet G1/2"RH M Outlet G3/4"RH M		
Material:	Housing: sheet steel, powder coated In-built parts: brass, stainless steel, Elastomer Copper, aluminum, anodised			
Measure and weight:	height:	width:	depth:	weight:
without connection	500 mm	500 mm	210 mm	approx. 18 - 30 kg

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

Type: iMixproVario

Flow capacity in Nm³/h related to Nitrogen:

Mixed gas capacity: 50m³/h

Outlet pressure [barÜ] →	0,5	1	2	3	4	5	6	7	8
Inlet pressure [barÜ] ↓									
4	18,0	16,5	12,0	-	-	-	-	-	-
5	27,5	25,5	21,5	15,0	-	-	-	-	-
6	33,5	32,5	30,0	25,0	18,5	-	-	-	-
7	42,0	40,0	38,0	34,0	28,5	21,0	-	-	-
8	50,0	48,0	46,5	43,5	38,5	32,5	24,0	-	-
9	57,0	55,5	54,0	52,0	47,5	42,5	34,5	26,5	-
10	63,0	62,0	60,0	59,0	57,0	50,0	47,0	38,0	28,5

Mixed gas capacity: 100m³/h

Outlet pressure [barÜ] →	0,5	1	2	3	4	5	6	7	8
Inlet pressure [barÜ] ↓									
4	36,0	33,0	24,0	-	-	-	-	-	-
5	55,0	51,0	43,0	30,0	-	-	-	-	-
6	67,0	65,0	60,0	50,0	37,0	-	-	-	-
7	84,0	80,0	76,0	68,0	57,0	42,0	-	-	-
8	100,0	96,0	93,0	87,0	77,0	65,0	48,0	-	-
9	114,0	111,0	108,0	104,0	95,0	85,0	69,0	53,0	-
10	126,0	124,0	120,0	118,0	114,0	100,0	94,0	76,0	57,0

Application table

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

Application table

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

Vol. % He	Vol. % Ar	Conversion factor
20	80	0,8660
60	40	0,9580

Vol. % He	Vol. % N ₂	Conversion factor
10	90	1,005

Vol. % O ₂	Vol. % Ar	Conversion factor
4	96	0,8224
10	90	0,8260

Vol. % O ₂	Vol. % N ₂	Conversion factor
4	96	0,9952
25	75	0,9700

Vol. % O ₂	Vol. % CO ₂	Conversion factor
50	50	1,020
85	15	0,922

Application example:

Gas mixture setting:	
Gas mixture (Ar in CO ₂) [%]:	82/18
Gas mixture conversion factor (F):	0,8812
Flow rate according to table [m ³ /h]:	38
Gas mixture flow rate [m ³ /h]:	38 x 0,8812 = 33,5

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)