

Gas mixer: iMixpro

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

Gas mixer range **iMixpro** for the production of gas mixtures of two or three gas types.

Highlights

- Optimal factory calibration according to customer's requirement (within the permissible range)
- Infinitely variable up to 130 m³/h (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 for production of the gas mixture



Optional:

- Inlet and outlet pressure regulator (pre-adjusted)
- 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: depending on composition of the gas mixture	2 mixed gases: 5 – 95 Vol. % 3 mixed gases: Carrier gas: 50 – 95 Vol. % 1. Additive gas: 5 – 25 Vol. %, 2. Additive gas: 5 - 25 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:	50 / 100 / 130 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 bis +50°C			
Connection EN560 Gas inlet/Gas outlet:	< 100 m ³ /h:	G1/2RH-M	(optional solder connection for pipe Ø 18mm)	
	> 100m ³ /h:	G1RH-M	(optional solder connection for pipe Ø 28 mm)	
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. 15-25 kg

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

Type: iMixpro

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

Mixed gas capacity: 130m³/h

Outlet pressure [barÜ] →	0,5	1	2	3	4	5	6	7	8
Inlet pressure [barÜ] ↓									
4	46,8	42,9	31,2	-	-	-	-	-	-
5	71,5	66,3	55,9	39,0	-	-	-	-	-
6	87,1	84,5	78,0	65,0	48,1	-	-	-	-
7	109,2	104,0	98,8	88,4	74,1	54,6	-	-	-
8	130,0	124,8	120,9	113,1	100,1	84,5	62,4	-	-
9	148,2	144,3	140,4	135,2	123,5	110,5	89,7	68,9	-
10	163,8	161,2	156,0	153,4	148,2	130,0	122,2	98,8	74,1

The following table shows the correction factors as an example for different gas mixtures.

Application table

Application table

Gas mixture			Gas mixture		
Vol.% CO ₂	Vol.% Ar	Conversion factor	Vol.% CO ₂	Vol.% N ₂	Conversion 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	Conversion factor	Vol.% He	Vol.% N ₂	Conversion factor
20	80	0,8660	10	90	1,005
60	40	0,9580			

Vol.% O ₂	Vol.% Ar	Conversion factor	Vol.% O ₂	Vol.% N ₂	Conversion factor
4	96	0,8224	4	96	0,9952
10	90	0,8260	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)