FRESHFORD
gas control equipment

Gas Mixer: iMixcompact

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

Gas mixer iMix*compact* for the production of mixtures of two gases

Highlights

- Gas mixer i**Mix***compact* 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(N2)	
Additive Gas:	Carbon dioxide (CO2) Helium (He) Nitrogen (N2)		Carbon Dioxide (CO2) Helium (He)	
Mixing Range:	5 – 95 Vol%			
Inlet Pressure:	Min 0.5 MPa (5bar) 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, infineitely variable (releated 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 8mm hose			
Material:	Housing: aluminium, anodisd: in built parts: Brass , stainless steel, elastomer			
Measure & Weight **Without connection:**	Height 88mm	Width 80mm	Depth 68mm	Weight Approx. 1.05kg

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

FRESHFORD
gas control equipment

Type: iMix*compact*

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_2	Vol.% Ar	Correction factor
18	82	0,8812
4	96	0,8336
25	75	0,9050
Vol.% CO_2	Vol.% N_2	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_2	Correction factor
10	90	1,005

Application table:

Gas mixture		
Vol.% O_2	Vol.% Ar	Correction factor
4	96	0,8224
10	90	0,826
Vol.% O_2	Vol.% N_2	Correction factor
4	96	0,9952
25	75	0,9700
Vol.% O_2	Vol.% CO_2	Correction factor
50	50	1,020
85	15	0,922

Application example:

Gas mixture setting:	
Gas mixture:	18 % CO_2 in Ar
Correction factor:	0,8812
Consumption:	18 Nl/min
Flow regulator:	18 x 0,8812 = 15,9 Nl/min