

GAS MIXER



Application
-Welding & Cutting

GAS MIXER MG-FIX/FLEX

Made in Germany

Product of





MG 25/45/75/95/125-2 FIX



MG 25/45/75/95/125-2 FLEX

Gas mixing systems for 2 or 3 defined gases, designed for variable processes with a mixing range from %92-5. See other ranges on overleaf.

FIX: pre-set, for 2 or -3component gas mixtures.

FLEX: adjustable, for -2component gas mixtures.

Using a new mixing technology, no receiver is required.

MG 25 capacity range up to approx. 22 Nm³/h.

MG 45 capacity range up to approx. 46 Nm³/h.

MG 75 capacity range up to approx. 68 Nm³/h.

MG 95 capacity range up to approx. 90 Nm³/h.

MG 125 capacity range up to approx. 135 Nm³/h.

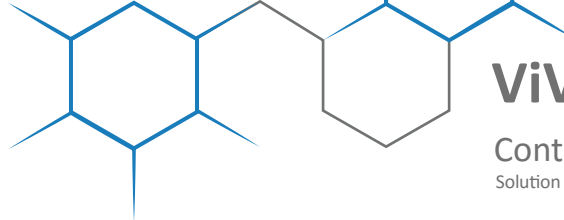
For the exact pressure and flow capacity ratios, please see the technical data overleaf.

Benefits

- high mixing accuracy
- avoids the need to stock multiple pre-mixes (cost saving)
- does not require receiver (cost and space saving)
- inlet gas filters protect the device against impurities
- pneumatic operating principle, no electrical connections required
- mixed gas production from 8 l/min to the max. flow
- robust, compact design
- panel for wall mounting
- minimal maintenance required

Easy operation

- blends are factory set and tamper proof (FIX)
- a mixing valve with a control knob and %-scale provides infinitely variable mixture settings (FLEX)



High process reliability

- independent of pressure fluctuations in the gas supply
- independent of withdrawal fluctuations (in permitted range)
- fail safe design (unit shuts down on failure of either gas supply)
- lockable to prevent tampering (FLEX)

Options

- alarm module NXT+: integrated inlet pressure monitoring with digital display for pressure (with analog pressure transmitters) plus optical alarm, adjustable alarm limits, obligation of acknowledgement, protection of alarms, interfaces for controlling external alarms etc. - electrical connections required

Other models, options and accessories available upon request.

Please identify the individual gases at the time of enquiring!

Type	MG 25/45/75/95/125-2 FIX; MG 45/95/125-3FIX; MG 25/45/75/95/125-2 FLEX
Gases	N ₂ , CO ₂ , Ar or others as well as their mixtures;
Mixing range MG 25/45/75/95/125	not for flammable gases! -2 FIX/FLEX: 2-92% according to gas combination and type (see table on last page)
MG 125/95/45	-3 FIX/: carrier gas 47-96% 1st admix gas 2-24% 2nd admix gas 2-29% according to the pre-set gas blend smaller admix concentrations for MG 125 upon request by selection of suitable mixing range the accuracy corresponds to ISO 14175
Pressure settings	see tables
Inlet pressure differential between the gases	max. 3 bar
Mixture output (N₂)	see tables (other gases on request)
Setting accuracy	
Mixing range 1:<5%	± 0.5% absolute
Mixing range 2 : 5 up to %20	± 10% of the nominal value
Mixing range 3: >20%	± 2% absolute
Temperature (gas/environment)	-25 °C to +50 °C (-13 °F to +122 °F)
Gas connections	
MG 75/45/25	G 2/1 RH with cone, soldering nipple for pipe OD 15 mm
MG 125/95	G 1 RH with cone, soldering nipple for pipe OD 22 mm

Housing

stainless steel

Weight

MG 3-/ 2-125/.../25 FIX
MG 2-125/.../25 FLEX

approx. 18 ... 27 kg
approx. 20 ... 32 kg

Dimensions (HxWxD)

approx. 570 x 470 x 240 mm (22.4 x 18.5 x 9.4 inches) without connections

Approvals

Company certified according to ISO 9001
CE-marked according to:
- PED 2014/68/EU
Cleaned for Oxygen Service according to:
- EIGA IGC Doc 13/12/E: Oxygen Pipeline and Piping Systems

Caution!

Gas flows under the min. mixed gas output (e.g. switching off the gas consumption and then refilling the pipesetc.) can cause an undefined gas mix, flowing to the point of use.

Flow MG 2-25 (in Nm ³ /h) in relation to N ₂										mixed gas production 8 l/min						
		outlet pressure in barg														
		0.5	1	2	3	4	5	6	7	8	9	10	11	12	13	14
min. inlet pressure in barg (max. 20 bar)	4	2.7	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	4.9	4.3	2.7	-	-	-	-	-	-	-	Note:				-
	6	7.6	7.0	5.5	3.4	-	-	-	-	-	-	Flow values higher P ₇ 10 bar				-
	7	10.5	10.1	8.5	6.5	3.8	-	-	-	-	-	not for O ₂ and CO ₂				-
	8	14.5	14.0	12.6	10.5	8.2	5.0	-	-	-	-	-	-	-	-	-
	9	18.5	18.1	16.8	14.8	12.3	9.4	5.8	-	-	-	-	-	-	-	-
	10	22.4	22.0	20.7	18.9	16.5	13.6	9.9	6.0	-	-	-	-	-	-	-
	11	26.7	26.6	25.5	23.7	21.6	19.0	15.8	12.3	8.2	-	-	-	-	-	-
	12	30.2	29.8	29.1	27.5	25.3	22.8	19.7	16.1	12.5	8.0	-	-	-	-	-
	13	35.0	34.9	33.9	32.5	30.3	28.0	24.9	21.6	17.6	13.3	8.5	-	-	-	-
	14	40.2	39.7	39.0	37.9	36.1	34.2	31.0	27.5	23.8	19.4	14.8	9.7	-	-	-
	15	47.2	46.9	46.5	45.0	43.0	39.0	36.5	33.5	30.1	25.8	20.9	15.6	10.2	-	-
	16	50.3	50.3	49.8		47.0	44.8	42.3	39.4	36.1	32.6	26.6	22.5	16.9	10.9	-
	17	56.7	56.3	55.5	54.5	52.8	50.8	48.5	45.9	42.8	39.4	35.3	30.5	24.5	18.6	12.5

Note:
Flow values higher P₇ 10 bar
not for O₂ and CO₂

Flow MG 3-/ 2-45 (in Nm ³ /h) in relation to N ₂											min. mixed gas production 16 l/min						
outlet pressure in barg																	
		0.5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
min. inlet pressure in barg (max. 25 bar)	4	5.9	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5	12.1	8.4	5.1	-	-	-	-	-	-	-	Note: Flow values higher P _v 10 bar not for O ₂ and CO ₂					-
	6	17.4	14.5	11.3	6.9	-	-	-	-	-	-	-	-	-	-	-	
	7	24.2	21.2	18.1	13.9	8.3	-	-	-	-	-	-	-	-	-	-	
	8	32.0	28.7	25.6	21.6	16.1	9.7	-	-	-	-	-	-	-	-	-	
	9	39.0	36.9	33.8	30.1	25.0	18.7	10.5	-	-	-	-	-	-	-	-	
	10	46.4	45.0	42.7	38.7	33.7	28.0	20.5	11.4	-	-	-	-	-	-	-	
	11	54.0	53.4	51.3	48.4	44.3	39.0	32.4	24.4	14.3	-	-	-	-	-	-	
	12	61.7	61.1	59.3	56.6	52.9	48.1	42.0	34.9	25.9	14.9	-	-	-	-	-	
	13	70.0	69.6	68.1	65.7	62.3	58.0	52.7	45.9	37.7	27.8	15.4	-	-	-	-	
	14	77.2	76.9	75.6	73.4	70.4	66.6	61.7	56.4	48.9	40.3	29.2	16.6	-	-	-	
	15	84.9	84.6	83.6	81.7	78.8	75.2	70.9	65.4	59.1	51.3	42.2	30.2	17.7	-	-	
	16	92.5	92.3	91.6	90.2	88.2	85.1	81.6	76.8	70.8	64.2	55.8	46.5	33.6	19.5	-	
	17	99.3	99.0	98.7	97.3	95.5	92.9	89.3	85.2	79.7	73.4	66.1	57.4	47.1	35.6	19.9	

Flow MG 2-75 (in Nm ³ /h) in relation to N ₂											min. mixed gas production 32 l/min						
min. inlet pressure in barg (max. 25 bar)	outlet pressure in barg																
		0.5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	4	11.4	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5	19.4	17.4	11.4	-	-	-	-	-	-	-	Note: Flow values higher P _v 10 bar not for O ₂ and CO ₂				-	
	6	29.1	27.5	22.3	14.2	-	-	-	-	-	-					-	
	7	38.3	37.0	32.8	26.5	16.3	-	-	-	-	-	-	-	-	-	-	
	8	47.4	46.3	42.9	37.8	30.3	18.6	-	-	-	-	-	-	-	-	-	
	9	57.5	57.3	54.0	49.5	43.2	34.5	21.6	-	-	-	-	-	-	-	-	
	10	67.7	67.2	64.8	60.9	55.6	47.1	37.3	22.3	-	-	-	-	-	-	-	
	11	78.9	78.4	76.5	74.5	70.0	63.2	54.1	41.4	24.9	-	-	-	-	-	-	
	12	87.8	87.5	86.2	83.9	80.8	75.8	68.5	58.8	45.2	27.5	-	-	-	-	-	
	13	94.8	94.6	93.7	91.5	88.8	85.2	80.3	73.5	63.2	48.8	29.2	-	-	-	-	
	14	102.9	102.7	101.9	100.3	97.8	94.3	90.3	85.2	77.8	66.7	51.7	31.3	-	-	-	
	15	111.0	111.0	110.3	108.8	106.7	103.6	100.1	94.7	89.3	82.0	70.2	54.6	32.3	-	-	
	16	120.6	120.6	120.4	119.3	113.9	111.8	109.1	105.4	101.3	95.8	87.8	74.3	58.2	35.5	-	
	17	133.7	133.7	133.7	129.9	129.5	128.2	126.3	120.7	116.8	112.8	104.4	92.9	79.6	61.9	37.6	

Flow MG 3-/ 2-95 (in Nm ³ /h) in relation to N ₂											min. mixed gas production 32 l/min					
min. inlet pressure in barg (max. 25 bar)	outlet pressure in barg															
		0.5	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	4	11.6	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	21.2	19.1	13.0	-	-	-	-	-	-	-	Note: Flow values higher P _v 10 bar not for O ₂ and CO ₂				-
	6	33.0	30.8	24.9	16.3	-	-	-	-	-	-	-	-	-	-	-
	7	45.2	43.2	37.3	29.1	18.0	-	-	-	-	-	-	-	-	-	-
	8	61.0	59.0	52.6	45.3	35.5	22.3	-	-	-	-	-	-	-	-	-
	9	75.1	73.5	68.7	65.4	52.9	40.6	25.6	-	-	-	-	-	-	-	-
	10	89.8	88.6	84.2	81.6	69.2	58.6	44.6	27.1	-	-	-	-	-	-	-
	11	109.1	108.6	104.6	98.9	90.6	79.7	66.7	50.7	31.2	-	-	-	-	-	-
	12	124.2	124.1	121.0	115.1	108.8	99.1	87.4	72.2	55.0	33.5	-	-	-	-	-
	13	138.4	138.1	136.1	132.1	126.1	119.3	109.3	94.9	79.1	59.9	36.3	-	-	-	-
	14	152.1	152.0	150.1	146.1	141.5	134.9	126.6	115.5	101.7	84.7	63.5	37.8	-	-	-
	15	166.1	166.1	165.6	162.1	158.1	153.2	145.6	136.7	124.1	109.7	91.3	68.1	40.1	-	-
	16	182.2	182.2	179.1	177.7	174.1	168.5	162.8	154.2	145.1	133.2	117.5	97.2	73.4	43.7	-
	17	196.2	196.2	195.9	191.4	184.3	178.2	176.3	172.4	164.2	154.1	141.5	124.1	103.3	77.8	45.2

Flow MG 3-/ 2-125 (in Nm ³ /h) in relation to N ₂														min. mixed gas production 64 l/min	
min. inlet pressure in barg (max. 25 bar)	outlet pressure in barg														
	0.5	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	4	24.2	19.8	-	-	-	-	-	-	-	-	Note: Flow values higher P _v 10 bar not for O ₂ and CO ₂			-
	5	41.3	37.4	25.7	-	-	-	-	-	-	-				-
	6	60.7	57.3	46.9	31.7	-	-	-	-	-	-				-
	7	80.7	78.3	69.6	55.6	37.7	-	-	-	-	-	-	-	-	-
	8	98.6	96.9	90.4	79.3	62.9	41.1	-	-	-	-	-	-	-	-
	9	118.3	117.8	113.1	105.2	93.4	76.0	50.4	-	-	-	-	-	-	-
	10	135.4	135.3	131.6	124.8	115.3	102.3	82.8	54.8	-	-	-	-	-	-
	11	150.6	150.6	148.9	143.8	135.8	124.8	109.1	87.2	55.6	-	-	-	-	-
	12	166.2	166.2	166.0	160.9	154.4	145.4	132.8	117.0	92.5	58.1	-	-	-	-
	13	182.2	182.2	181.1	178.1	173.7	167.4	157.3	143.4	126.3	102.0	59.8	-	-	-
	14	205.6	205.6	205.6	201.7	198.8	189.4	180.6	168.3	153.8	133.6	104.3	61.1	-	-
	15	219.2	219.2	219.2	217.4	213.2	207.8	200.6	190.6	178.6	162.1	143.1	112.3	64.3	-
	16	237.2	237.2	237.2	237.1	232.3	228.0	224.1	215.8	205.6	190.8	173.8	153.7	123.7	72.1
	17	249.5	249.5	249.5	249.4	247.0	241.2	237.3	232.1	224.9	212.2	198.1	183.2	161.6	129.1
															77.6

Note: The determined data of mixture output are only in relation to N₂!

The use of other required gases results in a difference to the mixture output, which is compensated by the correction factor F_{MIX} :

F_{MIX} for concentrations (example):

	GAS 1	GAS 2	F _{MIX}
mixture	CO ₂	Ar	
admixture proportion in vol. %	18	82	0.8812
admixture proportion in vol. %	4	96	0.8336
admixture proportion in vol. %	25	75	0.905
mixture	CO ₂	N ₂	
admixture proportion in vol. %	30	70	1.048
admixture proportion in vol. %	5	95	1.008
admixture proportion in vol. %	80	20	1.128
mixture	He	Ar	
admixture proportion in vol. %	20	80	0.866
admixture proportion in vol. %	60	40	0.958
mixture	He	N ₂	
admixture proportion in vol. %	10	90	1.005
mixture	O ₂	Ar	
admixture proportion in vol. %	4	96	0.8224
admixture proportion in vol. %	10	90	0.826
mixture	O ₂	N ₂	
admixture proportion in vol. %	4	96	0.9952
admixture proportion in vol. %	25	75	0.97
mixture	O ₂	CO ₂	
admixture proportion in vol. %	50	50	1.02
admixture proportion in vol. %	85	15	0.922

Possible admixture range		
Mix	Range	Type
CO ₂ in Ar	%92-5 CO ₂	MG 125/95/75/45/25
CO ₂ in N ₂	%92-5 CO ₂	MG 125/95/75/45/25
CO ₂ in O ₂	%92-5 CO ₂	MG 125/95/75/45/25
O ₂ in Ar	%92-5 O ₂	MG 125/95/75/45/25
O ₂ in N ₂	%92-5 O ₂	MG 125/95/75/45/25
He in Ar	%92-5 He	MG 125/95/75/45/25
He in N ₂	%85-5 He	MG 125/95/75/45/25
N ₂ in Ar	%46-2 N ₂	MG 125/95/75/45



Gas control equipment

- Gas mixing systems
- Gas metering systems
- Gas analysers
- Leak detection systems
- Gas pressure vessels
- Engineering of customised systems

Gas safety equipment

- Flashback arrestors
- Non-return valves
- Quick COUPLINGS
- Safety valves
- Stainless steel devices
- Gas filters
- Pressure regulators
- Lance holders
- Ball valves
- Automatic hose reels
- Test equipment
- Accessories
- Customised safety devices

ViVANGAS

Level 28-01, Integra Tower, The Intermark
348 Jalan Tun Razak, 50400 Kuala Lumpur.

Phone: +603-2775 9754-6

Fax: +603-2182 9797

letstalk@ViVANGAS.com

www.ViVANGAS.com