



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 5-92%. See other ranges on overleaf.

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

**FLEX:** adjustable, for 2-component gas mixtures.

Using a new mixing technology, no receiver is required.

MG 25 capacity range up to approx. 22 Nm<sup>3</sup>/h.  
MG 45 capacity range up to approx. 46 Nm<sup>3</sup>/h.  
MG 75 capacity range up to approx. 68 Nm<sup>3</sup>/h.  
MG 95 capacity range up to approx. 90 Nm<sup>3</sup>/h.  
MG 125 capacity range up to approx. 135 Nm<sup>3</sup>/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!**

# GAS MIXER MG-FIX/FLEX



<b>Type</b>	MG 25/45/75/95/125-2 FIX; MG 45/95/125-3 FIX; MG 25/45/75/95/125-2 FLEX
<b>Gases</b>	N <sub>2</sub> , CO <sub>2</sub> , Ar or others as well as their mixtures; not for flammable gases!
<b>Mixing range</b>	
<b>MG 25/45/75/95/125</b>	-2 FIX/FLEX: 2-92% according to gas combination and type (see table on last page)
<b>MG 45/95/125</b>	-3 FIX: carrier gas 47-96% 1 <sup>st</sup> admix gas 2-24% 2 <sup>nd</sup> 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
<b>Pressure settings</b>	see tables
<b>Inlet pressure differential between the gases</b>	max. 3 bar
<b>Mixture output (N<sub>2</sub>)</b>	see tables (other gases on request)
<b>Setting accuracy</b>	
<b>Mixing range 1: &lt; 5%</b>	± 0.5% absolute
<b>Mixing range 2: 5 up to 20%</b>	± 10% of the nominal value
<b>Mixing range 3: &gt; 20%</b>	± 2% absolute
<b>Temperature (gas/environment)</b>	-25 °C to +50 °C (-13 °F to +122 °F)
<b>Gas connections</b>	
<b>MG 25/45/75</b>	G 1/2 RH with cone, soldering nipple for pipe OD 15 mm
<b>MG 95/125</b>	G 1 RH with cone, soldering nipple for pipe OD 22 mm
<b>Housing</b>	stainless steel
<b>Weight</b>	
<b>MG 25/.../125-2 /-3 FIX</b>	approx. 18 ... 27 kg
<b>MG 25/.../125-2 FLEX</b>	approx. 20 ... 32 kg
<b>Dimensions (HxWxD)</b>	approx. 570 x 470 x 240 mm (22.4 x 18.5 x 9.4 inches) without connections
<b>Approvals</b>	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 pipes etc.) can cause an undefined gas mix, flowing to the point of use.**

Flow MG 25-2 (in Nm <sup>3</sup> /h) in relation to N <sub>2</sub>		min. 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	-	-	-	-	-	-	-	-	-	-	-	-
	6	7.6	7.0	5.5	3.4	-	-	-	-	-	-	-	-	-	-	-
	7	10.5	10.1	8.5	6.5	3.8	-	-	-	-	-	-	-	-	-	-
	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	48.6	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

KM14 - N02/D7 subject to change

# GAS MIXER MG-FIX/FLEX



Flow **MG 45-2 /-3** (in Nm<sup>3</sup>/h) in relation to N<sub>2</sub> 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	-	-	-	-	-	-	-	-	-	-	-	-
	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

Note:  
Flow values higher P<sub>v</sub> 10 bar  
not for O<sub>2</sub> and CO<sub>2</sub>

Flow **MG 75-2** (in Nm<sup>3</sup>/h) in relation to N<sub>2</sub> min. mixed gas production 32 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	11.4	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	19.4	17.4	11.4	-	-	-	-	-	-	-	-	-	-	-	-
	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

Note:  
Flow values higher P<sub>v</sub> 10 bar  
not for O<sub>2</sub> and CO<sub>2</sub>

Flow **MG 95-2 /-3** (in Nm<sup>3</sup>/h) in relation to N<sub>2</sub> min. mixed gas production 32 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	11.6	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	21.2	19.1	13.0	-	-	-	-	-	-	-	-	-	-	-	-
	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

Note:  
Flow values higher P<sub>v</sub> 10 bar  
not for O<sub>2</sub> and CO<sub>2</sub>

KM14 - N02/D7 subject to change

Flow <b>MG 125-2 /-3</b> (in Nm <sup>3</sup> /h) in relation to N <sub>2</sub>		outlet pressure in barg														min. mixed gas production 64 l/min			
		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	24.2	19.8	-	-	-	-	-	-	-	-	-	-	-	-	-	Note:	-	
	5	41.3	37.4	25.7	-	-	-	-	-	-	-	-	-	-	-	-	Flow values higher P <sub>v</sub> 10 bar	-	
	6	60.7	57.3	46.9	31.7	-	-	-	-	-	-	-	-	-	-	-	not for O <sub>2</sub> and CO <sub>2</sub>	-	
	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 N<sub>2</sub>!**  
 The use of other required gases results in a difference to the mixture output, which is compensated by the correction factor F<sub>MIX</sub>:

F<sub>MIX</sub> for concentrations (example):

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

Possible admix range		
Mix	Range	Type
CO <sub>2</sub> in Ar	2-23% CO <sub>2</sub>	MG 75/95/125
CO <sub>2</sub> in Ar	3-46% CO <sub>2</sub>	MG 45/75/95/125
CO <sub>2</sub> in Ar	5-92% CO <sub>2</sub>	MG 25/45/75/95/125
CO <sub>2</sub> in N <sub>2</sub>	5-85% CO <sub>2</sub>	MG 25/45/75/95/125
CO <sub>2</sub> in O <sub>2</sub>	7-90% CO <sub>2</sub>	MG 25/45/75/95/125
O <sub>2</sub> in Ar	2-46% O <sub>2</sub>	MG 45/75/95/125
O <sub>2</sub> in Ar	5-92% O <sub>2</sub>	MG 25/45/75/95/125
O <sub>2</sub> in N <sub>2</sub>	5-92% O <sub>2</sub>	MG 25/45/75/95/125
He in Ar	5-92% He	MG 25/45/75/95/125
He in N <sub>2</sub>	5-85% He	MG 25/45/75/95/125