MG 25/45/75/95/125-2 /-3 **FIX**

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

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!

Technical data overleaf

Rev.II_032018_MG 25_45_75_95_125-2_3 FIX_FLEX_engl · subject to technical alterations

MG 25/45/75/95/125-2 /-3 **FIX** MG 25/45/75/95/125-2 **FLEX**

Technical Data

Type	MG 25/45/75/95/125-2 FIX; MG 45/95/125-3 FIX; MG 25/45/75/95/125-2 FLEX
Gases	all technical gases (excluding toxic or corrosive gases, also no mixtures of fuel gases with air, O_2 or N_2O)
Mixing range MG 25/45/75/95/125 MG 45/95/125	-2 FIX/FLEX: 2-92% according to gas combination (see table on last page) -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
Pressure settings	see tables
Inlet pressure differential between the gases	max. 3 bar
Mixture output (N_2)	see tables (other gases on request)
Setting accuracy Mixing range 1: < 5% Mixing range 2: 5 bis 20% Mixing range 3: > 20%	 ± 0,5% absolute ± 10% of the nominal value ± 2% absolute
Temperature (gas/environment)	-25 °C to +50 °C (-13 °F to +122 °F)
Gas connections MG 25/45/75 MG 95/125	G 1/2 RH with cone, soldering nipple for pipe OD 15 mm G 1 RH with cone, soldering nipple for pipe OD 22 mm
Housing	stainless steel
Weight MG 25/.../125-2 /-3 FIX MG 25/.../125-2 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

Flow MG 25-2 (in Nm3/h) in relation to N_2 — **min. mixed gas production 8 l/min**

outlet pressure in barg

min. inlet pressure in barg (max. 20 bar)	0,5	1	2	3	4	5	6	7	8	9	10	11	12	13	14
4	2.7	2.1	–	–	–	–	–	–	–	–	–	–	–	–	–
5	4.9	4.3	2.7	–	–	–	–	–	–	–					–
6	7.6	7.0	5.5	3.4	–	–	–	–	–	–	Note: Flow values higher P_v 10 bar not for O_2 and CO_2				–
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

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.

MG 25/45/75/95/125-2 /-3 **FIX** MG 25/45/75/95/125-2 **FLEX**

Flow MG 45-2 /-3 (in Nm³/h) in relation to N_2 — **min. mixed gas production 16 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	5,9	3,7	–	–	–	–	–	–	–	–	–	–	–	–	–
5	12,1	8,4	5,1	–	–	–	–	–	–	–					–
6	17,4	14,5	11,3	6,9	–	–	–	–	–	–		Note:			–
7	24,2	21,2	18,1	13,9	8,3	–	–	–	–	–		Flow values higher P_V 10 bar not for O_2 and CO_2:			–
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 75-2 (in Nm3/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	–	–	–	–	–	–	–					–
6	29,1	27,5	22,3	14,2	–	–	–	–	–	–		Note:			–
7	38,3	37,0	32,8	26,5	16,3	–	–	–	–	–		Flow values higher P_V 10 bar not for O_2 and CO_2:			–
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 95-2 /-3 (in Nm3/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	–	–	–	–	–	–	–					–
6	33,0	30,8	24,9	16,3	–	–	–	–	–	–		Note:			–
7	45,2	43,2	37,3	29,1	18,0	–	–	–	–	–		Flow values higher P_V 10 bar not for O_2 and CO_2:			–
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

MG 25/45/75/95/125-2 /-3 **FIX** MG 25/45/75/95/125-2 **FLEX**

Flow MG 125-2 /-3 (in Nm³/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	–	–	–	–	–	–	–	–	–	–	–	–	–
5	41,3	37,4	25,7	–	–	–	–	–	–	–	Note:				–
6	60,7	57,3	46,9	31,7	–	–	–	–	–	–	Flow values higher P_V 10 bar				–
7	80,7	78,3	69,6	55,6	37,7	–	–	–	–	–	not for O_2 and CO_2:				–
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_2!
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	**C_{02}**	**Ar**	
admix proportion in vol.%	18	82	0,8812
admix proportion in vol.%	4	96	0,8336
admix proportion in vol.%	25	75	0,905
mixture	**CO_2**	**N_2**	
admix proportion in vol.%	30	70	1,048
admix proportion in vol.%	5	95	1,008
admix proportion in vol.%	80	20	1,128
mixture	He	**Ar**	
admix proportion in vol.%	20	80	0,866
admix proportion in vol.%	60	40	0,958
mixture	He	**N_2**	
admix proportion in vol.%	10	90	1,005
mixture	O_2	**Ar**	
admix proportion in vol.%	4	96	0,8224
admix proportion in vol.%	10	90	0,826
mixture	O_2	**N_2**	
admix proportion in vol.%	4	96	0,9952
admix proportion in vol.%	25	75	0,97
mixture	O_2	**CO_2**	
admix proportion in vol.%	50	50	1,02
admix proportion in vol.%	85	15	0,922

Possible admix range		
Mix	Range	Type
CO_2 in Ar	2-23% CO_2	MG 75/95/125
CO_2 in Ar	3-46% CO_2	MG 45/75/95/125
CO_2 in Ar	5-92% CO_2	MG 25/45/75/95/125
CO_2 in N_2	5-85% CO_2	MG 25/45/75/95/125
CO_2 in O_2	7-90% CO_2	MG 25/45/75/95/125
O_2 in Ar	2-46% O_2	MG 45/75/95/125
O_2 in Ar	5-92% O_2	MG 25/45/75/95/125
O_2 in N_2	5-92% O_2	MG 25/45/75/95/125
He in Ar	5-92% He	MG 25/45/75/95/125
He in N_2	5-85% He	MG 25/45/75/95/125