GAS MIXER MG-FIX/FLEX

www.wittgas.com

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

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

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

FIX: pre-set for two- or three-component gas mixtures.

FLEX: adjustable for two-component gas mixtures.

Features new mixing technology patented by WITT, eliminating the need for a receiver.

MG 25 capacity range up to approx. 790 SCFH
MG 45 capacity range up to approx. 1640 SCFH
MG 75 capacity range up to approx. 2400 SCFH
MG 95 capacity range up to approx. 3170 SCFH
MG 125 capacity range up to approx. 4780 SCFH
For the exact pressure and flow-capacity ratios, please see the technical data overleaf.

Benefits

- high mixing accuracy
- no need to stock multiple pre-mixes (cost-saving)
- no receiver required (cost- and space-saving)
- inlet gas filters protect the device against impurities
- pneumatic operating principle, no electrical connections required
- mixed gas production from 17 SCFH to the max. flow
- robust, compact design
- panel for wall mounting
- minimal maintenance required

Easy operation

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

High process reliability

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

Other models, options and accessories available upon request.

Please identify the individual gases at the time of enquiring!

KM14 USA - M01/E6 subject to change

WITT Gas Controls, 380 Winkler Dr., Ste. 200, Alpharetta, GA 30004, Tel. 770 664 4447, Fax 770 664 4448
witt-usa@wittgas.com www.wittgas.us

GAS MIXER MG-FIX/FLEX

www.wittgas.com

Type	MG 25/45/75/95/125-2 FIX; MG 45/95/125-3 FIX; MG 25/45/75/95/125-2 FLEX
Gases	N_2, CO_2, Ar or others as well as their mixtures; not for flammable gases!
Mixing range	
MG 25/45/75/95/125	-2 FIX/FLEX: 2-92% according to gas combination and type (see table on last page)
MG 45/95/125	-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 available 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. 43.5 PSI
Mixture output (N_2)	see tables (other gases available upon request)
Setting accuracy	
Mixing range 1: < 5%	± 0.5% absolute
Mixing range 2: 5-20%	± 10% of the nominal value
Mixing range 3: > 20%	± 2% absolute
Temperature (gas/environment)	-13°F to 122°F
Gas connections	
MG 25/45/75	1/2″ NPT with cone, soldering nipple for pipe OD 15 mm
MG 95/125	1″ NPT with cone, soldering nipple for pipe OD 22 mm
Housing	stainless steel
Weight	
MG FIX	ranges from approx. 39.7 - 59.5 lb
MG FLEX	ranges from approx. 44.1 - 70.5 lb
Dimensions (HxWxD)	approx. 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 pipes etc.) can cause an undefined gas mix, flowing to the point of use.

Flow **MG 25-2** (in SCFH) in relation to N_2 — min. mixed gas production 17 SCFH

min. inlet pressure in PSIG (max. 290 PSI) \ outlet pressure in PSIG	7.3	14.5	29.0	43.5	58.0	72.5	87.0	101.5	116.0	130.5	145.0	159.5	174.0	188.5	203.0
58.0	95	74	-	-	-	-	-	-	-	-	-	-	-	-	-
72.5	173	152	95		-	-	-	-	-	-	Note:				-
87.0	268	247	194	120	-	-	-	-	-	-	Flow values > P_V 145 PSI				-
101.5	371	357	300	230	134	-	-	-	-	-	do not apply to O_2 and CO_2				-
116.0	512	494	445	371	290	177	-	-	-	-	-	-	-	-	-
130.5	653	639	593	523	434	332	205	-	-	-	-	-	-	-	-
145.0	791	777	731	667	583	480	350	212	-	-	-	-	-	-	-
159.5	943	939	901	837	763	671	558	434	290	-	-	-	-	-	-
174.0	1067	1052	1028	971	893	805	696	569	441	283	-	-	-	-	-
188.5	1236	1232	1197	1148	1070	989	879	763	622	470	300	-	-	-	-
203.0	1420	1402	1377	1338	1275	1208	1095	971	840	685	523	343	-	-	-
217.6	1667	1656	1642	1589	1519	1377	1289	1183	1063	911	738	551	360	-	-
232.1	1776	1776	1759	1716	1660	1582	1494	1391	1275	1151	939	795	597	385	-
246.6	2002	1988	1960	1925	1865	1794	1713	1621	1511	1391	1247	1077	865	657	441

WITT Gas Controls, 380 Winkler Dr., Ste. 200, Alpharetta, GA 30004, Tel. 770 664 4447, Fax 770 664 4448
witt-usa@wittgas.com www.wittgas.us

GAS MIXER MG-FIX/FLEX

www.wittgas.com

Flow **MG 45-2 /-3** (in SCFH) in relation to N_2 — min. mixed gas production 34 SCFH

min. inlet pressure in PSIG (max. 363 PSI) \ outlet pressure in PSIG	7.3	14.5	29.0	43.5	58.0	72.5	87.0	101.5	116.0	130.5	145.0	159.5	174.0	188.5	203.0
58.0	208	131	-	-	-	-	-	-	-	-	-	-	-	-	-
72.5	427	297	180		-	-	-	-	-	-	Note: Flow values > P_V 145 PSI do not apply to O_2 and CO_2				-
87.0	614	512	399	244	-	-	-	-	-	-					-
101.5	855	749	639	491	293	-	-	-	-	-	-	-	-	-	-
116.0	1130	1014	904	763	569	343	-	-	-	-	-	-	-	-	-
130.5	1377	1303	1194	1063	883	660	371	-	-	-	-	-	-	-	-
145.0	1639	1589	1508	1367	1190	989	724	403	-	-	-	-	-	-	-
159.5	1907	1886	1812	1709	1564	1377	1144	862	505	-	-	-	-	-	-
174.0	2179	2158	2094	1999	1868	1699	1483	1232	915	526	-	-	-	-	-
188.5	2472	2458	2405	2320	2200	2048	1861	1621	1331	982	544	-	-	-	-
203.0	2726	2716	2670	2592	2486	2352	2179	1992	1727	1423	1031	586	-	-	-
217.6	2998	2988	2952	2885	2783	2656	2504	2310	2087	1812	1490	1067	625	-	-
232.1	3267	3260	3235	3185	3115	3005	2882	2712	2500	2267	1971	1642	1187	689	-
246.6	3507	3496	3486	3436	3373	3281	3154	3009	2815	2592	2334	2027	1663	1257	703

Flow **MG 75-2** (in SCFH) in relation to N_2 — min. mixed gas production 68 SCFH

min. inlet pressure in PSIG (max. 363 PSI) \ outlet pressure in PSIG	7.3	14.5	29.0	43.5	58.0	72.5	87.0	101.5	116.0	130.5	145.0	159.5	174.0	188.5	203.0
58.0	403	325	-	-	-	-	-	-	-	-	-	-	-	-	-
72.5	685	614	403		-	-	-	-	-	-	Note: Flow values > P_V 145 PSI do not apply to O_2 and CO_2				-
87.0	1028	971	788	501	-	-	-	-	-	-					-
101.5	1353	1307	1158	936	576	-	-	-	-	-	-	-	-	-	-
116.0	1674	1635	1515	1335	1070	657	-	-	-	-	-	-	-	-	-
130.5	2031	2024	1907	1748	1526	1218	763	-	-	-	-	-	-	-	-
145.0	2391	2373	2288	2151	1963	1663	1317	788	-	-	-	-	-	-	-
159.5	2786	2769	2702	2631	2472	2232	1911	1462	879	-	-	-	-	-	-
174.0	3101	3090	3044	2963	2853	2677	2419	2077	1596	971	-	-	-	-	-
188.5	3348	3341	3309	3231	3136	3009	2836	2596	2232	1723	1031	-	-	-	-
203.0	3634	3627	3599	3542	3454	3330	3189	3009	2747	2355	1826	1105	-	-	-
217.6	3920	3920	3895	3842	3768	3659	3535	3344	3154	2896	2479	1928	1141	-	-
232.1	4259	4259	4252	4213	4022	3948	3853	3722	3577	3383	3101	2624	2055	1254	-
246.6	4722	4722	4722	4587	4573	4527	4460	4262	4125	3984	3687	3281	2811	2186	1328

Flow **MG 95-2 /-3** (in SCFH) in relation to N_2 — min. mixed gas production 68 SCFH

min. inlet pressure in PSIG (max. 363 PSI) \ outlet pressure in PSIG	7.3	14.5	29.0	43.5	58.0	72.5	87.0	101.5	116.0	130.5	145.0	159.5	174.0	188.5	203.0
58.0	410	332	-	-	-	-	-	-	-	-	-	-	-	-	-
72.5	749	675	459		-	-	-	-	-	-	Note: Flow values > P_V 145 PSI do not apply to O_2 and CO_2				-
87.0	1165	1088	879	576	-	-	-	-	-	-					-
101.5	1596	1526	1317	1028	636	-	-	-	-	-	-	-	-	-	-
116.0	2154	2084	1858	1600	1254	788	-	-	-	-	-	-	-	-	-
130.5	2652	2596	2426	2310	1868	1434	904	-	-	-	-	-	-	-	-
145.0	3171	3129	2973	2882	2444	2069	1575	957	-	-	-	-	-	-	-
159.5	3853	3835	3694	3493	3200	2815	2355	1790	1102	-	-	-	-	-	-
174.0	4386	4383	4273	4065	3842	3500	3087	2550	1942	1183	-	-	-	-	-
188.5	4888	4877	4806	4665	4453	4213	3860	3351	2793	2115	1282	-	-	-	-
203.0	5371	5368	5301	5159	4997	4764	4471	4079	3592	2991	2242	1335	-	-	-
217.6	5866	5866	5848	5725	5583	5410	5142	4828	4383	3874	3224	2405	1416	-	-
232.1	6434	6434	6325	6275	6148	5951	5749	5446	5124	4704	4149	3433	2592	1543	-
246.6	6929	6929	6918	6759	6509	6293	6226	6088	5799	5442	4997	4383	3648	2747	1596

WITT Gas Controls, 380 Winkler Dr., Ste. 200, Alpharetta, GA 30004, Tel. 770 664 4447, Fax 770 664 4448
witt-usa@wittgas.com www.wittgas.us

GAS MIXER MG-FIX/FLEX

www.wittgas.com

Flow **MG 125-2 /-3** (in SCFH) in relation to N_2 — min. mixed gas production 136 SCFH

min. inlet pressure in PSIG (max. 363 PSI) \ outlet pressure in PSIG	7.3	14.5	29.0	43.5	58.0	72.5	87.0	101.5	116.0	130.5	145.0	159.5	174.0	188.5	203.0
58.0	855	699	-	-	-	-	-	-	-	-	Note:				-
72.5	1458	1321	908		-	-	-	-	-	-	Flow values > P_V 145 PSI				-
87.0	2144	2024	1656	1119	-	-	-	-	-	-	do not apply to O_2 and CO_2				-
101.5	2850	2765	2458	1963	1331	-	-	-	-	-	-	-	-	-	-
116.0	3482	3422	3192	2800	2221	1451	-	-	-	-	-	-	-	-	-
130.5	4178	4160	3994	3715	3298	2684	1780	-	-	-	-	-	-	-	-
145.0	4782	4778	4647	4407	4072	3613	2924	1935	-	-	-	-	-	-	-
159.5	5318	5318	5258	5078	4796	4407	3853	3079	1963	-	-	-	-	-	-
174.0	5869	5869	5862	5682	5453	5135	4690	4132	3267	2052	-	-	-	-	-
188.5	6434	6434	6395	6290	6134	5912	5555	5064	4460	3602	2112	-	-	-	-
203.0	7261	7261	7261	7123	7021	6689	6378	5943	5431	4718	3683	2158	-	-	-
217.6	7741	7741	7741	7677	7529	7338	7084	6731	6307	5725	5054	3966	2271	-	-
232.1	8377	8377	8377	8373	8204	8052	7914	7621	7261	6738	6138	5428	4368	2546	-
246.6	8811	8811	8811	8807	8723	8518	8380	8197	7942	7494	6996	6470	5707	4559	2740

Note: The determined data of mixture output are only in relation to Nitrogen!
The use of other required gases results in a different mixture flow rate, which is calculated via the correction factor F_{MIX}:

F_{MIX} for concentrations (example):

	Gas 1	Gas 2	F_{MIX}
mixture	**CO_2**	**Ar**	
admix propotion in vol.%	18	82	0.8812
admix propotion in vol.%	4	96	0.8336
admix propotion in vol.%	25	75	0.905
mixture	**CO_2**	**N_2**	
admix propotion in vol.%	30	70	1.048
admix propotion in vol.%	5	95	1.008
admix propotion in vol.%	80	20	1.128
mixture	**He**	**Ar**	
admix propotion in vol.%	20	80	0.866
admix propotion in vol.%	60	40	0.958
mixture	**He**	**N_2**	
admix propotion in vol.%	10	90	1.005
mixture	**O_2**	**Ar**	
admix propotion in vol.%	4	96	0.8224
admix propotion in vol.%	10	90	0.826
mixture	**O_2**	**N_2**	
admix propotion in vol.%	4	96	0.9952
admix propotion in vol.%	25	75	0.97
mixture	**O_2**	**CO_2**	
admix propotion in vol.%	50	50	1.02
admix propotion in vol.%	85	15	0.922

Possible admix range		
Mix	**Range**	**Type**
CO_2 in Ar	5-92% CO_2	MG 25/45/75/95/125
CO_2 in N_2	5-92% CO_2	MG 25/45/75/95/125
CO_2 in O_2	5-92% CO_2	MG 25/45/75/95/125
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
N_2 in Ar	2-46% N_2	MG 45/75/95/125

WITT Gas Controls, 380 Winkler Dr., Ste. 200, Alpharetta, GA 30004, Tel. 770 664 4447, Fax 770 664 4448
witt-usa@wittgas.com www.wittgas.us