Detector Tube Instruction Manual

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
1HH	Carbon Monoxide	CO	1-50%
1H	Carbon Monoxide	CO	0.1-10%
1M	Carbon Monoxide	CO	0.05-4%
1LM	Carbon Monoxide	CO	25-2000
1L	Carbon Monoxide	CO	2.5-2000
1La	Carbon Monoxide	CO	8-1000
1LK	Carbon Monoxide	CO	5-600
1LKC	Carbon Monoxide	CO	5-100
1LL	Carbon Monoxide	CO	5-50
1LC	Carbon Monoxide	CO	1-30
1D	Carbon Monoxide (Dosi tube)	CO	1.04-2000
1DL	Carbon Monoxide (Dosi tube)	CO	0.4-400
1A	Carbon Monoxide (Airtec tube)	CO	5-50
2HH	Carbon Dioxide	CO_2	2.5-40%
2H	Carbon Dioxide	CO_2	0.5-20%
2L	Carbon Dioxide	CO_2	0.13-6%
2LL	Carbon Dioxide	CO_2	300-5000
2LC	Carbon Dioxide	CO_2	100-4000
2D	Carbon dioxide(Dosi tube)	CO_2	0.02-12%
2HT	Carbon Dioxide	CO_2	10-100%
2A	Carbon Dioxide (Airtec tube)	CO_2	250-3000
2Ag	Carbon Dioxide(Airtec tube)	CO_2	200-3000
3H	Ammonia	NH_3	0.2-32%
3HM	Ammonia	NH_3	0.05-3.52%
3M	Ammonia	NH_3	10-1000
3La	Ammonia	NH_3	2.5-220
3L	Ammonia	NH_3	0.5-78
3D	Ammonia (Dosi tube)	NH_3	2.5-1000
3DL	Ammonia (Dosi tube)	NH_2	0.1-10
3S	Ammonia	NH_2	0.5-5
4HT	Hydrogen Sulphide	H_2S	1-40%
4HP	Hydrogen Sulphide	H_2S	0.25-20%
4HH	Hydrogen Sulphide	H_2S	0.1-4%
4H	Hydrogen Sulphide	H_2S	10-4000
4HM	Hydrogen Sulphide	H_2S	25-1600
4M	Hydrogen Sulphide	H_2S	12.5-500
4L	Hydrogen Sulphide	H_2S	1-240
4LL	Hydrogen Sulphide	H_2S	0.25-120

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
4LK	Hydrogen Sulphide	H_2S	1-40
4LB	Hydrogen Sulphide	H_2S	0.5-12
4LT	Hydrogen Sulphide	H_2S	0.05-4
4TP	Hydrogen Sulphide	H_2S	0.1-2.88
4D	Hydrogen Sulphide(Dosi tube)	H_2S	0.2-200
4S	Hydrogen Sulphide	H_2S	10-200ppb
5H	Sulphur Dioxide	SO_2	0.05-8%
5M	Sulphur Dioxide	SO_2	20-3600
5L	Sulphur Dioxide	SO_2	1.25-200
5La	Sulphur Dioxide	SO_2	0.5-60
5LC	Sulphur Dioxide	SO_2	0.1-22
5Lb	Sulphur Dioxide	SO_2	0.05-10
5D	Sulphur Dioxide(Dosi tube)	SO_2	0.2-100
5DH	Sulphur Dioxide (Dosi tube)	SO_2	10-600
6	Water Vapor	H_2O	0.5-32mg/L
6L	Water Vapor	H_2O	0.05-2mg/L
6LP	Pipeline Dew point Tube	H_2O	3-100LB/MMCF
6LLP	Pipeline Dew Point Tube	H_2O	2-10LB/MMCF
6AH	Water Vapour (Airtec tube)	H_2O	500-5000
6A	Water Vapour (Airtec tube)	H_2O	10-80mg/m^3
6Ag	Water Vapour (Airtec tube)	H_2O	150–3000mg/m^3
7H	Phosphine	PH_3	200-5500
7J	Phosphine	PH_3	2.5-1000
7	Phosphine	PH_3	2.5-100
7L	Phosphine	PH_3	0.15-5
7LA	Phosphine	PH_3	0.05-9.8
8HH	Chlorine	Cl_2	0.25-10%
8H	Chlorine	Cl_2	25-1000
8La	Chlorine	Cl_2	0.1-16
8LL	Chlorine	Cl_2	0.025-2.0
8TP	Chlorine	Cl_2	0.05-0.6
8D	Chlorine(Dosi tube)	Cl_2	0.08-100
9L	Nitrogen Dioxide	NO_2	0.5-125
9P	Nitrogen Dioxide	NO_2	0.02-0.20
9D	Nitrogen Dioxide(Dosi tube)	NO_2	0.1-30
9DL	Nitrogen Dioxide(Dosi tube)	NO_2	0.01-3.0
10	NO&NO_2 (Separate Quantification)	NO&NO_2	2.5-200
11HA	Nitrogen Oxides(Total Quantification)	NO+NO_2	50-2500
11S	Nitrogen Oxides(Total Quantification)	NO+NO_2	5-625
11L	Nitrogen Oxides(Total Quantification)	NO+NO_2	0.03-14
11A	Nitrogen Oxides(Airtec tube)	NO+NO_2	0.02-2
12H	Hydrogen Cyanide	HCN	0.05-1.6%
12M	Hydrogen Cyanide	HCN	17-2400
12L	Hydrogen Cyanide	HCN	0.5-150

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
12LL	Hydrogen Cyanide	HCN	0.2-10
12TP	Hydrogen Cyanide	HCN	0.3-9.0
12D	Hydrogen Cyanide(Dosi tube)	HCN	1-200
13M	Carbon Disulphide	CS_2	20-4000
13	Carbon Disulphide	CS_2	0.63-100
13L	Carbon Disulphide	CS_2	0.1-8.1
14R	Hydrogen Chloride	HCl	50-5000
14M	Hydrogen Chloride	HCl	10-1000
14L	Hydrogen Chloride	HCl	0.2-76
14D	Hydrogen Chloride(Dosi tube)	HCl	1-100
15L	Nitric Acid	HNO_3	0.1-40
16	Phosgene	$COCl_2$	0.05-20
17	Hydrogen Fluoride	HF	0.25-100
17L	Hydrogen Fluoride	HF	0.09-72
17LL	Hydrogen Fluoride	HF	0.05-24
17TP	Hydrogen Fluoride	HF	0.05-9.0
17D	Hydrogen Fluoride(Dosi tube)	HF	1-100
18M	Ozone	O_3	4-400
18L	Ozone	O_3	0.025-6
19LA	Arsine	AsH_3	0.04-10
21	Carbonyl Sulphide	COS	5-200
21LA	Carbonyl Sulphide	COS	2-125
22	Diborane	B_2H_6	0.02-5.0
23M	Chlorine dioxide	ClO_2	0.1-10
23L	Chlorine dioxide	ClO_2	0.025-1.2
25	Polytec II	-	Qualitative
26	Polytec III	-	Qualitative
27	Polytec IV	-	Qualitative
28	Polytec V	-	Qualitative
30	Hydrogen	H_2	0.5-2%
31B	Oxygen	O_2	3-24%
32	Hydrogen Peroxide	H_2O_2	0.5-10
32D	Hydrogen Peroxide(Dosi tube)	H_2O_2	0.5-40
35	Sulphuric Acid	H_2SO_4	0.5-5mg/m^3
40	Mercury Vapour	Hg	0.05-13.2mg/m^3
45H	Hydrogen Sulphide＋Sulphur Dioxide	H_2S ＋ SO_2	0.02-8.0%
45S	Hydrogen sulphide,Sulphur dioxide(Separate quantification)	H_2S,SO_2	SO_2:0.25-20 H_2S:1.25-120
51H	Fluorochlorocarbons	-	250-6000
51	Fluorochlorocarbons	-	10-400
51L	Fluorochlorocarbons	-	1-54
52	Nitro compounds	-	0.5-30
53	Dimethyl Sulphide	$(CH_3)_2S$	0.15-10
60	Phenol	C_6H_5OH	0.12-183

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
61	o-Cresol	$C_6H(_4CH_3)OH$	0.35-67.5
70	Mercaptans	R·SH	0.5-120
70L	Mercaptans	R·SH	0.1-8
70LN	Mercaptans	R·SH	0.1-8
71H	Methyl Mercaptan	CH_3SH	20-2700
71	Methyl Mercaptan	CH_3SH	0.25-140
72	Ethyl Mercaptan	C_2H_5SH	0.5-120
72L	Ethyl Mercaptan	C_2H_5SH	0.2-75
72LN	Ethyl Mercaptan	C_2H_5SH	0.15-57.5
75	tert-Butyl Mercaptan	$(CH_3)_3CSH$	2.5-150mg/m^3
75LN	tert-Butyl Mercaptan	$(CH_3)_3CSH$	0.5-39mg/m^3
75L	tert-Butyl Mercaptan	$(CH_3)_3CSH$	0.5-30mg/m^3
75N	tert-Butyl Mercaptan	$(CH_3)_3CSH$	1.25-250mg/m^3
76H	Tetrahydrothiophene	C_4H_8S	10-200
76	Tetrahydrothiophene	C_4H_8S	1-10
76M	Tetrahydrothiophene	C_4H_8S	10-100mg/m^3
77	tert-Butyl Mercaptan and Dimethyl Sulphide	$(CH_3)_3$ and $(CH_3)_2S$	1-15mg/m^3
80	Acid Gases	-	1-80
81	Acetic Acid	CH_3CO_2H	1-100
81L	Acetic Acid	CH_3CO_2H	0.125-23
81D	Acetic Acid(Dosi tube)	CH_3CO_2H	0.5-100
91M	Formaldehyde	HCHO	8-6400
91	Formaldehyde	HCHO	2-100
91L	Formaldehyde	HCHO	0.1-40
91LL	Formaldehyde	HCHO	0.05-1
91P	Formaldehyde	HCHO	0.02-1.44
91PL	Formaldehyde	HCHO	0.01-0.80
91TP	Formaldehyde	HCHO	0.01-1.75
91D	Formaldehyde(Dosi tube)	HCHO	0.1-20
92	Acetaldehyde	CH_3CHO	5-750
92M	Acetaldehyde	CH_3CHO	2.5-100
92L	Acetaldehyde	CH_3CHO	1-20
93	Acrolein	CH_2:CHCHO	3.3-800
100A	LP-Gas	C_3・C_4	0.02-0.8%
100B	Propane	$CH_3CH_2CH_3$	0.1-2.0%
101	Gasoline	CnHm	0.015-1.2%
101L	Gasoline	CnHm	30-2000
102H	Hexane	$CH_3(CH_2)_4CH_3$	0.015-1.2%
102L	Hexane	$CH_3(CH_2)_4CH_3$	4-1200
102TP	Hexane	$CH_3(CH_2)_4CH_3$	2-80
103	Hydrocarbons (Lower class)	C_2-C_7	0.05-2.4%
104	Butane	C_4H_{10}	25-1400
105	Hydrocarbons (Higher class)	C_6-C_{10}	100-3000

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
106	Petroleum naphtha	-	0.5-28mg/L
107	Polytec I	-	Qualitative
108	Qualitative Analysis Tube for Fire Investigation	-	Qualitative
109A	Oil mist (Airtec tube)	-	0.3-1.5mg/m^3
109AD	Oil mist (Airtec tube)	-	0.1-5.0mg/m^3
111	Methanol	CH_3OH	0.002-4.5%
111L	Methanol	CH_3OH	20-1000
111LL	Methanol	CH_3OH	2-62
111TP	Methanol	CH_3OH	20-300
112	Ethanol	C_2H_5OH	0.01-7.5%
112L	Ethanol	C_2H_5OH	50-2000
112D	Ethanol(Dosi tube)	C_2H_5OH	100-25000
113	Isopropyl Alcohol	$CH_3CH(OH)CH_3$	0.02-5.0%
113L	Isopropyl Alcohol	$CH_3CH(OH)CH_3$	20-800
113LL	Isopropyl Alcohol	$CH_3CH(OH)CH_3$	20-460
113TP	Isopropyl Alcohol	$CH_3CH(OH)CH_3$	20-400
114	1-Butanol	$CH(_3CH_2)_3OH$	10-150
115	2-Butanol	$CH_3CH_2CH(OH)CH_3$	5-150
116	Isobutyl alcohol	$(CH_3)_2CHCH_2OH$	3.7-150
117	Isoamyl alcohol	$(CH_3)_2CHCH_2CH_2OH$	5-300
118	Cyclohexanol	$C_6H_{11}OH$	5-100
119	Methylcyclohexanol	$CH_3C_6H_{10}OH$	5-100
120	Aromatic Hydrocarbons	-	0.4-200
121S	Benzene	C_6H_6	2-312
121	Benzene	C_6H_6	2.5-120
121SL	Benzene	C_6H_6	1-100
121L	Benzene	C_6H_6	0.1-65
121SP	Benzene	C_6H_6	0.2-66
121P	Benzene	C_6H_6	250-3000µg/m^3
121TP	Benzene	C_6H_6	0.1-14.5
122	Toluene	$C_6H_5CH_3$	5-690
122L	Toluene	$C_6H_5CH_3$	1-100
122P	Toluene	$C_6H_5CH_3$	100-7000µg/m^3
122TP	Toluene	$C_6H_5CH_3$	2-80
122DL	Toluene(Dosi tube)	$C_6H_5CH_3$	2-500
123	Xylene	$C_6H_4(CH_3)_2$	5-625
123L	Xylene	$C_6H_4(CH_3)_2$	2-200
123TP	Xylene	$C_6H_4(CH_3)_2$	2-80
124	Styrene	$C_6H_5CH{:}CH_2$	10-1500
124L	Styrene	$C_6H_5CH{:}CH_2$	2-100
124S	Styrene	$C_6H_5CH{:}CH_2$	0.2-4.0
126	Chlorobenzene	C_6H_5Cl	2-500
126L	Chlorobenzene	C_6H_5Cl	0.5-43

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
127	o-Dichlorobenzene	$C_6H_4Cl_2$	2.5-300
127P	p-Dichlorobenzene	$C_6H_4Cl_2N$	100-3000μg/m^3
128	Stoddard solvent	-	50-8000mg/m^3
130L	Vinylidene chloride	CH_2:CCl_2	0.4-40.6
131	Vinyl Chloride	CH_2:CHCl	0.025-2%
131La	Vinyl Chloride	CH_2:CHCl	0.25-54
131LB	Vinyl Chloride	CH_2:CHCl	0.4-70
131L	Vinyl Chloride	CH_2:CHCl	0.1-6.9
131P	Vinyl Chloride	CH_2:CHCl	50-1500μg/m^3
131TP	Vinyl Chloride	CH_2:CHCl	0.2-9.6
132HH	Trichloroethylene	Cl_2C:CHCl	0.05-2.5%
132HA	Trichloroethylene	Cl_2C:CHCl	20-1300
132M	Trichloroethylene	Cl_2C:CHCl	2-270
132L	Trichloroethylene	Cl_2C:CHCl	0.8-90
132LL	Trichloroethylene	Cl_2C:CHCl	0.125-8.8
132P	Trichloroethylene	Cl_2C:CHCl	20-1200μg/m^3
132TP	Trichloroethylene	Cl_2C:CHCl	1-33
132D	Trichloroethylene(Dosi tube)	Cl_2C:CHCl	3-300
133HA	Tetrachloroethylene	Cl_2C:CCl_2	7-900
133M	Tetrachloroethylene	Cl_2C:CCl_2	2-220
133L	Tetrachloroethylene	Cl_2C:CCl_2	1-75
133LL	Tetrachloroethylene	Cl_2C:CCl_2	0.1-9
133P	Tetrachloroethylene	Cl_2C:CCl_2	20-720μg/m^3
133TP	Tetrachloroethylene	Cl_2C:CCl_2	2.5-84
133D	Tetrachloroethylene(Dosi tube)	Cl_2C:CCl_2	3-150
134	Carbon Tetrachloride	CCl_4	0.5-60
134L	Carbon Tetrachloride	CCl_4	0.25-11
135	1,1,1-Trichloroethane	CH_3CCl_3	100-2000
135L	1,1,1-Trichloroethane	CH_3CCl_3	6-900
136H	Methyl Bromide	CH_3Br	10-600
136L	Methyl Bromide	CH_3Br	2.5-200
136LA	Methyl Bromide	CH_3Br	1-36
136LL	Methyl Bromide	CH_3Br	0.1-3.0
137	Chloroform	$CHCl_3$	4-400
137LA	Chloroform	$CHCl_3$	0.5-30
137LL	Chloroform	$CHCl_3$	0.3-4.5
138	Methylene Chloride	CH_2Cl_2	20-500
138L	Methylene Chloride	CH_2Cl_2	4-150
139	1,2-Dichloroethylene	ClCH:CHCl	5-250
140	Aliphatic hydrocarbons	-	6-3000
141	Ethyl Acetate	$CH_3CO_2C_2H_5$	0.1-1.5%
141L	Ethyl Acetate	$CH_3CO_2C_2H_5$	20-800
142	Butyl Acetate	$CH_3CO(_2CH_2)_3CH_3$	0.05-0.8%
142L	Butyl Acetate	$CH_3CO(_2CH_2)_3CH_3$	10-300

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143	Vinyl Acetate	$CH_3CO_2CH{:}CH_2$	5-250
144	Isobutyl acetate	$CH_3CO_2CH_2CH(CH_3)_2$	10-300
145	Propyl acetate	$CH_3CO_2C_3H_7$	20-500
146	Isopropyl acetate	$CH_3CO_2CH(CH_3)_2$	10-500
147	Amyl acetate	$CH_3CO_2C_5H_{11}$	10-200
148	Isoamyl acetate	$CH_3CO(_2CH_2)_2CH(CH_3)_2$	10-200
149	Methyl Methacrylate	$CH_2{:}C(CH_3)CO_2CH_3$	10-500
151	Acetone	CH_3COCH_3	0.05-2.0%
151L	Acetone	CH_3COCH_3	50-12000
151TP	Acetone	CH_3COCH_3	25-800
151D	Acetone(Dosi tube)	CH_3COCH_3	5-1500
152	Methyl Ethyl Ketone	$CH_3COC_2H_5$	0.02-0.6%
152L	Methyl Ethyl Ketone	$CH_3COC_2H_5$	10-384
152TP	Methyl Ethyl Ketone	$CH_3COC_2H_5$	20-300
152D	Methyl Ethyl Ketone(Dosi tube)	$CH_3COC_2H_5$	2-600
153	Methyl isobutyl ketone	$(CH_3)_2CHCH_2COCH_3$	0.05-0.6%
153L	Methyl isobutyl ketone	$(CH_3)_2CHCH_2COCH_3$	2.5-130
154	Cyclohexanone	$C_6H_{10}O$	2-72
155	Methylcyclohexanone	$C_7H_{12}O$	2-100
159	Tetrahydrofuran	C_4H_8O	20-800
159L	Tetrahydrofuran	C_4H_8O	5-232
161	Ethyl ether	$(C_2H_5)_2O$	0.04-1.0%
161L	Ethyl ether	$(C_2H_5)_2O$	10-1200
163	Ethylene Oxide	C_2H_4O	0.05-3.0%
163L	Ethylene Oxide	C_2H_4O	0.4-550
163LL	Ethylene Oxide	C_2H_4O	0.1-10
163TPM	Ethylene Oxide	C_2H_4O	1-50
163TP	Ethylene Oxide	C_2H_4O	0.1-5
165L	Ethylene Glycol	$HOCH_2CH_2OH$	10-100mg/m^3
166	Methyl tert-butyl ether	$CH_3OC(CH_3)_3$	10-660
171	Acetylene	$HC{\equiv}CH$	0.05-4.0%
172	Ethylene	$CH_2{:}CH_2$	25-1680
172L	Ethylene	$CH_2{:}CH_2$	0.2-100
174	1,3-Butadiene	$CH_2{:}CHCH{:}CH_2$	50-800
174L	1,3-Butadiene	$CH_2{:}CHCH{:}CH_2$	2.5-100
174LL	1,3-Butadiene	$CH_2{:}CHCH{:}CH_2$	0.5-5
174D	1,3-Butadiene(Dosi tube)	$CH_2{:}CHCH{:}CH_2$	1.3-200
180	Amines	CH_3NH_2 Calibration	5-100
180L	Amines	CH_3NH_2 Calibration	0.5-10
181	Aniline	$C_6H_5NH_2$	1.25-60
182	Pyridine	C_5H_5N	0.2-35
183	N,N-Dimethylformamide	$HCON(CH_3)_2$	0.8-90
183TP	N,N-Dimethylformamide	$HCON(CH_3)_2$	0.5-30
184	N,N-Dimethyl acetamide	$CH_3CON(CH_3)_2$	1.5-240

GASTEC tube No. & Name		Chemical Formula	Measuring Range(ppm)
185	Hydrazine	N_2H_4	0.04-2.0
191	Acrylonitrile	CH_2:CHCN	2-360
191L	Acrylonitrile	CH_2:CHCN	0.1-18
191TP	Acrylonitrile	CH_2:CHCN	0.2-12.6
192	Methacrylonitrile	CH_2:C(CH_3)CN	0.2-32
193	2-Pentenenitrile	CH_3CH_2CH:CHCN	0.5-15.0
211H	Sulphide ion	S^{2-}	10-1000
211M	Sulphide ion	S^{2-}	2-300
211	Sulphide ion	S^{2-}	1-100
211LL	Sulphide ion	S^{2-}	0.5-20
218	Ozone	O_3	1-10mg/L
221L	Chloride ion	Cl^-	25-1000mg/L
221LL	Chloride ion	Cl^-	10-200mg/L
222	Free residual chlorine	ClO^-	0.1-10mg/L
230H	Methyl iodide	CH_3I	100-34800
230	Methyl iodide	CH_3I	0.5-108
231	Sulphuryl fluoride	SO_2F_2	1-20
232	1,2-Dichloroethane	$ClCH_2CH_2Cl$	1-39
233	Chloropicrin	CCl_3NO_2	0.045-22
234L	Methyl isothiocyanate	CH_3NCS	0.07-25
271	Mercury	Hg^{2+}	1-20mg/L
273	Chromium (VI)	Cr^{6+}	0.5-50mg/L
281	Iron ion	Fe^{2+}	5-50mg/L
284	Copper	Cu^{+}+Cu^{2+}	1-20mg/L
285	Zinc	Zn^{2+}	3-20mg/L
291	Nickel	Ni^{2+}	5-50mg/L