

ESS GeneSys & EcoSys MS systems – Detection limits

General Gas types with Capillary inlet

Argon	<1ppm
CO	<1ppm
CO2	<1ppm
Helium	<100ppb
Hydrogen	<1ppm
Krypton	<2ppb
Methane	<1ppm
Nitrogen	<1ppm
Oxygen	<1ppm
Xenon	<2ppb

Semiconductor Gases:

Gas Name	Capillary Inlet
AR	<1ppm
AsH3	<1ppm
C2F6	<1ppm
C3F8	<1ppm
CF4	<1ppm
CHF3	<1ppm
CO2	<1ppm
CO2	<1ppm
F2	<1ppm
H2O	<1ppm
HF	<1ppm
NF3	<1ppm
Nitrogen	<1ppm
PH3	<1ppm
SF6	<1ppm
SIF4	<1ppm
SIH4	<1ppm
WF3	<1ppm
WF6	<1ppm

Process Gases:

Gas Name	Capillary Inlet	Membrane Inlet
1,3,Butadiene	< 1ppm	< 50ppb
Acrylic Acid	< 1ppm	< 50ppb
Benzene	< 1ppm	< 1ppb
Butene	< 1ppm	< 1ppm
Chlorine	< 1ppm	< 1ppm
CO	< 1ppm	< 1ppm
CO ₂	< 1ppm	< 1ppm
COS	< 5ppm	< 0.01ppb
Cyclohexane	< 5ppm	< 1ppb
Ethylene	< 5ppm	< 5ppm
Ethylene Oxide	< 5ppm	< 5ppm
H ₂ SO ₄	< 5ppm	< 5ppm
HCL	< 5ppm	< 5ppm
Hexane	< 1ppm	< 1ppb
HF	< 10ppm	< 10ppm
Hydrogen	< 1ppm	< 1ppm
Methane	< 1ppm	< 1ppm
NH ₃	< 50ppm	< 50ppm
Propene	< 1ppm	< 1ppm
SO ₂	< 1ppm	< 1ppm
Styrene	< 1ppm	< 1ppb
Toluene	< 1ppm	< 1ppb
Vinyl Acetate	< 1ppm	< 1ppb
Xylene	< 1ppm	< 1ppb

Atmospheric Monitoring Gases:

Gas Name	Membrane Inlet	TD/MS Link
1,3, Butadiene	< 50ppb	< 0.01ppb
Acetone	< 50ppb	< 0.01ppb
Acrylic Acid	< 50ppb	< 0.01ppb
Benzene	< 1ppb	< 0.01ppb
Chlorine	< 1ppm	N/A
DMS	< 50ppb	< 0.01ppb
Ethylene Oxide	< 50ppb	< 0.01ppb
HF	< 10ppm	N/A
Isoprene	< 1ppb	< 0.01ppb
MEK	< 50ppb	< 0.01ppb
Methane	< 50ppb	< 0.01ppb
MIBK	< 50ppb	< 0.01ppb
Nox	< 50ppb	< 0.01ppb
Sox	< 50ppb	< 0.01ppb
Styrene	< 5ppb	< 0.01ppb
Toluene	< 1ppb	< 0.01ppb
Trike	< 1ppb	< 0.01ppb
Vinyl Acetate	< 1ppb	< 0.01ppb
Xylene	< 1ppb	< 0.01ppb

Brewing Gas Analysis

Gas Name	TD/MS Only
Acetone	<0.01ppb
Benzene	<0.01ppb
Carbonyl Sulphide	<0.01ppb
Cyclohexane	<0.01ppb
DMS	<0.01ppb
Freons	<0.01ppb
MEK	<0.01ppb
Methanol	<0.01ppb
MIBK	<0.01ppb
Toluene	<0.01ppb
Xylene	<0.01ppb

Aerospace & Defense

Gas Name	Capillary Inlet
Chlorine	<1ppm
CO	<1ppm
CO2	<1ppm
HF	<1ppm
Krypton	<2ppb
Methylene Chloride	<1ppm
Nox	<1ppm
Sox	<1ppm
Xenon	<2ppb

Leak Detection Gas Types:

Gas Name	Capillary Inlet
Freon	<0.01g/Yr
Helium	<0.01g/Yr
Krypton	<0.01g/Yr
Xenon	<0.01g/Yr