RED BALL TECHNICAL GAS SERVICES

HIGH PURITY ANALYTICAL GASES

SPECIFICATIONS

Red Ball Technical Gas Services offers a full line of high purity gases for different analytical applications. Our typical product grades includes:

Zero Grade, Ultra High Purity and Insturment Purity Grade. We also offer Super Critical CO2, Zero Ambient Air and Zero Ambient Nitrogen. Our Zero Ambient Grades meet the EPA's purity specifications for CEMS zero material.

FEATURES AND BENEFITS

- All Red Ball cylinders are barcoded for acurate cylinder tacking, and maintaining cylinder history.
- Red Ball cylinders are kept in the same product service to prevent cross contamination
- Red Ball cylinders are pre-treated prior to the initial product fill, and are fully vented and purged prior to future product fills
- Our products are analyzed to confirm quality
- Specifications are met prior to shipping

CARBON DIOXIDE PURITY LEVELS

GAS	PURITY	CYLINDER	MOISTURE	HYDROCARBONS	OXYGEN	EXTRACTABLE HYDROCARBONS	EXTRACTABLE HALOCARBONS
Laser Star 5.0 Grade CO2	99.9993%	60lb	< 3 ppm	< 1 ppm	< 5 ppm		
Super Critical CO2 - SFC	99.998%	50lb	< 1 ppm	< 2 ppm	< 5 ppm	< 50 ppb	

ARGON PURITY LEVELS

GAS	PURITY	CYLINDER (LB)	MOISTURE	HYDROCARBONS	OXYGEN	CARBON MONOXIDE	CARBON DIOXIDE	NITROGEN
Inst. Purity Grade Argon	99.999%	200; 300	< 0.5 ppm	< 0.3 ppm	< 5 ppm	< 1 ppm	< 1 ppm	< 5 ppm
UHP Argon	99.999%	200; 300	< 1 ppm	< 0.5 ppm	< 1 ppm			
Zero Grade Argon	99.998%	152; 200; 300	N/A	< 0.5 ppm	N/A			

HELIUM PURITY LEVELS

GAS	PURITY	CYLINDER (LB)	MOISTURE	HYDROCARBONS	OXYGEN	CARBON MONOXIDE	CARBON DIOXIDE	NITROGEN
Inst. Purity Grade Helium	99.9995%	200; 300	< 1 ppm	< 0.5 ppm	< 1 ppm	< 1 ppm	< 1 ppm	< 3 ppm
UHP Helium	99.999%	152; 200; 300	< 1 ppm	< 0.5 ppm	< 1.5 ppm			
Zero Grade Helium	99.997%	152; 200; 300	N/A	< 0.5 ppm	N/A			
Laser Grade Helium	99.985%	200; 300	< 2 ppm	< 1 ppm	N/A			

HYDROGEN PURITY LEVELS

GAS	PURITY	CYLINDER (LB)	MOISTURE	HYDROCARBONS	OXYGEN	CARBON MONOXIDE	CARBON DIOXIDE	NITROGEN
Inst. Purity Grade Hydrogen	99.9995%	200; 300	< 1 ppm	< 0.5 ppm	< 1 ppm	< 1 ppm	< 1 ppm	< 3 ppm
UHP Hydrogen	99.999%	152; 200; 300	< 3 ppm	< 0.5 ppm	< 1 ppm			
Zero Grade Hydrogen	99.995%	152; 200; 300	N/A	< 0.5 ppm	N/A			

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AIR PURITY LEVELS

GAS	PURITY	CYLINDER (LB)	MOISTURE	HYDROCARBONS	CARBON MONOXIDE
Inst. Purity Grade Air		200; 300	< 2 ppm	< 0.1 ppm	< 1 ppm
Zero Grade Air		152; 200; 300	N/A	< 0.5 ppm	
Zero Ambient Air - CEMS		152; 200; 300	N/A	< 0.1 ppm	< 0.5 ppm

GAS (CONT.)	OXYGEN	CARBON DIOXIDE	SULFUR DIOXIDE	TOTAL OXIDES OF NITROGEN
Inst. Purity Grade Air	20% - 22%	< 1 ppm		
Zero Grade Air	20% - 22%			
Zero Ambient Air - CEMS	20% - 22%	< 0.5 ppm	< 0.1 ppm	< 0.1 ppm

NITROGEN PURITY LEVELS

GAS	PURITY	CYLINDER (LB)	MOISTURE	HYDROCARBONS	CARBON MONOXIDE
Inst. Purity Grade Nitrogen	99.9993%	200; 300	< 1 ppm	< 0.5 ppm	< 1 ppm
UHP Nitrogen	99.999%	152; 200; 300	< 1 ppm	< 0.5 ppm	< 1.5 ppm
Zero Grade Nitrogen	99.997%	200; 300	N/A	< 0.5 ppm	N/A
Laser Grade Nitrogen	99.985%	200; 300	< 2 ppm	< 1 ppm	N/A
Zero Ambient Nitrogen - CEMS	99.9993%	152; 200	N/A	< 0.1 ppm	< 1 ppm

GAS (CONT.)	OXYGEN	CARBON DIOXIDE	SULFUR DIOXIDE	TOTAL OXIDES OF NITROGEN
Inst. Purity Grade Nitrogen	< 1 ppm	< 1 ppm		
UHP Nitrogen				
Zero Grade Nitrogen				
Laser Grade Nitrogen				
Zero Ambient Nitrogen - CEMS	< 0.5 ppm	< 0.5 ppm	< 0.1 ppm	< 0.1 ppm

OXYGEN PURITY LEVELS

GAS	PURITY	CYLINDER (LB)	MOISTURE	HYDROCARBONS	CARBON MONOXIDE
Research Oxygen	99.999%	200; 300	< 1 ppm	< 0.5 ppm	< 1 ppm
UHP Oxygen	99.993%	200; 300	< 3 ppm	< 0.5 ppm	< 20 ppm

GAS (CONT.)	CARBON DIOXIDE	ARGON	NITROGEN
Research Oxygen	< 1 ppm	< 5 ppm	< 5 ppm
UHP Oxygen		< 40 ppm	< 10 ppm