

ASSE 6005 / 6010 /6020

2021 NFPA 99 COURSES

Course Date: Nov. 28 - Dec. 1, 2023
Course Location: Virtual
Registration Deadline: Nov. 1, 2023

ASSE 6005 MEDICAL GAS GENERALIST

Description: A 24-hour training course for medical gas system engineers, designers, and personnel in need of general medical gas system information.

Prerequisite: None

Cost: \$750.00 (MGA credentialing)

*This course provides general knowledge of medical gas and vacuum systems for the purpose of providing continuing education. Eligible individuals include any person with an interest in medical gas and vacuum systems and equipment.

ASSE 6010 MEDICAL GAS INSTALLER

Description: A 32-hour course for medical gas system installers, which includes both a written and a practical brazing test. Brazing credentials are re-issued on a six-month time interval to ensure continuity of brazing expertise.

Prerequisite: ASSE 6010 Para. 10-3.2.1 "The candidates for the ASSE 6010 certification shall have a minimum of four (4) years of documented practical experience in the field of installation of plumbing or mechanical piping systems.

Cost: \$950.00 (MGA credentialing)

*This course is approved in the following states: Alabama, Alaska, Arkansas, Georgia, Colorado, Florida, Indiana, Iowa, Kansas, Louisiana, Michigan, Mississippi, New York, North Carolina, Oklahoma, South Carolina, Tennessee, Virginia, Wisconsin.
If you work in another state, please check with the governing authority in that state for course approval.

ASSE 6020 MEDICAL GAS INSPECTOR

Description: A 24-hour training course for medical gas system inspectors who inspect and review medical gas system installations for both governmental and private agencies.

Prerequisite: ASSE 6010 Para. 20-4.1.1 "The candidates for ASSE 6020 certification shall be employed by a governmental unit as a plumbing and/or mechanical inspector, or as an administrator of such inspectors, or be a person regularly involved in the design, inspection or verification of medical gas systems, or be a 6010 installer. Candidates shall have a minimum of two (2) years of documented practical experience or any combination of the above.

Cost: \$850.00 (MGA credentialing)

*This course applies to any individual who inspects the installation of medical gas and vacuum distribution systems. Medical gas systems and equipment covered in this standard include health care facilities within the scope of NFPA 99-2021, Health Care Facilities Code. Medical gas systems include vacuum systems.

COURSE SYNOPSIS

Within the three days of classroom time, the NFPA 99 document is covered in (9) segments with each segment reviewed by a corresponding worksheet of multiple-choice questions. A lecture session of each segment will be accompanied by a PowerPoint presentation, after which each student will complete the appropriate worksheet.

Each student will work on a (65) question pre-exam progressively over the three-day period as time permits in class, and/or in the evenings after class. Homework will be issued on days one and two, which will cover the material taught during the day by placing the student in some decision-making scenarios with written questions. Day four will consist of a 100-question written or computer exam. Time will be allocated on the afternoon of day three and/or four for the brazing instruction and test.**

Credentials will be issued by MGA or NITC, after successful completion.

Each student will receive a three-ring instruction binder, and a copy of the 2021 edition of NFPA 99. ASSE 6020 students will receive a copy of the ASSE 6000 Standard and the NFPA 55 book as well. ASSE 6005 students will receive a copy of the NFPA 99 as well as the NFPA 99.

**The course for obtaining the ASSE 6005/6020 credential is the same except for brazing instruction and test. EMGS courses are taught by a credentialed ASSE 6050 instructor with over 20 years of training experience in the medical gas industry.

Please note: If you are attending a virtual class, we do require each student to have a computer (desktop or laptop), webcam and high speed internet connection.



**Environmental &
Medical Gas Services**

103 Hunter Industrial Dr.
Villa Rica, GA 30180

FAX: 770-459-1812
PHONE: 770-459-5920

ASSE 6005/6010/6020 MEDICAL GAS CERTIFICATION

COURSE OUTLINE

DAY ONE (8 hours)

- a. Chapter 3 definitions
- b. Chapter 4 fundamentals
- c. Chapter 5 sources (Manifolds, Bulk Cryogenic Systems, and Medical Air systems)
- Homework (2 hours)

DAY THREE (8 hours)

- a. Chapter 5 Labeling and Testing
- b. chapter 5 Maintenance, Manufactured Assemblies, and Category 2 Systems
- c. Chapter 15 Dental Gas and Vacuum Systems
- d. Brazing Instruction and Q&A (6010 students only)
- Study Guide (2 hours)

DAY TWO (8 hours)

- a. Chapter 5 Sources (Medical Vacuum and WAGD Systems and Instrument Air Systems)
- b. Chapter 5 Valves
- c. Chapter 5 Outlets/Inlets
- d. Chapter 5 Alarms
- e. Chapter 5 Distribution Piping Homework (2 hours)

DAY FOUR (2-4 hours)

- a. Oral Question and Answer Session (if required)
- b. Computer Exam (requires webcam for virtual classes)

EQUIPMENT REQUIRED FOR ASSE 6010 COURSES ONLY

We recommend that each student have:

- (10) 1-1/2" Mueller W 01063 copper coupling fittings (standard type "L" plumbing fittings are acceptable and the fittings do not need to be cleaned for oxygen service). We highly recommend using these ring type couplings rather than dimple type.
- Minimum 10' of copper tubing type "L" size 1-1/2" (standard copper, does not need to be cleaned and capped). The 10' of 1-1/2" copper tubing can be cut into (10) 7" lengths, and (10) 5" lengths for placement in our brazing jig. Please cut pipe with a tubing cutter. This will expedite your practice and brazing procedures. Fittings and pipe need to have no oxidation present.
- (1) Pound or (28) sticks of BCUP 5 silver brazing rods with a minimum of 15% silver content (substitute 2-15% is not acceptable).

ASSE 6005, 6010 and 6020 training courses are taught by Environmental & Medical Gas Services.

Credentials are issued from a "Recognized third party certification agency" either NITC (National Inspection Testing Certification) or MGA, LLC (Medical Gas Accreditation) for compliance with Section 1-1.3, 5-4.1.1, 10-3.2.3, and 20-4.1.2 of the 2021 edition of ASSE/IAPMO/ANSI Series 6000 Standard. For MGA credentialing, please complete the appropriate ASSE 6000 application. For NITC credentialing, please complete the NITC application. We cannot offer NITC testing with our virtual classes.

Please note: Virtual Testing is MGA credentialing only.

In the state of Georgia, a plumbing license is required to install medical gas. You can gain your medical gas license before your plumbing license or vice versa but you must hold both. Other states may or may not require this. If you are unsure, please check with your state authority for state requirements.

Please note: If you are attending a virtual class, you can either travel to our office to braze or braze at your own facility as long as you have two witnesses, one of whom should be an officer of your company.



**Environmental &
Medical Gas Services**

103 Hunter Industrial Dr.
Villa Rica, GA 30180

FAX: 770-459-1812
PHONE: 770-459-5920

ASSE 6005

Exam Application

COURSE DATE: *Nov. 28 - Dec 1, 2023*

TIME: *8:30 AM Eastern Time*

LOCATION: *Virtual*

REGISTRATION DEADLINE: *Nov. 1, 2023*

Return application to jdarden@emgsi.com

COMPANY

COMPANY NAME: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____

APPLICANT

NAME: _____

PHONE: _____

EMAIL: _____

CONTACT PERSON: _____ CONTACT EMAIL: _____

Contact person will receive future renewal information. If this is same as applicant, leave blank.

Paragraph 5-1.1 of the 2021 Edition of the ASSE 6005 Standard states: "This standard provides general knowledge of medical gas and vacuum systems for the purpose of providing continuing education. Eligible individuals include any person with an interest in medical gas and vacuum systems and equipment."

☐ I have read the Information Sheet for MGA Exams and agree to abide by the rules listed.

☐ I have or will have completed the 24-hour course required to fulfill this certification.

Please note: In order to keep this license valid, a short course and test must be completed every 3-years when a new NFPA 99 edition is released. This course and test will cover changes made from the previous edition. It is the license holders responsibility to check their expiration date and schedule testing, although MGA will send an email to currently licensed individuals at least once when a new NFPA 99 edition is released.

SIGNATURE OF APPLICANT: _____ DATE: _____

Medical Gas Licensing
FAX: 678-498-2749
PHONE: 770-783-3630

WEBSITE: www.medgaslicense.com
MAIL: PO Box 820
Villa Rica, GA 30180



ASSE 6010

Exam Application

COURSE DATE: Nov. 28 - Dec. 1, 2023

TIME: 8:30 AM Eastern Time

LOCATION: Virtual

REGISTRATION DEADLINE: Nov. 1, 2023

Return application to jdarden@emgsi.com

COMPANY

COMPANY NAME: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____

APPLICANT

NAME: _____

PHONE: _____

EMAIL: _____

CONTACT PERSON: _____ CONTACT EMAIL: _____

Contact person will receive future renewal information. If this is same as applicant, leave blank.

Paragraph 10-3.2.1 of the 2021 Edition of the ASSE 6010 Standard states "The candidates for the ASSE 6010 certification shall have a minimum of four (4) years of documented practical experience in the field of installation of plumbing or mechanical piping systems."

Please list the documented experience for the applicant below:

Employer, City & Phone Number

Dates

- ☐ I have read the Information Sheet for MGA Exams and agree to abide by the rules listed.
- ☐ I have or will have completed the 32-hour course required to fulfill this certification.
- ☐ I understand that in some states (such as Georgia), a plumbing license may be required in order to install medical gas.

Please note: In order to keep this license valid, a short course and test must be completed every 3-years when a new NFPA 99 edition is released. This course and test will cover changes made from the previous edition. It is the license holders responsibility to check their expiration date and schedule testing, although MGA will send an email to currently licensed individuals at least once when a new NFPA 99 edition is released. Brazing Continuity must also be maintained.

SIGNATURE OF APPLICANT: _____ DATE: _____

Medical Gas Licensing
FAX: 678-498-2749
PHONE: 770-783-3630

WEBSITE: www.medgaslicense.com
MAIL: PO Box 820
Villa Rica, GA 30180



ASSE 6020

Exam Application

COURSE DATE: Nov. 28 - Dec. 1, 2023

TIME: 8:30 AM Eastern Time

LOCATION: Virtual

REGISTRATION DEADLINE: Nov. 1, 2023

Return application to jdarden@emgsi.com

COMPANY

COMPANY NAME: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____

APPLICANT

NAME: _____

PHONE: _____

EMAIL: _____

CONTACT PERSON: _____ CONTACT EMAIL: _____

Contact person will receive future renewal information. If this is same as applicant, leave blank.

Paragraph 20-4.1.1 of the 2021 Edition of the ASSE 6020 Standard states "The candidates for the ASSE 6020 certification shall be employed by a governmental unit as a plumbing and/or mechanical inspector, or as an administrator of such inspectors, or be a person regularly involved in the design, inspection or verification of medical gas systems, or be a 6010 installer. Candidates shall have a minimum of two (2) years of documented practical experience or any combination of the above."

Please list the documented experience for the applicant below:

Employer, City & Phone Number

Dates

☐ I have read the Information Sheet for MGA Exams and agree to abide by the rules listed.

☐ I have or will have completed the 24-hour course required to fulfill this certification.

Please note: In order to keep this license valid, a short course and test must be completed every 3-years when a new NFPA 99 edition is released. This course and test will cover changes made from the previous edition. It is the license holders responsibility to check their expiration date and schedule testing, although MGA will send an email to currently licensed individuals at least once when a new NFPA 99 edition is released.

SIGNATURE OF APPLICANT: _____ DATE: _____

Medical Gas Licensing

FAX: 678-498-2749

PHONE: 770-783-3630

WEBSITE:

MAIL:

www.medgaslicense.com

PO Box 820

Villa Rica, GA 30180



MEDICAL GAS
ACCREDITATION



Environmental & Medical Gas Services

103 Hunter Industrial Dr.
Villa Rica, GA 30180

Ph. (770) 459-5920
Fax (770) 459-1812

CREDIT CARD AUTHORIZATION FORM

MasterCard:

Visa:

Discover:

American Express:

Card Number:

Expiration Date:

Name as it appears on credit card:

3-or 4-digit security code:

Billing zip code:

Total amount authorized to charge:

Email address for receipt:

Cardholder signature:

ASSE 6005 - \$750

ASSE 6010 - \$950

ASSE 6020 - \$850

ASSE 6040 - \$950

All pricing includes class materials, NFPA 99 book, final test
and supplemental books or standards depending upon certification.

Does not include braze materials for ASSE 6010.



PO Box 820, Villa Rica, Georgia 30180

MEDICAL GAS

ACCREDITATION

MGA Exam and Licensing Information

ASSE 6000 Passing Exam Grades:

ASSE 6005 – 70%
ASSE 6010 – 70%
ASSE 6020 – 70%
ASSE 6030 – 85%
ASSE 6035 – 85%
ASSE 6040 – 70%
ASSE 6050 – 85%
ASSE 6060 – 70%

- To qualify for the **ASSE 6005** exam, the candidate must meet the requirements of the **ASSE 6005** which are as follows:
 - Have a general interest in medical gas and vacuum systems and equipment.
 - Complete a 24-hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.

- To qualify for the **ASSE 6010** exam, the candidate must meet the requirements of the **ASSE 6010** which are as follows:
 - ASSE 6010 - 2021 Para. 10-3.2.1 – “The candidates for the ASSE 6010 certification shall have a minimum of four (4) years of documented practical experience in the field of installation of plumbing or mechanical piping systems.”
 - Complete a 32- hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.
 - Successfully complete a practical brazing exam.



MEDICAL GAS

ACCREDITATION

- In addition, most states require that medical gas installers hold a journeyman or master plumbing license. If you are in the process of gaining your plumbing license, the ASSE 6010 certification can typically be added after you've gained your plumbing license even if this course is completed first.
 - NOTE: The initial MGA brazing procedure specification will qualify brazers on ¼" to 3" tubing. The initial brazing procedure is required for all installers. If qualification for larger pipe sizes is required, MGA also has a brazing procedure specification for qualifying brazers on ¾" to 6" tubing at an additional cost.
- To qualify for the **ASSE 6020** exam, the candidate must meet the requirements of the **ASSE 6020** which are as follows:
 - ASSE 6020 – 2021 Para. 20-4.1.1 – “The candidates for ASSE 6020 certification shall be employed by a governmental unit as a plumbing and/or mechanical inspector, or as an administrator of such inspectors, or be a person regularly involved in the design, inspection or verification of medical gas systems, or be a 6010 installer. Candidates shall have a minimum of two (2) years of documented practical experience or any combination of the above.”
 - Complete a 24-hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.
- To qualify for the **ASSE 6030** exam, the candidate must meet the requirements of the **ASSE 6030** which are as follows:
 - ASSE 6030 – 2021 Para. 30-3.2.1 – “The candidates for ASSE 6030 certification shall have a minimum of two (2) years of documented practical experience in the verification of medical gas systems.”
 - Complete a 32-hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.
 - Successfully complete a practical exam.



PO Box 820, Villa Rica, Georgia 30180

MEDICAL GAS

ACCREDITATION

- To qualify for the **ASSE 6035** exam, the candidate must meet the requirements of the **ASSE 6035** which are as follows:
 - ASSE 6035 – 2021 Para. 35-3.2.1 – “The candidates for ASSE 6035 certification shall have a minimum of two (2) years of documented practical experience in the verification and/or inspection of bulk medical gas/cryogenic fluid central supply systems.”
 - Complete a 32-hour course taught by an ASSE 6050 certified instructor OR hold an ASSE 6030 medical gas verifier’s credential and complete an additional minimum 16-hour training course.
 - Successfully complete a written or computer exam.
 - Successfully complete a practical exam.

- To qualify for the **ASSE 6040** exam, the candidate must meet the requirements of the **ASSE 6040** which are as follows:
 - ASSE 6040 – 2021 Para. 40-3.2.1 – “The candidates for ASSE 6040 certification shall be employed or contracted by a health care facility or be actively engaged in working with medical gas systems and shall have one (1) year minimum experience in the maintenance of the medical gas and vacuum systems.”
 - Complete a 24-hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.

- To qualify for the **ASSE 6050** exam, the candidate must meet the requirements of the **ASSE 6050** which are as follows:
 - ASSE 6050 – 2021 Para. 50-3.2.1 – “The candidates for ASSE 6050 certification shall have a minimum of ten (10) years of documented experience in the installation of plumbing or mechanical piping systems, including a minimum of two (2) years of documented experience in the installation of medical gas and vacuum systems. Instructors shall have a minimum of two (2) years of



PO Box 820, Villa Rica, Georgia 30180

MEDICAL GAS

ACCREDITATION

documented practical teaching experience. Instructors shall possess a current medical gas systems installer certification in compliance with ASSE Standard 6010.”

- Complete a 40-hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.
-
- To qualify for the **ASSE 6060** exam, the candidate must meet the requirements of the **ASSE 6060** which are as follows:
 - ASSE 6060 – 2021 Para. 60-3.2.1 – “The candidates for ASSE 6060 certification shall have two (2) years of documented practical experience in the mechanical and plumbing systems industry and require practical knowledge of the design of medical gas and vacuum systems.”
 - Complete a 32-hour course taught by an ASSE 6050 certified instructor.
 - Successfully complete a written or computer exam.

Failed Exams:

If you do not pass your exam on the first attempt, you may retest twice more with no additional exam fees. MGA will not give information on specific missed questions but will send you a list of NFPA 99 categories and the number of questions missed within each category.

Notes: All MGA certification expirations will occur on January 31st or July 31st.



PO Box 820, Villa Rica, Georgia 30180

MEDICAL GAS

ACCREDITATION

ASSE 6000 Exam Materials Allowed:

6005

- 2021 NFPA 99
- 2020 NFPA 55
- 2021 ASSE 6000

6010

- 2021 NFPA 99
- 2021 ASSE 6000

6020

- 2021 NFPA 99
- 2020 NFPA 55
- 2021 ASSE 6000

6030

- 2021 NFPA 99
- 2020 NFPA 55
- 2021 ASSE 6000
- 2018 CGA M-1

6035

- 2021 NFPA 99
- 2020 NFPA 55
- 2021 ASSE 6000
- 2018 CGA M-1
- 2020 CGA P-18
- 2018 CGA E-10
- 2018 CGA G-4.1
- 21 CFR part 210, 211 and 280

6040

- 2021 NFPA 99
- 2021 ASSE 6000

6050

- 2021 NFPA 99
- 2020 NFPA 55
- 2018 CGA M-1

6060

- 2021 NFPA 99
- 2020 NFPA 55
- 2021 ASSE 6000
- 2019 ASPE Design Guide, Vol 3
- 2018 FGI Guidelines for Hospitals

*For recertification exams only, supplemental training literature is also allowed.



PO Box 820, Villa Rica, Georgia 30180

MEDICAL GAS

ACCREDITATION

Appeals Process:

Appeals to any certification rule or procedure must be made in writing and sent via US mail, email or fax. A written response from MGA will be returned within 30 days.

Inappropriate Representation:

If any MGA license holder misrepresents his license in any way, to include falsifying the scope of his certification or ability, his license can be revoked.

Recertification:

ASSE 6000 requires a minimum 4-hour training course and short exam to subsequent editions of NFPA 99. This training must be conducted by an ASSE 6050 instructor.

MGA offers recertification exams for all MGA credentialed personnel to meet this requirement after proof of a 4-hour training course.

If an MGA certified license holder neglects to take the required course and test on two subsequent NFPA 99 editions, his license may be revoked, and a new initial certification course may be required.

Braze Renewal:

Per NFPA 99, para. 5.1.10.11.11.7 "Performance qualifications of brazers shall remain in effect indefinitely, unless the brazer does not braze with the qualified procedure for a period exceeding 6 months or there is a specific reason to question the ability of the brazer."

All ASSE 6010 license holders must have a current ASSE 6010 certification and braze certification for the license to be valid.

MGA sends emails each December and July with braze renewal affidavits and payment forms, due back by January 31st and July 31st, respectively. If the installers 6010 and braze certifications are current, they will receive an updated license. There is no charge for the first braze renewal since it will fall within the first 6 months since initial certification.



PO Box 820, Villa Rica, Georgia 30180

MEDICAL GAS

ACCREDITATION

MGA License Transfers:

MGA will accept license transfers from other major medical gas credentialing agencies on a case-by-case basis. To apply for a transfer, please send the appropriate transfer form with a copy of your most current license and a headshot photo.

If your license is not current, you will be required to renew any lapsed certifications through MGA before a new license is issued.

For all ASSE 6010 license transfers: If your initial braze qualification procedure was performed on 1 ½" tubing, you will be qualified for ¼" – 3" tubing under the initial MGA brazing procedure specification. If you also performed a test on 3" tubing, you will be qualified under the MGA larger pipe size brazing procedure specification for ¾" – 6" tubing.

FOR ASSE 6010 Students

Instructions for Brazing Coupons

- Please cut your 1-1/2" copper pipe into 5" and 7" pieces
- If possible, use roll stop couplings
- When you start to braise, be sure you have adequate nitrogen flow through the assembly being brazed. Allow the purge to continue for at least 2 minutes after you complete the braze
- When brazing the horizontal assemblies, make sure you mark the top dead center with a file so that I have no question where it is once I receive it
- When brazing the vertical assemblies, be sure to braise both sides of the coupling from the bottom up. You do not have to mark the vertical assemblies in any way
- Do not cut the assembly. I will cut them when I receive them
- Please send me (4) brazed horizontal assemblies
- Please send me (4) brazed vertical assemblies
- You will receive a brazer witness form. You are required to have (2) witnesses watch you braise and sign the form. One of the witnesses must be an officer of your company.
- Ship completed coupons with this checklist and your witness form to:

Barry Waller
103 Hunter Industrial Dr.
Villa Rica, GA 30180

We have a brazing instructional video that we recommend you watch prior to attempting the braze: <https://www.youtube.com/watch?v=20yOrcpFMA8>.

Once I receive your completed assemblies, I will do an initial inspection. If they pass the initial inspection, we will send them out for a final inspection. If they do not pass the initial inspection, we will contact you for additional assemblies. If you have any questions, please contact Barry at brazing@medgaslicense.com or 770-317-3205.

Medical Gas Accreditation

Initial Record of Brazer Performance Qualification / Brazing Procedure Specification

Brazer Name: _____

Brazer ID: _____

(MGA in-office use only)

Employer: _____

Qualifying Agency: Medical Gas Accreditation Using BPS No.: EMGS-TB/1 Date: 07/08/2016 Revision No.: 2

The above brazer is qualified for the following ranges:

Variable	Used in Qualification	Qualification
Base Material (QB-402)	ASTM B88 (C12200) P No.: 107	P No.: 107
Thickness	0.060"	0.030" - 0.120"
Filler Metal (QB-403)		
Specification No.	SFA 5.8	SFA 5.8
Class	BCuP-5	See QB-432
F-Number	103	103
Diameter Range	1 1/2" nominal diameter	1/4" nominal thru 3" nominal
Brazing Process	Torch Brazing	Torch Brazing
Flow Position(s) (QB-407)		
Method of applying filler metal	Horizontal, Vertical Up	All Positions
Joint Types(s) (QB-408)		
Joint Clearance	0.002" - 0.010"	0.002" - 0.010"
Length Overlap	1.09	1.36" max
Other	Lap or Socket (Fitting)	Lap or Socket (Fitting)
Technique (QB-410)		
Torch Brazing	Manual Torch	Manual Torch

Per Para. 5.1.10.11.11.5 of the 2021 edition of NFPA 99 and as the employer of the above-named medical gas brazer applicant, we certify the following:

- 1) This individual has completed the enclosed horizontal and vertical coupons without any physical assistance from any other individual.
- 2) The brazing process used to complete the enclosed horizontal and vertical coupons was per the outlined brazing procedure specification listed above in accordance with the requirements of section IX of the ASME code.
- 3) We, the employer, accept responsibility for the qualification procedures performed as listed above and acknowledge that the final brazed test results will be listed on the final record of brazer performance qualification after review, specific listing of test results, and signature of the independent certified welding inspector authorized by Medical Gas Accreditation for documentation.
- 4) Two individuals who are not the above listed brazer witnessed the brazing process. (See requirements below.) *

*Two witnesses must be present for the brazing process. One of these witnesses must be an officer of the above listed employer. The other witness can be an employee who is not the above listed brazer. Both of these witnesses must sign the following page.

Medical Gas Accreditation Brazing Instructions:

1. Tube shall be cut with a tubing cutter into (1) 7" and (1) 5" section and joined together with a roll stop coupling.
2. Deburr the interior edge of the tube with a clean deburring tool.
3. Clean the ends to be inserted into the coupling with an abrasive pad such as Scotchbrite. Do not use steel wool or sandcloth.
4. Insert the cleaned edges into the coupling. Do not beat the tube into the coupling.
5. Place the assembly on the jig and start the purge. Leave the nitrogen flowing for approximately two minutes after completing the braze.
6. Using a file or Sharpie, clearly mark the top dead center of the horizontal assembly. Cap the edges of the coupling when the braze is complete.
7. When brazing the vertical joints, both sides must be done in the upflow position. After completing the first side, rotate the entire assembly 180 degrees and complete the second side. Cap the edges of the coupling when the braze is complete.
8. Put your first initial and last name on each assembly.
9. Do not cut the assembly. Ship it complete with page 1 and 2 of this form.

Brazing witnesses print name and sign below. One witness should be a company officer. One witness may be an employee who is not the brazer.

Witness 1: _____
(Print name)

Witness 1: _____
(Sign name)

Witness 2: _____
(Print name)

Witness 2: _____
(Sign name)