Issued	Section
08-01-87	CLEANING
Revised	Standard No.
10-01-99	ES8003
ECN No.	Page
IV99433	1 of 3

Subject:

CLEANING FOR OXYGEN SERVICE

1.0 SCOPE

1.1 This standard identifies the cleaning, handling and packaging requirements for components to be used in oxygen-enriched environments. It is based upon the recommended practices in ASTM G 93 and CGA Pamphlet G-4.1 for cleaning, drying, inspection and packaging.

1.2 The associated PS8003 process has been developed to meet the requirements of ASTM G 93 Level C and Level 500 for all products except HR Series Metering Valves. In accordance with this standard, the nonvolatile residue shall be less than 6 mg/ft^2 (66 mg/m^2 ~~ft^2~~) and the particle population shall meet the following criteria: 100 to 175 micron - 100 maximum; 175 to 300 micron - 20 maximum; 300 to 500 micron - 5 maximum; > 500 micron - 0. Fiber counts shall be less than 100. HR Series Metering Valves meet the ASTM G 93 requirements for Level E (50 mg/ft^2) and Level 500 .

1.3 The Assembly and Packaging operations described herein shall be conducted in a Class 100 Clean Room as defined by Federal Standard 209.

1.4 All processes and inspection methods shall be monitored using Quality Assurance Procedure QAP-119 for compliance with this standard.

2.0 REFERENCES

2.1 ASTM G 93 *Standard Practice for Cleaning Methods and Cleanliness Levels for Materials Used in Oxygen-Enriched Environments*

2.2 CGA Pamphlet G-4.1 *Cleaning Equipment for Oxygen Service*

2.3 FED-STD-209 *Clean Room and Work Station Requirements, Controlled Environments*

2.4 Parker QAP-119 *Cleaning for Oxygen Service*

2.5 Parker PS8003 *Process Requirements for Oxygen Service*

2.6 Parker ES6005 *Perfluorinated Polyether Lubricant*

2.7 Parker ES9001 *Assembly and Test Procedures (Four Volumes)*

Subject:

CLEANING FOR OXYGEN SERVICE

3.0 GENERAL REQUIREMENTS

3.1 All Clean Room and gowning activities, including component parts cleaning and handling, shall be performed in accordance with Parker Process Specification PS8003.

3.2 Deionized (DI) water used for cleaning of component parts shall be monitored for resistivity and bacteria.

3.3 Gases coming into contact with components shall be certified for purity and filtered at point of use.

4.0 FINAL CLEANING

4.1 All component parts shall be segregated into the following categories:

- Class 1 : Metallic component parts which have areas in contact with the oxygen-enriched environment. Examples of Class 1 component parts may be valve bodies, stems, and compression nuts and ferrules.

- Class 2 : All component parts not in direct contact with the oxygen-enriched environment, non-metallic components, sintered metal filters, and coated component parts. Examples of Class 2 component parts may be panel nuts, packings, O-rings, and protective caps.

4.2 All Class 1 component parts shall be cleaned using multi-step processes involving alkaline soap soaks, ultrasonic agitation in DI water containing surfactants, rinsing, final ultrasonic agitation in DI water, and drying.

4.3 All Class 2 components parts shall be cleaned using ultrasonic DI water and shall be blown dry with nitrogen.

5.0 ASSEMBLY

5.1 Components shall be placed in clean non-metallic covered pans for protection from damage and contamination after cleaning and for transit to the Clean Room.

5.2 Assembly shall be performed in accordance with ES9001 Assembly and Test Procedures as modified herein and/or the applicable traveler.

5.0 ASSEMBLY - Continued

5.2.1 All tube-compression ported assemblies shall only use nuts having silver plated threads.

5.2.2 Components requiring lubrication shall use only those specified in ES6005.

6.0 TESTING

6.1 Assemblies shall be placed in clean non-metallic covered pans for transit to the appropriate testing area.

6.2 Testing shall be performed in accordance with ES9001 Assembly and Test Procedures except as modified herein.

6.3 After testing, assemblies shall be placed back into their original non-metallic covered pans for transit to the Clean Room.

7.0 PACKAGING

7.1 Each assembly shall be heat-sealed in a 4 to 6 Mil (0.15mm) polyethylene bag. A nitrogen purge shall be employed during the bagging operation. The first bag shall be heat-sealed in a second 4 to 6 Mil (0.15mm) polyethylene bag.

9.2 The following label shall be placed between the bags, identifying the component as cleaned per this standard.

C3

Parker
Instrumentation

NOTE

This product has been cleaned, assembled, tested, and packaged in accordance with Instrumentation Valve Division Engineering Specification ES8003, *Cleaning for Oxygen Service*. DO NOT OPEN UNTIL READY FOR USE.

Nuts and ferrules on compression ported products must be lubricated with an oxygen compatible lubricant to ensure proper function on both initial make-up and subsequent remakes. Failure to do so may cause galling.

INSPECTION CERTIFICATE

TYPE 2.1 (OXY CLEAN US)

IN ACCORDANCE WITH EN10204 & DIN 50049

Parker
ENGINEERING YOUR SUCCESS.
PARKER HANNIFIN MANUFACTURING LTD
INSTRUMENTATION PRODUCTS DIVISION
RIVERSIDE ROAD
POTTINGTON BUSINESS PARK
BARNSTAPLE
DEVON
EX31 1NP
TELEPHONE +44 (0)1271 313131
FAX +44 (0)1271 373 636

CONSIGNEE: PH DE BIELEFELD ASP

SALES ORDER REF: PO0035710

IPDE SALES ORDER: 07813239 **WORKS ORDER:** 741117

PART NUMBER: 8A-B8LJ-SSP-C3

DESCRIPTION: 8A-B8LJ-SSP-C3

QUANTITY: 350

THE DESIGNATOR OF "C3" OR "OXY" AT THE END OF A PART NUMBER INDICATES THAT THE PART(S) HAVE BEEN CLEANED FOR OXYGEN SERVICE PER PARKER ENGINEERING SPECIFICATIONS ES-8003 AND MEET THE REQUIREMENTS OF CGA G4.1 AND ASTM G-93 1996, LEVEL C.

WE CERTIFY THAT THE WHOLE OF THE SUPPLIES DETAILED HEREON HAVE BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE CONDITIONS AND REQUIREMENTS OF THE CONTRACT AND OR THE PURCHASE ORDER AND, UNLESS STATED BELOW, CONFIRM IN ALL RESPECTS TO THE SPECIFICATIONS, AND DRAWINGS RELEVANT THERETO.

QUALITY DEPARTMENT
AUTHORISED SIGNATORY

Parker 389

DATE: 30/05/2023 08:39

QUALITY MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001:2015