



# Energy - Downstream, Power and Manufacturing Design Appraisal Document

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Date  
**13 August 2013**

Quote this reference on all future communications  
**NAO 1101609/001/SMR**

<b>Manufacturer</b>	:	Emerson Process Management 19200, NW Frwy, Houston TX 77065 USA
<b>Authorized Representative</b>	:	El-O-Matic B.V. Asveldweg II 7556 BR, Hengelo, Netherlands
<b>Subject</b>	:	Pressure Vessel
<b>Product Line</b>	:	GBLX and GBL Series Actuator Linear ( <i>SEE TCF FOR DETAILS</i> ) <ul style="list-style-type: none"><li>• Double Acting – Pneumatic Model Number: GBLX01xx to GBLX13xx</li><li>• Spring Return - Pneumatic Model Number: GBL01xx to GBL13xx</li></ul> Cylinder Size: 8" to 52"
<b>Pressure</b>	:	250 Psig (Max) / 40 Psig (Min)
<b>Temperature</b>	:	-20°F to 200°F (Standard Trim) 0°F to 350 °F (High Temp Trim)
<b>Design Code</b>	:	ASME Section VIII Div 1: 2007 Edition 2009 Addenda
<b>PED Group / Category</b>	:	Group 1 (Natural Gas) / Group 2 (Air) I to IV (As per Table in TCF)
<b>Module</b>	:	B+D ( <b>Lloyd's Register Verification is notified body for module B only</b> )

The documents listed below have been examined to the requirements of the above Code, and the Essential Safety Requirements of the Pressure Equipment Directive (97/23/EC) supported by the above Code, including the global conformity assessment procedure of the Directive and are found in order. The

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proposed arrangement is considered to comply with the requirements of the Directive subject to the following:-

- (A) Construction and testing should be carried out to the requirements of the Code and to the satisfaction of the Surveyors.
- (B) The drawings / document marked # have been received with the present submission and the drawing showing "Document Status" as "BQ" should be revised or the comments contained in the paragraphs to follow should otherwise be resolved
- (C) All materials used for the fabrication must comply with the requirements of Annex I of the directive.
- (D) In respect of Module B of the PED (97/23/EC) / PER (SI 1999: 2001 & SI 2002:1267), this appraisal is limited to:
  - i) examination of technical documentation listed above,
  - ii) identify parts designed in accordance with relevant standards,
  - iii) assessment of materials,
 Module B EC certificate would be issued subject to
  - i) Witness of type testing, records and procedures
  - ii) Review of tests and records
  - iii) Issue of test certificates
- (E) Reference Document: **TECHNICAL CONSTRUCTION FILE GBL Series**

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9.0	Installation, Operation and Maintenance Manuals	
10.0	Welding & joining (not applicable)	
11.0	Appendix – Testing procedure Reference Documents	

**COMMENTS:**

- 1. EC Declaration of conformity should reference the latest (valid) EC certificate number for module B. BQS
- 2. Approval is limited to the material appraised below in this DAD BQS

**PARTICULAR MATERIAL APPRAISAL:**

Under the provisions of the directive, particular material appraisal of materials listed below has been carried and are acceptable.

Material Specification	File Ref #	Temp. °F Max / Min	Notes
ASTM A513 Type 5 Grade MT1026	#136373 & 142812	350 / -20	- Cylinder - Impact
ASTM A-53 Type S and Type E Grade B	#136373 & 142812	350 / -20	- Cylinder, - Impact exemption per curve B of UCS-66
ASTM A-194 Grade 2 and 2H	#136373 & 142812	350 / -20	- Bolting, Impact exempted per Fig UCS-66
ASTM A-395 Grade 60-40-18	#136373 & 142812	350 / -20	- End Cap, Impact exempted per UCD-3(a)
ASTM A-193 Grade B7	#136373 & 142812	350 / -20	- Bolting, Impact exempted per Fig UCS-66
ASTM A-516 Grade 70	#136373 & 142812	350 / -20	- Cylinder, End Cap, - Impact tested per UG-84 and UCS-66 - Minimum impact value 27 J at MDMT.
ASTM A-105	#136373 & 142812	350 / -20	- Pipe Plug, - Impact exemption limit per UCS-66, Curve B

Drawing/ Documents

	Document No.	Revision	Title	Status	Date
#	Technical Construction File <b>GBL Series</b>	B	GBL Series	B	13 August 2013

***Lloyd's Register Verification Ltd.: Notified Body No. 0038***

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Appraisal Status Key

- B Examined
- BM Examined and amended in red
- BQ Examined subject to matters identified within the Design Appraisal Document which require resolution
- BQP Details to be submitted by the client to Plan Appraisal Office.
- BQS Details to be submitted by the client to the local surveyor's office responsible for the building and the arrangements verified in accordance with the Code requirements by the attending surveyor
- RI Used for information only

**Distribution:**

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Emerson

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+ 1 DAD