



Exploration & Production

GENERAL SPECIFICATION

SUBSEA SYSTEMS

GS EP SPS 024

**Subsea mechanical quarter turn actuator
(Manually operated gearbox)**

02	10/05	Addition of "EP" root to GS identification
01	08/03	Change of Group name and logo
00	10/02	First issue (formerly GS PVV 152)
Rev.	Date	Notes

Contents

1. Scope	4
2. Reference documents.....	4
3. Definitions.....	5
4. Actuator operational requirements.....	5
4.1 Environmental	5
4.2 Valves	5
4.3 Mounting and installation	5
4.4 Torque requirements	6
4.5 Design life	6
5. Actuator design and construction	6
5.1 Mechanism	6
5.2 Local position indicator	6
5.3 Body.....	7
5.4 Materials	7
5.5 Manufacturing procedures	8
6. Inspection and NDT requirements	8
7. Interfaces	9
7.1 Interface to valve	9
7.2 Interface to input drive tool	9
8. Testing	10
8.1 General.....	10
8.2 Qualification tests	10
8.3 Factory acceptance test.....	10
8.4 Valve to actuator integration testing	10
9. Corrosion protection and packing.....	11
9.1 Corrosion protection	11
9.2 Packing	11
10. Final assembly onto ball valve.....	11



11. Documentation	11
Appendix 1 Data Sheets	13

1. Scope

This Technical Specification defines the minimum requirements for the design and manufacture of mechanical actuators for operating subsea ball valves, which will be used in high pressure subsea pipelines.

This specification relates specifically to the supply of the mechanical actuator, its mounting/interface with the subsea ball valve, which it will operate, and its interface with the operating power tool.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
ASTM A 193	Alloy Steel and Stainless Steel Bolting Materials for High Temperature Service
ASTM A 194	Carbon and Alloy Steel Nuts for Bolts for High Pressure/High Temperature Service
BS 1133 Part 6	Temporary protection of metal surfaces against corrosion (during transport and storage)
BS 3382	Cadmium Plating and Threaded Fittings
BS 4882	Bolting for Flanges and Pressure Containing Purposes
BS 5750	Quality Systems
DIN 500-49	Certificates on material testing

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
ASNT-TC-1A	Personnel Qualifications and Certification in Non Destructive Testing
ASME Section IX	Boiler and pressure vessel code – Welding and brazing qualifications

Other documents

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
GS EP PVV 142	Valves
GS EP SPS 005	Subsea ball valves

3. Definitions

The following is a list of definitions of the terms, which apply to this specification:

- Purchaser**

Means Total or approved representative.

- VENDOR**

Means the person, firm or COMPANY who has been issued with the purchase order to supply the goods.

For full definitions and terminology refer to Total General Terms and Conditions of Purchase.

4. Actuator operational requirements

4.1 Environmental

See attached Data Sheet (Appendix 1) for project specific environmental information.

4.2 Valves

See Valve Specification and Data Sheet (Reference Section 2) for details on ball valves to be operated.

4.3 Mounting and installation

Provision shall be made such that the actuator is mounted on the ball valve to enable easy installation and replacement subsea by divers.