



**TRANSNET**

*pipelines*

**Specification  
Gearbox for Quarter Turn Valves**

**PL 219/C**

**April 2014**

## 1. SCOPE

- 1.1 This specification covers Transnet Pipelines' requirements for a gearbox to suit a Quarter Turn valve.
- 1.2 The gearbox shall be suitable for installation in the horizontal, vertical or inclined position.
- 1.3 Operating temperature will not exceed 45°C.
- 1.4 This specification shall be read in conjunction with Transnet Pipelines Specification PL2/A -General Specification - steel valves for petroleum product service as well as the specification for the relevant Quarter Turn valve.

## 2. TECHNICAL INFORMATION REQUIRED

- 2.1 Tenderers shall complete the relevant questionnaire in full and shall indicate whether their offer complies with each item of the requirements.
  - 2.1.1 Should there be insufficient space for furnishing full details, the tenderer shall provide the additional details in a covering letter. The details shall be numbered in accordance with the applicable clause specified in section 3 of this specification.
- 2.2 Offers will not be considered unless full particulars and sufficient literature is provided at the tendering stage to enable Transnet Pipelines to assess each offer properly.

## 3. SPECIFICATION.

PARAGRAPH	DESCRIPTION	DETAILS OF OFFER
<b>3.1.</b>	<b>Gearbox</b>	
3.1.1	Shall be of the Quadrant Worm Gear Design	
3.1.2	Shall be grease filled for life and sealed to IP67	
3.1.3	Shall contain totally enclosed gearing	
3.1.4	Shall have a removable output sleeve to facilitate bore and keyway machining.	
3.1.5	Output sleeve shall be able to be positioned through 90° steps.	
3.1.6	Mechanical Stops for opening and closing shall be installed.	
3.1.7	Stops are to be adjustable at 90° ±5° travel	
3.1.8	Shall have clear indication of open and closed position.	
PARAGRAPH	DESCRIPTION	DETAILS OF OFFER

3.1.9	The following information shall be clearly marked on a tag and securely affixed to the body of the gearbox.	
3.1.9.1	Make of Gearbox	
3.1.9.2	Model Designation	
3.1.9.3	Gear Ratio	
3.1.9.4	Serial Number or Unique Identification Number	
3.1.9.5	Supplier's Details	
<b>3.2</b>	<b>Material</b>	
3.2.1	Gear case shall be Cast Iron or similar	
3.2.1.1	Tenderer to state gear case material	
3.2.2	Worm shaft shall be Hardened Steel or similar	
3.2.2.1.	Tenderer to state worm shaft material	
3.2.3	Worm wheel shall be SG Iron or similar	
3.2.3.1	Tenderer to state worm wheel material	
<b>3.3</b>	<b>Adaptation</b>	
3.3.1	Input and output flanges shall conform to ISO 5211/1	
3.3.2	The baseplate shall have the facility for positioning the gearbox through at least 45° steps on the valve without special machining.	
3.3.3	Gearboxes ordered for manual operation shall be so designed that motor operation is possible at a later stage with no additional machine work to the gearbox.	
3.3.4	Gearbox shall be compatible with supplied actuator.	
3.3.5	When used in conjunction with an electric actuator, gearbox shall be able to withstand actuator stall torque.	
3.3.5.1	Gearbox shall be supplied with correct actuator mating adaptor, when fitment to an actuator is required.	

PARAGRAPH	DESCRIPTION	DETAILS OF OFFER
<b>3.4</b>	<b>Sizing</b>	
3.4.1	Tenderer is to supply all calculations used in the gearbox sizing and selection process.	
3.4.2	The tenderer shall supply the following information for the gearbox of each type of valve.  Max. Output Torque (Nm) Gear Ratio Max. Input Torque (Nm) Weight	

I confirm that all information furnished is correct and complies with Transnet Pipelines Specification PL 219/C

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Company: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Witness 1: \_\_\_\_\_

Witness 2: \_\_\_\_\_