

Ref: 294074

ENQUIRY SPECIFICATION – GLOBE VALVE

General:

This enquiry specification covers the technical requirements for manufacture, assembly, testing, supply and delivery of globe valve, complete with ROTORK electric actuator for handling petroleum distillates such as: gas oil, kerosene and unleaded gasoline with up to 15% MTBE and 70% aromatics at ambient temperature.

1. **Type:**

Globe valve (the valve design shall reduce noise and cavitations)

2. **Pressure rating** (acc to bill of quantity):

- ANSI class 600, max WP 1480 psig (Max differential pressure-1480 psig).

3. **Size** : suitable to process condition 4" – 10" acc to bill of quantity (**Face-to-face dimension shall be in acc to ANSI 75.08.01**)

4. **Manufacture Requirements** :

The manufacture shall be U.S.A or western European only (including processing, assembly & testing).

5. **Standards** :

- Basic design – BS 1873 & ANSI/ASME B16.34
- Shell wall thickness – BS 1873 & ANSI/ASME B16.34
- Face to Face dimension – ANSI/ASME B16.10
- Flange End Dimension – ANSI/ASME B16.5
- Seat leakage – ANSI Class V
- Inspection & Testing – API 598

6. **Ends** acc to bill of quantity :

- Flanged to ANSI B 16.5, #600 RF

7. **Materials** :

- Body / Bonnet: Cast steel ASTM A216 Gr. WCB.
- Disc : A-105+ENP or A515 Gr. 70 +ENP.
- Cage assembly – stainless steel 316
- STEM: AISI 4140
- Bolting: A-193-B7, A-194-2H.
- **Indication rode** - stainless Steel 316
- ID plate: stainless steel 316.



8. Optimal working points for the valve (acc to bill of quantity):

8" #600 – ASHKELON x 1

	Case A	Case B
Flow rate	370 (m ³ /h)	750 (m ³ /h)
Valve upstream pressure	30 (Bar)	15 (Bar)
Valve downstream pressure	10 (Bar)	10 (Bar)
Desirable opening percentage	35-50%	80-90%

8" #600 – ASHDOD x 1

	Case A	Case B
Flow rate	370 (m ³ /h)	750 (m ³ /h)
Valve upstream pressure	30 (Bar)	15 (Bar)
Valve downstream pressure	10 (Bar)	10 (Bar)
Desirable opening percentage	35-50%	80-90%

8" #600 ESHEL x 1

	Case A	Case B
Flow rate	370 (m ³ /h)	550 (m ³ /h)
Valve upstream pressure	40 (Bar)	40 (Bar)
Valve downstream pressure	20 (Bar)	35 (Bar)
Desirable opening percentage	20-30%	80-90%

9. Operation:

The valve is to be fitted with a Rotork electric actuator which will receive a 4-20 mA signal from the process controller that will activate the control valve. Actuator shall be Rotork-electric actuator suitable for operating of



control valve up to 1200 op./h and power supply available on site.
Opening/closing time 60-90 sec.

Rotork Actuator will be chosen according to selected control valve:

IQM+FOLOMATIC+CPT-WD-5010-100-07

Or

IQTM+FOLOMATIC+CPT-WD-7010-100-07

10. Site condition:

Eastern Mediterranean inland terminal, close to sea environment temperature- 5-55 °C Humidity- 10%-100%

11. Indication rode:

Valve will be equipped with indication rode made of stainless Steel 316.

12. Painting:

Each valve shall be epoxy painted on all outside carbon steel parts.

Painting minimum spec –

- Surface preparation – sa 2.5
- Primer - Zinc rich epoxy 70 micron thick SSPC. Primer will contain over 80% zinc by weight of the dry film.
- Intermediate - tolerant epoxy mastic surface thick at 150 microns minimum, two layers as needed.
- Upper - polyurethane oval white 80 micron thick single layer or two separate layers of 40 microns each Ready Made. Hue of upper layers will be white matte, reflective level of about 84%
- Total dry thickness – at least 300 microns
- Color – RAL 9010

13. Testing – in accordance with API 598.

14. Supplementary NDE requirements -

- Radiographic testing of castings on 100% of critical areas in accordance with ASME B16.34 - Examination shall be carried out in accordance with ASME Section V, Article 22. The sensitivity, as indicated by wire penetrometers, shall be 1,5% or better.
- Acceptance shall be in accordance with ASME Section VIII, Division 1, Appendix 7.



- Magnetic-particle testing of castings on 100% of body and bonnet surface area.
 - Examination shall be carried out in accordance with ASME Section V, Article 25. Acceptance shall be in accordance with ASME Section VIII, Division 1, Appendix

Marking :

All valves shall be marked according BS 1873

Name plate shall include as minimum the following data –

- Manufacturer name.
- Pressure class
- Manufacturer country.
- Equipment model.
- serial number.
- Pressure/temperature rating:
 - a) Maximum operating pressure at maximum operating temperature
 - b) Maximum operating pressure at minimum operating temperature
- Nominal valve size
- Date of manufacture (month and year)

The name plate shall be made of stainless steel (1.5 mm' thickness)

15. Information to be supplied by the manufacturer :

- **In submission -**
 1. Certificate to conformance to the required standards.
 2. List of materials for all key valve components.
 3. Sellers valve testing procedures.
 4. Statement of compliance with supplementary valve casting inspection requirements
(section 18).
 5. Valve drawings & accessories drawings
 6. Actuation data –valve breakaway torque, thrust, stem size, number of turns to open valve.
 7. Valve performance charts.
 8. List of Recommended spare part .



9. The Bidder shall provide an itemized list of any deviations to this specification.

- **Prior to the supplying of the valve -**

10. Mill certificates include heat number, chemical and mechanical properties.
11. Assembly record
12. Certificate of compliance
13. All test reports including hydrostatic test reports (test duration and test Medium) - acc to API 598
14. Operating, maintenance & installation manual.
15. Grease type
16. All documents are to be in English and in three copies.

