KLM Technology Group
#03-12 Block Aronia,
Jalan Sri Perkasa 2
Taman Tampoi Utama
81200 Johor Bahru
Malaysia

GENERAL REQUIREMENTS FOR PURCHASING VALVES

(PROJECT STANDARDS AND SPECIFICATIONS)

TABLE OF CONTENT

SCOPE

This Project Standard and Specification covers general requirement(s) for purchasing valves. The valve(s) offered by the vendor shall be in compliance with the requirement(s) of this Project Standard and Specification. If requirement(s) of this Project Standard and Specification differs from or is in conflict with other purchasing documents, the vendor shall clearly indicate points of conflict and request the Company for clarification and comments.

The Company's comments shall be fully considered and incorporated in the final specifications.

REFERENCES

Throughout this Standard the following dated and undated standards/codes are referred to. These referenced documents shall, to the extent specified herein, form a part of this standard. For dated references, the edition cited applies. The applicability of changes in dated references that occur after the cited date shall be mutually agreed upon by the Company and the Vendor. For undated references, the latest edition of the referenced documents (including any supplements and amendments) applies.

1. ANSI (American National Standard Institute)

   ANSI/ASME B 16.11 "Forged Fittings, Socket-welding"

2. API (American Petroleum Institute)

   API STD 598 "Valves Inspections and Tests"

3. SIS (Standardiserings-Kommissionen I Sverige)

   SIS-05-5900 "Swedish Standards Institution Practice, Surface Preparation Standard for Painting Steel Surface"

4. MSS (Manufacturers Standardization Society)

   MSS-SP-25 "Standard Marking System for Valves, Fittings, Flanges and Unions"

5. BSI (British Standards Institution)

   BS 1133 "Packaging Code"

DEFINITIONS AND TERMINOLOGY

Inspector - The representative of the purchaser who is entrusted with inspection of products and production records and observance of production operations and quality control tests.

Manufacturer - The party that manufactures or produces a valve or its components covered by this Project Standard and Specification.

Purchaser - The party or parties entering into a contract or agreement to purchase valve(s) in accordance with the requirements of this Standard and specially referred to as Company.

Supplier - The party or parties entering into a contract or agreement to supply valve(s) in accordance with the requirements of this Project Standard and Specification.

GENERAL

1. Primarily this specification covers conventional gate, globe, ball, plug, butterfly and check valves. Other types of valves shall conform to this specification in so far as applicable.
2. Where pressure containing parts have been specified as forged, substitution of casting is not permitted without prior approval of the Company.
3. Drain taps shall be factory fitted with forged metal plug(s) per ANSI B 16-11 and of the same basic material as the valve body. They shall be made up leak tight.
4. All non-Newtonian and/or catalyst handling valves shall be equipped with a flushing connection.
5. All power actuated valves shall have capability of being operated with an auxiliary device such as handwheel (oriented as specified, hydraulic hand pump etc.
6. The maximum operating force for manually operated valves shall not exceed 350 N. However, for DN 200 (NPS8) and larger the maximum operating force may increase to 450 N, during seating and unseating of the valve.
7. Valve(s) gear boxes shall be dust and weather-proof, filled with suitable water resistant lubricant. Lubricant SAE No. shall be specified in quotation and shall also be shown on gear-box name plate. Gear operators shall have selflocking gears.
8. Valves shall be provided with a position indicator.

9. Clockwise rotation of the handwheel/wrench shall close the valve. The diameter of the handwheel or length of the wrench shall not exceed 800 mm.
10. Hydraulic, pneumatic or electric actuator shall be supplied by the valve manufacturer when specified. Manufacturer of the actuator and actuating mechanism shall be approved by the Company in advance.
11. When chain wheels are specified for valve actuation, chain guide shall be included. Clamp-on type chain wheels are not permitted.
12. When extended stem is specified, the valve shall have extended bleed/vent, balancing and lubricating lines.
13. Valve of 500 kg and heavier shall be fitted with lifting lugs, valve support and leveling base. Their design and position shall be agreed with the Company.
14. Where valves are specified "No Copper Permitted" this shall be understood to mean that no copper (except trace element) or copper-bearing alloy material shall be used in the construction of these valves. This includes internal and external parts such as trim, backseat, yoke bushing and gland-follower.

    Exceptions: Alloy 20, Monel, 17-4 PH, 17-7 PH when specified.
15. The stem and stem head shall be sized to provide adequate strength under the most severe combination of operating condition. The weakest point shall always be outside of the stem seal.
16. Unless otherwise specified, wire inserted, graphited braided packing suitable for 538°C (1000°F) steam or petroleum services shall be used in steel and alloy valves. It shall contain a corrosion inhibitor.
17. Monel body material for screwed, socket-weld end and buttweld end valves shall be of a weldable composition.
18. Unless otherwise specified, all austenitic stainless steel valves shall be furnished in the solution annealed condition.
19. All flanged gate, globe, ball and check valves with ring joint facing shall also have ring joint bonnet, or purchaser approved equal.

PURCHASER'S ACCESS TO MANUFACTURING PLANT(S)

The Purchaser or his nominee(s) shall have free access to the manufacturing plant engaged in the fabrication of the valves to carry out the necessary inspections at any stage of fabrication and witness the tests. The manufacturer shall place at the disposal of purchaser or his nominee, free of charge such instruments and tools as required at the inspection point to enable the Purchaser to carry out his inspection in this respect. Such inspections in no way relieve the supplier/manufacturer of his responsibilities under the term of this Standard inspection and/or other applicable relevant documents.

TESTING

- All valves shall be tested in accordance with procedures laid down in their relevant standard(s).
- The type or style of valve stem packing used during hydrotest shall be the same as that finally supplied with the valve.

INSPECTION

The inspection shall be as per requirements of API standard 598, section 2.0. Manufacturer shall be prepared for inspection of the valve by Inspector.

REPAIRS

Casting Repairs

Repair of casting by welding and/or impregnation is not permitted. Other repair methods shall receive prior approval of the purchaser.

Forging Repairs

Method(s) of repair shall have prior approval of the purchaser.

FINISHING, PAINTING (AND/OR COATING)

1. Unless otherwise specified, after final testing, all valves shall be internally and externally dried, and internally coated with grease or sealant.
2. After protection of all machined and threaded external surfaces and covering all valve(s) nozzles and openings, the equipment shall be blast cleaned to standard SIS-05-5900 grade, SA 2½. This shall be followed by the coating or painting as specified in data sheet to be filled in by design engineer. The color of final coat shall be beige per BS 381/C-388.
3. All machined or threaded surfaces shall be protected from corrosion with a rust preventive material which shall not become fluid and run off at a temperature less than 82°C. The shipment and storage time shall be assumed to be 18 months.
4. Unless otherwise specified in the data sheet or purchase order, bronze and stainless steel valve shall not be painted or coated.
5. Particular attention shall be given to protection of Austenitic stainless-steel valves from Chloride attack such as may occur in salt-contaminated atmospheres.