Reconditioning of Metallic Gate, Globe, and Check Valves

API RECOMMENDED PRACTICE 621
THIRD EDITION, AUGUST 2010

REAFFIRMED, OCTOBER 2017

AMERICAN PETROLEUM INSTITUTE

Reconditioning of Metallic Gate, Globe, and Check Valves

Downstream Segment

API RECOMMENDED PRACTICE 621
THIRD EDITION, AUGUST 2010

AMERICAN PETROLEUM INSTITUTE

Special Notes

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed.

Neither API nor any of API's employees, subcontractors, consultants, committees, or other assignees make any warranty or representation, either express or implied, with respect to the accuracy, completeness, or usefulness of the information contained herein, or assume any liability or responsibility for any use, or the results of such use, of any information or process disclosed in this publication. Neither API nor any of API's employees, subcontractors, consultants, or other assignees represent that use of this publication would not infringe upon privately owned rights.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to assure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any authorities having jurisdiction with which this publication may conflict.

API publications are published to facilitate the broad availability of proven, sound engineering and operating practices. These publications are not intended to obviate the need for applying sound engineering judgment regarding when and where these publications should be utilized. The formulation and publication of API publications is not intended in any way to inhibit anyone from using any other practices.

Any manufacturer marking equipment or materials in conformance with the marking requirements of an API standard is solely responsible for complying with all the applicable requirements of that standard. API does not represent, warrant, or guarantee that such products do in fact conform to the applicable API standard.

Classified areas may vary depending on the location, conditions, equipment, and substances involved in any given situation. Users of this Standard should consult with the appropriate authorities having jurisdiction.

Users of this Standard should not rely exclusively on the information contained in this document. Sound business, scientific, engineering, and safety judgment should be used in employing the information contained herein.

Foreword

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 1220 L Street, NW, Washington, DC 20005. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually by API, 1220 L Street, NW, Washington, DC 20005.

Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

Contents

Contents

Reconditioning of Metallic Gate, Globe, and Check Valves

1 Scope

1.1 This recommended practice (RP) provides guidelines for reconditioning heavy wall (API 600 and API 594 type) carbon steel, ferritic alloy (up to 9 % Cr), stainless steel, and nickel alloy gate, globe, and check valves for ASME pressure classes 150, 300, 400, 600, 900, 1500, and 2500. Guidelines contained in this RP apply to flanged and butt weld cast or forged valves.

1.2 It is an expectation of this RP that a contractual agreement shall be established between the Owner and the valve reconditioning facility. The reconditioning facility may be Original Equipment Manufacturer (OEM) owned/ operated, or directly associated and approved by the OEM. At the Owner's option, an independent facility may be used. The Owner shall determine that the facility selected for valve reconditioning has a documented and established working Quality Assurance Program. The Quality Assurance Program should include the essential elements described in the ISO 9001 standard.

1.3 *This RP does not cover reconditioning or remanufacturing of used or surplus valves intended for resale. The only intent of this RP is to provide guidelines for refurbishing an end user's (Owner) valves for continued service in the Owner's facility. Valves reconditioned or remanufactured to this RP may not meet API Standard requirements for new valves. The correct application of a valve reconditioned to this RP remains the responsibility of the Owner.*

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Recommended Practice 591, *Process Valve Qualification Procedure*

API Standard 594, *Check Valves: Flanged, Lug, Wafer, and Butt-welding*

API Standard 598, *Valve Inspection and Testing*

API Standard 600 *Steel Gate Valves—Flanged and Butt-welding Ends, Bolted Bonnets*

ASME B1.3 [1], *Screw Thread Gaging Systems for Acceptability: Inch and Metric Screw Threads*

ASME B1.5, *Acme Screw Thread*

ASME B1.8, *Stub Acme Screw Threads*

ASME B16.5, *Pipe Flanges and Flanged Fittings*

ASME B16.10, *Face-to-Face and End-to-End Dimensions of Valves*

ASME B16.34, *Valves—Flanged, Threaded, and Welding End*

ASME B31.3, *Process Piping*

[1] ASME International, 3 Park Avenue, New York, New York 10016, www.asme.org.