Diverter Equipment Systems

API STANDARD 64
FOURTH EDITION, JANUARY 2026



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. The use of API publications is voluntary. In some cases, third parties or authorities having jurisdiction may choose to incorporate API standards by reference and may mandate compliance.

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.

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.

API is not undertaking to meet the duties of employers, manufacturers, or suppliers to warn and properly train and equip their employees, and others exposed, concerning health and safety risks and precautions, nor undertaking their obligations to comply with authorities having jurisdiction.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to ensure 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.

All rights reserved. No part of this work may be reproduced, translated, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher. Contact the publisher, API Publishing Services, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

Copyright © 2026 American Petroleum Institute

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.

The verbal forms used to express the provisions in this document are as follows.

Shall: As used in a standard, “shall” denotes a minimum requirement in order to conform to the standard.

Should: As used in a standard, “should” denotes a recommendation or that which is advised but not required in order to conform to the standard.

May: As used in a standard, “may” denotes a course of action permissible within the limits of a standard.

Can: As used in a standard, “can” denotes a statement of possibility or capability.

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, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001. 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, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

Contents

1 Scope 1

2 Normative References 1

3 Terms, Definitions, Acronyms, and Abbreviations 3
3.1 Terms and Definitions 3
3.2 Acronyms and Abbreviations 11

4 Diverter System Size Designation 12

5 Component Design Methodology 12
5.1 General 12
5.2 Service Conditions 12
5.3 Diverter Housing 14
5.4 Diverter Assembly 14
5.5 Diverter Packer 14
5.6 Overshot System 16
5.7 Diverter Spools 16
5.8 Diverter Side Outlets 17
5.9 Bell Nipple 18
5.10 Bolting 18
5.11 Diverter Valves 19
5.12 Flow Selectors 19
5.13 Actuators for Valves and Flow Selectors 19
5.14 Diverter Control System 20
5.15 Overboard Piping 20
5.16 OEC on the Diverter Assembly 21
5.17 Handling Tools 21
5.18 Test Tools 23
5.19 Design Validation 23
5.20 Documentation 32

6 Material Requirements 32
6.1 General 32
6.2 Written Specifications 32
6.3 Property Requirements 34
6.4 Material Qualification 36
6.5 Welding Requirements for Original Manufacture 41

7 Marking Requirements 50
7.1 General 50
7.2 Types of Identification Stamping 50

8 Quality Control Requirements 51
8.1 General 51
8.2 Measuring and Testing Equipment 51
8.3 Quality Control Personnel Qualifications 52
8.4 Quality Control Requirements for Equipment and Parts 53
8.5 NDE of Weldments 56
8.6 Chemical Analysis 58
8.7 Diverter Packers and Seals 58
8.8 Assembled Equipment 58

9 Factory Acceptance Testing (FAT) 59
9.1 General 59
9.2 Diverter Housing and Diverter Assembly Testing 59
9.3 Diverter Valves, Actuators, and Controls 60
9.4 Diverter Assembly Handling and Test Tools 61
9.5 Other Equipment 61
10 Maintenance 61
10.1 General 61
10.2 IOM Manuals 61
10.3 Maintenance Records 62
10.4 Maintenance 62
10.5 Maintenance History and Problem Reporting 63
10.6 Connections 63
10.7 Replacement Components and Assemblies 63
10.8 Equipment Storage 65
10.9 Weld Repairs 65
11 Documentation 65
11.1 Requirements for Quality Control Records 65
11.2 Equipment Traceability 65
11.3 Technical Data Sheet 68
12 Field Testing 69
12.1 General 69
Annex A (normative) Failure Reporting 70

Figures

1 Example Diverter with an Annular Packer 15
2 Example Diverter with an Insert Packer 15
3 Example Annular BOP Diverter Configuration 17
4 Simple Geometric Equivalent Rounds 38
5 Typical Weld Grooves for Pipe Butt Joints 42
6 Typical Attachment Welds 43
7 Typical Repair Welds 44
8 Typical Evacuation for Repair Welds 44

Tables

1 Temperature Rating for Metallic Materials 12
2 Temperature Rating for Non-metallic Materials 13
3 Bolting Requirements 18
4 Required Packer Tests by Type 23
5 Material Property Requirements for Flow-direction–controlling Members 34
6 Steel Composition (% mass fraction) for Flow-direction–controlling Members 35
7 Alloying Element Range–Maximum Tolerance Requirements 36
8 Acceptance Criteria for Charpy V-notch Impact Tests 37
9 Minimum Hardness Requirements 40
10 Chemical Composition of the Nickel-based Alloy N06625 49
11 Marking Requirements and Location 50
12 Maximum Length of Elongated Slag Inclusion for Radiography 56
13 Maximum Length of Indication for Ultrasonic Examinations 58
14 Diverter System Field Testing 64

Diverter Equipment Systems

1 Scope

This standard is intended to provide information on the design, manufacture, quality control, installation, maintenance, and testing of the diverter system and associated components. The diverter system provides a flow control system to direct controlled or uncontrolled wellbore fluids away from the immediate drilling area for the safety of personnel and equipment.

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 applies (including any addenda/errata).

API Specification 6A, *Specification for Wellhead and Tree Equipment*

API Technical Report 6AF1, *Technical Report on Temperature Derating on API Flanges under Combinations of Loading*

API Technical Report 6AF2, *Technical Report on Capabilities of API Flanges under Combinations of Loading—Phase II*

API Standard 6FA, *Standard for Fire Test for Valves*

API Specification 6D, *Specification for Valves*

API Standard 6DX, *Actuators and Mounting Kits for Valves*

API Standard 6X, *Design Calculations for Pressure-containing Equipment*

API Specification 16A, *Specification for Drill-through Equipment*

API Specification 16D, *Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment*

API Specification 16F, *Specification for Marine Drilling Riser Equipment*

API Specification 20E, *Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries*

API Specification 20F, *Corrosion-resistant Bolting for Use in the Petroleum and Natural Gas Industries*

ASME[1] B16.5, *Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard*

[1] The American Society of Mechanical Engineers, Two Park Avenue, Suite 1600, New York, NY 10016, www.asme.org.