

---

---

**Bolted bonnet steel gate valves for the  
petroleum, petrochemical and allied  
industries**

*Robinets-vannes en acier à chapeau boulonné pour les industries du  
pétrole, de la pétrochimie et les industries connexes*





**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Pressure/temperature ratings</b> .....	<b>3</b>
<b>5 Design</b> .....	<b>4</b>
5.1 Body wall thickness.....	4
5.2 Bonnet wall thickness.....	5
5.3 Body dimensions.....	6
5.3.1 Flanged ends.....	6
5.3.2 Butt-welding ends.....	7
5.3.3 Body seats.....	9
5.4 Bonnet dimensions.....	10
5.5 Bonnet-to-body joint.....	11
5.6 Gate.....	12
5.7 Yoke.....	13
5.8 Stem and stem nut.....	13
5.9 Packing and packing box.....	15
5.10 Bolting.....	16
5.11 Operation.....	16
5.12 Auxiliary connections.....	17
<b>6 Materials</b> .....	<b>19</b>
6.1 Materials other than trim materials.....	19
6.2 Trim materials.....	20
6.3 Welding for fabrication and repair.....	22
<b>7 Testing, inspection and examination</b> .....	<b>23</b>
7.1 Pressure tests.....	23
7.1.1 General.....	23
7.1.2 Shell test.....	23
7.1.3 Closure tightness test.....	23
7.1.4 Optional backseat tightness test.....	25
7.1.5 Optional closure tightness test.....	25
7.1.6 Fugitive emission testing.....	25
7.2 Inspection.....	26
7.2.1 Extent of inspection.....	26
7.2.2 Site inspection.....	26
7.3 Examination.....	26
7.4 Supplementary examination.....	26
<b>8 Marking</b> .....	<b>26</b>
8.1 Legibility.....	26
8.2 Body marking.....	27
8.3 Ring joint marking.....	27
8.4 Identification plate marking.....	27
8.5 Special marking for unidirectional valves.....	27
<b>9 Preparation for despatch</b> .....	<b>28</b>
<b>Annex A (informative) Information to be specified by the purchaser</b> .....	<b>29</b>
<b>Annex B (informative) Identification of valve terms</b> .....	<b>31</b>
<b>Annex C (informative) Valve material combinations</b> .....	<b>34</b>