

---

---

**Petroleum and natural gas industries —  
Pipeline transportation systems —  
Pipeline valves**

*Industries du pétrole et du gaz naturel — Systèmes de transport par  
conduites — Robinets de conduites*



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

Foreword.....	v
Introduction .....	vi
<b>1</b> <b>Scope</b> .....	<b>1</b>
<b>2</b> <b>Conformance</b> .....	<b>1</b>
2.1 <b>Units of measurement</b> .....	<b>1</b>
2.2 <b>Rounding</b> .....	<b>1</b>
2.3 <b>Compliance to standard</b> .....	<b>1</b>
<b>3</b> <b>Normative references</b> .....	<b>2</b>
<b>4</b> <b>Terms and definitions</b> .....	<b>4</b>
<b>5</b> <b>Symbols and abbreviated terms</b> .....	<b>7</b>
5.1 <b>Symbols</b> .....	<b>7</b>
5.2 <b>Abbreviated terms</b> .....	<b>7</b>
<b>6</b> <b>Valve types and configurations</b> .....	<b>8</b>
6.1 <b>Valve types</b> .....	<b>8</b>
6.2 <b>Valve configurations</b> .....	<b>9</b>
<b>7</b> <b>Design</b> .....	<b>23</b>
7.1 <b>Design standards and calculations</b> .....	<b>23</b>
7.2 <b>Pressure and temperature rating</b> .....	<b>24</b>
7.3 <b>Sizes</b> .....	<b>24</b>
7.4 <b>Face-to-face and end-to-end dimensions</b> .....	<b>25</b>
7.5 <b>Valve operation</b> .....	<b>39</b>
7.6 <b>Pigging</b> .....	<b>40</b>
7.7 <b>Valve ends</b> .....	<b>40</b>
7.8 <b>Pressure relief</b> .....	<b>41</b>
7.9 <b>Bypasses, drains and vents</b> .....	<b>42</b>
7.10 <b>Injection points</b> .....	<b>42</b>
7.11 <b>Drain, vent and sealant lines</b> .....	<b>42</b>
7.12 <b>Drain, vent and sealant valves</b> .....	<b>43</b>
7.13 <b>Hand-wheels and wrenches — Levers</b> .....	<b>43</b>
7.14 <b>Locking devices</b> .....	<b>43</b>
7.15 <b>Position of the obturator</b> .....	<b>43</b>
7.16 <b>Position indicators</b> .....	<b>43</b>
7.17 <b>Travel stops</b> .....	<b>44</b>
7.18 <b>Actuator, operators and stem extensions</b> .....	<b>44</b>
7.19 <b>Lifting</b> .....	<b>44</b>
7.20 <b>Drive trains</b> .....	<b>44</b>
7.21 <b>Stem retention</b> .....	<b>45</b>
7.22 <b>Fire type-testing</b> .....	<b>45</b>
7.23 <b>Anti-static device</b> .....	<b>45</b>
7.24 <b>Design documents</b> .....	<b>45</b>
7.25 <b>Design document review</b> .....	<b>45</b>
<b>8</b> <b>Materials</b> .....	<b>46</b>
8.1 <b>Material specification</b> .....	<b>46</b>
8.2 <b>Service compatibility</b> .....	<b>46</b>
8.3 <b>Forged parts</b> .....	<b>46</b>
8.4 <b>Composition limits</b> .....	<b>46</b>
8.5 <b>Toughness test requirements</b> .....	<b>47</b>
8.6 <b>Bolting</b> .....	<b>48</b>