

ISO 18646-6:2026-05 (E)

Robotics - Performance criteria and related test methods for service robots - Part 6: Lower-limb wearable robots

Contents

Page

- Foreword..... iv
- 1 Scope..... 1**
- 2 Normative references..... 1**
- 3 Terms and definitions..... 1**
- 4 Test conditions..... 2**
 - 4.1 General..... 2
 - 4.2 Wearable robot conditions..... 2
 - 4.3 Environmental conditions..... 3
 - 4.4 Operating conditions 3
- 5 Test device..... 3**
 - 5.1 ATDR configuration requirements..... 3
 - 5.2 ATDR size..... 4
 - 5.3 ATDR signal measurement conditions..... 6
 - 5.4 Safety considerations for the test setup..... 6
- 6 Preparation for the test..... 6**
 - 6.1 Reference trajectory for ATDR walking..... 6
 - 6.1.1 Configuration of the ATDR reference trajectory..... 6
 - 6.1.2 Design of ATDR walking reference trajectory 7
 - 6.2 ATDR half squat reference trajectory..... 8
 - 6.2.1 Configuration of the ATDR reference trajectory..... 8
 - 6.2.2 Design of ATDR half squat reference trajectory..... 9
 - 6.3 ATDR control performance requirements..... 10
 - 6.4 Wearable robot performance evaluation index..... 11
 - 6.5 Ground reaction conditions 13
- 7 Test methods for walking test..... 13**
 - 7.1 General..... 13
 - 7.2 Test device..... 13
 - 7.3 Test procedure..... 14
 - 7.3.1 Test principle..... 14
 - 7.3.2 No-load walking test..... 16
 - 7.3.3 Loaded walking test..... 18
- 8 Test methods for half squat test..... 18**
 - 8.1 General..... 18
 - 8.2 Test device..... 18
 - 8.3 Test procedure..... 19
 - 8.3.1 Test principle..... 19
 - 8.3.2 No-load half squat test..... 20
 - 8.3.3 Loaded half squat test..... 21
- 9 Test report..... 21**
- Bibliography..... 24**