

# DIN EN ISO 2151:2009-01 (E)

## Acoustics - Noise test code for compressors and vacuum pumps - Engineering method (grade 2) (ISO 2151:2004)

---

| Contents                                                                                                                           | Page |
|------------------------------------------------------------------------------------------------------------------------------------|------|
| Foreword .....                                                                                                                     | 3    |
| Introduction.....                                                                                                                  | 4    |
| 1 Scope .....                                                                                                                      | 5    |
| 2 Normative references .....                                                                                                       | 6    |
| 3 Terms and definitions .....                                                                                                      | 6    |
| 4 Sound power level determination .....                                                                                            | 9    |
| 4.1 General .....                                                                                                                  | 9    |
| 4.2 Uncertainty .....                                                                                                              | 10   |
| 4.3 Test arrangement .....                                                                                                         | 10   |
| 5 Emission sound pressure level determination at the work station .....                                                            | 11   |
| 5.1 Work station .....                                                                                                             | 11   |
| 5.2 Determination of $L_{pWSA}$ from $L_{WA}$ .....                                                                                | 12   |
| 5.3 Method for determination of $L_{pWSA}$ when $L_{WA}$ is not to be determined .....                                             | 13   |
| 6 Mounting, loading and operating conditions of compressor or vacuum pump during noise tests .....                                 | 13   |
| 6.1 General .....                                                                                                                  | 13   |
| 6.2 Mounting .....                                                                                                                 | 13   |
| 6.3 Loading and operating conditions .....                                                                                         | 13   |
| 7 Test report .....                                                                                                                | 14   |
| 8 Declaration and verification of noise emission values .....                                                                      | 14   |
| Annex A (informative) Example test reports .....                                                                                   | 15   |
| Annex B (informative) Model form for declared noise emission values .....                                                          | 21   |
| Annex C (normative) Parallelepiped measurement surface .....                                                                       | 22   |
| Annex D (normative) Hemispherical measurement surface .....                                                                        | 24   |
| Annex E (informative) Examples of reference box for different machines .....                                                       | 26   |
| Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37 EEC .....  | 29   |
| Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC ..... | 30   |
| Bibliography .....                                                                                                                 | 31   |







