ISO 13373-3:2015-09 (E)

Condition monitoring and diagnostics of machines - Vibration condition monitoring - Part 3: Guidelines for vibration diagnosis

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Measurements 1
4.1 Vibration measurements 1
4.2 Machine operational parameter measurements 2

5 Structured diagnostic approach 2

6 Additional analysis and testing 3
6.1 General 3
6.2 Not requiring changes to operating parameters 3
6.2.1 General 3
6.2.2 Trend analysis 3
6.2.3 Phase analysis 3
6.2.4 Resonance test 3
6.2.5 Measurement of operational deflection shape 3
6.2.6 Long-time waveform capture 3
6.3 Requiring changes to operating parameters 4
6.3.1 Changes to operating conditions 4
6.3.2 Complete experimental modal analysis 4
6.4 Changes to the physical state of the machine 4

7 Additional diagnostic techniques 4

8 Considerations when recommending actions 5

Annex A (normative) Process tables for the systematic approach to vibration analysis of machines 6

Annex B (informative) Installation faults common to all machines 12

Annex C (informative)Diagnosisofradialhydrodynamicfluid-filmbearings 19

Annex D (informative) Diagnosis of rolling element bearings 29

Bibliography 36