# MANNESMANN REXROTH

# Declaration on environmental compatibility in the field of EMC (as defined by EMC law dated 30th August, 1995 and directive 89/336/EWG), climate and mechanical stress

RE 29 115-U/06.98

Product family Product type Data sheet

Pilot operated proportional directional valve 4WRZE-7X/... RE 29 115

with integral electronics

Hydraulic pilot operated 4WRH-7X/...\* RE 29 115

\* only points 2. and 3.

#### Description of the product family:

Pilot operated 2-stage proportional directional valve for controlling the magnitude and direction of a flow.

## The above products comply with the following basic standards:

### 1. EMC (electromagnetic compatibility)

prEN 50082-2:1994 (VDE 0839 part 82-2) Interference immunity

prEN 61000-4-2:1994 VDE 0847-4-2 ESD Air discharge:

IEC1000-4-2 (electrostatic discharge) Severity 4 / assessment criterion 1

Contact discharge:

Severity 4 / assessment criterion 1

prEN 61000-4-4:1994 VDE 0847-4-4 BURST Supply voltage: IEC1000-4-4 (transient discharge) Severity 3 / asse

EC1000-4-4 (transient discharge) Severity 3 / assessment criterion 2
Data lines up to:

Severity 1 / assessment criterion 1 Severity 4 / assessment criterion 2

Test set-up according to prEN 61000-4-2 and prEN 61000-4-4

EN 50081-1:1992 (VDE 0839 part 81-1) Emitted interference

EN 55022:1994 VDE 0878 **part** 22 Radio interference emission

depends on arrangement and cabling

When the valve is properly connected and wired according to the data sheet (see list above), the design complies with the preconditions for meeting the requirements of EMC standards EN 50081-1 and prEN 50081-2.

#### 2. Climate

EN 60068-2 En	vironmental test
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Cold test EN 60068-2-1:1994 2 cycles - 20 °C,

dwell time 2 hours

EN 60068-2-2:1993 Dry heat test 2 cycles + 50 °C,

dwell time 2 hours

EN 60068-2-1:1994 - 20 °C, dwell time 16 hours Storage temperature EN 60068-2-2:1993

+ 80  $^{\circ}$ C, dwell time 16 hours

IEC 68-2-14:1986 Temperature cycles 2 cycles

> -20 °C to +50 °C, dwell time 3 hours at min / max temperature

IEC 68-2-30:1985 Damp heat, Variant 2

cyclical + 25 °C to + 55 °C,

> 90 % to 97 % relative humidity 2 cycles, 24 hours each

#### 3. Mechanical stress

Vibration test in three perpendicular axes

IEC 68-2-6/:1990 Sine test 10 cycles,

5 to 2000 to 5 Hz at a logarithmic frequency change rate of Oct./min 5 to 57 Hz, amplitude 1.5 mm (p-p) 57 to 2000 Hz, amplitude 10 g Dwell time 30 min at resonance

frequency

IEC 68-2-36:1973 Random test 20 to 2000 Hz,

> amplitude  $0.05 \text{ g}^2 / \text{Hz} (10 \text{ g RMS})$ Testing time 30 min per axis

ICE 68-2-27:1989 Shock test Half sine15 g / 11 ms in positive /

negative direction per axis, in total 18 individual shocks

