Statement on ecological compatibility for the fields of EMC,Climate and Mechanical Stress

RE 29 055-U/09.04 1/4

Type 4WRAE6-2X, 4WRAEB 6-2X, 4WRAE 10-2X

Proportional directional valves with integrated electronic without closed loop position control of the spool

Product type	Type code variations with regard to the electronics	RE sheet
4WRAE 6-2X/…	4WRAE 6…-2X/G24…	
4WRAEB 6-2X/…	4WRAEB 6…-2X/G24…	
4WRAE 10-2X/…	4WRAE 10…-2X/G24…	

Description of the product family

Direct operated proportional directional control valves, nominal sizes 6 and 10 without closed loop position control of the spool. The electronics for pulse width modulated control of the solenoid(s) is built into a housing on the valve.

[1] as defined by EMC law dated 30th August 1995 and Directive 89/336/EEC)

The above mentioned products conform of the following standards:

1. EMC (electromagnetic compatibility)

prEN 50082-2:1994	**(VDE 0839 part 82-2)**	**Field basic standard**	**Interference immunity**
prEN 61000-4-2:1994 IEC 1000-4-2	VDE 0847-4-2	ESD (electrostatic discharge)	Air discharge up to: Severity grade 2 / Evaluation criteria 1 Severity grade 4 / Evaluation criteria 2 Contact discharge up to: Severity grade 2 / Evaluation criteria 1 Severity grade 4 / Evaluation criteria 2
prEN 61000-4-4:1994 IEC 1000-4-4	VDE 0847-4-4	BURST (transient interference)	Power supply: Severity grade 4 / Evaluation criteria 2 Data lines up to: Data lines up to: Severity grade 2 / Evaluation criteria1 Severity grade 4 / Evaluation criteria 2
Test set-up 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 radiation is dependent on the build-up and wiring

If the valve is correctly connected and is wired in accordance with the RE sheet (see list above) the build-up complies with the requirements of the EMC standards EN 50081-1 and prEN 50082-2.

2. Climate

EN 60068-2			**Environmental test**
EN 60068-2-1:1994		Cold test	2 cycles – 25 °C, dwell time 2 hours
EN 60068-2-2:1993		Dry heat test	2 cycles + 55 °C, dwell time 2 hours
EN 60068-2-1:1994 EN 60068-2-2:1993		Storage temperature	– 25 °C dwell time 16 hours + 85 °C dwell time 16 hours
	IEC 68-2-14:1986	Temperature change	2 cycles – 25 °C to + 55 °C Dwell time 3 hours at min./max. temperature
	IEC 68-2-30:1985	Damp heat, cyclical	Variant 2 + 25 °C to + 40 °C 90% to 98% relative humidity 2 cycles of 24 hours (test specimen switched on 1 x and switched off 1x)

3. Mechanical stress

			Vibration test in three axes vertival to each other
prEN 60068-2-6:1994		Sine test	10 cycles, 5 to 2000 to 5 Hz with logarithmic frequency change rate of 1 oct./min. 5 to 57 Hz, amplitude 1.5 mm (p-p) 57 to 2000 Hz, amplitude 10 g Dwell time 20 to 30 min. at one resonance frequency
	IEC 68-2-36:1973	Random test	20 to 2000 Hz, Amplitude 0.05 g^2 / Hz (10 g) Test time 30 min. per axis
EN 60068-2-27:1993		Shock test	Half sine 15 g / 11 ms in positive/negative direction per axis, 18 single shocks in all