

Electric Drives
and Controls

Hydraulics

Linear Motion and
Assembly Technologies

Pneumatics

Service

Rexroth
Bosch Group

Declaration on environmental compatibility in the fields of EMC¹⁾, climate and mechanical stress

RE 29564-U/12.07 1/4

Typ 4WS(E)2EM 6 -2X

4/3 directional servo-valve
with mechanical position feedback

Product types

- 4WS(E)2EM 6 -2X according to data sheet RE 29564

Description of the product family

Electrically operated 2-stage 4/3 servo-valve, size 6, with mechanical feedback

Functionality:

- position control
- force control
- pressure control
- velocity control

¹⁾ in the sense of the EMC law dated 30th August 1995 and Directive 89/336/EEC)

The above products comply with the following standards:

1. EMC (electromagnetic compatibility)

Testing according to specialized basic standard prEN 50082-2:1996, VDE 0839 part 82-2

Type 4WSE2EM 6-20 (with on-board electronics)

EN 61000-4-2:1995 IEC 1000-4-2	VDE 0847-4-2	ESD (electrostatic discharge)	Air discharge: Severity 3 / assessment criterion A Contact discharge: Severity 4 / assessment criterion A
EN 61000-4-4:2004 IEC 1000-4-4	VDE 0847-4-4	BURST (transient discharge)	Supply voltage: Severity 3 / assessment criterion B Datenleitung: Severity 4 / assessment criterion B
EN 61000-4-6:1996 IEC 1000-4-6	VDE 0847-4-6	HF-Felder, conducted interference	Schärfegrad 10 V/m assessment criterion A (shield connected on both sides)

2. Climate

Testing according to EN 60068-2 / IEC 68-2 (Environmental test)

Type 4WS2EM 6-20 (without on-board electronics)

EN 60068-2-1:1994		Cold test	2 cycles -30 °C Dwell time 2 hours
EN 60068-2-2:1993		Dry heat test	2 cycles +70 °C Dwell time 2 hours
EN 60068-2-1:1994 EN 60068-2-2:1993		Storage temperature	-30 °C, Dwell time 16 hours +80 °C, Dwell time 16 hours
	IEC 68-2-14:1986	Temperature cycle	2 cycles -30 °C to +70 °C Dwell time 3 hours each at min. / max. temperature
	IEC 68-2-30:1985	Damp heat, cyclical	variant 2 +25 °C to +55 °C 93 % to 97 % relative humidity 2 cycles, 24 hours each

Type 4WSE2EM 6-20 (with on-board electronics)

EN 60068-2-1:1994		Cold test	2 cycles -20 °C Dwell time 2 hours
EN 60068-2-2:1993		Dry heat test	2 cycles +60 °C Dwell time 2 hours
EN 60068-2-1:1994 EN 60068-2-2:1993		Storage temperature	-20 °C, Dwell time 16 hours +80 °C, Dwell time 16 hours
	IEC 68-2-14:1986	Temperature cycle	2 cycles -20 °C to +60 °C Dwell time 3 hours each at min. / max. temperature
	IEC 68-2-30:1985	Damp heat, cyclical	variant 2 +25 °C to +55 °C 93 % to 97 % relative humidity 2 cycles, 24 hours each

The above products comply with the following standards (continued):

3. Mechanical stress

Vibration and shock test according to EN 60068-2 / IEC 68-2 / DIN 40046 (Environmental test)
 Tests were carried out in three axes.

prEN 60068-2-6:1994			Sine test	10 cycles, 5...2000 ...5 Hz at a 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
	IEC 68-2-36:1973	DIN 40046-24:1977	Random test Broadband-noise	20 to 2000 Hz, amplitude 0,05 g ² / Hz (10 g RMS) testing time 30 min each axis
EN 60068-2-27:1993			Shock test	Half sine 15 g / 11 ms, 3 x in positive / 3 x in negative direction per axis; in total, 18 individual shocks

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