

**ROUTINE TEST CERTIFICATE**
**No.**
**acc. to ČSN EN 10204 – 3.1**

Motor Type	7HLU 3436 P/44-VA	Serial No.	
Manufacturing Year		Inspection No.	
Test Procedure	104_ZK	Routine Test Date	
Inspect. Procedure	CP_ED611811	Standard	

**TRACTION MOTOR COMPLETENESS**

Reviewed Areas	The traction motor was visually inspected. There were no defect. Dimension inspection was carried out during the interoperation inspection accordance to documentation.	Test Result

**INSULATION RESISTANCE IN COLD STATE**

Measured Areas	Test Voltage [V]	Insulation Resistance Riz [MΩ]	Criteria Riz [MΩ]		Test Result
			Min.	Max.	
Winding to frame	1 000		1 000	–	
Pt sensor from winding to winding	1 000		1 000	–	
Pt sensor from winding to frame	1 000		1 000	–	

**RESISTANCE OF Pt100 SENSORS IN COLD STATE**

Measured Areas	Resistance Pt100 [Ω]	Temperature T from Pt100 [°C]	Criteria T [°C]		Test Result
			Min.	Max.	
Pt100 No. 1 on winding			15.0	40.0	
Pt100 No. 2 on winding			15.0	40.0	

**STATOR WINDING RESISTANCE IN COLD STATE**

Stator Winding Phase Resistance		Phase Resistance Rs [mΩ]	Phase Resistance at 20°C Rs20 [mΩ]	Criteria Rs20 [mΩ]		Test Result
				Min.	Max.	
Stator Winding	U - V			239.400	264.600	
	U - W			239.400	264.600	
	V - W			239.400	264.600	

**WINDING INDUCTANCE**

Winding inductance for 1 kHz		Inductance L [mH]	Criteria L [mH]		Test Result
			Min.	Max.	
Stator winding	U - V		4.08	6.12	
	U - W		4.08	6.12	
	V - W		4.08	6.12	

**RUNNING-IN TEST**

Condition	n [1/min]	Time of running	Direction	Criteria	Test Result
No load	100 ÷ 450	30 min	Right	No defect	

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**DIRECTION OF ROTATION**

Measured Areas	Criteria	Test Result
Direction of rotation check U-V-W (when viewed from the side of the sensed bearing)	Right / CW	

**SHORT-TIME HEATING RUN**

Supply parameters		Time t [min]	Winding temp. Tvin [°C]	Criteria Tvin [°C]		Test Result
f [Hz]	I [A]			Min.	Max.	
–	–			95.0	105.0	

**VIBRATION TEST IN WARM STATE**

Rotation direction	Speed n [1/min]	Effective value of vibration speed for point No. [mm/s]						Criteria [mm/s]		Test Result
		X	Y	Z	–	–	–	Min.	Max.	
Right	400				–	–	–	–	1.80	

**VOLTAGE CONSTANT**

Measured Areas	Measured value [V / 1000 1/min]	Criteria		Test Result
		Min.	Max.	
Voltage constant at 20°C		1 131.3	1 319.9	

**DIELECTRIC TEST IN WARM STATE**

Test Area	Test Voltage			Winding Temp. [°C]	Current Iz [mA]	Criteria	Test Result
	Uz [V]	f [Hz]	t [s]				
Winding to frame (Pt grounded)	3 500	50	60			No defect	
Pt sensor to frame	500	50	60			No defect	

**INSULATION RESISTANCE IN WARM STATE**

Measured Areas	Test voltage [V]	Insulation resistance Riz [MΩ]	Criteria Riz [MΩ]		Test Result
			Min.	Max.	
Winding to frame	1 000		100	–	
Pt sensor from winding to winding	1 000		100	–	
Pt sensor from winding to frame	1 000		100	–	

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**POSITION SENSOR AND SPEED SENSOR**

Measured Areas	Measured Value	Criteria		Test Result
Zero position of position sensor		0	255	
Speed sensor function	–	No defect		
Software version of sensor bearing		–		–
Position sensor (bearing) No.		–		–
Settings performed by (technician)		–		–

**FINAL CONCLUSION**

**Traction motor passed Routine test  
and technical customer requirements.**

In Plzen on xx/xx/20xx

Ing. Karel Zvoneček  
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