



Valid for: WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

Contents

1	Introduction.....	2
1.1	Aim and purpose	2
1.2	Validity and scope	2
1.3	Referenced documents.....	2
1.4	Terms and abbreviations	2
1.5	Symbols used	2
2	Malfunctions with error code	3
3	Malfunctions and messages without error codes	10
3.1	WAASLQWP.11014.....	10
4	Malfunctions without fault messages	11
5	Hints	11
6	Operating and display elements	12
6.1	Model WAAL.11010.....	12
6.2	Models WAAS.11011, WAASL.11012	13
6.3	Models WAASLQ.11013, WAASLQWP.11014	14
7	Demo mode	15
7.1	Requirement	15
7.2	Switching on	15
7.3	Switching off	15
8	Stability check	16
8.1	Requirement	16
8.2	Switching on	16
8.3	Switching off	16
9	Diagnostic mode	17
9.1	Requirement	17
9.2	Switching on	17
9.3	Operation.....	17
9.4	Switching off	18
10	Programme for function tests	18
10.1	Requirement	18
10.2	Switching on	18
10.3	Operation.....	19
10.4	Switching off	19
10.5	"Filling" function test	19
10.6	"Circulation" function test	19
10.7	"Heating elements" function test	20
10.8	"Pumping off" function test	20
10.9	"Inertia measurement" function test	21
10.10	"Unbalanced load" function test	21
10.11	Ending function test	22

**Record of modifications**

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1 Introduction**1.1 Aim and purpose**

This document lists all error messages along with their possible causes and solutions. Its purpose is to help service technicians diagnose problems.

1.2 Validity and scope

This document is valid for the following series of V-ZUG washing machines:

- WAAL.11010
- WAAS.11011
- WAASL.11012
- WAASLQ.11013
- WAASLQWP.11014

1.3 Referenced documents

[1] W4.2466D Description of function: Normal and special operation

1.4 Terms and abbreviations

Table 1: Terms and abbreviations

Abbreviation	Term	Definition
CDIF	Control data firmware interface	
CC	Control communications	
EEPROM	Electrically erasable programmable read-only memory	https://de.wikipedia.org/wiki/Electrically_Erasable_Programmable_Read-Only_Memory
FW	Firmware, appliance software	
MW valve	Water inlet valve for introducing the main washing detergent (with pre-assembled valve body W41121)	
NTC	Negative temperature coefficient thermistor	https://de.wikipedia.org/wiki/Hei%C3%9Fleiter
PFIF	Process firmware interface	
PGIF	Programme interface	
VAS	Vibration Absorbing System	http://www.vzug.com/ch/de/int_technologies_vas_waschmaschinen?searchHighlight=true
FC valve	Water inlet valve for introducing the fabric conditioner (with pre-assembled valve body W41121)	
VS valve	Volume flow switching valve (integrated in Aquastop hose)	
PW valve	Water inlet valve for introducing the pre-wash detergent (with pre-assembled valve body W41121)	
ULC	Unbalanced load compensation	

1.5 Symbols used

- Denotes an action or a test step to be taken by the user or the tester
- = Describes the appliance's reaction or display
- Describes a manual check performed by the user

**2 Malfunctions with error code**

Table 2: Malfunctions with error code

E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E3	F16	Acceleration sensor, channel X	Analog input higher than about 3.2V	- Replace sensor - Check wiring and replace if necessary
E4	F16	Acceleration sensor, channel Y	Analog input higher than about 3.2V	- Replace sensor - Check wiring and replace if necessary
E7	F16	Acceleration sensor, channel X	Analog input lower than about 0.1V	- Replace sensor - Check wiring and replace if necessary
E8	F16	Acceleration sensor, channel Y	Analog input lower than about 0.1V	- Replace sensor - Check wiring and replace if necessary
E11	F16	Acceleration sensor, channel X	Acceleration signal statically too low	- Replace sensor - Check wiring and replace if necessary
E12	F16	Acceleration sensor, channel Y	Acceleration signal statically too low	- Replace sensor - Check wiring and replace if necessary
E15	F16	Acceleration sensor, channel X	Acceleration signal statically too high	- Replace sensor - Check wiring and replace if necessary
E16	F16	Acceleration sensor, channel Y	Acceleration signal statically too high	- Replace sensor - Check wiring and replace if necessary
E17		NTC tub	Temperature too low ($\leq 0^{\circ}\text{C}$)	- Inform client
E18	F8	NTC tub	Temperature too high ($\geq 98^{\circ}\text{C}$)	- Replace power unit; check heating element and replace if necessary
E19	F1	NTC tub	Analog input lower than about 0.1V	- Check wiring and replace if necessary - Check connection - Replace NTC
E20	F1	NTC tub	Analog input higher than about 3.2V	- Check wiring and replace if necessary - Check connection - Replace NTC
E21	F1	NTC tub	Surging: Temperature surges faster than time constant	- Replace NTC - Check wiring and replace if necessary
E22		Pressure sensor	Level too low (output voltage lower than 500mV, underpressure)	- Check pressure hose for blockage/water - Replace sensor
E23	F9	Pressure sensor	Overflow level: Higher than 29mbar	- Replace pressure sensor Check water level and replace valves if necessary
E24		Pressure sensor	Analog input lower than about 0.1V	- Replace pressure sensor - Check pressure hose for blockage/water - Check wiring and replace if necessary
E25	F0	Pressure sensor	Analog input higher than about 3.2V	- Replace pressure sensor - Check wiring and replace if necessary - Check pressure hose for residual water and tightness
E26		Mains undervoltage: Mains voltage too low	Mains voltage lower than programmable threshold with hysteresis	- Check mains voltage
E27	U1	Mains overvoltage: Mains voltage too high	Mains voltage higher than programmable threshold with hysteresis	- Check connection - Check mains connection
E28		Mains L2 missing: Phase L2 missing	Error only detected when L2 fails during process, i.e. L2 was present at beginning of process	- Loose contact, bad contact, fuse / circuit breaker tripped, check any second appliance
E29		Mains, no pulse: Faulty voltage measurement or mains power failure	No pulse available for mains voltage measurement. Undervoltage induced.	- Replace power unit
E30		Power unit	12V power feed missing	- Replace power unit



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E31		Heat pump	Maximum value of temperature difference of condenser outlet minus water temperature exceeded	- Clean foreign body trap - Use washing detergent according to manufacturer's instructions - Check circulation pump and wiring and replace if necessary - Clean circulation system - Check temperature sensors and wiring and replace if necessary
E33	A2	Draining fault - foam	Timeout	- Use washing detergent according to manufacturer's instructions - Clean - Check drain hose - Clean outlet - Clean drain bellows and replace if necessary - Check pressure sensor and replace if necessary
E34	A2	Not fallen below zero level	Zero level not reached during draining	- Clean - Check drain hose - Clean outlet - Clean drain bellows and replace if necessary - Check pressure sensor and replace if necessary
E35	A9	Filling - no set water level: Not reached set water level	Process level not reached within defined time during filling	- Set low pressure - Check and fix water inlet - Fix leak
E36	A9	Steam anti-crease: Not reached set water level	During steam filling phase, water level not reached within defined time	- Turn on water tap - Check Aquastop and valves and replace if necessary
E37		Steam anti-crease: Water level too high	During steam filling phase, maximum water level detected before back-flow test	- Replace Aquastop hose or VS valve - Replace pressure sensor
E38		Steam anti-crease: Back-flow test	After reaching set level, back-flow through load detected during filling before steaming	- Stand appliance level - Check pressure measuring system and replace if necessary - Check pressure sensor and replace if necessary
E39		Steam anti-crease: No plausible values	Set level during filling for steam anti-crease too low	- Stand appliance level - Check pressure sensor and replace if necessary
E40	A9	Filling - no flow, no level: No rise in level and no flow	Rise in level not detected during filling and water counter not counting	- Open - Check inlet - Check valves - Replace Aquastop - Clean inlet filter - Check
E41		Filling - level, no flow: Rise in level but no flow	Rise in level detected, but water counter not counting	- Replace water counter - Check pressure sensor and water inlet
E42	A6	Filling - flow, no level: No rise in level but flow	Rise in level not detected, but water counter counting	- Insert foreign body trap - Fix leak and check leak sensor - Replace power unit - Replace pressure sensor, replace hose
E43	F7	Heating taking too long	Set temperature not reached within a certain time, while minimum water level for heating is always reached	- Replace heating element - Replace power unit - Check wiring and replace if necessary - Check NTC and replace if necessary
E44	F7	Heating taking too long, with heating level not being reached at times	Heating taking too long, with heating level not being reached at times	- Pressure sensor with wiring, check air chamber and pressure hose - Check for tightness
E45		Heating: Too high a rise in temperature	Temperature gradient, quantity of water and mains voltage determine heat output; detects if water is heating up too quickly (typical during foaming)	- Use washing detergent according to manufacturer's instructions



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E46		Heating: Temperature falling	Temperature falls during heating: Foam has probably been detected (occurs in three stages)	- Use washing detergent according to manufacturer's instructions
E47		Rise in temperature insufficient	After a certain time, temperature does not rise or rises insufficiently	- Replace power unit; check heating elements and replace if necessary
E48	F2	Heating: Temperature above set value	After heating element is switched off and after additional waiting time, a certain temperature limit may no longer be exceeded	- Replace power unit; check heating elements and replace if necessary
E49		Water level rising	Level rises sharply before pause in reverse (typical during foaming)	- Use washing detergent according to manufacturer's instructions
E50		Lowering of water level with circulation	Lowering of water level in main wash after switching on circulation: Foam likely detected	- Use washing detergent according to manufacturer's instructions
E51		Circulation pump: Water level detection	Water level does not drop when switched on, even though at least one medium-sized load is detected: Circulation fault	- Clean foreign body trap - Replace circulation pump - Clean circulation nozzle and pipe
E52		Circulation pump: Turbidity detection	Turbidity signal does not change when switched on; detected minimum drop in water level: Circulation fault	- Clean foreign body trap - Replace circulation pump - Clean circulation nozzle and pipe
E53	A3	Message to clean circulation pump filter	Circulation pump fault detected several times after several consecutive washing processes	- Clean foreign body trap - Check circulation pump and wiring and replace if necessary - Clean circulation system
E54		Turbidity sensor	The turbidity sensor could not be calibrated because the value lies outside the valid range	- Check turbidity sensor and replace if necessary - Clean circulation pipe - New final rinse with clean water
E55		Intermediate spinning	Intermediate spinning aborted	- Inform customer (see operating instructions)
E56	A2	Spin: Rebalance load	Zero level is not reached	- Use washing detergent according to manufacturer's instructions - Clean - Check drain hose - Clean outlet - Clean drain bellows and replace if necessary - Check pressure sensor and replace if necessary
E57	A5	Final spin: Minimum spin speed (450 rpm) not reached	Ramp-up limit could generally not be overcome during final spin	- Inform customer (see operating instructions)
E58	A5	Final spin: Minimum spin speed (450 rpm) not reached	Limit for constant deflection measurement could generally not be overcome during final spin	- Inform customer (see operating instructions)
E59	A5	Final spin: Minimum spin speed (450 rpm) not reached	Measuring spin speed could generally not be reached during final spin	- Wash large and small items together to reduce the possibility of unbalanced loads forming
E60	A5	Final spin: Minimum spin speed (450 rpm) not reached	Load generally too large or could not be determined during final spin	- Instructions for washing detergent dosage - Check draining system
E61	A5	Final spin: Minimum spin speed (450 rpm) not reached	Unbalanced load generally too large or could not be determined during final spin	- See A5 in operating instructions - Instructions for washing detergent dosage - Check draining system
E62	A5	Final spin: Minimum spin speed (450 rpm) not reached	During final spin, compensation time (170 rpm) generally elapsed	- Check dispenser housing (slime on ULC), mesh and filters - Clean teeth on pulley - No action needed; could be outlier - Check vanes for mechanical damage and replace drum if necessary



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E63	A2	Final spin: Minimum spin speed (450 rpm) not reached	Detected foam during final spin	- Instructions for washing detergent dosage - Check draining system
E64	A5	Final spin: Minimum spin speed (450 rpm) not reached	Set spin speed stage not reached during final spin	Check load, ULC test
E65	A5	Final spin: Minimum spin speed (450 rpm) not reached	Detected heavy rocking movement	- Check load, ULC test
E66	F16	Model 265 only: WukXdZuHoch	Acceleration signal (X1 - X2 too great)	- Check assembly
E67		Spin: Starting up spinning level	Spin speed (min. 450 rpm) not reached	- Check dispenser housing, mesh and filters - Clean teeth on pulley - No action needed; could be outlier - Check vanes for mechanical damage and replace drum if necessary - Inform customer (see operating instructions)
E68		Spin: Starting up spinning level	Acceleration value exceeding the threshold value even at reduced set spin speed (safety spin speed)	- Replace drum - Check ULC tubing (nozzles, etc.) and replace if necessary - Secure sensor
E69		Spin: Foam during spinning	Spin stop due to level being too high (water is not draining off quickly enough or there is foaming)	- Use washing detergent according to manufacturer's instructions - Clean - Check drain hose - Clean outlet - Clean drain bellows and replace if necessary
E70		Door open during process	For a certain period, open door detected during the process (apart from being open for adding washing)	- Check door contact - Check wiring, contacts - Check emergency door release - Replace power unit
E71	F3	Door contact not opening	Door not opening after having activated the door opener	- Check door - Replace door lock, find leak, check door bellows for tightness - Check door lock and replace if necessary - Check power unit and replace if necessary
E72	F16	Drum position sensor	For a certain period, no pulse from drum position sensor detected even though motor is turning quickly	- Clean and properly install drum position sensor, replacing if necessary - Check wiring and replace if necessary - Check power unit and replace if necessary
E73		Drum position sensor	Sometimes detected delta spin speed of over 3,270: Likely failure of at least one pulse of the pulley	- Replace pulley
E74		Drum position sensor	Delta spin speed delivering no valid values for a longer period of time	- Replace drum position sensor - Check power unit and replace if necessary
E75		Acceleration sensors X	Acceleration measurement X delivering no valid values for a longer period of time	- Replace acceleration sensor - Check power unit and replace if necessary
E76		Acceleration sensors Y	Acceleration measurement Y delivering no valid values for a longer period of time	- Replace acceleration sensor - Check power unit and replace if necessary
E77	F6	Water leak sensor	Water leak sensor trips. (Sensor defect cannot be detected.)	- Fix leak (traces of leak) - Check wiring
E78		Water counter	Water counter has exceeded maximal value in part of programme. Counter is reported as faulty until end of process	- Replace water feed



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E79		Water counter	No or too few pulses detected even though water counter has been passed. Counter is reported as faulty until enough pulses are detected again	- Replace water feed
E80		Water counter	Pulses detected with valves closed	- Replace valves - Replace water feed
E81		Reverse	Acceleration (X or Y) too great	- No action needed - Secure acceleration sensor(s) - Check wiring and replace if necessary - Replace acceleration sensor
E82		Keypad	At least one button remains depressed for a longer period of time	- Replace control unit
E83		Energy counter, heating element calibration	Heating element calibration data not (fully) available	- No action needed; calculated based on default values (Occurs when the control unit is replaced, unless the data is transferred.)
E85	F5	EEPROM	Unable to read data from EEPROM	- Replace control unit
E86	F5	EEPROM	Unable to write data to EEPROM	- Replace control unit
E87		EEPROM	Status register detects unprotected blocks outside the configuration	- Replace control unit
E88	F5	Flash	Checksum of programme memory of power unit incorrect	- Replace power unit
E89		Watchdog RESET	Watchdog RESET of power unit	- No action needed
E90	F5	Power unit data invalid	Configuration data interface version does not match software version	- Replace power unit
E91	F5	Checksum of power unit data (configuration data) is incorrect	Calculated checksum does not match checksum stored in programme memory	- Replace power unit
E93		Motor winding temperature	Thermal model of motor winding temperature indicates value is too high	- Check level sensor - Check bearing, foreign objects?
E94	F10	Intermediate circuit voltage too high	Motor control unit error: Set spin speed is cleared	- Check mains voltage - Check power unit and replace if necessary - Check motor speed and replace motor if necessary
E96	F12	Communication between motor control unit and power/control unit	Communication interrupted	- Update Firmware - Replace motor control unit - Check cable and replace if necessary - Check power unit. Replace if necessary
E97		Error during rocking movement	Home index or desired position of pulley could not be found: Set spin speed is cleared	- Clean and properly install drum position sensor, replacing if necessary - Check wiring and replace if necessary - Check motor control unit and replace if necessary
E98	F11	No speed signals	Motor control unit with no motor speed signals: Set spin speed is cleared	- Test appliance without wash load - Replace motor cable - Replace motor - Replace motor control unit
E99		High cooling plate temperature	Reverse mechanics is reduced	- No action needed
E100	F10	Overcurrent detected	Motor control unit error: Set spin speed is cleared	- Check for foreign objects - Check motor control unit and replace if necessary - Check motor - Check wiring
E101	F15	Cooling plate temperature very hot	Set spin speed is cleared	- Replace motor control unit
E102		Motor control unit with mains voltage failure	Mains voltage for motor control unit too low or failure: Set spin speed is cleared	- Check mains voltage - Replace motor control unit



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E103	F10	Slip error detected	Slip monitoring: Speed pulse / drum position pulse	- Check belt - Check drum position sensor - Check wiring and replace if necessary - Moisture in the motor connector (/motor) => check tub ventilation, WUK connection for leaks.
E104		Faulty temperature sensor on cooling plate	Detected short circuit or interruption in sensor, while NTC in tub delivers plausible values	- Replace motor control unit
E105		Stop time too long during inertia measurement	Stop time too long during inertia measurement	- No action needed
E106		Turbidity sensor	Calibration error: The two measurements taken in quick succession produce significantly different values	- Check turbidity sensor cable and replace if necessary - Replace turbidity sensor
E107		No relay calibration yet	Default values are used	- Replace power unit
E108		Relay calibration	A value lies outside valid range: Default value used	- Replace power unit
E109	F14	Incompatible OS comm version	Control unit SW does not match power unit SW	- Read FN (serial number) on identification plate; check number of assembly unit of control unit and power unit, and configure control unit and/or power unit with relevant software, process or control data if necessary
E110	F14	Incompatible OS core version	Control unit SW does not match power unit SW	- Read FN (serial number) on identification plate; check number of assembly unit of control unit and power unit, and configure control unit and/or power unit with relevant software, process or control data if necessary
E111	F14	Incompatible app comm version	Control unit SW does not match power unit SW	- Read FN (serial number) on identification plate; check number of assembly unit of control unit and power unit, and configure control unit and/or power unit with relevant software, process or control data if necessary
E112	F14	Incompatible PFIF version	Process does not match software	- Configure control unit in accordance with process
E113	F14	Incompatible external resources version	Data in external flash of control unit do not match software	- Configure control unit in accordance with external resources
E114	F14	External resources invalid	Data in external flash of control unit are invalid in external resource	- Configure control unit in accordance with control data
E115	F5	Process invalid	Process does not match software	- Configure control unit in accordance with process
E117		Assert control unit	SW error; control unit causes reset	- Configure control unit software with higher index - Replace control unit
E118	F12	No connection to control unit	Break in communication between control unit and power unit	- Check connecting cable between power unit and control unit and replace if necessary
E119		Assert power unit	SW error; power unit causes reset	- Configure power unit software with higher index - Replace power unit
E120	F12	No connection to power unit	Break in communication between control unit and power unit	- Replace connecting cable
E121		Watchdog RESET	Watchdog RESET of control unit	- No action needed
E122	F5	Flash	Checksum of programme memory of control unit incorrect	- Replace control unit
E123	F17	Function test	Water counter not counting	- No action needed
E124	F17	Function test	Water temperature not rising	- No action needed
E125	F17	Function test	Load value does not correspond to empty drum	- No action needed



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E126	F17	Function test	Unable to create unbalanced load	- No action needed
E127	F17	Function test	Unable to compensate unbalanced load	- No action needed
E128	F14	Model identification	Detected invalid (none or unknown) hardware configuration code for power unit	- Check/Replace model identification plug
E129	F14	Model identification	Model ID of control unit is not compatible with model ID of power unit	- Replace control unit with suitable control unit
E130		Heat pump	Hot-gas temperature too high	- No action needed; cannot be repaired in the field - Check sensor and replace if necessary - Check wiring and replace if necessary - Check electrical connection of compressor and correct if necessary - Check mains voltage
E131		Heat pump	Heat pump is switched off due to inadequate circulation	- No action needed
E132		Ambient temperature	Ambient temperature could not be determined	- No action needed - Check sensor and replace if necessary
E133		NTC condenser	Temperature too low ($\leq 0^{\circ}\text{C}$)	- Inform client - Replace condenser temperature sensor
E134		NTC condenser	Temperature too high ($\geq 98^{\circ}\text{C}$)	- Replace power unit; check heating element and replace if necessary - Replace condenser temperature sensor
E135		NTC condenser	Analog input lower than about 0.1V	- Check wiring and replace if necessary - Check connection - Replace condenser temperature sensor
E136		NTC condenser	Analog input higher than about 3.2V	- Check wiring and replace if necessary - Check connection - Replace condenser temperature sensor
E137		NTC condenser	Surging: Temperature surges faster than time constant	- Replace condenser temperature sensor - Check wiring and replace if necessary
E138		NTC hot gas	Temperature too low ($\leq 0^{\circ}\text{C}$)	- Inform client - Replace hot-gas temperature sensor
E139		NTC hot gas	Temperature too high ($\geq 115^{\circ}\text{C}$)	- Replace power unit, check heat pump - Replace hot-gas temperature sensor
E140		NTC hot gas	Analog input lower than about 0.1V	- Check wiring and replace if necessary - Check connection
E141		NTC hot gas	Interruption: Analog input higher than about 3.2V	- Check wiring and replace if necessary - Check connection - Replace hot-gas temperature sensor
E142		NTC hot gas	Surging: Temperature surges faster than time constant	- Replace hot-gas temperature sensor - Check wiring and replace if necessary
E144		IFD	IFD communication failed	- Check connecting cable and replace if necessary
E145	F14	Programme parameters	Contradictory programme selection	- Check connection table
E146	A3	Message to clean circulation pump filter	Circulation pump fault detected several times after several consecutive washing processes with heat pump	- Clean - Check/Replace
E147		Heating with heat pump	Exceeded temperature differential (see E31) and programme without foam	- Clean foreign body trap - Check circulation pump and wiring and replace if necessary - Clean circulation system - Check temperature sensors and wiring and replace if necessary
E148		NVRAM in flash	Detected write, clear, structure or checksum errors	- Replace power unit



E#	F/A/U	Alias, component, event	Detection, mechanism	Measure(s)
E149		Heating with heat pump	Temperature rises too slowly	- Cannot be repaired in the field - Check overload protection and replace if necessary - Replace power unit - Check and clean ventilation and ball valve - Inform client - Check mains connection
E150		Heating with heat pump	Functioning of heat pump is questioned	- See troubleshooting section for causes of such errors
E151	F18	Heating with heat pump: Message: "Washing at reduced energy efficiency still possible ..."	Heat pump deemed faulty when E150 is detected several times	- See troubleshooting section for causes of such errors
E152		No mains voltage calibration	Default values are used	- Perform mains voltage calibration in installed state
E153		NVRAM in EEPROM	Could not read data as EEPROM busy or read error	- Replace control unit

3 Malfunctions and messages without error codes

3.1 WAASLQWP.11014

Table 3: Malfunctions and messages without error codes

Display text	Possible causes ¹⁾	Possible measures
- Display "Defective heat pump"	- Heat pump module defective - Error message is caused indirectly by other errors/causes (often apparent during test run)	- Perform refrigerant test - Operate without heat pump for the time being until replaced - Reset error: ☞ With the appliance door closed, hold the [◀±] + [▶▶] buttons depressed for 10 seconds = Display "Customer services" ☞ Press the [CS configuration mode] touch button = Display "CS config. mode" ☞ Press the [Reset heat pump error] touch button = Display "Reset heat pump error" ☞ Press the [Yes ✓] touch button
--	If desired: suppress the heat pump error message with defective heat pump:	☞ Change to the user settings by pressing the button [◀±] and then  ☞ Choose the touch button  (only possible if heat pump is defective) = "Display HP error message Yes / No" ☞ choose [No], confirm with [ok] => Heat pump error message is no longer displayed.

1) Ranked by frequency. Report any additions/amendments to the compiler


Note:

A defective heat pump module is only detected after three poor wash cycles.



4 Malfunctions without fault messages

Table 4: Malfunctions without fault messages

Malfunction	Possible causes ¹⁾	Possible measures
- Hygiene recommendation cannot be reset using "60°C eco"	- Process data possibly obsolete	- Load latest process data
- Problem during spinning, although unbalanced load test was performed successfully	- Vibration problem with > 60°C programmes. "Motor values" cannot be read using ZUG Diagnostics - Further inconsistencies with inertia measurement - Load which possibly cannot be spun by the appliance	- Replace motor control unit - Replace motor - One possibility would be to offer the customer advice on how to load the appliance to avoid unbalanced loads
- Drum only rotating slowly, spluttering	- Faulty motor control unit - Faulty motor	- Check wiring between motor control unit and motor
- Device pauses shortly after starting process	- Last washing program was paused and then aborted using [▶▶].	- Press Pause - Inform customer
- Wet washing and some water in the drum after steam anti-crease	- water level measurement faulty	- Run three times coloured washing with towelling. The level measurement will adjust automatically - Usual water level during steam anti-crease is 2.9 - 5.2cm (2.9 - 5.2mbar). - Check aquastop

1) Ranked by frequency. Report any additions/amendments to the compiler

5 Hints

Table 5: Hints

Hint	Possible causes	Possible measures
- After replacement of the control unit / aperture, total batch counter has about 2000 batches.	- CS control unit has by definition a total number of batch of approximately 2000 (Process optimization of replacement of older equipment)	- Transfer data from the old control unit with ZUGer diagnosis.

6 Operating and display elements

6.1 Model WAAL.11010

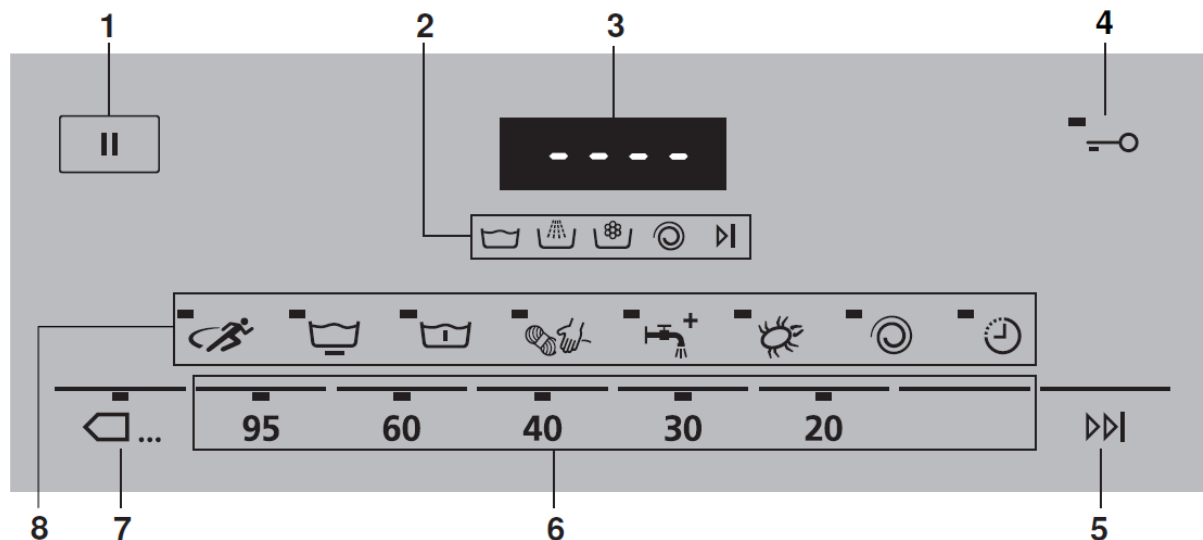


Figure 1: Operating and display elements WAAL.11010

Table 6: Operating and display elements WAAL.11010

Operating and display element	Description	Symbol
1	Pause	
2	Programme progress display	
3	Display	
4	Door opener	[-O]
5	Fast forward / End of programme	[>>]
6	Whites and coloureds programmes	[60]
7	Standard programmes	[< ±]
8	Additional functions	[< *], [@]

6.2 Models WAAS.11011, WAASL.11012

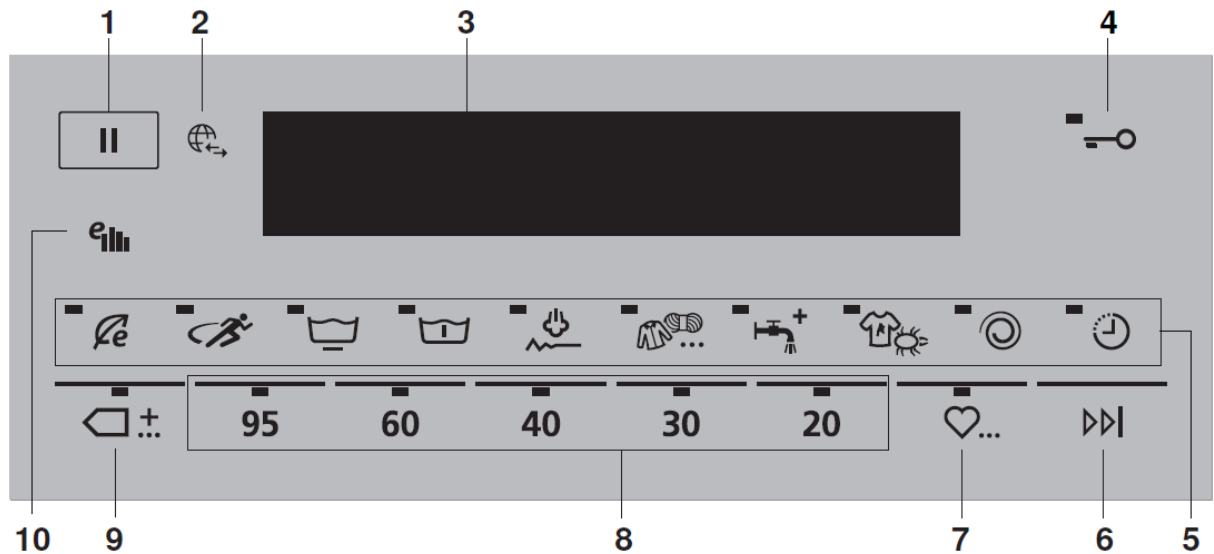


Figure 2: Operating and display elements WAAS.11011/WAASL.11012

Table 7: Operating and display elements WAAS.11011/WAASL.11012

Operating and display element	Description	Symbol
1	Pause	
2	V-ZUG-Home	
3	Display	
4	Door opener	[=O]
5	Additional functions	[<A>], [A]
6	Fast forward / End of programme	[>>]
7	Favourites ¹⁾	
8	Whites and coloureds programmes	[60]
9	Standard and extra programmes	[<A>]
10	EcoManagement	

1) Model WAASL.11012 only

6.3 Models WAASLQ.11013, WAASLQWP.11014

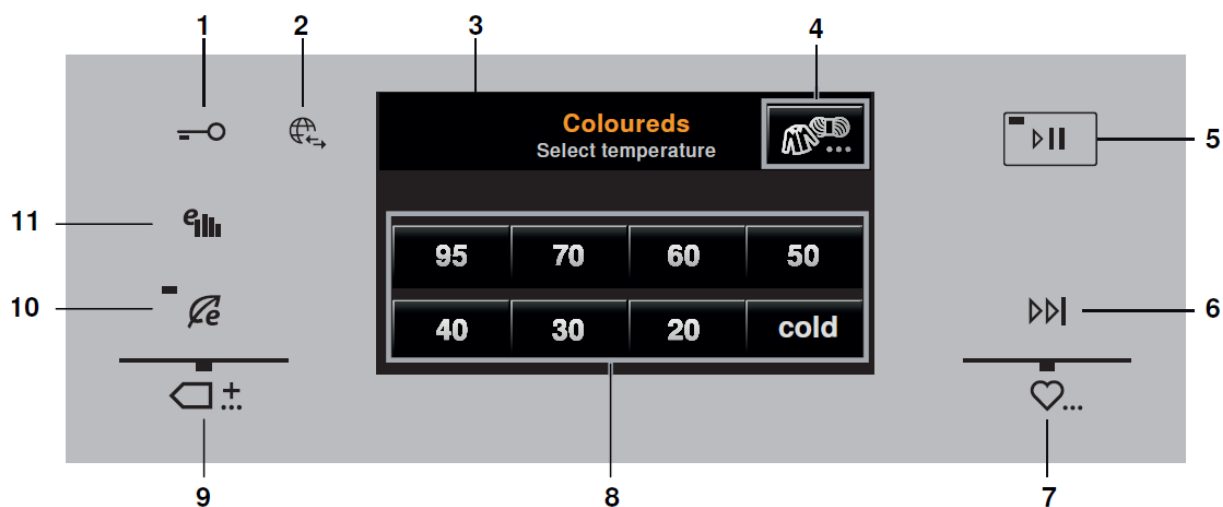


Figure 3: Operating and display elements WAASLQ.11013/WAASLQWP.11014

Table 8: Operating and display elements WAASLQ.11013/WAASLQWP.11014

Operating and display element	Description	Symbol
1	Door opener	[]
2	V-ZUG-Home	
3	TouchDisplay	
4	Touch buttons	
5	Start/Pause	[]
6	Fast forward / End of programme	[]
7	Favourites	[ ...]
8	Touch buttons	
9	Standard and extra programmes	[ ...]
10	Eco	[]
11	EcoManagement	



7 Demo mode

7.1 Requirement

To switch the demo mode on/off, the appliance must be ready for operation, no programme must be running and the appliance door must be open.

7.2 Switching on

7.2.1 WAAL.11010, WAAS.11011, WAASL.11012

- ☞ With the appliance door open, hold the [] + [60] + [] buttons depressed for 5 seconds
- = Display "Demo mode" "OFF", release buttons
- ☞ Press the [60] button.
- = Display "Demo mode" "ON"
- ☞ Press the [] button
- = Display "User settings" "Configuration saved" for 3 seconds

7.2.2 WAASLQ.11013, WAASLQWP.11014

- ☞ With the appliance door open, hold the [] + [] + [] buttons depressed for 5 seconds
- = Display "Demo mode" "Status: Off", release buttons
- ☞ Press the [Demo mode] touch button
- = Display "Demo mode" "Status: On"
- ☞ Confirm with the [ok] touch button

7.3 Switching off

7.3.1 WAAL.11010, WAAS.11011, WAASL.11012

- ☞ With the appliance door open, hold the [] + [60] + [] buttons depressed for 5 seconds
- = Display "Demo mode" "ON", release buttons
- ☞ Press the [60] button.
- = Display "Demo mode" "OFF"
- ☞ Press the [] button
- = Display "User settings" "Configuration saved" for 3 seconds

7.3.2 WAASLQ.11013, WAASLQWP.11014

- ☞ With the appliance door open, hold the [] + [] + [] buttons depressed for 5 seconds
- = Display "Demo mode" "Status: On", release buttons
- ☞ Press the [Demo mode] touch button
- = Display "Demo mode" "Status: Off"
- ☞ Confirm with the [ok] touch button



8 Stability check

8.1 Requirement

To switch the stability check on/off, the appliance must be ready for operation, no programme must be running and the appliance door must be closed.

8.2 Switching on

8.2.1 WAAL.11010, WAAS.11011, WAASL.11012

- ☞ With the appliance door closed, hold the  +  +  buttons depressed for 5 seconds
- = Display "Programme start ...", the stability check starts
- = Display "Create unbalanced load" "please wait ..."

8.2.2 WAASLQ.11013, WAASLQWP.11014

- ☞ With the appliance door closed, hold the  +  +  buttons depressed for 5 seconds
- = Display "Programme start ...", the stability check starts
- = Display "Stability check" "Create unbalanced load, please wait ..."

Alternatively:

- ☞ With the appliance door closed, hold the  +  buttons depressed for 10 seconds
- = Display "Customer services", release buttons
- ☞ Press the [Stability check] touch button
- = Display "Programme start ...", the stability check starts
- = Display "Stability check" "Create unbalanced load, please wait ..."

8.3 Switching off

8.3.1 WAAL.11010, WAAS.11011, WAASL.11012

- ☞ Press the  button
- = Display "Create unbalanced load" "finishing ..."

8.3.2 WAASLQ.11013, WAASLQWP.11014

- ☞ Press the  button
- = Display "Stability check" "Create unbalanced load, finishing ..."

9 Diagnostic mode

9.1 Requirement

To switch the diagnostic mode on/off, the appliance must be ready for operation, no programme must be running and the appliance door can be open or closed.

9.2 Switching on

9.2.1 WAAL.11010, WAAS.11011, WAASL.11012

- ☞ Hold the [◀±] + [▶▶] buttons depressed for 10 seconds
- = Display "CS settings", release buttons
- ☞ Press the [▶▶] button
- = Display "Diagnostic mode"

9.2.2 WAASLQ.11013, WAASLQWP.11014

- ☞ Hold the [◀±] + [▶▶] buttons depressed for 10 seconds
- = Display "Customer services", release buttons
- ☞ Press the [Diagnostic mode] touch button
- = Display "Diagnostic mode", the stability check starts
- ☞ Press the corresponding [Error history], [Error counters], [Clear history/counters] or [Version numbers] touch button

9.3 Operation

9.3.1 WAAL.11010, WAAS.11011, WAASL.11012

Use the [▶▶] and [60] buttons to navigate the menu levels

Table 9: Operation of diagnostic mode

Menu level 1	Menu level 2	Description
Error history	"Error history" "Error history is empty."	- There are no entries
	"Error history" "nn) eee / fff zzzzhzz"	nn: Entry number eee: Error code of malfunction that has occurred (e.g. E77) fff: Error message of malfunction that has occurred (e.g. F6) zzzzhzz: Total operating hours at the time the malfunction occurred
Error counters	"Error counters" "All error counters at null."	- All error counters at null
	"Error counters" "nn) eee / fff zzz"	nn: Entry number eee: Error code (e.g. E77) fff: Error message (e.g. F6) zzz: Number of events
Clear history/counters	"Clear history/counters" "YES: ↓ NO: ↓"	YES: Clear history and counters NO: Do not clear history and counters
Various counters	"Reset counter" " zzz"	zzz: Number of events
	"Operating hours count" " xxxxxh"	xxxxx: Total number of operating hours (rounded)
	"Total cycles counter" " zzz"	zzz: Total number of cycles
Version numbers	"Power unit software" " W4.0499-ii"	Example of identification number of power unit software ii: Identification number index
	"Control unit software" " W4.0469-ii"	Example of identification number of control unit software ii: Identification number index
	"Process" " W4.0059-ii"	Example of identification number of a process ii: Identification number index
	"Operating data" " W4.0600-ii"	Example of identification number of operating data ii: Identification number index
	"Hardware"	Example of identification number of hardware

	" W4.0450-ii"	ii: Identification number index
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9.3.2 WAASLQ.11013, WAASLQWP.11014

Use the [Error history], [Error counters], [Clear history/counters] or [Version numbers] touch buttons to navigate the menu level for the diagnostic mode.

Use the [Fast forward] button to navigate the error history, error counter and version number menu levels.

Caution:

The history and the counters are cleared immediately, without being prompted, by pressing the [Clear history/counters] touch button.

9.4 Switching off**9.4.1 WAAL.11010, WAAS.11011, WAASL.11012**

- ☞ Press the  button repeatedly until the display turns off

9.4.2 WAASLQ.11013, WAASLQWP.11014

- ☞ Press the  button repeatedly until the display turns off
- ☞ Alternatively, the  touch button can be depressed until the display turns off

10 Programme for function tests

With this programme, the appliance's most important functions are checked. The programme runs automatically and takes about 15 minutes. If the appliance control detects a malfunction during the programme sequence, the programme is immediately aborted and a corresponding error message is displayed. Certain steps of the programme require manual action or assessments.

10.1 Requirement

To start the function test, the appliance must be ready for operation and no programme must be running. The drum must be completely empty and, turning it by hand, align a vane exactly in the 6 o'clock position. The appliance door must then be closed.

10.2 Switching on**10.2.1 WAAL.11010, WAAS.11011, WAASL.11012**

- ☞ Hold the  +  buttons depressed for 10 seconds
- = Display "CS settings", release buttons
- ☞ Press the  button until "Function test" appears
- ☞ Press the  button
- = Display "Start function test"
- ☞ Press the  button
- ☞ Display "Programme start ...", the function test starts
- = Display "t1"

10.2.2 WAASLQ.11013, WAASLQWP.11014

- ☞ Hold the  +  buttons depressed for 10 seconds
- = Display "Customer services", release buttons
- ☞ Press the [Function test] touch button
- = Display "Start with the  button"
- = Display "Abort with the  button"
- ☞ Press the  button
- = Display "Programme start ...", the function test starts
- = Display "t1 ..."



10.3 Operation

10.3.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the button to cancel or skip individual test steps
- = Display changes from "t1", "t2", "t3", "t4" "t5", "t6" to "Draining"

10.4 Switching off

10.4.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the button until the "Draining ..." display appears
- = Display changes from "t1...", "t2...", "t3...", "t4..." "t5...", "t6..." to "Draining ..."

10.5 "Filling" function test

The "Filling" function test checks the functioning of the water inlet and valves.

10.5.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the button until the "t1" or "t1..." display appears
- ☞ Pull the detergent dispenser drawer out about 10 cm and check the functioning of the valves
- PW valve is opened for about 3 seconds
- MW valve is opened for about 3 seconds
- FC valve is opened for about 3 seconds
- = Filling using the three valves is repeated in the same fashion
- = Filling using the MW valve is continued until the water level reaches 11mbar
- Check the water level in the drum. The water level should be between 5 mm below and 5 mm above the top edge of the vane.

Table 10: "Filling" function test error

Diagnosis of error	Possible causes 1)	Possible measures
- No water running into the appliance	- Water tap is turned off - Water inlet blocked - Faulty Aquastop valve	- Turn on water tap - Check water inlet - Replace inlet hose
- No water flowing through one or more valves	- Faulty valve - Faulty wiring	- Check valve block and replace if necessary - Check wiring and replace if necessary
- F17/E123 Water counter not counting	- Faulty water counter - Faulty wiring	- Check water counter and replace valve block if necessary - Check wiring and replace if necessary

1) Ranked by frequency. Report any additions/amendments to the compiler

10.6 "Circulation" function test

The "Circulation" function test checks the functioning of the circulation pump.

Following appliance models are equipped with a circulation pump:

- WAASLQ.11013
- WAASLQWP.11014

10.6.1 WAAL.11010, WAAS.11011, WAASL.11012

These appliance models have no "circulation" function test and it is therefore skipped.

10.6.2 WAASLQ.11013, WAASLQWP.11014

- ☞ Press the button until the "t2..." display appears
- = The circulation pump is switched on for 10 seconds
- Check through the appliance door whether the circulation pump is circulating the water

Table 11: "Circulation" function test error

Diagnosis of error	Possible causes 1)	Possible measures
- Circulation not working	- Circulation pump blocked - Faulty wiring - Faulty circulation pump - Faulty power unit	- Remove foreign body trap, clean pump and then replace foreign body trap again - Check wiring and replace if necessary - Check circulation pump and replace if necessary - Check power unit and replace if necessary

1) Ranked by frequency. Report any additions/amendments to the compiler

10.7 "Heating elements" function test

The "Heating elements" function test detects any fault with the heating elements.


Note:

If an appliance is connected to another poll conductor (L2), the failure of an individual heating element cannot be detected.

10.7.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the **[>>]** button until the "t3" or "t3..." display appears
- = The tub is filled or refilled, as required, and the heating elements are switched on
- = The rise in temperature is monitored by the appliance control
- Check whether this function test can be ended without any error message and whether "t4" or "t4..." for the next function test is displayed

Table 12: "Heating elements" function test error

Diagnosis of error	Possible causes 1)	Possible measures
- F17/E124 Water temperature not rising	- Faulty heating element - Faulty wiring - Faulty power unit	- Check heating element and replace if necessary - Check wiring and replace if necessary - Check power unit and replace if necessary

1) Ranked by frequency. Report any additions/amendments to the compiler

10.8 "Pumping off" function test

The "Pumping off" function test checks the functioning of the drain pump and the draining system.

10.8.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the **[>>]** button until the "t4" or "t4..." display appears
- = The drain pump is switched on to drain off the water that is in the tub
- = If there is a problem with the pumping-off of the water, the pumping-off may be repeatedly interrupted
- Check whether the water in the tub is pumped off quickly

Table 13: "Pumping off" function test error

Diagnosis of error	Possible causes 1)	Possible measures
- The water is being pumped off only slowly - The pumping-off of the water is interrupted	- Drain pump blocked - Drain hose twisted or pinched - Foam in the tub	- Clean drain pump - Lay drain hose correctly - Run wash programme without washing detergent
- A2/E34 Zero level not reached during draining	- Drain pump blocked - Drain hose twisted or pinched - Faulty wiring - Faulty drain pump - Faulty power unit	- Clean drain pump - Lay drain hose correctly - Check wiring and replace if necessary - Check drain pump and replace if necessary - Check power unit and replace if necessary

2) Ranked by frequency. Report any additions/amendments to the compiler

10.9 "Inertia measurement" function test

The "Inertia measurement" function test measures the load with the drum empty to check the corresponding measuring system.

10.9.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the [▶▶] button until the "t5" or "t5..." display appears
- Check the drum is empty before starting the function test.
- = The drum is accelerated twice so as to measure the amount of time it takes to bring the appliance to an unbraked and a braked stop
- = The appliance control determines a load from the stop times and then compares this with a threshold value for the inertia value of an empty drum
- Check whether this function test can be ended without any error message and whether "t6" or "t6..." for the next function test is displayed

Table 14: "Inertia measurement" function test error

Diagnosis of error	Possible causes 1)	Possible measures
- F17/E125 Load value does not correspond to empty drum	- Drum is not empty - Pulley with big irregularities - Faulty motor - Faulty power unit - Faulty drum	- Remove all wash items and objects out of the drum - Check pulley and replace if necessary - Check motor and replace if necessary - Check power unit and replace if necessary - Check drum and replace if necessary

3) Ranked by frequency. Report any additions/amendments to the compiler

10.10 "Unbalanced load" function test

The "Unbalanced load" function test creates an unbalanced load by filling vane 0 with water. This unbalanced load is then compensated by filling vanes 1 and 2. It can be checked that all the vanes are being filled properly as well as that the acceleration sensors and the drum position sensor are functioning properly.



Note:

The "Unbalanced load" function test cannot be started separately. The "Inertia measurement" function test must at least have been carried out beforehand.

10.10.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the [▶▶] button until the "t6" or "t6..." display appears
- = The drum is accelerated up to 750 rpm and then vane 0 is filled with water so that an unbalanced load is created
- The appliance noticeably vibrates slightly
- = The unbalanced load created is then compensated by filling vanes 1 and 2
- The slight vibrating decreases again
- Check whether this function test ends without an error message

Table 15: "Unbalanced load" function test error

Diagnosis of error	Possible causes 1)	Possible measures
- F17/E126 Unable to create unbalanced load	- Water tap is turned off - Faulty VS or PW valve - ULC tubing for vane 0 blocked or faulty - Wiring of valves and sensors faulty - Faulty acceleration sensor - Faulty power unit - Faulty drum	- Turn on water tap - Check the VS and PW valves and replace if necessary - Check ULC tubing and replace if necessary - Check wiring and replace if necessary - Check acceleration sensor and replace if necessary - Check power unit and replace if necessary - Check drum and replace if necessary



- F17/E127 Unable to compensate unbalanced load	- Faulty VS, MW or FC valve - ULC tubing for vane 1 or 2 blocked or faulty - Wiring of valves and sensors faulty - Drum position sensor loose or faulty - Faulty processor - Faulty drum	- Check the VS, MW and FC valve and replace if necessary - Check ULC tubing and replace if necessary - Check wiring and replace if necessary - Check drum position sensor and replace if necessary - Check processor and replace if necessary - Check drum and replace if necessary
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1) Ranked by frequency. Report any additions/amendments to the compiler

10.11 Ending function test

The part programme "Draining" ends the function test programme.

10.11.1 WAAL.11010, WAAS.11011, WAASL.11012, WAASLQ.11013, WAASLQWP.11014

- ☞ Press the [▶▶] button until the "Draining" or "Draining..." display appears
- = The vanes are emptied
- = The water is pumped out of the tub
- = Display is switched off
- Check that the function test programme can be ended correctly.

Appendix

List of figures

Figure 1: Operating and display elements WAAL.11010	12
Figure 2: Operating and display elements WAAS.11011/WAASL.11012	13
Figure 3: Operating and display elements WAASLQ.11013/WAASLQWP.11014	14

List of tables

Table 1: Terms and abbreviations	2
Table 2: Malfunctions with error code	3
Table 3: Malfunctions and messages without error codes	10
Table 4: Malfunctions without fault messages	11
Table 5: Hints	11
Table 6: Operating and display elements WAAL.11010	12
Table 7: Operating and display elements WAAS.11011/WAASL.11012	13
Table 8: Operating and display elements WAASLQ.11013/WAASLQWP.11014	14
Table 9: Operation of diagnostic mode	17
Table 10: "Filling" function test error	19
Table 11: "Circulation" function test error	20
Table 12: "Heating elements" function test error	20
Table 13: "Pumping off" function test error	20
Table 14: "Inertia measurement" function test error	21
Table 15: "Unbalanced load" function test error	21