

Overview of the possible system
announcements or.
Warnings for
Hydro jet, Wellsystem and
Wellsystem plus

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Abbreviations:

FU	- frequency converters
STB	- safety temperature limiter
Vdd	- Internal voltage in the FU, not to be measured externally
U_{mess} IZW	- Internal voltage in the FU, not to be measured externally
U_{zw}	- Internal voltage in the FU, not to be measured externally
I_{zw}	- Current in intermediate circuit FU
RTC	- Internal module of the FI
PFC	- power factor correction

Error descriptions

Error message: Hydro-Jet

- E 91 System announcement: Disturbance final counter on the right (Hydro-Jet)**
- Only for Hydro-Jet devices!
 - The limit switch on the head side does not switch on.
 - Possible sources of error are:
 - Limit switch is defective
 - Nozzle carriage is tilted
 - Toothed belt, rack is defective
 - Drive motor defective
 - Gear wheels of the Motor/nozzle carriage is defective
 - Control board, cable connection defective
- E 92 System announcement: Disturbance final counter on the middle (Hydro-Jet)**
- Only for Hydro-Jet devices!
 - The limit switch in the middle does not switch on.
 - Possible sources of error are:
 - Limit switch is defective
 - Nozzle carriage is tilted
 - Toothed belt, rack is defective
 - Drive motor defective
 - Gear wheels of the Motor/nozzle carriage is defective
 - Control board, cable connection defective
- E 93 System announcement: Disturbance final counter on the left (Hydro-Jet)**
- Only for Hydro-Jet devices!
 - The limit switch on the foot side does not switch on.
 - Possible sources of error are:
 - Limit switch is defective
 - Nozzle carriage is tilted
 - Toothed belt, rack is defective
 - Drive motor defective
 - Gear wheels of the Motor/nozzle carriage is defective
 - Control board, cable connection defective
- F 1 System announcement: Disturbance temperature sensor PT100 (Hydro-Jet)**
- Only for Hydro-Jet devices!
 - Possible sources of error are:
 - Temperature sensor faulty
 - Control board defective
 - Cable connection defective
- F 2 System announcement: Short circuit temperature sensor (Hydro-Jet)**
- Only for Hydro-Jet devices!
 - Possible sources of error are:
 - Temperature sensor faulty
 - Control board defective
 - Cable connection defective

Error message Wellsystem:

- E 501 System announcement: Mistake while reading or describing the EEPROMs**
- The data from the EEPROM cannot be readed.
 - Possible sources of error are:
 - Das EEPROM ist defekt oder falsch beschrieben
 - Das EEPROM steckt nicht korrekt in der Steuerplatine
 - Steuerplatine defekt
 - The EEPROM is defective or incorrectly written
 - The EEPROM is not correctly inserted in the control board

- Control board defective
- Check the LED's flashing on the boards 12214 and 12559 (see service documentation)

E 502 System announcement: Mistake while configuring the control panel

- No PC-Bus connection to the control unit.
- Possible sources of error are:
 - Control unit defective
 - Cable connection to the slot board defective
 - Check the adapter bus cable for well system devices.
 - Slot board defective
 - The additional controller on the control board 12214 has not been removed.

E 503 System announcement: Safety switch is open (Open)

- Interruption of the rear/front safety loop cover.
- Possible sources of error are:
 - Open panelling
 - Safety switch or cable connection defective
 - In conjunction with E550,665,765 possibly with a fine fuse on the transformer defective
 - Check in conjunction with E550 temperature safety loop

NoHost System announcement: Communication to the control board with operating unity disturbed

- Only for Wellsystem plus devices!
- Control unit or control board defective.
- Possible sources of error are:
 - Possible static discharge by the user

Error message Wellsystem / Pump:

E 516 System announcement: Mistake while starting the frequency converter pump

- Internal error, possible consequential error due to open side panel (E503).
- If the error occurs together with E550, first check the temperature safety loop.
- Possible sources of error are:
 - Voltage fluctuations under load (< 197V), check pump power supply.
 - Pump or FU faulty

E 517 System announcement: Frequency converter pump voltage Vdd to low

- Measure supply voltage under load, must be above 196V
- Change pump if necessary.

E 518 System announcement: Frequency converter pump voltage Vdd to high

- Measure supply voltage under load, must be below 270V.
- Change pump if necessary.

E 519 System announcement: Frequency converter pump temperature to low

- Temperature in FU or pump too low
- FU or pump defective

E 520 System announcement: Frequency converter pump temperature to high

- Temperature in the FU rises above 80°
- Possible sources of error are:
 - Check temperature profile in the SPC, at temperature jumps and no occurrence of E530 the pump is defective
 - Fan FU defective
 - Water cooling FU defective, if present

E 521 System announcement: Frequency converter pump voltage Umess Izv to low

- Internal error in the FU
- FU or pump defective

- E 522 System announcement: Frequency converter pump voltage U_{mess Iz} to high**
- Internal error in the FU
 - FU or pump defective
- E 523 System announcement: Frequency converter pump intermediate circuit voltage to low**
- Internal error in the FU
 - FU or pump defective
- E 524 System announcement: Frequency converter pump intermediate circuit voltage to high**
- Internal error in the FU
 - FU or pump defective
- E 525 System announcement: Frequency converter pump ripple current to high**
- Internal error in the FU
 - FU or pump defective
- E 526 System announcement: Frequency converter pump motor current to high**
- Possible sources of error are:
 - Pump blocked or sluggish (foreign body in the pump)
 - Fan propeller blocked or stiff
 - Exchange pump if necessary
- E 527 System announcement: Frequency converter pump intermediate circuit voltage U_{zw} with PFC to low**
- Internal error in the FU
 - FU or pump defective
- E 528 System announcement: Frequency converter pump intermediate circuit voltage U_{zw} with PFC to high**
- Internal error in the FU
 - FU or pump defective
- E 529 System alert: Frequency converter pump motor current to low**
- Possible sources of error are:
- Pump swamped
 - Exchange pump if necessary
- E 530 System alert: Frequency converter pump early warning stage for reached the temperature**
- The components of the FU have reached a temperature above 45°.
 - The pump reduces the output as the temperature continues to rise.
 - Possible sources of error are:
 - Fan FU defective
 - Exchange FI if necessary
- E 531 System announcement: Frequency converter pump communication with sequence control disturbed**
- PC-bus from the FU to the motor control system (Wellsystem) or control board (Wellsystem plus) is faulty
 - Possible sources of error are:
 - Open panelling
 - Check safety relay K1 or K11
 - Check voltage supply FU (St. 17)
 - Exchange pump, FU or control board if necessary
- E 532 System announcement: Frequency converter pump current loop discontinuous**
- Bus connection or power supply to the pump interrupted.
 - Possible sources of error are:
 - Fairing open.
 - Pump/FU faulty
 - Control board defective

E 533 System announcement: Frequency converter pump power amplifier blocked

- Collective display of pump errors
- Exact error differentiation with service PC required

Error message Wellsystem / Heating and safety circuit:**E 548 System alert: Water insufficient temperature < 0°**

- Possible sources of error are:
 - Temperature sensor defective
 - Device has not been connected to the mains for a long time
 - The device was newly filled with water.

E 549 System alert: Water excessive temperature > 80°

- Possible sources of error are:
 - Temperature sensor defective
 - The device was more than one hour in operations without cooling connection
 - With cooling connection - Do not open the water tap or bend hoses
 - Water stop in the tube has triggered
 - Water inlet valve closed or defective
 - Faucet defective
 -

E 550 System announcement: Interruption of temperatur safety chain

- STB (safety temperature limiter) has tripped - > 52°.
- Possible sources of error are:
 - Gerät wurde länger als 1h bei voller Leistung betrieben (Kühlung anschließen oder Druck verringern)
 - Die 24V nach Relais K11 fehlen
 - Temperaturbegrenzer und Schmelzlotsicherung (82°) prüfen
 - Heizung wurde ohne Wasser eingeschaltet
 - The device has been operated for more than 1 hour at full power (cooling or reduce pressure)
 - The 24V to relay K11 is missing
 - Check temperature limiter and fusible link (82°)
 - Heating was switched on without water

E 551 System alert: Water temperatur > 42° reached

- Dry run protection, no water in the device.
- Same error possibilities as for E 549.

Error message Wellsystem / driving engine one (nozzle carriage):**E 564 System announcement: Carriage motor encoder delivers no impulses in the authoritative drive**

- No counting pulses are counted or transmitted on drive motor one (nozzle carriage).
- Possible sources of error are:
 - Motor defective
 - Check toothed belt (overstretched)
 - Gear drive side defective
 - Check gear rack
 - Checking the smooth running of the nozzle carriage
 - Control board defective
 -

E 565 System announcement: Carriage motor encoder delivers various numbers of impulses in the authoritative drive according to the direction (mechanical slip)

- During the reference run, differences were detected during the pulse count comparison
- Possible sources of error are the same as for E 564

- E 566 System announcement: Authoritative drive is not finished within the waiting period**
- The reference run could not be completed despite several attempts
 - Possible sources of error are the same as for E 564
- E 568 System announcement: Carriage engine is switched off because of lasting overcurrent**
- Measure current consumption at the motor (idle current - approx. 0.8A, normal - approx. 2.0A, blocked - approx. 4,0A)
 - Possible sources of error are:
 - Motor defective
 - Nozzle carriage or drive mechanically blocked
- E 569 System announcement: Carriage does not stop within the waiting period**
- Cable fault, motor control card fault
 - Check motor voltage and current consumption or mechanical components
- E 570 System announcement: Carriage does not start (single drive)**
- Motor defective
 - Check motor voltage and current consumption or mechanical components
- E 571 System announcement: Carriage reached the driving aim not within the waiting period**
- No power transmission in the jet car drive, engine defective
 - Check motor voltage and current consumption or mechanical components
- E 572 System announcement: Carriage does not start up (pendulum drive)**
- No power transmission in the jet car drive, engine defective
 - Check motor voltage and current consumption or mechanical components
- E 573 System announcement: Carriage does not oscillate any more**
- No power transmission in the jet car drive, engine defective
 - Check motor voltage and current consumption or mechanical components.
- E 574 System alert: Engine tax card does not let itself parameterize (software of the tax card too old)**
- PC-Bus Fault or motor control card without function
 - Software control board and motor control not compatible
- E 575 System announcement: Carriage reaches final counter not within the waiting period**
- Magnetic switch was not hit or overrun.
 - No power transmission in the jet car drive, engine defective.
 - Check motor voltage and current consumption or mechanical components.
- E 576 System announcement: Carriage does not drive as expected**
- Collective error motor faults.
 - Exact error differentiation with service PC required.
- E 580 System alert: A card is inserted but it do not react (twisted card)**
- Possible sources of error are:
 - Card inserted incorrectly
 - Card wrong
 - Card defective
 - Card pulled out too fast (wait until time starts to run or card starts running) during the session)
 - Card reader defective
 - Foreign object in the card reader
- E 581 System alert: No message program registered**
- No message program recorded, or no map describe senseless.

- Possible sources of error are:
 - Card incorrectly or incorrectly inserted
 - Card or card reader defective

E 582 System alert: Mistake while describing the card

- Possible sources of error are:
 - Card incorrectly or incorrectly inserted
 - Card or card reader defective

E 583 System alert: Card is not recordable

- Possible sources of error are:
 - Card incorrectly or incorrectly inserted
 - Card or card reader defective

E 600 System announcement: Timer for activity monitoring on the I²C-Bus has run off

- Internal error, I²C-Bus disturbance or control board defective.

E 602 System announcement: I²C-Bus communication with RTC-component disturbed

- Internal error, I²C-Bus disturbance or control board defective.

E 603 System announcement: I²C-Bus communication with control panel disturbed

- Internal error, I²C-Bus disturbance or control board defective.

E 604 System announcement: I²C-Bus communication with engine tax card disturbed

- Internal error, I²C-Bus disturbance or control board defective.

E 605 System announcement: I²C-Bus communication with EEPROM-component disturbed

- Internal error, I²C-Bus disturbance or control board defective.

E 612 System announcement: I²C-Bus addressing of the RTC-component failed

- Internal error, I²C-Bus disturbance or control board defective.

E 613 System announcement: I²C-Bus addressing of the control panel failed

- Internal error, I²C-Bus disturbance or control board defective.

E 614 System announcement: I²C-Bus addressing of the engine tax card failed

- Internal error, I²C-Bus disturbance or control board defective.

E 615 System announcement: I²C-Bus addressing of the EEPROM-component failed

- Internal error, I²C-Bus disturbance or control board defective.

Error message Wellsystem / driving engine two (front engine):

E 664 System announcement: No countable impulses are transmitted or counted

- A subsequent error of E 550 may have occurred.
- Possible sources of error are:
 - Motor defective
 - Check magnetic switches and magnet arms tub heavily soiled, no magnet recognition
 - Motor has no voltage
 - Control board defective

E 665 System announcement: During the authoritative drive, differences are determined during pulse counting comparison

- Possible error causes as for E 664

E 666 System announcement: Despite several attempts, the authoritative drive could not be completed

- Possible error causes as for E 664.

E 668 System announcement: Drive motor is blocked

- Measure current consumption at the motor (idle current - approx. 0.8A, normal - approx. 2.0A,
- Blocked - approx. 4,0A).
- Possible sources of error are:
 - Motor defective or mechanically blocked
 - Nozzle arms or gear wheels mechanically blocked
 - Check guide rods

E 669 System announcement: Motor control card error, cable error

- Possible sources of error are:
 - Check wiring to the motor
 - Control board defective

E 670 System announcement: No voltage to motor

- Possible sources of error are:
 - Check wiring to the motor
 - Control board defective

E 671 System announcement: No power transmission in the nozzle carriage drive

- Possible sources of error are the same as for E 668.

E 672 System announcement: No power transmission in the nozzle carriage drive

- Possible sources of error are the same as for E 668.

E 673 System announcement: No power transmission in the nozzle carriage drive

- Possible sources of error are the same as for E 668.

E 674 System alert: PC-Bus error or control board without function

- Possible sources of error are:
 - Check cabling
 - Control board defective

E 675 System announcement: No power transmission in the nozzle carriage drive

- Possible sources of error are the same as for E 668

Error message Wellsystem / Drive motor three (rear engine) :

E 764 System announcement: No counting pulses are transmitted or counted

- A subsequent error of E 550 may have occurred.
- Possible sources of error are:
 - Motor defective
 - Check magnetic switches and magnet arms
 - tub heavily soiled, no magnet recognition
 - Motor has no voltage
 - Control board defective

E 765 System announcement: During the authoritative drive, differences are determined during pulse counting comparison

- Possible sources of error are the same as for E 764

- E 766 System announcement: Despite several attempts, the reference run could not be completed**
- Possible sources of error are the same as for E 764
- E 768 System announcement: Drive motor is blocked**
- Measure current consumption at the motor (idle current - approx. 0.8A, normal - approx. 2.0A,
 - Blocked - approx. 4,0A).
 - Possible sources of error are:
 - Motor defective or mechanically blocked
 - Nozzle arms or gear wheels mechanically blocked
 - Check guide rods
- E 769 System announcement: Motor control card error, cable error**
- Possible sources of error are:
 - Check wiring to the motor
 - Control board defective
- E 770 System announcement: No voltage to motor**
- Possible sources of error are:
 - Check wiring to the motor
 - Control board defective
- E 771 System announcement: No power transmission in the nozzle carriage drive**
- Possible sources of error are the same as for E 768
- E 772 System announcement: No power transmission in the nozzle carriage drive**
- Possible sources of error are the same as for E 768
- E 773 System announcement: No power transmission in the nozzle carriage drive**
- Possible sources of error are the same as for E 768
- E 774 System alert: P-C-Bus error or control board without function**
- Possible sources of error are:
 - Check cabling
 - Control board defective
- E 775 System announcement: No power transmission in the nozzle carriage drive**
- Possible sources of error are the same as for E 768

Clarifications:

- Error System alert: Read error chip card, see above E 580**
- The causes of the error are described under E 580
- r " System announcement: Error during the authoritative drive**
- Possible sources of error are:
 - Software hangs up during authoritative drive
 - Safety chain open
 - Temperature fuse has tripped
 - K1 or K11 are not tightened, normally open contact defective
- Hold Information announcement: Pause function**
- The pause function was activated in the default settings and the customer Press the Start/Stop button during the session

- **Nozzle carriage remains stationary without error message**
 - **The gear wheel 83582 of the nozzle carriage drive is defective**