Hobart amx dishwasher user manual

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Hobart PROFI AMX Hood-Type DishwasherHood-type dishwasher for straight through or corner operation Nominal capacity up to 60 racks/h or 1,080 plates/h or 2,160 glasses/h 6 automatic cycles: short, standard, intensive, starch-removal, permanent, hygiene Heat and noise insulated hood Refill signal (detergent / rinse aid) USB-interface for
comfortable download of operational data Ready to install - completely equipped: fill / drain hose, electrical cable, detergent dispenser, rinse aid dispenser, rinse pump, drain pump and back-flow preventer Tank, frame, wash / rinse arms and panels are stainless steel 1.4301 1 universal flat rack B-00-07 1 plastic cutlery rack CB8
Features:VISIOTRONIC-TOUCH control: colour touchscreen (displays text and graphic) in conjunction with single-button control and remaining cycle time indication SMARTCONNECT app: controlling your warewash operation with smart technology: status and messages, usage and operating costs, hygiene, service and consumables order SENSO-
ACTIVE resource management: constantly measures the quality of the wash water and keeps the amount of rinsing needed in each rinse cycle to the minimum in order to guarantee a fully hygienic wash result Exhaust energy storage: the fully enclosed 4-sided hood keeps steam and energy inside the system: energy saving up to 3 kW, less humidity
in the kitchen area and better hygienic conditions CLIP-IN wash and rinse arms: wash and rinse arms can be removed with one hand and without any tools USB-interface: download of operational data via USB GENIUS-X^2 fine filter system: advanced filter system with pre-wash function reduces detergent consumption up to 35 % VAPOSTOP
(optional): prevents vapour escapingfrom the machine when the hood is openedyInterlocked strainer: prevents operation without tank strainer Interlocked strainer: prevents operation without tank strainer EASY-CLEAN concept: blue markings in the machine help the operator to identify the components which require cleaning
Watermark approved to WMTS-101:2018, Cert. WMKT21944 1 HOBART CHINA SERVICE MANUAL EFFICIENT RELIABLE INNOVATIVE SERVICE MANUAL AMX/AM900 SERIES Starting from Serial No This document is produced for internal use only. The detailed settings and servicing must be carried out by service technicians qualified by
HOBART. Reproduction of this document is prohibited without the written permission of HOBART. Version R&D, HOBART CHINA AMX/AM900 / 12 AMX/AM900 SERVICE MANUAL As continued product improvement is a policy of HOBART, specifications are subject to change without notice. 2 / AMX/AM900. R&D, HOBART CHINA3 CONTENT 1.
STANDARD MODELS OVERVIEW MACHINE DIMENSIONS INSTALLATION ELECTRICAL CONNECTION WATER CONNECTION DRAIN CONNECTION SMARTRONIC CONTROLS AM900 SERIES AMX SERIES FIRST RUN / CUSTOMER MENU HYDRAULIC SCHEMATICS LEGEND OF COMPONENTS AM AMX FILLING AIRGAP PRESSURE
TRANSMITTER B3 / B DOSING EQUIPMENT DETERGENT / RINSE AID DISPENSER ADJUSTMENT OF CHEMICALS DEFICIENCY SENSORS SOFTENER GENERAL SOFTENER CHECK PROCEDURE SOFTENER TEST PROGRAM BOOSTER / TANK / TEMPERATURE PROBES WASHING WASH PUMP AND STRAINER SYSTEM FUNCTION (AMX only)
TECHNICAL DATA RINSE PUMP HOOD DETAILS HEAT RECOVERY ELECTRONIC CONTROL KEY COMBINATIONS BASIC OPERATION / CUSTOMER SETTINGS SERVICE MENU PROGRAMMING / MODIFICATION OF BASIC DATA / SOFTENER TEST PRINTED CIRCUIT BOARDS MAIN BOARD EXTENSION BOARD A COUNTER FUNCTIONS
FAULTS UNCRITICAL FAULTS CRITICAL FAULTS OTHER INDICATIONS R&D, HOBART CHINA AMX/AM900 / 34 AMX/AM900 SERVICE MANUAL 1. STANDARD MODELS OVERVIEW TYP NO. DEVICE NUMBER EPROM PROGRAM NO COMMENT AM900 xxxx AM900 xxxx 306/ AM900 xxxx AM900 xxxx 312D AM900 xxxx 306/302D AMX AM900
AM900 xxxx 300D AM900 xxxx 312T AM900 xxxx 306/302T AM900 xxxx 300T AM900 xxxx 312DT AM900 xxxx 306/302DT AM900 xxxx 300DT AMX xxxx 312(H) AMX xxxx 306/302(H) AMX xxxx 300(H) AMX xxxx 312(H)D AMX xxxx 306/302(H)D AMX xxxx 300(H)D AMX xxxx 312 (H)S AMX xxxx 306/302(H)S AMX xxxx 312 (H)DS AMX xxxx
306/302(H)DS AMX xxxx 312(H)T AMX xxxx 306/302(H)T AMX xxxx 300(H)T AMX xxxx 312/306(H)DT AMX xxxx 312/306(H)DT AMX xxxx 300(H)DT AMX xxxx 312(H)ST AMX xxxx 306/302(H)ST AMX xxxx 312(H)DST AMX xxxx 306/302(H)DST Device Code Explanation AM900 AMX = Manual drain = With Genius X 2, auto drain D = With detergent
dispenser H = Hood insulation S = With Softener T = With tubular rinse arm 4 / AMX/AM900. R&D, HOBART CHINA5 2. MACHINE DIMENSIONS. R&D, HOBART CHINA AMX/AM900 / 56 AMX/AM900 SERVICE MANUAL 3. INSTALLATION 3.1 ELECTRICAL CONNECTION The machines will be supplied as standard with cable 6 (or 4) mm 2 (cable
length approx. 2 m from cable gland). A fused disconnects or circuit breaker with electrical leaking protector (not supplied) must be installed in the electrical line supplying the dishwasher and should meet the requirements of your local electrical code. According to EN the appliance must be connected to an equipotential conductor. The connecting
screw ( ) is located beside the cable inlet. 3.2 WATER CONNECTION The machines must be operated with potable water. For water with an extremely high mineral content an external demineralization is strongly recommended. Ideal conductivity value for washware made of stainless steel 80 µs/cm, for glasses 100 µs/cm and for dishes 200 to 400
µs/cm Machines without softener: The machine should be connected to soft and if possible warm water (up to 3 dh = 0.5 mmol/l, max. 60 C). Machines with softener: The machine should be connected to warm water if possible (max. 60 C). Softener has to be adjusted according to water hardness. Line flow pressure bar. Important: the line flow
pressure must not be less than 0.5 bar. If the line flow pressure is above 10 bars provide pressure reducer at source. Connect the union nut "A" (3/4") of the water supply hose to the site shut off valve. Do not kink or cut the supply hose. Eventually needed extension has to be provided with a suitable pressure hose (e.g). 3.3 DRAIN CONNECTION
AM900 (without drain pump) Ensure gravity drain. Drain hose must not exceed the height of 0.1 m between floor and lower edge of the hose. Otherwise it could be that water remains in tank and hose. Do not kink the drain hose. AMX (with drain pump) Connection between machine and site drain must not exceed the specified height of max m. Do not
kink the drain hose. Do not place the drain hose loosely on the floor (the hose could be rubbed through). Fix it at site! 6 / AMX/AM900. R&D, HOBART CHINA7 4. SMARTRONIC CONTROLS 4.1 AM900 SERIES 1 Machine ON / OFF Pushing this button switches the machine on. By pushing and holding (3 seconds) this button, the self cleaning cycle
starts. At the end of the cycle, the machine switches off automatically. After switch off, the machine is not voltage free! Furthermore the button illuminates to indicate the mode of the machine: GREEN (flashing) = Machine is filling and heating. Wash cycle is running. GREEN (permanent) = Machine is ready for operation. RED (permanent) = Critical
failure (machine type setting U01) GREEN /RED (alternate flashing) = noncritical failure BLUE/RED (alternate flashing) = negative pressure failure BLUE (flashing) = Machine is draining / switches off. 2 Program button By pushing this button it is possible to select between different preset programs, according to model and equipment. The program
no. will be shown in the upper Display. 3 Stop button In case of operating error or faults, it is possible to switch off the machine immediately without drain cycle, by pushing this button. After switch off, the machine is not voltage free! 4 Temperature Wash (C) 5 Temperature Rinse (C) Temperatures are only displayed when the program button is
pushed for minimum 3 seconds. The indicators go out 10 seconds after releasing program button. Permanent temperature display can be activated (set U02 S15 to "1). 6 Salt required Indicates the need for regeneration salt to be added. (Only with built in softener.) 7 Service indicator This symbol indicates that the dishwasher has developed a fault.
In the rinse temperature display appears a code (see page 33 to 35).. R&D, HOBART CHINA AMX/AM900 / 78 AMX/AM900 SERVICE MANUAL 4.2 AMX SERIES 1 Machine ON/OFF DRAIN Pushing this button switches the dishwasher on. By pushing and holding (3s) this button, the drain and self cleaning cycle starts. Once the drain cycle has
completed the machine switches off automatically. After switch off, the machine is not voltage free! The button illuminates to indicate the mode of the machine: GREEN (flashing) = machine fills and starts heating GREEN (permanent) = ready for operation (softener test U03) BLUE (permanent) = wash cycle is running (basic data U02) BLUE
(flashing) = machine draining / switch off RED (permanent) = critical failure (machine type setting U01) GREEN /RED (alternate flashing) = noncritical failure BLUE/RED (alternate flashing) = negative pressure failure 2 Program button By pushing this button it is possible to select between different preset programs, according to model and
equipment. The program no. will be shown in the upper Display. 3 High pressure / Service button AUXX (L/T) models only: An activation of high pressure cleaning. Never use for cleaning glasses and light dishes (breakage)! 4 Stop button In case of operating error or faults, it is possible to switch off the machine immediately without drain cycle, by
pushing this button. After switch off, the machine is not voltage free! 5 Temperature Wash (C) 6 Temperature Rinse (C) Temperatures are only displayed when the program button is pushed for minimum 3 seconds. The indicators go out 10 seconds after releasing program button. Permanent temperature display can be activated (set U02 S15 to "1).
7 Salt required Indicates the need for regeneration salt to be added. (Only with built in softener.) 8 Detergent / Rinse aid indicator Indicates detergent (CH1) or rinse aid (CH2) deficiency. 9 Service indicator This symbol indicates that the dishwasher has developed a fault. In the rinse temperature display appears a code (see page 33 to 35). 8 /
AMX/AM900. R&D, HOBART CHINA9 5. FIRST RUN / CUSTOMER MENU Initial fill of the rinse booster On delivery, the switching function S28 (first booster filling) is set to "0". There is no menu "bof". As the booster is controlled by a pressure transmitter, no initial fill must be carried out. Therefore the booster heating is not locked. Requirement:
Machine "OF" and hood open If the hood will be closed or if no button is pressed within 10 seconds, the display switches off automatically and the new settings will be saved. Push Stop and Program button at the same time. EXAMPLE: Select function with the program button. Rinse DISPLAY Wash Parameter 1 Detergent dosage CH1 XX C s 2 Rinse
aid dosage program P01 to P04 CH2 XX C s 3 Detergent dosage not used CH3 C s 4 Rinse aid dosage program basic clean (AUP only) CH4 XX C s Set chemicals values with the ON/OFF button (0.5s steps). 5 Water hardness adjustment Set value with the ON/OFF button (basic setting H02). H01 = up to 7 dh / H02 = 8 to 14 dh / H03 = 15 to 21 dh /
H04 = 22 to 30 dh To initiate a manually regeneration with the next wash cycle press the stop button for 3 seconds (confirmed by the flashing water hardness indication). H01 Up to H04 C60 C63 Range Hereby the softener function will be set to initial condition. (With next wash cycle, regeneration starts automatically.) 6 Wash cycle counter PXX XXX
C73 + C Reset to "0" only via basic data (service menu). 7 Water consumption counter EXX XXX C77 + C Reset to "0" only via basic data (service menu). 8 Remaining water quantity counter for external water treatment dxx XXX C79 + C To reset the counter to pre set value, press ON/OFF button for 3 seconds. CLOSE THE HOOD Hose priming
detergent (dispenser M4) By pushing the ON/OFF button, relay 5 will be activated for 60 seconds. SF1 0 1 S18 0 / 1 10 Hose priming rinse aid (dispenser M3) By pushing the ON/OFF button, relay 6 will be activated for: AMX(X) / AUXX = 360 seconds / AUP = 130 seconds SF / 1 To interrupt a priming cycle, push the ON/OFF button again. 11 Acoustic
signal (AUP models only) S S24 0 / 1 12 By pushing the ON/OFF button acoustic signals will be activated ("1") or deactivated ("0"). There are 3 different signals: end of program: 1 x 2.0s "ON" noncritical failure: 2 x 0.5s with 0.5s pause critical failure: 5s continuous signal Chemicals deficiency sensor By pushing the ON/OFF button sensors will be
activated ("1") or deactivated ("0"). To quit the menu : point 1 to 8 close the hood, point 9 to 11 open the hood or do not press any button during next 10 seconds The indicator switches itself off and the new settings will be saved. S 0 / 1 CH 0 / 1 0 / 1. R&D, HOBART CHINA AMX/AM900 / 910 AMX/AM900 SERVICE MANUAL 6. HYDRAULIC
SCHEMATICS 6.1 LEGEND OF COMPONENTS B1 B2 B3 B4 TEMPERATURE SENSOR BOOSTER TEMPERATURE SENSOR TANK PRESSURE TRANSMITTER BOOSTER PRESSURE TRANSMITTER TANK E1 E2 BOOSTER HEATING TANK HEATING M1 M2 M3 M4 M5 WASH PUMP RINSE PRESSURE PUMP RINSE AID DISPENSER DETERGENT
DISPENSER DRAIN PUMP S1 REED SWITCH HOOD S2 AIRGAP IMPELLER 1) S3 SALT DEFICIENCY SWITCH 2) S4 REED SWITCH STRAINER Y1 SOLENOID VALVE FILL Y3.1 VALVE RESIN A 2) Y3.2 VALVE RESIN B 2) Y4.1 VALVE RESIN B/A 2) Y4.2 VALVE DRAIN/BOOSTER 2) 1 WATER SUPPLY HOSE 2 WATER INLET AIRGAP 1) 3 BOOSTER 4
WASH ARM 5 RINSE ARM 6 SALT CHAMBER 2) 7 RESIN A / RESIN B 2) 1) AIRGAP ASSY. 2) SOFTENER ASSY.B1 10 / AMX/AM900. R&D, HOBART CHINA11 6.2 AM900 带升温箱 WITH BOOSTER 4 S1 2 S2 5 Y1 1 M4 B4 1E2 S4 M1 B1 B3 M3 3 1E1 (2E1) M2 DRAIN 排水 BOOSTER DRAIN WITHOUT BOOSTER 不带升温箱 4 5 S1 1 M4 B4 1E2 S4 M1
B1 M3 M2 排水 DRAIN. R&D, HOBART CHINA AMX/AM900 / 1112 AMX/AM900 SERVICE MANUAL 6.3 AMX WITH 带软水器 SOFTENER 4 S1 2 S2 5 Y1 1 M4 B4 1E2 S4 M1 6 S3 7B Y4.2 7A B1 1E1 (2E1) B3 M3 3 M2 Y3.2 M5 Y4.1 Y3.1 排水 DRAIN BOOSTER 升温箱排水 DRAIN WITHOUT SOFTENER 不带软水器 4 S1 2 S2 5 Y1 1 M4 B4 1E2 S4 M1 B1
B3 M3 3 1E1 (2E1) M2 M5 DRAIN 排水 BOOSTER 升温箱排水 DRAIN 12 / AMX/AM900. R&D, HOBART CHINA13 4 5 S1 WITHOUT SOFTENER 不带软水器 不带升温箱 WITHOUT BOOSTER 1 M4 B4 1E2 S4 M1 B1 M3 M2 M5 DRAIN 排水. R&D, HOBART CHINA AMX/AM900 / 1314 AMX/AM900 SERVICE MANUAL 7. FILLING 7.1 AIRGAP The reed switch
S2 on the small PCB is actuated by the impeller magnet. The impeller monitors the incoming water flow by counting impulses and then relaying that information back to the main PCB. The count rate is 200 impulses per liter. 1. Water consumption counter [C77] + [C78] (counted liters are added to basic value "0"). 2. Remaining water quantity counter
for external water treatment [C79] + [C80] + [S18] (counted liters are subtracted from preset value). See also chap. 11.3, page 32. MAINTENANCE TO BE CHECKED: Whether leaking water from the airgap overflow (see figure1)) enters the wash tank chamber (visual inspection). If so, the leaking water quantity must not exceed 100 ml per fill step.
Whether the impeller sensor works. This can be carried out in two ways. 1. Service Menu: Select input S2 and activate the fill valve by pushing the ON/OFF button (0 / 1 will be displayed alternately). See also chap , page Visual check: quick flashing LED on main board (see page 30). NOTE: To avoid incrustations, the fill valve is activated during
stand by every 20 minutes for a short time to humidify the nozzles inside the airgap. (Parameter [S45] set to "1".) 14 / AMX/AM900. R&D, HOBART CHINA15 7.2 PRESSURE TRANSMITTER B3 / B4 Via air traps (booster / wash tank) compressed air will be directed via clear hoses to the pressure transmitter booster (B3) and wash tank (B4). The
transmitter changes the upcoming pressure into DC voltage which will be processed by the control as water level message. If there is no fault, the voltage value can be displayed: via the service menu F03 fill level booster / F04 fill level wash tank or set switching function [S56] to "1" (menu U02). Possible faults see page 34 Output voltage * approx V
approx V approx V Output voltage * approx V approx V approx V approx V Pressure transmitter B3 (booster) Booster is empty. Fill valve will be activated. Booster heating will be switched on (heating up to fill start temperature 85 C). Booster is filled. Fill valve closes. Pressure transmitter B4 (tank) example AMX Wash tank is empty. Tank
heating will be switched on. Machine is ready for operation (tank is filled). With a delay time of 5 seconds drain pump will be activated until normal water level is reached. (Error UL) At the end of the self cleaning cycle water remains in the wash tank. When the machine will be switched on the next time, "AL" error will be displayed. Voltage value*
additions for pressure transmitter B4 (tank): Model tank heating ON tank filled safety level (UL) AL Negative pressure AMX/AM V (ca.13 l) 1.00V (ca.21 l) 1.30V (ca. 27 l) 0.60V (ca. 12 l) 0.58V (ca. 11 l) * Voltage values may not be changed by the service technician (only on instruction of HOBART). MACHINES WITH EXTERNAL FILLING If external
filling is activated (S20 set to "1"), a voltage regulation of 0.1 V must take place within 30 seconds, after a holding time of 60 seconds. Otherwise the error message FIL will be displayed.. R&D, HOBART CHINA AMX/AM900 / 1516 AMX/AM900 SERVICE MANUAL 7.3 DOSING EQUIPMENT DETERGENT / RINSE AID DISPENSER Dispensers AMX/
AM900 Detergent ( ): delivery rate 3.0 l/hr Rinse aid ( ): delivery rate 0.4 l/hr hose inside: hose inside: Pre adjusted values Detergent CH1 All models: "8" = 8.0 s 2.40 g/l (possible range 0 50 s g/l) Rinse aid CH2 AMX/AM900: "7.0" = 7.0 s 0.31 g/l (possible range 0 50 s g/l) AUP: "2.5" = 2.5 s 0.33 g/l (possible range 0 50 s g/l) Dosage Detergent Pre
dosing is activated simultaneous with rinse pump M2. Wash dosing is activated simultaneous with the wash pump. Rinse aid Pre dosing is activated after the end of the fill cycle. Wash dosing is activated after the end of wash cycle. Hose priming and factory settings see page 8 "Customer Menu". Maintenance 1. Check hoses, dispensers and
connections. 2. As a precaution, the dosing hoses have to be replaced every two years (hoses inside dispensers, suction and pressure hoses). Dosing hoses (sold by meter) part no Installation of dosing hoses (e.g. AMXX): 16 / AMX/AM900. R&D, HOBART CHINA17 7.3.2 ADJUSTMENT OF CHEMICALS DEFICIENCY SENSORS POTENTIOMETER:
Graduations: 1 to 9 Sensitivity: 1 (non sensitive chemical sensing / Basic setting: 3 sensitive failure indication 9 (sensitive chemical sensing / non sensitive failure indication) Detergent Rinse aid Due to the physical properties of rinse aid (e.g. wetting), even smallest rinse aid quantities inside the hose will be detected by the deficiency sensor. If the
sensor is adjusted too sensitively, maybe deficiency will not be released. TEST "DEFICIENCY" Flush the suction hose thoroughly with fresh water to remove any chemicals. When the hose is drained, the respective LED should be "OF". TEST "FULL" Fill the suction hose (see chapter 5, page 8). The respective LED should light up. If not, adjust
potentiometer until the LED lights up. Now the hose should be completely filled and without air bubbles. TESTING THE PCB Select Service Mode (see chapter , page 28). Hoses are empty and deficiency sensor potentiometers turned to left stop: Switching functions "S07" (detergent) and "S08" (rinse aid) must be "0". No sensor LED lights up.
Potentiometers turned to right stop: Switching functions "S07" (detergent) and "S08" (rinse aid) must be "1". The LED of the respective circuit lights up. Detergent deficiency indication " 0" Rinse aid hose filled " 1" After testing: Set potentiometers (detergent and rinse aid) to value "3" (based on tests with the most common products).. R&D, HOBART
CHINA AMX/AM900 / 1718 AMX/AM900 SERVICE MANUAL 7.4 SOFTENER GENERAL Before first run, the softener has to be filled with 2 kg of regeneration salt and potable water. Switching function: [S05] = "1" (standard setting for machine programs with softener) Salt capacity: max. 2 kg (coarse grained, max.10 mm no tablets) Salt
consumption: approx. 40 g / regeneration Softener setting: see next page Parameters: [C84] number of salt fillings (see also page 33) [C85] number of wash cycles with deficiency of salt NOTE: 1. Manually initiation of regeneration (salting column "B") is possible. See also page 8, "customer menu" point Y4.2 (switching Drain / Booster) de energized =
switched to drain / energized = filling into booster. It will take several wash cycles until the salt indicator switches off. left hand view right hand view front view rear view 1) Special tool needed (softener wrench) In case of softener replacement the fastening nut has to be re tighten after three wash cycles. 18 / AMX/AM900. R&D, HOBART CHINA19
7.4.2 SOFTENER CHECK PROCEDURE Check: Parameter [C84] = number of salt fillings. Parameter [C85] = number of wash cycles with deficiency of salt (illuminated salt indicator). What you need to verify the softener function: 1. Test kit to measure the water hardness (part number). Pay attention to expiry date. 2. A conductivity meter (possibly
ph indicator strips). How respectively where to measure? Use clean tea cup or beaker for sampling water. 1. Take measurement of the total water hardness (dh) at the tap where the machine is connected to. 2. Measure the conductivity (µs/cm) at the tap where the machine is connected to. 3. Measure the hardness of the water in the booster.
Therefore, the booster drain hose is to be used. Discard the first cup of water to ensure that no residuals from the hose falsify the measured value. 4. Measure the conductivity of the booster water. Adjustment of softener setting according to the hardness of incoming water: 1. Ensure adequate softener setting: H01 = up to 7 dh / H02 = 8 to 14 dh /
H03 = 15 to 21 dh / H04 = 22 to 30 dh. 2. Ensure that the salt chamber contains salt. 3. Ensure that granular salt is used (salt tablets are not allowed). 4. Ensure that the salt chamber has been filled up with water. Approximate values if softener function is O.K.: The conductivity of the booster water shall be about 300µS/cm higher than the
conductivity of that water taken at the tap. For example: If the total hardness of the incoming water is 500µS/cm, the conductivity of the booster water will be roughly 800µS/cm. If this value is significantly higher (e.g µs/cm), an incorrect softener function is very likely. Further steps: 1. Adjust the softener to "H04" to ensure a new regeneration will be
actuated every 3 cycles. 2. Select the shortest program P01 and take a sample of water (a tea cup) at the booster drain hose immediately after the program cycle has ceased. 3. Measure and note down the water hardness. 4. Measure and note down the conductivity. Repeat procedures 1 to 4 seven times to ensure salting of both resin columns. An
incorrect softener function is most supposable if the measured hardness at the booster drain hose is higher than 5 dh and / or the conductivity is extremely high (i. e. in the range of 3000 µs/cm). Proceed as following in case of too high hardness and / or conductivity values: 1. Run the drain cycle to ensure booster emptying down to the pump intake. 2.
Remove the side panels. 3. Activate the softener test program "U03" as described on next page. Observe the resin columns with the aid of a torch from the left hand side of the machine. (Column "A" is at the left, column "B" is at the right from this point of view). If the sequential operation deviates from the described one (see next page), i. e. resin "B"
was six times activated, it is very likely that a softener valve is jamming or the electrical connections are interchanged (this is less probable). The booster must be flushed thoroughly at the end of this procedure (run 5 wash cycles) to ensure the chloride content is at an acceptable level to prevent corrosion. Never run the softener test program at the
begin of the herein described procedure because it is unavoidable that salt will be flushed into the system. Thus, measurements would become incorrect.. R&D, HOBART CHINA AMX/AM900 / 1920 AMX/AM900 SERVICE MANUAL SOFTENER TEST PROGRAM REQUIREMENT: Machine has to be switched "OFF" and the hood must be open. Push and
hold program and service button (dryer button) together. U01 appears in the rinse temperature display. Select softener test program U03 by pushing the stop button. To enter U03 push the ON/OFF button. The ON/OFF button illuminates GREEN while the test program is running. Once the test sequence has completed, the ON/OFF button will switch
off. 20 / AMX/AM900. R&D, HOBART CHINA21 7.5 BOOSTER / TANK / TEMPERATURE PROBES BOOSTER Booster heating: Total volume: Useable volume: Water consumption / rinse cycle: 12.6/6.3/0 kw 10.3 liter 5.2 liter 2.5 liter Part numbers: Booster heating E /00 O ring booster heating Air trap O ring air trap TANK Tank heating: Tank volume
(liter): 3 kw 21 L Part numbers: Tank heating E Air trap O ring air trap TEMPERATURE PROBES Part numbers: Temperature probe booster B Temperature probe tank B Temperature range: min. 40 C max C Possible faults see page 34.. R&D, HOBART CHINA AMX/AM900 / 2122 AMX/AM900 SERVICE MANUAL 8. WASHING 8.1 WASH PUMP AND
STRAINER SYSTEM The pump unit includes motor with flange, mechanical shaft seal, impeller and capacitor. A non return flap (called Flipper) allows the draining of the circulation system (AMX only). The Flipper prevents soil, collected in the pump sump, from reentering the circulating system FUNCTION (AMX only) During wash cycle, the wash
liquid is distributed to the upper and lower wash arm. The back flowing wash liquid is passing a strainer system, the integrated intake strainer and enters the wash pump from the outer annular space of the suction unit via the main duct. Drain system: Used for partial draining of the soiled wash liquid (Genius X 2) during wash cycle (approx. 20
seconds after program start) or for the complete draining of the wash tank. Pressure side the soiled wash liquid will enter the drain via hose system and ventilation valve. During draining or self cleaning cycle the flipper is open. MAINTENANCE Check movability of flipper. Clean fine strainer if necessary. Remove drain pump and clean it.
Subsequently carry out leakage test. Furthermore the ventilation valve has to be checked for soiling. NOTE: Tank strainer and fine strainer have to be cleaned daily. 22 / AMX/AM900. R&D, HOBART CHINA23 8.1.2 TECHNICAL DATA WASH PUMPS CONNECTED LOAD Voltage / Frequency / Part no. Phases Current Capacitor Power Impeller AMX /
AM V / 50Hz / 1P 3.2A 16µF 0.73kW 104mm AMX / AM V / 60Hz / 1P 3.4A 16µF 0.73kW 94mm WASH PUMPS SERVICE KITS Hz AMX / AMXT Hz The Service Kits include: 1. O ring 2. Impeller 3. Mechanical shaft seal 8.2 RINSE PUMP Part number Voltage V Frequency 50/60 Hz Current 0.46 A Power 0.09 kw Capacitor 5.0 µf / 400V rinse time
Average value rinse time Average value 7.5 s 2.5 l 9.5 s 3.2 l 8.0 s 2.8 l 10.0 s 3.4 l 8.5 s 2.9 l 10.5 s 3.5 l 9.0 s 3.1 l 11.0 s 3.6 l. R&D, HOBART CHINA AMX/AM900 / 2324 AMX/AM900 SERVICE MANUAL 9. HOOD DETAILS MAINTENANCE Check plastic bearings for sufficient lubrication. Hood lift handle Support Adjustment of tension springs
Example: AMX Distance "A" from lower edge of bent to upper edge of channel: approx. 12 cm insulated hood approx cm non insulated hood Insufficient spring force: The hood keeps not safe in "stand by" position or closes. Too much spring force: The hood does not keep tightly closed during wash cycle. Make sure, that in "stand by" position the hood
neither opens nor slowly closes. 24 / AMX/AM900. R&D, HOBART CHINA25 10. HEAT RECOVERY GENERAL With activation of the fill valve (booster refill), the control will be actuated by an impulse and starts the drain pump (partial tank draining, approx. 2.5 l) simultaneous to filling. The output clock signal is adjustable via basic data. The fresh
water enters via the airgap the outer coaxial pipe of the heat exchanger and will be heated up by tank water, flowing in the inner coaxial pipe (counter flow principle). Menu U02 Basic Data: Switching function [S32] is set to "1".. R&D, HOBART CHINA AMX/AM900 / 2526 AMX/AM900 SERVICE MANUAL 11. ELECTRONIC CONTROL 11.1 KEY
COMBINATIONS BASIC OPERATION / CUSTOMER SETTINGS X = button to be pushed BASIC OPERATION STOP PROGR. SERVICE ON/OFF REQUIREMENTS HOOD Machine ON X Machine "off" Open or Close Machine OFF X Machine "off" at any time Open or Close Drain program X >3 s Start at any time Close Program selection X Machine on /
Fill program completed Open or Close Program start X Machine on / Fill program completed Close Temperature display X >3 s Temperature display for 10 seconds Open or Close Special programs X Machine on / Fill program completed Open or Close CUSTOMER SETTINGS X X MACHINE OFF OPEN DISPLAY UPPER LOWER Detergent dosage CH1
value C16 Open Rinse aid dosage CH2 value C18 Select function with the program button. Open Detergent dosage Cold 1 CH3 value C19 Open Detergent dosage Cold 2 CH4 Set value with the ON/OFF button. value C20 Open Hardness H01 H04 Open Wash cycle counter P + C74 value C73 Open Reset only by Service. Water counter Total E + C78
value C7 Open Water counter Demi d + C80 value C79 Reset by pushing the ON/OFF button for 3 seconds. Open CLOSE HOOD Hose priming detergent SF1 0 1 Select function with the program button. Close Hose priming rinse aid SF2 0 1 Activate appropriate dosing pump with the ON/OFF button. Close Acoustic signal S 0 1 Activate / deactivate
with the ON/OFF button. Close Chemicals sensor CH 0 1 Activate / deactivate with the ON/OFF button. Close See also page 10 "First run / Customer Menu" and page 32 "Counter Functions". 26 / AMX/AM900. R&D, HOBART CHINA27 SERVICE MENU Requirements: Machine OFF and Hood open. Push Stop, Program and Service button to enter the
Service Menu. CLOSE HOOD (door switch test S1) S02 1 Select appropriate Input or Output by pushing the Program button. Inputs test: Temperature probes test: DISPLAY: UPPER LOWER S01 0 (ON/OFF button illuminates) X13.3 Impeller switch S02 0 no signal / 1 signal from S2 Push ON/OFF to activate additionally fill valve Y1. 0 / 1 will be
displayed alternately X13.5 Salt switch status S03 0 salt container is filled / 1 when X13.7 Strainer S04 0 not in place / 1 strainer in pla X13.9 Reserve S05 0 X13.11 Reserve S06 0 X12.3 Detergent deficiency1) S07 0 no deficiency / 1 when empty X12.4 Rinse aid deficiency1) S08 0 no deficiency / 1 when empty 1) Push ON/OFF to activate the
respective dispenser... moving light point dispenser Activation will persist until remedy of deficiency C = okay / 1 = short circuit (>99 C) / 2 = open circuit (< 0 C) X14.1/2 Temperature sensor B1 F01 actual Temperature X14.3/4 Temperature sensor tank B2 F02 actual Temperature Pressure transmitter test: V = okay / 1 = > 4.0V / 2 = open circuit <
0.3V Outputs Hood must be closed. X14.7 Pressure transmitter B3 F03 voltage display (booster level) X14.10 Pressure transmitter tank B4 F04 voltage display (tank level) 0 = not active / 1 = active Selected output can be activated with the ON/OFF button. Starting from A01: push Stop button to scroll back. Voltage supply Triac RL1.1 A00 0 X1.1/3
Bypass Triac RL1 A01 0 X2.1/2 Tank heating E2 (K2) RL2 A02 0 X3.1/3 Wash pump High RL3 A03 0 AUXX / AUP Wash pump Low 0 AMXT / AUXT X4.1/3 External fill Y2 RL4 A04 0 (option) X5.1/3 Detergent dosage M4 RL5 A05 0 X6.1/3 Rinse aid dosage M3 RL6 A06 0 X7.1/3 Fill valve Y1 RL7+ RL14 A07 0 X8.1/3 Drain pump M5 RL8 A08 0 X9.1/3
Rinse pump M2 RL9 A09 0 X10.1/3 Booster heating E1 RL10 A10 0 X21.6 Softener salting A Y3.1 RL11 A11 0 only with built X21.7 Softener salting B Y3.2 RL12 A12 0 only with built X21.8 Fill B A Y4.1 RL13 A13 0 only with built X21.9 Drain / booster Y4.2 RL14 A14 0 only with built X22.1/3 Reserve RL15 A15 0 only with built X23.1/3 Reserve RL16
A16 0 only with built X24.1/2 PFK1 RL17 A17 0 only with built X25.1/2 PFK2 RL18 A18 0 only with built X26.1/2 PFK3/ RL19 A19 0 only with built Wash pump High AUXXT X1.1/3 Wash pump RL1+RL1.1 A20 AMX / AMXX / AUXX / AUP Wash pump Low Handle lightning G r l FF Operation unit test BAE 0 AMXT / AUXXT Counter reset (C72 C80 r ES 0
/ 1 when ON/OFF button is EXIT the test program by opening the hood (only possible with menu item "outputs test").. R&D, HOBART CHINA AMX/AM900 / 2728 AMX/AM900 SERVICE MANUAL PROGRAMMING / MODIFICATION OF BASIC DATA / SOFTENER TEST Requirement: machine "OFF" and hood open. Push Program and Service button
together. Software release will be displayed short time. Push Stop button to select the menu item. U01 = Machine type selection U02 = Basic data sheet U03 = Softener test program The selected function will be confirmed with the ON/OFF button and indicated by the illuminated ON/OFF button. Red = Machine type selection Blue = Basic data sheet
Green = Softener test program MACHINE TYPE SETTING: U01 Set machine type with the Stop button (01 20, sequential scan only). Program Number see page 4. Push ON/OFF button for 2 seconds. The selected program with the basic data s will be saved and the "Red" illuminated ON/OFF button switches off. MODIFICATION OF BASIC DATA: U02
Set function with the Stop button (forwards) or first Program button and then Stop button (backwards). (Sequential scan or quick scan by holding the button.) Change value upwards (+) with the Program button and downwards ( ) with the Service button. (Sequential scan or quick scan by holding the button.) Decimal points will appear. Push and hold
the ON/OFF button. New value is saved when the points disappear. SOFTENER TEST PROGRAM: U03 Push ON/OFF button. Test program starts according to diagram (see page 21). 28 / AMX/AM900. R&D, HOBART CHINA29 11.2 PRINTED CIRCUIT BOARDS MAIN BOARD LED 1 hood switch: ON = hood closed LED 2 impeller switch: unsteady =
water flow (pulses) LED 3 processor function: flashing = voltage on, processor running permanent = voltage on, processor not running Note: The control works with or without plugged E EPROM TO INSTALL A NEW SOFTWARE RELEASE: 1. Disconnect control fuse F1. 2. Plug in the new E EPROM and reconnect F1. A check is carried out and the
stored software will be updated automatically (The progress is indicated at the display by L9, L8,...). 3. Set machine type see page 30, menu U01 (also to be done after replacing the PCB). 4. Disconnect control fuse F1, remove E EPROM and reconnect F1.. R&D, HOBART CHINA AMX/AM900 / 2930 AMX/AM900 SERVICE MANUAL EXTENSION
BOARD A3 NOTE: The additional board ( ) is only built in at machines with softener. This PCB has three potential free contacts. Each one can be assigned to different switching functions via one parameter (only on extension board): Parameter [S61] = RL17 (X24) switches: 0 = machine "On" 1 = program "On" 2 = temperature F02 / F05 below pre set
value 3 = fill or wash program active PFK1 Parameter [S62] = RL18 (X24) switches: 0 = program "On" 1 = machine "On" 2 = rinse pump "On" (switch off delay [C86]) 3 = fill program active PFK2 Parameter [S61] = RL17 (X24) switches: PFK3 0 = fill program active 1 = rinse pump "On" (switch off delay [C86]) 2 = temperature F02 / F05 below pre
set value 3 = fill or wash program active 30 / AMX/AM900. R&D, HOBART CHINA31 11.3 COUNTER FUNCTIONS Request for hygiene program [C71] down counter The number of wash cycles will be subtracted from the preset value ([S19] "on"). When "0" is reached, start of hygiene program is requested. After hygiene cleaning is completed, this
counter will be reset to basic value. Number of hygiene cycles [C72] up counter / basic value "0" The number of completed hygiene cycles is counted. Reset only possible via basic data. Note: Control, how often the program has been started. Number of wash cycles [C73] + [C74] up counter / basic value "0" The number of wash cycles will be counted.
Example 1420 cycles: [C73] = 420 / [C74] = 1 Note: Readout and note down in the report. Service interval [C75] + [C76] down counter The number of wash cycles will be subtracted from the preset value ([S17] "on"). When [C75] + [C76] are "0", the service indicator illuminates. Reset only possible via basic data. Note: Of interest in case of service
contract. Water consumption [C77] + [C78] up counter / basic value "0" After 200 input pulses of S2 (= 1 liter water flow), the counter value will be increased by 1. Input pulses below 200 are buffered and counting will continue with the next input pulses. Reset only possible via basic data. Note: The customer can readout the actual water
consumption (see page 8 "customer menu"). Remaining water quantity (external water treatment) [C79] + [C80] + [S18] down counter This function will be programmed via service mode U02 (see page 28). [S18] = activation [C79]+ [C80] = water treatment capacity (liter). Possible settings are [C79] 0 999, [C80] x Example 5500 liters: [C79] = 500 /
[C80] = 5 After 200 input pulses of S2 (= 1 liter water flow), the counter value will be decreased by 1. Input pulses below 200 are buffered and counting will continue with the next input pulses. When "0" is reached, "d 0" will be displayed. Reset to pre set value via customer menu by pushing the ON/OFF button (see page 8). Note: The actual value
can be checked via customer menu (indication for next replacement of external demineralization cartridge for example). Numbers of salt fillings deficiency of salt [C84] up counter The number of "salt indicator switch on" will be counted. Note: With this parameter you can check how often the softener has been refilled. Wash cycles with deficiency of
salt [C85] up counter The number of started wash cycles in spite of salt deficiency (illuminated salt indicator) will be counted. Note: Maybe an evidence in the case of calcified machine or heating elements for example. NOTE: Starting from E EPROM rev. 3.0, the actual counter readings keep unchanged after software update as well as settings of
detergent and rinse aid dispensers (rev. 3.9). Reset of all counters can be carried out via menu option res in Service Menu.. R&D, HOBART CHINA AMX/AM900 / 3132 AMX/AM900 SERVICE MANUAL 12. FAULTS 12.1 UNCRITICAL FAULTS Fill, wash and drain program can be started. During the fill program, uncritical faults are only indicated by
the indicator lights and error codes (none green/red flashing ON/OFF button). INDICATOR The ON/OFF button is flashing GREEN/RED alternately. Rinse Wash Lamp FAULT PROGRAM AL HEI Drain fault Possible cause 1. Kinked drain hose. 2. Drain pump does not run (jammed or defective). 3. Pressure transmitter B4 defective (wiring, PCB). 4. Trap
possibly clogged. Thermostop Level switch value [F11] still exceeded at the end of the drain cycle. To reset, repeat drain program until value is below [F11]. 1. Place drain hose correctly. 2. Check drain pump, dismantle if necessary. 3. Check voltage level (service menu). 4. Check trap. The thermostop time [C25] is exceeded (max. heating period for
wash and fill cycle). Reset via machine "OF ON". F11 C25 S02 S58 Possible cause 1. Booster heating defective. 2. Missing phases. 3. Machine single phase connected (230 V). 4. Tank heating defective (with termostop tank) parameter S58 1. Replace booster heating. 2. Check phases (also at site). 3. Connect to three phase current if possible. 4.
Replace tank heating CH1 CH2 Chemical deficiency Possible cause 1. Chemical container empty / suction hoses not filled. 2. Adjustment of chemical deficiency sensors not correct. 3. Missing electrical supply (X12.1/2). Detergent deficiency X12.3 "on" / rinse aid deficiency X12.4 "on". If both containers are empty, CH1/CH2 is displayed alternately. 1.
Refill container / carry out hose priming. 2. Check settings (see chap , page 17). 3. Check voltage (X V, X12.2 0V) / check crimp connection. S06 SAL Salt deficiency Softener salt deficiency indication X13.5 "on" (only if softener [S05] = "1"). S05 Possible cause 1. Salt container empty. 2. Float switch inside salt container jammed [S3]. 3. Loose contact
on PCB (X13.5/6). 1. Refill container with regeneration salt. 2. Loose the container a little and shake slightly. 3. Check crimp connection and contacts. d 0 External water treatment (option) Only if activated in service mode [S18]. The preset water quantity [C79] + [C80] is reached (down counter). For reset see customer menu. S05 Possible cause 1.
Counter reading of preset water quantity (liter) is "0". 2. Switching function [S18] is set to "1" without specified water quantity 1. Reset counter (see customer menu). 2. Enter the desired water quantity (liter). CLOSE Hood (running indication) Cause Fill cycle interrupted as hood is open. Close hood, filling will continue. 32 / AMX/AM900. R&D,
HOBART CHINA33 12.2 CRITICAL FAULTS Only the drain program can be started. Fill program and all wash programs are locked. INDICATOR The ON/OFF button illuminates RED. Rinse Wash lamp FAULT PROGRAM. Temperature probe Booster heating RL10 will be switched off immediately. F01 1 Fill and wash programs are locked, drain
program can be started. 2 BOOSTER B1 Possible cause 1. 1 = short circuit (temperature probe or wires 1. Check wires, replace temperature probe. to probe) = open circuit. 2. Replace wiring, replace temperature probe if necessary. 3. Inlet temperature to low. 3. Check inlet temperature. F F Temperature probe Tank B2 Possible cause 1. 1 = short
circuit (temperature probe or wires to probe) = open circuit Pressure transmitter BOOSTER B3 Tank heating RL2 will be switched off immediately. Fill and wash programs are locked, drain program can be started. 1. Check wires, replace temperature probe. 2. Replace wiring, replace temperature probe if necessary. Control of input voltage X14.7
min. 0.3V up to max. 4.0V. If the input voltage is out of range, the running program will be stopped. Fill and wash programs are locked, drain program can be started. Possible cause 1. 1 = short circuit (transmitter or wires to transmitter) / > 4.0V = open circuit / < 0.3V. 1. Check wires, replace transmitter B3. 2. Replace wiring, replace B3 if
necessary F Pressure transmitter Tank B4 Control of input voltage X14.10 min. 0.3V up to max. 4.0V. If the input voltage is out of range, the running program will be stopped. Fill and wash programs are locked, drain program can be started. 3 Possible cause 1. 1 = short circuit (transmitter or wires to transmitter) / > 4.0V = open circuit / < 0.3V.
Pressure transmitter Tank B4 "draining" possible. Softener Possible cause 1. Air trap blocked or leaky. 1. Check wires, replace transmitter B4. 2. Replace wiring, replace B4 if necessary. The max. water quantity [C82] is exceeded and value [F16] is not reached. Only 1. Check air trap, clean or replace if necessary. C82 F16 2. Hose to pressure
transmitter leaky. 3. Valve Y 4.2 locked (drain direction) or coil defective. 4. Extension board not correctly plugged to Main PCB. 2. Replace hose. 3. Run Softener Test. Replace switching valve if necessary. 4. Plug in correctly. To quit the fault: start drain program or reload machine program No. (U01 see page 23). SIE STRAINER CONTROL Possible
cause 1. Tank strainer is missing or not correctly positioned. 2. Magnet at the strainer is missing. 3. Reed switch in wrong position. 4. Cable break. Reed switch [S4] (X13.7) more than 5 seconds "off". Start of fill and wash program is locked automatically. 1. Put strainer correctly in place. 2. Fit magnet. 3. Put reed switch in correct position. 4. Replace
reed switch and cable. S38. R&D, HOBART CHINA AMX/AM900 / 3334 AMX/AM900 SERVICE MANUAL INDICATOR The ON/OFF button illuminates RED. Rinse Wash Lamp FAULT PROGRAM FIL FILL 1 The fill valve Y1 (RL7) is triggered and the impeller switch S2 does not count (no impulses on X14.3). Reset via input pulses on X14.3 or machine
"OF". Possible cause with incoming water 1. Bad contacts at impeller switch plug (airgap) or PCB. 2. Impeller switch PCB not correctly locked. 3. Reed switch in wrong position. 1. Check contacts, solder plug (airgap) if necessary. 2. Check PCB and lock in place. 3. Put reed switch in correct position. Possible cause without incoming water 1. Open
shut off valve at site. 1. Shut off valve is closed. 2. Check fill valve via service mode and replace if 2. Fill valve Y 1 defective (wiring and pin). necessary. 3. Replace PCB. 3. No output signal from PCB A 1 (X7.1/3). FIL FILL 2 Exceeded fill time [C43]. The fill valve Y1 (RL7) and all other outputs will be switched off immediately. Reset via machine "OF".
Possible cause 1. See above. 2. Line flow pressure very low. 3. Line strainer clogged. 1. See above. 2. Check line flow pressure. 3. Clean line strainer. FIL UL FILL 3 Possible cause 1. Shut off valve is closed. 2. Fill valve Y 1 defective (wiring and pin). 3. Line strainer clogged. OVERFLOW PROTECTION External fill valve is triggered, tank level does not
rise. 1. Open shut off valve at site. 2. Check fill valve via service mode and replace if necessary. 3. Clean line strainer Requirement: machine "off" or "on" / hood "open" or "closed" S1. When [F18] is exceeded, a running program will be stopped: after 5 seconds [S37] = "1" immediately [S37] = "0". The drain pump RL8 will be switched on until [F17] is
below preset value. ERR Possible cause 1. Fill valve is jammed and water is running permanently. 2. Hose from air trap to pressure transmitter tank (B4) is leaky. 3. Not enough water is pumped out. Drain pump clogged. Kinked drain hose. INTERFACE Communication problem. Possible cause 1. Broken connection: Display / Main PCB 2. Defective
Circuit Board. 1. Replace fill valve Y1 2. Drain tank manually and replace hose. 3. Drain tank manually. Dismantle and clean drain pump or replace if necessary. Place drain hose correctly. 1. Check plugs/cable and connect correctly. 2. Replace PCB OTHER INDICATIONS INDICATOR The ON/OFF button is flashing blue/red alternately. Rinse Wash
Lamp FAULT PROGRAM Negative Pressure Possible cause 1. Wash tank filters blocked. 1. Remove and flush strainers. 34 / AMX/AM900. R&D, HOBART CHINA35 NOTES. R&D, HOBART CHINA AMX/AM900 / 3536 AMX/AM900 SERVICE MANUAL R&D, Hobart China 36 / AMX/AM900. R&D, HOBART CHINA

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