

**SECOND
HALF**

MAINTENANCE

The most important program on the maintenance of the cubers machines is the cleaning/sanitizing to be done on regular base as detailed here below

- Sanitizing: Every month
- Cleaning: Every six

On next slides will be shown the procedure for sanitizing and



TOOLS REQUIRED

- Medium Phillips Screwdriver
- Medium Flat Screwdriver
- Pair of safety gloves
- Bucket
- Different types of brush
- Approved Cleaner/Sanitiser



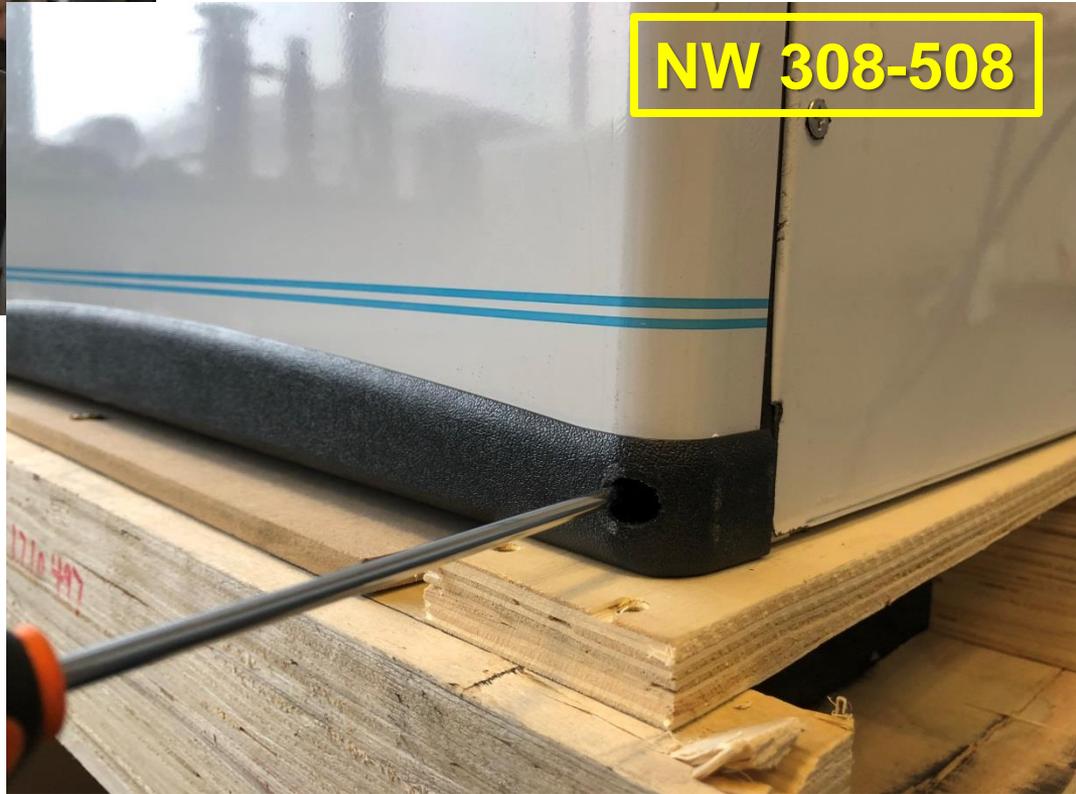
Wait till the end of the defrost/harvest cycle; then switch off the machine from the main switch and close the water tap



MAINTENANCE

Scoop out all
ice cubes
stored into the
bin so to
prevent its
contamination
then...





Be assured
water sump is
empty by water.

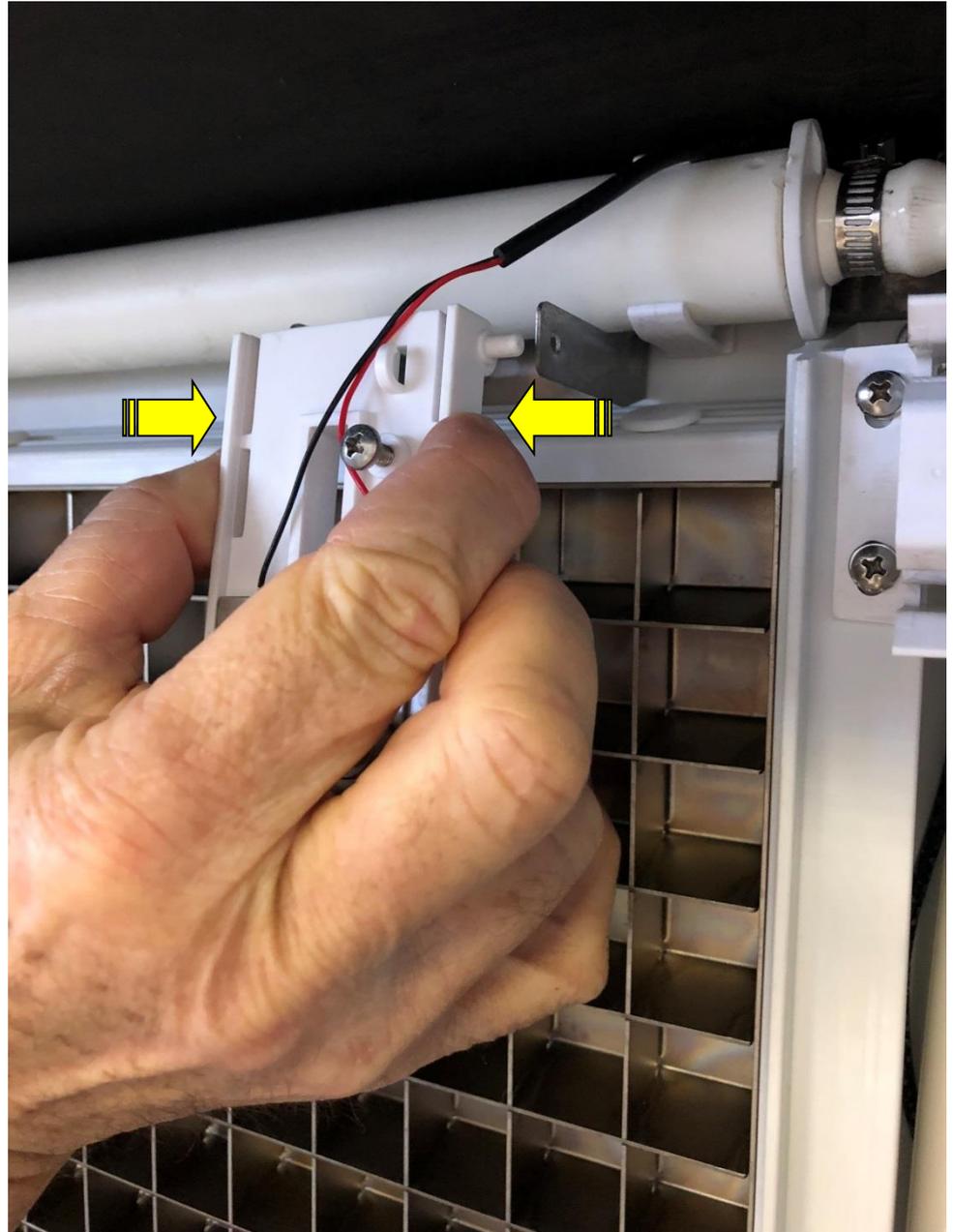
In case dump
the same by
removing drain
plastic plug



... And the
plastic deflector



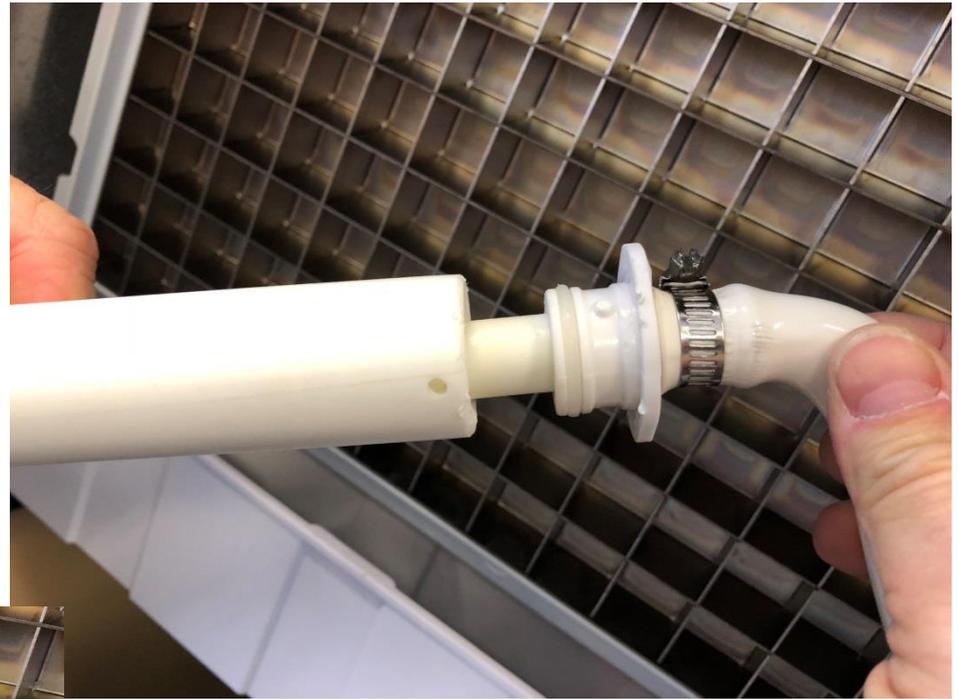
Push the ice
thickness sensor
external plastic
arms and take it off
from its housing



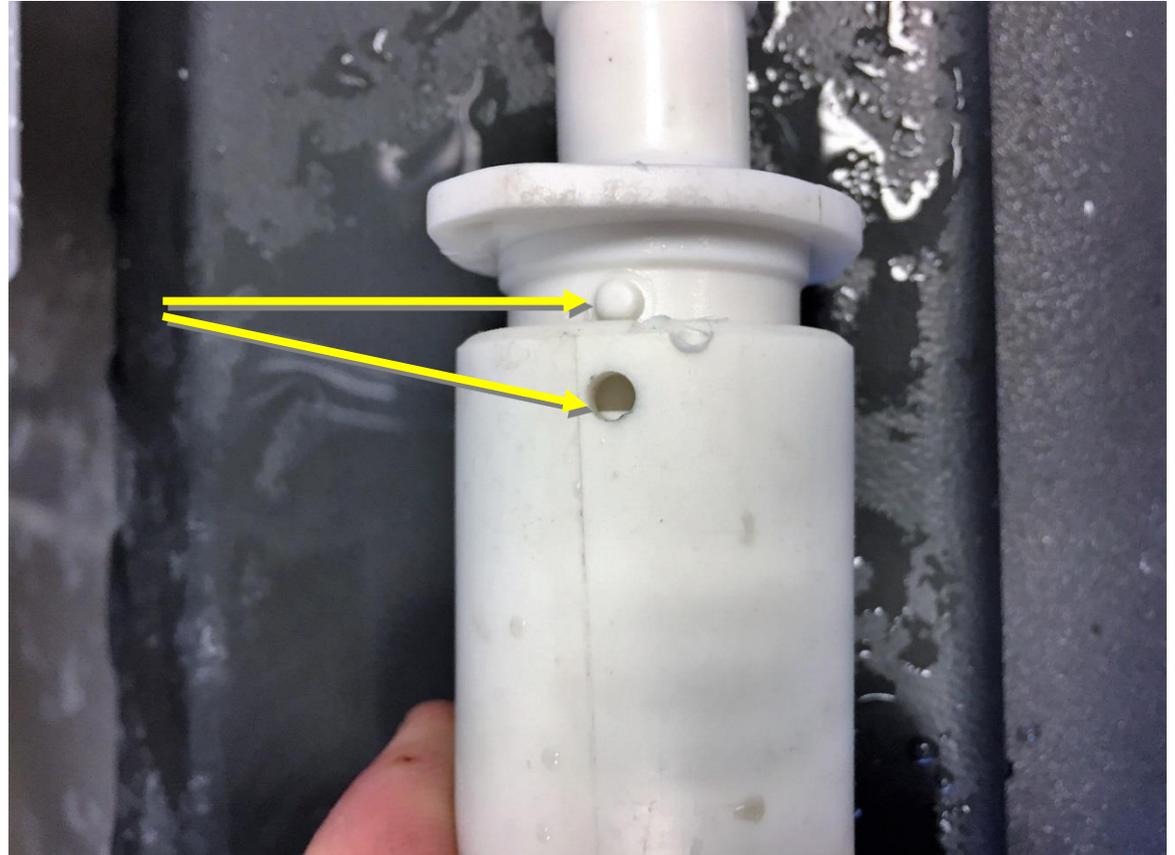
Disconnect the
water inlet
hose from
distributor tube



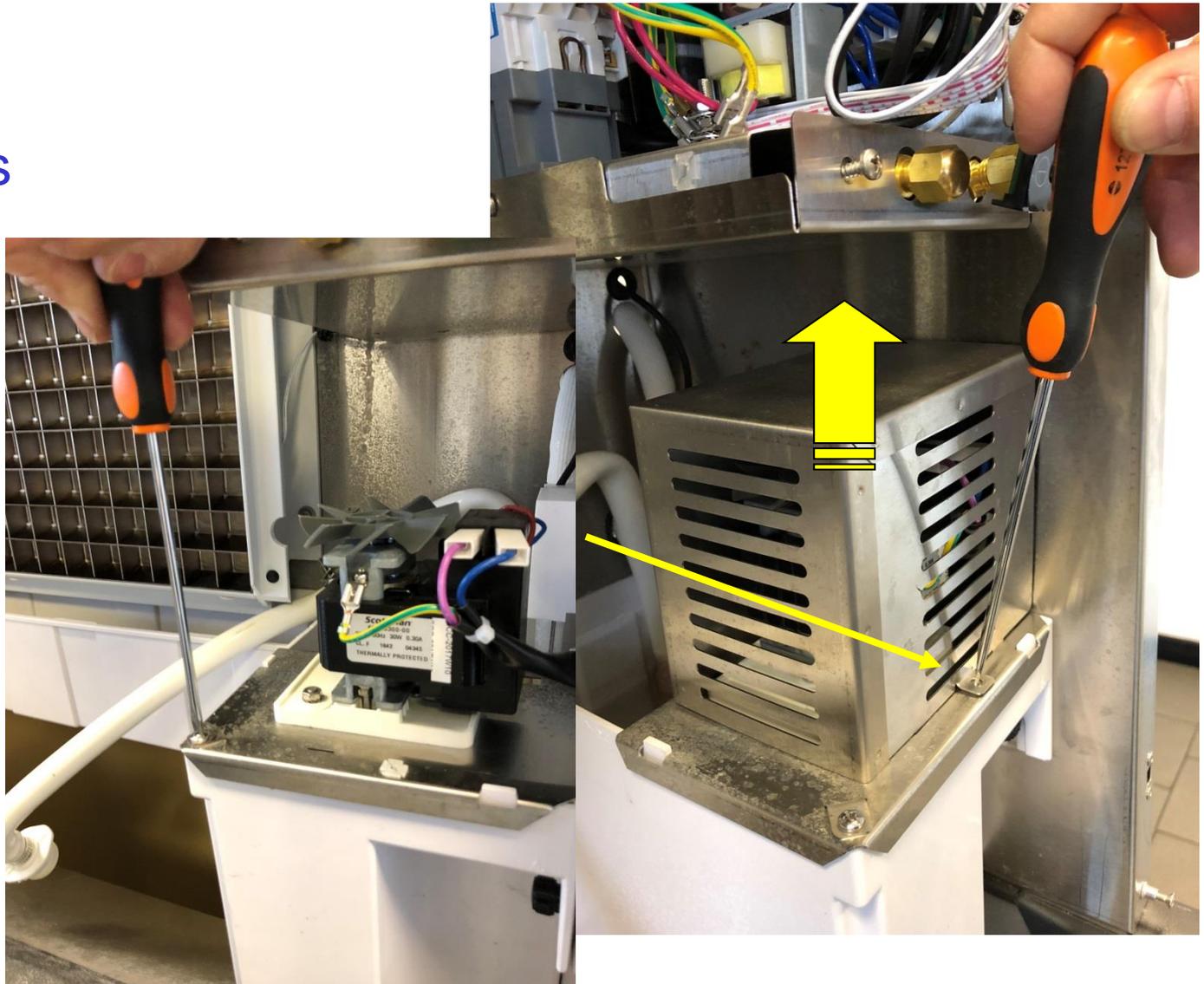
Open up the water distribution tube for cleaning



Once properly cleaned re-assembly the Water Distributor Tubes then re-fit it again on the upper side of the evaporator paying attention to match the plastic pin with the hole.



Unscrew
water pump
bracket screws
and remove it
from the
reservoir



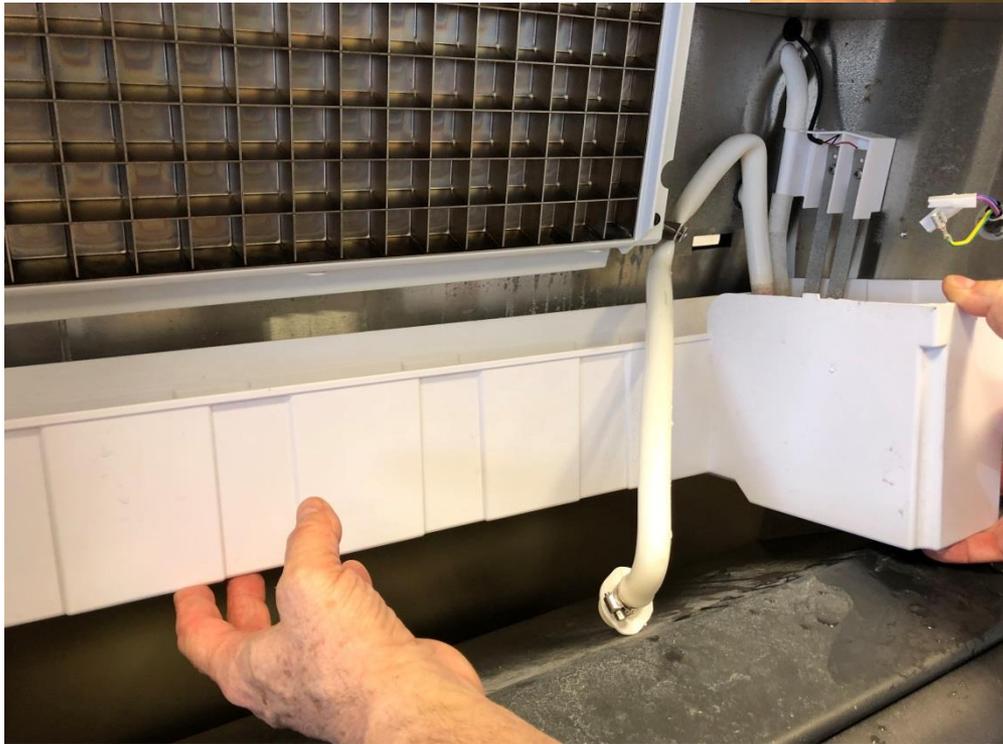
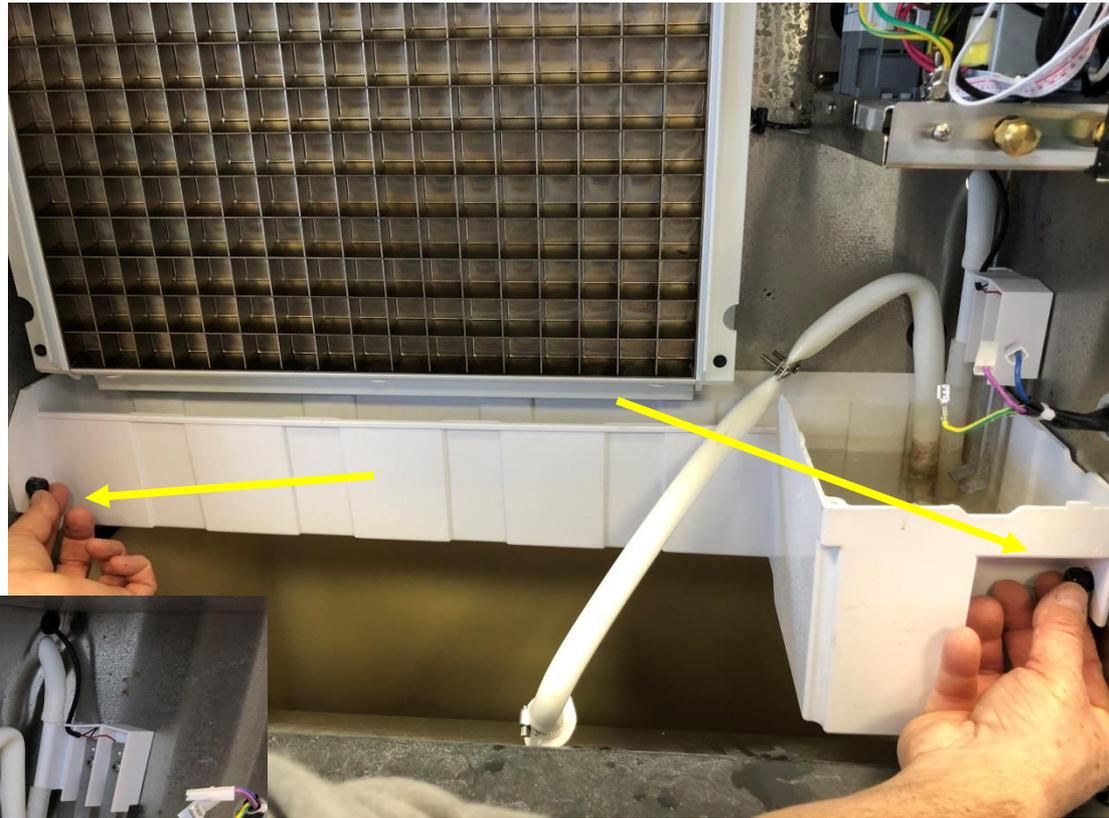
Disconnect the
water pump
from its power
spade
connectors



Remove water pumps from the reservoir and disconnect the water discharge hose



Unscrew the two thumb screws then withdraw reservoir from its seat



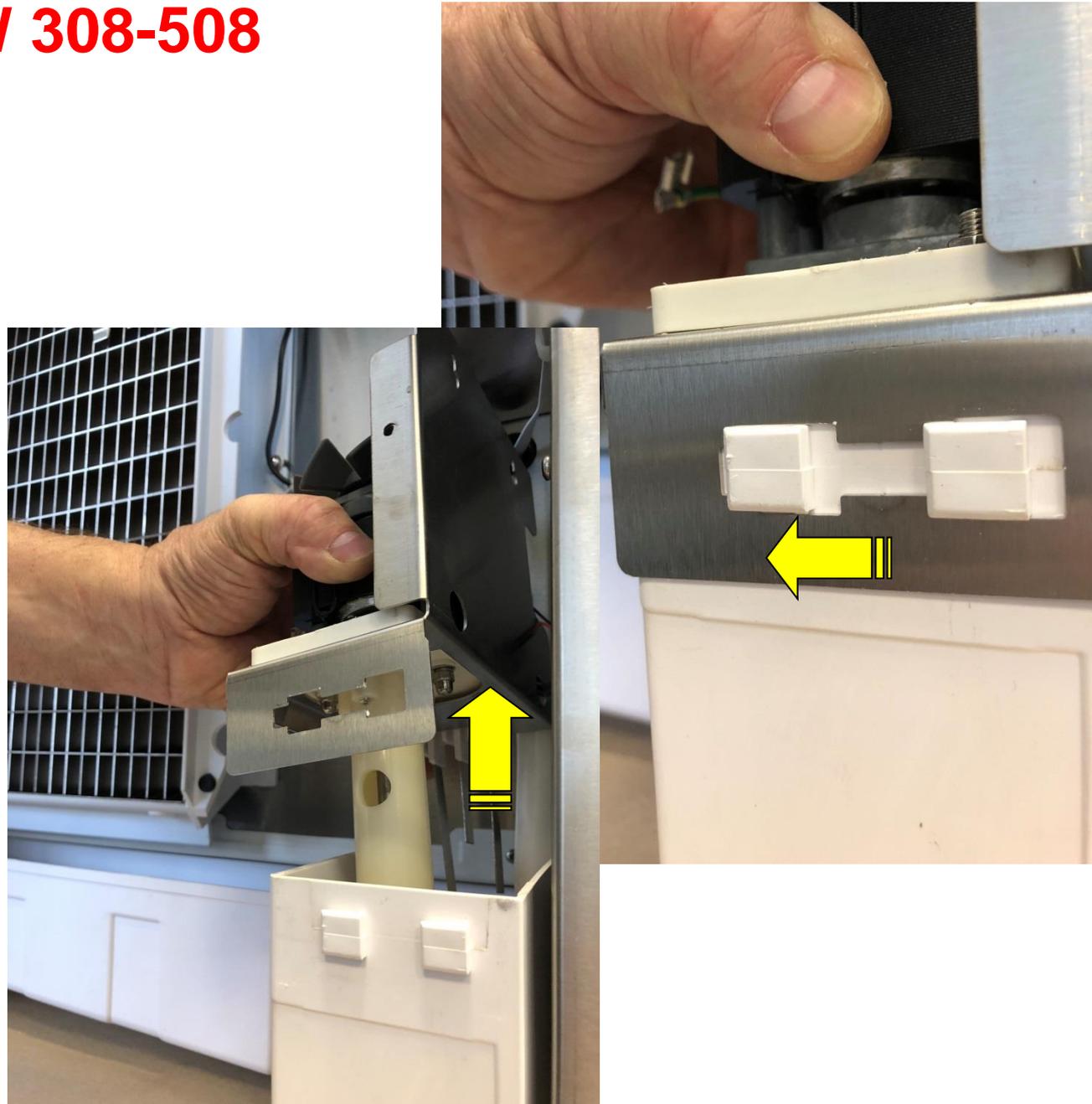
NW 308-508

Unscrew
water pump
bracket screws
and remove it
from the
reservoir



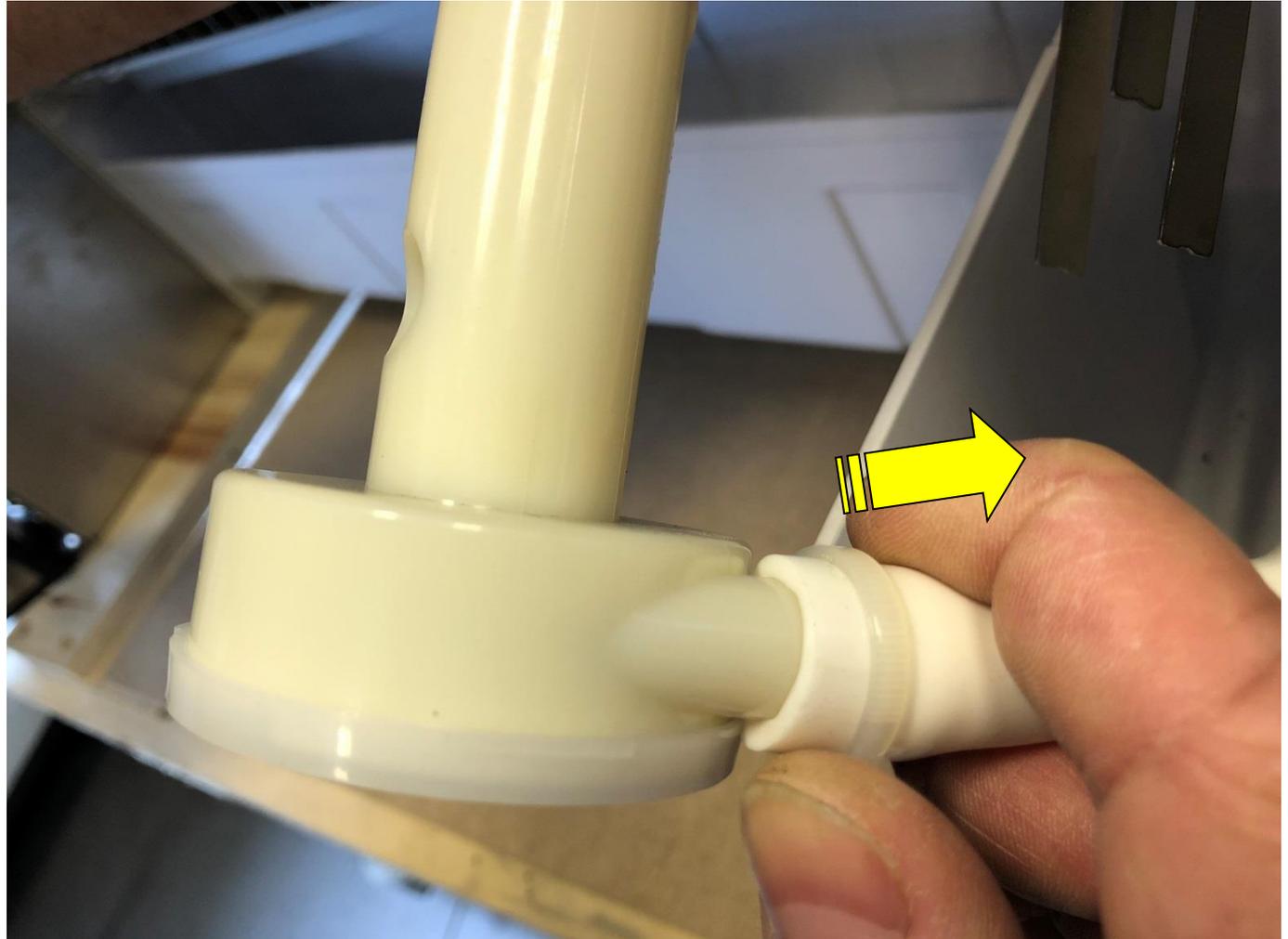
NW 308-508

Slip to the left side the water pump bracket thus to release the same from the water reservoir and lift up the water pump



NW 308-508

disconnect
the water
water
discharge
hose

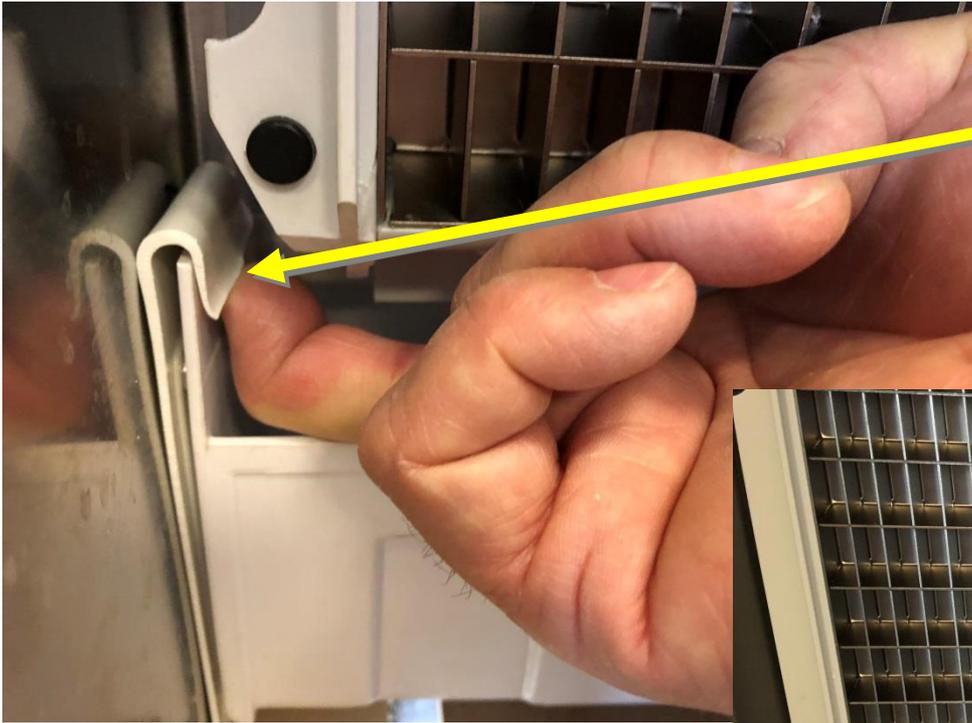


NW 308-508

Push the water level
sensor arms IN and
remove the same
from its seat



NW 308-508



Hang on water reservoir
left holding bracket and
withdraw reservoir from its
seat



Prepare the cleaning solution by diluting in a plastic bucket two liters of lukewarm water (max 40°C) with 200 ml of **SCOTSMAN Ice Machine Cleaner**.



Clean evaporator
plastic cover by
cleaning solution
then rinse it by fresh
water



Clean water
distribution
tubes and water
reservoir by
cleaning
solution then
rinse it by fresh
water



All above step (cleaning) shall also be made by antibacterial solution (finally rinsed by fresh water) then, carefully reinstall all cleaned removed parts

Once completed cleaning procedure on removed parts reinstall the same accordingly

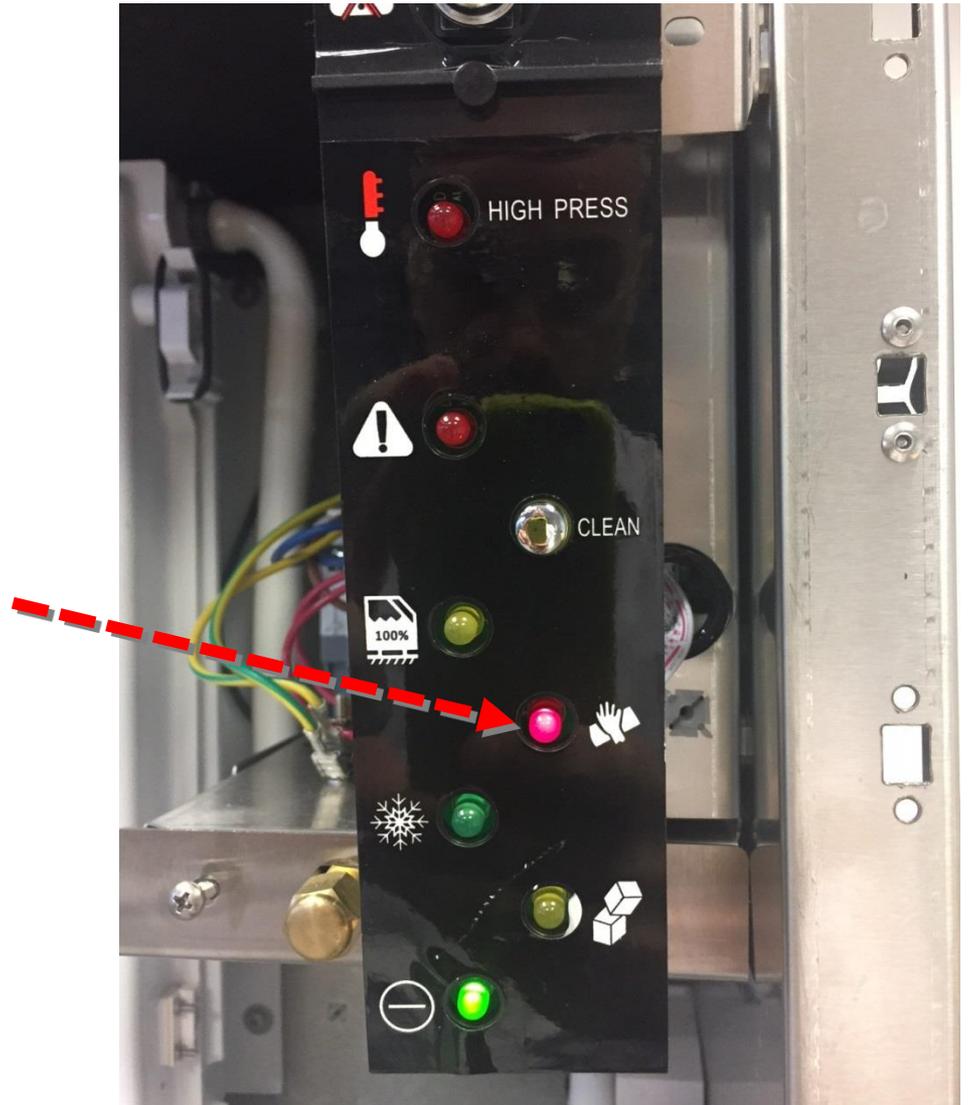
Switch ON the machine from the main switch and OPEN the water tap



Push the
CLEAN
BUTTON for
2-3 seconds



The machine enters in the Cleaning/Sanitize cycle with the red CLEAN LED light on MONITOR PANEL blinking fast in whole procedure



In the first 30 seconds of clean procedure the machine purge water from the sump, then pour:

NW 308: 180 ml

NW 506: 200 ml

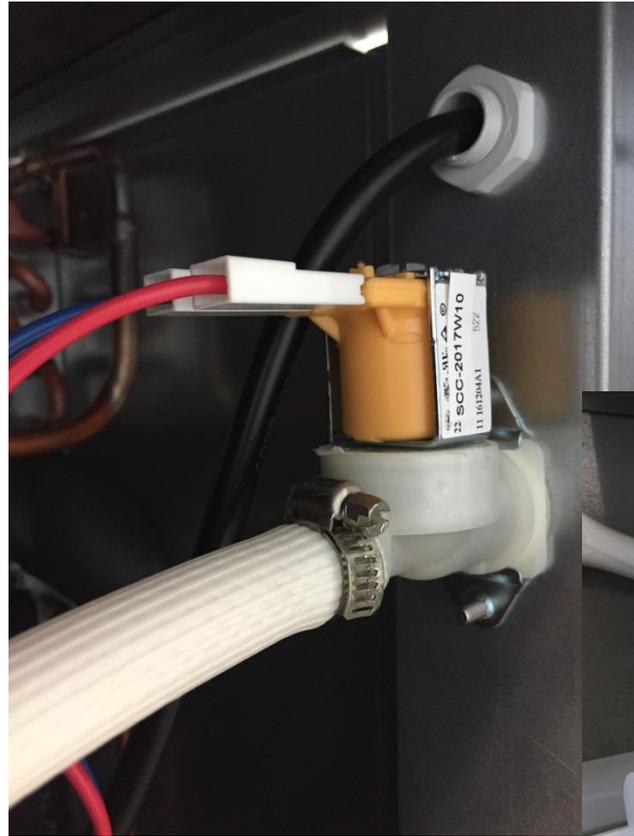
NW 458-608: 350 ml

NW 1008: 350 ml

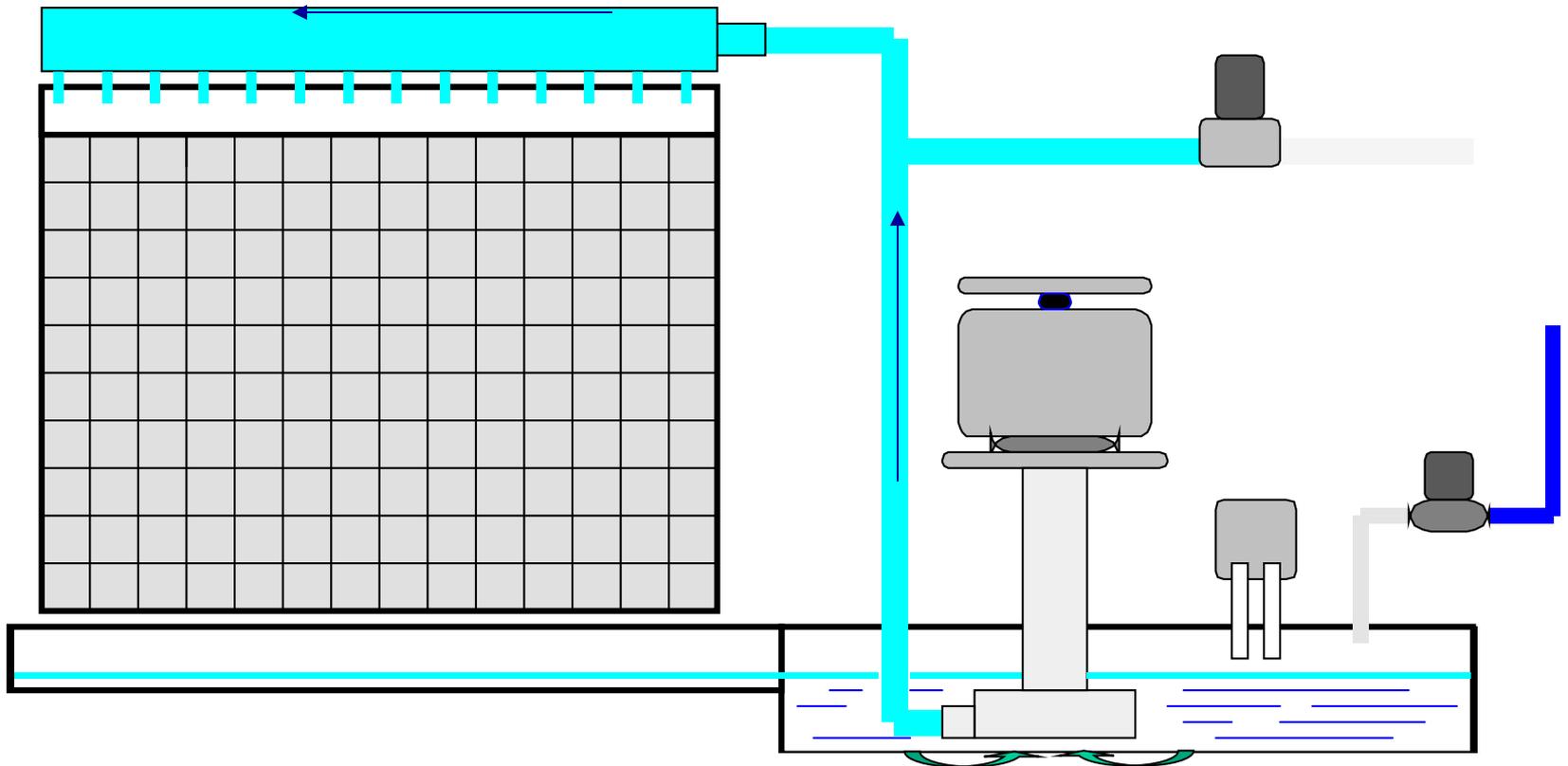
of SCOTSMAN cleaner inside water sump while...



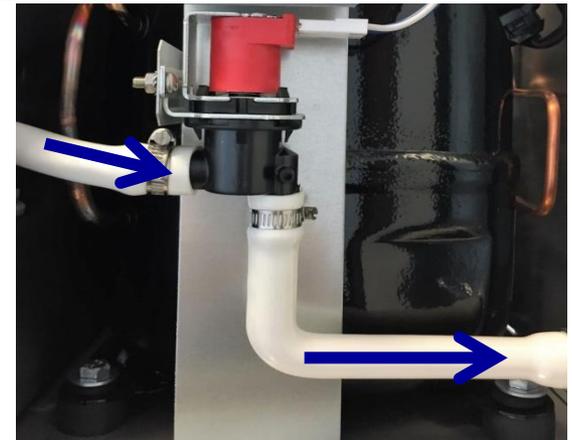
.....the water inlet valve will be energized till the fill up of the water sump . The water pump starts to operate



With the system in Cleaning mode the water pump is the only component in operation to circulate the cleaning solution in the entire water system.



After 10 minutes from the start of the cleaning cycle machine will purge automatically the Cleaner solution and refill up the water sump, then goes into automatic rinsing mode.



RINSING MODE consists of:

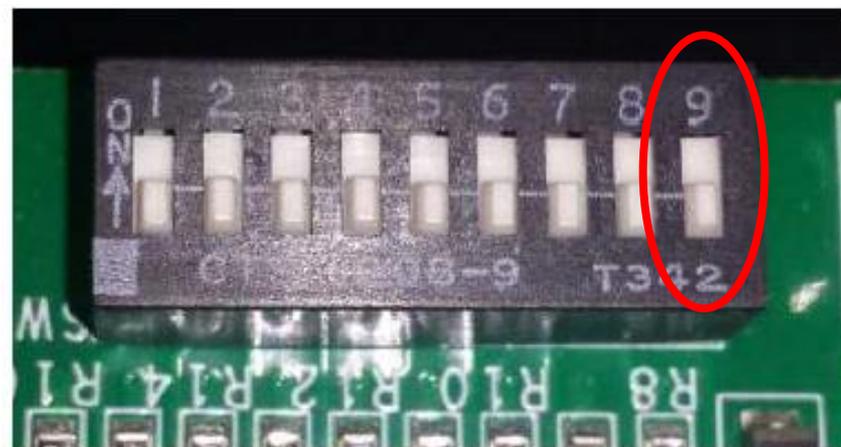
- Energize water pump for 30”
- Energize water drain valve and water pump for 30”
- Energize water inlet valve till the fill up of the water sump
- The above sequence is repeated 10 times to be sure to have removed any possible trace of Ice Machine Cleaner

At the end of 10th rinsing cycle, the machine restart according with the setting of DIP-SWITCH n.9

OFF = Machine will stop clean procedure with slow blinking of Red CLEAN light

Push CLEAN button to restart in freezing cycle

ON = Machine will restart automatically with a new freezing cycle



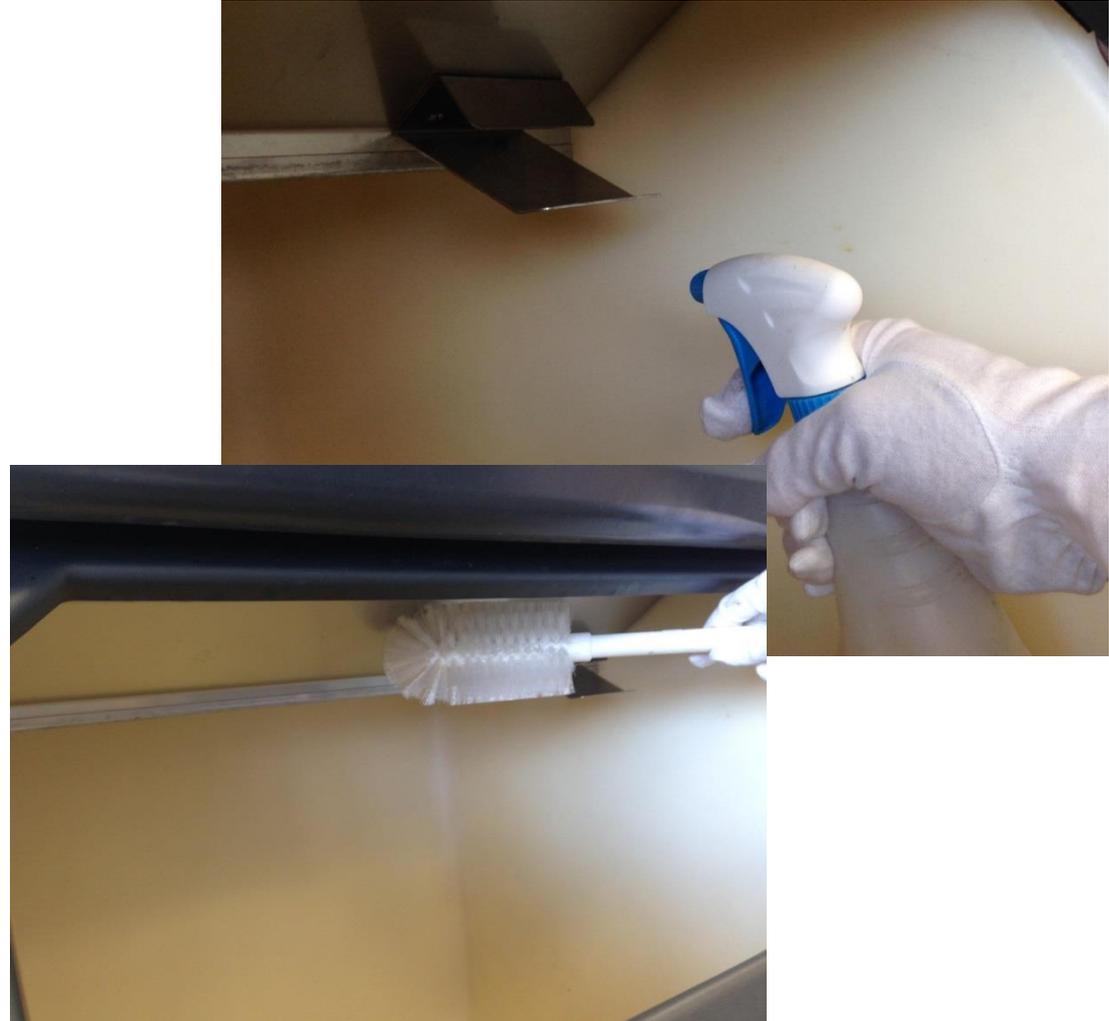
Repeat same
procedure pouring
approx. 5 ml of
Sanitizer
(Amuchina) directly
into the water
reservoir



Meanwhile the unit is running the rinsing cycle , mix in a clean bucket some fresh water with 1% of sanitizer product (Amuchina)



Fill up with the mixed solution a spray bottle, then spray the same to all bin internal wall/area and wipe with a proper brush the SS deflector as well as the internal surface of the plastic door and the internal area of the bin



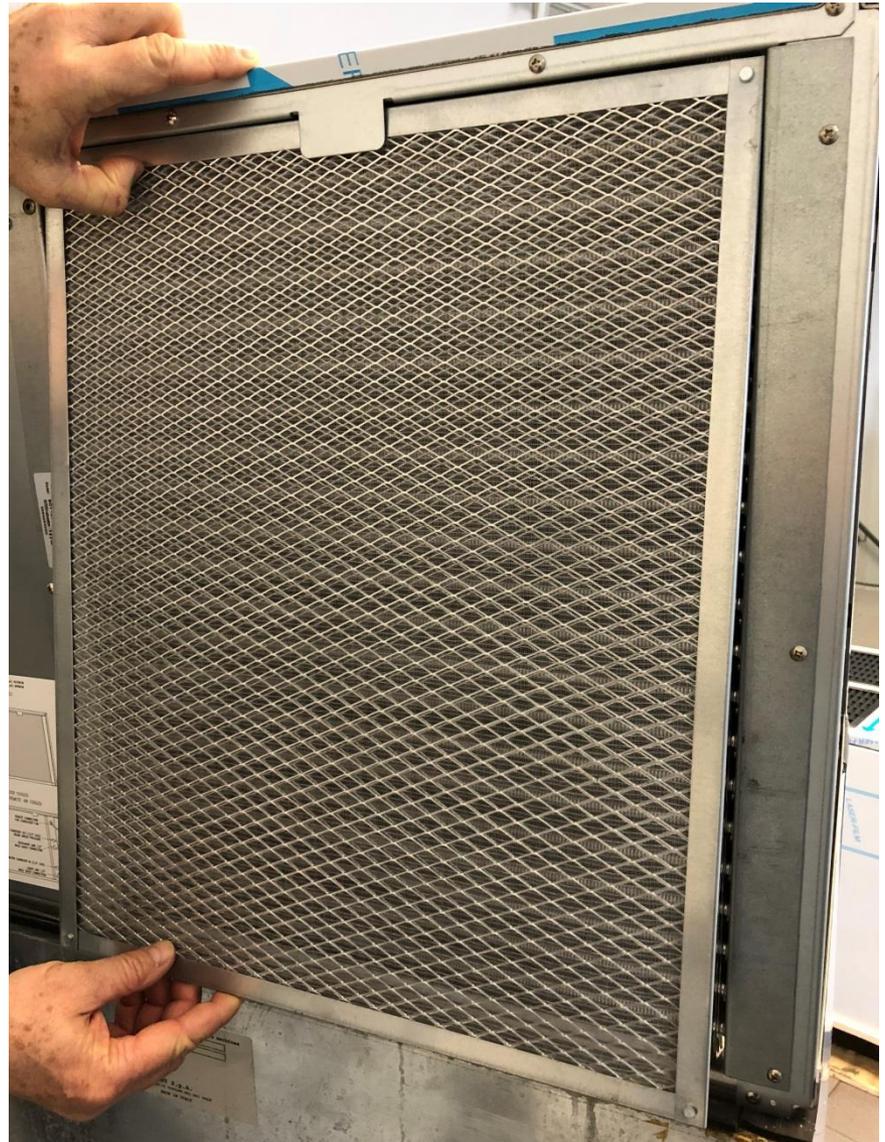
REMEMBER: The interior liner of the bin is in contact with a food product, ice, and needs to be cleaned and sanitized regularly **(one a week)** to prevent accumulation of bacteria. Once a week sanitize it with a commercial food grade sanitizers complying with the manufacturer dilution instruction



Install back the front panel and switch
ON the machine.

Check next batch, if it s cloudy, white
and have an acid taste, melt them
immediately by pouring on them some
warm water. This to prevent that
somebody can use it

Monthly check
and clean rear air
filter



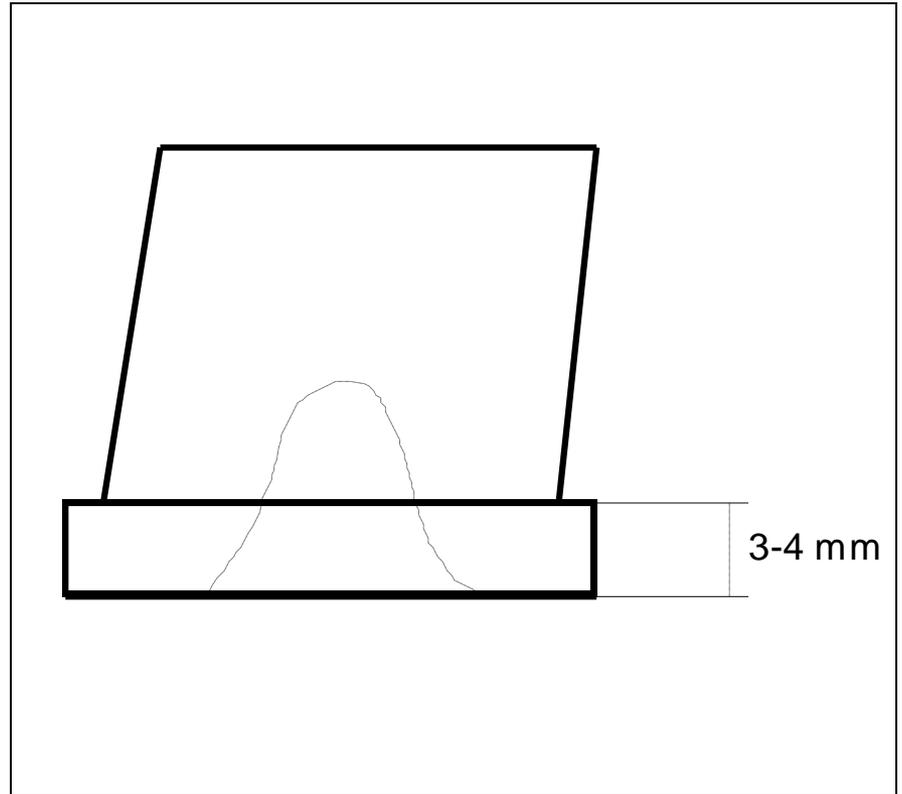
SERVICE ANALYSIS

SERVICE ANALYSIS

This is a **Scotsman Dice**

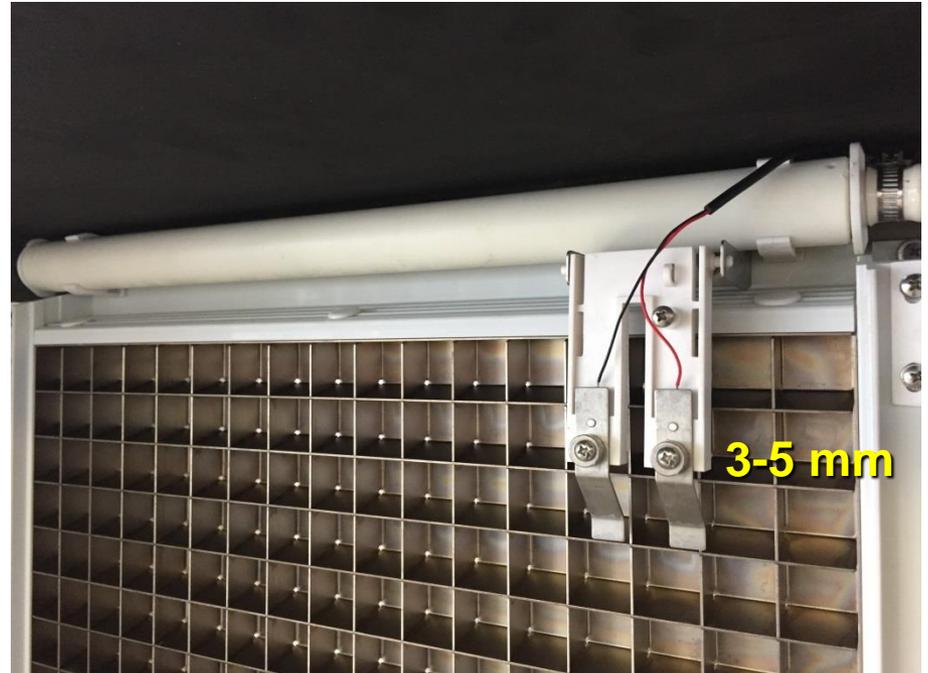
Cube.

It must be clear, solid with a bottom rim of about 3-4 mm and a small depression of 9-10 mm.



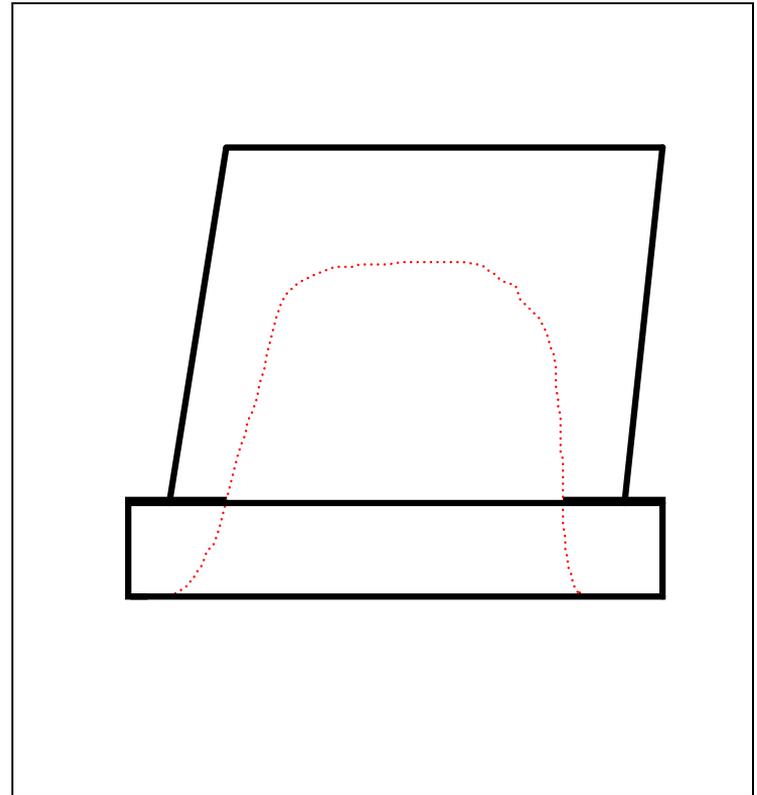
SERVICE ANALYSIS

The Ice Thickness Sensor must be adjusted so to have a clearance of approximately 3-5 mm between the bottom of the two metal plates and the front of the evaporator cells.



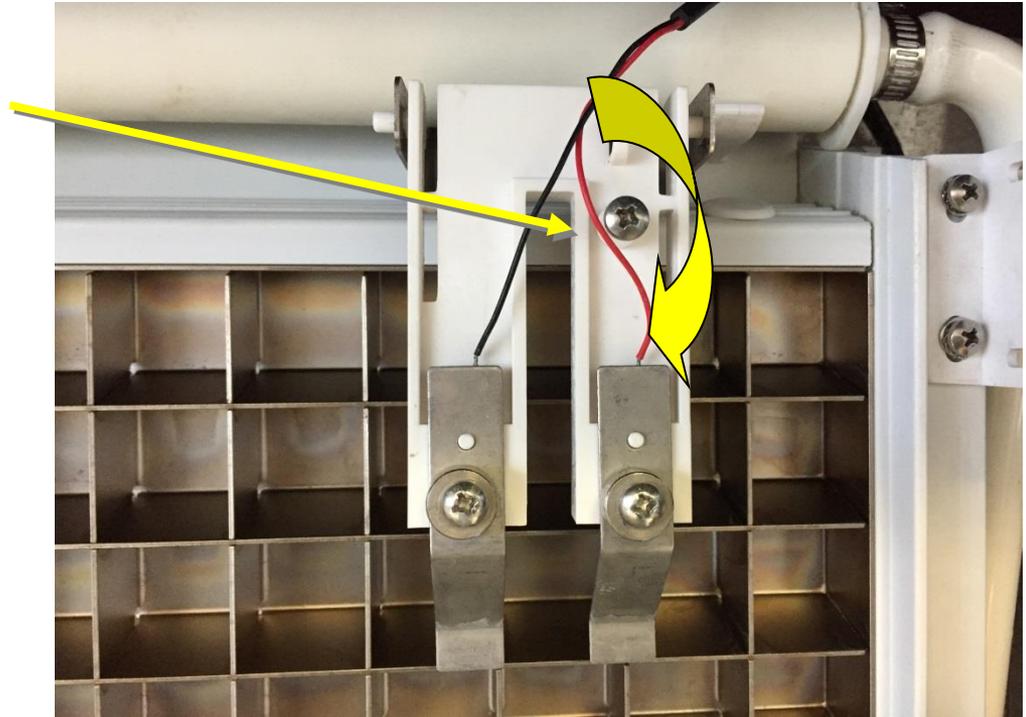
SERVICE ANALYSIS

This ice cube is clear, solid but it has a deep depression on its bottom rim due to a too short freezing cycle.



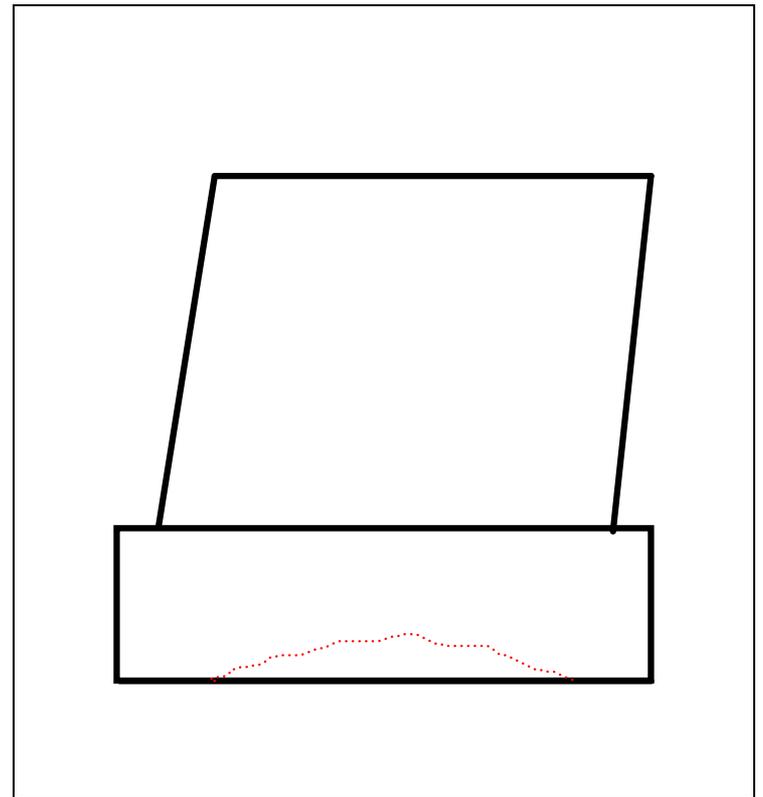
SERVICE ANALYSIS

It is necessary to extend the length of the freezing cycle by adjusting the clearance between the ice thickness sensor and the front of the evaporator turning the adjusting screw clockwise.



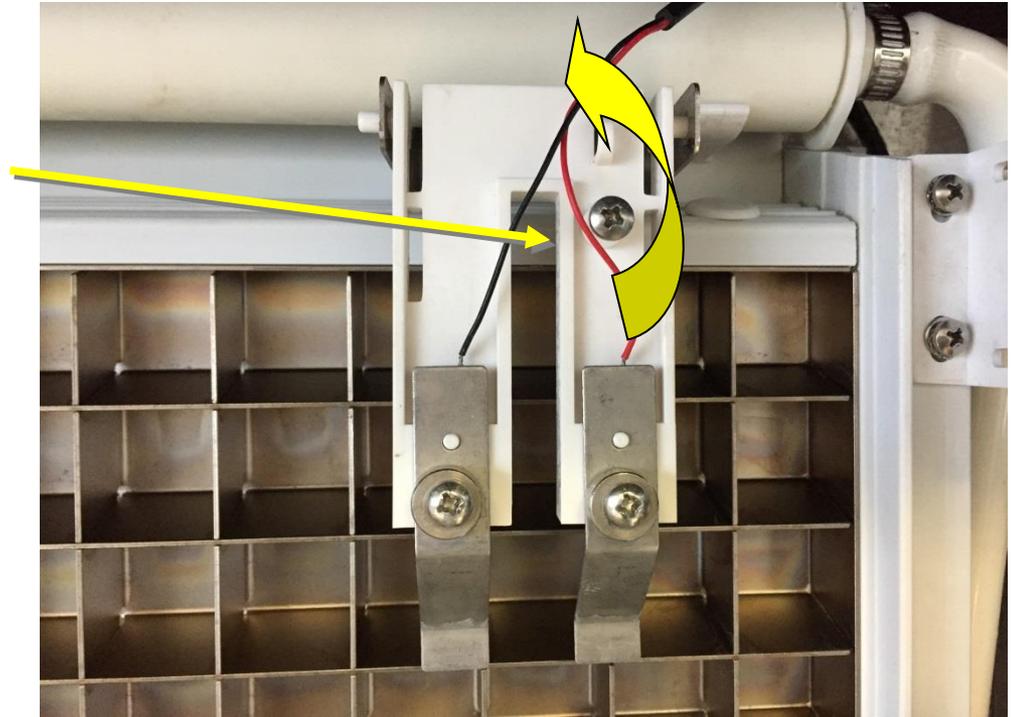
SERVICE ANALYSIS

This ice cube is clear, solid but
it is oversized due to a too
long freezing cycle.



SERVICE ANALYSIS

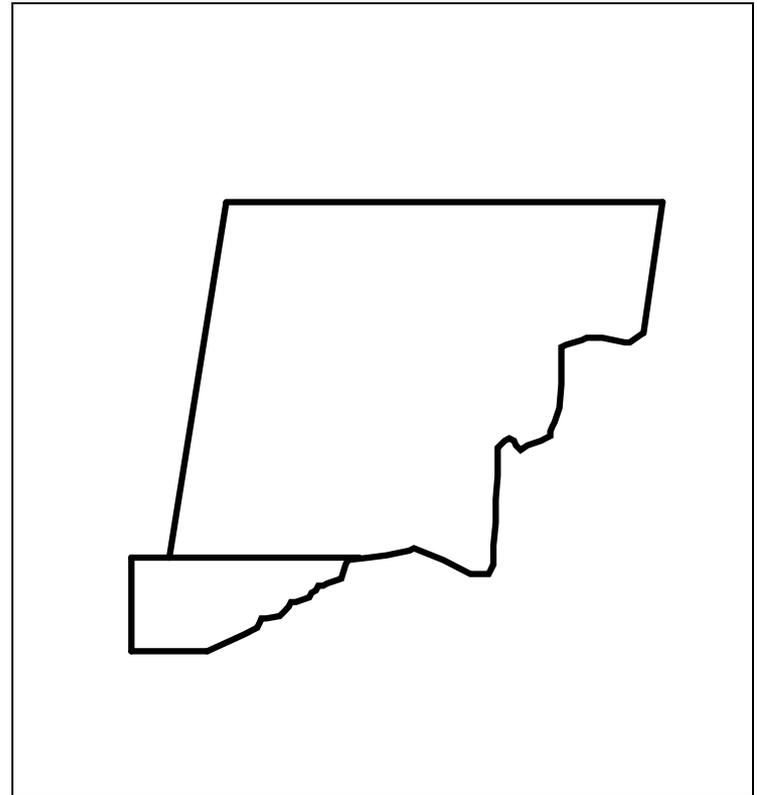
It is necessary to reduce the length of the freezing cycle by adjusting the clearance between the ice thickness sensor and the front of the evaporator turning the adjusting screw counterclockwise.



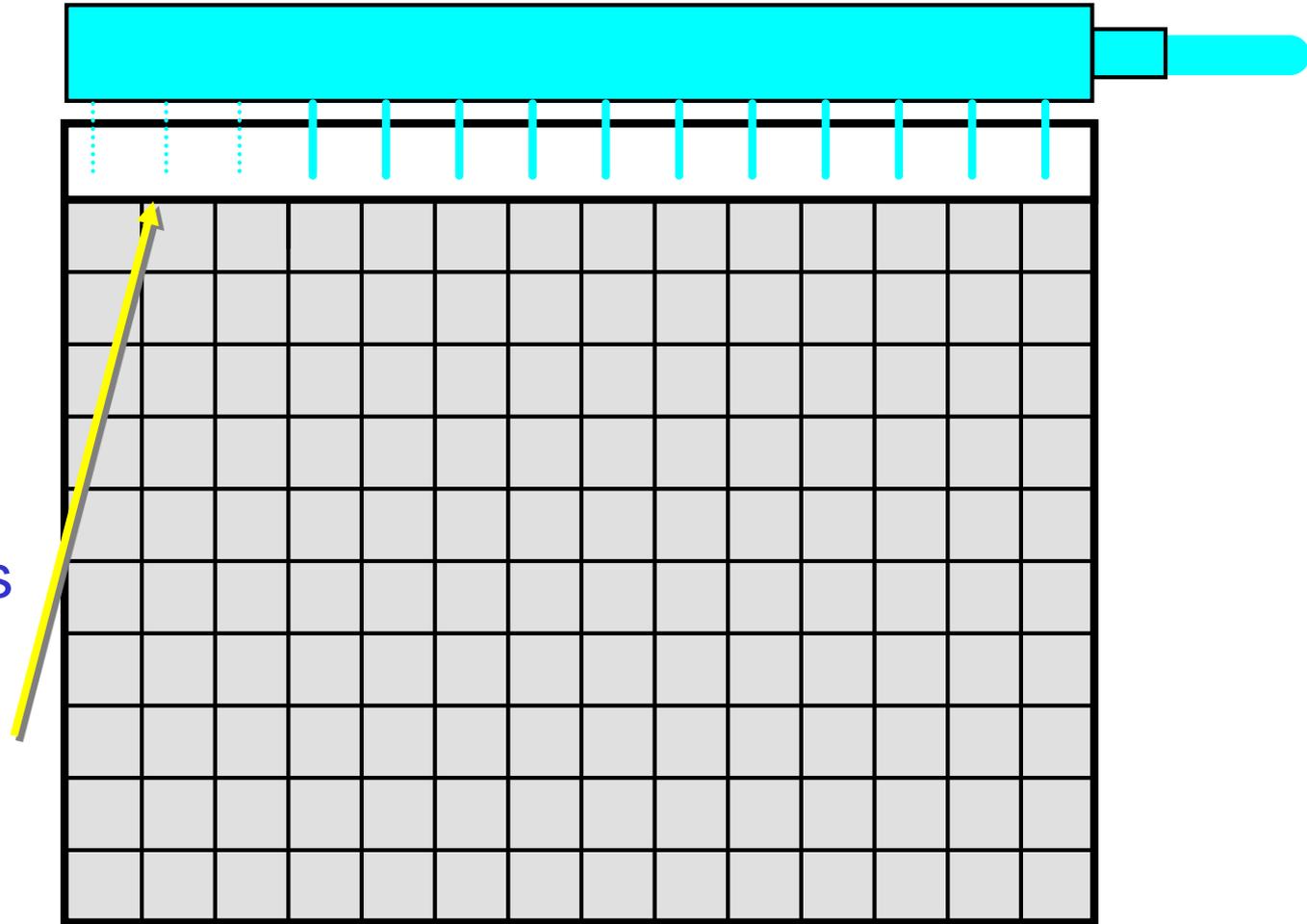
SERVICE ANALYSIS

This is a typical ice cube clear on its upper left side and white and corroded on its bottom right side.

The reason is that the water doesn't reach in correctly the inside of some of the evaporator molds.



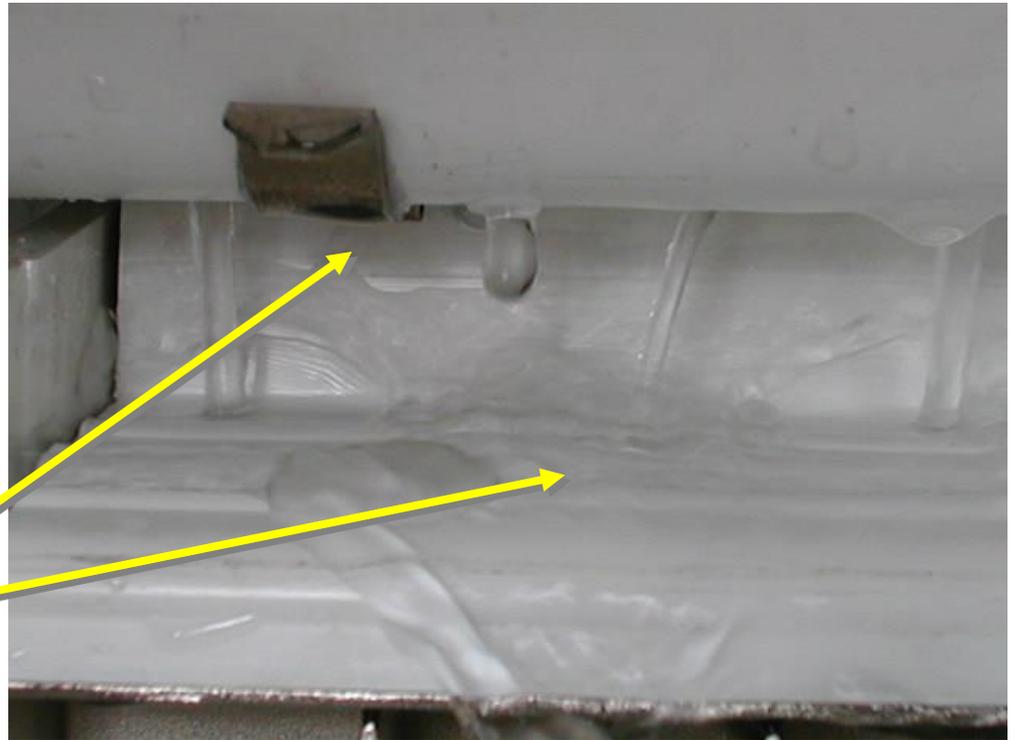
SERVICE ANALYSIS



Should be due to
clogged spray jets

SERVICE ANALYSIS

To solve this
trouble check and
clean spray bar as
shown on the
previous Cleaning
Procedures

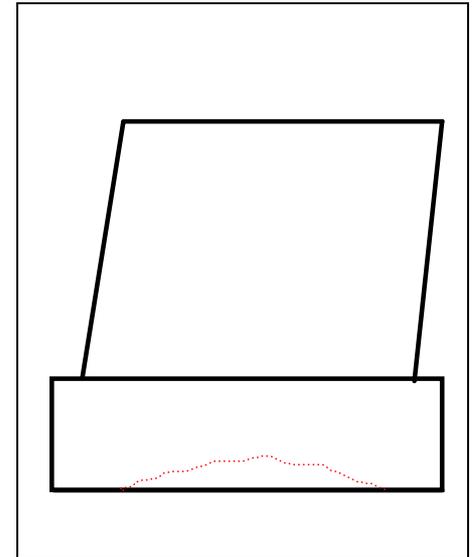
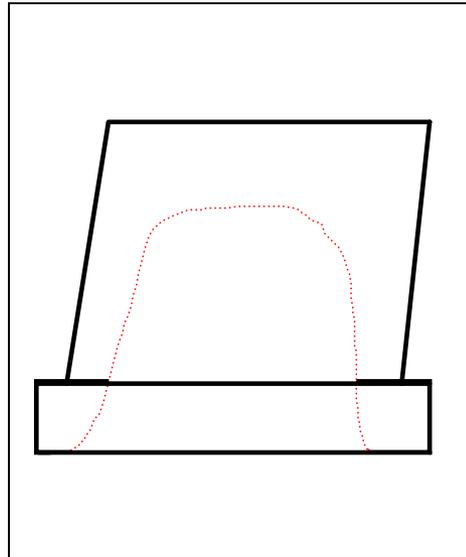


SERVICE ANALYSIS

These ice cubes are both clear, solid but some are oversized and some other are undersized.

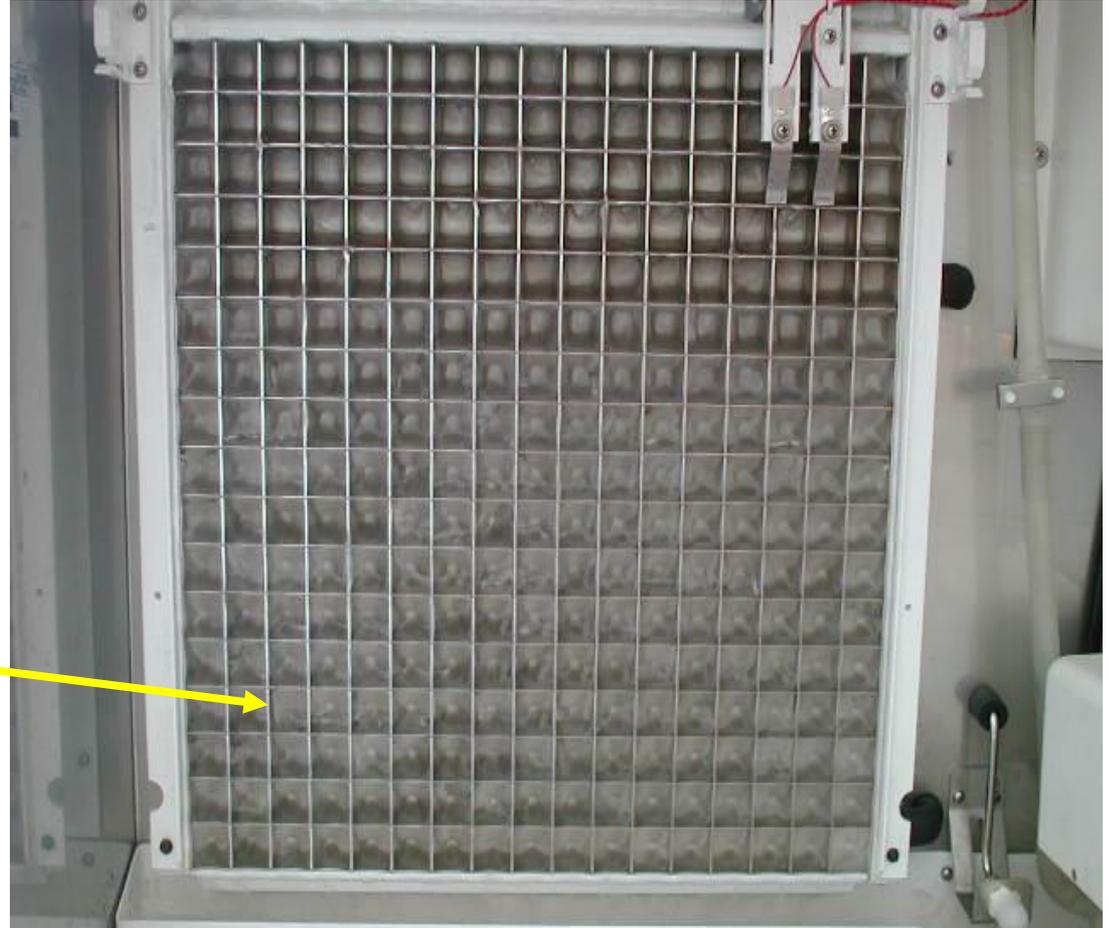
If so the possible reasons could be:

- **TXV not working properly**
- **Low refrigerant charge**



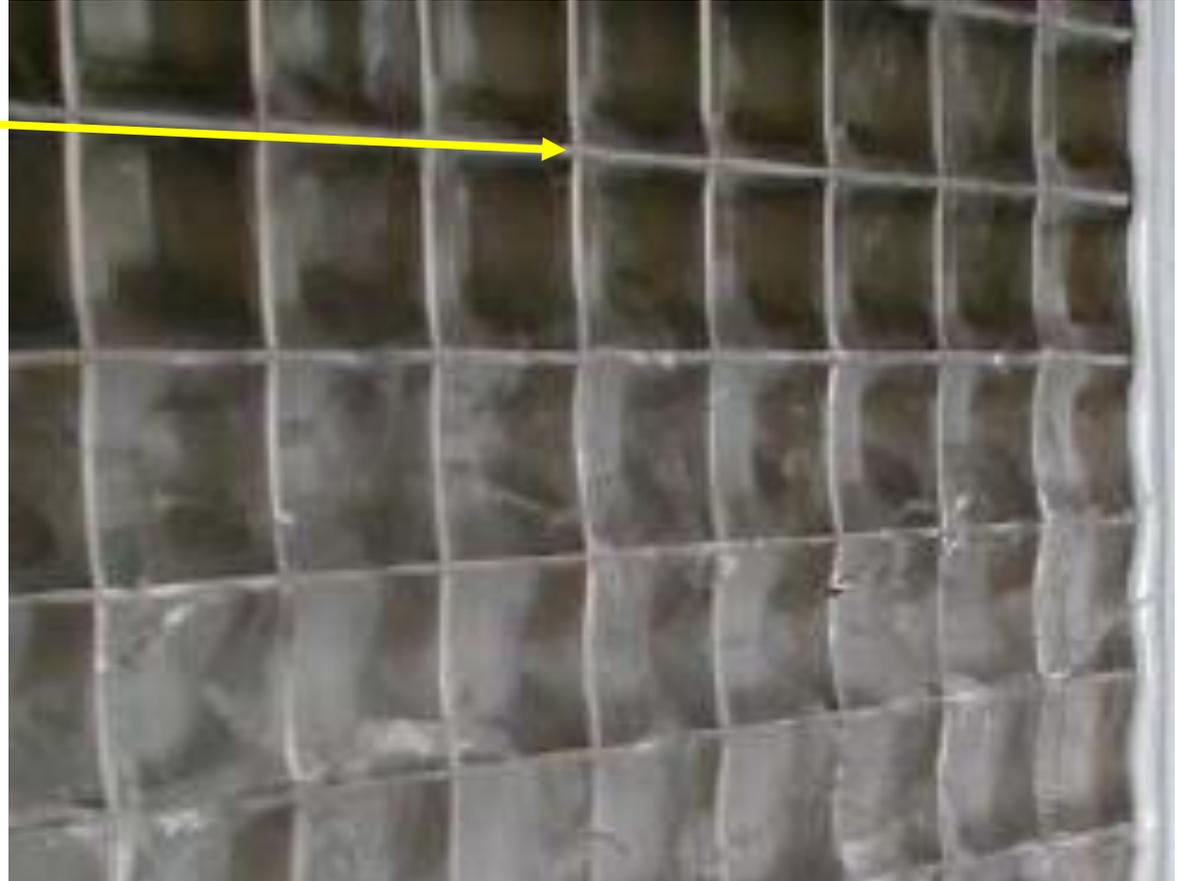
SERVICE ANALYSIS

Looking the evaporator, after 15-20 minutes in the freeze, the ice is probably.....



SERVICE ANALYSIS

thick on the bottom portion (inlet of refrigerant) and thin on the upper one (outlet) due to the lack of exchange of heat between refrigerant - already in vapor state - and cascading water.



SERVICE ANALYSIS

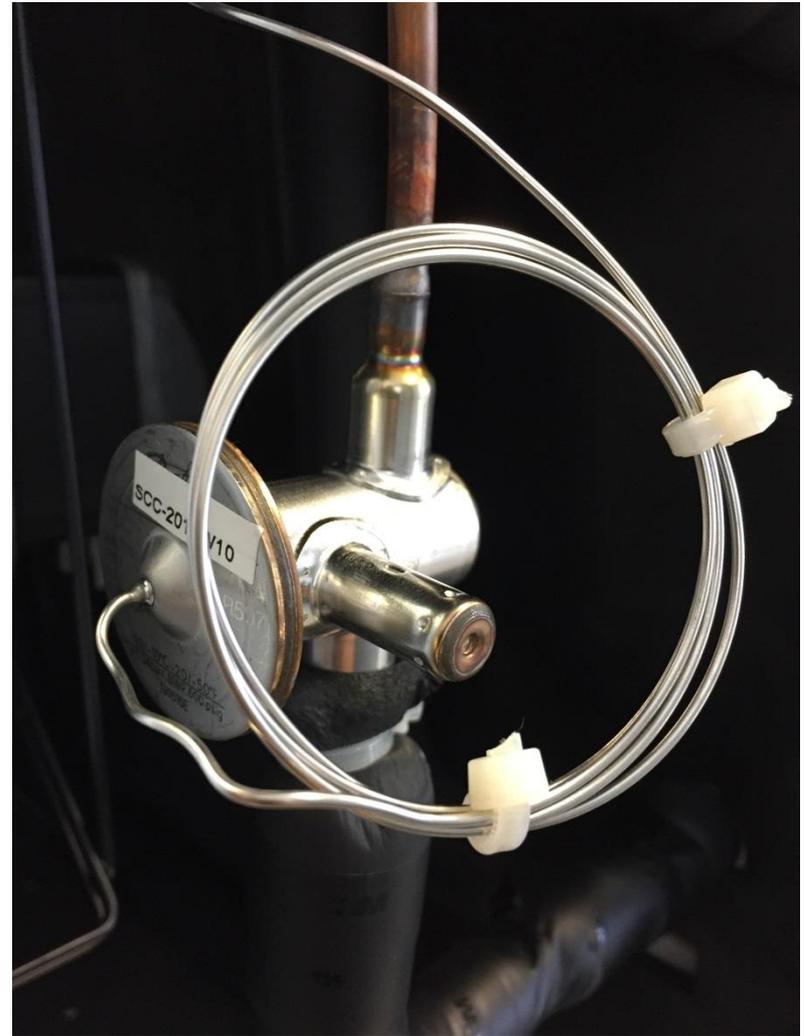
Check the operating pressures of the refrigerant system connecting the gauges on hi and low service valve.

The operating pressures at the end of the freezing cycle with unit at 21°C ambient and 10°C water inlet should be:

MODEL	Disch. Pressure Freeze max bar	Disch. Pressure Freeze min bar	Hi pressure CUT OUT bar	Suction Pressure Beginning Freeze bar	Suction Pressure end Freeze bar	Cycle time minutes
NW308AS	18	13	32,5	4,2	2,4	17
NW508AS	15,4	14	32,5	3,4	2	13
NW458AS	17	11	32,5	3	1,8	16
NW608AS	17	14	32,5	2,6	1,4	14
NW1008AS	17,5	14,5	32,5	3,2	1,7	12
NW1008AS	18	15	32,5	3	1,4	14
NW308WS	17,5	15,8	32,5	3,6	2	18
NW508WS	16	15,5	32,5	3,2	1,6	14
NW458WS	18	17,5	32,5	3	1,4	15
NW608WS	17	16	32,5	3	1,4	15
NW1008WS	18	17	32,5	3	1,7	13
NW1008WS	18	17	32,5	3	1,7	13

SERVICE ANALYSIS

If the pressures are not the right ones, it will be necessary to replace the TXV valve



SERVICE ANALYSIS

One more possible reason could be the serpentine no longer proper welded on the back side of the evaporator.



11/06/2012 15:59

SERVICE ANALYSIS

If so, ice is produced in spots, according to the different transmission of heat between the refrigerant in circulation on the serpentine and evaporator surface.



Serial 0000000197
0110001/8
01000100197

END