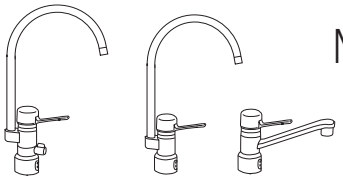
Mora Armatur AB
Box 440
SE-792 27 MORA
SWEDEN
www.moraarmatur.se

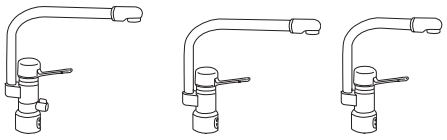


INSTRUCTION

Mora Temp Duo

72 20 00, 72 20 01,
72 20 02, 72 20 03,
72 20 04, 72 20 05

07.04. MA nr 1001032



ASSEMBLY INSTRUCTIONS

General

MORA TEMP DUO - TWO MIXERS IN ONE!

- MoraTemp Duo is a combination of a standard kitchen or wash basin mixer and a sensor controlled tap. Using the lever the Mora Temp Duo works exactly as any other ordinary mixer. But with the sensor function you get a non contact function by holding your hands in front of the sensor eyes.
- When installing MoraTemp Duo in rooms where there is a periodic risk of freezing, the fittings must be drained of water, otherwise there is a risk of the tap being damaged through freezing.
- The control box must not be washed by high-pressure jet cleaning.
- The sensor part of the tap is fitted with automatic shut off after 24 seconds of use (adjustable up to 48 sec). In order for the tap to start again the "obstacle" or your hands must be removed from in front of the sensor eyes and then moved back again. This is a safety feature to prevent flooding if an object were to be placed in front of the sensor eyes.
- Before connection is made, the incoming water pipes must be flushed.

NOTE: If the red indication lamp is flashing or lights without the tap being used, the battery voltage is too low, and the batteries must be replaced.
When the batteries have been removed and then replaced, the RESET button on the circuit board must always be pressed in for a brief moment to reset the electronics.

Spent products can always be sent to MORA ARMATUR AB for recycling.

Assembly

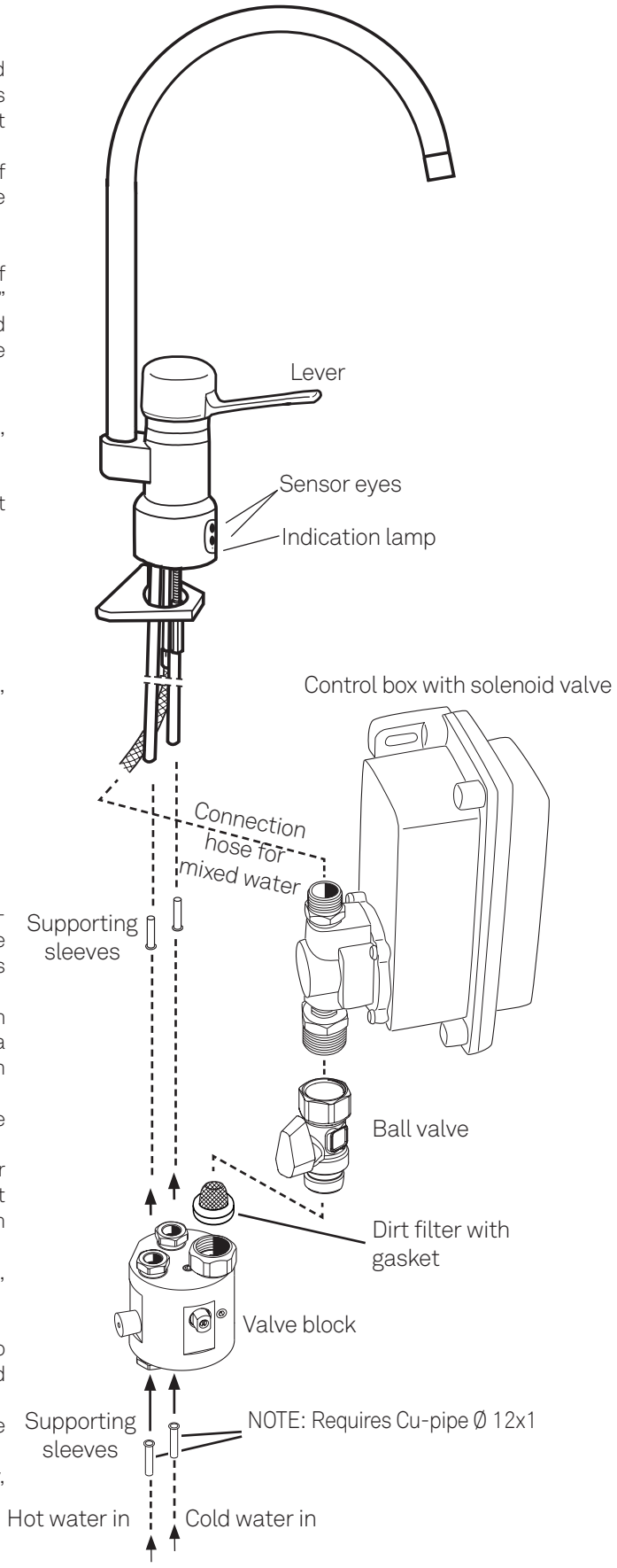
1. Place the mixer in the hole, rec. hole dim 35mm (max 37mm - min 32mm), and attach using the support washer and nut.
2. Remove the control cover, pull out the circuit board and make the necessary changes to flush time and sensor distance. (see diagram A). Mount the batteries, attach the sensor cable (the cable between the sensor eyes and control box) on the circuit board, press the RESET button on the circuit board and put back the cover. On AC operation: select AC instead of DC on the circuit board, reset the transformer to 12V operation. Connect to circuit board. Press RESET.
3. Connect the valve block to the mixer's connection pipe (remember the support sleeves in the connection pipe) and to incoming hot and cold water. If the mixer has an outlet for connecting a dishwasher, connect the dishwasher's connection hose to the mixer's outlet pipe.
4. Assemble the solenoid valve with the ball valve in the control box. Then attach the ball valve to the valve plate. Do not forget the filter/packing. If there is a limited space against the drain trap, the enclosed elbow can be attached in between to angle the control box 90° out of line.
5. Then fit the connection hose between the outlet on the solenoid valve and the mixer's connection for incoming hot water.
6. The mixer valve built into the valve block only supplies the tap with water during sensor operation. This is set to give hot water on delivery; the exact temperature and flow can be adjusted using the adjuster screw (see diagram B).

NOTE: If only cold water is required (100 %) from the tap during sensor operation, the accompanying cold water plug must be fitted (see diagram C).

7. Turn on the water.
8. Test the activation distance. If the activation radius of the sensor is too short/long, this can be adjusted using switch no. 6 (rough adjustment) and the adjuster screw (fine adjustment), see diagram A.

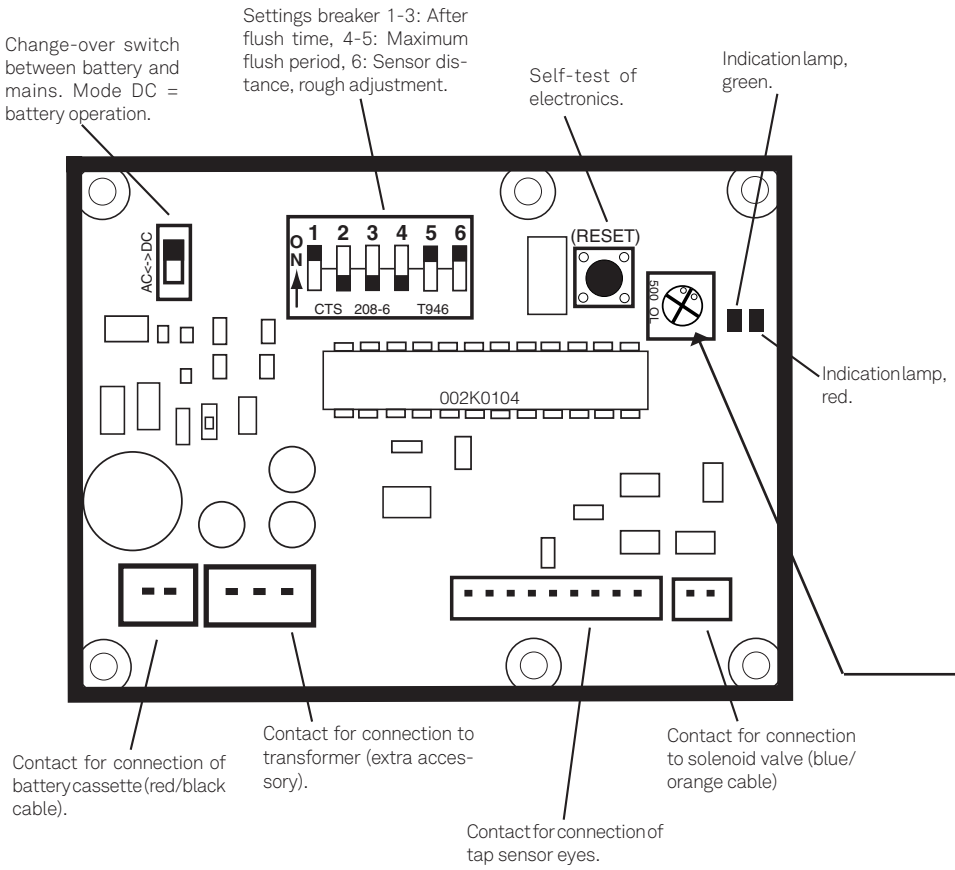
NOTE: Be careful - only small adjustments to the screw are needed to change the activation distance.

9. Check that the after flush time and the maximum flush time are satisfactory, otherwise adjust these on the circuit board in the control box.



SETTINGS AND CONNECTIONS

Diagram 1



Electronics settings:

After flush time	1	2	3
1 sec.	ON	ON	ON
2 sec.	ON	ON	OFF
3 sec.	ON	OFF	ON
4 sec.*	ON	OFF	OFF
5 sec.	OFF	ON	ON
6 sec.	OFF	ON	OFF
7 sec.	OFF	OFF	ON
8 sec.	OFF	OFF	OFF

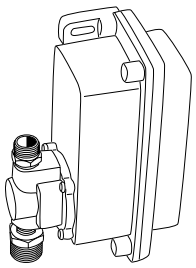
* normal setting

Max flush time	4	5
none	ON	ON
12 sec.	ON	OFF
24 sec.*	OFF	ON
48 sec.	OFF	OFF

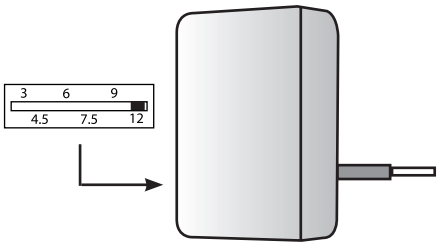
Distance settings (fin adjust. with screw in box)	6
0 cm - 15 cm *	ON
15 cm - 45 cm	OFF

* normal setting

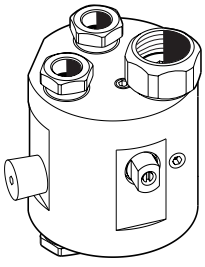
SPARE PARTS



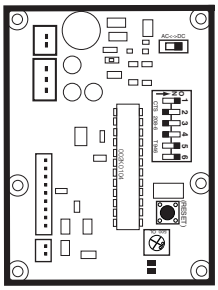
Control box



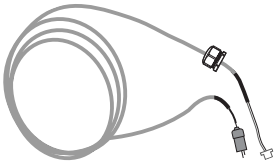
Transformer for mains
Sat at 6V on delivery.
Adjustable to 12V



Valve block

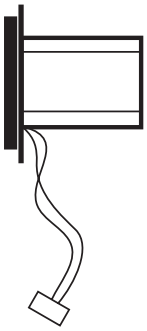


Circuit board

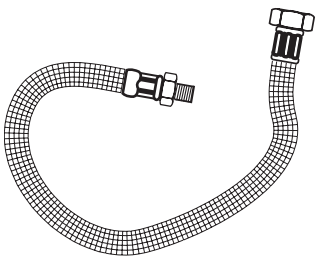


Cable to transformer

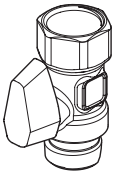
Membrane disk



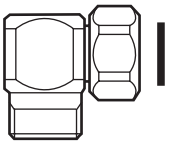
Solenoid coil



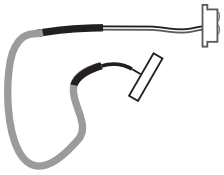
Connection hose



Ball valve



Angle element G1/2



Sensor eyes with cable

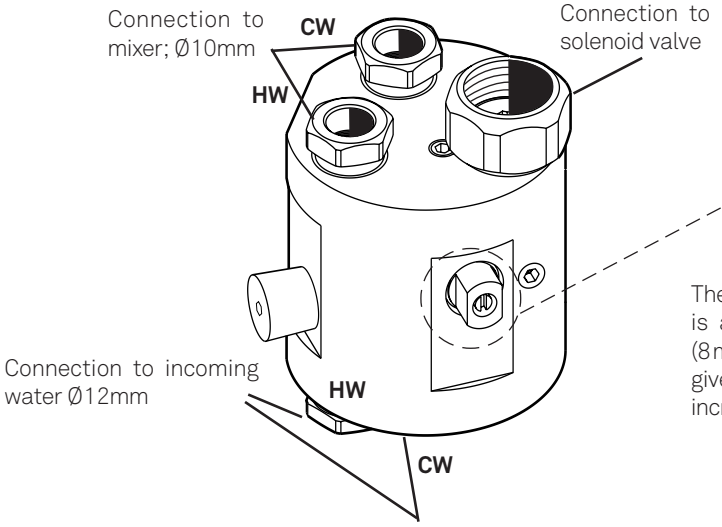
Spare Part number

Name	MA-nr
Control box	72 93 43
Circuit board	72 93 42
Sensor eyes with cable	72 93 18
Valve block	72 93 24
Solenoid coil	72 93 46
Connection hose	70 97 17
Membrane disk	72 92 27
Transformer for mains	72 92 30
Cable to transformer	72 92 29
Angle element G1/2	63 04 71
Ball valve	63 21 51

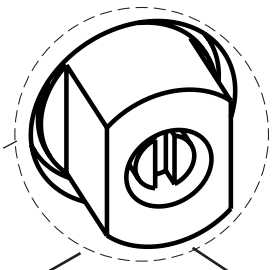
SETTINGS AND CONNECTIONS

Diagram 2

Valve block with mixer valve and throttle screw



Temperature and flow setting



The flow during sensor operation is adjusted using the flow knob (8 mm key handle). Clockwise turning gives a lower flow, and anticlockwise increases the flow

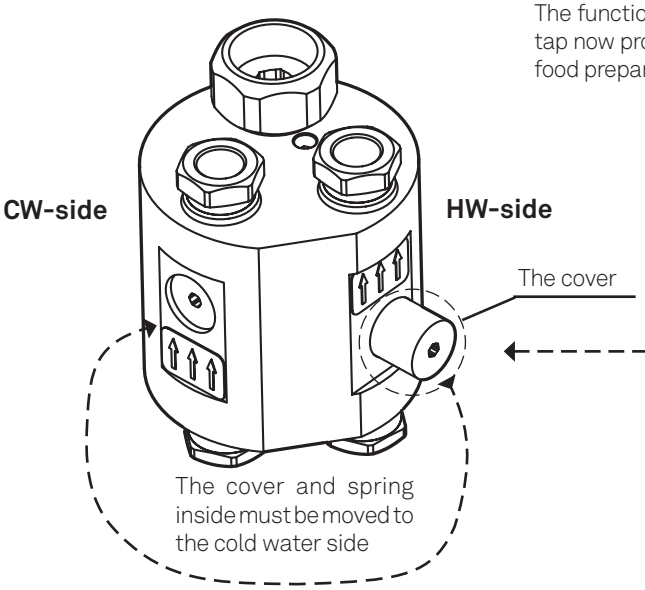
You can adjust the temperature using a slotted screwdriver; clockwise for hotter and anticlockwise for colder

Diagram 3

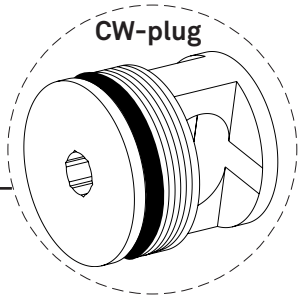
Only cold water for sensor operation

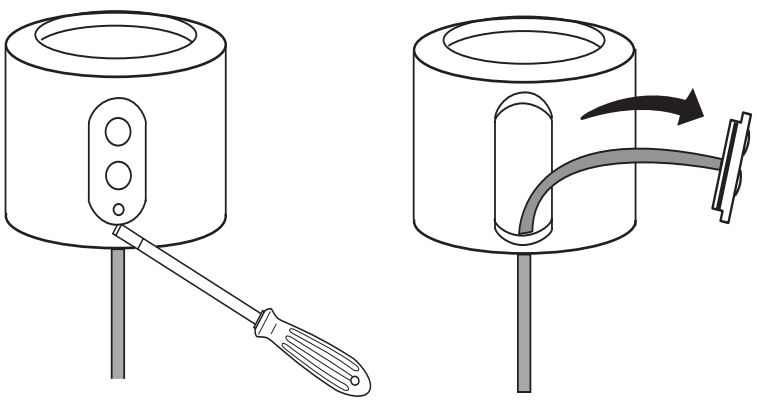
The temperature of the water during sensor operation is determined by a mixing valve that is built in to the valve block. You can use the temperature screw to produce fairly cold water, although not 100 % cold water, which sometimes may be required if you need the water for preparing food etc.

In order to always have 100 % cold water during sensor operation a cold water plug must be fitted. Remove the cover on the cold water side, and fit the cover and spring from the hot water side. On the hot water side the "cold water plug" must be fitted (included). To do this you only need a 3mm Allen key. When the plug has been fitted, the tap will always give 100 % cold water during sensor operation. The function of the mixer valve has been totally blocked, and the water that the tap now produces during sensor operation can be used as drinking water and for food preparation.



The cold water plug is to be fitted on the hot water side where the cover and spring are located in delivery configuration.





Removing the sensor eyes

Remove the sensor cable contact in the control box. Pull out the sensor pack from the foot of the mixer using a small screwdriver or the tip of a knife. Work the cable and contact through the hole. Depending on how big the assembly hole in the bench top is, you may need to remove the mixer and lift it up a few centimetres to get at the contact.
Reassemble the new sensor pack in the reverse order.

TROUBLESHOOTING AND CORRECTIVE MEASURES FOR THE SENSOR FUNCTION

Normal function
When activating the sensor function, a red flashing light is to be visible on the indication lamp (under the sensor eyes) just when the flow starts.**Test:**
MoraTemp Duo has a built-in function for self-testing in the electronics unit. This is what you do: Open the control box cover and pull out the circuit board. Press the "RESET" button briefly. The result should then be a red flashing light both from the indication lamp on the tap and from the circuit board, a clicking sound from the solenoid valve and the tap should open. Then a green flashing light on the circuit board, clicking from the solenoid valve, the tap shuts off, then two red flashes from the indication lamp and on the circuit board. This test confirms that the electronics are OK.

PROBLEMS	POSSIBLE CAUSE	TROUBLESHOOTING	CORRECTIVE MEASURE
Reset to AC but nothing is working	Transformer fault set, AC not selected and activated on the circuit board.	Check that the transformer is set to 12V. And that the circuit board has AC selected.	Set the Transformer to 12V. Select AC. Press RESET.
Sensor function gives no water	The water is shut off	Check the water connection	Open any shut offs
	Poor or batteries turned the wrong way	Check the batteries, 4 ea R6 á 1.5 volt, which must be mounted according to the instructions in the battery compartment	Replace batteries, or correct the position of the battery. NOTE: Use alkaline batteries!
	Sensor distance too short	Try moving your hand closer to the sensor eyes	Adjust the sensor gap
	The solenoid valve is not working	Activate the sensor eyes and listen for a clicking sound	If you hear no sound: Replace the solenoid coil or if necessary the entire solenoid valve
	Dirt in the solenoid valve	see above	If you hear a clicking sound - clean the solenoid valve or replace the membrane disk, see figure below
	Inlet filter clogged	Examine the inlet filter mounted between the solenoid valve and valve block	Clean the inlet filter
	Fault in the electronics	Conduct a "self-test" as described above	Replace the sensor eyes or circuit board
The tap will not turn off	Before additional tests can be made, establish whether the fault is electrical or mechanical by disconnecting the batteries. If the tap shuts off with disconnected current, the fault is electrical. If the tap continues to run there is a mechanical fault.		
	Mechanical fault - dirt in the solenoid valve	-	Dismantle the solenoid valve for cleaning, see figure below
	Electrical fault - the electronics prevent the solenoid valve from shutting off	Conduct a "self-test" as described above	Replace the sensor eyes or circuit board
The tap opens/ shuts off constantly	The sensor distance is too far	-	Adjust the sensor distance to about 5 cm in front of the sensor eyes
	The sensor eyes are defective	The sensor distance setting is not reacting	Replace the sensor eyes
The tap is dripping	Dirt in the solenoid valve, or leaky membrane disk	Screw apart the solenoid valve and look for dirt and check the membrane disk	Clean and where necessary replace the membrane disk, see figure below

Maintenance and cleaning
The maintenance normally required involves, for the most part, keeping the sensor eyes clean. Use no abrasive cleaning agent or strong substances that might damage the lenses. If the water contains a lot of particles and dirt, you might sometimes need to remove and clean the solenoid valve's water affected parts, and the dirt filter that is fitted between the valve block and solenoid valve. Be particularly careful with the small holes in the membrane disk and the surfaces to which they seal.
Strong sunlight aimed directly at the sensor eyes may also disturb the function.
The interval between battery replacement varies a lot, but for normal use working life should be year or so.
Always use alkaline batteries for best performance.