

Built-In Dishwasher Problems

Main TRIZers

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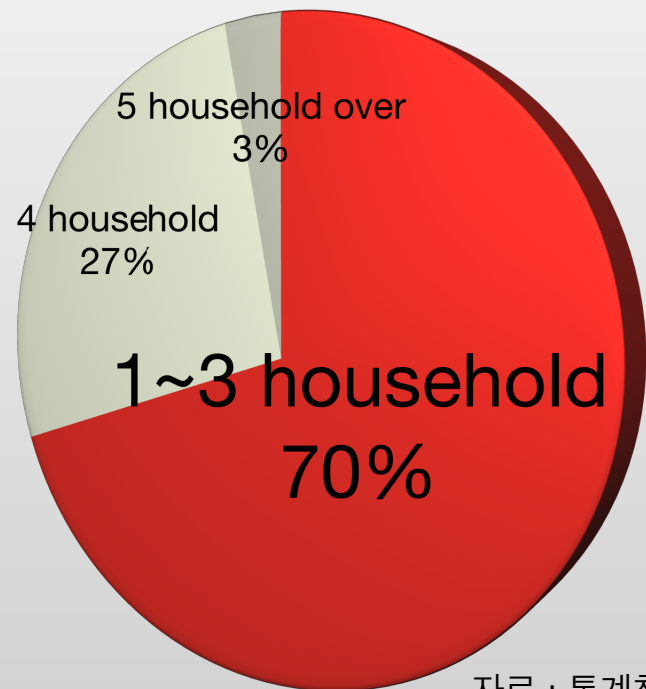
Dishwasher does not sell well

Does not use the dishwasher,
even if they possess it

System Analysis(9-Windows)

	Past	Present	Future
Super SYSTEM	The goal is to clean the large amount of dish	Being Nuclear family Does not require a large amount of dishwashing	Wash the dishes in small amount.
SYSTEM	Medical/Commercial dishwasher	Household built-in dishwasher	The new approach Built-in dishwasher
Sub SYSTEM	Shelf, Motor, Water	Sink, Rotary wing, Detergent, Digitizing	Vibration, Water, Wupersonic waves , Being smart

Analysis of the current super system



자료 : 통계청(2010)

Generated only
a small amount of dish



Sales target for dishwasher
Is not the individual but builders.

Identify problems

What : Use the dishwasher for a large amount of dish

Where : At 1~3 person household

When : Want to wash a small amount of dish

Why : Conventional dishwasher is washing
a large amount of dishes at a time

AS IS



TO BE



Dishwasher is a system that helps enable
small amount of dish to wash quickly and easy.

Searching Resources

Super/Sub
System

Inner
system

Using MATCEM

Resource Analysis

No	Resources	Type	Amount	Energy aspect and feature of the material	Substance field	amount of energy
Resource inside the system						
1	Vibration	Harmful	Enough	Can be shaken	A	Large
2	Door	Neutral	Enough	Door, it is possible to enter and exit the body.	M	Medium
3	Shelf	Beneficial	Enough	Do not shake the dish and efficiently install a large amount of dish	M	Medium
4	Water pressure	Neutral	Enough	Water pressure is able to strongly expand a water	M	Medium
super system resource						
5	Electrostatic	Neutral	Full	It is possible to bend the water	E	Large
6	Electricity	Beneficial	Enough	Electricity is able to operate the appliances.	E	Large
7	Gravitation	Neutral	Full	Gravity is the force the object is attracted to the earth.	M	Large
8	Sink	Beneficial	Enough	Sink, is a space which can wash bowl.	M	Medium

자원분석

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IFR – Water pressure

Water pressure is strong and widely spreads the water. Therefore, it is possible to clean a small amount of the bowl.



IFR – Sink

Sink, by using the space for washing the bowl, so as to clean a small amount of the bowl itself.



IFR – Vibration

Vibrations are warped and shaken with water.

So it is vibration to clean a small amount of the bowl.

25hz
forward effect

Final IFR

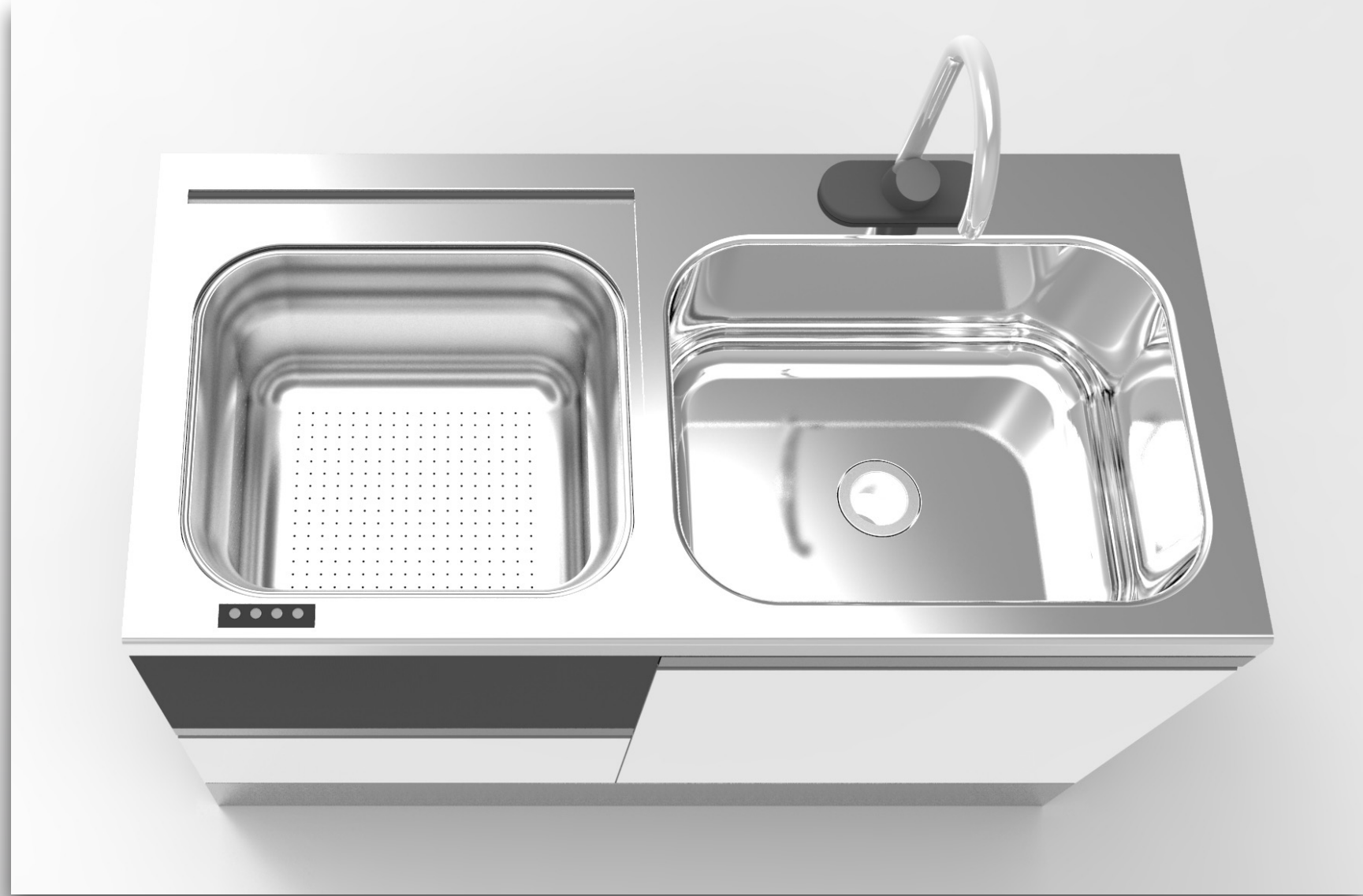
By using the water pressure and vibration,
the water is clean and wash a small amount of the dishes.

AND SINK

Recreate



- Intuitive System
- Easy to use
- Small amount of dish
- Quickly wash
- Natural drying



Intuitive dishwasher for cleaning
a small amount of dishes quickly and easily