P.K TECH SYSTEM
Technology Introduction
Contents

1. PK TECH – R&D Process
2. Hinge Function
   – Tilt, Pivot, Swivel, and Height
3. Refrigerator – Oil Lid Damper & Latch
4. Refrigerator – Hinge & Roller
5. Kimchi Refrigerator – Damping Hinge (Spring)
6. Washing Machine – Oil Lid Damper & Hinge
7. Global Supplying Location
   – South Korea, Mexico, China, Thailand, Poland, Malaysia, and Indonesia
R&D Process

Customer
- R&D Request

R & D
- Plan
- Design
- Working Sample
- Sample
- Design Modification
- EVT
- Sample
- Design Modification

QC
- Proto Test
- Life Test
- Reliability Test
- BOM

Manufacturing
- DVT Manufacturing
Functional Type

* Tilt Type

Control the Angle by move the Monitor & TV on front and rear.
Functional Type

* Pivot Type

Control the Angle by move the Monitor and TV on Clock way and Counter CW
Functional Type

* Two Point Type

Control the Height and Fold by moving Monitor and TV on front and rear, up and down.
Control the height by moving Monitor Mechanism up and down.
Refrigerator – Oil Damper and Latch

Latch

Homebar Damping Hinge

Removing the links
Video – Oil Damper and Latch

Homebar Damping Hinge.wmv
Latch

Functional Description

*Push-up type locking device for washing machine or refrigerator’s door

*It moves along the guide part without a pressure.
Oil Lid Damper (Torque Control-Type)

1) Functional Description
When the homebar door opens, the hinge controls the door to be gradually opened in order to improve the ease of being in use.

2) Feature
* After the homebar door opens, oil resistance controls the down time of hinge.

3) Advantage
* Simple manufacturing processes,
* Torque adjustment can control the micro motion.
* Simple structure provides easy production
* Several different refrigerators can be applied.

4) Disadvantage
* The manufacturing processes can be added due to the control of torque.
Oil Lid Damper (Open Reinforced-type)

1) Functional Description
It relates to an opening and closing device of homebar door. When homebar door opens, it controls itself to gradually falls at the predetermined angle. It significantly decreases the impact on the door in order to minimize the damage on the hinge and increases the reliability concurrently.

2) Feature
*The conglomeration of damper and torsion spring provides user to open the homebar door from the top angle.

3) Advantage
*The repulsive force of torsion spring strengthens the open force of homebar door.
* Low cost: One hinge can be able to implement to be functioned as two hinges (damper + torsion spring)
Oil Lid Damper (Easy Close Type)

1) Functional Description
It relates to an opening and closing device of homebar door. When homebar door opens, it controls itself to gradually falls at the predetermined angle. It significantly decreases the impact on the door in order to minimize the damage on the hinge and increases the reliability concurrently.

2) Feature
*The conglomeration of damper and torsion spring provides user to open the homebar door from the top angle.

3) Advantage
*It applies to relatively heavy homebar door.
*It has more durability in comparing to general damper.
*The force of closing of homebar door is minimized due to torsion spring.

4) Disadvantage
*It requires a mounting space since it has relative bigger size.
Damping Hinge (Vertical Open Type)

1) Functional Description
It relates to an opening and closing device of homebar door. When homebar door opens, it controls itself to gradually falls at the predetermined angle. It significantly decreases the impact on the door in order to minimize the damage on the hinge and increases the reliability concurrently.

2) Feature
* It feasibly applies to vertical homebar.
* The inner structure of case damper includes damper and spring.

3) Advantage
* After the function of latch, the homebar door automatically opens
  * The damping motion occurs between 70 – 100 degree.
  * High durability and reliability.

4) Disadvantage
* It has an intricate structure due to the small parts.
Refrigerator – Hinge & Roller

- Shelf Folding Hinge
- Roller for vegetable drawer
- Auto Hinge (L & R)
- Vegetable drawer
Video – Auto Close Hinge

Refrigerator Damping Hinge.wmv
Shelf Folding Hinge

1) Functional Description
   * It simply rotates in a state in which the goods having a higher interlayer spacing than the size of a refrigerator’s shelf to place on the bottom shelf without removing the refrigerator’s top shelf in the store room.

2) Feature
   * It can simply move the shelf without moving its position in the refrigerator.
     * It can adjust and control the storage space in the refrigerator.
     * Movement Degree: 0 – 90 degree (Applying stopper)

3) Advantage
   * It can maximize the limited narrow space of the refrigerator.
   * Maximize the value of the refrigerator at a lower cost.
Auto Close Hinge

1) Functional Description
*The fixed cam and the slide cam, which are responsible for the rotation of the refrigerator door, can be able to open and close the refrigerator’s door by the only force of the spring without the full weight of the refrigerator door and drastically minimize the damage of the fixed cam and the slide cam.

2) Feature
*Open 135 degree
*Free stop 135 ~ 35 degree
*Auto close 35 ~ -7 degree

3) Advantage
*Increasing the sealing force of the refrigerator’s door.
*The motion of refrigerator door with simple parts and structure
*The excellent reliability for opening and closing movement of the refrigerator’s door.

4) Disadvantage
*The occurrence of noise due to the CAM structure.
1) Functional Description

- It divides vegetable and fruits for the end-users
- It increases the efficiency of the refrigerator’s space.
- The rotational divider enables to divide the space without consideration of size of the vegetables or fruits.

Roller for vegetable drawer
Step Hinge

1) Functional Description

• The rotational motion of the refrigerator’s door becomes more smooth by the cam and spring.
• For the movement of fluid, the damping wing is involved when the door is rotated in order to increase smoother movement.
• When the refrigerator’s door is rapidly rotated to be closed, it stopped the movement temporarily and is closed slowly.
• It is equipped with a braking function in order to prevent noise and occurrence of damage.

2) Feature

• Auto Closing and damping function for the refrigerator’s door.
• Auto Close: 40 – 0 degree.

3) Advantage

• Preventing the Product Liability
• Preventing noise when the refrigerator’s door is closed.
• Increasing the value of refrigerator with damping structure.

4) Disadvantage

• Manufacturing process is complicated.
• Price rises due to the incase of the parts
KIMCHI Refrigerator – Damping Hinge (Spring)
1) Functional Description
   * It provides functions of free stop and slow down.
   * The slow down motion occurs in the areas outside of the free stop zone.
   * It blocks the free fall of the refrigerator’s door to improve the feeling of safety and quality characteristics of the one-dimensional hinge device.

2) Feature
   * The combination of CAM and Damper.

3) Advantage
   * Preventing the Product Liability
   * Soft down removes the noise when the refrigerator’s door is closed.

4) Disadvantage
   * Manufacturing process is complicated.
   * Price rises due to the incase of the parts
1) Functional Description
   * While mounting on the refrigerator, it can adjust repulsion of the spring.
   * Without replacement of its spring, it is available to be used as a common by widening the weight coverage.

2) Feature
   * The controlling the shaft variable at the center makes the weight of LR and RF spring variable.

3) Advantage
   * The change of torque enables to control the micro motion.
   * It can adjust to other models.
   * It has high quality responsive.

4) Disadvantage
   * The manufacturing processes can be added due to the control of torque.
Washing Machine – Hinge & Oil Lid Damper
1) Functional Description
   * It controls the washing machine’s door to gradually fall from a certain angle after it is opened.
   * It significantly minimize the damage generated when the washing machine’s door falls.
   * It improves the reliability.

2) Feature
   * Damper and Cam Hinge Door are the roles of rotation axis.
   * The combination of cam and damper

3) Advantage
   * Torque adjustment is feasible
   * It can adjust and mount on the relative bigger size of the washing machine’s door.

4) Disadvantage
   * It requires a combination of damper and cam due to two types of hinge structure.
1) Functional Description
   * It controls the washing machine’s door to gradually fall from a certain angle after it is opened.
   * It significantly minimize the damage generated when the washing machine’s door falls.
   * It improves the reliability.

2) Feature
   * After the washing machine’s door opens, oil resistance controls the down time of hinge.

3) Advantage
   * Simple manufacturing processes,
   * Torque adjustment can control the micro motion.
   * Simple structure provides easy production
   * Several different refrigerators can be applied.

4) Disadvantage
   **The manufacturing processes can be added due to the control of torque.
Washing Machine Built-in-Hinge

1) Functional Description
   * It improves the complex mounting structure of hinge.
   * The main axis and the minor axis rotate at the certain degree when the washing machine's door is opened.

2) Feature
   * Two axis hinge structure enables to be embedded on the body of the washing machine.
   * It often applies to drum washing machine.

3) Advantage
   * It is feasible to secure mounting space due to the hinge embedding structure.
   * It applies to complex door structure such as circle or curve.

4) Disadvantage
   * It is difficult to apply to shaking or heavy door due to the 2 axis by size.
   * Complex structure reduces the manufacturing capability.
   * The number of post-process manufacturing increases due to the structure of molds.
## Global Supplying Location

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<th>Product</th>
<th>Picture</th>
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