Table 1 Principal specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Conventional can filler (mechanical type)</th>
<th>Principal specifications</th>
<th>New can filler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (Figure shows number of valves)</td>
<td>FKG 125 HB</td>
<td>FKM 120 HT</td>
<td>FKM 164 HT</td>
</tr>
<tr>
<td>Capacity</td>
<td>1 600 cans/min (350 m³)</td>
<td>1 650 cans/min (350 m³)</td>
<td>2 000 cans/min (350 m³)</td>
</tr>
<tr>
<td></td>
<td>1 250 cans/min (500 m³)</td>
<td>1 250 cans/min (500 m³)</td>
<td>1 600 cans/min (500 m³)</td>
</tr>
<tr>
<td>Filling accuracy</td>
<td>σ = 1.8 m/</td>
<td>σ = 1.0 to 1.2 m/</td>
<td>σ = 1.0 to 1.2 m/</td>
</tr>
<tr>
<td>CO₂ consumption</td>
<td>Approx. 3 000 N/min</td>
<td>Approx. 2 000 N/min</td>
<td>Approx. 2 500 N/min</td>
</tr>
</tbody>
</table>

Capacity of the can fillers was enhanced through the computerized measures which enable CO₂ flushing time, start position of flushing, time for pressurizing and depressurizing, and start point for depressurizing to be optimized by just changing their data for the type of each can and each product.

(3) Facilitated change-over operations
The filling volume can be easily changed by changing the set value on the touch panel, which greatly facilitated change-over operations compared with conventional can fillers. Most of the change parts of the filling valves for handling different cans and products have become unnecessary.

(4) Improvement in reliability and maintainability
Reliability and maintainability have been improved by the reduction of the parts used by 40%.

(5) Improvement in washability of external surface of the filler
The cams installed around conventional fillers for operating the filling valves are not required for the new can filler. As a result, washability of the external surface of the filler has been noticeably improved.

(6) Added functions
A number of optional features can be added to the filling system to enhance its operation which can be realized through the use of a computer. Among those optical features are an “abnormal filling alarm” displaying abnormal information regarding the filling valve which has some abnormal condition. A “manual filling function” which enables filling of designated valves during filler stoppage, a “timer filling function” which enables operation for one day or so without changing the flow meter even in the case of malfunction of the flow meter. On the basis of the experience of this new can filler, a multipurpose can filler for filling both carbonated and non-carbonated drinks, which are greatly needed in the soft drink industries, is now under development.

Mitsubishi Recycling Crusher
MRC 36 J

Recently, a shortage of treatment lands and a rise in the treatment cost of industrial waste have been caused by an increase in industrial waste due to urban redevelopment and renewal of buildings. It is difficult to obtain consent from neighborhood residents for expansion and additional installation of the treatment lands. The need to recycle resources for reuse by processing in locations where waste concrete is produced is growing. In order to meet such needs a mobile crushing plant has been developed at the Sagamihara Machinery Works of Mitsubishi Heavy Industries, Ltd.

A brief summary of the main features of this crusher is introduced below.

![Fig. 1 External appearance of the MRC36J recycling crusher](image_url)

Mitsubishi Heavy Industries, Ltd.
1. Principal particulars

Table 1 shows the principal particulars of the crusher, while, Fig. 1 shows the External appearance and Fig. 2 the outer dimensions of the devices.

2. Features

This mobile plant utilizes Mitsubishi's original vehicle layout adapted to movement between fields using a trailer and handling work in narrow fields. Further, it is provided with various functions to recycle waste concrete as recycling material and has the following features.

(1) Three-way chargeable layout capable of application in any field

This mobile plant has been developed as a special plant in which the optimum layout of the working apparatuses is elaborated differently from conventional plants which use the body of a power shovel. This new mobile plant enables waste material to be charged from any of three ways of the right, left or rear way of the plant depending on the condition of the field by arranging the hopper in particular at the rear side of the vehicle body.

(2) Secondary belt conveyor is not required

The altitude above the ground of the belt conveyor is as high as 2.5m and a stock quantity of about 30 t (in the case of material having a specific gravity of 1.5) below the belt conveyor is secured. In addition, direct loading on a 4 t truck is made possible.

(3) Adjustment of crushing size by electrohydraulic system

The grade size of the waste concrete after crushing is important in the use of the waste concrete as a recycling resource such as road bed material. The grade size is adjusted by changing the dimensions of the outlet of the crushe which is done by retracting and extending a plate called a shim. Previously, labor and time were required by mounting and dismounting the bolts of a shim and using a hydraulic jack. In this plant adjusting work is carried out by an electrohydraulic system and the shim can be retracted and extended simply by operating a switch. This method allows a sharp increase in work efficiency to be realized.

(4) Standard installation of strong magnetic separator

A magnetic separator, by which reinforcing bars contained in the waste concrete can be removed without fail, is installed as standard equipment. This separator makes it possible for good quality recycling material to be produced.