

Providing environment-friendly products and services

We at Kubota develop various kinds of businesses regarding improving people's life and social infrastructure, providing environment-friendly products and services.

Industrial Infrastructure Consolidated Division

Butterfly valve with a feeding-water function

1. Butterfly valve with a feeding-water function used for maintenance of drinking and agricultural pipelines

It is necessary to install valves in every fixed distance in the drinking and agricultural pipelines in order to feed water inside the pipelines for the first time after laying them, in order to shut off water when the pipelines are constructed, and in order to feed water again inside the pipelines after finishing pipelines construction.

In the feeding-water operation, it is important to feed water slowly inside the pipelines to avoid rapid pressure increase at the downstream part of the pipelines. The sub-pipe system was mainly adopted conventionally, in which the bypass pipe whose diameter was around one fifth diameter of the main pipe, and the sub-valve were attached to the main valve.

Thinking of the environmental influence, it is important to manufacture the products with less energy, and to make the

products multi-functional with few attachments. Because the environmental impact of manufacturing and laying them is larger than that of using them, in manual valves used for the purpose like this.

We at Kubota have newly developed the butterfly valve with a feeding-water function, in which the opening, feeding-water opening whose cross sectional area is equivalent to that of sub-pipe, was drilled on the valve body of the butterfly valve for drinking water usage to make directly laying it possible. So we realized environmental impact reduction that much in manufacturing and laying them.

2. Features

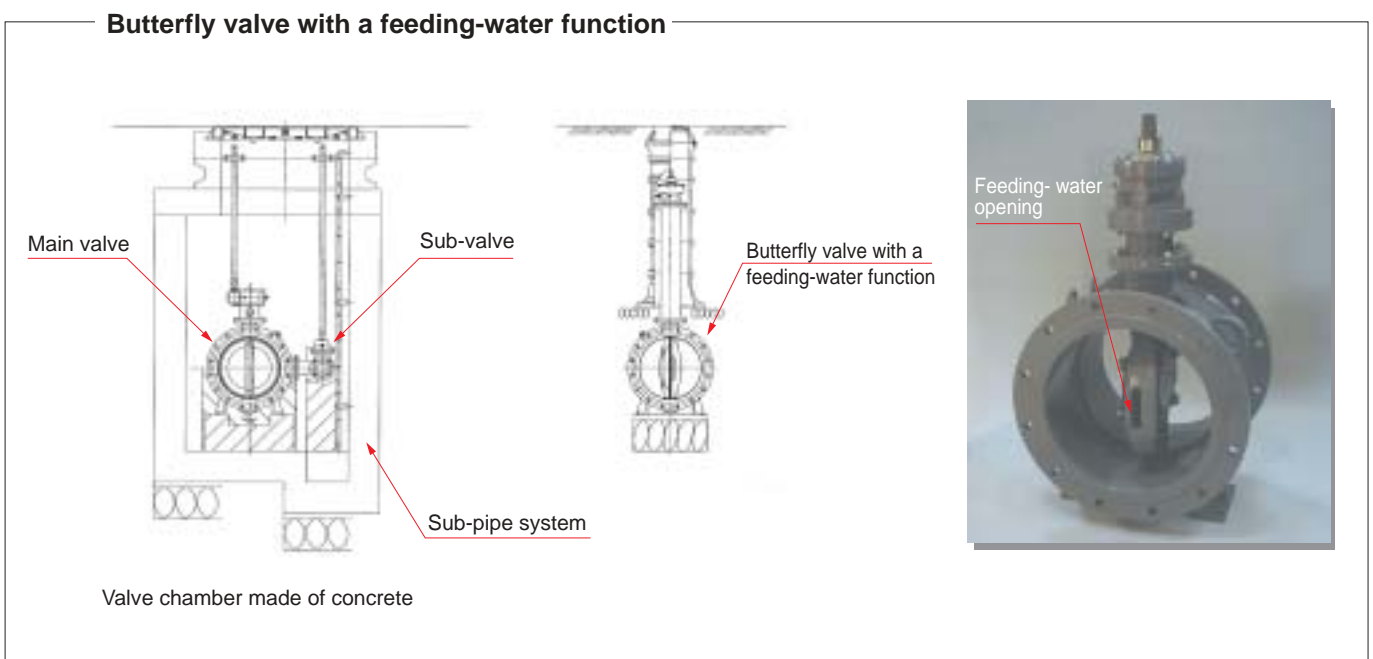
(1) It is possible to save sources and energy in manufacturing them in the factory. Because the structure

of the valve is simple only with changing the valve body of the butterfly valve for drinking water usage, and other attachments like bypass pipe and so on are not necessary.

(2) It is not necessary to construct the conventional valve chamber made of concrete because the valve can be buried laying.

(3) The valve is environment-friendly product, because of decreasing waste soil by the reduction of dug area, and shortening construction period of time.

(4) Construction cost can be reduced by 60%, compared with the conventional sub-pipe system. ( in-house comparison in a 600mm in diameter )



## Duc-pile method

- Environment-friendly method
- Low noise and low vibration
- No waste soil
- Less-space method

We at Kubota, a general manufacturer of steel pipe piles for more than forty years, have developed the low-cost foundations pile method, "Duc-pile method", for the houses, condominiums, small-sized buildings and civil engineering field such as retaining wall foundations and so on, using ductile iron as material.

We acquired the performance estimation of the Building Center of Japan in September 2002. And we are now applying

for authorization of the minister of the ministry of land, infrastructure and transport.

By the way, "the research association", was established by the seven companies including Kubota, in order to promote developing and sales of the Duc-pile method. The disseminating activities are conducted by the association.



## Environment-friendly new materials ( Ceramics and Metal Ceramics Hybrids )

Automobile industry is one of the industries where making the parts light and recycling resources are promoted actively from the point of view of environmental load reduction.

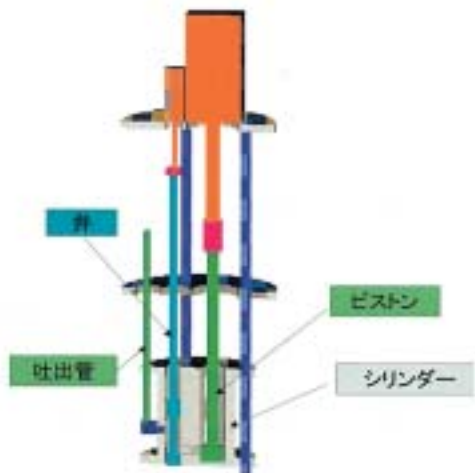
The usage rate of light alloy die casting

such as aluminum and magnesium for the engine parts and so on are high. We at Kubota provide these industries with a various kind of ceramics parts, Metal Ceramics Hybrids , and assemble products in order to reduce environ-

mental load.

For example, magnesium alloy high-precision feeding pump, which can feed the molten metal of magnesium alloy precisely with less contact with air, is expected to help to make magnesium alloy casting popular by stabilizing the quality, yield rate and cost of it. And in the field of handling aluminum alloys, we supply a various kind of services such as the recycling service of ceramics products used for long period of time, and exchange or maintenance service of the worn ceramics assemble products. We also promote to recycle the products themselves.

### Magnesium alloy high-precision feeding pump



A various kind of ceramics products ( ladle and stoke )