

# BERMAD

## Flowing into the Future, with Plastic Too

While irrigation fittings made from plastic are taking hold as a cleaner, cheaper, simpler and more environment friendly alternative, BERMAD - world leader in water control solutions - continues to introduce surprising new innovations. Its metal and plastic control valves have become synonyms for quality throughout the world.

Yiftah Enav, International Marketing Manager at BERMAD: "Over the last decade we have been successfully promoting sales of plastic products even in markets such as South Africa, Turkey and China, where metal valves have traditionally been used. All irrigation systems will soon be based entirely on plastic parts. Whoever is ready for that change will continue to grow and develop - and whoever isn't, won't."

Among the most profound changes taking place in the irrigation sector over the last decade has been the transition from use of metal parts and fittings to those made of plastic. Whereas in the past, pipes, valves, filters,



connectors and sprinklers were made of steel, iron, bronze or aluminum, today these metal products are disappearing from the market.

There are several reasons for the disappearance of metal fittings from Israel's as well as the world agricultural sector.

Firstly, prices of metal are rising while its availability is decreasing, which in turn has the effect of pricing metal fittings out of the agricultural market. Secondly, the metal casting industry is expensive to establish and operate, while its highly polluting operation depends on high temperature cutting systems that release toxic greenhouse gases into the atmosphere. In addition, when it comes to such considerations as the manufacturing facility's required land area, or even workers' rights, the metal industry is seen as problematic. Today, only a few countries still operate a significant number of metal casting facilities, among them China, Turkey, Brazil and the Czech Republic.



In the agricultural sector, plastic fittings developed as an alternative to metal fittings, with the advantages of its being an alternative that is clean, cheap, simple and environment friendly. A plastic part that has finished its operating usefulness can be recycled and made into a communications cable, a toy, a household accessory and so



Bermad 100 Series and its wide range of End Connection Adaptors

on. But most important, the production process for plastic parts does not require a vast area, nor an expensive and energy guzzling manufacturing infrastructure, and it does not pollute the environment or release any toxic gases into the atmosphere. Plastic injection facilities often include a small number of injection machines that require little space, few workers, a simple infrastructure that generates a clean and air-conditioned work environment, while it significantly reduces input. Beyond the required professionalism, all that's needed for plastic parts production is the product molds, and the right raw material - it comes in plastic bags, and of course, strict quality control.

### Main changes to the irrigation sector due to introduction of plastic fittings

1. Manufacture and marketing of irrigation fittings that are inexpensive and widely available - These plastic fittings serve, among others, and perhaps most importantly, developing companies in struggling nations and are used for growing vital basic crops.
2. Significant reduction in production of greenhouse gases - The size of plastics plants is minimal, input is inexpensive, and the amount of chemicals released into the environment is negligible.
3. Short lead time - No need to maintain large supplies. Orders can be filled and quickly delivered by having manufacturing facilities near to customers and initiating production close to date of order.
4. All products are recyclable.
5. Professionalism and precision in the irrigation sector - The transition to



plastic irrigation fittings and the accompanying level of production precision has generated levels of agritech performance previously unachievable. Such performance enables irrigation that is consistent across a given surface, while enhanced control can meet the irrigation needs of particular plants. It saves energy and maintenance costs, reduces weight and damage during deployment and dismantling of the system, allows embedding of the system into the soil, improves resistance to chemicals and cavitation, and in the end it also increases agricultural yields improving the produce-to-land-area ratio.

BERMAD has been active for some 45 years and is a leader not only due to its technological developments, but also its vast range of products. BERMAD develops, manufactures and markets control valves for the irrigation sector including agricultural and gardening applications.

"Even traditional sectors like water meters, where they've always used metal products, will be changing over to plastics. BERMAD has several production lines that we are planning to develop, so we can apply our innovation and professionalism to this area as well"



Filtration System

Its products are also sold in the waterworks sector, for national and municipal water conveyance systems, in industry and in fire protection systems. BERMAD's 100 Series valves, widely recognized as the ultimate valve for irrigation systems, has become the most demanded product in the sector by growers, agriculturalists and other users throughout the world. The 100 Series is available in a range of configurations and diameters, based on advanced and creative design and manufacturing methods using rubber and plastic.

The result is a product with unique features, from its hydraulic performance and flow-through capabilities, through its precision regulation and control, simple assembly and maintenance, and easy assembly of control accessories, to its unprecedented mechanical durability, its light weight, precision production, and more.

Adding to its line of leading products, BERMAD will be launching at the Agritech 2012 trade fair its new line of plastic connectors. These connectors provide full flexibility for connecting valves in the field to any pipe or fitting compliant with accepted international standards with regard to flanges, threads, PVC adhesion and grooves.

Yiftah Enav, BERMAD's international marketing manager for the irrigation sector, believes that plastic irrigation fittings will soon be absolutely dominant in the field. "Over the last decade we have been successfully promoting sales of plastic products even in markets such as South Africa, Turkey and China, where metal valves have traditionally been used. All irrigation systems will soon be based entirely on plastic parts. Whoever is ready for that change will continue to grow and develop - and whoever isn't, won't. In that respect, BERMAD is a world leader in plastic irrigation fittings. We're not following the trend, we're looking ahead and we're leading it."

At Agritech 2012 BERMAD will be launching its 4 inch filter cleaning back-flush valve, which will be joining the line's already existing 2in. and 3in. valves. "This is one of the most sophisticated products we have produced to date," says Enav, "both with regard to the quality of materials used in its manufacture, and its high performance, which is maintained even under extreme conditions of low pressure and high volumes of dirt. Like its smaller counterparts, this valve includes a double chamber actuator and unique closure assembly that ensure full protection for the diaphragm - the driving force of the valve. It also ensures unimpeded flow (*in all directions*) from filtering function to rinsing and back again, and smooth operation

without system-damaging pressure bursts, and more."

"In the distant past," Enav explains, "filters were cleaned manually. Water flow was shut down, the filters were opened and the filter element extracted, cleaned, replaced, and then the

water flow was turned on anew. Today we have a wide variety of automatic filters. As soon as a specified quantity of dirt accumulates, the filtering system receives a rinse command from the electronic control mechanism. The valve is activated via a solenoid mechanism, which means that water now flows through the filter in the opposite direction clearing away and ejecting the dirt.

This procedure may take place multiple times a day, or even an hour.

The filter back-flush valve is the "operational pivot" in the control of the direction of water flow through the filter. Most of the time, it allows water to flow into the filter in the direction leading to the irrigation system. However, when the filter system receives a rinse command, the valve, using the force of water pressure, reverses the direction of flow through the filter from the exit back toward the entrance, and at the same time opens an outlet for ejecting the dirt. Usually, a filtration system will include a number of filters, each one of them with its own filter back-flush valve placed adjacent to it, and the filters are cleaned in series until the entire battery is cleaned."

Along with its filter back-flush valves, BERMAD has recently launched a line of plastic air valves. These represent the next generation of air valves and are based on in-depth market surveys of consumer needs and existing solutions. The new line of air valves joins BERMAD's other plastic products including the 100, 200, 350, and PRV Series.

The plastic irrigation fittings industry does not rest on its laurels, but continues to develop. Enav forecasts continued expansion into other areas that traditionally used metal parts. "I believe that even traditional sectors like water meters, where they've always used metal products, will be changing over to plastics. At BERMAD we have several production lines that we are planning to develop, so we can apply our innovation and professionalism to this area as well." ■

