

Application: High Pressure Cooling for Artificial Grass Soccer Pitches

- **Scope of Work:** National Soccer Training Site's Synthetic Turf Pitch



Overview

Recognizing the need for a water-saving artificial grass soccer pitch, the designers of Israel's new National Soccer Training stadium understood that such a pitch needs long-lasting, high performance valves for their intensive cooling sprinklers. They turned to Bermad for the best high pressure cooling system available.

Challenge

With a worldwide surge in the use of artificial grass for professional soccer pitches, the international Football Association Board and FIFA created standards and regulations for such turfs.

When maintained properly, artificial turf has many advantages over regular grass: it is resistant to difficult climate conditions, provides longer playing hours, and creates consistent year-round playing conditions.

Artificial grass pitches also answer the growing demand for greater water conservation, ecological responsibility and lower maintenance costs.

A typical artificial turf system:

- Rubber particle infill
- River sand infill
- Artificial turf
- Asphalt layer (optional)
- Aggregate (under-base)

However such synthetic surfaces also require high precision, high pressure watering systems to maintain ideal playing conditions else the surface temperature can exceed 70° F / 21°C - above which artificial grass 'burns' – thus they must be cooled by large volumes of water delivered in a short space of time. In addition water delivery must be highly accurate since over or under-watering renders the grass useless for playing on, and uneven water distribution quickly causes the rubber granules of the infill to be dislodged thus losing their desired suspension characteristics.

Properly maintained, synthetic turf translates into the ideal soccer playing surface offering the best possible year-round conditions, and preventing costly cancellations due to unplayable pitches.



▪ **Applications:** High Pressure Cooling
for Artificial Grass Soccer Pitches

▪ **Project:** National Soccer Training
Site's Synthetic Turf Pitch

Solution

Bermad's cost effective 100 Series 3" Hydraulic Control Valves are the preferred solution for soccer pitches.

The valves' ultra-high flow capacity of up to 70 cubic meters an hour at 11 atmospheres with low pressure loss guarantees that playing surfaces receive the fastest, most evenly distributed water cooling in the shortest possible time, thus ensuring surface temperature does not exceed 70° F / 21°C - above which artificial grass 'burns'.

Constructed of long-lasting industrial grade plastic, Bermad's line pressure driven valves provide a highly efficient, super fast and smooth hydraulically controlled On/Off functionality. This is vital to prevent the common problem of over-watering in the area immediately around the sprinkler caused by 'trickle' during the start and end of the irrigation cycle. When not prevented this in turn causes the rubber granules of the infill to be dislodged and lose their desired suspension characteristics, thus rendering the grass useless for playing on.

Incorporating many advanced features gathered through decades of experience and global deployment, Bermad hYflow Y-shaped valve body has a user-friendly 'Look Through' design that enables quick, simple in-line inspection for low-cost maintenance and service.

Properly maintained with the help of Bermad's advanced valves, synthetic turf translates into the ideal soccer playing surface offering the best possible year-round conditions, preventing costly cancellations due to unplayable pitches.

Advantages

- Cost effective, corrosion free industrial-grade plastic construction
- Ultra-high flow capacity up to 70m³/h at 11 atmospheres with low pressure loss
- Super high-speed open / close functionality
- Constant pressure throughout irrigation cycle for even water distribution
- Cavitation & water hammer resistant
- Articulated flange connections eliminate mechanical & hydraulic stresses
- Unitized Flexible Super Travel (FST) Diaphragm & Guided Plug for
 - Extra smooth closing
 - Low actuation pressure
 - Prevention of diaphragm erosion & distortion

