

# Floating Ball System

- FLOATING BALL SYSTEM designed to suspend a Dissolved Oxygen Sensor
- COMPATIBLE WITH ROSEMOUNT Dissolved Oxygen Sensor Model 499ADO
- MAINTAINS CONSTANT SENSOR DEPTH regardless of changes in liquid or tank level
- EXTENDED BUOYANCY supports sensor weight with reserve capacity
- ACCEPTS ANY SENSOR WITH 1 INCH REAR FACING MNPT CONNECTION



## FEATURES AND APPLICATIONS

The Floating Ball System is a flotation device designed to mount the Dissolved Oxygen (DO) sensor Model 499ADO, and keep the sensor at a fixed distance in the process, regardless of changes in height of the process. Reliable DO monitoring can now be accomplished by attaching the DO sensor Model 499ADO to the Floating Ball Model BB11.

Instead of being limited to position the sensor near the tank edge or near a handrail, the Floating Ball System provides the flexibility to position the sensor almost anywhere in the basin. Owing to the unique design, the floating ball provides extended buoyancy and will accommodate the combined weight of the sensor washer head assembly, pipe boom with room to spare for additional weight.

The Floating Ball System can also be used with any sensor with a 1 inch rear facing MNPT connection and will maintain the sensor at a fixed location in process, even when the height of the process changes.

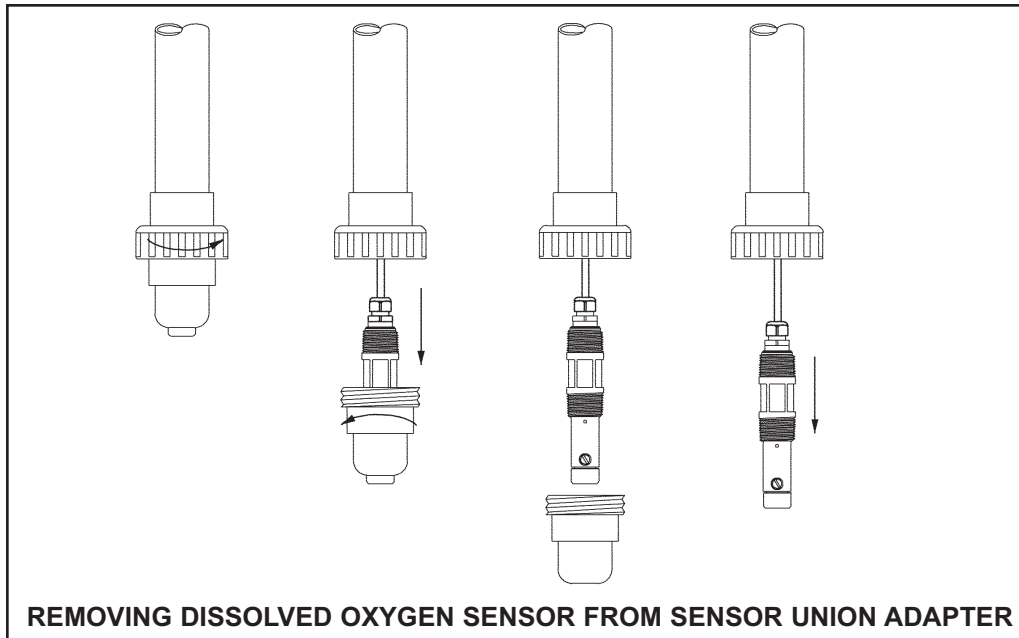
## SYSTEM DESCRIPTION

The materials of construction of the floating ball is thick walled flexible PVC material, and includes PVC elbows and fittings to angle the sensor into the process and prevent air bubbles from becoming trapped and prevent erratic sensor readings.

The floating ball is supplied in kit form and includes the PVC fittings for attaching the sensor. The floating ball will accommodate a pipe boom using a 1-1/2 inch diameter Schedule 80 PVC pipe. The support arm is available from local stock.

## SENSOR UNION ADAPTER

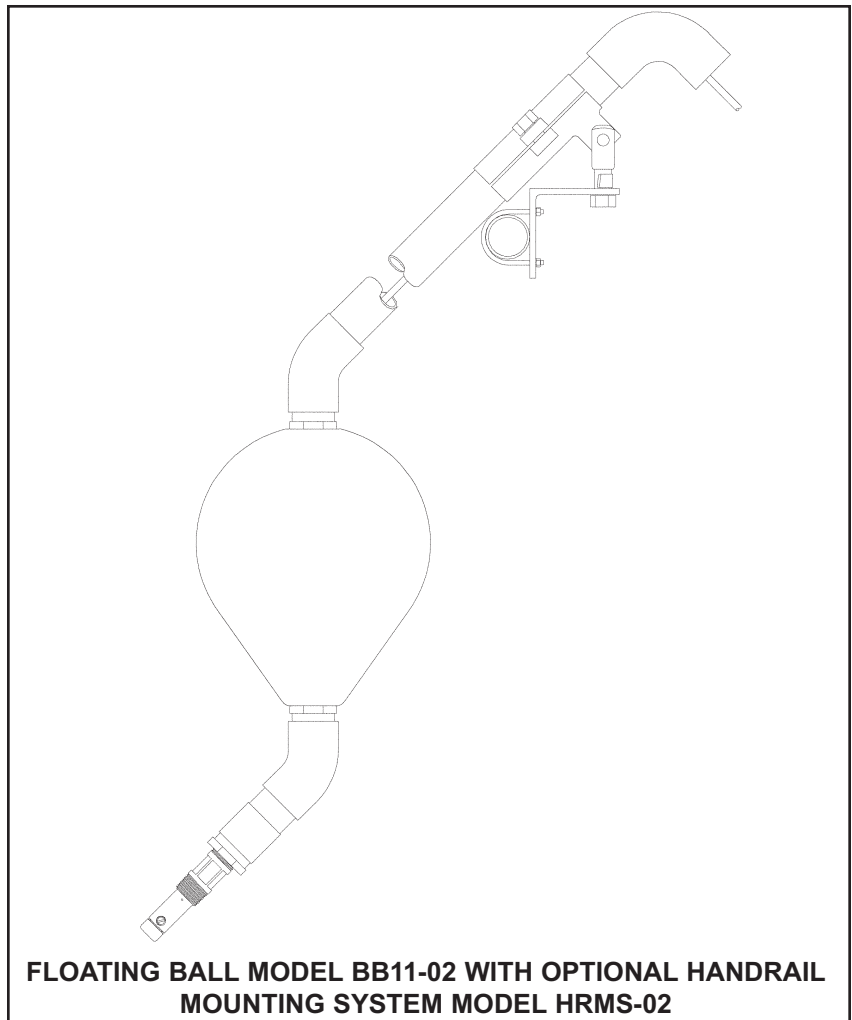
The -01 option of the Floating Ball System (Model BB11-01) shown on the first page includes a unique sensor union adapter which allows DO sensor removal without twisting the sensor cable. Sensor cable twisting is a thing of the past, as the sensor is removed in two easy steps without twisting by (1) unscrewing the plastic union nut, and (2) turning the bottom of the union adapter while holding the DO sensor in place.



## SYSTEM INSTALLATION

The floating ball Model BB11 can be used with a 499ADO sensor with integral cable, with a VP connector, or washer head assembly. In addition, any sensor with a 1-inch rear MNPT connection can also be used. The floating ball can be supported from a handrail using the Handrail Mounting System Model HRMS-02.

The minimum sensor insertion depth is shown in the Specifications for the various sensor configurations. The insertion depth can be easily increased by adding additional length of 1-1/2 inch PVC pipe below the bottom of the floating ball.

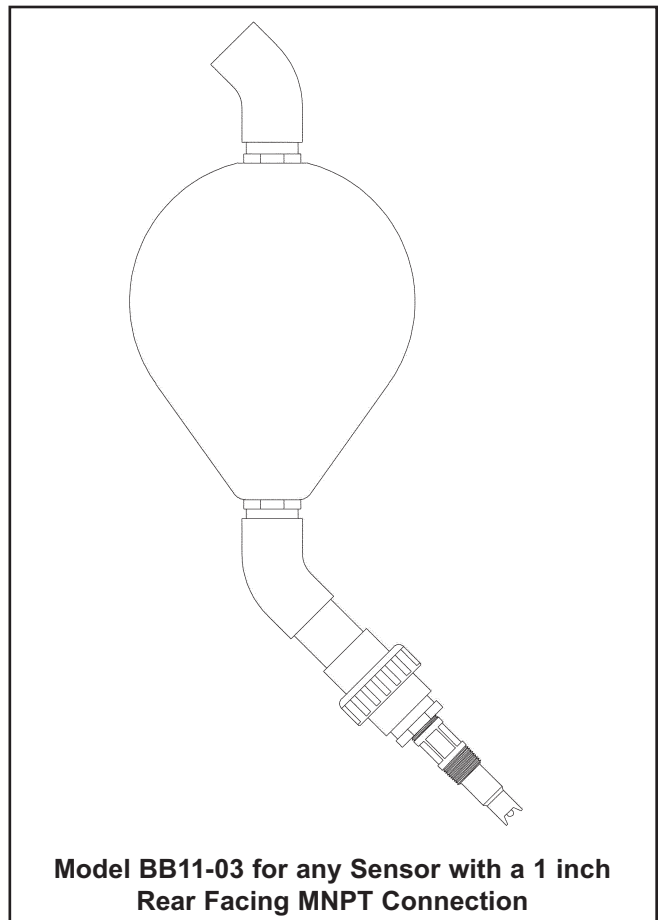
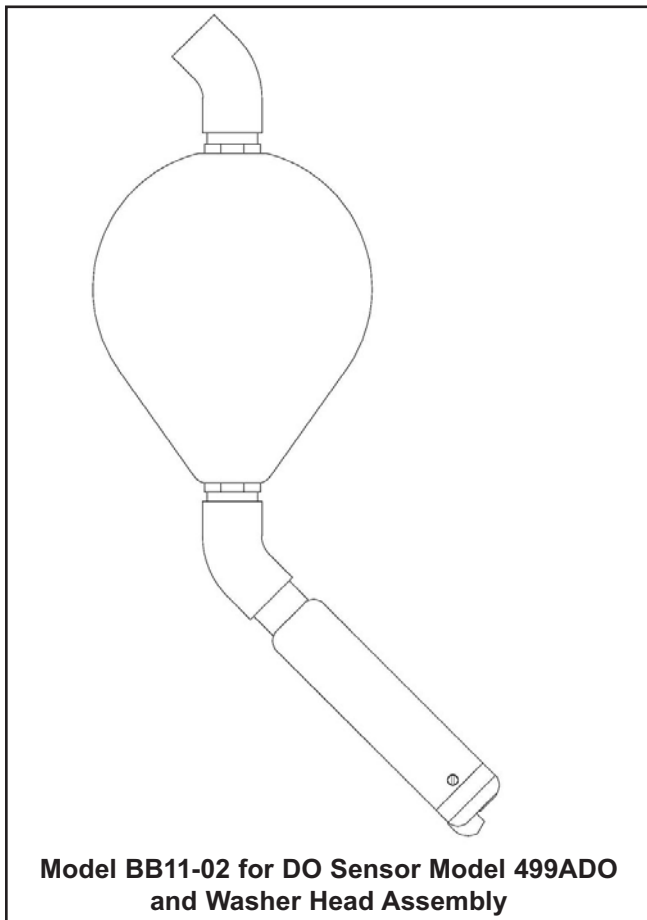
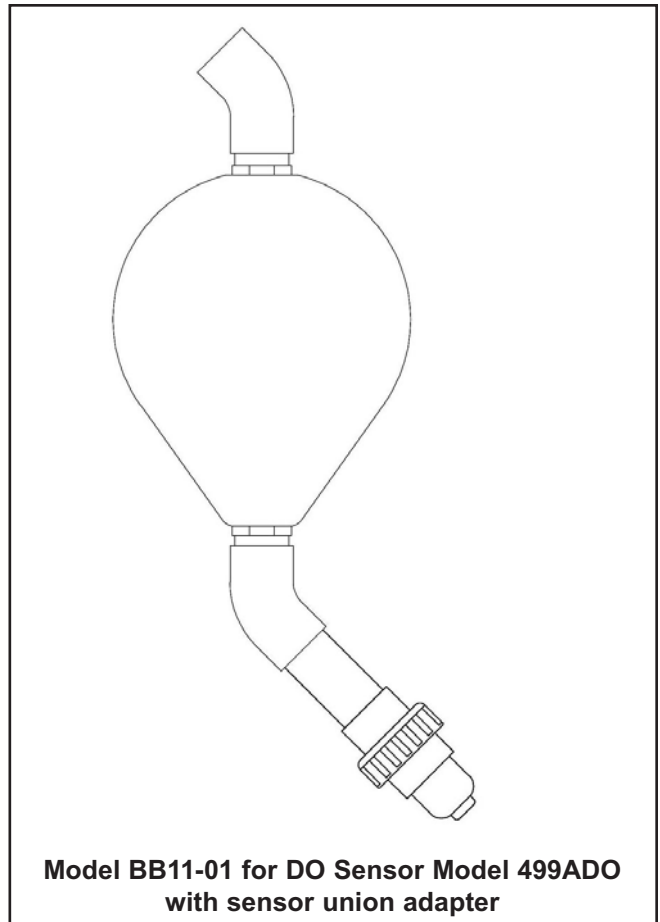


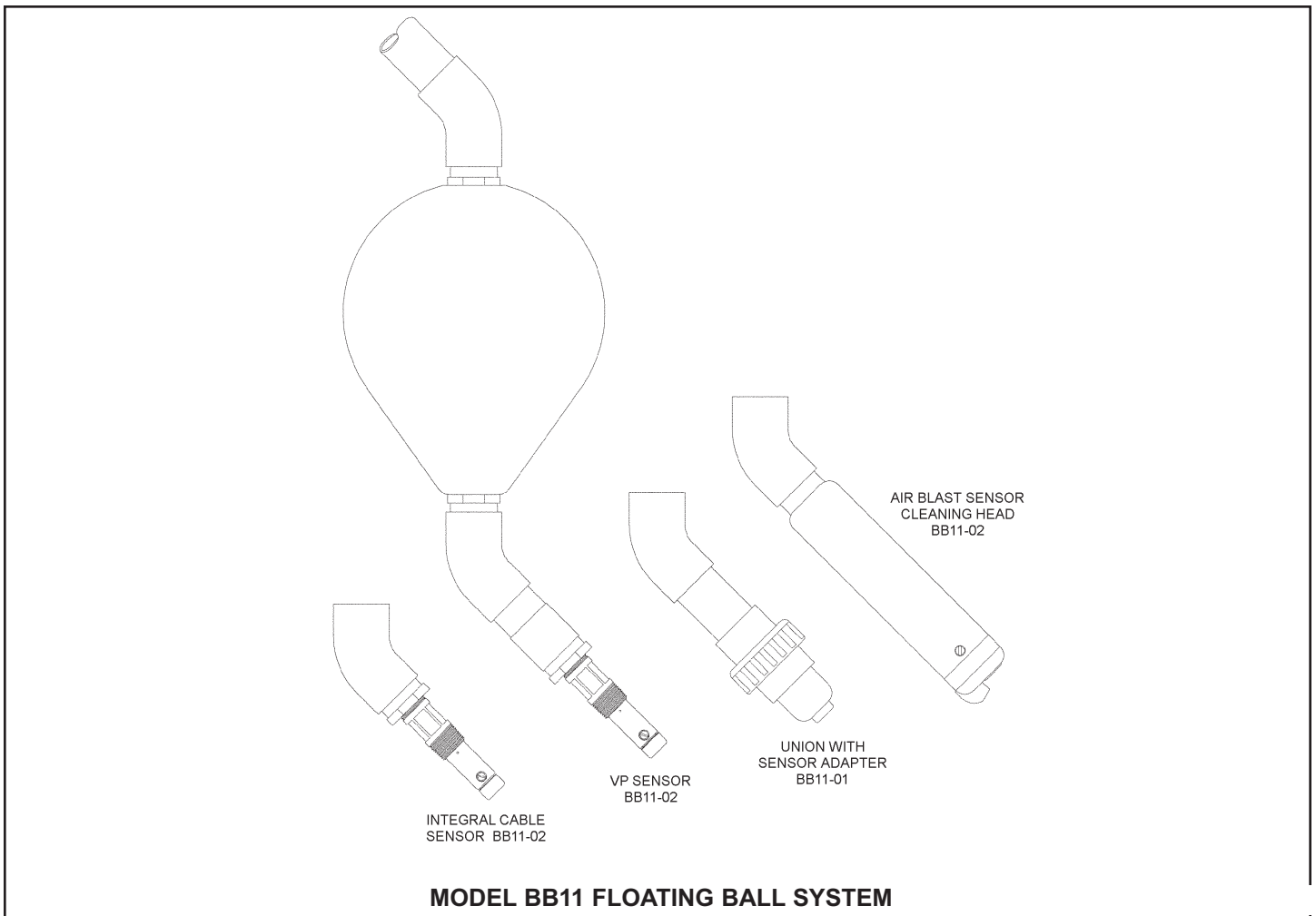
## MODEL OPTIONS

The Model BB11 is available in three model options. The model BB11-01 is designed for DO Sensor Model 499ADO and includes the sensor union adapter. The sensor can be removed without twisting the cable.

The Model BB11-02 is designed for the DO sensor Model 499ADO with an integral sensor cable, or with a VP quick cable disconnect. The model BB11-02 can also be used with DO sensor with Washer Head Assembly.

The Model BB11-03 is designed for any sensor with a 1 inch rear facing MNPT connection and includes a PVC union for removing the sensor without twisting the sensor cable.





## SPECIFICATIONS — Floating Ball Model BB11

**Wetted Material:** Flexible Poly Vinyl Chloride, PVC

**Color:** Blue

**Temperature Range:** 32°F to 140°F (0°C to 60°C)

**Size (Diameter x Length):** 11 x 13 inches (28 x 33 cm)

**Maximum Inflation Pressure:** 2.1 psig (0.15 bar)

**Maximum Circumference:** 34-1/2 inches (88.0 cm)

**Buoyancy:** 27lbs (12 kg)

**Minimum Sensor Insertion Depth Into Process:**

BB11-01 with 499ADO sensor: 13 inches (33 cm)

BB11-02 with 499ADO sensor: 13 inches (33 cm)

BB11-02 with 499ADO VP sensor: 16 inches (41 cm)

BB11-02 with Washer Head Assembly: 17 inches (43 cm)

BB11-03 with 396P sensor: 17 inches (43 cm)

**Pipe Boom Support Arm:** 1-1/2 inch Sch 80 PVC pipe (by others)

**Sensor Compatibility:** 1 inch MNPT on sensor cable end

**Weight/Shipping Weight:** 5 lbs/6 lb. (2.5 kg/3.0 kg) [rounded to the nearest 1 lb. (0.5 kg)]

## ORDERING INFORMATION

The Model BB11 can be ordered in three configurations. The Model BB11-01 option is designed for the 499ADO sensor and includes the sensor union adapter. The Model BB11-02 option is designed for the 499ADO sensor or for the washer head assembly. The Model BB11-03 option is designed for any sensor with a 1 inch rear MNPT connection and includes a PVC union.

MODEL	DESCRIPTION
BB11	Floating Ball System for 1-1/2 inch PVC pipe boom (supplied by others)
CODE	SENSOR OPTION (required selection)
01	For Model 499ADO with sensor union adapter
02	For 499ADO or Washer Head Assembly
03	For any sensor with a 1 inch rear-facing MNPT connection

## REPLACEMENT PARTS

PART #	DESCRIPTION
24056-00	Sensor Union Adapter fitting, PVC 1-1/2 inch Pipe (used on BB11-01)
9160551	Floating ball (11-inch diameter)
9320098	Union Fitting, PVC 1-1/2 inch Pipe (Used on BB11-03)

## SAMPLE ENGINEERING SPECIFICATION:

The dissolved oxygen sensor shall be mounted on a 11 inch (28 cm) diameter ball float system and shall have a minimum buoyancy of 27 pounds (12 kg) to support the sensor washer head assembly and for extended weight capacity.

The floating ball mechanism shall allow the dissolved oxygen sensor to be maintained at a fixed location below the surface of the contents.

The material of construction of the floating ball shall be thick walled flexible PVC material, and include the necessary PVC fittings.

Schedule 80 PVC 1-1/2 inch diameter PVC pipe shall be supplied from local stock and be used as a pipe boom, and shall be attached to the pipe handrail using the Handrail Mounting System Model HRMS-02.

Floating Ball shall be Rosemount Model BB11 or approved equal.



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