

Universal sensor accessory $\frac{3}{4}$ in

Floating ball assembly and kit



Measurement made easy

—
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Introduction

This publication details installation procedures for the floating ball assembly and floating ball assembly kit used to mount any $\frac{3}{4}$ in probe. The procedures must be carried out by a trained technician.

Requirements

Table 1 Items required

Part number	Description	Quantity
–	6 mm OD semirigid tubing	as required
–	PTFE tape	as required
–	PVC solvent cement	as required
–	Adjustable spanner	1

For more information

Further information is available from:
www.abb.com/analytical

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Sales



Service

1 Health & Safety

Document symbols

Symbols that appear in this document are explained below:

NOTICE

NOTICE is used to address practices not related to physical injury.

2 Identification

The contents are shown in Table 2 and Table 3.

Table 2 Floating ball assembly 3KXA494400L0002

Description	Part no.
Floating ball assembly: dip pole, floating ball, sensor tube, 45° elbow, 90° bend	3KXA494400L0002
This instruction: floating ball assembly and kit	IN/ANAINST/047

Table 3 Floating ball kit 3KXA494400L0001*

Description	Part no.
Floating ball assembly kit: floating ball, flanged pipe adapter, 45° elbow, 90° bend	3KXA494400L0001
This instruction: floating ball assembly and kit	IN/ANAINST/047

Optional mounting brackets

Table 4 Optional mounting brackets – tilt and swivel/tilt

Description	Part no.
Handrail mounting bracket (tilt) - 1.25 in NB pole	3KXA494400L0007
Handrail mounting bracket (tilt and swivel) - 1.25 in NB pole	3KXA494400L0008

NOTICE

The mounting bracket fixing procedures in are applicable to ABB-supplied brackets (above) only.

For non-ABB mounting brackets, obey the mounting instructions from the manufacturer.

*Dip pole user-supplied: PVC pole 1¼ in nominal bore (NB)

3 Fitting the floating ball and probe

Floating ball assembly – fitting the probe

Referring to Figure 1:

- 1 Loosen the union nut (leave it in position on the 45° elbow) then remove the ball float .
- 2 Put the probe cable through the flanged pipe, 45° elbow, and the dip pole.
- 3 Apply PTFE tape (or similar) around the probe thread.

NOTICE

Do not tighten the connection too much, to prevent damage to the probe or the sensor pipe.

- 4 Make sure that the cable is not twisted, then connect the probe to the flanged pipe.
- 5 Install the ball float and secure it with the union nut (A).
- 6 Continue to **Mounting** on page 4 to mount the assembly onto a handrail.

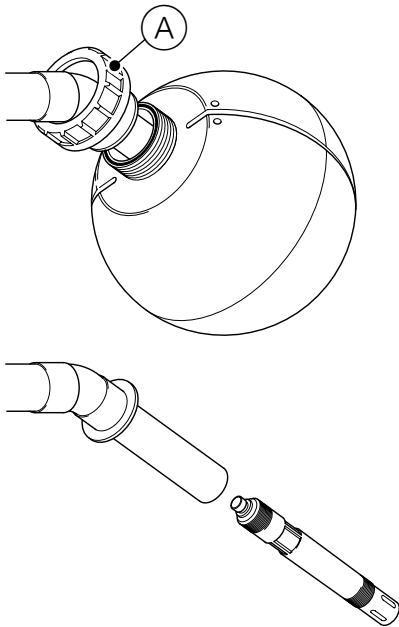


Figure 1 Removing end cap assembly from pipe assembly

Floating ball kit – fitting the probe

Referring to Figure 2:

- 1 Clean the mating surfaces of the 45° elbow and the (customer-supplied) dip pole .
- 2 Bond the 45° elbow and the (customer-supplied) dip pole with PVC solvent cement (not supplied).

NOTICE

Refer to the PVC solvent cement instructions for the correct cure time.

- 3 Do steps 1 and 2 again with the 90° bend and the (customer-supplied) dip pole.
- 4 Loosen the union nut (leave it in position on the 45° elbow), and remove the ball float.
- 5 Put the probe cable through the flanged pipe, the 45° elbow, and the dip pole.
- 6 Apply PTFE tape (or similar) around the probe thread.

NOTICE

Do not tighten the thread too much, to prevent damage to the probe or the sensor pipe.

- 7 Make sure that the cable is not twisted, then connect the probe into the flanged pipe.
- 8 Install the ball float and secure it with the union nut.
- 9 Continue to **Mounting** on page 4 to mount the assembly onto a handrail.

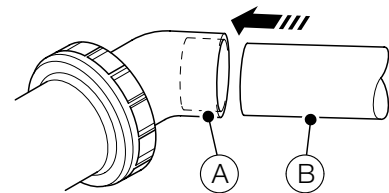


Figure 2 Bonding 1.25 in NB OD pipe to sensor pipe

4 Cleaning

Floating ball cleaning kit

Referring to Figure 3:

- 1 Connect the sensor-mounted cleaning adapter (A) to the sensor thread (B) until the air port aligns with the membrane.
Note. The bottom hole of the cleaning adapter is for ADS420. The top hole of the cleaning adapter is for 3/4 in pH probes.
- 2 Connect the push fit connector (C) and air supply using 6 mm OD semirigid tubing (customer-supplied). Refer to [OI/EZCLEAN](#) for details on configuring the EZClean air blast system.

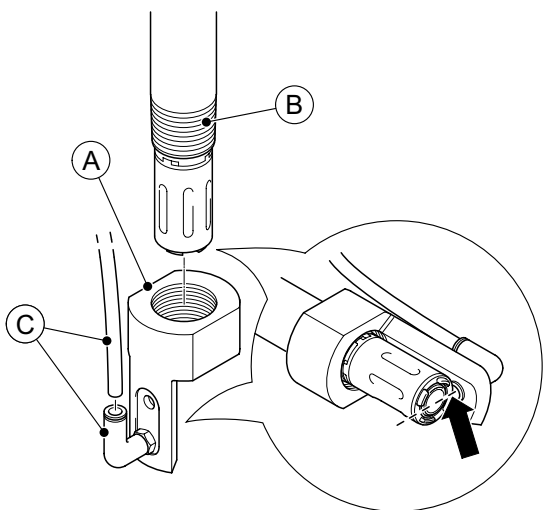


Figure 3 Cleaning kit

5 Mounting

NOTICE

The nature of the sample will affect the optimum angle of the probe. It might be necessary to adjust the angle if there is an excessive build-up of air bubbles (or similar interferent) on the end of the probe.

Fixing the optional ABB mounting brackets

- 1 Select the required position for the floating ball system on the handrail. When locating the boom, allow sufficient cable slack for positioning/servicing.

Referring to Figure 4 (tilt bracket) or Figure 5 (swivel/tilt bracket):

- 2 Fit handrail clamps (A) around handrail (B) and secure boom saddle assembly (C) to the handrail in the horizontal position. Leave nuts (D) finger-tight for later adjustment.
- 3 Fit boom clamps (E) around the floating ball assembly boom (F) using nuts (tilt bracket) or bolts (swivel/tilt bracket) (G).

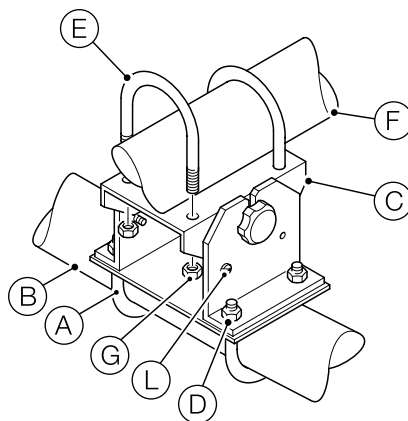


Figure 4 Fitting the tilt bracket assembly

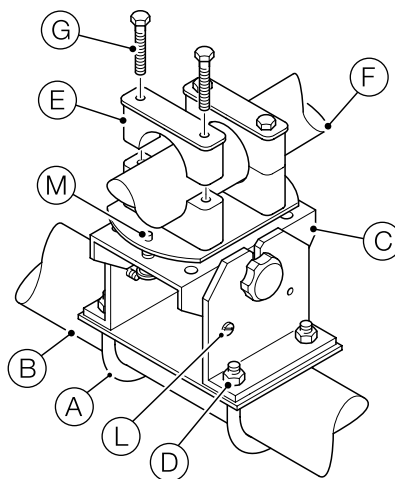


Figure 5 Fitting swivel/tilt bracket assembly

Referring to Figure 6:

- Adjust the center line of the handrail clamp until it is at a right angle (H) to the boom with the ball (I) at rest on the liquid (J). Make sure that the boom can move up and down an equal distance when the handrail clamps are tightened.

In applications with excessive air bubbles, the boom (F) can be rotated in the clamps through an angle not greater than 30° (K). This avoids the accumulation of bubbles around the sensor.

- Tighten the four handrail clamp securing nuts (D).

NOTICE

Do not overtighten.

- On swivel/tilt bracket assemblies, use swivel locknut (M) to lock the bracket horizontally.
- Connect M12 probe cable connector (N) to the transmitter.

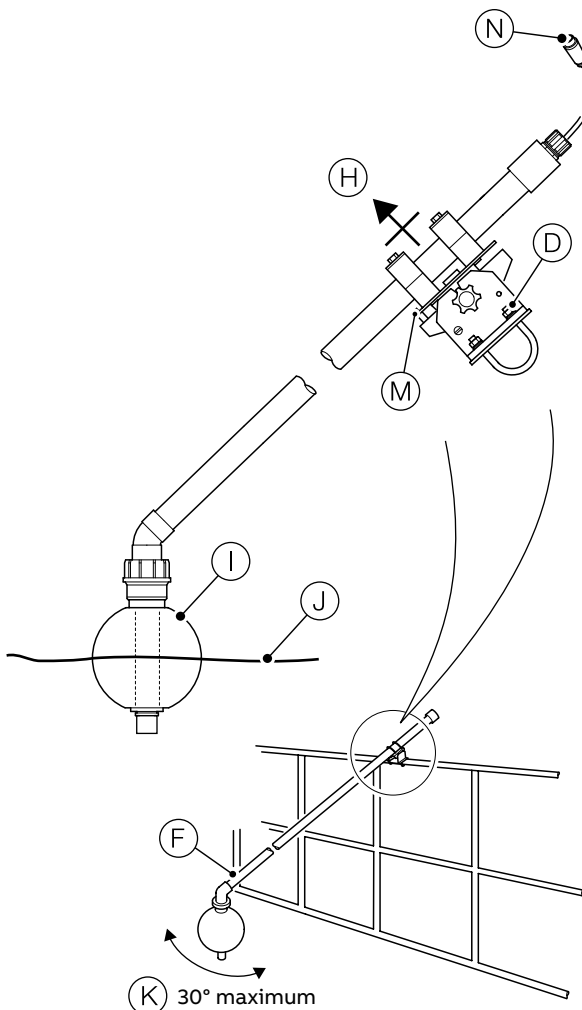


Figure 6 Adjusting the floating ball assembly position

Notes

Notes

ABB Measurement & Analytics

For your local ABB contact, visit:
www.abb.com/contacts

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