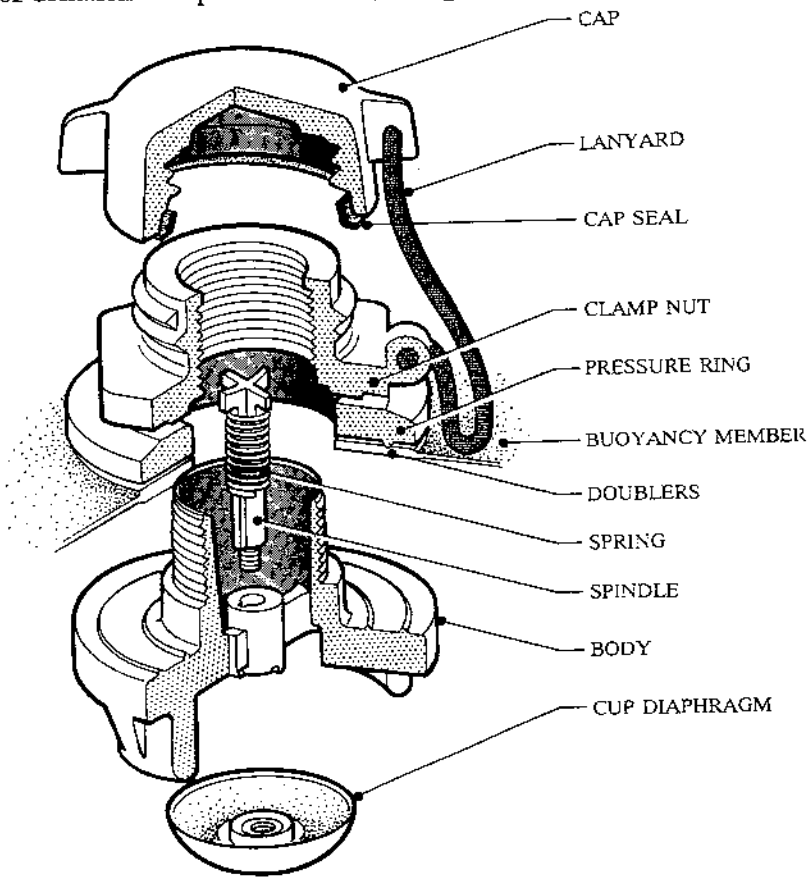
A7 INFLATION/DEFLATION VALVES

Introduction

A7 valves were introduced as alternatives to the A4 inflation/deflation valves for inflatable boats and large inflatable structures of all types, it has become widely used by boat manufacturers throughout the world. Inflation requires less effort and the rate of deflation is remarkably improved. They are of simple design. The valves are available in black or grey.

The valve incorporates a cup diaphragm mounted on a spindle. A stainless steel spring holds the diaphragm lightly against its seating. Internal air pressure tends to force the diaphragm on to its seat, resulting in a wiping or cleaning action between diaphragm and seating, ensuring a positive seal.

Deflation is achieved by pressing down the spindle and locking it by turning through 90°. After deflation, the spindle is turned back to its original position to let the diaphragm reseat. Rate of deflation is rapid for its size, though less than that for the A5 valve.



The A7 valve is clamped to the inflatable structure, the fabric being gripped between the valve body and the pressure ring. A 32.5mm dia. hole is required in the structure. Doublers must be bonded or welded on the inside and outside of the hole in the fabric to give enough strength to prevent overstressing. The inner doubler should be natural rubber or Neoprene, 40° to 50° Shore hardness, approximately 1mm thick and compounded for a low permanent compression set. The doublers must be larger in diameter than the valve and should provide a total thickness of between 2.5mm and 4.0mm.

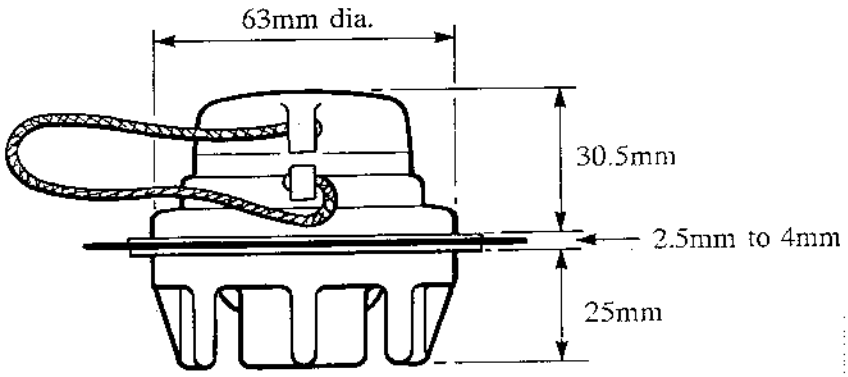
Full installation instructions are given on the installation drawing.

The valve is rugged and requires no routine maintenance.

Materials

Cap	:	Acetal copolymer
Lanyard	:	Terylene
Cap seal	:	Neoprene
Clamp nut	:	Acetal copolymer
Pressure ring	:	Acetal copolymer
Spring	:	Austenitic stainless steel
Spindle	:	Acetal copolymer
Body	:	Acetal copolymer
Cup diaphragm	:	Neoprene and marine grade aluminium alloy

Dimensions



Ordering details

When ordering, specify valve type, version and colour,
e.g. A7 inflation/deflation valve, black.

Accessories (see accessories section)

Bellows end fitting – for topping up.

Manometer and vacuum probes – for monitoring pressures during manfacture and for deflation and vacuum packing.

Pressure gauge adaptor.

Socket spanner for torquing up during assembly.

A7 VALVE – RECESSED VERSION

An alternative version of the A7 valve incorporates a recessed mounting moulded in Neoprene rubber for use when the buoyancy tube must have a smooth surface. Access to the valve for inflation, topping up and deflation is not affected and the same accessories are used.

A hole 86mm to 87mm diameter is required in the fabric to accommodate the valve mounting supplied as a loose item which has to be buffed and bonded into the buoyancy tube. The mounting can be bonded to the inside of the tube, in which case an inner doubler should be fitted. Alternatively it could be bonded to the outside using an outer doubler.

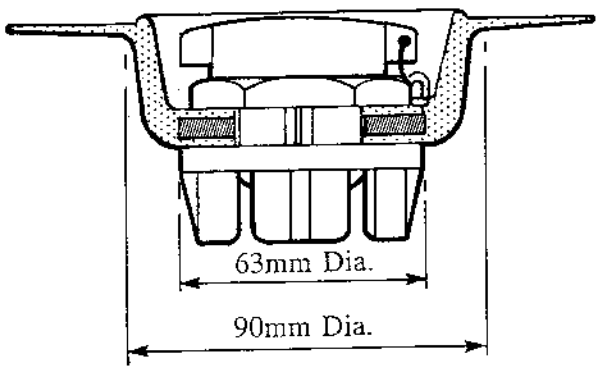
Full installation instructions are given on the installation drawing.

The valve is rugged and requires no routine maintenance.

Materials

Cap	:	Acetal copolymer
Lanyard	:	Terylene
Cap seal	:	Neoprene
Clamp nut	:	Acetal copolymer
Spring	:	Austenitic stainless steel
Spindle	:	Acetal copolymer
Body	:	Acetal copolymer
Cup diaphragm	:	Neoprene and marine grade aluminium alloy
Recessed mounting	:	Neoprene and marine grade aluminium alloy

Dimensions



Ordering details

When ordering, specify valve type, version and colour,
e.g. A7 inflation/deflation valve, recessed version, black.

Accessories (see accessories section)

Bellows end fitting – for topping up.

Manometer and vacuum probe – for monitoring pressures during manufacture and for deflation and vacuum packing.

Pressure gauge adaptor.

Socket spanner for torquing up during assembly.