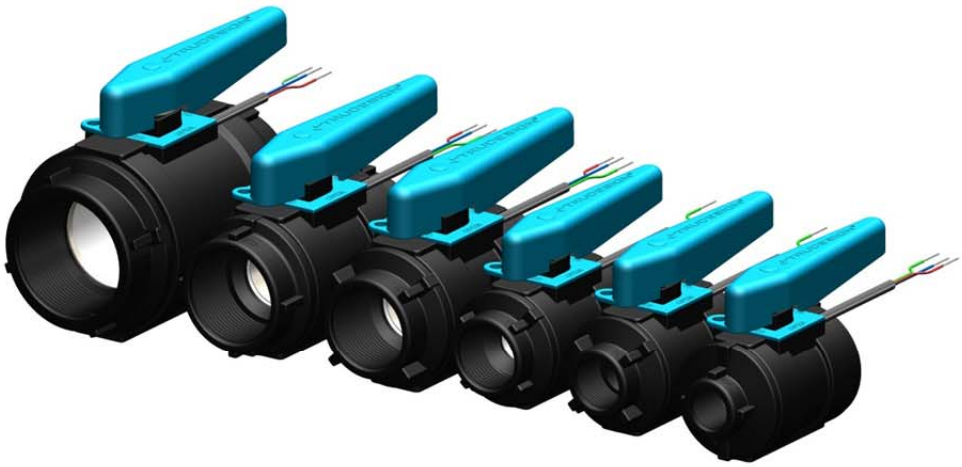
POSITION MONITORED BALL VALVE



Designed and made in New Zealand for use in marine applications above and below the water line, our Ball Valves are IMCI approved to ISO standard 9093-2, and are ideal for controlling inlet and outlet water requirements.

Position Monitoring allows remote monitoring of Ball Valve Position. The Position Monitoring circuit can also be used as part of an engine or generator start interlock to ensure these don't start without cooling water available.

The body of the Ball Valve is manufactured in glass reinforced nylon composite with high impact and tensile strength resulting in a light weight unit, free from corrosion and electrolysis issues. The ball and sealing rings utilise a PTFE polymer to ensure a smooth action, and continuous ease of operation over many years. The Ball Valve is available in both BSP and NPS thread forms and can be locked in the closed position for use on toilet waste outlets.

MODELS

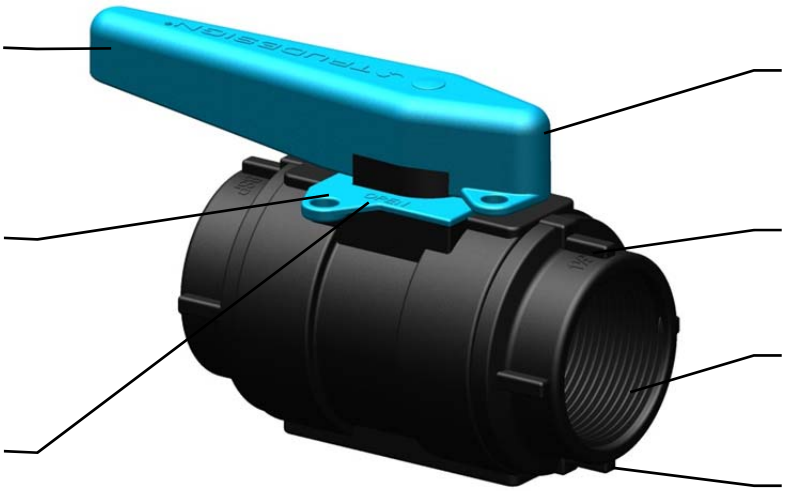
Internal diameter	BSP Thread Part #	BSP Thread Description	NPS Thread Part #	NPS Thread Description
19mm [¾"]	90473	Ball Valve Position Monitored ½" BSP	90653	Ball Valve Position Monitored ½" NPS
	90277	Ball Valve Position Monitored ¾" BSP	90654	Ball Valve Position Monitored ¾" NPS
	90243	Ball Valve Position Monitored 1" BSP	90655	Ball Valve Position Monitored 1" NPS
32mm [1¼"]	90239	Ball Valve Position Monitored 1¼" BSP	90656	Ball Valve Position Monitored 1¼" NPS
	90236	Ball Valve Position Monitored 1½" BSP	90657	Ball Valve Position Monitored 1½" NPS
52mm [2"]	90474	Ball Valve Position Monitored 2" BSP	90658	Ball Valve Position Monitored 2" NPS

Ball Valves are supplied with spanner and installation instructions

Part #	Description
90412	Panel Display Ball Valve

Ball Valve Display Panel is supplied with wiring, installation instructions and marking labels

KEY FEATURES



Glass reinforced nylon composite construction

- Light weight and high strength
- Corrosion resistance
  - Long life
  - Minimal maintenance
  - No corrosion deposits to remove
- Electrically non conductive
  - No electrical bonding
  - Suitable for use on all hull types - aluminium, steel, wood or FRP hulls
- UV resistant
  - Will not break down in the sun
- Chemical resistant
  - Impervious to diesel, petrol, oil and antifouling paints
- Large operating temperature range
  - -40° to 80°C (-40° to 176°F)

PTFE enhanced sealing and sliding elements

- Reduced friction for easy operation
- Reduction in blockages due to fouling

High quality

- Quality materials from accredited suppliers
- Standards approved through IMCI to ISO standard 9093-2
- Every Ball Valve is leak tested during manufacture

Position Monitored

- Monitoring from an accessible location
- Indication of multiple Ball Valve positions
- Able to be used as an engine interlock to disable starting when closed

STANDARDS

Tru-Design Ball Valves are certified by the International Marine Certification Institute (IMCI) to meet;

> *ISO 9093-2 Small craft -- Seacocks and through-hull fittings -- Part 2: Non-metallic*

In meeting ISO 9093-2, our Ball Valves have been tested with a 155kg load hanging off a hose fitting while connected to our Skin Fitting as shown.

The locking feature allows the Ball Valve to comply with US Coast Guard Regulation 33 CFR 159.7 and ISO Standard 8099 for locking of toilet waste outlets.

SPECIFICATIONS – Ball Valves

The connecting threads on each end of the Ball Valves are a parallel thread form. These parallel threads are designed so that thread tape is wound onto a male skin fitting or tail then screwed into the ball valve. The advantage of parallel threads over tapered is that there is maximum engagement between the mating threads providing a strong and watertight seal.

Mixing parallel and tapered threads can cause strength and sealing problems as the engagement can frequently be only a few turns.

Ball Valves are available in;

- BSP (British Standard Pipe)
- NPS (National Pipe Straight)

The Position Monitoring function switches state when the Ball Valve is in the open position.

BLUE	=	Valve closed signal
RED	=	Supply (10-32V)
GREEN	=	Valve open signal

Maximum switching current – 500mA

Wire length – 2m (6.5’)

SPECIFICATIONS – Display Panel

Supply voltage 9.5 – 12V DC

The Ball Valve Display Panel is supplied with the following;

- Display Panel
- Installation instructions
- 2x hookup wire with connector – 2.5m (8.2')
- Mounting screws and covers
- Sticker Sheet with the following options

AIRCON INTAKE	ENGINE INTAKE	HOLDING TANK OUTLET PORT	TOILET INTAKE STABD
BAIT TANK INTAKE	ENGINE INTAKE PORT	HOLDING TANK OUTLET STBD	TOILET OUTLET
BLACK WATER OUTLET	ENGINE INTAKE STBD	SALTWATER WASH INTAKE	TOILET OUTLET AFT
BLACK WATER OUTLET AFT	GENSET INTAKE	TOILET INTAKE	TOILET OUTLET FWD
BLACK WATER OUTLET FWD	HOLDING TANK OUTLET	TOILET INTAKE AFT	TOILET OUTLET PORT
BLACK WATER OUTLET PORT	HOLDING TANK OUTLET AFT	TOILET INTAKE FWD	TOILET OUTLET STBD
BLACK WATER OUTLET STBD	HOLDING TANK OUTLET FWD	TOILET INTAKE PORT	WATERMAKER INTAKE

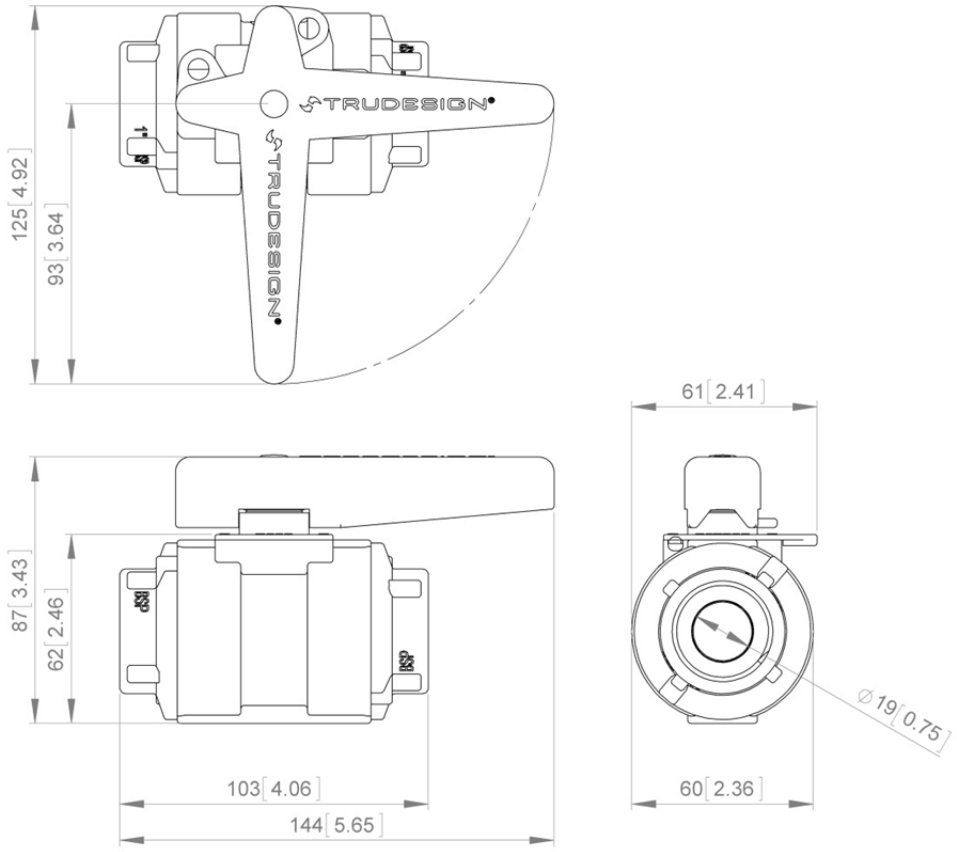
WEIGHT

Internal Diameter	Thread Size	Weight (g)	Weight (oz)
19mm [¾"]	½", ¾", 1"	350	12.3
32mm [1¼"]	1¼", 1½"	500	17.6
52mm [2"]	2"	750	26.4
90412 Panel Display Ball Valve		230	8.1

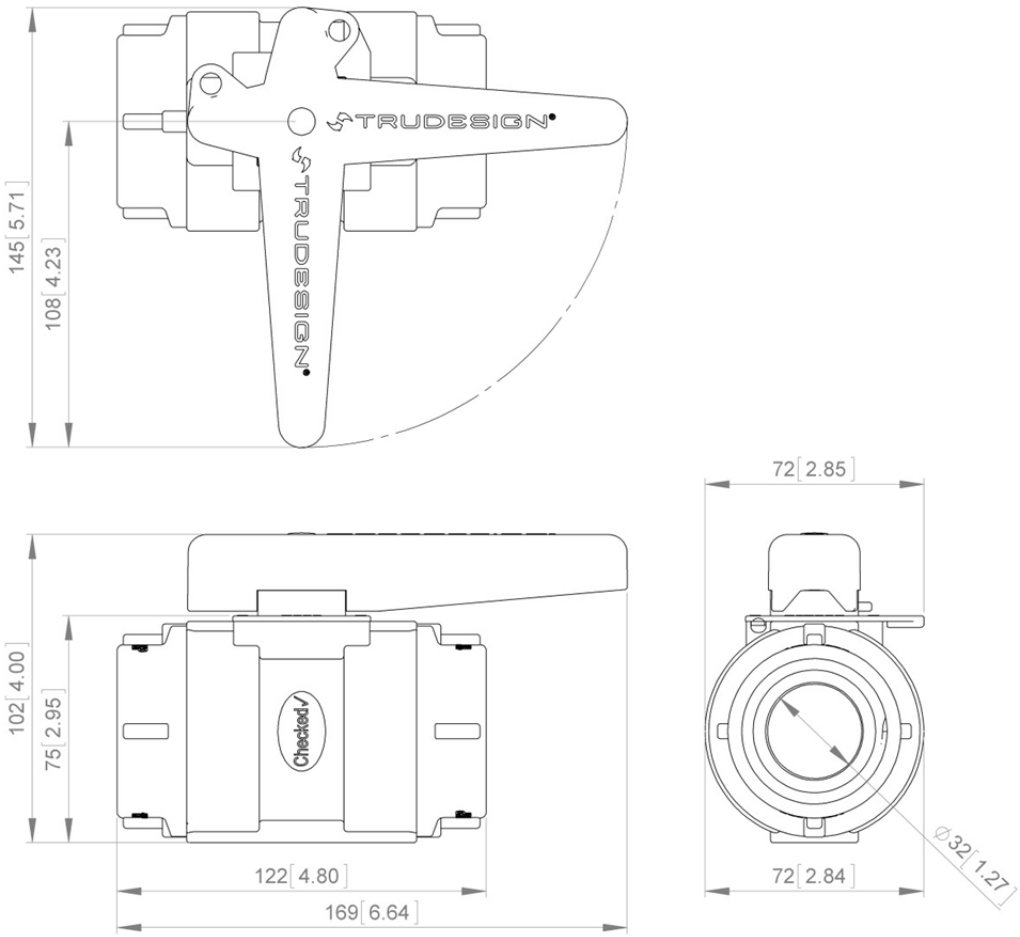
DIMENSIONS

All dimensions nominal.

19mm [¾"] ID ½" BSP, ¾" BSP, 1" BSP
½" NPS, ¾" NPS, 1" NPS

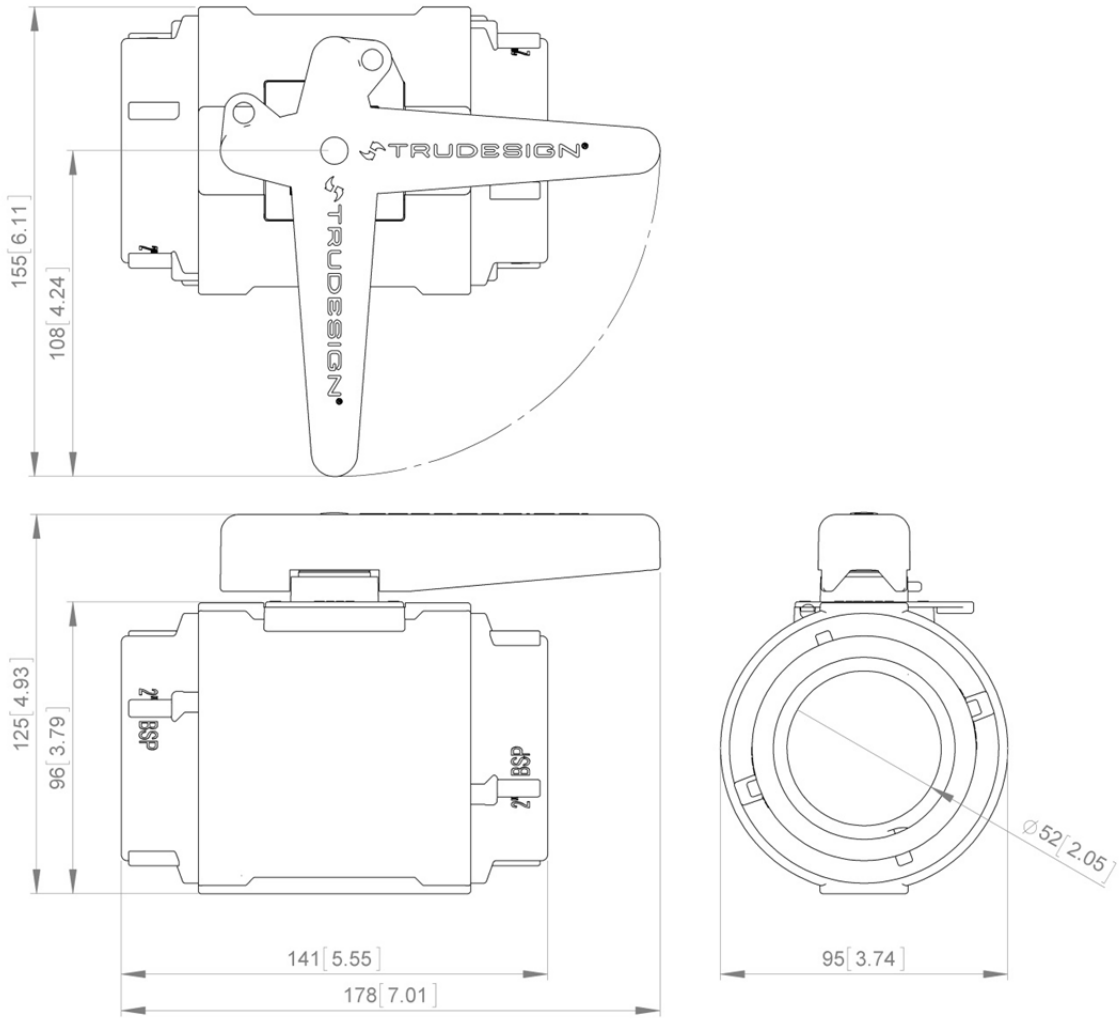


32mm [1¼"] ID 1¼" BSP, 1½" BSP
1¼" NPS, 1½" NPS

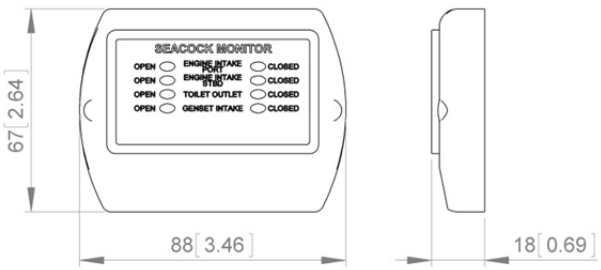


52mm [2”] ID 2” BSP

2” NPS



90412 Panel Display Ball Valve



INSTALLATION

Full wiring instructions are supplied with the Position Monitored Ball Valve. Full installation instructions and hardware are provided with the Ball Valve Display Panel.

If the valve is to be assembled to a skin fitting, ensure that the position of the skin fitting is such that it will be in a protected area, but readily accessible.

Ensure threads of mating fittings have a parallel thread and it is clean and undamaged.

Apply sealing tape to the thread of the Skin Fitting or Tail.

Screw ball valve onto the mating fitting using the correct Ball Valve Spanner (available from Tru-Design), or other appropriate tool.

Tighten any attached fittings to a maximum of 16Nm (12ft/lbs).

Check that the final position of the Ball Valve is such that it allows full movement of the handle from the open to closed position, and that it is clear of objects which may cause inadvertent operation.

NOTE - It is recommended that the padlock is not fitted to the exposed tag in the open position. There is a risk that in an emergency situation the seacock cannot be closed easily.

SERVICING

As composite Ball Valves are immune to corrosion, minimal servicing is required.

The Ball Valve should be operated at regular intervals to ensure barnacles etc do not block the operation of the valve.

The spanner can often be misplaced, so when changing plumbing layouts etc, a new spanner can be supplied.

Part #	Description
90476	Spanner Ball Valve ½”
90477	Spanner Ball Valve ¾” & 1”
90478	Spanner Ball Valve 1¼” & 1½”
90479	Spanner Ball Valve 2”