

93 Series Valves Explained

The Marelon Integrated Valves System (“93” Series) can be configured in ways not available elsewhere in Marine plumbing. The variations possible in all the sizes, thru-hull types, valve body combinations and thread forms are many, many hundreds; at last count it was 420 and climbing! With all these possibilities in three basic valves body sizes, it is no wonder there are lots of questions.

The Basics:

First we should understand a little about our part numbers. The valves were designed in 1992, approved and first sold in 1993 and that is why we call them “93” series. All Integrated valves systems start with “93”. All Forespar (basic) part numbers are 6 digits long.

Each digit represents a valve component and its placement in the sequence changes its place or function on the valves. There are alpha “tags” after the six digits used for options like Chrome Head mushroom thru-hulls (“C”), or NPSM threaded bases (“N”) or BSPP bases (“B”) but we will address those in detail later.

The **third digit** in the six digit sequence is the base or bottom of the valve. It can be one of seven possibilities-

“1” is a flanged base, buttress threads with a mushroom head buttress thread thru-hull.

“2” is a flanged base, buttress threads with a flush head buttress thread thru-hull.

“3” is a female NPSM base and or top as in the photos below.

“4” is a straight tailpipe.

“5” is a 90⁰ elbow.

“6” is a flanged base, buttress threads with a screened mushroom head buttress thread thru-hull.

“7” is a flanged base, buttress threads with a screened flush head buttress thread thru-hull.



Base #1

Base #2

Base #3

Base #4

Base #5

Base #6

Base #7

Note:

It is important to note that there are only 3 thru-hull sizes offered in the buttress threads: 3/4”, 1-1/4” and 2”.

Custom NPSM threaded bases are offered from 3/4” through 2” and BSPP threads are from 1” through 2”. When custom threaded bases are requested we DO NOT supply the thru-hull with the valve; the thru-hull must be ordered separately.

The **forth digit** in the 6 digit sequence is the body style. There are six possible body styles-
 "1" is a straight flow, single port with a thru-hull plug for use with our buttress thru-hulls.
 "2" is double port, "Y" valve with body barb opposite the handle with a thru-hull plug.
 "3" is straight flow, single port with no t-hull plug; only a flush cap on the handle.
 "4" is double port, "Y" valve with body barb opposite the handle with a flush cap on the handle.
 "5" is a double port "Dual Drain" with the body barb opposite the handle and a thru-hull plug.
 "6" is a double port "Dual Drain" with the body barb opposite the handle and flush cap handle.



Body #1 Body #2 Body #3 Body #4 Body #5 Body #6

You have noticed above that photo of body 4 & 6 are the same and body 2 & 5 look the same. They are! The difference is in the ball configuration inside the body. Body 2 and 4 is a "Y" valve and body 5 and 6 are "Dual Drain" valves. Look close at body photos 2 and 5 enlarged below and you will see red lines indicating water flow paths. The same is true on bodies 4 & 6 (only difference is the handle plug is not supplied). This is true regardless of the top or bottom configurations chosen in the part number sequence.



Body #2 "Y" Valve



Body #5 "Dual Drain"

The **fifth** digit is the 6 digit sequence is the top style. There are six possible top styles shown below.

“3” is female threads.

“4” is a straight hose barb tailpipe.

“5” is a 90⁰ elbow hose barb.

“6” is a blank top only (used on very few configurations-with body 5 & 6 only).

“7” is a female garden hose fitting (used only on engine flush-out valves-body #2 & 4).

“8” is a custom female threaded top for specific connections. (Not shown)



The **sixth** digit in the 6 digit sequence is the barb size. There are 6 barbs or female thread sizes available:

“2” is 1/2”

“3” is 3/4”

“4” is 1”

“5” is 1-1/4”

“6” is 1-1/2”

“8” is 2”

These are the top straight tailpipe and 90⁰ elbow barb or female thread sizes and the body barb size.

The “93” series valves come in 3 basic “valve body” sizes –Small- 1/2” & 3/4”, Medium- 1” & 1-1/4” and Large- 1-1/2” & 2”. The thru-hull sizes are always the larger (3/4”, 1-1/4” & 2”) when our buttress threaded thru-hulls are included. The barbs on the bodies (body styles 2, 4, 5 & 6) can vary down one size. Example: #931232 will have a 3/4” mushroom head thru-hull but the body barb and top female threads will be 1/2” If the last digit is a 3 then the body barb and the top will be 3/4”. This flexibility allows the three basic body sizes to provide all 6 hose or female thread sizes. It also allows for further “customization” as you can have a different body barb size than top barb size as long as they are within the three basic body sizes. Example: 931232-top 3 would tell us to keep the body barb at 1/2” but the top female threads would be 3/4”.

Alpha Tags –

These are letters after the 6 digit part numbers. They change the bases to NPSM (**N**) or BSPP (**P**) or change the mushroom head thru-hulls to chrome heads (**C**). You can also change the direction* of the top elbow to left (**L**) or right (**R**) with alphas. Other alpha tags have been added for customer specific valve configurations in high volume. We also use alpha tags for the Smart Valves (**S**) and ROV electric valves (**E**).

So it is possible to have number and letter sequences such as 931156**CLE**. Can you identify this valve? Let’s go through it; third digit (1) tells us it is a mushroom head buttress thread thru-hull but the “**C**” after the numbers tells us it is chrome. The fourth digit (1) tells us it is a standard body with a plug on the handle. The fifth digit (5) tells us the top is a ninety degree elbow but the “**L**” after the



numbers tells us it needs to face left and “E” tells this valve will be electric (ROV). The last digit (6) tells is this valve will have 1-1/2” barbs.

The sequence of the letters is not as important as the numbers as the letters are “options” to the more important numbers sequence.

Common Alphas –

“N” Tells us the base is to be NPSM (3/4” – 2”). No thru-hull or handle plug is provided.

“B” Tells the base is to be BSPP (1” – 2”). No thru-hull or handle plug is provided.

“C” Tells us you want a chromed mushroom head buttress thread thru-hull. Plug is provided.

“L” Tells us the top elbow needs to face left.

“R” Tells us to face the top elbow right.

“E” Tells us the valve is to be made Electric (ROV option).

“S” Tells us the valve will be a “Smart Valve” with sensors.

“V” Tells us the thru-hull needs to be our Anti-Venturi style; 3/4”, 1-1/4” and 2” buttress threads only.

*** Top barb directions -**

The “standard” direction is facing opposite the handle/stem. The two options are “right” or “Left” using the handle/stem as a reference point.



Standard

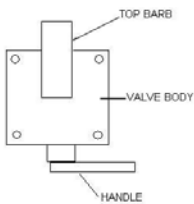


Top Barb Right (R)

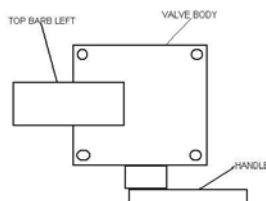


Top Barb Left (L)

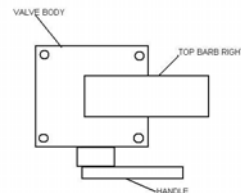
If you do not have a valve to look at you can simply draw a square. Place the handle/stem at the bottom of the square. This the reference the shop needs for assembly. The top of the square is standard and then you have left or right.



Standard



Top Barb Left



Top Barb Right

Having the top elbow pre-installed and facing a specific direction saves the builder time and money in assembly and the potential for a leak and reduce clean up of excess caulk and the waste of rags and material. It also reduces the number of SKU's required by purchasing and inventory.

Valve configurations –

So now that you have mastered the part numbers, let's look at some valve configurations starting with inline ball valves.

The photos below have a number “3” body style which is straight through flow; on/off in one handle direction (to the left with the handle/stem facing you) and no thru-hull plug in the handle as no buttress thread thru-hull is provided with this style valve.

933332-8



Photo 1

933342-8



Photo 2

933352-8



Photo 3

Note that bodies are the same, the bases are the same but the tops are different.

These valves have standard Marine NPSM threads on the bottom and the tops are different per the 5th number in the six digit sequence. If a “B” was added after the sixth digit (4-8) the threads would be BSPP (1” – 2”).

Another “common” valve configuration is a true flanged seacock with a mushroom head thru-hull and a female threaded top. The variations are the same valves with either a straight tailpipe top or a ninety degree elbow top facing one of three directions. The last configuration is similar to the ninety degree elbow top but the “elbow” is off the body of the valve and lowers the hose “rise”.



931132-8



931142-8



931152-8



931262-8

Some of our more unique valve configurations:



931252-8



931552-8



931274-8



Can you figure out the last three valves appropriate number sequence? I'll give you a hint. They all start with "93"!

Uses

With all these configurations available the boat builders can re-think the way they plumb a boat. The Dual Drain style valves (931552-8) can eliminate a hole or two in the boat by draining two sinks, a couple of lockers or any other basic drainage requirement.



They should not be used as pick-ups for two pumps however. Especially if there is any chance both pumps would be running at the same time. One pump will inevitably starve out the other.

The “Y” valves can be used in head systems and cut down on the amount of hose needed. Only the riser hose to the vented loop would be above the sole. They can be used on the discharge (one position to the holding tank and one position overboard) AND the intake if you wish to have an optional fresh water feed to the head.

“Y” valves can also be used to have one pump feed two things on the boat. For example, a fish cleaning station aft and a cockpit wash-down – all from one thru-hull.