CUSTOM FUEL TANK DESIGN GUIDE

Diesel Tanks

All straight hosetail fittings are screwed into a female BSP boss, which is permanently welded to the tank. All female bosses will stand 10mm off the tank face when the fitting is removed. Female bosses are available in the following thread sizes: 1/4” BSP, 1/4” BSP, 1 BSP, 1 1/4” BSP. Smaller sizes are available and are achieved by using a reducing bush screwed into the 1/2” BSP boss, i.e. a 1/4” BSP is attained using a 1/2” x 1/4” BSP reducing bush.

Straight hosetails are required when connecting to a flexible hose. Size of tail should be the same as the bore of the hose you are using. These are normally the inlet/filler hose and vent hose. Feeds and returns can also be flexible. All straight hosetail fittings are supplied with a bonded seal also known as a Dowty washer. These seals comprise of a zinc plated steel ring with a soft rubber seal bonded to the inside of the ring. The rubber seal is slightly thicker than the steel ring so when the hosetail fitting is tightened up, the rubber compresses and seals the underside of the hose tail flange and the face of the female boss.

The bonded seal does a similar job to a fibre washer, but is far more effective as they are normally found in high pressure applications. Hosetail fittings for fuel tanks are supplied in a marine grade brass. Please refer to the Tek-Tanks Fittings Guide for the full list of available sizes.

Hose and Pipe Fitting Connections

First decide where the fittings need to go. Once you have established the position, the size has to be decided. Once the size has been decided, please refer to the Tek-Tanks Fittings Guide for the overall height and length of the fitting. This height or length can then be checked against the tank design, position, the size has to be decided. Once the size has been decided, please refer to the Tek-Tanks Fittings Guide for the full list of available sizes.

Water, Grey Water and Waste Holding Tanks

All fittings on water, grey water and waste holding tanks, whether straight or elbows are screwed onto a BSP threaded male adaptor, which is permanently welded to the tank. All adaptors will stand 24mm off the tank face whilst the fitting is removed as shown on the drawing below.

Each fitting needs to be checked against the tank design and the boat structure to avoid any problems later when the tank is fitted. Time spent checking the size and position of each fitting will pay off, as it is not normally possible to modify the tank.

All elbows are multidirectional, hence the direction they need to point does not need to be shown. Once the tank is installed they can be swivelled in the right direction and then the locknut can be tightened.

Hosetail fittings for water, grey water and waste tanks are supplied in plastic. Please refer to the Tek-Tanks Fittings Guide for the full list of available sizes.
CUSTOM WATER, WASTE AND DIESEL FUEL TANK DESIGN GUIDE

AVOIDING BAFFLES

When designing your tank, it is important that the fittings avoid any baffles that we put in. A custom tank can have fittings in almost any position, the only restriction being the baffles. Nearly all custom built tanks will have baffles unless the tank is very small, then it will have none.

The baffle spacing is based upon the length of the tank. All Tek-Tanks custom built tanks have equal baffle spacing where possible. The spacing is normally between 250 and 350mm depending on how the length divides up. For example a tank 1200mm long will have 3 baffles with four compartments 300mm wide. A tank 675mm long will have 1 baffle with two compartments 337.5mm wide. If in doubt about the number of baffles a tank will need, then please phone for advice.

INSPECTION HATCHES

An inspection hatch cannot straddle two compartments. It has to be in one or the other.

For the comprehensive list of hatches, please refer to the Tek-Tanks Fittings Guide or phone for advice.

LEVEL INDICATORS

At Tek-Tanks we use a wide range of level indicators and gauges for remote sensing on tanks.

Various senders showing height protrusion above tanks upper surface

Dimensions in mm

For more details on these units, please visit our website or call us.

TANK DRAWING

It is important to provide us with as much information as possible when designing your tank. We will need the overall dimensions and a clear indication of where the fittings are going to go. If the position of the fittings is critical then they will have to be dimensioned from the edges of the tank. If they are not critical then we will put them as close as possible to the position indicated.

When positioning the hatch or hatches, just remember to bear in mind where the baffles will be, again give us a call if you are uncertain.

On a very complicated tank with many angles, please indicate any square corners if any. This will help us greatly when we come to draw up the tank on our computer aided design system.

Another method of supplying us with the information we need, is to supply us with a template mockup in either plywood or cardboard. By doing this you can satisfy yourself that the tank can be easily installed and that you can actually get it in or out of the boat or vehicle. The template can then be marked up with all the relevant fittings and hatches and either sent to us flat packed or you can bring it along to the factory to discuss in detail.

For quotation purposes a drawing will suffice.

HAND DRAWN TANK DESIGN

The following drawing is how we would ideally like the information presented but we do realise that not everyone is a draughtsman and has access to drawing programs. A hand drawn sketch is fine as long as all the information is there.

TANK DESIGN USING COMPUTER

Proposed Fuel Tank for quotation purposes only. It will not be the final fitment.

For more detailson these units, please visit our website or call us.

Varioussendersshowing heightprotrusion above tanks upper surface

Dimensions in mm

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