



FISH TRANSPORT SYSTEMS

The trouble-free, and stress-free transporting of live fish requires specialist equipment. This includes the fish transport tanks themselves, and also the oxygen supply equipment.

Selection of the size of transport tank depends on the quantity of fish to be transported, the type of fish, the water temperature, and the duration of the journey.

As a guide, it is possible to fill tanks with 75 % water, and 25 % fish, in the case of

trout. For a 600l tank, this is equivalent to 150 kg of trout, for a water temperature of 10 °C. For carp species, the capacity can be 50 % higher, without problems.

To maximise the carrying capacity, it is important to use oxygen, diffused through fine-pore diffusers. Where air is used instead of oxygen (using 12 V air pumps) the carrying capacity is reduced by 50 %.

Where oxygen is used, a pressure-reducing regulator is necessary, to step-down the pressure from the oxygen cylinder to

approx. 3.5 bar. The oxygen is supplied to the diffusers in the tank by oxygen hose. In addition, an oxygen flow meter should be installed between the oxygen supply and the diffusers.

This arrangement will allow the adjustment of the oxygen supply according to the amount of fish in the tank. For example, 100 kg of trout need 2 litres of oxygen per minute, at 10 °C. This doubles, for 200 kg of trout.



Fish Transport



Thermoport 190 litres



Thermoport 290 litres



Thermoport 600 litres



Thermoport 800 litres

Thermoport – The ideal fish transport tanks for professional fish farmers and sport fishermen.

Live fish are at risk if unsuitable or inferior containers are used during transport.

Many years ago LINN Gerätebau developed the Thermoport fish transport tank, which eliminates risks to the fish stock. These economical and well-proven tanks are available in five sizes: 190 – 290 – 600 – 800 and 1100 litres (details 1100 litres on page 32). The containers are produced in one piece without welds and consist of food-grade and chemically resistant plastic (PE). Consequently, they are very robust and impact resistant.

The lids of the larger containers (600/800/1100 litres) are extra large – this makes it very easy and practical to fish in and out. The locking mechanism is simple but safe. The proven labyrinth seal seals without the risk of frost.



inside sieve Thermoport 190/290l (extra charge)



Thermoport with ball valve

The perfected design of the tanks with rounded corners prevents injuries to the fish. The design reduces up and down 'slopping' of the water, and the fish are held steady. The containers have convenient recessed handles (except the 190 litres containers, where the grips are screwed on).

The sandwich-construction (600 – 1100 litres) has outstanding insulating properties that guarantee stable water temperature, vital for salmonids, cyprinids and ornamental fish.

All Thermoport containers have a drain (1 1/4") with a plug. On request, a ball valve can be fitted in place of this. This drain point is screened internally (190 and 290 litres for an extra charge) so that only water can escape. For quick and easy discharging of the fish, a fish-friendly ball sluice can be fitted (to order).



Thermoport with fixing brackets



Technical

	Dimensions (L x W x H)	Lid	Weight
190 litres	85 x 55 x 45 cm	70 x 35 cm	13 kg
290 litres	85 x 55 x 65 cm	70 x 35 cm	17 kg
600 litres	110 x 75 x 76 cm	86 x 51 cm	33 kg
800 litres	110 x 75 x 100 cm	86 x 51 cm	47 kg

colour green – tank with sluice + 15 cm

Thermoport 1100 litres



Thermoport 1100 litres with sluce and drain valve

LINN Thermoport fish transport tanks have been tried and tested over more than 25 years of daily use. Over the years, there have been requests for bigger polyethylene fish transport tanks. The reasons are obvious: **Thermoport fish transport tanks** are robust and easy to maintain, the price is unbeatable and they are available with relatively short delivery times.

These are the reasons a great investment has been made to develop a tool for a bigger tank. It is now possible to supply a new **Thermoport** with a capacity of 1100 litres – unique on the European market. Tanks of this size have previously been made of glass fibre, with the usual disadvantages, compared to **Thermoport**.

The new, bigger tank is made in one piece, without welds or seams. It is made of food-safe plastic (PE) which is resistant to chemicals and disinfectants, helping to maintain biosecurity between loads of fish. It is also tough and impact-resistant.

Despite the large size, great care has been taken with the design to ensure all corners are round to prevent injuries to the fish and increase the stability of the water load.

The special construction (PE : PE foam) taken from the design of the smaller tanks, gives excellent insulation, reduces heating-up and provides a more constant temperature.

The **Thermoport 1100 litres** has built-in hollow handles on each end. As a new feature, each of the long side walls have been shaped to incorporate a handle, flush with the side. This makes the tank space-efficient, and easier to move.



mounted standard sluce and fixing brackets



mounted LINN-slucce and drain valve 2"

All of the handles are suitable for lashing the tank onto the vehicle. For more permanent fixing, the tank can be supplied with factory-fitted, stainless steel brackets.

The lid has been designed carefully – like the other tanks in the range – for ease of transfer of the fish.

Normally, fish transport tanks of this size are delivered fitted with a sluce (optional, at extra cost). The standard sluce, or the unique, Linn ball sluce (2 sizes available) can be fitted.

Another important feature of this new tank is that it has a sloping bottom. This assists drainage in general, but is especially valuable for fish transfer if a sluce is fitted.

The standard **Thermoport 1100 litres** is fitted with an internal discharge screen on the inside and a plug (2"). A 2" drain valve is available as an optional extra.

Technical

	Dimensions (L x W x H)	Lid	Weight
1100 litres	165 x 98 x 82 cm	95 x 60 cm	70 kg

colour white – tank with sluce + 15 cm



Tanks 1100 litres mounted

GRP Fish Transport Tanks



GRP fish transport tank

High-quality GRP fish transport tanks produced in Germany! The tanks are made completely from GRP and have no wooden interior! The tank's dimensions and fittings make it ideally suited to the transport requirements and load area of transit vans and pick-ups.

The tanks come in two basic sizes (120 x 95 cm and 160 x 95 cm) and in addition can be supplied in two heights (75 cm and 95 cm), so giving a choice of the right tank for every need.

All GRP fish transport tanks are supplied with a standard lid. The purpose-built oversized lid makes it easy to transfer fish into the tank using a net. The lid is easy to open and shut. The closure mechanism is fitted inside the lid, so preventing harm to fish caused by a closure sticking out into the body of the container. The lid seal is positioned in a fold on the container and not the lid. The seal is thus protected, hardwearing and easy to replace.

The GRP fish transport tanks can also be fitted with a LINN Outlet sluce (200 or 250 mm diameter) or a standard sluce (opening from the outside), so that fish can be emptied out of the container easily, quickly and safely (see at page 34).

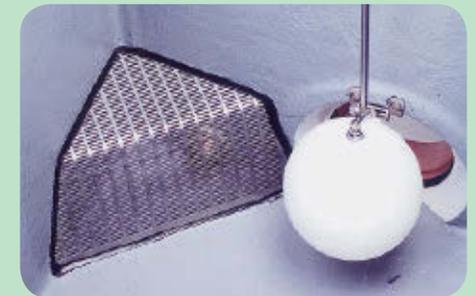


In addition we have placed particular importance on the fish transport tank's totally smooth exterior. This gives the container a pleasant appearance and makes cleaning easy, both inside and out.

LINN GRP fish transport tanks developed by professionals for professionals!

The sides of the container slope towards the top so as to minimise bumping up and down caused by the water inside. Inner screen and drain valve are included as standard and fastening brackets can be easily incorporated by us for secure fixing of the container to your trailer, van or pick-up.

screen and sluce (inside)



Technical

	Dimensions (L x W x H)	Lid	Weight
800 litres	120 x 95 x 75 cm	93 x 63 cm	approx. 55 kg
1000 litres	120 x 95 x 95 cm	93 x 63 cm	approx. 60 kg
1100 litres	160 x 95 x 75 cm	93 x 63 cm	approx. 70 kg
1400 litres	160 x 95 x 95 cm	93 x 63 cm	approx. 75 kg

colour white – tank with sluce + 15 cm

Sluices for fish transport tanks

... empty the tank without landing net
... fast, easy and fish friendly

If requested an outlet sluice can be factory-fitted to the fish-transport tanks. Two different types are available

Standard outlet sluice

This "tried-and-tested" sluice opens outwards. It is rectangular and measures 30 x 40 cm. Before transit, the sluice plate must be fastened with the hand screw, so that the sluice is completely leak proof. The sluice plate is made from GRP. The fittings and fixings are made from stainless steel. The standard outlet sluice can be incorporated into all GRP fish-transport tanks. In order to discharge the fish an outlet slide is necessary for this type of sluice.



Standard outlet sluice

Outlet sluice – LINN version

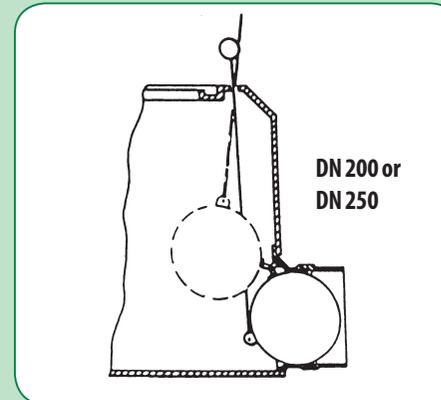
The LINN sluice opens inwards and enables the tanks to be emptied easily. The sluice is opened using a handle on the upper side of the tank.

The fish are released together with the water from the tank. A pipe is simply inserted into the outlet of the sluice in order to drain the fish from the tank into the pond.

The sluice was constructed without edges, ruling out the risk of injury to the fish. The funnel-shaped construction enables a gentle release of the fish. The hollow sphere uses the pressure of the water to automatically and safely seal the opening during transit. No tightening or locking is necessary.



LINN sluice



flexible drain hose

Drain hose DN 200

We can offer a flexible drain hose (length to order) to fit our LINN sluice.

The hose incorporates a connector for the sluice (DN200 or DN250). The hose simply has to be inserted and fastened on top of the sluice with a clamp – that's all.

It is also no trouble to close the sluice again once the tank has been even partially emptied.

The fittings of the LINN sluice are produced from stainless steel, and the hollow sphere is made from plastic (PE). The rubber-lip seal is firmly fixed in a groove, though it can easily be replaced if necessary.

The LINN sluice can be made with a 20 or 25-cm hollow sphere. We can incorporate these sluices into our 600, 800 and 1100 litre THERMOPORT tanks as well as all GRP Transport tanks.



Sluice with pipe adapter



Oxygen Diffuser Frames



Oxygen Diffuser

Special diffuser tube, with extremely fine pores, is mounted on a robust stainless steel frame. This ensures that the oxygen is supplied as a fine, even mist, and thus used most efficiently.

Standard sizes (other sizes on request):

30 x 70 cm – article no. H202
(for Thermoport 190 + 290 l)

52 x 90 cm – article no. H204
(for Thermoport 600 + 800 l)

60 x 105 cm – article no. H208
(for GRP-tank 800 + 1000 l)

70 x 120 cm – article no. H210
(for Thermoport 1100 l and
GRP-tank 1100 + 1400 l)

90 x 130 cm – article no. H212



single parts for oxygen diffuser



oxygen supply hose

Fittings for Do It Yourself oxygen diffusers

(1) perforated diffuser hose (black) outside diameter 26mm, inside 19mm – article no. X750

(2) connectors – article no. X536

(3) end-stops – article no. X537

(4) T-connector with 6mm fitting – article no. X538

(5) stainless steel hose clamps – article no. X542

(1) oxygen supply hose (blue) outside diameter 10mm, inside 6mm – article no. X539

(2) stainless steel hose clamps – article no. X541

Weighing and loading tank with automatic sluice



loading tank

At last you can weigh and load fish yourself!

In accordance with fish keeping needs, LINN Germany has developed an easy cost-effective system for weighing and loading fish. The system consists of two parts: tank and weighing apparatus.

The GRP-Fish transport tank comes in a range of sizes. In this way you can find the best container for your particular needs. The tanks are made entirely of GRP and have no wooden interior! We also specifically make the tanks with low profile construction (height without scales, 75 cm) so that fish can easily be transferred to the tank using a net.

The loading tanks are fitted with a LINN sluice 250 mm diameter. This sluice is also automatic. The sluice is opened by pressing a button, the fish are emptied out and in this way the loading tank can be used with a fork-lift truck to lift the fish over your trailer and empty the fish automatically into the container on your vehicle. The sluice is opened by means of a cylinder that is operated pneumatically by oxygen pressure.



empty the tank



loading of fish

The tank base slopes towards the outlet so guaranteeing that all fish are emptied out. The oxygen outlet is completely built-in. You simply need a small oxygen bottle to care for the fish and operate the automatic sluice. Beneath the container is a stainless steel weighing scales with display. The maximum load is 1,500 kg in 500 g divisions. The scales also incorporate a fine weighing function with 50 g divisions. The scales are ideally designed for use with forklift trucks. It has tare and adding functions as standard.

The display of the scales is fixed to the tank. A new feature is the rechargeable battery in the scales, enabling the complete unit to run without any additional electricity supply (without any troublesome cable in the way for the forklift!). If the weighing tank is not used the rechargeable battery is simply recharged for the next assignment using the supplied mains battery charger (230 V).



automatic sluice (inside)

Technical

	Dimensions (L x W x H)	Weight with scales	fish stock
700 litres	120 x 95 x 75 cm	approx. 110 kg	max. 250 kg
900 litres	120 x 95 x 95 cm	approx. 115 kg	max. 300 kg
1000 litres	160 x 95 x 75 cm	approx. 125 kg	max. 350 kg
1250 litres	160 x 95 x 95 cm	approx. 130 kg	max. 400 kg

Height including built-in scales + 10 cm. Container volume reduced by sloping base. Colour-white



Fish carrier tanks



square tank – 60 litres

These tanks can be used for a multitude of purposes.

The square tank is made of polyethylene and has integral, moulded carrying handles.



round tank – 70 litres

The round carrying tank is made of thick-walled polypropylene and has two stable handles. This container is particularly robust and durable.

Both tanks are conical and so can be stacked and the inner and outer surfaces are very smooth for easy cleaning.

Technical

	Volume	Dimensions (L x B x H)	Article no.
Square tank	60 litres	48 x 48 x 37 cm	H672
Round tank	70 litres	∅55 cm – Height 43 cm	H670

Portable Fish transport tank

... for anglers, hobby pond farmers and small scale fish transport by fish farmers

The small transport tank for live fish is ideally suited to fish transport on a small scale. The size of the tank is such that it can be carried even when filled with fish. This makes the fish tank almost universally useable – it can be carried in the boot of a private car!

The small transport tank is made from polyethylene (PE) and is therefore light, rugged and unbreakable. It is provided with two practical handles. The lid is fastened to the tank by turning (bayonet connection).

The gasket fastened around the lid opening ensures that the tank is absolutely tight and that no water can leak out. The lid has a hole through which a hose for ventilating the transport tank (air or oxygen) can be inserted. A plug for closing the opening is supplied with the tank.



On request, the fish transport tank may be supplied complete with a air pump (12 V for connection to the cigarette lighter socket in the car) and an appropriate air diffuser.

Technical

Volume	Dimensions (L x B x H)	Weight
30 litres	59 x 45 x 39 cm	5 kg

New version!

Oxygen Flow Meter



oxygen flow meter without fittings, connections 1/4"

The flow meter is fitted between the pressure regulator and the oxygen diffusers. With the help of the flow meter, oxygen supply to every tank can be read and adjusted.

The amount of oxygen can be matched exactly to the number of fish in a tank, potentially saving a considerable amount of oxygen. Gill-burn, and losses from too little oxygen can also be avoided.

The valve of each outlet is located before the flow meter - this allows individual

lines to be shut off during maintenance work under pressure. The distance between the individual flowmeters is 60mm, and is supplied with a stainless steel holder.

Flow meters are available in different designs and according to requirements, with the following scales:

0 – 5 / 0 – 8 / 0 – 15 / 0 – 25 / 0 – 35 or 0 – 50 l/min.

The flowmeters are designed for a pressure of 3.5 bar (50 PSI).

We can fabricate multiple units as required.



oxygen flow meter 6 way / complete



oxygen flow meter complete with holder and valve for every branch (connection 6mm tails)



pressure reducer for oxygen bottles (volume and working manometer, incl. protection caps)



double branch valve for pressure reducer



distribution manifold, with regulators (1-way, 2-way, 3-way or 4-way) connection tail 9 mm



air pump 12 V

Air Pumps

Technical 230 V

Type	LA 45	LA 60	LA 120	LA 200
Voltage	230	230	230	230
Air del m ³ /h	2.7	3.6	7.2	12.0
Air del l/min	45	60	120	200
Power take up	47 W	64 W	130 W	215 W
Weight kg	3.0	5.0	9.5	12.3
Dimensions cm	20 x 18 x 21	30 x 19 x 21	40 x 21 x 23	42 x 21 x 27
Article no.	H260	H262	H264	H266

Technical 12 V

Type	903	906	908
Voltage	12	12	12
Air del m ³ /h	4.2	7.2	9.0
Air del l/min	70	120	150
Power take up	35 W	60 W	105 W
Weight kg	2.0	3.0	4.5
Dimensions cm	22 x 11 x 14	23 x 11 x 13	25 x 12 x 15
Article no.	H250	H254	H256

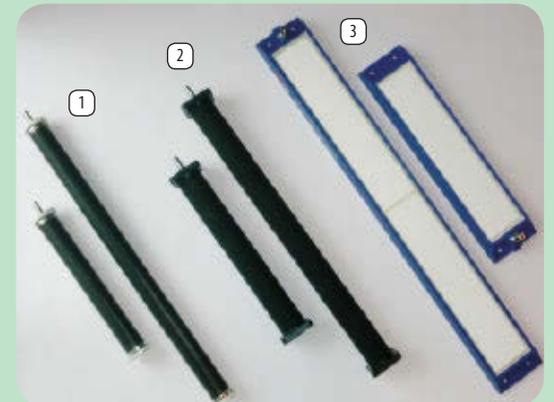
Air pumps are used for ventilating transport tanks, show tanks, aquariums, stock tanks or similar. The pumps have a low power consumption and run quite silently. The air pumps are installed outside the pond or transport tank. The air is fed through a hose to the air diffuser in the pond.

For diffusion, we recommend the use of our fine-pore diffuser. This ensures fine and uniform air distribution in the pond. The air diffusers are supplied in different lengths.

All air pumps are supplied complete with cable and plug (230 V or 12 V), and they are ready for use.



air pump 230 V



Diffusers for air (1+2) and oxygen (3)

Diffuser

	Dimensions	Pipe	Flow max.	Article no.
① Air-Diffuser for 12V/230 V-Pumps	25 cm, ø 30 mm	9 mm	15 l/min	H224
	51 cm, ø 30 mm	9 mm	35 l/min	H226
	76 cm, ø 30 mm	9 mm	55 l/min	H228
② Air-Diffuser for 12V/230 V-Pumps	30 cm, ø 40 mm	9 mm	12 l/min	H220
	50 cm, ø 40 mm	9 mm	20 l/min	H222
③ Ceramic Oxygen Diffuser	30 x 6 cm	6 mm	4 l/min	H240
	2-2,5 bar, 1-4 l O ₂ /Min			
	60 x 6 cm	6 mm	8 l/min	H242
	2-2,5 bar, 2-8 l O ₂ /Min			