



## FEED & LIVE ORGANISMS PRODUCTS

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## CONCENTRATED PLANKTONIC FEED

These products ship Next Day Air, FOB CA.

### Phyto Feast® Fish Food

Provides a diversity of phyto-pigments, lipids, omega-3's, amino acids, carbohydrates and cell sizes. Proprietary harvesting and stabilizing processes keep cells intact and ensure nutrients get to your animals. This blend of the most important marine microalgae (*Pavlova*, *Isochrysis*, *Thalassiosira*, *Tetraselmis* and *Nannochloropsis*) will help your tank diversity improve, encourage your invertebrates to come out to feed and even help difficult-to-keep animals thrive. 32-oz bottle.

### Roti Feast® Fish Food

Get superior color, vitality and growth rates! Roti Feast® is a highly nutritious plankton feed perfect for hard corals, larval fish and other reef carnivores that feed on small zooplankton. Rotifers are a critical feed used in marine fish and invertebrate hatcheries around the world. Contains tens of millions of fully intact marine rotifers *Brachionus plicatilis* with millions of eggs. 32-oz bottle, 4 oz treat 100 gal.

## FLAKE FOOD

Whether you're a hatchery manager, breeder or fish hobbyist, what is more important than high-quality food? Flake food is a highly nutritional food packaged and priced for the professional. We offer ten varieties in two package sizes.



**ALL PENTAIR AES FOODS ARE PACKAGED IN POLYESTER FILM BAGS WITH O<sub>2</sub> ABSORBERS TO ENSURE FRESHNESS.**



### ANGELFISH

Similar to tropical flake but with higher levels of color enhancers. 45% protein content.

MODEL		EACH
ZAF5	5 LBS (2.3 KG)	\$44.92
ZAF25	25 LBS (11.3 KG)	163.97



### EGG YOLK

Formulated from egg yolk, this food is a high protein/high fat flake. It is great for fattening juvenile/larval fish and thin fish. 45% protein.

MODEL		EACH
F05Y	5 LBS (2.3 KG)	\$58.60
F25Y	25 LBS (11.3 KG)	198.33



### PLANKTON/KRILL/SPIRULINA

A special formula of plankton, Antarctic krill (*Euphausia superba*), Pacific krill (*Euphausia pacifica*) and *Spirulina*. A choice food with 44% protein.

MODEL		EACH
F05K	5 LBS (2.3 KG)	\$55.54
F30K	25 LBS (11.3 KG)	235.01



### TROPICAL

Highly palatable and digestible, flakes are formulated as a balanced diet. Provides high levels of *Spirulina* and trace elements. 45% protein content.

MODEL		EACH
ZTF5	5 LBS (2.3 KG)	\$35.70
ZTF25	25 LBS (11.3 KG)	147.00

### Arcti Pods® Fish Food

Arcti Pods® are large, nutrition-packed planktonic copepods (3,000 microns) harvested fresh from arctic waters. Great for fish and invertebrates such as LPS corals, anemones, zoanths and brittle stars. Rich in carotenoids, which bring out the color of your animals. Also contain protein, omega-3 and -6 fatty acids and waxy esters for growth. 32-oz bottle, 1-2 teaspoons treat 100 gal.

MODEL		EACH
PFC32	PHYTO FEAST	\$31.45
RF32	ROTI FEAST	70.00
AP32	ARCTI PODS	73.50

Phyto Feast®, Roti Feast® and Arcti Pods® are registered trademarks of Reed Mariculture, Inc.



AP32

PFC32

RF32



### BEEF HEART FLAKE FOOD

A 46% protein flake with trimmed beef hearts as the main ingredient. Excellent for breeder fish to stimulate egg and fry production. A good substitute for earthworm flake.

MODEL		EACH
F0F	5 LBS (2.3 KG)	\$53.28
F0E	25 LBS (11.3 KG)	201.00



### COLOR TROPICAL MARINE

Similar to tropical flake but with higher levels of color enhancers. Krill and shrimp meal are also added. 45% protein content.

MODEL		EACH
ZCT5	5 LBS (2.3 KG)	\$53.33
ZCT25	25 LBS (11.3 KG)	186.00



### EARTHWORM

A 42% protein flake with a primary ingredient of earthworms. Breeders have reported an increase in spawning of 6-10 times!

MODEL		EACH
F05E	5 LBS (2.3 KG)	\$61.79
F30E	25 LBS (11.3 KG)	218.27



### KOI AND GOLDFISH FOOD

Nutritionally balanced food for goldfish and koi. Increases digestibility and minimizes waste. Promotes healthy gill, fin and tissue development. Also enhances color.

MODEL		EACH
ZGF5	5 LBS (2.3 KG)	\$40.94
ZGF25	25 LBS (11.3 KG)	136.69



### BRINE SHRIMP

Consisting primarily of baby brine shrimp, this flake formula has a protein content of 50%. Flakes are fortified with vitamins and minerals. Fat content at least 13% and low fiber content of 3%.

MODEL		EACH
ZBF5	5 LBS (2.3 KG)	\$82.23
ZBF25	25 LBS (11.3 KG)	341.67



### SPIRULINA

Excellent source of vitamins and amino acids. This flake delivers a high protein content of 38% and is the choice food for fish requiring vegetation in their diet.

MODEL		EACH
ZSF5	5 LBS (2.3 KG)	\$47.92
ZSF25	25 LBS (11.3 KG)	164.85

### FANCY GUPPY® FOOD

Formulated exclusively for raising and breeding species of fancy guppies. Vitamins are encapsulated into a small pellet that becomes soft quickly in water, yet does not dissolve.

The feed is high in linolenic acid, which promotes growth and improves the guppies' natural breeding habits.

MODEL		EACH	12+
HK41	22 G	\$3.38	\$3.13



### HIKARI® PLANKTON

Ideal for feeding fish fry, this plankton-based food hangs suspended in the water column where fry can readily feed. It is processed with a unique low-heat reduction method that eliminates nutrient loss. Vacuum-packed for freshness, it will help fry grow strong and healthy. Sold in 4.4-lb bags, minimum 48% protein.



HK170

MODEL	LARVAL	SIZE (MM)	MESH	EACH
HK170	EARLY	.2	80-180	\$53.35
HK270	MIDDLE	.2-.37	60-80	53.35
HK370	LATE	.37-.61	30-60	53.35

### CICHLID GOLD® FOOD

Rich in color enhancers, Cichlid Gold® is a specially formulated food for bringing out the brilliant, natural colors of fish. It is ideal for most species of carnivorous cichlids and works especially well for bringing out the colors in oscar, firemouth and red devil species. Highly nutritious, it's formulated in a floating pellet form that does not make water cloudy.

MODEL		EACH	
HK25	MINI, 8.8 OZ, 1/8"	\$6.87	\$6.47/12+
HK26	MINI, 22 LBS, 1/8"	188.52	179.09/2+
HK27	MEDIUM, 8.8 OZ, 3/16"	6.87	6.47/12+
HK28	MEDIUM 22 LBS, 3/16"	188.52	179.09/2+
HK29	LARGE, 8.8 OZ, 5/16"	6.87	6.47/12+
HK30	LARGE, 22 LBS, 5/16"	188.52	179.09/2+



HK25



### MICRO PELLETS® FOOD

Specially formulated for tetras, barbs and other small tropical fish. Contains a high level of protein (min 42%), vitamins and nutrients that are encapsulated in the pellets. Extremely small pellet size (<1 mm) makes it excellent for small tetras and larval fish.

MODEL		EACH	6+
HK40	1 KG	\$69.59	\$66.04



Grams x .0353 = oz

Grams x .0022 = lbs

### ALGAE WAFERS FOOD

Specially formulated for tetras, barbs and other small tropical fish. Contains a high level of protein (min 42%), vitamins and nutrients that are encapsulated in the pellets. Extremely small pellet size (<1 mm) makes it excellent for small tetras and larval fish.

MODEL		EACH	12+
HK35	250 G	\$13.28	\$12.46/12+
HK36	1 KG	41.34	39.02/6+



HK35

Fancy Guppy®, Micro Pellets® Hikari® and Cichlid Gold® are registered trademarks and/or trademarks of Kyorin Co., Ltd.

### CICHLID STAPLE

This cichlid food is specially designed as an economical daily food for most species of cichlids. Fortified with vitamins and minerals, it is formulated to provide complete balanced nutrition. Available in two pellet sizes. Pellets float and will not make water cloudy.

MODEL		EACH	2+
HK20	MINI, 22 LBS, 1/8"	\$111.31	\$105.74
HK22	MEDIUM, 22 LBS, 3/16"	111.31	105.74



HK20



### TECH TALK 17

#### Fish Food

The cost of fish food can represent 30 to 90% of the total cost of raising fish! In some situations (like indoor culture), feed must provide 100% of the complex nutritional requirements fish need. A less-than-complete diet will show up as poor feeding response, slow growth and/or disease problems. Poor water quality can also be caused by bad feed.

All feed should be used within the normal 6-month shelf life. Do not overfeed. In general, give fish a little less than they will eat (stop feeding them before they stop feeding).

**O.S.I.® AQUARIUM FOODS**

- Premium tested formulations.
- Promotes rapid growth, high survival rates.
- High levels of natural color enhancers.

Ocean Stars International (O.S.I.®) has been supplying food products for the aquarium and aquaculture markets for over a decade. Backed by extensive research and development, O.S.I.'s wide range of flake and pellet foods has been formulated with exceptional nutritional advantages. All of the foods contain predigested ingredients for high nutrient absorption as well as natural color enhancers, feeding attractants and vitamins.



20031



20035



6029



20032

**TETRACOLOR® FOOD**

Originally formulated as a complete discus diet, this granulated food will enhance color, increase growth and stimulate feeding. It is excellent for feeding midwater fish like catfish and cichlids. Not for sale outside of US.

MODEL		EACH	6+
16262	10.5 OZ	\$13.10	\$12.05



**TETRAMIN® FLAKES**

TetraMin can be used to feed almost any freshwater fish. It is formulated with over 40 special ingredients and is very nutritious. The 5.6-oz size has extra-large flakes.

		EACH	6+
16155	5.6 OZ	\$11.52	\$10.65
16106	7.0 OZ	13.87	13.11
16623	4.5 LBS	62.75	58.35



16155



16623

**TETRA® JUMBOKRILL**

Large pacific krill that is vitamin enriched and excellent for feeding large fish or mixing with foods. Rich in astaxanthin, it improves color and growth.

MODEL		EACH	6+
16200	14 OZ	\$44.71	\$40.24



**VITA FISH™ VITAMIN COMPLEX**

Created for marine fish, corals and invertebrates, Vita Fish™ is a highly concentrated vitamin complex containing 10 essential vitamins. It is highly soluble, easily absorbed and can be used as a food additive to enhance the nutritional quality of dry or live food. Dosage rate is 2 drops per gallon.

MODEL		EACH
VF641	1 GALLON	\$84.29

Vita Fish™ is a trademark of Marine Enterprises International, LLC.



MODEL		EACH	
20031-AQ	FRESHWATER FLAKES, 2.2 LBS	\$35.83	\$32.25/6+
20033-AQ	MARINE FLAKES, 2.2 LBS	34.90	31.41/6+
20075	SPIRULINA FLAKES, 7 OZ	12.50	11.25/12+
20035-AQ	SPIRULINA FLAKES, 2.2 LBS	51.47	46.32/6+
6029	CICHLID FLAKES, 2.2 LBS	33.08	29.77/6+
20032-AQ	GOLDFISH FLAKES, 2.2 LBS	29.83	26.85/6+

O.S.I.® is a registered trademark of Ocean Star International.

### OTOHIME LARVAL FEEDS

#### Compare to BioKyowa!

Otohime larval feeds are specially formulated in Japan to meet the needs of marine fish. They have been used in both ornamental and food fish hatcheries around the world. Available in slow-sinking pellet sizes of 200 microns to 2.3 mm. Krill, fish and squid meal are the main protein sources, making it a nutritious diet. *These items cannot be sold to customers in Canada.*

MODEL		EACH
<b>T2360</b>	B1 DIET, 200-360 MICRONS, 4.4 LBS	<b>\$54.24</b>
<b>T2620</b>	B2 DIET, 360-620 MICRONS, 4.4 LBS	<b>59.90</b>
<b>T2920</b>	C1 DIET, 620-920 MICRONS, 4.4 LBS	<b>49.05</b>
<b>T2940</b>	C2 DIET, 920-1,410 MICRONS, 4.4 LBS	<b>45.60</b>
<b>T3115</b>	EP1 DIET, 1.5 MM, 22 LBS	<b>92.18</b>
<b>T3315</b>	EP2 DIET, 2.3 MM, 44 LBS	<b>159.43</b>



### ZEIGLER® LARVAL AP100 DIET

Larval diet consists of very fine, granulated microcapsules scientifically formulated to feed fish and shrimp during larval and postlarval stages. It has been used to successfully raise larvae of penaeid shrimp, trout, koi, catfish, lobster, shiners, many game fish and tropical fish. The formula consists of a highly digestible mixture of marine and animal proteins, vegetable protein, yeast, vegetable starches, fish and vegetable oils, vitamin and mineral premixes, pigments, antioxidants and biodegradable binders. Minimum protein content 50%. Sold in 500-gram (1.1 lb) cans with a 12-month shelf life. Includes Vpak® supplements to enhance disease resistance.

MODEL	LARVAL STAGE	EACH	4+
<b>LD50-AQ</b>	<50 MICRONS ZOE A1 TO ZOE A3	<b>\$44.04</b>	<b>\$41.43</b>
<b>LD100</b>	<100 MICRONS ZOE A3 TO MY S1 S3	<b>40.00</b>	<b>37.63</b>
<b>LD150</b>	100-150 MICRONS MY S1 TO PL 2-3	<b>33.21</b>	<b>31.25</b>
<b>LD250</b>	150-250 MICRONS PL 1 TO PL 6	<b>28.27</b>	<b>26.64</b>
<b>LD400</b>	250-400 MICRONS PL 3-4 TO PL 8	<b>23.54</b>	<b>22.14</b>



Zeigler® is a registered trademark of Zeigler Bros., Inc. Vpak® is a registered trademark of Dr.'s Wellcare Corp. Vita-Chem® is a registered trademark of Aquatic Futures LLC.

### BIO-PURE® FREEZE-DRIED FOOD

Excellent for many species of fish, Hikari® foods benefit from a pharmaceutical grade freeze-drying technique that preserves the nutrition and palatability commonly lost in freeze-dried foods. Enriched with vitamins and free of parasites and bacteria.

MODEL		EACH	6+
<b>33201</b>	BLOOD WORMS, 0.42 OZ	<b>\$5.99</b>	<b>\$5.19</b>

BIO-Pure® is a registered trademark of Kyorin Group (China) Ltd. Hikari® is a registered trademark of Kyorin Co., Ltd.



### VITA-CHEM® ADDITIVE

A prestabilized, multivitamin additive that is water and tissue soluble, ideal for closed systems. It contains many natural extracts that are lost in prepackaged foods. It is a great additive for fin regeneration and preventing lateral line disease in marine fish.

MODEL		EACH
<b>16709</b>	SALTWATER, 16 OZ	<b>\$28.27</b>
<b>16716</b>	SALTWATER, 1 GALLON	<b>178.03</b>
<b>16710</b>	FRESHWATER, 16 OZ	<b>28.27</b>
<b>16715</b>	FRESHWATER, 1 GALLON	<b>178.03</b>



**KOI FOODS**

We believe Hikari® food is one of the best names in the business. Koi have been eating Hikari food for over 100 years! We buy direct to give you the freshest food at the best price. Made in Japan. Wheat germ is 30% protein.

**Staple™ Food:** Good for all-around general feeding. Includes all the premium nutrition your goldfish or koi need to grow strong. 35% protein.

**Economy Food:** A basic, well-balanced, nutritional diet high in Vitamin C. 32% protein.

**Excel™ Food:** A specially prepared, floating color enhancer. A mixture of highly nutritious wheat germ and pure cultured Spirulina. 35% protein.

**Hi-Growth™ Food:** Promotes fast and healthy koi growth. Floating. 34% protein.

**Wheat Germ Food:** Great choice for the cooler months. Helps prevent indigestion and improves resistance to stress and disease. Floating pellets are high in vitamins C and E and will not cloud water. 32% protein, 4% fat, 4% fiber.

**Gold™ Food:** A daily diet developed to meet the nutritional needs of koi while providing outstanding color enhancement. 40% protein.

MODEL		PELLET SIZE	EACH	4+
HK11	STAPLE, 4.4 LBS	1/8"	\$27.48	\$25.83
HK282	STAPLE, 11 LBS	1/8"	59.99	56.39
HK289	STAPLE, 22 LBS	1/8"	119.99	103.85
HK12	STAPLE, 4.4 LBS	3/16"	27.48	25.83
HK1	STAPLE, 22 LBS	3/16"	104.99	98.69
HK13	STAPLE, 4.4 LBS	5/16"	28.99	25.83
HK14	STAPLE, 11 LBS	5/16"	59.99	56.39
HK489	STAPLE, 22 LBS	5/16"	97.99	92.11
HK8	WHEAT GERM, 5 LBS	1/8"	34.29	31.88
HK16	WHEAT GERM, 4.4 LBS	3/16"	34.29	31.60
HK10	WHEAT GERM, 11 LBS	3/16"	72.49	68.14
HK17	WHEAT GERM, 11 LBS	5/16"	72.49	71.82
HK9	WHEAT GERM, 33 LBS	5/16"	177.99	167.63
HK3	EXCEL, 11 LBS	3/16"	144.99	134.90
HK4	HI-GROWTH, 4.4 LBS	5/16"	53.99	50.75
HK5	ECONOMY, 8.8 LBS	5/16"	33.49	31.48
HK224	GOLD, 17.6 OZ	1/8"	12.99	—
HK228	GOLD, 11 LBS	1/8"	95.99	90.23



**CONSTANT FLOW TECHNOLOGY™ SAVINGS CALCULATOR**

YOU SET THE FLOW RATE,  
CFT DELIVERS THE SAVINGS

[PentairAES.com/cft-calculator](http://PentairAES.com/cft-calculator)

**Information**

**Operational Characteristics**

System Size: 2500 Gpd

Flow Per Hour: 10

Flow Per Day: 240 Turns/Day

Weight Flow Rate: 418.7 GPM

Operational Per Year: 365 Days

Control Distance: 0.20

Number of Turns: 10

**Hydraulic and Head Loss Characteristics**

Head Pressure Loss: 3.19

Flow Rate: 10

Head Loss (feet): 2.19

Flow Rate (GPM): 10

Head Loss (feet): 2.19

Control Distance: 0.20

Number of Turns: 10

Flow Rate: 10

Head Loss (feet): 2.19

**Results**

	Standard Pump	Series Pump with Constant Flow Technology
Power Demand	351.0 W	27.28 W
Energy Per Day	792.0 kWh/Day	412.8 kWh/Day
Cost Per Day	16.20 \$/Day	7.26 \$/Day
Energy Per Year	287,160 kWh/Year	150,816 kWh/Year
Cost Per Year	57,432 \$/Year	30,163 \$/Year

**Savings Summary**

Savings Per Day	Per Pump	Total
Energy Per Day	419.2 kWh/Day	79.2 kWh/Day
Savings Per Day	10.8 \$/Day	21.94 \$/Day

Savings Per Year	Per Pump	Total
Energy Per Year	153,012 kWh/Year	29,827.2 kWh/Year
Savings Per Year	39,504 \$/Year	7,985.76 \$/Year

**Reduction in Annual Energy Cost: 1.09%**

**Savings Per Year: \$5,817**



### ◀ BABY KOI STARTER KIT

We get numerous calls regarding what to feed newly hatched baby koi. We asked our resident expert for his custom blends and put together a group of foods designed to help babies flourish during the critical period. The kit contains enough food to grow approximately 1,000 fish up to 2" in size. Detailed instructions and secrets included. You will need a small aquarium air pump for the live food portion.

MODEL		EACH
6339	BABY KOI STARTER KIT	\$73.84
SA2	AIR PUMP	15.53



### ◀ SAKI-HIKARI™ KOI FOOD

Choose from three kinds of professional koi food specifically designed for show-grade competition koi. Each contains a unique, beneficial set of bacteria that protects against infection, improves digestion and reduces waste up to 40%. Color-Enhancing diet has pure-cultured *Spirulina* and high levels of zeaxanthin to promote bright red areas on koi without affecting the color of white areas. Growth diet has a mix of fats and nutritional components to help koi grow to competition size. Multi-Season diet is made up of easily digested ingredients, including wheat-germ kernel, for steady growth even when water temperatures are cooler (below 58°F/15°C). All Saki-Hikari koi food will float.

MODEL		EACH
42204-AQ	COLOR-ENHANCING, 4.4 LBS	\$54.16
42208-AQ	COLOR-ENHANCING, 33 LBS	297.91
42284	GROWTH, 4.4 LBSW	54.61
42288	GROWTH, 33 LBS	272.11
42364	MULTI-SEASON, 4.4 LBS	61.09
42368	MULTI-SEASON, 33 LBS	331.42

Hikari®, Staple™, Economy™, Excel™, Wheat Germ™, Gold™ and Saki-Hikari™ are registered trademarks and/or trademarks of Kyorin Co., Ltd.

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SEE THE EQUIPMENT



VISIT THE MONITORING LAB



GET EDUCATED

- Interactive tour inside the building
- Comprehensive equipment listings
- Real-time monitoring statistics
- Complete system descriptions



MODEL		EACH	
ZBS5-1	5 LBS (2.3 KG)	\$30.52	\$27.47/4+
ZBS20-1	20 LBS (9 KG)	77.06	73.21/2+



ZBS5-1

### ◀ KOI FOOD, SINKING

Now you can feed your koi the way they naturally feed using this sinking koi food, available only from Pentair Aquatic Eco-Systems. This koi food contains high-quality ingredients and is great for everyday use. Convenient 5-lb odorless, polyester film, reusable, resealable bags can be kept fresh by freezing until needed, so buy in quantity for a discount.

Natural Choice koi food contains a minimum of 36% protein, minimum of 5% fat and maximum of 4% crude fiber. Made in USA. Bag contains oxygen-absorbing packet to maximize freshness.

### ▶ BLACKWATER MAX COLOR KOI FOOD

Now your fish can have the best chance at fast growth and superb color.

We've negotiated a deal with one of America's top koi farms to offer this custom blend to you. It's loaded with krill, *Spirulina*, extra vitamins, minerals and other ocean products.

Simply giving this food to your fish for 6-10 weeks will help them become their best. Content: 38% protein, 6% fat. Great for other ornamental fish varieties as well! 5- and 12.8-lb bags are packaged in stay-fresh, resealable bags. Use spring through fall. 3-mm floating pellets suitable for fish over 5".



BW251

MODEL		EACH	
BW251	5 LBS	\$17.60	\$16.72/4+
BW252A	12.8 LBS	35.60	32.04/4+
BW253	20 LBS	57.67	54.79/2+
BW254	40 LBS	88.50	84.08/2+

MODEL		EACH	
BWCS5	5 LBS	\$21.15	\$19.04/4+
BWCS40	40 LBS	101.50	96.43/2+



BWCS5

BWCS40

### ▶ BLACKWATER COOL SEASON

In cooler temperatures a fish's metabolism slows, making digestion more difficult. Cool Season is a wheat germ-based formula blended to be easily digested when water temperature below 60°F (16°C). Use all year long if you want. Feed in the spring to help prevent "egg-bound" females. 32% protein, 4% fat, 4% fiber. 3-mm floating pellets.

### ▶ BLACKWATER MAX GROWTH KOI FOOD

Now you can feed your koi the same diet the professionals do. Food is 38% protein, 6% fat and fishmeal-based. Available in medium (3 mm) and large (7.8 mm) floating pellets. 5- and 12.8-lb sizes are packaged in a resealable, stay-fresh foil bag. Use for other ornamental fish as well.



BW257

BW42A

MODEL		EACH	
BW255	5 LBS, 3 MM	\$18.13	\$16.32/4+
BW256A	12.8 LBS, 3 MM	35.60	32.04/4+
BW257	20 LBS, 3 MM	48.52	46.09/2+
BW258	40 LBS, 3 MM	88.50	84.08/2+
BW42A	12.8 LBS, 7.8 MM	35.60	32.04/4+
BW43	20 LBS, 7.8 MM	48.52	46.09/2+
BW44	40 LBS, 7.8 MM	88.50	84.08/2+



**MEDICATED KOI/GOLDFISH FOOD** CHEMICAL Waiver Form Required

This food contains all the nutrients needed to help ornamental fish heal quickly. Contains four antibiotics and may help heal ulcers. Available in 1-, 5- and 10-lb bags. Must be fed continuously for 10 days. For use on ornamental and nonfood fish not intended for human consumption. Chemical waiver form required. 3-mm sinking pellet.

MODEL		EACH
6441	1 LB	\$15.84
6445	5 LBS	44.51
6449	10 LBS	63.20



**BLACKWATER GOLD-N PROFESSIONAL KOI AND GOLDFISH FOOD**

Bring your fish into top condition

Serious koi collections deserve serious koi food. Blackwater GOLD-N was developed to improve nutrient uptake, therefore increasing growth and luster. This diet combines the best ingredients—fishmeal, seaweed and wheat flour—with many other specialized ingredients, including beneficial bacteria to aid digestion. Made fresh in the USA. 40% protein, 10% fat.

MODEL		EACH
BWG88	8.8 LBS	\$57.72
BWG40	40 LBS	173.68



**DENSE CULTURE FOOD**

Tanks • Raceways • Cages

We offer four styles of dense culture food. Each one contains fishmeal, poultry meal, blood meal and fish oil. Each can be fed to a wide variety of fish including catfish, tilapia, trout, salmon, hybrid striped bass and other cold and warmwater species.

**F2A** is a 50% protein sinking feed, an excellent starter feed for juveniles. **F2C** is a 41% protein, 3/16" floating pellet that works well for sub-adult fish in tanks or ponds. **F2E** is the same formulation as **F2C** but is a 7/32" floating pellet. **F2G** is a 3/16" floating pellet with 36% protein and a better choice for pond fish and larger tilapia.

All of the dense culture foods are made by the extrusion method. The extrusion method improves digestibility with less protein degradation. Ascorbic acid (a stabilized form of vitamin C) is added to all. Keep in mind that pellet sizes can vary by as much as 1/16". If you are unsure of the right size, order smaller rather than larger. Contains oxygen-absorbing packet to maximize freshness.



**YUMMY TREATS**

Floating treats made with fresh ingredients and super food pellets to enhance growth and color. Contain shrimp (krill), carrots, broccoli, green peppers, bloodworms and apples. A great way to encourage hand feeding and a fine source of nutrition for your koi.

MODEL	EACH
KOYUM	\$13.47



MODEL		MIN PROTEIN %	PELLET SIZE (IN)	PELLET SIZE (MM)	FEED TYPE	EACH
F2A	5 LBS	50	1/16	1.6	SINKING	\$15.61
F2B	50 LBS	50	1/16	1.6	SINKING	85.42
F2C	5 LBS	41	3/16	4.8	FLOATING	14.82
F2D	50 LBS	41	3/16	4.8	FLOATING	57.50
F2E	5 LBS	41	7/32	7.1	FLOATING	15.07
F2F	50 LBS	41	7/32	7.1	FLOATING	58.07
F2G	5 LBS	36	3/16	4.8	FLOATING	13.98
F2H	50 LBS	36	3/16	4.8	FLOATING	48.36

**TECHNICIAN PROFILE**



**Ryan Kilmartin**

Ryan graduated from the University of Rhode Island with a B.S. in aquaculture and fishery technology. He worked for the university, maintaining a number of small fresh and saltwater recirculation and flow-through systems of larval and adult finfish. He also works with zoo and aquarium facilities.



### ◀ ZEIGLER® KOI FOODS

Nutritionally complete diets for koi and goldfish that float. Marine proteins increase palatability, digestibility and reduce waste. Nutrient-dense pellets contain stable vitamin C and brewer's yeast for healthy gill, fin and tissue development. Koi Fancier is formulated for color enhancing. Pond Fancier with wheat germ is nutrient-dense for all pond fish and is the choice for koi during colder weather. Nitrogen flushed to preserve freshness. All contain Vpak® additives to increase your koi's resistance to disease.

MODEL		EACH	
<b>K100-AQ</b>	KOI FANCIER, 5 MM, 5 LBS	<b>\$15.37</b>	<b>\$13.83/4+</b>
<b>K106</b>	KOI FANCIER, 5 MM, 33 LBS	<b>72.92</b>	<b>65.63/2+</b>
<b>K104</b>	POND FANCIER, 5 MM, 5 LBS	<b>14.82</b>	<b>13.34/4+</b>
<b>K108</b>	POND FANCIER, 5 MM, 33 LBS	<b>50.33</b>	<b>45.30/2+</b>

Zeigler® is a registered trademark of Zeigler Bros., Inc. Vpak® is a registered trademark of Dr.'s Wellcare Corp.

### ZEIGLER® AQUA STAB-L FOOD FW SW

A special diet for both freshwater and saltwater fish

It contains high levels of protein (40% minimum), vitamins and minerals together with various preservatives and stabilizers that protect the feed against microbial degradation after being placed in the water.

Aqua Stab-L is a 3/8" sinking pellet with excellent water stability. After wetting, it has a soft, doughy consistency which is ideal for incorporating hormones and medications. Typically used for bottom feeders, as bait in tropical fish and baitfish traps and for attracting fish for harvest and sampling.

Sold in 5- and 44-lb (2.2 and 20 kg) bags. Made in USA. Held in cold storage. Oxygen absorbing packet keeps food fresh.

MODEL		EACH	4+
<b>AM5</b>	5 LBS	<b>\$16.00</b>	<b>\$15.20</b>
<b>AM50</b>	44 LBS	<b>80.00</b>	<b>75.43</b>



### ◀ ZEIGLER® FINFISH STARTER FOOD AND TREATMENT

Finfish Starter Food is a slow-sinking diet with the higher vitamin levels required for early development. It has a great emphasis on marine ingredient sources for increased digestibility and energy utilization.

Carotenoid pigments enhance growth in early stages. Low nitrogen and phosphorous levels reduce nutrient discharge in effluent. Meets FDA requirements regarding restrictions on mammalian protein sources (**ZM1-ZC4** = 55% min; **ZP1-ZP3** = 50% min). Contains Vpak® to improve survivability. Oxygen-absorbing packet included. Guaranteed analysis: 15% min fat, 2% max fiber, 12% max moisture, 8% max ash.

EZ Bio is a biological aquaculture treatment for hatcheries that combats pathogenic bacteria. This environmentally friendly formula is an easy way to improve your fish's health and make them more stress-resistant. 5-gram scoop of quick-dissolving powder treats up to 3 metric tons. 400-g bag.

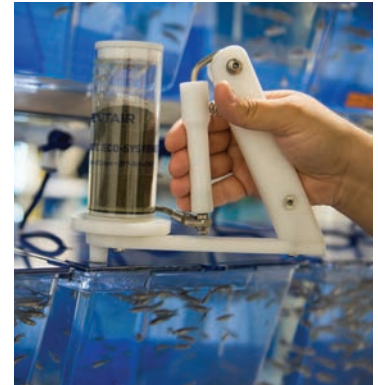
MODEL			DIAMETER	EACH	
<b>ZM1</b>	5 LBS	MEAL	.4-.6 MM	<b>\$14.97</b>	<b>\$12.82/4+</b>
<b>ZM2</b>	44 LBS	MEAL	.4-.6 MM	<b>118.24</b>	<b>101.19/2+</b>
<b>ZC1</b>	5 LBS	#1 CRUMBLE	.6-.85 MM	<b>14.97</b>	<b>12.82/4+</b>
<b>ZC2</b>	44 LBS	#1 CRUMBLE	.6-.85 MM	<b>118.24</b>	<b>101.19/2+</b>
<b>ZC3</b>	5 LBS	#2 CRUMBLE	.85-1.2 MM	<b>14.97</b>	<b>12.82/4+</b>
<b>ZC4</b>	44 LBS	#2 CRUMBLE	.85-1.2 MM	<b>118.24</b>	<b>101.19/2+</b>
<b>ZP1</b>	5 LBS	PELLET, SLOW SINKING	1.5 MM	<b>13.49</b>	<b>12.82/4+</b>
<b>ZP2</b>	44 LBS	PELLET, SLOW SINKING	1.5 MM	<b>73.76</b>	<b>61.85/2+</b>
<b>ZP3</b>	44 LBS	PELLET, SLOW SINKING	2 MM	<b>73.76</b>	<b>61.85/2+</b>
<b>EZB400</b>	EZ BIO	AQUACULTURE TREATMENT		<b>39.67</b>	<b>—</b>

**HANDHELD GRANULAR FEED DISPENSER** **NEW!**

This hand-held, manually operated, granular feed dispenser is ideal for feeding fish housed in multi-tank, multi-tier, rack housing systems. Simply squeeze the spring loaded handle and the food will dispense quickly, accurately, and efficiently in consistent doses every time with minimal fatigue to the operator. This feeder is constructed of food grade acetal with stainless steel hardware to prevent corrosion. Only for use with dry, granular feed. Clear acrylic food canister holds 165 cubic cm of dry feed and is easy to refill. Includes two food dispensing discs (small disc dispenses 0.2 cubic cm per pull and large disc dispenses 0.4 cubic cm per pull). One-year warranty.

- Simple, single-hand operation for ease of use
- Dispenses consistent doses of food rapidly
- Easy to clean or change food dispensing discs
- Dish washer safe

MODEL		SHIP WT (LBS)	EACH
AH20	HANDHELD GRANULAR FEED DISPENSER	1.0	\$175.00



The AH20 in use at PAES W.A.T.E.R.



**3-YEAR WARRANTY**



**POND FEEDER**

Once-a-day feeder for small ponds

Flake food or pellets are dispensed slowly over several hours each day (adjustable quantity and feeding time). This feeder can hold close to 2 cups (approximately 200 grams) of food. Fully weatherproof, it can be mounted on a pole by the edge of the water or suspended over the water. One AA battery (included) required for quartz-timed motor. Measures 6 3/4" x 3 3/4" x 7 1/4". Three-year warranty.

MODEL	EACH	4+
PF21	\$45.75	\$42.05

**SEAVEGGIES CLIPS**

This unique plastic clip is used to securely hold marine algae, spinach or other leafy foods for herbivorous fish. The large suction cup attaches the clip easily and holds firmly to aquarium glass. Unlike other clips, it has no metal parts and floats if it becomes detached from the tank wall.

MODEL	EACH
SVC	\$2.05



**CLIP SHOWN HOLDING A PIECE OF SEAWEED.**



**4-WAY CONE WORM FEEDER**

Use with live worms or flake foods

The 4-Way Cone Worm Feeder dispenses live or frozen worms or brine shrimp and reduces build-up on bottom of aquarium. It is made up of three separate pieces: A floating ring, a cone worm feeder, and a suction cup. Made of a soft, flexible, break-resistant plastic. The floating ring may be used to provide dry flake food while floating on the surface or, when used in conjunction with the suction cup, it may be attached to the side wall of the aquarium to restrict feeding to a certain area. In addition, when inserting the cone, it may be used as a free-floating or confined worm feeder.

MODEL		EACH
10526	4-WAY FEEDER	1.99



10526

## DIRECTIONAL FISH FEEDERS

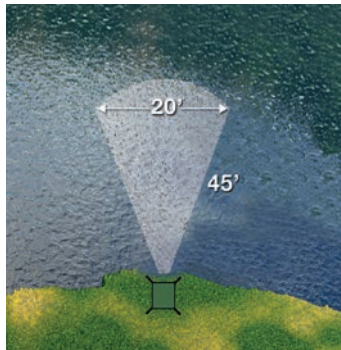
**Aquatic Xtreme Fish Feeder®** utilizes a high-velocity, centrifugal air blower system. Feed pellets are projected in a wedge-shaped feed pattern approximately 45-feet in length by 20-feet in width, without dropping feed within 5-feet of the feeder. Includes digital timer and 12V, 7amp rechargeable battery. Galvanized or powder-coated green finish. Made in USA.

**Digital Timer** is easy to set and reliable. It controls a dual motor system that delivers the flow of feed that is introduced into the air blower system. Includes built-in battery tester, large easy-to-read display and special coating for extreme temperature and weather protection. Pre-wired for optional solar charger. Timer has 5-Year Limited Warranty.

**2-Watt Optional Solar Charger** utilizes the sun's energy and extends the battery life and maintains charge. Built-in protection prevents battery power drainage. Installs on any side of the feeder and connects directly to the timer.

### Key Features

- Includes Digital Timer and 12V Rechargeable Battery
- Feeds: 1 - 9 times/day, Run Time: 1 - 60 seconds/feeding
- Two feed-level sight gauges
- Low Profile Design for Easy Filling.
- Removable side panel for quick access to blower system
- Straight legs for piers & docks; Adjustable legs for sloping pond banks
- Galvanized Steel Hopper with Powder-Coated finish for rust resistance.
- Easy Lockable Access Door protects timer and battery from elements.
- Dual motor blower design



Feed pattern.



Digital Timer



Green Finish, Adjustable Legs,  
Optional Solar Charger



Galvanized Finish, Straight Legs,  
Optional Solar Charger



Galvanized Finish, Adjustable Legs,  
Optional Solar Charger



AX70DLG mounted on dock.

CAPACITY FLOATING FISH FEED (LBS)	SINKING FISH PELLETS (LBS)	LEG TYPE	DIMENSIONS (FEEDER ONLY) L x W x H	SHIP WT (LBS)	GALVANIZED FINISH		GREEN FINISH	
					MODEL	EACH	MODEL	EACH
70	90	ADJUSTABLE	20" X 22" X 40"	100	<b>AX70AL</b>	<b>\$699.00</b>	<b>AX70ALG</b>	<b>\$699.00</b>
70	90	STRAIGHT	20" X 22" X 40"	91	<b>AX70DL</b>	<b>699.00</b>	<b>AX70DLG</b>	<b>699.00</b>
215	320	ADJUSTABLE	28" X 28" X 51"	154	<b>AX215AL</b>	<b>849.00</b>	<b>AX215ALG</b>	<b>849.00</b>
215	320	STRAIGHT	28" X 28" X 51"	145	<b>AX215DL</b>	<b>849.00</b>	<b>AX215DLG</b>	<b>849.00</b>
OPTIONAL SOLAR CHARGER				3	<b>AX2W*</b>	<b>79.00</b>	<b>AX2WG**</b>	<b>79.00</b>

\*Black mounting bracket. \*\*Green mounting bracket.

### Replacement Parts

MODEL		SHIP WT (LBS)	EACH
<b>AX12</b>	DIGITAL TIMER	1	<b>\$149.00</b>
<b>BT12HARB</b>	12V RECHARGEABLE BATTERY	5.5	<b>22.00</b>

Aquatic Xtreme Fish Feeders® is a registered trademark of SSI Investments I, LTD.

Online Orders: [PentairAES.com](http://PentairAES.com) | Phone Orders and Tech Advice: 877.347.4788

## BELT FEEDERS

These belt feeders slowly dispense almost any dry medication, chemical or feed over a 12- or 24-hour period. If shorter length or intermittent feeding is desired, the conveyor belt can be pulled back halfway or feed can be spaced on the belt. These feeders will reduce labor costs and improve growth rates.

Housed in a weatherproof case and powered by a spring-wound stainless steel clock mechanism.

Feature corrosion-resistant clocks. All clocks are extremely durable and are made in Germany.

Setting the feeders is as easy as lifting the lid, pulling back the belt and loading the feed. Repair parts are available and repairs can be made easily on site. One-year warranty.

- No electric power required
- Weather-resistant cover
- Thick belts
- Clear clock cover w/ gasket



BFS24

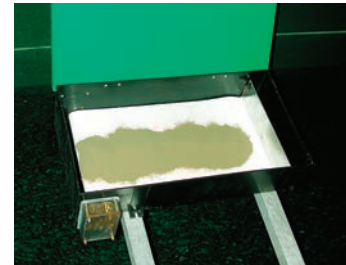
### Belt Feeders

MODEL		DISPENSE AMOUNT (LBS)	DIMENSIONS* L X W X H (IN.)	SHIP WT. (LBS)	EACH
<b>BFS12A</b>	12-HR BABY BELT FEEDER	5	21 <sup>7</sup> / <sub>8</sub> X 11 <sup>1</sup> / <sub>2</sub> X 6	6	<b>\$219.00</b>
<b>BFS12</b>	12-HR BELT FEEDER	10	21 <sup>7</sup> / <sub>8</sub> X 11 <sup>1</sup> / <sub>2</sub> X 6	8	<b>259.00</b>
<b>BFS24A</b>	24-HR BABY BELT FEEDER	5	27 <sup>7</sup> / <sub>8</sub> X 15 X 6	6	<b>219.00</b>
<b>BFS24</b>	24-HR BELT FEEDER	10	27 <sup>7</sup> / <sub>8</sub> X 15 X 6	8	<b>259.00</b>

### Replacement Parts

MODEL		SHIP WT. (LBS)	EACH
<b>BFS12RC</b>	12-HR CLOCK FOR MODELS BFS12A AND BFS12	1	<b>\$79.00</b>
<b>BFS24RC</b>	24-HR CLOCK FOR MODELS BFS24A AND BFS24	1	<b>79.00</b>
<b>4420</b>	CLOCK COVER, CLEAR		<b>13.73</b>
<b>4350SS</b>	STAINLESS STEEL MAINSPRING		<b>17.42</b>
<b>4430</b>	MAINSRING COVER, BLACK		<b>13.73</b>
<b>4398</b>	BABY BELT KIT (INCLUDES BELT,SHAFT,BRACKET,WIPERS)		<b>47.95</b>
<b>4399</b>	LARGE BELT KIT (INCLUDES BELT,SHAFT,BRACKET,WIPERS)		<b>59.95</b>

\* Clock and S-ring are included in width.



Champagne Feeder With Solar Charger

Red Feeder With Solar Charger

Green Feeder With Solar Charger

**2-YEAR WARRANTY**

## KOI FEEDERS

The Sweeney Koi Café is the ideal automatic fish feeder for your Koi pond, backyard water garden, grow-out tanks and outdoor ponds for smaller, ornamental fish. Special design helps prevent moisture from getting into the primary food supply and the hopper allows for long refill intervals. Select from red, green or champagne finishes. Add an optional solar charger and enjoy years of continuous performance without interruption.

- Adjustable feed flow lever to determine number of seconds per feeding
- Digital timer can feed up to 8 times per day and up to 59 seconds duration
- Built-in sight-gage to check on feed level
- Holds 10 lbs. of standard Koi food
- Equipped with 6 Volt rechargeable battery

	RED	MODELS GREEN	CHAMPAGNE	EACH
KOI CAFÉ FEEDER	<b>SF36R</b>	<b>SF36G</b>	<b>SF36C</b>	<b>\$219.00</b>
OPTIONAL SOLAR CHARGER	<b>SX61-R</b>	<b>SX61-G</b>	<b>SX61-C</b>	<b>95.00</b>
REPLACEMENT 6V BATTERY (MODEL <b>BT626</b> )				<b>29.00</b>

## VIBRATORY FEEDERS

Benefit from highly accurate feeding rates and times with these vibratory feeders from Pentair AES. They easily handle almost all different feed types (even extremely fine and moist feeds) and they are resistant to clogging from even the oiliest feeds. Perfect for applications where multiple accurate feedings per day would otherwise require a lot of manpower, such as in a hatchery.

For each feeder, use a 12VDC adapter such as the **SF50** for 115VAC operation. You will also need a timer. We suggest either **SF44** for 115V, **SF41** for 12V. One timer can be used for up to 13 feeders (all connected feeders will feed at once). One-year warranty.

MODEL	CAPACITY (LITERS)	DIA	H	EACH	4+
<b>AVF6</b>	0.5	5½"	9"	<b>\$109.00</b>	<b>\$98.10</b>
<b>AVF7</b>	1.75	7½"	12"	<b>169.00</b>	<b>152.10</b>
<b>AVF8</b>	3.0	9"	12¾"	<b>199.00</b>	<b>179.10</b>
<b>REPL. VIBRATORY MOTOR AND PLATE</b>					
<b>AVF6RP</b>	FOR AVF6			<b>69.00</b>	<b>62.10</b>
<b>AVF7RP</b>	FOR AVF7			<b>79.00</b>	<b>71.10</b>
<b>AVF8RP</b>	FOR AVF8			<b>99.00</b>	<b>89.10</b>

## TYPICAL INSTALLATION FOR VIBRATORY FEEDERS

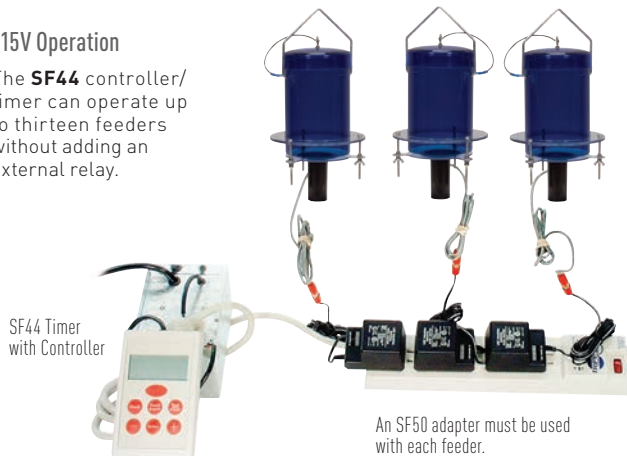
### 6/12V Operation

The **SF41** timer can operate up to thirteen feeders without adding an external relay.



### 115V Operation

The **SF44** controller/timer can operate up to thirteen feeders without adding an external relay.



## TECH TALK 21

### Hand vs Automatic Feeding

#### Hand or automatic feeding ... which is better?

Automatic feeders save time. All business people know time is money. Most fish farmers are in short supply of both. The manual labor involved in feeding your fish every day by hand may seem small but over the period of a year can easily equate to thousands of dollars in man-hours.

For example, an operation with 10 tanks, feeding 3 times a day for 3 minutes per tank, at \$7 an hour will cost you \$10.50 per day in manual labor.

$$\frac{\text{(# of Tanks)}}{\text{(# of Tanks)}} \times \frac{\text{(# Feedings/Day)}}{\text{(# Feedings/Day)}} \times \frac{\text{(Min/Tank)}}{\text{(Min/Tank)}} \times \frac{\text{(Cost/Hr)}}{\text{(Cost/Hr)}} = \frac{\text{Cost/Day}}{\text{Cost/Day}}$$

Automatic feeders require only a minimal amount of manual labor, including weekly filling of the hopper and resetting feeding rates (and recharging batteries if not tied into a central power source). An estimate for this maintenance is 15 minutes per week/per feeder. That equals \$2.80 a day in labor.

Manual Labor	Automatic Feeders	Savings
\$10.50/day	\$2.80/day	\$7.70/day
315.00/month	84.00/month	231.00/month
3,780.00/year	1,008.00/year	2,772.00/year

### You can buy a lot of automatic feeders for \$2,772!

Automatic feeders allow feedings to be tailored to the biological clock of each species. They are ideal for the multiple feedings required when raising fry. Implementing a schedule of several feedings spread throughout the day may help to cut down on size variance of the fish, improve feed conversion ratios and level the load on the biofilter.

**FEEDER CONTROLLERS** ✓ DESIGNED HERE

For single or multiple feeders. Easy to use, preassembled, extremely economical. These lightweight feeder controllers feature a reliable timer. Available in two models, each designed to handle:

The controller is set to handle up to four feeders; however, the optional "Y" cable expands the capability to eight feeders (four "Y" cables would be required for eight feeders). The timer features safe 12V operation and is housed in a moisture-resistant, ABS plastic case. Feeders connect to the feeder time controller with cables available in 2 wire lengths. No soldering or crimping, all components are interchangeable. Only one power supply is required for powering up to eight feeders. One-year warranty.

Basic

Features 8 feedings per 24 hours, adjustable from 2 to 59 seconds per feeding.

Deluxe

Up to 24 feedings per 24 hours, adjustable from 1 to 99 seconds per feeding.



MODEL		SHIP WT (LBS)	EACH	4+
<b>H1201</b>	DELUXE FEEDER CONTROLLER	2	<b>\$419.00</b>	<b>\$400.53</b>
<b>SF50</b>	12VDC ADAPTER FOR 115V	21	<b>34.00</b>	<b>30.91</b>
<b>PA15</b>	POWER SUPPLY, 12V	—	<b>39.95</b>	<b>36.62</b>
<b>H1106-AQ</b>	CABLE, 6'	—	<b>8.95</b>	<b>6.96</b>
<b>H1112-AQ</b>	CABLE, 12'	—	<b>11.60</b>	<b>11.02</b>
<b>H1113-AQ</b>	"Y" ADAPTER	—	<b>8.15</b>	<b>7.52</b>



◀ **BATTERIES/CHARGERS 3-YEAR WARRANTY**

MODEL		EACH
<b>1807-6</b>	6V SOLAR PANEL, 1 WATT	<b>\$39.00</b>
<b>1807-12</b>	12V SOLAR PANEL, 1 WATT	<b>45.00</b>
<b>1808</b>	6/12V BATTERY CHARGER	<b>20.00</b>
<b>1810</b>	12V/7A GEL CELL RECHARGEABLE BATTERY	<b>28.00</b>

Three-year warranty on batteries and chargers.

**DIGITAL TIMER, CONTROLLER, ADAPTER**

Features up to 24 feedings per 24 hours with a feeder "on" time of 1–59 seconds. The maximum output current is 10 amps, so each timer can control up to thirteen vibratory feeders without the need for an external relay.

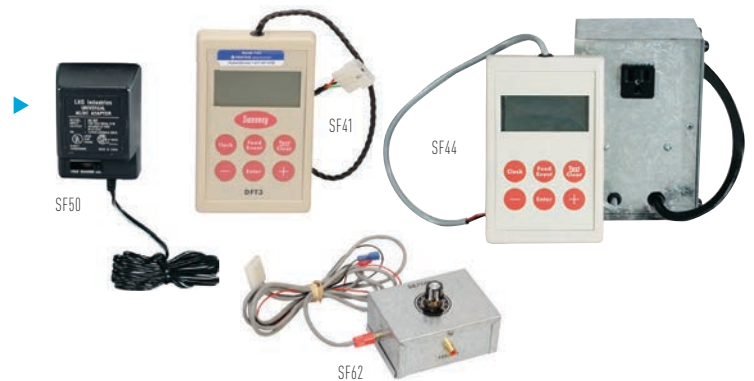
The **SF41** 12V digital timer must be used with the **SF40**. One controller is required for each feeder on the circuit. Three-year warranty.

**SF40 Controller**

Allows the **SF41** 12V timer to operate with 115V power. Maximum power output is 15A/115V.

**SF44 Adapter/Timer Kit**

Combines the **SF41** 12V timer with the **SF40** controller for 115V operation. Operate up to 13 feeders (more with relay). Use one adapter (**SF50**) for each feeder on the circuit.



MODEL		SHIP WT	EACH	4+
<b>SF50</b>	12VDC ADAPTER FOR 115VAC	2 LBS	<b>\$34.00</b>	<b>\$30.91</b>
<b>SF62</b>	SPEED CONTROLLER FOR 12VDC	4 LBS	<b>100.00</b>	<b>90.00</b>
<b>SF40</b>	115V CONTROLLER ONLY	4 LBS	<b>125.00</b>	<b>112.50</b>
<b>SF41</b>	12V TIMER ONLY	2 LBS	<b>175.00</b>	<b>157.50</b>
<b>SF44</b>	115V CONTROLLER W/SF41, TIMER	6 LBS	<b>369.23</b>	<b>322.31</b>

**3-YEAR WARRANTY**

### ARVO-TEC FEEDING TECHNOLOGY PROFESSIONAL FEEDING CONTROL SYSTEM

A fully integrated feeding, measurement and alarm system. Feed amounts are calculated separately for each tank according to automatically updated biomass data, incoming water temperature and oxygen content. The system is easy to use with a menu-driven display in the control unit or an optional PC connection. Feeding data can be exported to management software. Stainless steel cabinet withstands extreme conditions.

#### Specifications

- 115 or 230VAC.
- 8, 16, 24 or 32 independent feeder channels per control unit (use up to 30 control units in one system for 960 channels total).
- Cable, radio, TCP/IP and mobile phone communication options.
- 8 measurement inputs per control unit.
- 5 digital sensor inputs (e.g., level switch circuits) and 2 alarm/control outputs per control unit.

CALL FOR MORE INFORMATION AND PRICING.



### ARVO-TEC PIPE FEEDING SYSTEM

The pipe feeding system is a centralized solution for distributing large quantities of feed. This system can be used in sea, land and recirculating aquaculture systems.

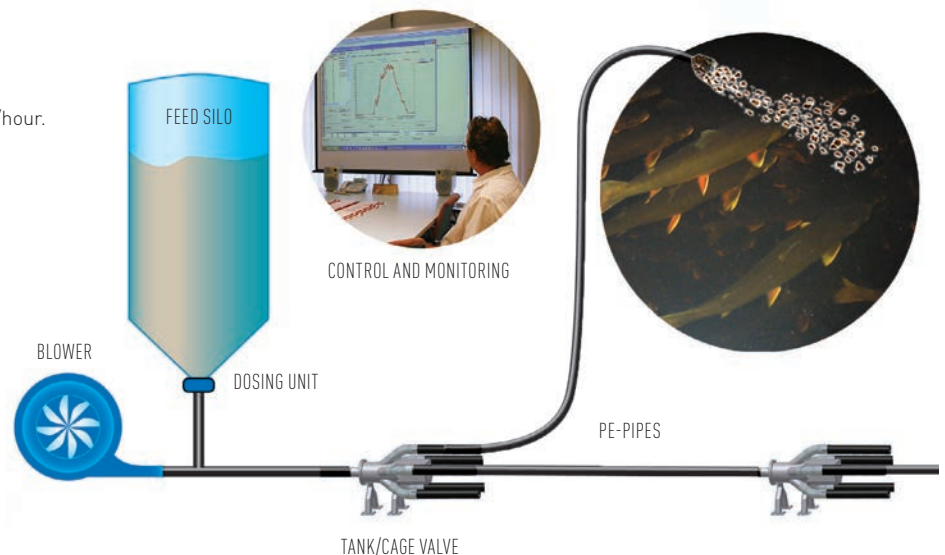
The system's reserve silos can be placed in a central feed storage area, where they can be refilled easily with large bags. The distribution system is based on a 75 mm PE pipe and can blow feed into the blower from up to 300 m away.

Arvo-Tec control system controls each tank entirely separately. Feed dosage requires precision, and the distribution valves uses electrical motor and revolver technology that is reliable and gentle on feed.

#### Specifications

- Feed up to 28 tanks, ponds or cages/one system.
- Double, triple, etc., systems for large farms.
- Maximum feeding capacity for each system is 650 kg/hour.

CALL FOR MORE INFORMATION AND PRICING.







#### ◀ ARVO-TEC ROBOT FEEDING SYSTEM

Improves feed efficiency and saves labor time. One feeding robot serves multiple tanks, eliminating the need for a feeder at each tank. A high feed turnover rate through the hopper prevents storage problems such as feed expiration. Controlled via local programmer or from a PC.



#### Specifications

- Travel speed 18 m/min.
  - 24VDC rechargeable battery.
  - Optical "eye" to avoid collision.
  - Provides 2 feed types from 50-L silos.
  - Each robot feeds up to 240 tanks, with a max rail length of 450 m.
  - Rail: 80 mm steel I-Beam, INP80, DIN1025
- Options include advanced PC control, automatic refilling and feed spreader.

CALL FOR MORE INFORMATION AND PRICING.



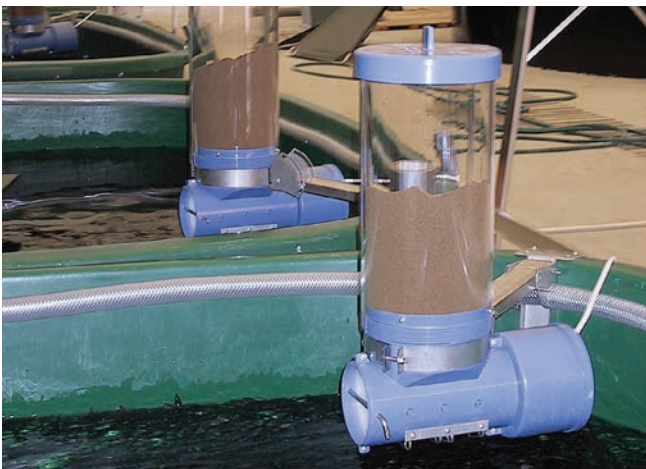
#### ARVO-TEC T DRUM 2000 FEEDER

The Arvo-Tec T Drum feeder has a very high accuracy, whilst remaining at a competitive price. The feeder is multifunctional and is suitable for start feeding in hatcheries to on-growing on tanks, ponds and cages.

#### Specifications

- 1, 6 or 10 litres transparent and 50, 150 or 600 white hoppers
- Standard motor 24 VAC, 11,3 W, 2 rpm
- Granule/pellet size 0,3–8 mm
- Minimum dose of 0,3, 1,5, 20, 45 or 100 g
- Strong, 316 stainless steel bracket
- Accuracy normally greater than 98%

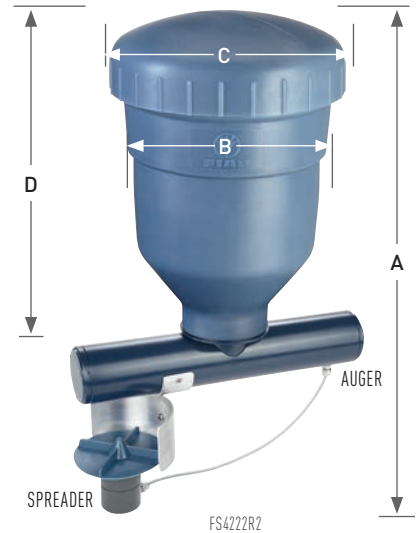
CALL FOR MORE INFORMATION AND PRICING.



### AUGER FEEDERS

These screw-style feeders are used throughout the world in commercial aquaculture facilities. They are very well built, durable and can be used both indoors and outdoors. Designed for highly accurate dispensing of feed, they feature a rheostat that can be set for both speed and duration. Screw feeders are 12V and draw approximately .5 amps. A power supply and time controller are needed but not included. One-year warranty.

MODEL		CAPACITY (LBS/KG)	A	B	C	D	EACH	4+
<b>FS4222R2</b>	FEEDER W/AUGER & SPREADER	22/10	26"	10"	12"	21"	<b>\$619.00</b>	<b>\$588.05</b>
<b>FS4244R2</b>	FEEDER W/AUGER & SPREADER	44/20	27"	12"	15"	21"	<b>639.00</b>	<b>607.05</b>
<b>FS4288R2</b>	FEEDER W/AUGER & SPREADER	88/40	35"	15"	19"	30"	<b>669.00</b>	<b>635.55</b>
<b>FS4232R2</b>	FEEDER W/AUGER & SPREADER	132/60	42"	19"	23"	36"	<b>699.00</b>	<b>664.05</b>
<b>FS4022R2</b>	FEEDER W/AUGER ONLY	22/10	26"	10"	12"	21"	<b>559.00</b>	<b>531.05</b>
<b>FS4044R2</b>	FEEDER W/AUGER ONLY	44/20	27"	12"	15"	21"	<b>579.00</b>	<b>550.05</b>
<b>FS4088R2</b>	FEEDER W/AUGER ONLY	88/40	35"	15"	19"	30"	<b>599.00</b>	<b>569.05</b>
<b>FS4132R2</b>	FEEDER W/AUGER ONLY	132/60	42"	19"	23"	36"	<b>649.00</b>	<b>616.55</b>
<b>FS4059UPR2</b>	REPLACEMENT AUGER						<b>439.00</b>	—



### VIBRATORY FEEDERS

These vibratory feeders are fully adjustable for dispensing both dry and moist feeds (1-12 pellets) without clogging. Feeders are 12VDC and draw .5 A. A timer is required but not included. We suggest model H1201 to operate one feeder and model PA15 for 1 to 3 feeders. A 12V gel cell model 1810 for up to 2 feeders, or a 12V car/boat battery w/model 1808 charger is recommended. Each vibratory motor includes 3' of cable for timer. Weighs 1.7 lbs. One-year warranty.

MODEL		CAPACITY (LBS/KG)	A	B	C	EACH	4+
<b>FM4422</b>	VIBRATORY FEEDER	22/10	22"	10"	12"	<b>\$459.00</b>	<b>413.10</b>
<b>FM4444</b>	VIBRATORY FEEDER	44/20	23"	12"	15"	<b>469.00</b>	<b>422.10</b>
<b>FM4488</b>	VIBRATORY FEEDER	88/40	31"	15"	19"	<b>629.00</b>	<b>566.10</b>
<b>FM4132</b>	VIBRATORY FEEDER	88/40	31"	15"	19"	<b>659.00</b>	<b>593.10</b>
<b>FM4480</b>	REPLACEMENT VIBRATORY MOTOR					<b>279.00</b>	<b>264.24</b>

### PENDULUM DEMAND FEEDERS

The unique twist-lock lid is wind and varmint-proof on these high-quality, UV-resistant, polyethylene hoppers. All four sizes have the same pendulum demand feeding mechanism for #4 crumble to 1/4" pellets. Batteries not included or needed. One-year warranty.

MODEL		CAPACITY (LBS/KG)	A	B	C	EACH	4+
<b>FH221</b>	DEMAND FEEDER	22/10	23"	12"	14"	<b>\$249.00</b>	<b>236.55</b>
<b>FH441</b>	DEMAND FEEDER	44/20	23"	15"	18"	<b>269.00</b>	<b>255.55</b>
<b>FH881</b>	DEMAND FEEDER	88/40	23"	19"	26"	<b>329.00</b>	<b>312.55</b>
<b>FH133</b>	DEMAND FEEDER	132/60	23"	23"	33"	<b>399.00</b>	<b>374.82</b>





Controller is safely enclosed to protect it from the elements.

### SOLAR FEEDERS

Versatile and easy to use, these digitally controlled automatic fish feeders offer up to 6 feeding times per day at a radius of up to 12 meters. Feeding duration sequences range from 1-59 seconds. Use pellets 1-10 mm in size. Feeders include 6V battery and solar module. One-year warranty.

MODEL		CAPACITY (LBS/KG)	EACH	4+
1568	SOLAR FEEDER	22/10	\$469.00	\$445.55
1569	SOLAR FEEDER	44/20	499.00	474.05
1570	SOLAR FEEDER	88/40	549.00	521.55
1571	SOLAR FEEDER	132/60	589.00	559.55
1560-1	OPTIONAL CONTROLLER		129.00	122.55
1566-1	REPLACEMENT SOLAR MODULE		105.00	99.75
1560-2	REPLACEMENT RECHARGEABLE BATTERY		49.00	46.55
1560-3	REPLACEMENT MOTOR		35.00	33.25

### FEEDER CONTROLLER

FIAP Feeders serve to achieve reduced feeding expenditures and improved feed ratios. The option of setting ideal feeding times and respective breaks ensures fast and healthy fish growth. The innovative FIAP Proficontrol Control, designed to meet the needs of everyday practice, sets new standards in automatic fish feeding. Thanks to its unique and smart programmability, the FIAP Proficontrol meets all expectations towards best possible feed dosing.

The FIAP Proficontrol allows for operating up to 4 different FIAP feeders with one control. All settings as well as feeding periods (0 - 99 seconds), breaks (0 - 99 minutes) and motor speeds can be defined individually for the single outputs. Any settings made will be saved. Testing and manual feeding per output is feasible at any time. In order to optimize automatic feeding at different times of the day, the control can be combined with a clock timer. One-year warranty.

MODEL		EACH
1590	115/230V, 50/60HZ CONTROL	\$1,189.00
1594	5M CABLE	69.00
1594-1	10M CABLE	129.00
1594-2	20M CABLE	209.00
1591	SOCKET	26.00
1592	COUPLER CONNECTOR	17.00
1593	CONNECTOR PLUG	26.00



### REPLACEMENT FEED HOPPERS

High-quality, UV-resistant, durable polyethylene feed hoppers feature a unique three-point, twist-lock lid (included) that is wind and varmint-proof. All have a 4 1/4" I.D. bottom opening. These hoppers fit all the FIAP Feeders featured here. One-year warranty.

MODEL	FITS FEEDER MODELS	CAPACITY (LBS/KG)	EACH
FH22	FS4222R2,FS4022R2,FM4422,FH221	22/10	\$149.00
FH44	FS4244R2,FS4044R2,FM4444,FH441	44/20	129.00
FH88	FS4288R2,FS4088R2,FM4488,FH881	88/40	189.00
FH132	FS4232R2,FS4132R2,FM4132,FH133	132/60	229.00



IP-PBR-1000L



IP-PBR-100L

## ALGAE BIOREACTORS

Industrial Plankton Algae Bioreactors are a turn-key solution for aquaculture hatcheries, research, and biotech. Through automation, these bioreactors eliminate the majority of repetitive tasks involved in culturing algae. The equipment can be automatically cleaned and sterilized before inoculation by simply pressing a button on the touchscreen. The sealed chamber, when seeded with 20 litres of algae, is capable of growing up to 1,000 litres of pure culture in 7–10 days, while continuously monitoring algae growth using a built in sensor. The machine also self-harvests and replaces the harvested water with new water and nutrients, which are filtered and sterilized at the point of entry. The equipment greatly simplifies the complex and time consuming task of algae culture, while also increasing production reliability and biosecurity. Requires fresh or saltwater inlet line.

**PRODUCTION MODES**—Practically all species of freshwater and saltwater algae commonly used in aquaculture can be grown in the reactors. They can be operated in batch mode, or continuously using an automated top and drop, which harvests then replaces a portion of the culture each time the cell density exceeds a user setpoint.

**AQUACULTURE APPLICATIONS**—Model IP-PBR-1000L uses real time monitoring, user friendly control system, and data logging, letting hatcheries focus on their livestock, and not their algae. Problems with algae production are often the causes of low or unreliable hatchery yields. This unreliability and high production costs of microalgae are limiting factors to the success of many hatcheries. Despite efforts over the past decade to develop cost-effective artificial diets to supplement live microalgae, on-site live microalgal production remains a critical element in the operation of most successful marine hatcheries.

**RESEARCH APPLICATIONS**—Model IP-PBR-100L combines cutting edge technology with meaningful production volume, simplifying production of live algae in universities, public aquariums, and industrial research. Researchers can see their culture parameters graphed continuously in real time, and sterilize the reactor between experiments with the push of a button – all in a fully automated closed system, featuring closed loop pH control, integrated heating/chilling, and remote access capabilities. The algae produced is ideal for feeding zooplankton and larval marine animals.

BATCH (7-10 DAYS)			CONTINUOUS		
			OPERATING EXPENSES (PER MONTH)*		
Nutrients + CO <sub>2</sub>		\$10	Nutrients + CO <sub>2</sub>		\$39
Electricity (at €10/KWh)		\$16	Electricity (at €10/KWh)		\$71
Labor (1 hour at \$20/hour)		\$20	Labor (3 hours at \$20/hour)		\$60
Total		\$46	Total		\$170

SPECIES	HARVEST	DENSITY	SPECIES	HARVEST	DENSITY
T-Iso		12M/ml	T-Iso	350L/day	6M/ml
Nanno	1000L/batch	130M/ml	Nanno	450L/day	48M/ml

\*Actual OPEX and production numbers may vary between facilities.

Features:

- **TANK**—The star shaped, corrugated tank doubles the surface area exposed to light, so cultures grow denser before cell shading limits growth. The tank bottom is sloped to facilitate circulation and drainage.
- **LIGHTS**—LED and T5 grow lights provide bright, evenly spaced light across the tank surface, providing maximum light without photo inhibition. To prevent photo inhibition during scale up, the bioreactor checks the culture density and only turns on lights as they are needed, based on user controlled setpoints. The brightness can also be controlled, allowing algae with a variety of light requirements to be cultured.
- **CLEANING & STERILIZING**—If you want to restart the culture it's a simple process. The tank is drained through the bottom, then pressure washed and sterilized by pushing a button.
- **INOCULATION**—The bioreactor starts by adding water and nutrients, then adjusts temperature and light levels. Inoculation is simple, just hook up a carboy or flask to the machine's inoculation port, then use the onboard air supply to push the culture from the carboy into the bioreactor.

- **SCALE-UP**—To increase biosecurity the culture is scaled up gradually over the course of days, automatically adding water and nutrients whenever a set culture density is reached. (patent pending)
- **HARVEST**—A portion of the culture is harvested multiple times each day, then automatically replaced with new water & nutrients. Small frequent harvests increase the overall yield, and make the algae's nutrient profile more predictable. The whole tank can also be harvested with the push of a button.
- **BIOSECURITY**—Incoming water is slowly passed through a UV filter after being pre-filtered using a nominal micron filter. Nutrients are then added to the water and passed through 2 additional stages of absolute micron filtration, down to 0.1um. Air and CO<sub>2</sub> entering and leaving the tank are also passed through 0.1um filters. Harvesting is done automatically using a biosecure pinch valve.

USER FRIENDLY TOUCHSCREEN INTERFACE



A user friendly touchscreen interface lets you control the culture parameters and fine tune the operation for different species and situations. User controlled setpoints control parameters such as temperature, CO<sub>2</sub> injection, harvesting cell density, light levels, etc. In addition to automated controls the machine can be controlled manually, making it easy to harvest, or add water or nutrients at any point.



Culture parameters are logged and graphed in realtime on the touchscreen, making it easier to maintain a culture in exponential growth for continuous culture, or decide when a batch is ready for harvest. The controls, including these graphs, can be accessed remotely from a personal computer.

	CULTURE DENSITY IP-PBR-1000L	CULTURE DENSITY IP-PBR-100L
Nannochloropsis	187 million/ml	300 MILLION/ML
Isochrysis	20 million/ml	38 MILLION/ML
Tetraselmis	2 million/ml	4.1 MILLION/ML



MODEL	VOLTS	HZ	AMPS	WATTS	TANK CAPACITY (LITERS)	INLET LINES	SPACE REQUIREMENT			SHIP WT (LBS)	EACH
							L	W	H		
<b>IP-PBR-1000L</b>	120	60	30	1000	1000	CO <sub>2</sub> , Inlet Water, Chilled Water	4'	4'	7'	400	<b>\$32,000.00</b>
	230	50	15								
<b>IP-PBR-100L</b> <small>NEW</small>	120	60	20	300	100	CO <sub>2</sub> , Inlet Water	2'	3'	7'	150	<b>\$29,500.00</b>
	230	50	10								

Note: Prices are FOB Victoria, Canada, motor freight. One-year warranty.

### POLYESTER MESH BAGS

Ideal for collecting rotifers, *Artemia*, fish eggs and other small organisms, these polyester mesh bags are available in 18" and 31" (46 and 79 cm) lengths and a variety of mesh sizes. They can also be used for filtering particulate matter from tank inlets and overflows. Bag is equipped with a stainless steel ring 7" in diameter and a cotton handle.

- Pre-filters water.
- Zooplankton collector.



PMB1L

### TECH TALK 20

#### Algae Culture

On-site algae culture is a necessity in most marine hatcheries. Algae is the primary diet for bivalves, larval shrimp and live larval feeds, such as rotifers and *Artemia*. Many different species of algae are cultured throughout the world and each batch is typically just a single species selected for its size and nutrient profile.

During culture, it is crucial that steps are taken to avoid contamination, either from pathogens or from other species of algae or ciliates. Sterilization of all equipment and culture media is, therefore, necessary. They can be autoclaved, dipped in alcohol, chlorinated, etc. Contaminants are often waterborne; however, air can also be a pathway for contamination. Placing the air compressor intake in the culture room or an air-conditioned room reduces temperature fluctuations and contaminant load. Care should also be taken to avoid condensation in the air lines, which can lead to ciliate infestations. Installing an in-line desiccant filter can eliminate condensation. To eliminate a recurring contamination problem, sterilize the air delivery system and use the appropriate inlet air filter.



FL2-AQ

MODEL		EACH	10+
<b>PMB1</b>	75-MICRON X 18"	<b>\$13.34</b>	<b>\$11.34</b>
<b>PMB1L</b>	75-MICRON X 31"	<b>20.18</b>	<b>17.15</b>
<b>PMB2</b>	100-MICRON X 18"	<b>10.40</b>	<b>8.84</b>
<b>PMB2L</b>	100-MICRON X 31"	<b>16.54</b>	<b>14.06</b>
<b>PMB3</b>	125-MICRON X 18"	<b>10.40</b>	<b>8.84</b>
<b>PMB3L</b>	125-MICRON X 31"	<b>16.18</b>	<b>13.75</b>
<b>PMB4</b>	150-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB4L</b>	150-MICRON X 31"	<b>7.30</b>	<b>6.21</b>
<b>PMB5</b>	200-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB5L</b>	200-MICRON X 31"	<b>7.30</b>	<b>6.21</b>
<b>PMB6</b>	250-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB6L</b>	250-MICRON X 31"	<b>7.30</b>	<b>6.21</b>
<b>PMB7</b>	300-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB7L</b>	300-MICRON X 31"	<b>7.30</b>	<b>6.21</b>
<b>PMB8</b>	400-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB8L</b>	400-MICRON X 31"	<b>7.30</b>	<b>6.21</b>
<b>PMB9</b>	800-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB9L</b>	800-MICRON X 31"	<b>7.30</b>	<b>6.21</b>
<b>PMB10</b>	1,500-MICRON X 18"	<b>6.25</b>	<b>5.31</b>
<b>PMB10L</b>	1,500-MICRON X 31"	<b>8.51</b>	<b>7.23</b>

### BACTERIA FILTER

Will filter air down to .3 microns. Autoclavable. Use for single species algal culture, bioassay work, experiments, etc. Fits 6.35 mm through 9.5 mm tubing.

MODEL		EACH	10+
<b>FL2-AQ</b>	FILTER, 1/4-3/8" HOSE BARB	<b>\$9.56</b>	<b>\$8.60</b>

### PROLINE F/2 ALGAE FOOD

- For intensive algae culture in fresh or marine water.
- Vitamin and mineral content ratios equal to Guillard's 1975 F/2 formulation.
- Professional research concentration.
- Complete algae growth media.

Larval fish, penaid shrimp, *Artemia* species, freshwater prawns, bivalve mollusks and other inverts require algae. Mass cultivation of algae requires a mixture of various vitamins and minerals for maximum algae growth. ProLine F/2 Algae Food provides these essentials in a complete, easy-to-use liquid form. When used as directed, allows fast growth rates and high densities to be achieved. One gallon each of solutions A and B will produce 7,680 gallons of growth media. For culturing diatomaceous organisms, sodium metasilicate must be added to the F/2 Formula.

MODEL		SHIP WT (LBS)	EACH
<b>239800</b>	F/2, PART A, 1 GALLON	10	<b>\$24.99</b>
<b>239801</b>	F/2, PART B, 1 GALLON	10	<b>24.99</b>
<b>239802</b>	F/2, PART A, 5 GALLONS	52	<b>89.99</b>
<b>239803</b>	F/2, PART B, 5 GALLONS	52	<b>89.99</b>
<b>239804</b>	SODIUM METASILICATE, 1 KG	2.5	<b>12.30</b>



239800

239802

### INSTANT ALGAE® MARINE PASTE

Providing a cost-effective alternative to live algae can be the difference between profit and loss in a hatchery. Produced by Reed Mariculture, Instant Algae® is a high quality, super-concentrated, liquid, marine microalgae feed for larval shrimp, fish and bivalves. It can be used to supplement or replace live algae in the hatchery. Instant Algae® is 95–100% as effective as live algae. Algae concentration is based on the density of the average live algae culture (i.e., one liter Premium 3600 is equal to 3,600 liters of an average algae culture). Weighs 3 lbs. Ships Next Day Air.

MODEL		VOLUME	EACH
<b>PM36N</b>	NANNOCHLOROPSIS PREMIUM 3600	1 QUART	<b>\$70.00</b>
<b>PM18I</b>	ISOCHRYSIS PREMIUM 1800	1 QUART	<b>44.00</b>
<b>PM18P</b>	PAVLOVA PREMIUM 1800	1 QUART	<b>44.00</b>
<b>PM18T</b>	THALASSIOSIRA PREMIUM 1800	1 QUART	<b>29.00</b>
<b>PM183</b>	SHELLFISH DIET 1800*	1 QUART	<b>44.00</b>

\*Shellfish diet is a mix of *Isochrysis*, *Pavlova*, *Tetraselmis* and *Thalassiosira weissflogii*.

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PM36N

PM18I



### ◀ S.PARKLE

A cost-effective, easy-to-use and natural culture diet for a sparkling, consistent rotifer culture. Selco® S.parkle feed is formulated with high-quality, purified ingredients, and leaves no foam or flock formations. Suitable for short and productive cycles in any condition, allowing rotifer generations to be re-inoculated up to 50 consecutive times. Rich in HUFA (17 mg/g). Start feeding with 0.7 g S.parkle per million rotifers.

MODEL		EACH
<b>ER6C</b>	2.5 KG (5.5 LBS)	<b>\$225.00</b>

### TECH TALK 109

#### Rotifer Culture, High-Density vs Batch Methods

Rotifers are typically fed live algae and grown either in ponds or tanks when used as a commercial scale larval diet. A farm with the space and water available to use traditional pond rearing methods should keep doing so. A farm using live algae to grow rotifers in tanks should consider an alternative. Traditional batch culture requires the grower to have both live algae tanks and rotifer rearing tanks. The table compares the batch method to a new, high-density method that substitutes algae paste for live algae.

The batch method requires a much higher investment in equipment and space. The high-density method only requires rotifer tanks and their filtration systems. Water is another cost of growing rotifers. Generally speaking, the batch culture method uses 75% exchange per day. The high-density method, using algae paste, requires about 20% exchange of water per day. Another cost factor is labor. Batch culture requires two full-time, live feed technicians, while the high-density method only requires one part-time technician.

High-density rotifer culture systems can clearly reduce costs. However, these systems require a transition time and there is a learning curve. You will need a technician who is willing to learn the system and how to predict its production. Since more rotifers are being grown in one tank, it is best to have a backup system running at a lower production rate as insurance should a system fail.

#### EQUIPMENT COST TO RAISE 100 MILLION ROTIFERS PER DAY

	BATCH METHOD	HIGH-DENSITY METHOD
Density of rotifers	500 per ml	2,000 per ml
Tank size	100 Liters	100 Liters
Algae requirement per tank	75 liters fresh algae	2.5 liters algae paste
Total rotifers per tank	50 million	200 million
Tanks needed for 1 week feed	10-14 tanks	1-2 tanks
Estimated equipment cost	\$12,000	\$3,000

**MINI HATCHING KIT**

This kit includes a molded base, one brine shrimp hatch mix (with salt) and air line tubing. Just screw a plastic 2-liter bottle to the base, connect it to an air pump and it's ready to hatch. Bottle and air pump not included.

MODEL		EACH
<b>SB619</b>	MINI HATCHING KIT	<b>\$12.99</b>
<b>SB620</b>	HATCH MIX, 3/PK	<b>4.38</b>
<b>M100AP</b>	AIR PUMP	<b>10.39</b>



CCH10

**EASY TO CLEAN—NO 90° CORNERS!**

**ROTIFER SIEVE**

Handheld collecting sieves are great for harvesting rotifers. These sieves have a 44-micron mesh bottom and are available in two sizes. Weigh 1 lb.

MODEL		EACH
<b>RC33</b>	3" DIA. X 3" H	<b>\$14.23</b>
<b>RC64</b>	4" DIA. X 6" H	<b>36.15</b>



◀ **CONICAL HATCHING JAR** ★ TECH FAV ✓ DESIGNED HERE

Molded from polycarbonate, this tank can be used for hatching both rotifers and *Artemia*. Tank measures 13½" in diameter, 24" high and includes a clear lid. It produces up to 300 cc (20 tablespoons) of cysts in 5 gallons (18.9 liters) of water. The stand measures 13½" in diameter, 19" high and features a bottom access port to the drain valve. The hatcher includes clear lid, rigid air tube, 8' aquarium tubing and drain valve. Air pump sold separately. Ships Oversize.

MODEL		EACH	
<b>CCH1</b>	HATCHER ONLY	<b>\$139.29</b>	<b>\$128.15/6+</b>
<b>CCH2</b>	STAND ONLY	<b>107.00</b>	<b>98.44/6+</b>
<b>CCH10</b>	HATCHER W/STAND	<b>226.00</b>	—
<b>CCH12</b>	HATCHER W/STAND X 2	<b>431.50</b>	—
<b>M100AP</b>	AIR PUMP	<b>10.39</b>	<b>9.66/4+</b>

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**BRINE SHRIMP EGGS**

Pentair AES offers brine shrimp eggs from the Great Salt Lake (GSL). Cysts (eggs) are sold in 15-oz, vacuum-packed cans.

MODEL		EACH
<b>BS90</b>	90% (GUARANTEED HATCH RATE) GSL	<b>\$73.99</b>

Air shipments require dry ingredients to be moistened with 100 mL of distilled water.



Actual Brine Shrimp

**SMALL BRINE SHRIMP EGGS**

6 grams of brine shrimp eggs (about a million!).

MODEL	EACH	6+
<b>SB503</b>	<b>\$3.94</b>	<b>\$3.55</b>



**BRINE SHRIMP NET**

Made of a fine nylon mesh, including the stitching. Net basket size is 4" x 3". Handle is vinyl coated.

MODEL	EACH	12+
<b>BSN1</b>	<b>\$2.35</b>	<b>\$1.97</b>



**DRY BRINE SHRIMP FEED**

Developed using 20 years of *Artemia* culture experience, this dry brine shrimp feed is excellent for raising *Artemia salina* from nauplii to adults. The dry, powdered form is much easier to use than having to produce hundreds of gallons of live algae. Will equal or surpass any density and growth rate known for live algae diets. Recommended feed rate is 1/2 to 1 gram per gallon per day. Sold in 454-gram (1 lb) containers.

MODEL	EACH	4+
<b>DS16</b>	<b>\$29.95</b>	<b>\$23.61</b>



PENTAIRAES.COM



EVERYTHING YOU NEED, ON EVERY DEVICE

**SELCON CONCENTRATE****Highly unsaturated fatty acids**

Only Selcon Concentrate contains omega-3 HUFA, Vitamin B12 and pure stabilized vitamin C. Highly concentrated, it is ideal for enriching rotifers and *Artemia*. Can also be soaked into freeze-dried foods.

MODEL		EACH
<b>SE60</b>	2 OZ (60 ML)	<b>\$14.58</b>
<b>SE16</b>	16 OZ (473 G)	<b>98.23</b>

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SE60

SE16

**LIQUID HUFA****Ideal for brine shrimp**

Use Selco® products to enrich zooplankton prior to feeding to increase omega-3 fatty acids and essential amino acids. Increasing the nutritional value of rotifers and *Artemia* can make a huge difference in larval survival. Easy Selco® contains 200 mg/g dry weight. Recommended feed rate is 0.6 grams Selco® per liter of salt water. Simply emulsify the enrichment for 3 minutes and add to the zooplankton tank at least 24 hours prior to feed out. Sold in 1-kg bottles. Ship weight 3 lbs.

MODEL		EACH
<b>SE539A</b>	EASY SELCO®	<b>\$56.30</b>

**N-RICH PL PLUS**

Provides a host of nutrients typical of *Isochrysis*, *Pavlova*, *Tetraselmis*, and *Thalassiosira* including carotenoids, enzymes, and sterols. High protein and carbohydrate content maintains rotifer health throughout the enrichment process. Easy to measure and disperse, and produces minimal waste.

MODEL		EACH
<b>NRICH</b>	1 QUART	<b>\$44.00</b>

**ROTIGROW® NANNO FEED**

*Nannochloropsis* feed with a high biomass conversion rate and very little organic waste. Provides a high EPA and ARA pre-enrichment boost for use with high DNA enrichment protocols.

MODEL		EACH
<b>RGN</b>	1 LITER	<b>\$65.50</b>

**ROTIGROW® PLUS FEED**

An all-in-one diet that can be used for growout, enrichment and gut-loading. This microalgal blend meets HUFA requirements up to 40 mg/g d.w. and DHA:EPA ratio of 1.6:1. Produces rotifers rich in phospholipids DHA, EPA and ARA. Clean, effective and allows use of enrichment feeds that are nutritionally balanced for healthier rotifers.

MODEL		EACH
<b>RGP</b>	1 QUART	<b>\$66.50</b>

**ROTIGREEN™ FEED**

A new greenwater feed that provides optimum DHA, EPA and ARA nutrition for gill-feeding larval fish and maintains high rotifer enrichment in the tank. Clean, nonsettling and nonfouling.

MODEL		EACH
<b>RGG</b>	1 QUART	<b>\$70.00</b>

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◀ ROTIFER PRODUCTION SYSTEMS DESIGNED HERE

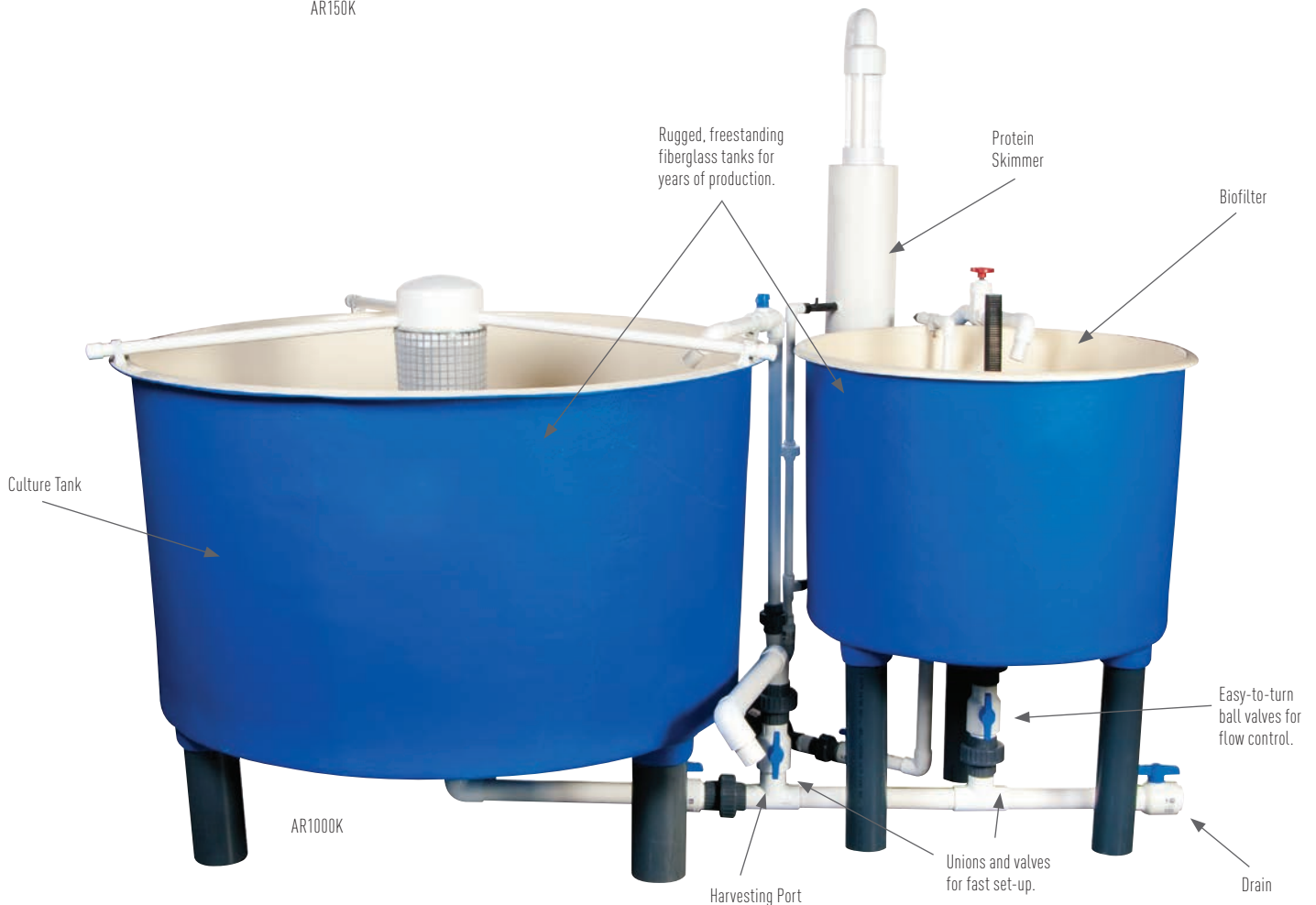
High-density systems

Our intensive rotifer production systems are designed for high-volume production! These systems will save you a lot of money, space and work. Production densities exceed 5,000 rotifers per milliliter of *Brachionus plicatilis*. *B. rotundiformis* are also suitable for this system. Systems are complete, including culture tank, filtration system, pure oxygen diffuser and ammonia neutralizer dosing system. Since these systems use Instant Algae® marine paste, they eliminate the need for labor-intensive algae production. Only 30 minutes of tank maintenance per day is required to produce 100 million to 2.5 billion rotifers per day! Systems also include an operations manual and ClorAm-X® water conditioner.



AR150K

MODEL	CAPACITY (LTRS)	AREA (METERS)	VOLTAGE	HZ	EACH
<b>AR150K</b>	150	1 X 1.6	115	60	<b>\$2,998.00</b>
<b>AR150K-H</b>	150	1 X 1.6	230	50	<b>2,998.00</b>
<b>AR256K</b>	450	1 X 2.2	115	60	<b>3,778.00</b>
<b>AR256K-H</b>	450	1 X 2.2	230	50	<b>3,778.00</b>
<b>AR1000K</b>	1000	2 X 2.2	115	60	<b>5,749.00</b>
<b>AR1000K-H</b>	1000	2 X 2.2	230	50	<b>5,749.00</b>
<b>930018</b>	REPL. FILTER MATERIAL, PER LINEAR YARD				<b>13.99</b>



AR1000K

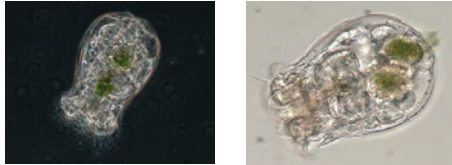
Instant Algae® is a registered trademark of Reed Mariculture Inc. ClorAm-X® is a registered trademark of Aquascience Technologies, LLC.

Online Orders: [PentairAES.com](http://PentairAES.com) | Phone Orders and Tech Advice: 877.347.4788

**MYSID SHRIMP**

Live cultures of mysid shrimp *Mysidopsis bahia* are the perfect food source for sea horses, sea dragons and other aquarium fish. They measure 8–12 mm long. The cultures are mixed sex and contain 250 shrimp. **Ship Next Day Air.**

MODEL	EACH
MSC	\$72



MODEL		EACH
LRC4	0.5 MILLION	\$22.50
LRC5	0.75 MILLION	27.50
LRC6	1 MILLION	30.00
LRC7	5 MILLION	115.00
LRC8	10 MILLION	150.00
LRC9	20 MILLION	180.00
LRC10	30 MILLION	270.00
LRC11	50 MILLION	375.00
LRC12	60 MILLION	450.00
LRC13	70 MILLION	525.00
LRC14	100 MILLION	630.00

**INSTANT ROTIFERS**

Produced by Reed Mariculture, these live marine rotifer cultures of *Brachionus plicatilis* are the solution for short-term feeding in marine aquariums and as a starter culture. One-quart package contains approximately 600,000 rotifers, shipped in breathable bags and enriched with algae. Includes 15-oz rotifer diet algae mix of *Nannochloropsis* and *Tetraselmis*. These cultures can be refrigerated for up to 2 weeks or used immediately. **Ship Next Day Air**, FOB CA.

MODEL	EACH	4+	12+
RC6N	\$48.00	\$45.60	\$43.32

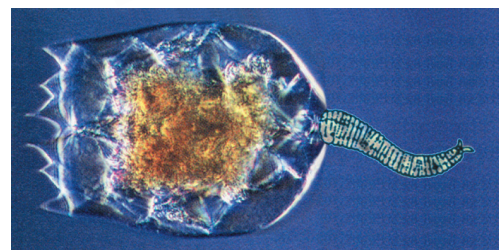
**LIVE S-TYPE ROTIFERS**

Great starter culture!

Due to their small size (avg. 120 microns; range from 90–150 microns), these S-type rotifers are perfect for the first feeding stages of aquacultured marine fish for both the hobbyist and commercial industries. They are also suitably sized for species with small mouthparts, such as mandarin fish, seahorses (adults and fry) and grouper and snapper larvae. S-type rotifers can also be fed to reef aquaria, including carnivorous invertebrates, LPS and SPS corals, soft corals and anemones.

S-type rotifers should be kept in the refrigerator with the bag open. This allows for oxygen exchange that rotifers need to survive. Prior to use, gently swirl the water to resuspend the rotifers that have settled to the bottom of the bag. To obtain maximum effectiveness, we suggest acclimating the rotifers first by leaving the desired feeding amount out at room temperature for approximately 10 minutes. If you are concerned about water contamination, you can sieve the rotifers through a 55- or 75-micron mesh screen before feeding to your tank.

Recommended rotifer density is 50,000–80,000 rotifers per 50-gallon tank every 2 weeks, feeding directly to the tank. Studies show that more constant/greater feeding to a reef tank leads to a more healthy environment for corals.

**COPEPODS**

These live cultures of copepods are excellent for aquarium fish, invertebrates and larval fish diets or supplements. The *Tigriopus californicus* measure approximately 3,000 microns in size and are a great prey species for predatory aquarium fish. 6-oz bottles contain an average of 500 individuals per bottle.

**Ship Next Day Air.**

MODEL	EACH
CP0D1	\$21.00

## LIVE ORGANISMS

Pentair AES offers a wide selection of live organism cultures for laboratory biotoxicology research, educational studies or live food cultures. Due to availability and shipping requirements, please allow 5 days for shipment.

All organisms ship Next Day Air. Organisms are guaranteed to arrive alive or we will refund the full purchase price of the lost organisms, excluding shipping. All organisms are shipped with an acclimation guide.

### Freshwater Algae

MODEL		QTY	EACH
<b>285100</b>	<i>SELENASTRUM CAPRICORNUTUM</i>	50 ML	<b>\$50.00</b>
<b>285101</b>	<i>SELENASTRUM CAPRICORNUTUM</i>	4 LITERS	<b>67.00</b>

### Saltwater Algae

MODEL		QTY	EACH
<b>MAD1</b>	<i>NANNOCHLOROPSIS</i>	MICROALGAE DISC	<b>\$19.84</b>
<b>MAD2</b>	<i>TETRASELMIS</i>	MICROALGAE DISC	<b>19.84</b>
<b>MAD3</b>	<i>ISOCHRYSIS</i>	MICROALGAE DISC	<b>19.84</b>
<b>LAC1Q</b>	<i>NANNOCHLOROPSIS</i>	1 QUART	<b>17.82</b>
<b>LAC3Q</b>	<i>ISOCHRYSIS</i>	1 QUART	<b>17.82</b>

### Freshwater Invertebrates

MODEL		QTY	EACH
<b>285102</b>	<i>DAPHNIA PULEX</i>	100+ MIXED AGE	<b>\$60.00</b>
<b>285103</b>	<i>DAPHNIA PULEX</i>	100+ GRAVID ADULTS	<b>60.00</b>
<b>285104</b>	<i>MOINA</i> SPP.	100+	<b>22.00</b>
<b>285105</b>	<i>MOINA</i> SPP.	1,000+	<b>89.00</b>
<b>285106</b>	<i>DAPHNIA MAGNA</i>	100 EGGS	<b>20.00</b>
<b>285107</b>	<i>DAPHNIA MAGNA</i>	100+ MIXED AGE	<b>60.00</b>
<b>285108</b>	<i>DAPHNIA MAGNA</i>	100+ GRAVID ADULTS	<b>60.00</b>
<b>285109</b>	COPEPODS, MIXED	100+	<b>25.00</b>
<b>285111</b>	TUBIFEX WORMS	100+	<b>23.26</b>
<b>285113</b>	MOSQUITO LARVAE	100+	<b>20.00</b>
<b>285114</b>	MOSQUITO LARVAE	500+	<b>92.00</b>
<b>285115</b>	PLANKTON MIX	400 ML	<b>24.00</b>
<b>285147</b>	ROTIFERS	200 ML	<b>28.00</b>
<b>285116</b>	NEMATODES	100 ML	<b>22.00</b>
<b>285117</b>	NEMATODES	1 LITER	<b>48.00</b>
<b>285118</b>	<i>CERIODAPHNIA DUBIA</i>	100 GRAVID ADULTS	<b>60.00</b>
<b>285119</b>	<i>HYALELLA AZTECA</i> , 3RD INSTAR	12-DAY CULTURE	<b>75.00</b>
<b>285120</b>	<i>LUMBRICULUS VARIEGATUS</i>	PER GRAM	<b>10.00</b>

### Saltwater Vertebrates

MODEL		QTY	EACH
<b>285129</b>	<i>MENIDIA BERYLLINA</i> (1-14 DAYS OLD)	20	<b>\$20.00</b>
<b>285130</b>	<i>CYPRINODON</i> SPP. (SHEEPSHEAD MINNOW)	10	<b>25.00</b>

### Saltwater Invertebrates

MODEL		QTY	EACH
<b>285121*</b>	<i>ARTEMIA</i> , ADULT, 1 LB	1,000 ML	<b>\$58.00</b>
<b>285122*</b>	<i>ARTEMIA</i> , ADULT	200 ML	<b>30.00</b>
<b>LRC2</b>	<i>BRACHIONUS PLICATILIS</i>	1 QUART	<b>19.35</b>
<b>LRC3</b>	<i>BRACHIONUS PLICATILIS</i>	1 GALLON	<b>39.95</b>
<b>285123</b>	OCEAN COPEPODS	1 LITER	<b>65.00</b>
<b>285124</b>	<i>PALAEMONETES VULGARIS</i>	50	<b>48.00</b>
<b>285125</b>	<i>PALAEMONETES VULGARIS</i>	200	<b>127.00</b>

\*Not for shipment to Canada.



*Daphnia magna*



*Oryzia latipes* (Medaka)

## TECHNICIAN PROFILE



### Genny West

Genny has 20 years of experience in the aquaculture industry in both system design and technical sales. She received her Mechanical Engineering Technology diploma in Victoria BC Canada. Some of the work that Genny does is with large flow and small flow finfish and shellfish facilities including RAS, influent and effluent treatment, water disinfection, WQ monitoring, oxygenation, degassing and ocean cage sites.

## LIVE ORGANISMS

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### Saltwater Invertebrates

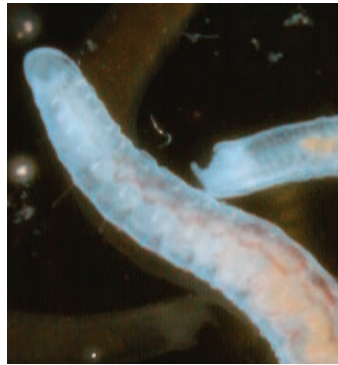
MODEL	QTY	EACH
<b>285126</b> <i>AMPELISCA ABDITA</i> (AMPHIPOD)	20	<b>\$20.00</b>
<b>285127</b> <i>MYSIDOPSIS BAHIA</i> (>15 DAYS)	20	<b>16.00</b>
<b>285128</b> <i>PALEOMENETES PUGIO</i> (GRASS SHRIMP, JUVENILE)	20	<b>20.00</b>

### Freshwater Vertebrates, Zebrafish

MODEL	QTY	EACH
<b>285131</b> <i>DANIO RERIO</i> (EGGS)	20	<b>\$25.00</b>
<b>285132</b> <i>DANIO RERIO</i> (< 60 DAYS)	10	<b>25.00</b>
<b>285133</b> <i>DANIO RERIO</i> (61-120 DAYS)	5	<b>25.00</b>
<b>285134</b> <i>DANIO RERIO</i> (>121 DAYS)	5	<b>25.00</b>



*Danio rerio* (Zebrafish)



Redworm



Mosquito Larvae



*Daphnia pulex*



## LIVE ROTIFER CULTURES

Live cultures of the marine rotifer *Brachionus plicatilis* are an excellent food source for larval fish and invertebrates. Easy to culture, they are about one-half the size of *Artemia nauplii* and can be fed live microalgae or a dry rotifer diet. They are packed at a density of 5-10/mL and are available in quart and gallon sizes. Ship Next Day Air (freight not included in price). Although temperature fluctuations during transit are not generally a problem, live arrival is not guaranteed. See Index for *Plankton Culture Manual*.

MODEL	QTY	EACH
<b>LRC2</b>	1 QUART, 4 LBS	<b>\$19.35</b>
<b>LRC3</b>	1 GALLON, 10 LBS	<b>39.95</b>



Butterfly



Standard



Standard Big



Koi Stocking Packs



Goldfish



Blackwater Creek Koi Farms

**KOI STOCKING PACKS**

Guaranteed to arrive alive!

We have partnered with Blackwater Creek Koi Farms to offer several varieties of koi at reasonable rates. Blackwater Creek is an isolated group of three farms with high-quality fish that has maintained disease-free status for SVC through government testing and monitoring. The farms have not introduced fish from any outside sources in over 7 years, and the parent fish come from Japanese broodstock. We are sure you will enjoy the koi you receive. All prices include overnight shipping from Blackwater Creek.

**Shipping info**

**Standard Overnight shipping is included in the price for the continental USA\***. All orders placed by Saturday at 5 PM ship Wednesday of the upcoming week. No shipping to PO boxes—customers must be home to accept package. You must supply an email address with your order to receive a tracking number.

**Butterfly Koi—A Great Mix of Colors**

MODEL				EACH
<b>BUFU1</b>	3-6"	SMALL/MEDIUM	20 FISH PER BOX	<b>\$226.00</b>
<b>BUFU2</b>	6-10"	MEDIUM/LARGE	9 FISH PER BOX	<b>347.00</b>
<b>BUFU3</b>	8-14"	LARGE	4 FISH PER BOX	<b>268.00</b>

**Standard Fin**

MODEL				EACH
<b>STND1</b>	3-6"	SMALL/MEDIUM	20 FISH PER BOX	<b>\$173.00</b>
<b>STND2</b>	6-10"	MEDIUM/LARGE	9 FISH PER BOX	<b>304.00</b>
<b>STND3</b>	8-14"	LARGE	4 FISH PER BOX	<b>273.00</b>

**Standard Fin Starter Fish (Big)**

MODEL				EACH
<b>STNDBIG</b>	10-14"		7 FISH PER BOX	<b>\$160.00</b>

**Koi Stocking Packs\*\*—Mix of Decorative, Select and Butterfly (No Guaranteed Ratio)**

MODEL				EACH
<b>STCKFF50</b>	MINI FISH FARM™ (FF50-3)	2-4"	200 FISH PER BOX	<b>\$356.00</b>
<b>STCKFF400</b>	FISH FARM™ II (FF400)	2-4"	1,200 FISH PER BOX	<b>1,715.00</b>

**Goldfish—Mix of Sarassa, Shubunkins, Comets and Wakins**

MODEL				EACH
<b>GOLDFISH1</b>	3-4"		50 FISH PER BOX	<b>\$136.00</b>

\*Koi cannot be shipped to Maine. Shipping is available to Hawaii and Alaska for an additional charge. Hawaii requires an Import Permit.

\*\*Receive an additional discount when ordering in conjunction with a Fish Farm™.



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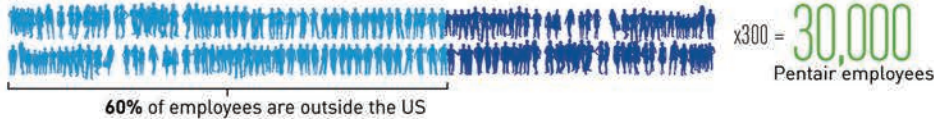
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\*Restrictions apply. Please visit [pentairaes.com/signup](https://pentairaes.com/signup) for more information

# PENTAIR AT A GLANCE

## EMPLOYEES



Product availability on all **7** continents

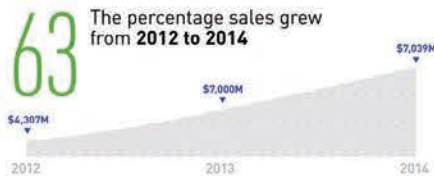
## SALES ACROSS THE GLOBE

### 2014 SALES BY REGION



**50%** US & Canada    **19%** Western Europe    **31%** Fast growth and other developed countries

## ROBUST GROWTH



## PRODUCTION



The number of seconds it takes to fill an Olympic size swimming pool with water by one of Pentair's custom-made flood protection pumps

**250 MILLION**

The number of liters of freshwater per day Pentair provides the residents of Sydney, Australia

**350,000**

The number of people in Colon, Honduras who receive clean water each day through Pentair's Project Safewater initiative



**100+** Pentair manufacturing facilities



**200,000+** Following Pentair AES on Social Media

## INSPIRED SOLUTIONS. IMPROVING LIVES.

**75%**

of our solutions relate to food, water and energy



# PENTAIR AES 5 PILLARS

## SOLE PARTNER



### SINGLE-SOURCE PARTNER

A single-source provider of equipment, expertise and accountability for virtually all water-related applications

## VALUE



### A TEAM WITH DEEP, REAL-WORLD EXPERTISE

Former curators/operators bringing valuable expertise and experience

## INNOVATION



### PRODUCT AND SOLUTION INNOVATION

An innovator that consistently brings value to the industry and its business via new ideas, equipment and solutions for every challenge

## PERFORMANCE



### COMMITMENT ACROSS THE ENTIRE SYSTEM LIFE CYCLE

From system commissioning and start-up through maintenance and troubleshooting

## WIN RIGHT



### A COMPANY THAT WINS RIGHT

We are committed to absolute integrity, respect and performance excellence in everything we do