

Offer-No.: IET-1802009-HCM-Rev03
Date: 4 October 2019
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Project: Central Valley WWTP
Section 46 41 23 HYPERBOLOID MIXERS



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HYPERCLASSIC® - Mixer Quotation

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1 Remarks to Specification section 46 41 23

On the specification section 46 41 23 we have the following remarks to the specification,

Part 1, Section 1.01-D1

All designs are made for the main solids concentration as shown in this section, though the used sludge volume index by INVENT for the design is minimal an SVI of 80 ml/gr.

Part 1, Section 1.02-C1-b-c-d

No load tests are performed on site, all items are checked before shipment though the full assembly will run in a short no load test on site after installation.

Part 1, Section 1.02-D

The section 1.02-D contradicts with section 2.03-B-1, the indicated SEW motors do not fully comply to the motors section 43 05 21.

The **INVENT** gears are designed by SEW per DIN-ISO standards – not AGMA (though SEW is chairman of AGMA). Our gears may conform to some AGMA standards but this would be more due to crossover between AGMA and DIN-ISO standards. SEW helical gearing, as used in the FAF series units, are rated per DIN 3990_1970 and the tolerance and classification is per DIN 3962. We will provide safety factors for bending and pitting on gear teeth per AGMA 2101_C95 via a computer program. Per DIN 3962 SEW helical gears are made to quality number 7.

The gearbox selection for the project at hand will have a AGMA Class II service factor the nameplate service factor will be > 2.

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2 Design Basis

2.1 Application

The **HYPERCLASSIC®** Mixing System ensures complete mixing and prevents sedimentation at the lowest possible energy consumption.

2.2 Wastewater Properties

- Origin of the Wastewater:	municipal
- Medium:	Activated sludge
- MLSS:	≤ 5,000 ppm
- Sludge Volume index (SVI):	≥ 80 ml/g
- Temperature:	40 – 100 °F
- Total Dissolved Solids (TDS):	≤ 2,000 ppm
- pH-Value:	6 – 8

2.3 Remarks

No additional aerators are installed.
Baffles inside the basin are not required.

Positions of inlet and outlets will have to be reviewed to ensure optimum operation of the mixers

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3 Technical Description of the HYPERCLASSIC® - Mixer

3.1 General Description

The **INVENT HYPERCLASSIC®** - Mixing System incorporates the uniquely designed and patented **INVENT** hyperboloid mixer body. The hyperboloid shape was developed for optimum tank flow mechanics and provides unmatched mixing, solids suspension and tank homogenization. The large diameter mixer body rotates at a low speed to maximize the pumping volume while minimizing energy consumption. Its applications include: anoxic zones, anaerobic zones, swing zones, sludge tank mixing, flocculation, equalization tanks, chemical incorporation, etc. in tanks of any shape.

Figure 1 illustrates the **HYPERCLASSIC®** - Mixing System with dry mounted drive in a typical tank. The hyperboloid mixer body is located near the bottom of the tank to provide the mixing energy where it is most needed. The energy flows radially outward from the mixer and sweeps the bottom of the tank with high velocity micro-vortices to keep solids in suspension.

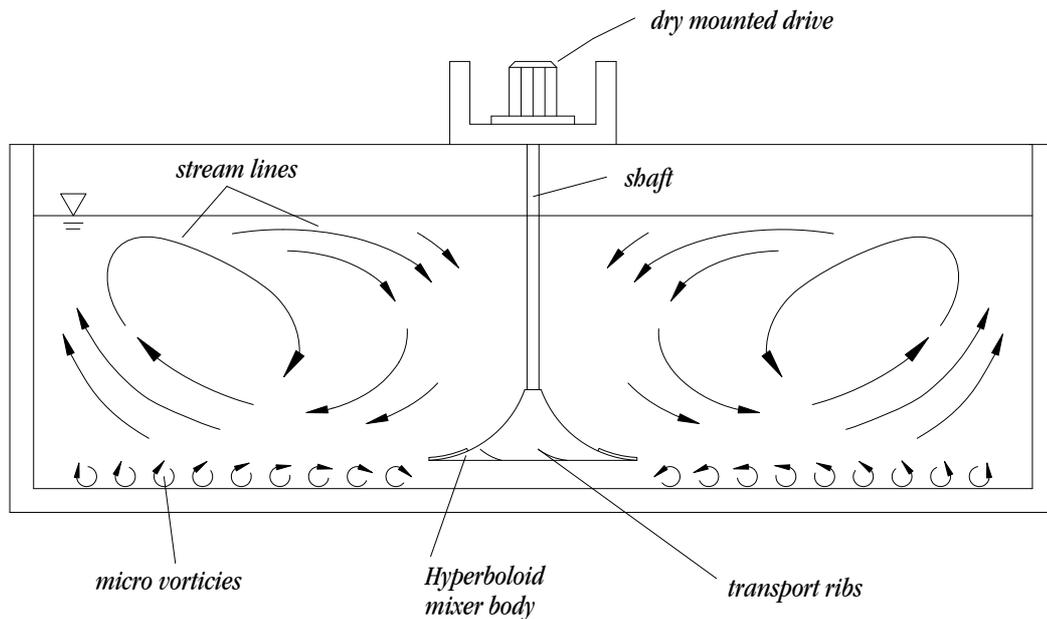


Figure 1: Diagram showing a Hyperboloid-Mixer with a top mounted drive

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3.2 Design

The **HYPERCLASSIC**[®] Mixer consists of a non-clogging Hyperboloid-body, a shaft and a motor with a mounting base. The mixer is supplied including all necessary parts for the assembly on either a steel or a concrete bridge. The individual parts are easy to install and guarantee quick installation. Figure 2 shows the design in detail.

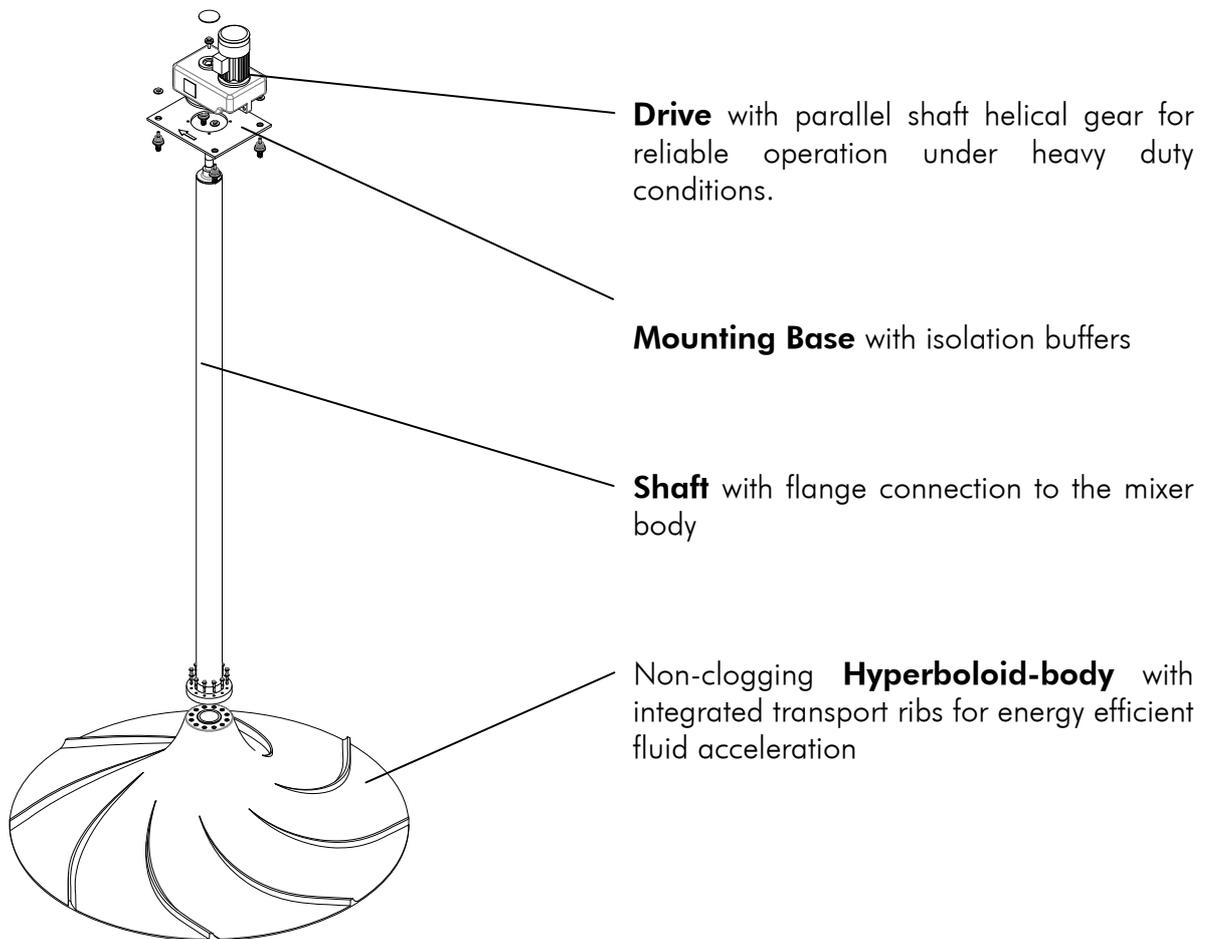


Figure 2: Exploded view on a Hyperboloid Mixer with top mounted drive

HYPERCLASSIC[®] Mixers are stable and designed in such a way that a bottom bushing is not required. This means that all serviceable parts are located above the water surface and are easily accessible for maintenance.

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3.3 Main Advantages

The **INVENT HYPERCLASSIC®** Mixing System provides both process and mechanical benefits including:

Mechanical Advantages	<ul style="list-style-type: none">➤ Non-clogging, non-ragging Hyperboloid-body with integrated transport ribs for optimized fluid acceleration.➤ All parts under water show high resistance against chloride, a wide range of pH and commonly used treatment chemicals.➤ No maintenance relevant parts under water.➤ No upward driving forces or vibrations on the bridge or gearbox.➤ Hyperboloid mixer body is made from high-quality, fiberglass reinforced plastic, completely coated with biologically neutral gel-coat.➤ The large diameter allows for low rotation speeds and even energy distribution in the tanks. This ensures complete suspension and full homogenization with minimal energy input.
Process Advantages	<ul style="list-style-type: none">➤ The Hyperboloid mixer-body is shaped according to the streamlines of the flow. This prevents any flow separation and guarantees highest efficiency.➤ The mixer body operates near the bottom of the tank and therefore provides the highest energy input where sedimentation has to be avoided and sludge flocs have to be resuspended.➤ Minimized surface turbulence eliminates oxygen input via the surface and aerosols production.➤ If the HYPERCLASSIC® Mixing System is used in series with multiple - mixers per basin, it can be designed such that virtual walls between the mixers are produced. This improves retention time and eliminates the high civil construction cost of baffle walls.

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4 Mixer Layout

We recommend the following hyperboloid mixer configuration for the wastewater and basin properties described in Section 1, with the following technical data:

4.1 Mixer Layout Anaerobic Train 1

Basin geometry		
Basin type	rectangular	
Width	25.0	ft
Length	125.0	ft
Water depth	22.0	ft
Freeboard	3.0	ft
Basin area	3,125	sqft
Basin volume	0.514	Mgal
Number of basins	4	-
Mixer rows	1	-
Mixers per row	3	-
Total number of mixers	12	-

Mixer		
Type	HCM/2000-30-3.0hp	
Selected diameter	78.7	in
Output speed	30.2	rpm
Rated power	3.0	hp
Power input	2.1	hp
Power consumption	2.5	hp
Power density	0.09	hp/1000 cuft
Mixing intensity	49	1/s
Bottom flow velocity	9.1	in/s
Average bottom flow velocity	21.3	in/s
Mixer pumping capacity	8,109	cuft/min
Effective service factor	2.9	-
Bottom distance	3.9	in
Total mixer weight	507	lb
Outer diameter	5.3	in
Shaft length	271.9	in
Flange diameter	11.8	in
Hollow shaft	2.0	in
Rated torque	6,151	lb.in
Start-up torque	22,760	lb.in
Static axial force	508	lbf
Dynamic axial force	638	lbf
Grid frequency	60	Hz
Rated voltage	460	V
Rated current	4.2	A
Start-up current	39.5	A
Power reserve	25	%

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4.2 Mixer Layout Aeration Zone 1

Basin geometry		
Basin type	rectangular	
Width	51.0	ft
Length	29.0	ft
Water depth	22.0	ft
Freeboard	3.0	ft
Basin area	1,479	sqft
Basin volume	0.243	Mgal
Number of basins	4	-
Mixer rows	1	-
Mixers per row	1	-
Total number of mixers	4	-

Mixer		
Type	HCM/2500-22-3.0hp	
Selected diameter	98.4	in
Output speed	21.9	rpm
Rated power	3.0	hp
Power input	2.4	hp
Power consumption	2.9	hp
Power density	0.08	hp/1000 cuft
Mixing intensity	44	1/s
Bottom flow velocity	8.4	in/s
Average bottom flow velocity	19.2	in/s
Mixer pumping capacity	11,501	cuft/min
Effective service factor	5.2	-
Bottom distance	4.9	in
Total mixer weight	992	lb
Outer diameter	6.6	in
Shaft length	264.6	in
Flange diameter	17.7	in
Hollow shaft	2.8	in
Rated torque	8,452	lb.in
Start-up torque	31,274	lb.in
Static axial force	994	lbf
Dynamic axial force	816	lbf
Grid frequency	60	Hz
Rated voltage	460	V
Rated current	4.2	A
Start-up current	39.5	A
Power reserve	15	%

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4.3 Mixer Layout Aeration Zone 2

Basin geometry		
Basin type	rectangular	
Width	54.0	ft
Length	85.5	ft
Water depth	22.0	ft
Freeboard	3.0	ft
Basin area	4,617	sqft
Basin volume	0.760	Mgal
Number of basins	4	-
Mixer rows	1	-
Mixers per row	2	-
Total number of mixers	8	-

Mixer		
Type	HCM/2500-24-5.0hp	
Selected diameter	98.4	in
Output speed	24.3	rpm
Rated power	5.0	hp
Power input	3.3	hp
Power consumption	4.0	hp
Power density	0.07	hp/1000 cuft
Mixing intensity	42	1/s
Bottom flow velocity	7.8	in/s
Average bottom flow velocity	17.8	in/s
Mixer pumping capacity	12,748	cuft/min
Effective service factor	4.2	-
Bottom distance	4.9	in
Total mixer weight	1,014	lb
Outer diameter	6.6	in
Shaft length	264.6	in
Flange diameter	17.7	in
Hollow shaft	2.8	in
Rated torque	12,834	lb.in
Start-up torque	52,618	lb.in
Static axial force	1,016	lbf
Dynamic axial force	1,003	lbf
Grid frequency	60	Hz
Rated voltage	460	V
Rated current	7.2	A
Start-up current	65.5	A
Power reserve	25	%

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4.4 Mixer Layout Aeration Zone 3

Basin geometry		
Basin type	rectangular	
Width	54.0	ft
Length	29.0	ft
Water depth	22.0	ft
Freeboard	3.0	ft
Basin area	1,566	sqft
Basin volume	0.258	Mgal
Number of basins	4	-
Mixer rows	1	-
Mixers per row	1	-
Total number of mixers	4	-

Mixer		
Type	HCM/2500-22-3.0hp	
Selected diameter	98.4	in
Output speed	21.9	rpm
Rated power	3.0	hp
Power input	2.4	hp
Power consumption	2.9	hp
Power density	0.07	hp/1000 cuft
Mixing intensity	43	1/s
Bottom flow velocity	8.0	in/s
Average bottom flow velocity	18.6	in/s
Mixer pumping capacity	11,501	cuft/min
Effective service factor	5.2	-
Bottom distance	4.9	in
Total mixer weight	992	lb
Outer diameter	6.6	in
Shaft length	264.6	in
Flange diameter	17.7	in
Hollow shaft	2.8	in
Rated torque	8,452	lb.in
Start-up torque	31,274	lb.in
Static axial force	994	lbf
Dynamic axial force	816	lbf
Grid frequency	60	Hz
Rated voltage	460	V
Rated current	4.2	A
Start-up current	39.5	A
Power reserve	15	%

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4.5 Mixer Layout RAS Anoxic Zone

Basin geometry		
Basin type	rectangular	
Width	31.5	ft
Length	90.0	ft
Water depth	16.0	ft
Freeboard	3.0	ft
Basin area	2,835	sqft
Basin volume	0.339	Mgal
Number of basins	1	-
Mixer rows	1	-
Mixers per row	2	-
Total number of mixers	2	-

Mixer		
Type	HCM/2500-20-3.0hp	
Selected diameter	98.4	in
Output speed	20.3	rpm
Rated power	3.0	hp
Power input	2.0	hp
Power consumption	2.3	hp
Power density	0.09	hp/1000 cuft
Mixing intensity	48	1/s
Bottom flow velocity	8.4	in/s
Average bottom flow velocity	18.6	in/s
Mixer pumping capacity	10,667	cuft/min
Effective service factor	6.0	-
Bottom distance	4.9	in
Total mixer weight	970	lb
Outer diameter	6.6	in
Shaft length	192.6	in
Flange diameter	17.7	in
Hollow shaft	2.8	in
Rated torque	9,116	lb.in
Start-up torque	33,730	lb.in
Static axial force	971	lbf
Dynamic axial force	706	lbf
Grid frequency	60	Hz
Rated voltage	460	V
Rated current	4.2	A
Start-up current	39.5	A
Power reserve	35	%

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5 Scope of Supply

5.1 HYPERCLASSIC® Mixer Configuration

Each mixer includes of:

	Number	Mixer Part	Material
Mixer Configuration	1	Drive Unit	Housing made from cast iron with high-quality coating
	1	Mounting Base	Carbon steel with powder coating and rubber buffers
	1	Shaft with flanged connection	High quality FRP
	1	Hyperboloid Mixer Body with flanged connection	High quality FRP
	1 set	Assembly Material	ASTM 316 Ti

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6 Walkways

6.1 Anaerobic Zone – Walkways for Hyperbolic Mixers

Walkways will be supplied in main parts, to be assembled on site by the contractor. Adjustment of existing handrail by the contractor.

- Total number of walkways per train : 3 units
- Total number of walkways for Anaerobic Zones: 12 units

The **INVENT** walkways are designed to support the **INVENT HYPERCLASSIC®**-Mixing System. The walkways are especially designed to avoid any mixer performance effect. The calculations and design of the walkways follow the guidelines of the specification.

The access walkway package consists of

- ✓ Submittal package for approval by the engineer.
- ✓ Walkways made of **galvanized carbon steel** structural shape framing
- ✓ Walkways with specially designed wall mounting bracket in type 316 stainless steel
- ✓ Walkways with one Type 316 stainless steel support legs in the basin
- ✓ Walkways with aluminum grating and aluminum railing.
- ✓ Mounting hardware, fasteners and anchors Type 316 stainless steel.



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6.2 Aeration tank – Walkways for Hyperbolic Mixers

Walkways will be supplied in main parts, to be assembled on site by the contractor. Adjustment of existing handrail by the contractor.

- Total number of walkways per train: 3 units
- Total number of walkways for aeration tank mixers: 12 units

The **INVENT** walkways are designed to support the **INVENT HYPERCLASSIC®**-Mixer/Aerator System. The walkways are especially designed to avoid any mixer performance effect. The calculations and design of the walkways follow the guidelines of the specification.

The access walkway package will consist of

- ✓ Submittal package for approval by the engineer.
- ✓ Walkways made from galvanized carbon steel structural shape framing
- ✓ Walkways with specially designed wall mounting bracket in type 316 stainless steel
- ✓ Walkways with one (1) Type 316 stainless steel support legs in the basin
- ✓ Walkways with aluminum grating and aluminum railing.
- ✓ Mounting hardware, fasteners and anchors Type 316 stainless steel.

Walkways will be supplied in main parts, to be assembled on site by the contractor. Adjustment of existing handrail by the contractor.



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6.3 RAS Anoxic Zone – Walkways for Hyperbolic Mixers

Walkways will be supplied in main parts, to be assembled on site by the contractor. Adjustment of existing handrail by the contractor.

- Total number of walkways per train : 2 units
- Total number of walkways for RAS Anoxic Zone: 2 units

The **INVENT** walkways are designed to support the **INVENT HYPERCLASSIC®**-Mixing System. The walkways are especially designed to avoid any mixer performance effect. The calculations and design of the walkways follow the guidelines of the specification.

The access walkway package consists of

- ✓ Submittal package for approval by the engineer.
- ✓ Walkways made of **galvanized carbon steel** structural shape framing
- ✓ Walkways with specially designed wall mounting bracket in type 316 stainless steel
- ✓ Walkways will have one support leg, grating and handrail up to the mixer
- ✓ Walkways with aluminum grating and aluminum railing.
- ✓ Mounting hardware, fasteners and anchors Type 316 stainless steel.



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7 Pricing

7.1 Pricing INVENT Mixers

HYPERCLASSIC® Mixers HCM 2000 – 30 – 2 hp	Qty (12)
HYPERCLASSIC® Mixers HCM 2500 – 24 – 3 hp	Qty (8)
HYPERCLASSIC® Mixers HCM 2500 – 28 – 5 hp	Qty (8)
HYPERCLASSIC® Mixers HCM 2500 – 24 – 3 hp	Qty (2)
Transportation and delivery (DDP),	included
Spare Parts	included
Start-up and Training	included

Price for the INVENT Mixers according section 46 41 23 \$ 812,000.-

7.2 Pricing for the walkways for the INVENT Mixers

Walkways for HYPERCLASSIC® Mixer Anaerobic Zone	Qty (12)
Walkways for HYPERCLASSIC® Mixer Aeration Zone	Qty (12)
Walkways for HYPERCLASSIC® Mixer RAS Anoxic Zone	Qty (2)
Transportation and delivery (DDP),	included

Price for the INVENT Walkways as described \$ 866,000.-

Total Project Price \$ 1,678,000.-

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8 Commercial conditions

8.1 Guarantee

- The guarantee period is 12 months after start up of the system. The guarantee is only valid if all **INVENT** Environmental Technologies Inc guidelines for the operation and start up of the systems have been followed. If the equipment is not put into service, the guarantee period begins at the latest 4 weeks after the completion of the plant construction. If there is no assembly the time of guarantee starts 6 months after delivery and/or notification of readiness for transport.
- Our guarantee is based on the data and documents we have received prior to purchase of the equipment. We assume that the client has informed us about all possible flow obstacles, such as inflows and outflows. Flow disturbances or damages resulting from flow obstacles or other flow generators, inflows, and outflows are not part of our guarantee.

8.2 Delivery Time

Submittal drawings will be provided 6 – 8 weeks after acceptance of purchase order.

The equipment will be ready to ship approximately 22 - 24 weeks after approval of submittal documents and the receipt of down payment.

8.3 Delivery Terms

All prices are ex works unless otherwise indicated.

8.4 Terms of Payment for goods (EXW)

- a) 25% upon placement of the order
- b) 70 % upon submittal approval
- b) 5 % upon delivery, or announcement of readiness for shipment

8.5 Period allowed for payment

All prices are payable net within 30 days after the receipt of the invoice

8.6 Binding period of quote

The offer is valid for 90 days.

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9 Commercial conditions

INVENT ENVIRONMENTAL TECHNOLOGIES, INC.

TERMS AND CONDITIONS OF SALE

Offer and Acceptance. ANY ACCEPTANCE OF THIS OFFER IS LIMITED TO ACCEPTANCE OF THE EXPRESS TERMS AND CONDITIONS CONTAINED HEREIN AND IN ANY QUOTATION AND/OR SALES ORDER ACKNOWLEDGEMENT WHICH IS ISSUED BY **INVENT**. ANY PREVIOUS OFFERS MADE BY BUYER, WHETHER WRITTEN OR VERBAL, NOT ALREADY EXPRESSLY ACCEPTED BY **INVENT** IN WRITING ARE HEREBY OBJECTED TO AND REJECTED. IN NO EVENT SHALL THIS OFFER BE DEEMED AN ACCEPTANCE OF ANY PRIOR OFFER BY BUYER. THE TERMS AND CONDITIONS BELOW SHALL SUPERSEDE ANY PROVISIONS, TERMS AND CONDITIONS CONTAINED ON ANY PURCHASE ORDER, CONFIRMATION, OR OTHER WRITING THE BUYER MAY GIVE OR RECEIVE, AND THE RIGHTS OF THE PARTIES SHALL BE GOVERNED EXCLUSIVELY BY THE PROVISIONS, TERMS AND CONDITIONS HEREOF. NO CONTRARY, ADDITIONAL OR DIFFERENT PROVISIONS, TERMS OR CONDITIONS SHALL BE BINDING ON **INVENT** UNLESS ACCEPTED BY **INVENT** IN A WRITING WHICH MAKES SPECIFIC REFERENCE TO THIS OFFER AND ACKNOWLEDGES SUCH MODIFICATIONS OR REVISIONS. ONCE THIS OFFER IS ACCEPTED BY BUYER, THIS ORDER MAY BE CANCELED ONLY WITH **INVENT'S** WRITTEN CONSENT AND UPON TERMS THAT WILL INDEMNIFY **INVENT** AGAINST ANY AND ALL LOSS. **INVENT'S** COMMENCEMENT TO PROCURE THE GOODS OR SHIPMENT OF THE GOODS WHICH ARE THE SUBJECT OF THIS OFFER SHALL BE DEEMED AN EFFECTIVE MODE OF ACCEPTANCE OF THIS SALES ORDER BY BUYER, UNLESS BUYER, WITHIN A COMMERCIALY REASONABLE TIME AFTER BUYER BECOMES AWARE, OR SHOULD HAVE BECOME AWARE, OF **INVENT'S** COMMENCEMENT TO PROCURE THE GOODS HEREIN OR OF SHIPMENT OF SUCH GOODS, NOTIFIES **INVENT** IN WRITING THAT BUYER OBJECTS TO AND REJECTS THIS OFFER. THIS OFFER IS SUBJECT TO **INVENT'S** CREDIT APPROVAL OF BUYER.

Quotations and Prices; Other Charges. Written quotations automatically expire 90 calendar days from the date issued and are subject to termination by notice within that period. Unless otherwise expressly provided in this sales order, the prices quoted or referred to herein do not include any charges for packaging, freight, transportation, custom duties, tariffs, import or other taxes, insurance, or any other charges relating to the transportation and shipment to or use by Buyer of the products sold under this sales order. Such charges and/or taxes shall be the sole responsibility of and shall be borne exclusively by Buyer. Wherever applicable, any such charges and/or taxes will be added to the invoice as a separate charge to be paid by Buyer. If **INVENT** is required to pay any such charges and/or taxes, Buyer agrees to reimburse **INVENT** for any amounts so paid upon demand.

Payment Terms. **INVENT** shall bill Buyer for all purchases made under this sales order by invoice sent to Buyer at Buyer's address shown on the sales order. All invoices submitted by **INVENT** to Buyer shall be payable net within thirty (30) days after the date of said invoices. All payments due to **INVENT** hereunder shall be paid in United States dollars to **INVENT**, or to such entity or person as is designated by **INVENT**, in accordance with the remittance instructions contained in the invoice. If payment is not received within the prescribed period, interest shall accrue on any unpaid balance from its due date until payment is made at the rate of one and one half percent (1.5%) per month or the highest interest rate allowable by law, whichever is less. If in **INVENT'S** opinion the financial condition of Buyer at any time does not justify continuance of production or shipment on the terms of payment specified herein, **INVENT** may require full or partial payment in advance. Buyer understands and agrees that its obligation to make payments to **INVENT** shall be absolute and unconditional under any and all circumstances, whether or not **INVENT** violates any of its obligations described herein or otherwise, and such payments shall not be subject to any defense, set-off, or counterclaim for any reason whatsoever.

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Shipment and Delivery. This offer is made with the understanding that it is subject to **INVENT's** ability to obtain the materials necessary to supply the goods hereunder. Unless otherwise indicated on the sales order, all goods shall be delivered F.O.B. **INVENT's** Cedar Grove, New Jersey location. **INVENT** will endeavor to meet all scheduled dates indicated on the sales order, or otherwise requested in writing by Buyer and accepted in writing by **INVENT**; provided, however, that all shipments are subject to **INVENT's** availability schedule. If shipment of goods is delayed at the request of Buyer, then **INVENT** shall be entitled to place the goods in storage for the account of Buyer, and all expenses incurred by **INVENT** in connection with the storage, handling, preservation, or insurance of the goods shall be paid by Buyer upon presentation of **INVENT's** invoice. Method and route of shipment are at **INVENT's** discretion, unless Buyer supplies explicit written instructions and Seller agrees in writing to such instructions. Unless otherwise indicated in the sales order, all shipments are insured at Buyer's expense and made at Buyer's risk. Identification of the goods to the contract shall occur as each shipment is placed in the hands of the carrier. Nondelivery by **INVENT** as to any product shall not be deemed a breach of this agreement. Any non-delivery shall not relieve Buyer from its obligation to accept or be responsible for any subsequent or prior shipment. All shipments shall be packaged in accordance with the standard packaging specified in the sales order. If no particular packaging is specified in the sales order, all goods shall be shipped in accordance with **INVENT's** standard packaging. **INVENT** shall have no responsibility to obtain insurance on any shipment of Product. **INVENT** shall have the additional right, in the event of the happening of any of the above contingencies, at its option, to cancel this contract or any part hereof without any resulting liability. Shipments made within thirty (30) days after specified date of delivery shall constitute a good delivery. Normal tolerances in specifications shall be acceptable. **INVENT** shall not be obligated to take back any packaging materials and Buyer shall be solely responsible, at Buyer's sole cost and expense, for the disposal of packaging materials.

Title and Risk of Loss; Security Interest. Title to and risk of loss and damage for any shipment of goods shall pass to Buyer immediately upon delivery of such shipment to Buyer or its designated agent or upon deposit with a common carrier in accordance with Buyer's instructions, whichever occurs first. **INVENT** shall retain a security interest in the goods shipped to Buyer until the entire balance of the price of such goods and all other monies then due are paid in full. Buyer hereby authorizes **INVENT** to file U.C.C. financing statements, without Buyer's signature, to perfect its security interest in all goods shipped which have not been paid for in full. In the event Buyer defaults on any payment or makes an assignment for the benefit of creditors, or if a proceeding in insolvency or bankruptcy is initiated by or against Buyer, whether voluntary or involuntary, **INVENT** shall have the right to withhold shipments, in whole or in part, and to recall goods in transit, retake same, and remove and/or repossess goods which may be stored with **INVENT** for Buyer's account, without the necessity of taking any other proceedings and to take such other action as may be necessary to protect its security interest, including any other remedies **INVENT** may have at law, in equity, or otherwise. The foregoing rights and remedies shall be in addition to, and not in lieu of, any other rights and remedies which **INVENT** may have hereunder or otherwise, whether at law, in equity, or otherwise.

Product Warranty. **INVENT** warrants that the products supplied hereunder shall conform at time of delivery to the written specifications accepted by **INVENT**, if any, subject to **INVENT's** standard tolerances for variations.

Disclaimer. **INVENT'S** SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR A BREACH OF THE WARRANTY SHALL BE, AT **INVENT'S** SOLE OPTION, CREDIT OR REPLACEMENT OR REPAIR OF THE NONCONFORMING PRODUCT. FURTHERMORE, SUCH WARRANTY SHALL NOT APPLY TO, AND SHALL BE NULL AND VOID WITH RESPECT TO, ANY GOODS (i) WHICH ARE ALTERED, MODIFIED, DAMAGED, REPAIRED, ABUSED, MISUSED, OR IMPROPERLY ASSEMBLED, COMMISSIONED, OR INTEGRATED (WHETHER INTENTIONALLY OR ACCIDENTALLY) BY ANY PERSON OTHER THAN **INVENT** OR ITS AGENTS, (ii) WHICH, NOTWITHSTANDING THEIR NONCONFORMITY, ARE USED OR OTHERWISE ACCEPTED BY BUYER, OR (iii) WITH RESPECT TO WHICH BUYER HAS WAIVED ITS CLAIM FOR REJECTION UNDER THE PROVISIONS OF

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THE SALES ORDER. THE FOREGOING WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, AND **INVENT** DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND/OR PARTICULAR PURPOSE.

Limitation of Liability. **INVENT** SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE, OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING, WITHOUT LIMITATION, ANY LOST REVENUES, PROFITS, OR BUSINESS OF BUYER OR ITS CUSTOMERS, AGENTS, AND DISTRIBUTORS, RESULTING FROM, ARISING OUT OF OR IN CONNECTION WITH, ANY SALE, MANUFACTURE, DISTRIBUTION OR ANY USE OF ANY GOODS OR FOR ANY FAILURE OF SUPPLY OF ANY GOODS FOR ANY REASON, WHETHER OR NOT **INVENT** HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING LIMITATION OF LIABILITY SHALL NOT BE CONSTRUED TO APPLY ONLY TO DAMAGES OCCURRING AS A RESULT OF A BREACH OF PRODUCT WARRANTY, BUT SHALL APPLY TO ANY DAMAGES OCCURRING AS A CONSEQUENCE OF THIS SALES ORDER. BUYER'S SOLE REMEDY FOR BREACH OF PRODUCT WARRANTY IS SET FORTH IN THE PRODUCT WARRANTY SECTION ABOVE.

Acceptance; Rejection. Except as provided in this paragraph, Buyer shall accept all goods shipped in accordance with the terms and conditions of this sales order. Buyer may reject any shipment of any goods to the extent such shipment does not conform in any material respect with the written specifications accepted by **INVENT**, if any. Buyer shall not have the right to reject any goods due to negligible defects. In order to reject a shipment, Buyer must give written notice to **INVENT** within ten (10) days after receipt of the shipment, together with a reasonably detailed written statement of its reasons for rejection. If no such notice is received, then Buyer shall be determined to have accepted the shipment of the goods. In no case shall Buyer return goods without first obtaining **INVENT's** permission in writing. **INVENT** shall, within a reasonable period of time, notify Buyer whether it accepts Buyer's assertions of nonconformity. If **INVENT** disagrees with any alleged nonconformity by Buyer, then an independent party mutually agreed upon by the parties shall analyze the goods in question as may be necessary to substantiate whether the goods rejected by Buyer conformed in all material respects to the specifications accepted by **INVENT** therefore, if any. Both parties agree to cooperate with the independent party's reasonable requests for assistance in connection with its analysis hereunder. Both parties shall be bound by the independent party's results of analysis. The costs incurred by the parties shall be borne by the losing party. If **INVENT** or the independent party confirms the nonconformity, **INVENT** shall, at its sole option, replace (if it has not already done so) the nonconforming goods with conforming products as promptly as reasonably possible or credit to Buyer the purchase price therefor.

Indemnification. Buyer shall indemnify, defend, and hold **INVENT** harmless from and against any and all loss, cost, liability, and expense (including, without limitation, reasonable attorneys' fees and costs) incurred and/or paid by **INVENT** resulting from or arising out of or in connection with (a) any representation or warranty made to any third party by Buyer, its affiliates, agents, distributors, or employees which is not expressly authorized by **INVENT** in writing and (b) any claims asserted or actions filed against **INVENT** by a third party, including claims for personal injury or property damage, except if liability for such claims or actions arises from the willful misconduct of **INVENT**.

Force Majeure. Except where set forth expressly herein, neither party shall be liable for any delay or for any consequence of any delay in the delivery or purchase, as the case may be, of any goods if such delay shall be due to (a) any cause beyond its reasonable control, including, but not limited to, acts of God or the public enemy, acts of terrorism, valid law, acts or requests of any national or provincial government, or of any national or provincial officer or agent purporting to act under duly constituted authority, wars, floods, fires, storms, strikes, lockouts, delivery of nonconforming or defective material, supplies, or equipment, interruptions of transportation,

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freight embargoes or failures, exhaustion or unavailability on the open market (or delays in delivery) of material, supplies, equipment, or services necessary for the performance of any provision hereof, or (b) the happening of any unforeseen acts, misfortune, or casualty by which performance hereunder is delayed or prevented; provided, however, that the party so affected will use all commercially reasonable efforts to remedy the situation, except that nothing contained herein shall require such party to make settlement of any labor dispute on terms unacceptable to it and no such party shall be liable to the other for any losses, damages, or costs by reason of its inability to remedy the situation. If any such delay occurs, then (unless the cause thereof shall frustrate or render impossible or illegal the performance of this contract or shall otherwise discharge the same), the parties' periods for performing their respective obligations shall be extended by such period (not limited to the length of the delay) as the other party may reasonably require to complete the performance of its obligation.

Insurance. Buyer agrees to carry and maintain at all times after this sale products liability insurance in good and sufficient amounts to cover products liability claims with respect to all products which are subject to this sales order. Buyer will, upon request, name **INVENT** as an additional insured under such insurance and furnish **INVENT** with proper evidence of such coverage.

Subcontracting and Assignability. This agreement, and the performance of any obligations hereunder, may not be assigned by a party hereto without the prior written consent of the other party, but shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and any permitted successors, assignees, and legal representatives; provided, however, that **INVENT** shall be entitled to assign its obligations under this agreement, without the prior written consent of Buyer, to any corporation which controls, is controlled by, or is under common control with **INVENT** or to any corporation which succeeds as a going concern to the business presently conducted by **INVENT**.

Severability. If any part of this agreement shall be held unenforceable, the remainder of the agreement shall nevertheless remain in full force and effect.

Relationship of the Parties. All parties are independent contractors under this agreement. Nothing contained in this agreement is intended nor is to be construed so as to constitute the parties as partners or joint venturers with respect to this agreement. Neither party hereto shall have any express or implied right or authority to assume or create any obligations on behalf of or in the name of the other party to any other contract, agreement or undertaking with any third party.

Governing Law; Forum; Enforcement. This sales order and any disputes between the parties arising in connection with this sales order or the agreement resulting from Buyer's acceptance hereof shall be governed by and interpreted in accordance with the laws of the State of New Jersey as if the agreement was performed wholly within the State of New Jersey and without regard to its conflict of law principles. All disputes arising out of this agreement shall be resolved by a court of competent jurisdiction in the State of New Jersey and both parties hereby consent to the jurisdiction of the courts of the State of New Jersey and the Federal District Court for the District of New Jersey; provided that **INVENT** shall have the right to pursue any such action in any court with jurisdiction over Buyer. **INVENT** and Buyer hereby waive and exclude the application of the U.N. Convention on Contracts for the International Sale of Goods in the interpretation and enforcement of this agreement. In the event **INVENT** takes or maintains any action to enforce its rights hereunder and prevails thereafter, Buyer shall reimburse **INVENT** for its reasonable costs and expenses incurred, including, without limitation, reasonable attorneys' fees and costs.

Compliance with Laws. Buyer shall comply with all laws, rules, regulations, and other requirements of local, state, and federal governments in connection with its performance hereunder. Buyer shall obtain and supply, at

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Buyer's sole cost and expense, any required import licenses and any other required permits, licenses, approvals, and similar items.

Entire Agreement; Modification; Waiver. This sales order contains the entire agreement of the parties regarding the subject matter hereof and supersedes all prior purchase orders, bills of lading, invoices, proposals, letters of intent, agreements, understandings, and negotiations regarding the same. No modification of this order shall be effective without **INVENT's** written consent. Except as otherwise provided herein, in no event shall this agreement be deemed amendable or amended by any purchase order, bill of lading or invoice issued and/or accepted by either party hereto. Any waiver of strict compliance with the provisions of this order shall not be deemed a waiver of **INVENT's** rights, privileges, claims, or remedies nor of **INVENT's** right to insist on strict compliance thereafter.

Non-Exclusive Royalty Free License: **INVENT** Environmental Technologies Inc grants the Customer a non-exclusive royalty-free license to use any process or apparatus claimed in any patent owned by **INVENT**, but only to the extent that this license is required by Customer to operate the equipment as supplied by **INVENT**. All other rights reserved.

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10 Further Options

10.1 HYPERCLASSIC® Mixer Options

	Description	Price per unit
Available Options	<u>Protection type IP 66</u> (according to DIN 42950): complete protection against entry of dust, contact with mediums of any kind and water jets from all directions.	Included
	<u>3 PTC sensors</u> , thermal class F for complete protection against thermal overload. Use of the motor for heavy starts, multiple starts per hour and fluctuating current supply. The corresponding control relays are available from specialist suppliers.	Included for VFD driven units
	<u>Heavy Duty Coating</u> .	Included
	<u>Synthetic Oil</u> : The common intervals of the lubricant exchange can be increased from 10,000 to 20,000 operating hours.	Included
	<u>Oil sight glass</u> for easy oil level inspection	Included

We reserve the right to carry out technical changes, which serve to the improvement of our products.

Thank you for your interest in the **INVENT** technologies. We look forward to the opportunity to work together.

INVENT Environmental Technologies Inc.

Marcel Huijboom

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Attachment A – Mixer Layout Drawing

