



# CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 4/1/08

**SUBJECT:** Purchase of one Aurora Series 411 Pump Package

**DEPARTMENT:** Public Utilities

**RECOMMENDED MOTION:** To waive the formal bidding process for Model 411 Aurora Pump, and authorize a purchase order to Barney's Pumps in the amount of \$54,000.00 for the addition of one new high service pump at the Reclaimed Water Plant.

**SUMMARY:** Aurora pumps are used extensively throughout our Water and Reclaimed Water Treatment Plants and pumping stations. The Reclaimed Water Plant averages over 4 million gallons per day pumped to reclaimed water customers with a peak daily demand of over 6.6 million gallons per day. The Oak Street High Service Pump Station presently has three 250 hp, 3000 GPM Aurora pumps. Electrical supply limitations allow only two pumps to run at a time. The proposed 350 hp, 5500 GPM Aurora pump will improve pump efficiency plus also meet the future reclaimed water demand by increasing production with two pumps in service.

The cost of one complete pump and motor package is \$54,000.00. Direct purchase of the pump will result in a significant savings in sales tax. This pump is not a stock shelf item and will require at least four months for fabrication and delivery. Issuance of the purchase order will allow for the pump to be assembled. In the interim, City staff will obtain separate quotes for a contractor to install the pump package plus work on other electrical equipment and pipe material required for operating the new Aurora pump.

Barney's Pumps is the manufacturer's only Florida-authorized representative for Aurora products and parts in our area. We are requesting that a purchase order to Barney's Pumps be authorized in the amount of \$54,000.00. Funds are available in UET 003 Reclaimed Water Extension, Account No. 40504005356397.

**ATTACHMENTS:**  Ordinance  Resolution  Budget Resolution

Other  Support Documents/Contracts Available for Review in Manager's Office

**DEPARTMENT HEAD** *Roger M. Smith* Roger M. Smith Date *3-18-08*

**FINANCE DEPARTMENT** *J. A. Steg* Approved as to Budget Requirements Date *3/19/08*

**CITY ATTORNEY** *Attila J. Scherer* N/A Approved as to Form and Legality Date N/A

**CITY MANAGER** *[Signature]* Approved Agenda Item For: *4/1/08*

**COUNCIL ACTION:**  Approved as Recommended  Disapproved  Tabled Indefinitely  
 Continued to Date Certain  Approved with Modification:





# Barney's Pumps Terms of Sale & Warranty

## Terms of Sale

1. Quoted prices do not include any taxes. Standard payment terms are net 30 days from invoice date.

Contractor Sales: Minimum 90% net 30 days – Balance of retainage due at start-up OR 80 days from invoice date, whichever occurs first.

2. We reserve the right to charge one and one-half percent (1-1/2%) of the past due balance per month. If it becomes necessary for us to employ an attorney or to bring suit to recover any amount, the Purchaser agrees to pay all of our court costs, legal expenses, and reasonable attorney's fees in connection therewith. These remedies are not in lieu of any other remedies so provided by applicable law.
3. Shipping date estimates are based on current conditions and reflect the producer's calculations. We will not be liable nor responsible for any delays caused by late shipment to us, or by any other matters beyond our control (Force Majeure) either in whole or in part.
4. Purchaser must inspect all materials/goods for damage or shortage at the time of delivery. Claims for damage or shortage must be given in writing at the time of delivery to the carrier, and we must be notified in writing of any such claim within five (5) days.
5. Materials/goods may not be returned without our consent, and will be subject to a restocking charge plus any freight costs involved.

## Terms of Warranty

1. Materials/goods are warranted only under the conditions and to the extent that they are warranted by the manufacturer(s), whose warranties will be furnished and assigned to Purchaser on request. We will not be liable for any breach of such warranty.

With respect to materials/goods manufactured by us, we warrant that they will be free from defects in materials and/or workmanship for a period not to exceed eighteen (18) months after shipment or twelve (12) months after start-up, whichever occurs first. Our sole obligation is limited to our repair/replacement, without charge, of the material/goods, F.O.B. our facility of manufacture.

For those items partially or totally manufactured by others, and incorporated into our system(s) for resale, we pass along their warranty(s) in total, including warranties of Y2K compatibility, but do not offer additional warranties, nor certify that they meet the intent of any request.

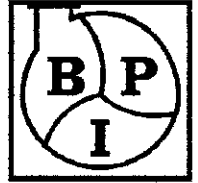
Other than the above express warranty, we make no other warranties whatsoever. In order for our said warranty to be enforceable, we must first be given a written notice, and a reasonable opportunity to inspect the material/goods alleged to be defective, as well as the installation and use thereof. Warranty determination must be mutually determined.

2. In no event will we be liable for consequential, incidental, general, alleged negligence, special, direct, indirect, legal theory, loss of use, loss of performance, loss of operations, loss of profit, or any other damages with respect to any materials/goods supplied by us, whether solely manufactured by us or others.

Indemnification/Hold Harmless is not accepted by Barney's Pumps. This in no way diminishes the rights of either party. It is simply our corporate policy to rely on our extensive warranty outlined above.

QUOTATION NUMBER  
0512R1-08

# BARNEY'S PUMPS INC.



P.O. Box 3529 Lakeland, FL 33802-3529  
2965 Barney's Pumps Place Lakeland, FL 33812  
Phone (863) 665-8500  
Fax (863) 666-3858

DATE: 11 March 2008

TO: City of Port Orange  
Tom May

FOR SHIPMENT TO: Oak Street WWTP

PROJECT: Oak Street Reclaimed Distribution

<u>Delivery</u> 14-16 weeks	<u>Via</u> Bestway	<u>From</u> Barney's Pumps	<u>F.O.B.</u> Barney's Pumps	<u>Terms</u> TBD
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ITEM	QTY	DESCRIPTION	PRICE
A	1	<p>Electrical: 460 V / 3Ø / 60 Hz Design point: 5,500 gpm @ 208' ( 90PSI) TDH / reclaimed water</p> <p>Aurora Pump Package to include: 411 10x12x18 with mechanical seals, 316 stainless shaft sleeve, bronze impeller and case wear rings, drip rim baseplate, flexible coupling; 350 hp, 1800 rpm, ODP motor by US motors with space heaters and thermostats.</p> <p>Delivery is F.O.B. Barney's Pumps with freight allowed to jobsite. Barney's Pumps standard terms of sale and warranty apply. Start-up and training services are not included. Taxes, anchor bolts, piping, field wiring, etc. are not included.</p>	\$54,000.

The following items are attached: Bulletin  Performance curve  Elevation drawing

Prices quoted are firm for 30 days (unless otherwise noted), then subject to adjustment to agree with prices at time of shipment and subject to any tax required by law. We appreciate the opportunity to serve you and trust that we are favored with your order. This quotation is subject to Barney's Pumps standard terms of sale and warranty.

BARNEY'S PUMPS INC.

*RYAN GRUNCKO*

Authorized Signature

Pump Data Sheet - AURORA PUMPS

Company: Barney's Pumps  
 Name: Port Orange - Oak St Reuse  
 Date: 2/21/2008

Upgrade to 350 hp motor and pump  
 5500 gpm @ 209 ft TDH  
 Aurora 411 10x12x18  
 350 hp, 1800 rpm motor



**Pump:**

Size: 10x12x18  
 Type: 410 1 STG SPLIT CASE  
 Synch speed: 1800 rpm  
 Curve: 2PC-117403A  
 Specific Speeds:  
 Dimensions:  
 Speed: 1775 rpm  
 Dia: 16 in  
 Impeller: 444A146  
 Ns: 2175  
 Nss: 9604.76  
 Suction: 12 in  
 Discharge: 10 in

**Search Criteria:**

Flow: 5500 US gpm  
 Head: 208 ft  
 Fluid:  
 Water  
 Density: 62.25 lb/ft<sup>3</sup>  
 Viscosity: 1.105 cP  
 NPSHa: ---  
 Temperature: 60 °F  
 Vapor pressure: 0.2563 psi a  
 Atm pressure: 14.7 psi a

**Pump Limits:**

Temperature: 275 °F  
 Pressure: 250 psi g  
 Sphere size: 1.562 in  
 Power: ---  
 Eye area: ---

**Motor:**

Standard: NEMA  
 Enclosure: TEFC  
 Sizing criteria: Max Power on Design Curve  
 Size: 350 hp  
 Speed: 1800  
 Frame: 449T

--- Data Point ---

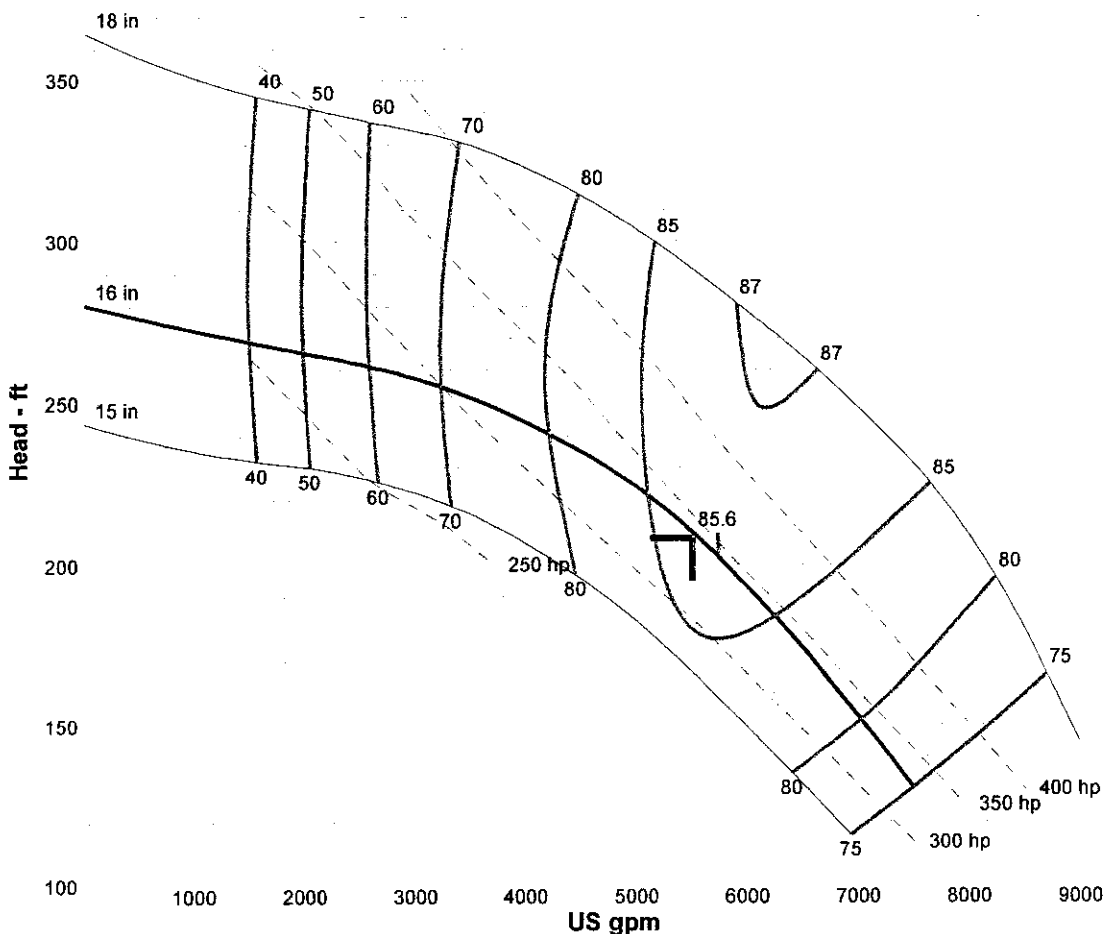
Flow: 5500 US gpm  
 Head: 209 ft  
 Eff: 85%  
 Power: 340 hp  
 NPSHr: 20.2 ft

--- Design Curve ---

Shutoff head: 281 ft  
 Shutoff dP: 121 psi  
 Min flow: ---  
 BEP: 86% @ 5727 US gpm  
 NOL power: 342 hp @ 5727 US gpm

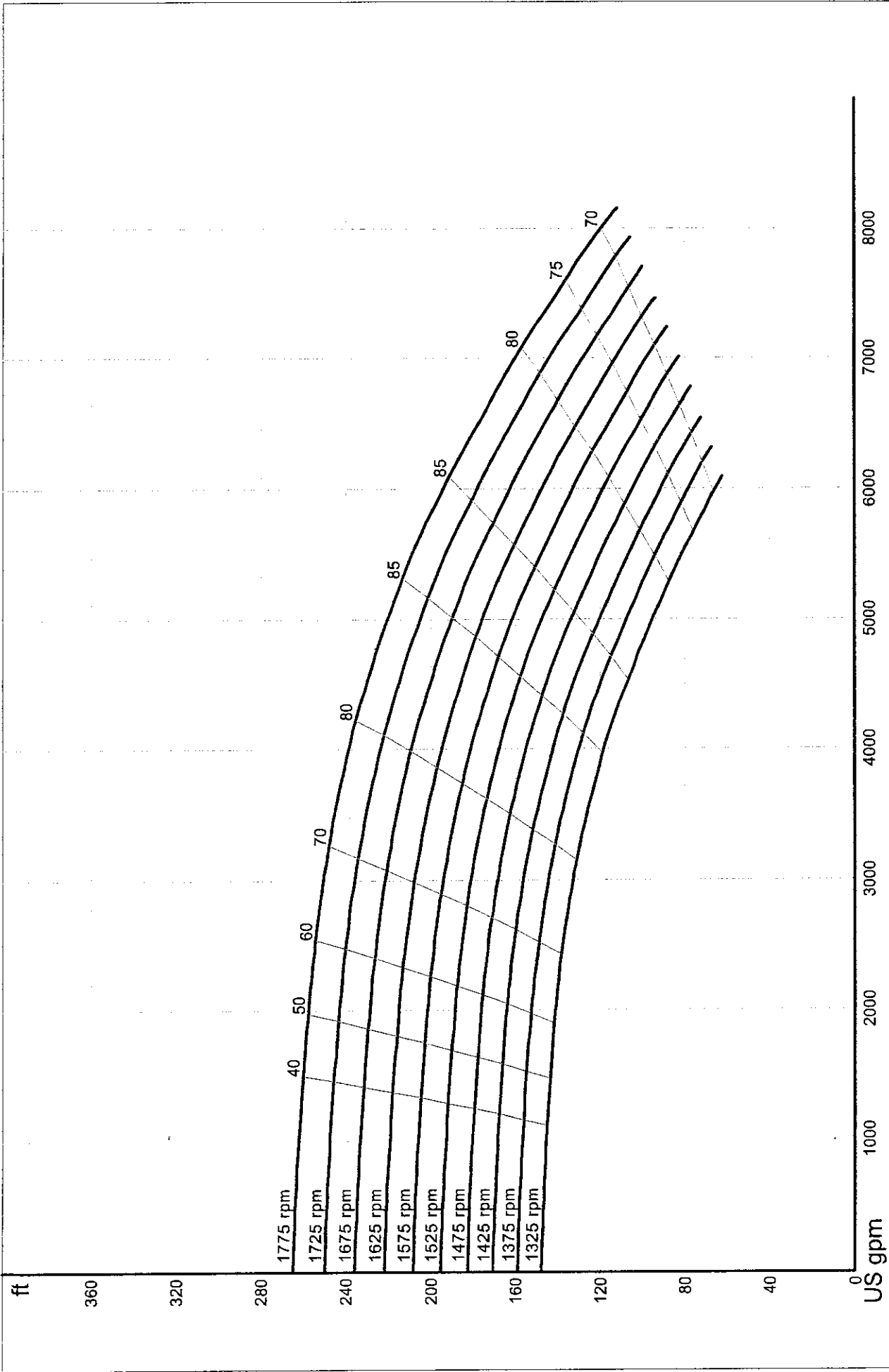
--- Max Curve ---

Max power: 511 hp @ 7638 US gpm



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
6600	1775	169	83	339	26.6
5500	1775	209	85	340	20.2
4400	1775	236	81	323	16.5
3300	1775	254	71	298	13.9
2200	1775	264	54	271	12.3



Curve No.: PC117403

Size: 10x12x18

Speed: 1325 - 1775 rpm

Dia: 15.8125 in

AURORA PUMPS

Catalog: Aurora Pumps 60 Hz, vers 2

410-HSC - 1800

Barney's Pumps Inc

02/21/08

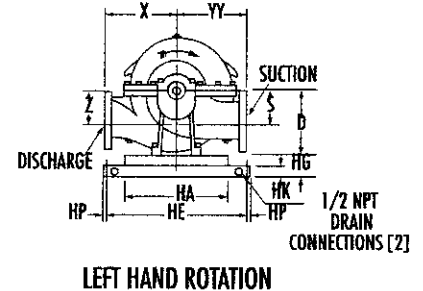
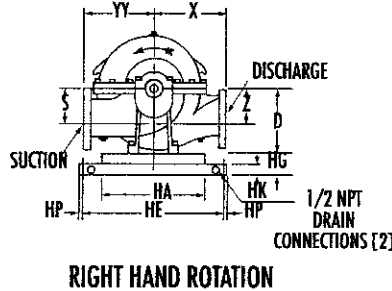
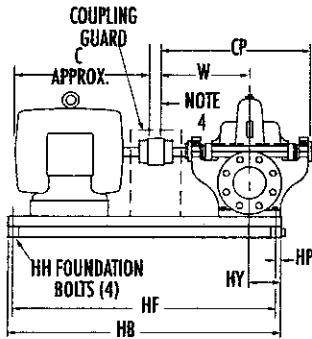


# AURORA MODEL 411 PUMPS

ON STEEL DRIP RIM BASE

8"-10"-12"-14" PUMPS

POWER SERIES NO. 6B-7-7A



BASE	SIZE	HA	HB	HE	HF	HG	HH	HK	HP
13	18 x 64	18 (457)	64-1/2 (1638)	25-1/8 (638)	62-7/8 (1597)	4 (102)	1-1/8 (29)	2 (51)	13/16 (21)
17	22 x 74	22 (559)	74-1/2 (1892)	29-1/8 (740)	72-7/8 (1851)	4-1/2 (114)	1-1/8 (29)	2 (51)	13/16 (21)
18	22 x 82	22 (559)	82-1/2 (2096)	29-1/8 (740)	80-7/8 (2054)	4-1/2 (114)	1-1/8 (29)	2 (51)	13/16 (21)

PUMP SIZE			PUMP SERIES	D	S	W	X	Z	CP	HY	YY
DISCH	SUCT	CASE BORE									
8	10	21 & 21A	6B	18-1/2 (467)	9-1/2 (241)	21-7/8 (556)	18 (457)	9-1/2 (241)	38 (965)	11-1/2 (292)	21 (533)
10	12	12B		23 (584)	12 (305)		16 (406)	12 (305)			19 (483)
10	12	15B & C		25 (635)	13-1/2 (343)		17 (432)	13-1/2 (343)			20 (508)
10	12	18		25 (635)	13-1/2 (343)		18 (457)	13-1/2 (343)			22 (559)
10	12	18D	7A	25 (635)	12-1/4 (311)	24-5/16 (556)	20 (508)	12-1/4 (311)	42-15/16 (1091)	11 (279)	24 (610)
8	12	24	7	26 (660)	15 (381)	25-1/4 (641)	20 (508)	15 (381)	43-7/8 (1114)	11-1/2 (292)	25 (635)
12	14	15B		24 (610)	15 (381)		17 (432)	15 (381)			22 (559)
12	14	18A		24 (610)	15 (381)		18 (457)	15 (381)			23 (584)
14	16	18		29-1/4 (743)	16 (406)		22 (559)	16 (406)			27 (686)

PUMP SIZE		FRAME	286TS	286T	324TS	324T	326TS	326T	364TS	364T	365TS	365T	404TS	404T	405TS	405T	444TS	444T	445TS	445T	447TS	447T	449TS	449T									
DISCH	SUCT	CASE BORE	C	24 (610)	25 (635)	25 (635)	26 (660)	26 (660)	28 (711)	27 (686)	29 (737)	28 (711)	30 (762)	30 (762)	31 (787)	35 (889)	34 (864)	36 (914)	36 (914)	40 (1016)	40 (1016)	44 (1118)	45 (1143)	49 (1245)									
8	10	21 & 21A	BASE	13										17										18									
10	12	12B	BASE																														
10	12	15B & C	BASE																														
10	12	18	BASE																														
10	12	18D	BASE	17										18																			
8	12	24	BASE																														
12	14	15B	BASE																														
12	14	18A	BASE																														
14	16	18	BASE	17										18																			

**NOTES:**

- All dimensions in inches (mm).
- Dimensions may vary  $\pm 3/8"$  (10).
- Not for construction purposes unless certified.
- Coupling gap may vary 1/8" (3) to 2-1/16" (52).
- Conduit box is shown in approximate location. Dimensions are not specified as they vary with each motor manufacturer.
- Discharge and suction flanges - ANSI Standard flat face.

STD. 125# FLANGES	OPT. 250# FLANGES
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## MOTOR PERFORMANCE

MODEL NO.	CATALOG NO.	PHASE	TYPE	FRAME
H655	D350E2F	3	FR	447T

ORDER NO.	5258	LINE NO.

MPI:		38371	38372
HP:		350	350
POLES:		4	4
VOLTS:		460	380
HZ:		60	50
SERVICE FACTOR:		1.15	1
EFFICIENCY (%):			
	S.F.	95.3	
	FULL	95.8	94.1
	3/4	96.6	95.8
	1/2	96.7	96.6
	1/4	95.6	96.2
POWER FACTOR (%):			
	S.F.	89.3	
	FULL	89.3	89.4
	3/4	88	89.3
	1/2	83.2	86.4
	1/4	66	72.6
	NO LOAD	3.2	3
	LOCKED ROTOR	23.4	25.8
AMPS:			
	S.F.	443	
	FULL	383	472
	3/4	289	348
	1/2	203	238
	1/4	130	142
	NO LOAD	92.1	89.9
	LOCKED ROTOR	2757.7	2635.6
NEMA CODE LETTER		G	E
NEMA DESIGN LETTER		B	#
FULL LOAD RPM		1780	1470
NEMA NOMINAL EFFICIENCY (%)		95.8	94.1
GUARANTEED EFFICIENCY (%)		95	93
MAX KVAR		62.4	50.3
AMBIENT (°C)		40	40
ALTITUDE (FASL)		3300	3300
SAFE STALL TIME-HOT (SEC)		9	10
SOUND PRESSURE (DBA @ 1M)		71	70
TORQUES:			
	BREAKDOWN{% F.L.}	282	223
	LOCKED ROTOR{% F.L.}	121	102
	FULL LOAD{LB-FT}	1032	1248.5

The Above Data Is Typical. Sinewave Power Unless Noted Otherwise



EMERSON MOTOR COMPANY  
ST. LOUIS, MO



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# Quotation

**Steve Masters**  
**Emerson Motor Company**  
 8100 West Florissant Avenue  
 St. Louis, MO 63136  
 T (813) 908-1046  
 F (813) 908-5635  
 E [Steve.Masters@emerson.com](mailto:Steve.Masters@emerson.com)

**Date:** March 11, 2008  
**Customer:** Barney's Pumps Inc  
**Attention:** Ryan Grymko  
**Reference:**

**Quote Number:** 08BRS0311A  
**Issued by:** EMD26G2  
**EMR Reference:** 549292

CURRENT		PHASE		CYCLES		VOLTS	
AC		3		60		460	

ITEM	QTY	HP	FRAME	SPEED	WEIGHT	TYPE
A	1	350	449T	1800	2000#	RI

**DESCRIPTION:**

- Titan Horizontal
- Open Driproof
- Random Wound
- Premium Efficient
- 1.15 SF
- "F" Rise @ SF (Resist)
- +40 °C max. Ambient @ 3300 Ft. max. alt
- Class "F" ~ Insulife 2000
- Inverter Duty: Variable Torque, 10:1
- "F-1" Assembly Position
- Direct-On-Line Start
- Continuous Duty
- Direct Connected To Load
- Insulated Bearing - Short End
- 115 Volt Space Heaters
- Special Balance
- Thermostats - Normally Closed

**Quote Comments:**

1. No specification was submitted for review. If a spec does apply, we will require a re-quote.

TERMS	* ESTIMATED LEAD TIME	** FREIGHT	F.O.B
Net 30 Days	10 - 12 Weeks + Transit	Collect	Mena, AR

\* Customer delivery schedules will be confirmed after acceptance and release of production order to Emerson factory. Delivery will be subject to lead-time at the time of customer release, which may vary from the estimated lead-time quoted.  
 \*\* All prepaid shipments are subject to fuel charges at the current national average.

**F.O.B. SHIPPING POINT:** All contracts and quotations are subject to our standard terms and conditions and acceptance at our main office, St. Louis, Missouri, and are contingent upon strikes, fires, accidents, and other delay unavoidable or beyond our control. In the event of a change in the company's price, the price on units unshipped will be the price in effect on the date of shipment, or as provided in our published price policy. Copy of this policy is attached. This quotation expires in 30 days. Time may be extended with our written approval.



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