

SERVING THE MARINE INDUSTRY SINCE 1947



BARNES® PRODUCT LINE

BARNES SOLIDS HANDLING SUBMERSIBLES

SOLIDS Handling SUBMERSIBLE PUMPS

Engineered submersible solids handling wastewater pumps for municipal, industrial, residential & commercial applications. A dependable answer for sewage and waste handling needs.

Proven Performance

Barnes® offers a broad line of engineered submersible solids handling pumps for a wide variety of light to heavy duty wastewater services. Designed specifically for unscreened raw sewage or industrial waste applications, these Barnes® brand pumps are available in 3" through 8" discharge sizes and can handle spherical solids up to 4" in diameter.

With heads to 258' and capacities to 5,400gpm at 104°F continuous media temperature, Barnes® submersible pumps deliver efficient hydraulic coverage. The motors are completely sealed against contaminants, and bearings are lubricated for the life of the pump, significantly reducing maintenance and operating costs.

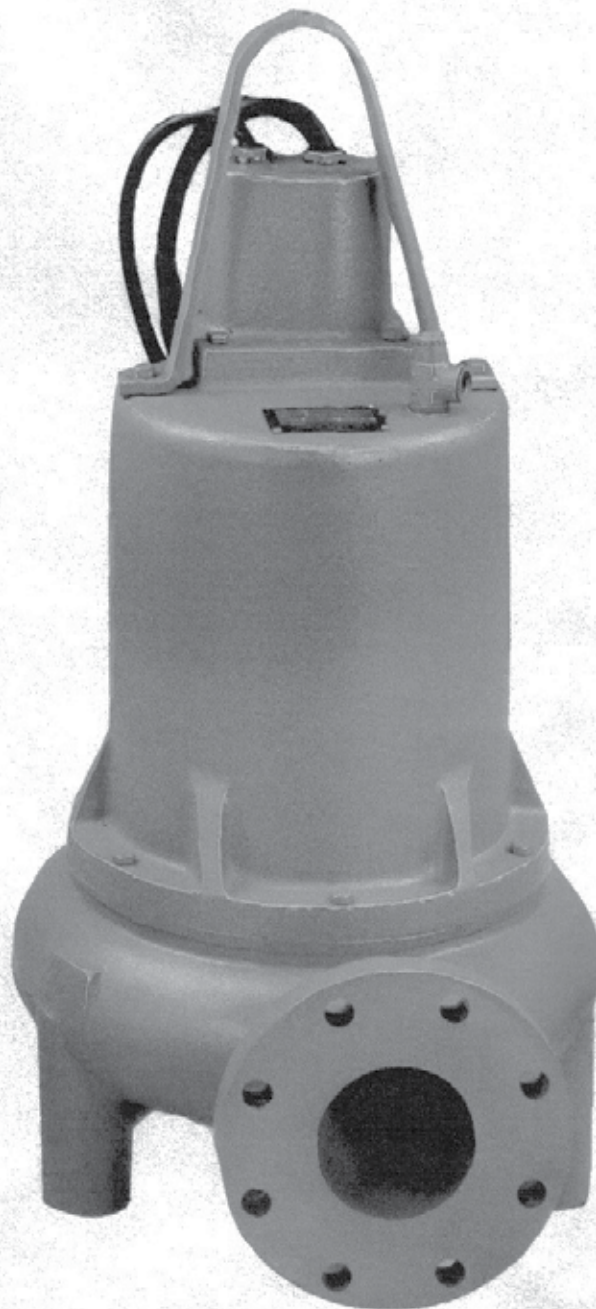
Applications

When wastewater collection is in a below-grade sump or wet well.

Where construction of a building for above-ground pumping equipment is not practical.

For use in an existing pump station that is subject to frequent flooding due to power failures or leakage.

Where there is limited vertical clearance in an existing station.



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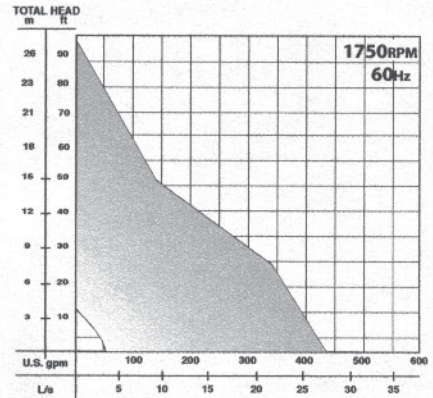
800-725-3787



SE SERIES

3SE, 3XSE

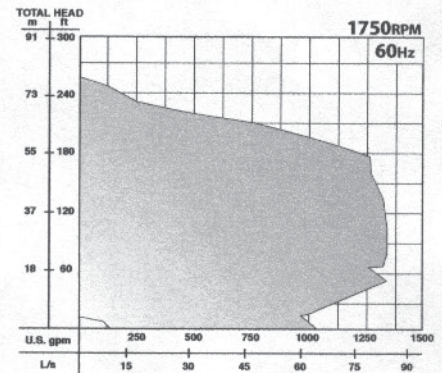
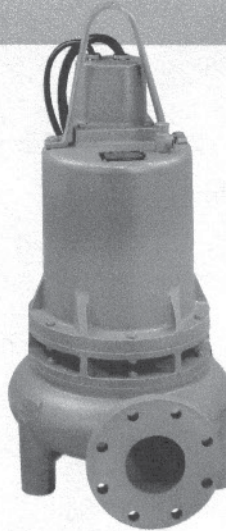
Size	3" horizontal/vertical
Motor	.75hp - 3hp oil or air filled
Head	to 95'
Flow	to 440gpm
Volutes	concentric
Impeller	open & enclosed
Solids	1.5" • 2" • 2.5"



Models with air filled explosion proof motors available.

4SE, 4XSE

Size	4" horizontal
Motor	.9hp - 100hp oil filled or air filled
Head	to 258'
Flow	to 1,265gpm
Volutes	standard concentric high efficiency scroll
Impeller	open & enclosed
Solids	1.5" • 2" • 3"



Models with air filled explosion proof motors available.

"The taxpayer—that's someone who works for the federal government but doesn't have to take the civil service examination."

—Ronald Reagan



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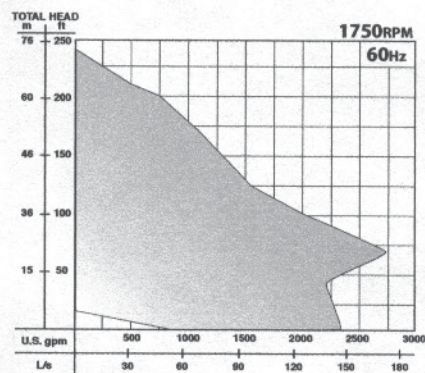
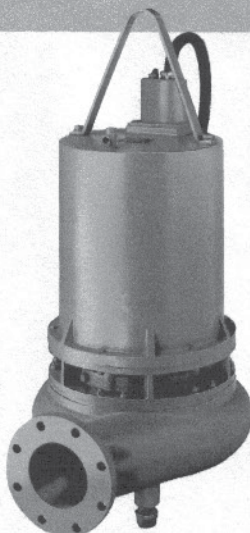
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PROUD DISTRIBUTOR OF
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SE SERIES

6SE, 6XSE

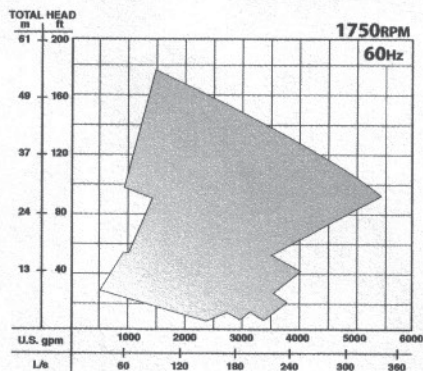
Size	6" horizontal
Motor	7.5hp - 75hp oil filled or air filled
Head	to 240'
Flow	to 2,650gpm
Volutes	concentric
Impeller	enclosed
Solids	3" • 4"



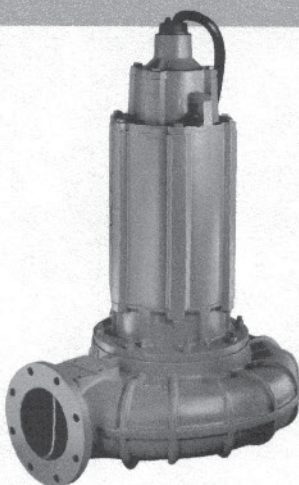
Models with air filled explosion proof motors available.

8SE, 8XSE

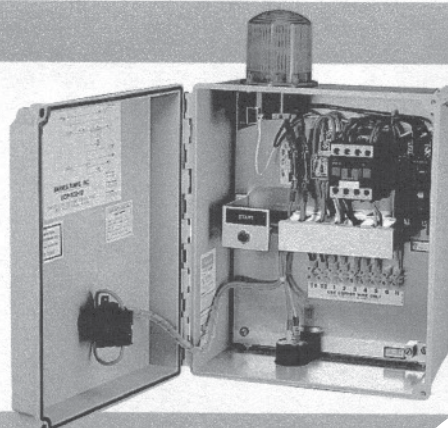
Size	8" horizontal
Motor	24hp - 200hp oil filled or air filled
Head	to 180'
Flow	to 5,400gpm
Volutes	concentric
Impeller	enclosed
Solids	3"



Models with air filled explosion proof motors available.



Control panels are available in NEMA 3R, 4X, and other enclosures for Simplex and Duplex pumping systems. Standard panels include: 120v control transformers, alternators (in Duplex panels), circuit breakers, motor overload protection, Hand-Off-Automatic selector switch, run lights, alarm circuit, magnetic starters, seal fail light, motor high temperature light. Custom panels available.

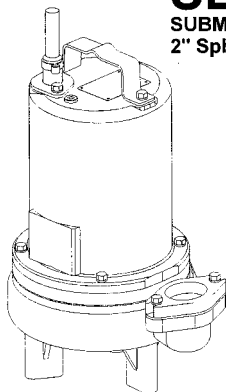


SE SERIES

BARNES®

SE

SUBMERSIBLE NON-CLOG PUMPS
2" Spherical Solids Handling



Series SE 0.5, 0.75 & 1HP
1750 RPM
(SE51 & SE52)

Manual & Automatic



CSA 108 - File No. LR16567
UL 778

NRTL/C

Description:

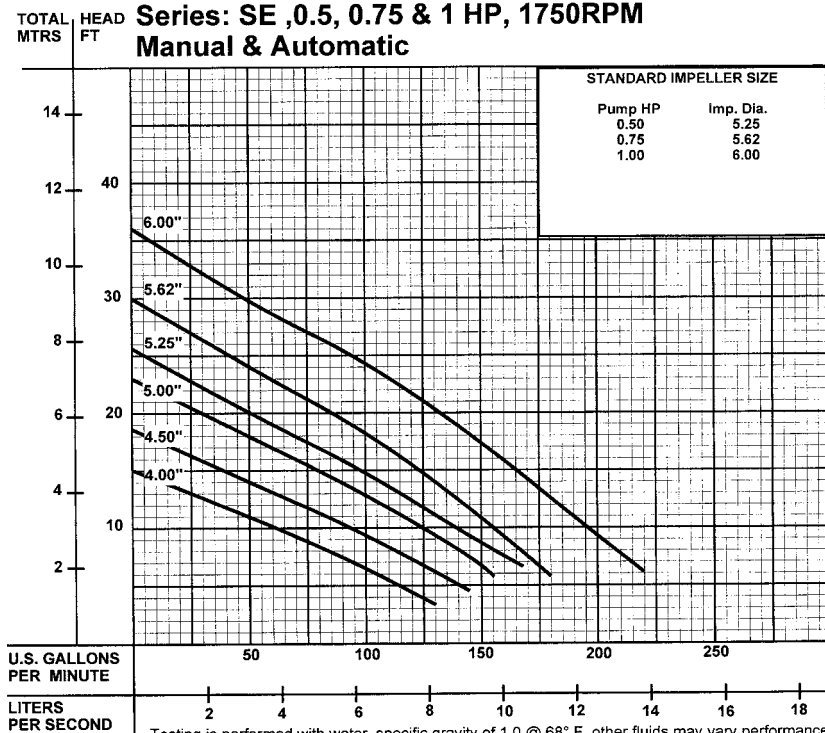
SUBMERSIBLE NON-CLOG SEWAGE
PUMP DESIGNED FOR TYPICAL RAW
SEWAGE APPLICATIONS.

Specifications:

DISCHARGE: 2" NPT, Vertical.
LIQUID TEMPERATURE: 104°F (40°C) Continuous.
VOLUTE: Cast Iron ASTM A-48, Class 30.
MOTOR HOUSING: Cast Iron ASTM A-48, Class 30.
SEAL PLATE: Cast Iron ASTM A-48, Class 30.
IMPELLER: *Design:* 2 Vane, Open, With Pump Out Vanes On Back Side. Dynamically Balanced, ISO G6.3.
Material: Cast Iron ASTM A-48 Class 30.
SHAFT: 416 Stainless Steel
SQUARE RINGS: Buna-N
HARDWARE: 300 Series Stainless Steel
PAINT: Air Dry Enamel.
SEAL: *Design:* Single Mechanical.
Material: Rotating Faces - Carbon
Stationary Faces - Ceramic
Elastomer - Buna-N
CABLE ENTRY: Hardware - 300 Series Stainless
15 ft. (4.5M) Cord. Plug on 120 Volt & 240 Volt 1 Phase. Quick Connect, Custom Molded for Sealing and Strain Relief.
SPEED: 1750 RPM (Nominal).
UPPER BEARING: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial
LOWER BEARING: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust
MOTOR: *Design:* NEMA L Torque Curve. Completely Oil-Filled, Squirrel Cage Induction.
Insulation: Class B
SINGLE PHASE: Permanent Split Capacitor (PSC). Includes Overload Protection In Motor.
THREE PHASE: 200-240/480 Tri Voltage motor. 600V. Requires Overload Protection to be included in Control Panel.
FLOAT, AUTOMATIC MODELS: A - Wide Angle, PVC Mechanical, 15ft (5M) Cable on with Piggy-Back Plug.
AU - Wide Angle, Polypropylene, Mechanical, N/O, Integral to Pump. ON and OFF Points are Adjustable.
OPTIONAL EQUIPMENT: Seal Material, Impeller Trims, Additional Cable, N/C Temperature Sensor with cable for 3 phase pumps (Requires Relay in Control Panel).

PERFORMANCE CURVE

Series: SE ,0.5, 0.75 & 1 HP, 1750RPM
Manual & Automatic



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SE SERIES

SE51, SE52 & SE-L			SE51A			SE51AU & SE52AU			inches (mm)			
MODEL NO.	PART NO.	HP	VOLT	PH	RPM (NOM)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D.	
SE51	104871	0.5	120	1	1750	F	11.6	21.3	14/3	SJTOW	0.375	
SE51A	104872	0.5	120	1	1750	F	11.6	21.3	14/3	SJTOW	0.375	
SE51AU	104873	0.5	120	1	1750	F	11.6	21.3	14/3	SJTOW	0.375	
SE52	104874	0.5	240	1	1750	J	5.9	14.9	14/3	SOW	0.530	
SE52AU	104875	0.5	240	1	1750	J	5.9	14.9	14/3	SOW	0.530	
SE594L	104881	0.5	200/240	3	1750	H/L	3.2/3.0	9.8/11.0	14/4	SOW	0.570	
SE544L	104882	0.5	480	3	1750	K	1.5	5.3	14/4	SOW	0.570	
SE554L	104883	0.5	600	3	1750	H	1.0	3.4	14/4	SOW	0.570	
SE774L	104884	0.75	200/240	1	1750	G/K	7.4/7.0	21.5/25.8	14/3	SOW	0.530	
SE794L	104885	0.75	200/240	3	1750	H/K	4.8/4.5	13.7/15.4	14/4	SOW	0.570	
SE744L	104886	0.75	480	3	1750	K	2.2	7.7	14/4	SOW	0.570	
SE754L	104887	0.75	600	3	1750	L	1.5	7.2	14/4	SOW	0.570	
SE1074L	104888	1.0	200/240	1	1750	D/G	8.8/8.3	21.5/25.8	14/3	SOW	0.530	
SE1094L	104889	1.0	200/240	3	1750	E/H	5.1/4.9	13.7/15.4	14/4	SOW	0.570	
SE1044L	104890	1.0	480	3	1750	H	2.4	7.7	14/4	SOW	0.570	
SE1054L	104891	1.0	600	3	1750	J	1.9	7.2	14/4	SOW	0.570	
Mechanical Switch on SE51A, Cable 16/2, SJOW, 0.320 O.D. Piggy-Back Plug.												
Mechanical Switch on SE51AU & SE52AU, Cable 14/2, SJOW, 0.345 O.D.												
IMPORTANT !												
1.) PUMP MAY BE OPERATED "DRY" FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.												
2.) THIS PUMP IS APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION II HAZARDOUS LOCATIONS.												
3.) THIS PUMP IS NOT APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION I HAZARDOUS LOCATIONS.												
4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.												

TAX BITES

After a year of hard work, the average man or woman is entitled to a little vacation with the family. They may have scrimped and saved all year to be able to spend two weeks at their favorite vacation spot. Of course, their savings are heavily taxed all year. But when they finally go to buy airline tickets, what they probably don't realize is how much they are paying in taxes again.

All airline tickets are subject to a federal excise tax of 7.5 percent. In addition, there is a \$2.50 surcharge to pay for air traffic control services. If you are flying overseas, you are subject to a \$12.40 Arrival Tax, a \$12.40 Departure Tax, and a \$5.00 Customs User Fee. Many airports are also subject to a \$3 Passenger Facilities Charge, which is another tax. (Note: Pending legislation would raise the PFC tax to \$4.50.)

Air travelers are also subject to a \$6.00 Immigration User Fee and a \$2.00 Agricultural Inspection Fee. Consequently, over 10 percent of what you pay for flying is actually going to these taxes.

But that's only the start. Additional taxes paid by the airlines account for about 30 percent of the price of an airline ticket.

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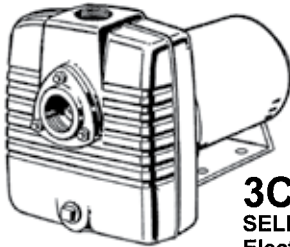
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3CCE, 4CCE, 5CCE SELF-PRIMING PUMPS ELECTRIC DRIVE

BARNES®



3CCE, 4CCE, 5CCE SELF-PRIMING PUMPS Electric Drive

Series: 3CCE 1-1/2HP
RPM: 3450
Series: 4CCE 2HP
RPM: 3450
Series: 5CCE 3HP

Canadian Standards Association
File No. LR16567

American Bureau of Shipping
Certificate No.
01-HS238523C/1PDA

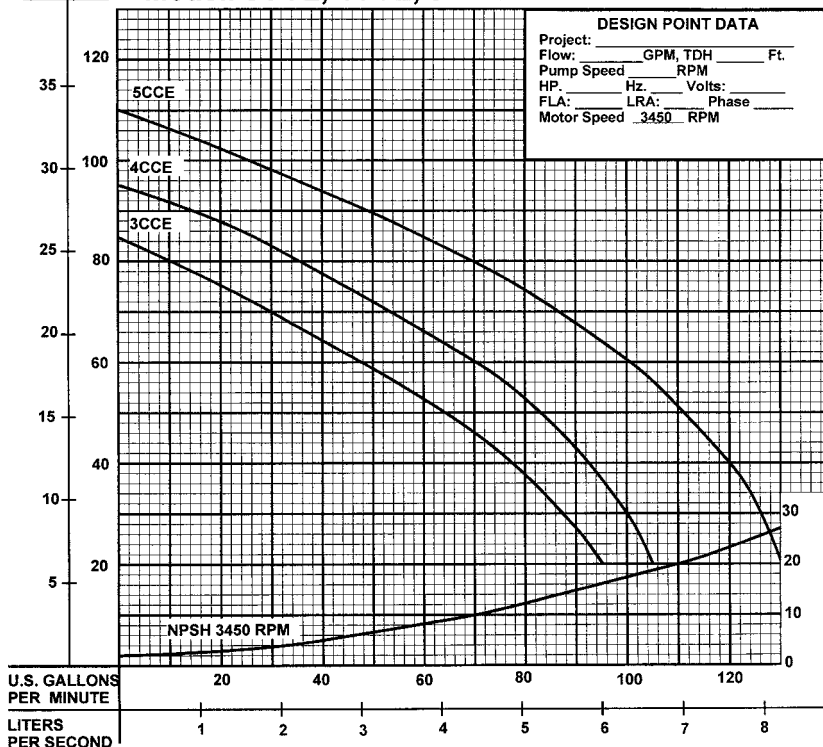
Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	1-1/2" (38mm) x 1-1/2" (38mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30.
BODY:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	<i>Design:</i> Open, Trash Type. <i>Material:</i> Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3. Stainless Steel Buna-N Stainless Steel Air Dry Enamel.
SHAFT:	Mechanical
SQUARE RINGS:	Self-Lubricating
HARDWARE:	Rotating Face - Carbon
PAINT:	Stationary Face - Ceramic
SEAL:	Elastomer - Buna-N <i>Design:</i> Hardware - 300 Series Stainless <i>Lubrication:</i>
CHECK VALVE:	<i>Material:</i> Valve Flap-Neoprene. Weight-Cast Iron ASTM A-48, Class 30
MOTOR:	<i>Design:</i> ODP, NEMA L-Single Phase, NEMA B-Three Phase Torque Curve C-Face, Footed, Squirrel Cage Induction. Class B.
SINGLE PHASE:	<i>Insulation:</i> Dual Voltage 115/230, Capacitor Start.
THREE PHASE:	Tri-Voltage, 200-230/460.
OPTIONAL EQUIPMENT:	Seal Material, TEFC Motors.

PERFORMANCE CURVE Model: 3CCE, 4CCE, 5CCE

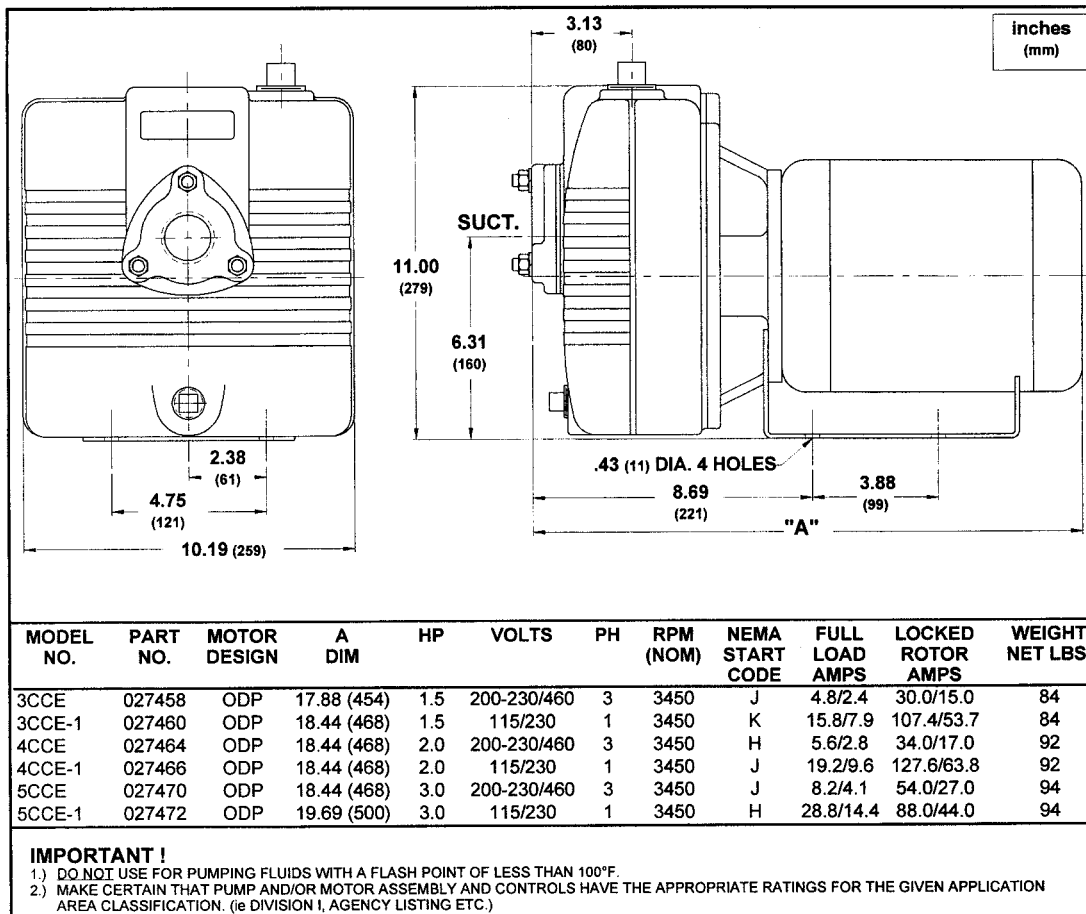


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PROUD DISTRIBUTOR OF
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3CCE, 4CCE, 5CCE SELF-PRIMING PUMPS ELECTRIC DRIVE



TAX BITES BREAD

In the process of production from farm to the store, the government imposes about 30 taxes on a loaf of bread.

These include federal income taxes, state income taxes, state and local property taxes, federal payroll taxes, sales taxes, capital gains taxes, unemployment compensation taxes, workmen's compensation taxes, retailers' excise taxes, business license taxes and fees, utility taxes, and state wheat farmer checkoff taxes.

A recent study by Price Waterhouse found that these taxes accounted for 27.2 percent of the price of a loaf of bread, not counting sales taxes paid by the customer.

So out of the average price of a loaf of bread of \$1.09 in 1995, about 30 cents goes for taxes, plus another 5 cents on average for sales taxes.

GAS

When you cruise on over to the gas station to fill up your car's gas tank, you naturally assume that you are paying for gas. What you don't realize is that over half of what you pay goes to the government in taxes rather than for the gas.

The federal government adds an excise tax of 18.3 cents on every gallon of gas. Each state then adds an additional excise tax now averaging 19.4 cents per gallon. This adds up to a total of 37.7 cents per gallon.

Based on recent price data from the Energy Information Administration of the U.S. Department of Energy, these taxes account for about 28 percent of what you pay for a gallon of gas at the pump.

For a car with a standard 15 gallon gas tank, a tax of 37.7 cents per gallon adds up to \$5.66 per fill-up. The Tax Foundation estimates that the average American household will spend \$422 this year on these taxes alone.

But that is not all. The government imposes 43 different direct and indirect taxes on the production and distribution of gas. The total tax burden amounts to 54 percent of the price of a gallon of gas.

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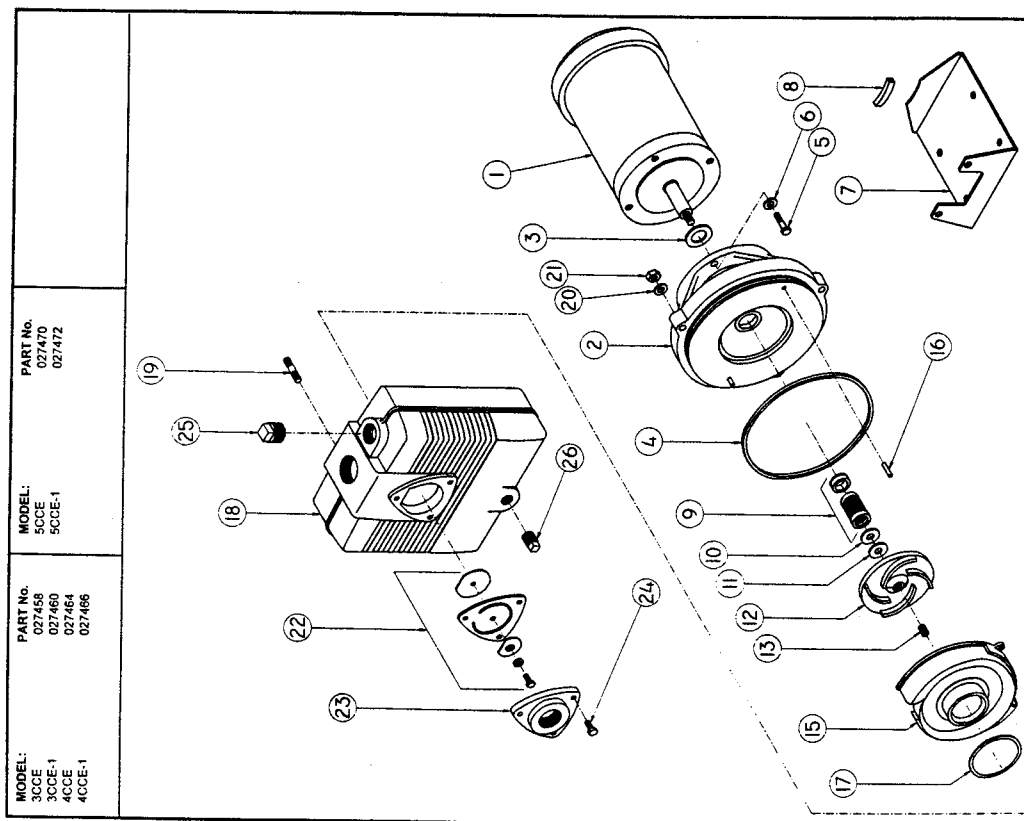


BY

3CCE, 4CCE, 5CCE SELF-PRIMING PUMPS ELECTRIC DRIVE

BARNES®

3CCE, 4CCE, 5CCE SELF-PRIMING PUMPS Electric Drive



MODEL:	PART No.	MODEL:	PART No.
3CCE	027458	5CCE	027470
3CCE-1	027460	5CCE-1	027472
4CCE	027464		
4CCE-1	027466		

PARTS KIT

Seal Kit P/N: 021814 (†) 3,4,9,10,11,16,17,22c

PARTS LIST

ITEM	QTY.	DESCRIPTION	PART No.
1	1	Motor - 3CCE	027458
		Motor - 3CCE-1	027460
		Motor - 4CCE	027464
		Motor - 4CCE-1	027466
		Motor - 5CCE	027470
		Motor - 5CCE-1	027472
2	1	Intermediate Coupling	025469
3	1	Impeller	012752
4	1	O-Ring	017713
5	4	Cap Screw, 3CCE, 4CCE, 5CCE	002235
6	4	Cap Screw, 4CCE-1	002234
7	1	Lock Washer	028408
8	1	Base	017432
9	1	Pad	017562
10	AR	Shaft Seal	012703
11	AR	Shim, .010	028707
12	1	Shim, .005	028706
		Impeller	028153
13	1	Set Screw, 3CCE	028154
15	1	Hex Nut, 4CCE, 5CCE	028155
16	2	Volute	028153
17	1	Pin, Volute	018095
18	1	Gasket, Volute	017715
19	1	Body	017714
20	3	Stud	018097
21	3	Lock Washer	018589
22	1	Check Valve Assy.	028408
22a	1	Weight	15-23-6
22b	1	Weight	017718
22c	1	Weight	001338
22d	1	Gasket	001339
22e	1	Lock Washer	017712
23	1	Round Hd Screw	022333
24	1	Suction Flange	023469
25	3	Cap Screw	018099
26	1	Pipe Plug	002218
		Pipe Plug	1.25 NPT
		Pipe Plug	.75 NPT

200-230/460	3/8-16 x 1.25" Lg. Steel
115230	3/8-16 x 1.00" Lg. Stainless
200-230/460	3/8" Steel
115230	
200-230/460	
115230	
TPCE/B	
3CCE	
4CCE	
5CCE	
7/16-20	
7/16-20, Stainless	
3/8-16 x 1.75" Lg. Steel	
3/8" Steel	
3/8-16, Zp	
2.25" O.D., CI	
1.56" O.D., CI	
1/4" Neoprene	
1/4-20 x 625" Lg. Stainless	
5/16-18 x .875" Lg. Steel	
1.25 NPT	
.75 NPT	



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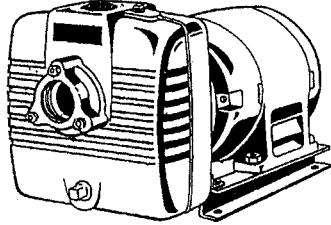
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PROUD DISTRIBUTOR OF
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10CCE & 10CCE-1 SELF-PRIMING PUMPS ELECTRIC DRIVE

BARNES®

10CCE & 10CCE-1 SELF-PRIMING PUMPS Electric Drive



**Model: 10CCE & 10CCE-1, 5HP
RPM: 3450**



American Bureau of Shipping
Certificate No.
01-HS238523C/1PDA

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE: 2" (51mm) x 2" (51mm) NPT, Female.
LIQUID TEMPERATURE: 160°F (71°C) Continuous.
INTERMEDIATE: Cast Iron ASTM A-48, Class 30.
VOLUTE: Cast Iron ASTM A-48, Class 30.
BODY: Cast Iron ASTM A-48, Class 30.
PEDESTAL: Cast Iron ASTM A-48, Class 30.

IMPELLER: *Design:* Open, Trash Type.
Material: Cast Iron ASTM A-48, Class 30.
Dynamically Balanced, ISO G6.3.

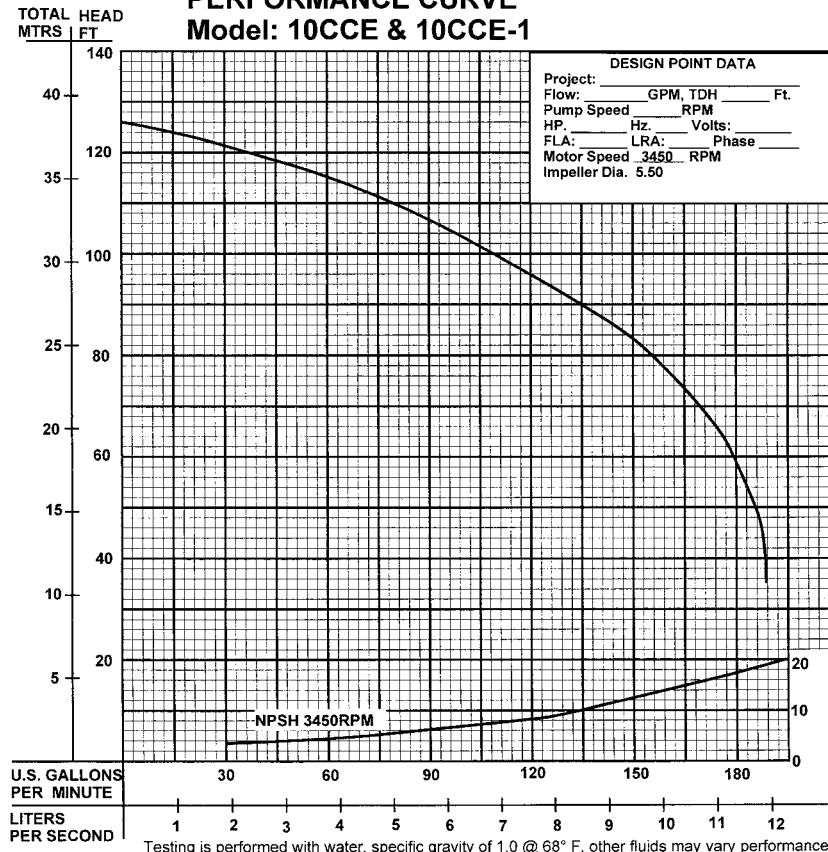
SHAFT: Stainless Steel
SHAFT SLEEVE: Bronze
SQUARE RINGS: Buna-N
HARDWARE: Stainless Steel
PAINT: Air Dry Enamel.
SEAL: *Design:* Mechanical
Lubrication: Self-Lubricating
Material: Rotating Face - Carbon
Stationary Face - Ni-Resist
Elastomer - Buna-N
Hardware - 300 Series Stainless

CHECK VALVE: *Material:* Valve Flap-Neoprene.
Weight-Cast Iron ASTM A-48,
Class 30

MOTOR: *Design:* ODP, NEMA L-Single Phase
NEMA B - Three Phase Torque Curve,
C-Face, Footed, Squirrel Cage
Induction. Marine Duty Per USCG259
And AIEEE-45, 50°C Ambient
Class B.

SINGLE PHASE: Single Voltage, 230.
THREE PHASE: Tri-Voltage, 200-230/460.
OPTIONAL EQUIPMENT: Seal Material, TEFC Motors.

PERFORMANCE CURVE Model: 10CCE & 10CCE-1



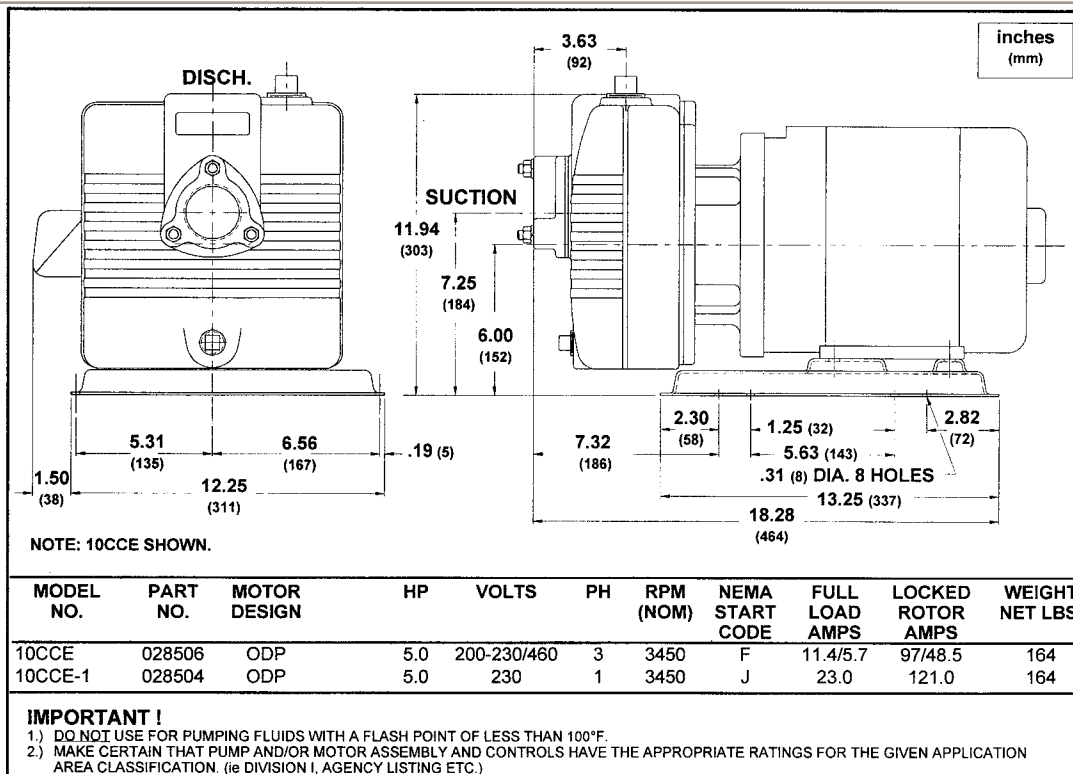
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10CCE & 10CCE-1 SELF-PRIMING PUMPS ELECTRIC DRIVE



TAX BITES

SODA

Although most states require soda consumers to pay sales taxes averaging 6 percent nationally, a number of states impose even higher taxes specifically targeted only at soda. One such state, Arkansas, imposes a 2 cents per 12 ounce soft drink can.

Several states also have "bottle bills" that impose an extra charge on beverage containers to punish people for littering. Sure, you might get your fee back if you turn in your soda cans, but the costs of maintaining the programs is still heaped onto your cost. California's program, for example, costs taxpayers over \$30 million each year just for oversight.

Beyond the costs of the excise taxes and bottle bills, the true cost of taxation includes the producer's federal income taxes, state income taxes, federal payroll taxes, unemployment insurance taxes, workmen's compensation taxes, local property taxes and any local income taxes.

Depending on where you buy your Diet Coke, the government's share of the cost could run as high as 37.6 percent, or \$.28 for a 75 cent can of soda.

MEALS

Eating out isn't cheap, but the government doesn't make it any easier to enjoy a meal at your favorite restaurant by imposing extra taxes on it. Because states and municipalities like the idea of taxing tourists, imposing taxes on restaurant meals has most big spenders salivating. In major cities like Chicago, the state and local meals taxes can heap on up to 10.25 percent of your bill.

That is just the first course of taxation. Out of what the consumer pays for the meal, the restaurant must pay federal income taxes, state income taxes, federal payroll taxes, unemployment insurance taxes, workmen's compensation taxes, state franchise taxes, local property taxes and any local income taxes. Altogether, these taxes can add another \$11.18 onto an average restaurant bill of \$32.32.

This means that in total, a restaurant diner can expect to pay as much as 44.8 percent of the cost of a meal, or \$14.48 to the government.



BARNES®

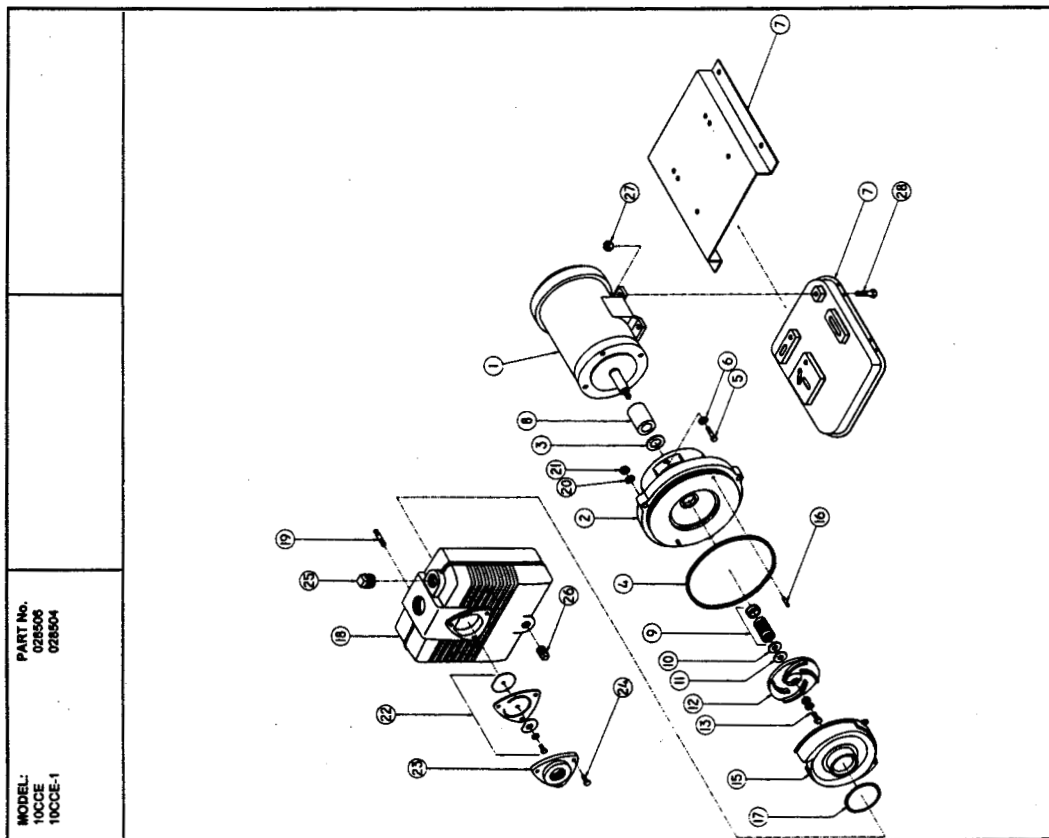
10CCE & 10CCE-1 SELF-PRIMING PUMPS Electric Drive

PARTS KIT

Seal KitP/N: 072920 (†) 3,4,8,9,10,11,16,17,22c

PARTS LIST

ITEM	QTY.	DESCRIPTION	PART No.
1	1	Motor - 10CCE	028485
2	1	Motor - 10CCE-1	028484
3	1	Intermediate Coupling	019537
4	1	† Slinger	005163
5	4	† O-Ring	017713
6	4	Cap Screw	022286
7	1	Lock Washer	022608
8	1	Base, 10CCE	073191
9	1	Base, 10CCE-1	027174
10	1	† Shaft Sleeve	018071
11	1	† Shaft Seal	019146
12	1	† Shim, 010	001349
13	1	† Shim, 031	001348
14	1	Impeller	019775
15	1	Hex Hd Screw	019802
16	2	Washer, Shakerproof	019803
17	2	Volute	019069
18	2	† Pin, Volute	017715
19	1	† Gasket, Volute	018245
20	1	Body	019135
21	3	Stud	016569
22	7	Lock Washer	028408
23	3	Hex Nut	15-23-6
24	1	Check Valve Assy.	017716
25	1	Weight	001338
26	1	† 1.56" O.D., Cl	001339
27	1	† 1.56" O.D., Cl	017712
28	1	† Gasket	022333
29	1	Lock Washer	023469
30	1	Round Hd Screw	018100
31	1	Suction Flange	022222
32	3	Cap Screw	03206
33	1	Pipe Plug	03204
34	1	Hex Nut	15-23-6
35	4	Hex Hd Screw	002234



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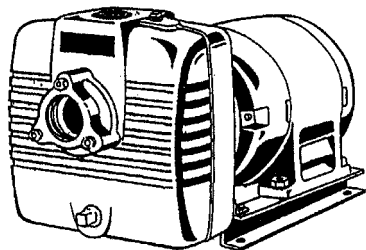
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15CCE SELF-PRIMING PUMPS ELECTRIC DRIVE

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15CCE SELF-PRIMING PUMPS Electric Drive



Model: 15CCE



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Certificate No.
01-HS238523C/1PDA

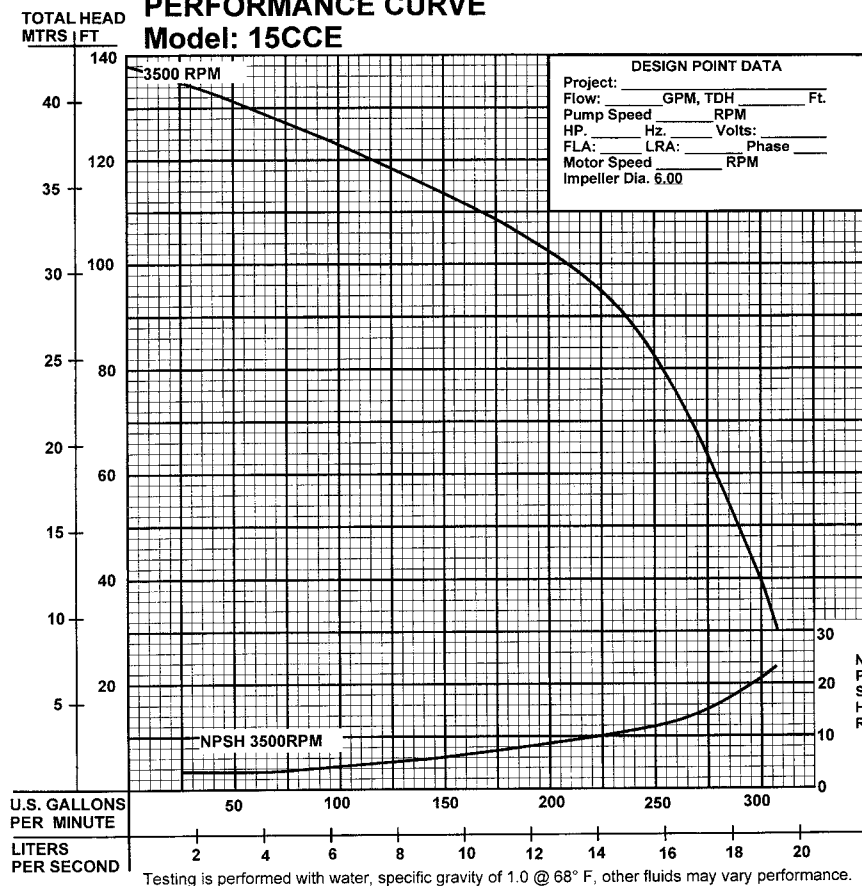
Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	3" (76mm) x 3" (76mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30.
BODY:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	
Design:	Open, Trash Type.
Material:	Cast Iron ASTM A-48, Class 30.
SHAFT:	Dynamically Balanced, ISO G6.3.
SHAFT SLEEVE:	Stainless Steel
SQUARE RINGS:	Bronze
HARDWARE:	Buna-N
PAINT:	Stainless Steel
SEAL:	Air Dry Enamel.
Design:	Mechanical
Lubrication:	Self-Lubricating
Material:	Rotating Face - Carbon
	Stationary Face - Ni-Resist
	Elastomer - Buna-N
	Hardware - 300 Series Stainless
CHECK VALVE:	
Material:	Valve Flap-Neoprene.
	Weight-Cast Iron ASTM A-48,
	Class 30
MOTOR:	
Design:	ODP, NEMA B-Three Phase
	Torque Curve, C-Face, Footed,
	Squirrel Cage Induction.
	Marine Duty Per USCG259 And
	AIIEE-45, 50°C Ambient
	Class B.
Insulation:	Tri-Voltage, 200-230/460.
THREE PHASE:	
OPTIONAL EQUIPMENT:	Seal Material., TEFC Motors.

PERFORMANCE CURVE Model: 15CCE

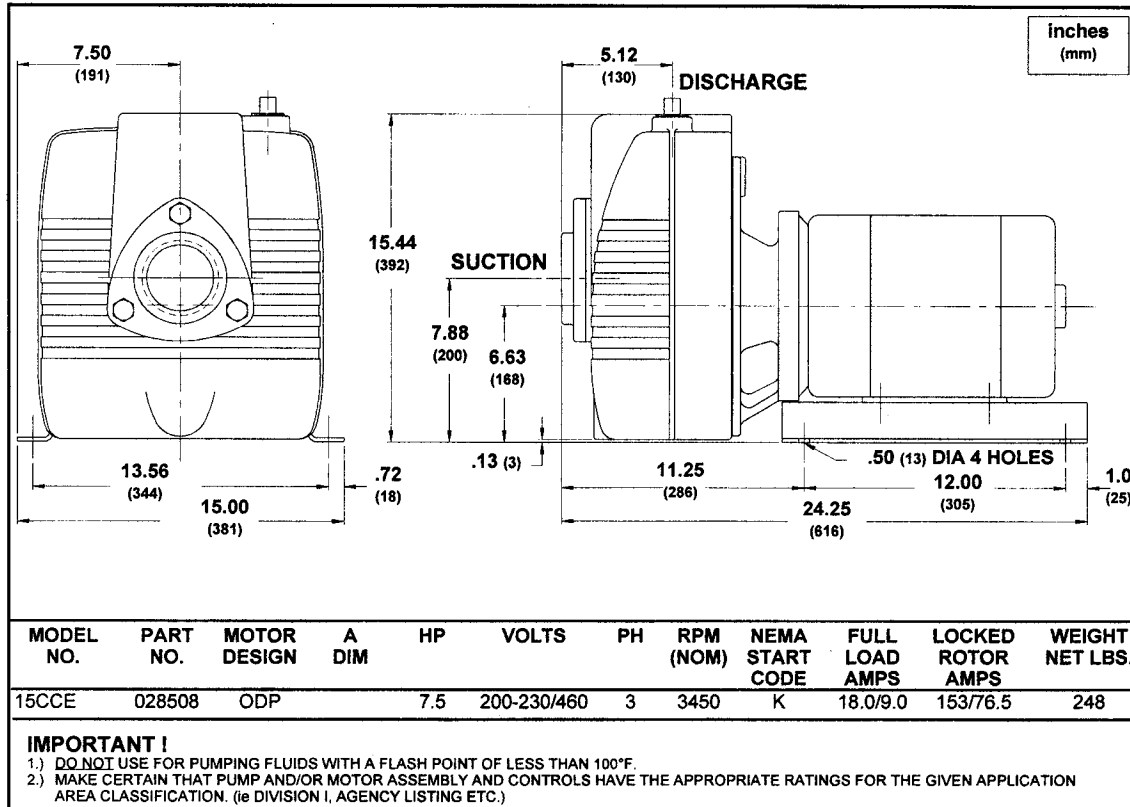


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15CCE SELF-PRIMING PUMPS ELECTRIC DRIVE



TAX BITES TIRES

To pay your taxes, you need to work. To get to work, you need to keep your clunker working. To keep it working, you have to buy some new tires every once in a while. What you don't realize is how much you are paying in taxes when you buy those tires.

Consumers, of course, must pay sales tax on the tires, averaging about 5 percent. They must also pay an additional tax averaging about 1 percent to pay for tire disposal.

Out of what the consumer pays for tires, the producer must pay federal income taxes, state income taxes, federal payroll taxes, unemployment insurance taxes, workmen's compensation taxes, local property taxes and any local income taxes.

Altogether, these taxes consume about 30 percent of what the consumer pays for a tire. Counting the taxes paid directly by the consumer, this means about 36 percent of the final sales price of a tire goes to the government in taxes.

CARS

Incredibly, the average family pays more in taxes today than for food, clothing and shelter combined. Indeed, you probably don't realize how much you are paying in hidden taxes when you buy such necessities.

Take the average family car, for example. Cars, of course, are subject to state and local sales tax, averaging 5 percent. Moreover, consumers must also pay a so-called luxury tax of 9 percent on car sales prices over \$34,000.

In addition, after the purchase of a car, in most states the consumer must pay each year a personal property or excise tax, averaging about 3 percent of the annual value of the car. If you keep the car for 5 years, these taxes can amount to 10 percent of what you paid for the car.

Combined with taxes on income, payroll, unemployment insurance, inventory, dealer personal property and other items, total taxes on cars reach 45 percent of the sales price.

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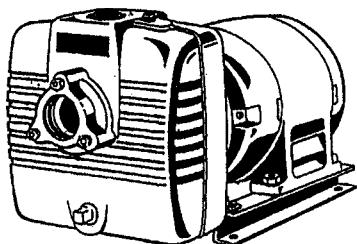
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20CCE SELF-PRIMING PUMPS ELECTRIC DRIVE

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20CCE SELF-PRIMING PUMPS Electric Drive



Model: 20CCE



American Bureau of Shipping
Certificate No.
01-HS238523C/1PDA

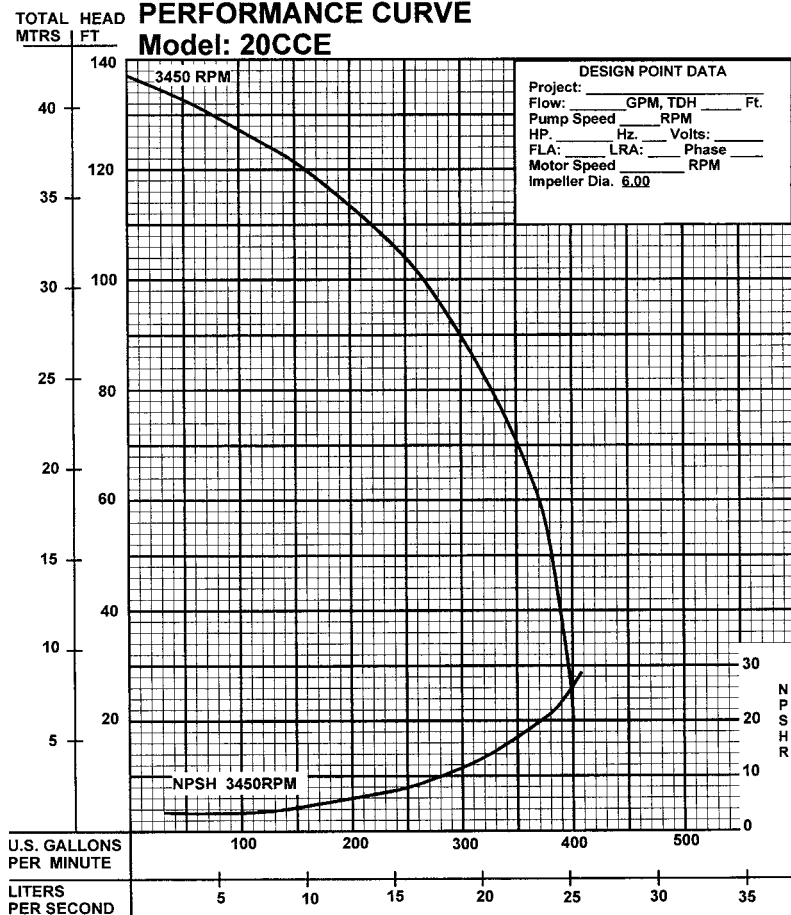
Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	3" (76mm) x 3" (76mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30.
BODY:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	
Design:	Open, Trash Type.
Material:	Cast Iron ASTM A-48, Class 30.
SHAFT:	Dynamically Balanced, ISO G6.3.
SHAFT SLEEVE:	Stainless Steel
SQUARE RINGS:	Bronze
HARDWARE:	Buna-N
PAINT:	Stainless Steel
SEAL:	Air Dry Enamel.
Design:	Mechanical
Lubrication:	Self-Lubricating
Material:	Rotating Face - Carbon
	Stationary Face - Ni-Resist
	Elastomer - Buna-N
	Hardware - 300 Series Stainless
CHECK VALVE:	
Material:	Valve Flap-Neoprene.
	Weights-Cast Iron ASTM A-48,
	Class 30
MOTOR:	ODP, NEMA B-Three Phase
Design:	Torque Curve, C-Face, Footed,
	Squirrel Cage Induction.
	Marine Duty Per USCG259 And
	AIEEE-45, 50°C Ambient
	Class B.
Insulation:	Tri-Voltage, 200-230/460.
THREE PHASE:	Seal Material, TEFC Motors.
OPTIONAL EQUIPMENT:	

PERFORMANCE CURVE Model: 20CCE



Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.

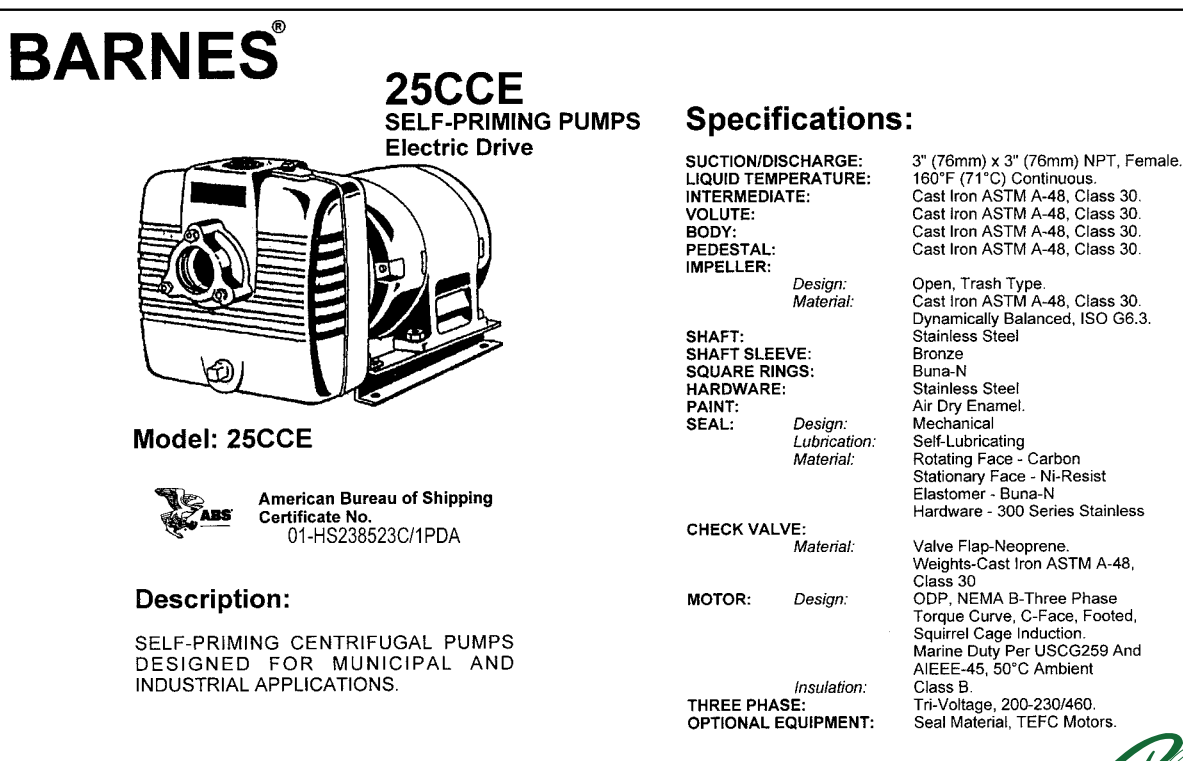


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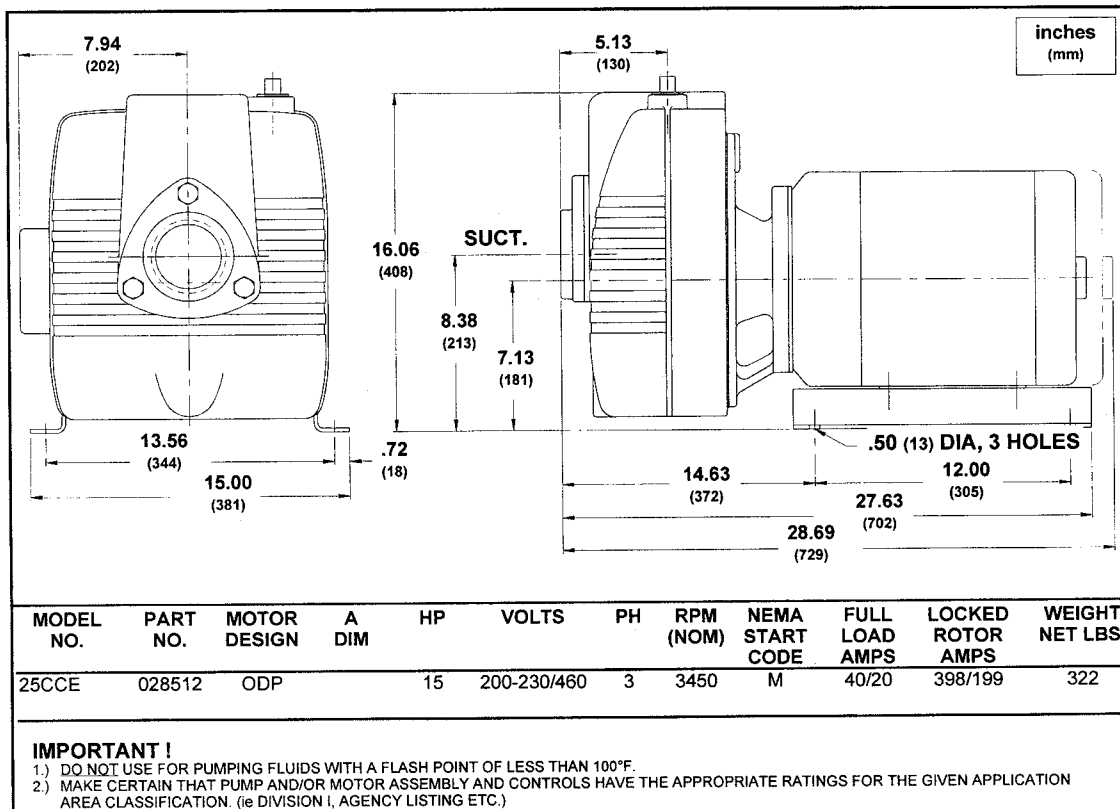
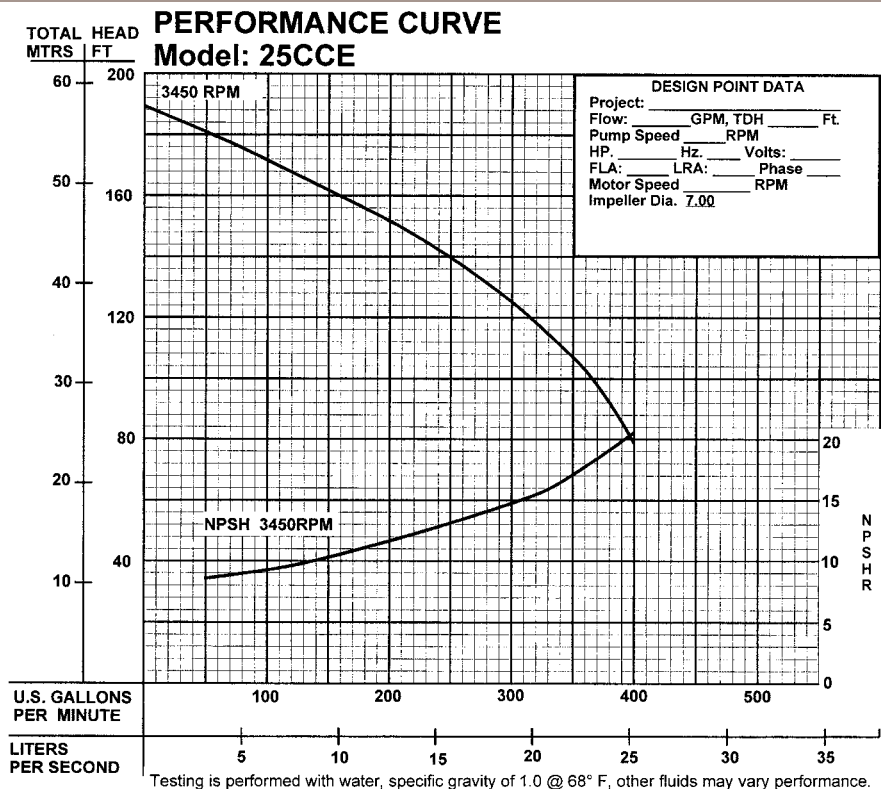
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SELF-PRIMING PUMPS ELECTRIC DRIVE



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15CCE, 20CCE, 25CCE SELF-PRIMING PUMPS ELECTRIC DRIVE

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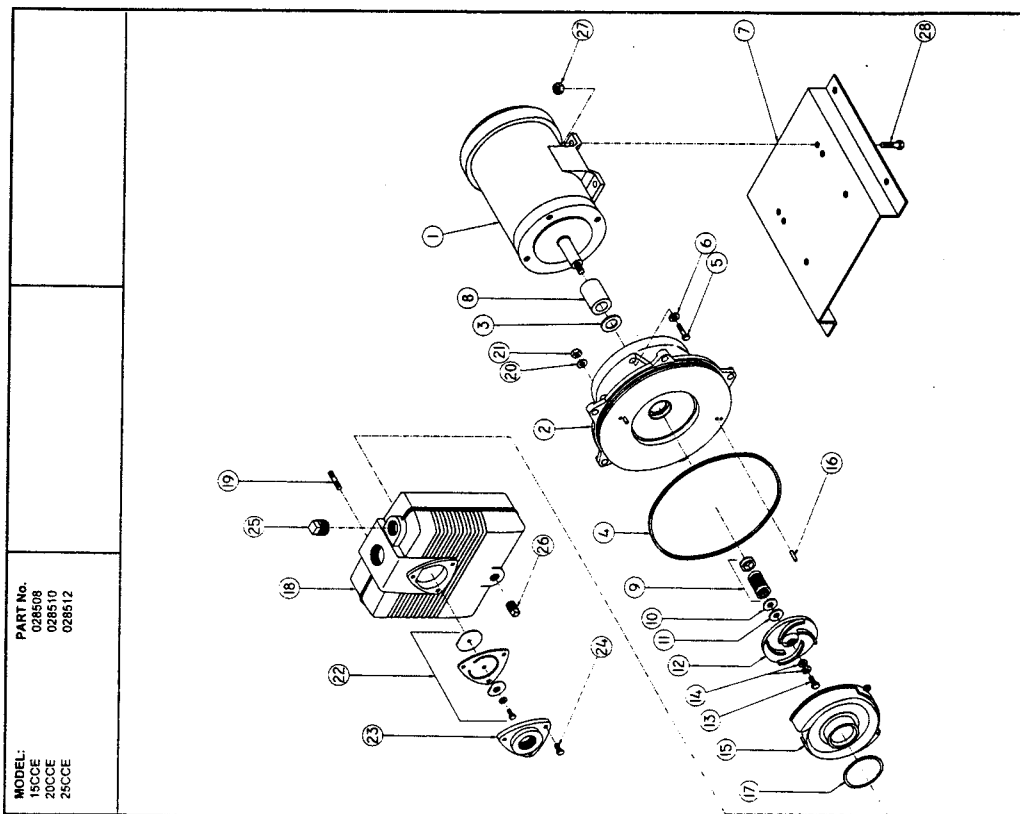
SERIES; 15CCE, 20CCE, 25CCE

PARTS KIT

Seal Kit P/N: 072918 (t) 3,4,8,9,10,11,16,17,22b

PARTS LIST

ITEM	QTY.	DESCRIPTION	PART No.
1	1	Motor - 15CCE	028466
	1	Motor - 20CCE	028497
	1	Motor - 25CCE	028498
2	1	Intermediate Coupling	019553
3	1	Slinger	005163
4	1	O-Ring	018386
5	4	Cap Screw	002266
6	4	Lock Washer	002608
7	1	Base, 15CCE	027174
		Base, 20CCE, 25CCE	027362
8	1	Shaft Sleeve	018071
9	1	Shaft Seal	019146
10	A/R	Shim, .010	001349
11	A/R	Shim, .031	001348
12	1	Impeller, 15CCE	060053TB
		Impeller, 20CCE	051102
13	1	Impeller, 25CCE	019803
14	2	Hex Hd Screw	070089
		Washer, Shakerproof	018883
15	1	Washer, 15CCE Only	019102
		Volute, 15CCE, 20CCE	017715
16	2	Volute, 25CCE	018398
17	1	Pin, Volute	019042
18	1	Gasket, Volute	016409
19	3	Body	002608
20	7	Lock Washer	028173
21	3	Hex Nut	001588
22	1	Check Valve Assy.	018008
22a	1	Weight	022333
22b	1	Gasket	1-7-1
22c	1	Lock Washer	15-5-1
22d	1	Hex Hd Screw	067500
22e	1	Hex Nut	016884
22f	1	Weight	Q15-1-E26
23	3	Suction Flange, 15CCE	003205
24	3	Cap Screw	003205
25	1	Pipe Plug	15-23-6
26	1	Pipe Plug	002234
27	4	Hex Nut	
28	4	Hex Hd Screw	



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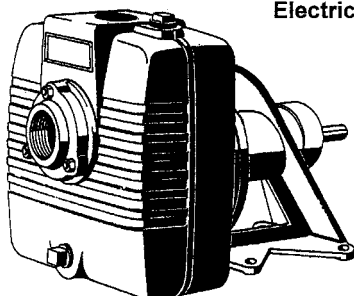
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5CU-1 SELF-PRIMING PUMPS ELECTRIC DRIVE

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5CU-1 SELF-PRIMING PUMPS Electric Drive



Model: 5CU-1



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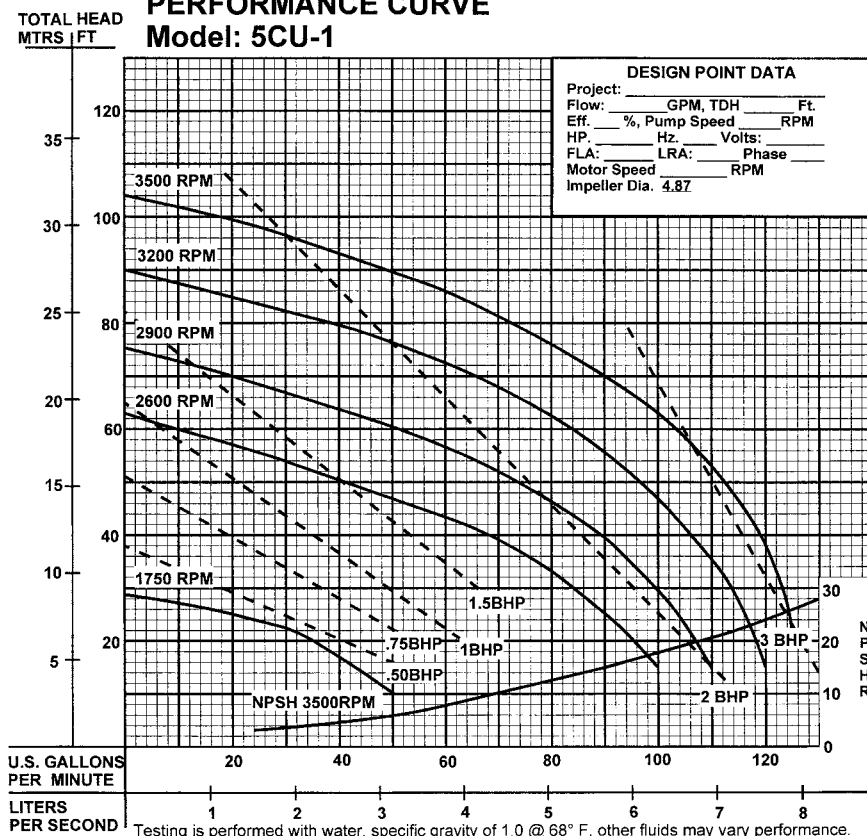
Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	1-1/2" (38mm) x 1-1/2" (38mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30. Removable.
BODY:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	Design: Open, Trash Type. Material: Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3. Stainless Steel
SHAFT:	Buna-N
SQUARE RINGS:	Stainless Steel
HARDWARE:	Air Dry Enamel.
PAINT:	Mechanical
SEAL:	Design: Self-Lubricating Lubrication: Rotating Face - Carbon Material: Stationary Face - Ceramic Elastomer - Buna-N Hardware - 300 Series Stainless
BEARING-PUMP END:	Design: Single Row, Ball Lubrication: Grease Load: Radial
BEARING-DRIVE END:	Design: Single Row, Ball Lubrication: Grease Load: Radial
CHECK VALVE:	Design: Valve Flap-Neoprene. Material: Weight-Cast Iron ASTM A-48, Class 30
OPTIONAL EQUIPMENT:	Seal Material; Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.

PERFORMANCE CURVE Model: 5CU-1



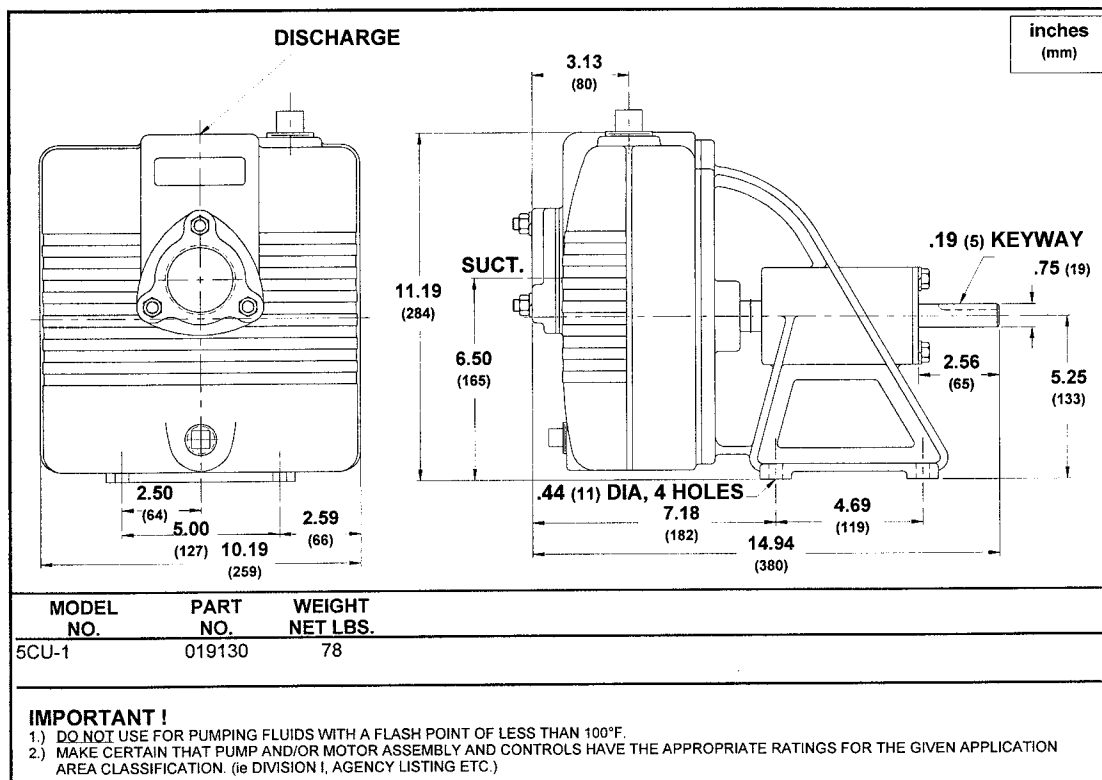
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5CU-1 SELF-PRIMING PUMPS ELECTRIC DRIVE



TAX BITES

HOTEL STAYS

Because Uncle Sam seems to be able to follow you everywhere, it shouldn't surprise you that after paying taxes on the airline ticket that got you to your favorite vacation destination, you'll have to pay more taxes for a room at a hotel.

Your bill when you check out includes not only sales taxes, but also local occupancy taxes that could tack on up to 15.4 percent if you're staying in Chicago. That's about \$15 of an average hotel bill of \$97.06.

But don't forget—hotels pay taxes too. Out of what the consumer pays to the hotel, the hotel must cover costs for federal and state income taxes, federal payroll taxes, sales taxes, capital gains taxes, unemployment insurance taxes, workmen's compensation taxes, business license taxes and fees, utility taxes, local property taxes, and any local income taxes. The hotel must also pay federal and state excise taxes on its telephones. These taxes add another \$33.58 to the average cost of a hotel room.

Nearly half of the cost of a hotel room, or as much as 50 percent, pays for taxes. For an average one night stay costing \$97.06, this means that up to \$48.53 goes straight to the government.

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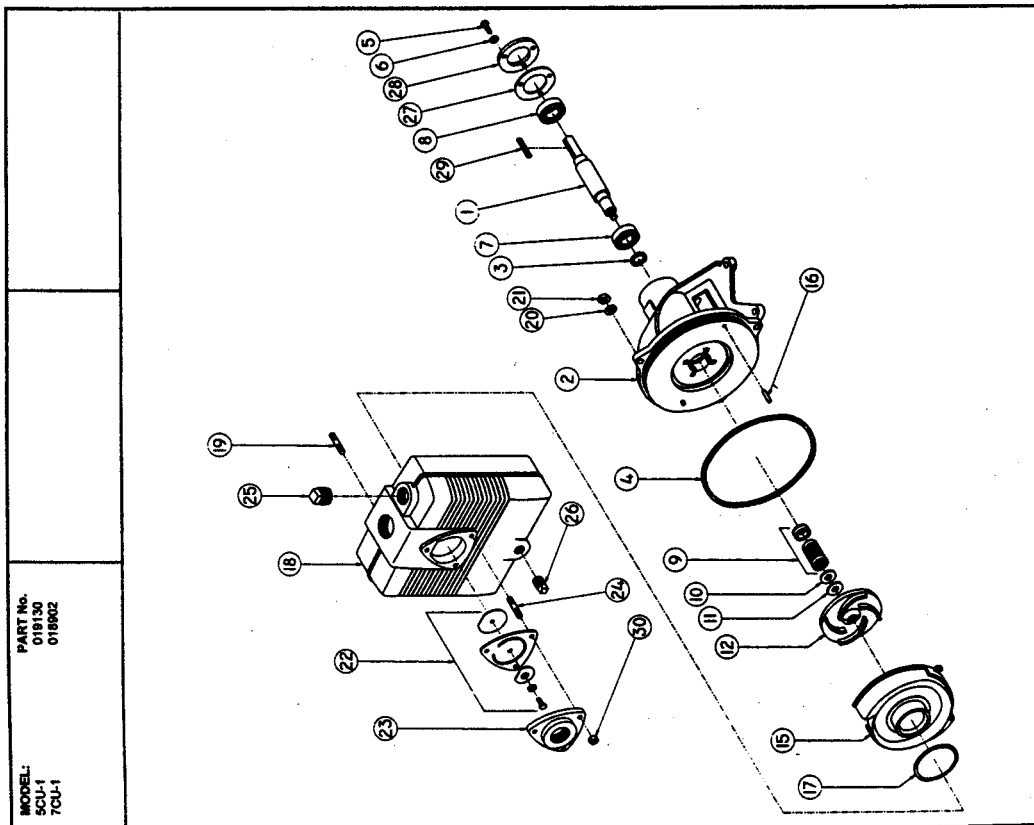
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5CU-1 SELF-PRIMING PUMPS Electric Drive



ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	Shaft	Stainless	018874
2	1	Pedestal	Buna-N	017805
3	1	† Slinger		018878
4	1	† O-Ring		017713
5	3	Hex Hd Screw	1/4-20 x .625" Lg, Steel	002201
6	3	Lockwasher	1/4" Steel	002801
7	1	Bearing		017807
8	1	† Shaft Seal		018873
9	1	† Shim, .010	C/C/N	017064
10	1	† Shim, .005		017109
11	1	Impeller	4.87" Dia	018094
12	1	Volute		018095
13	1	Volute Pin		017715
14	2	Volute Gasket		017714
15	1	Body		018097
16	1	Stud	5CU-1	023723
17	3	Lock washer	3/8-16 x 1.50" Lg, Stainless	018824
18	3	Hex Nut	3/8", Stainless	018826
19	1	Check Valve Assy	3/8-16, Stainless	15-23-1
20	1	Weight	2.50" O.D.	017718
21	1	Gasket	Neoprene	001338
22	1	Lock Washer	1/4" Stainless	022333
23	1	Round Hd Screw	1/4-20 x .625" Lg, Stainless	023489
24	1	Weight	1.85" O.D.	001339
25	1	Suction Flange	5CU-1	018099
26	3	Stud, 5CU-1	5/16-18 x 1.25" Lg, Stainless	018100
27	1	Stud, 7CU-1	5/16-18 x 2.25" Lg, Stainless	018831
28	1	Pipe Plug	1.75" NPT	018851
29	3	Shim	1.25" NPT	003208
30	1	Bearing Cap	3" O.D., Bronze	018435
31	1	Key	3/16 Sq x 1.63" Lg	005017
32	3	Hex Nut	5/16-18, Stainless	15-19-1

Seal Kit P/N: 021814 (†) 3, 4, 9, 10, 11, 16, 17, 22B.

PARTS KIT

PARTS LIST



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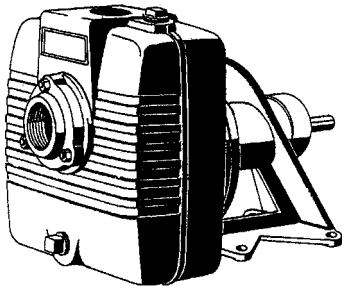
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10ICU-1 SELF-PRIMING PUMPS ELECTRIC DRIVE

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10ICU-1 SELF-PRIMING PUMPS Electric Drive



Model: 10ICU-1



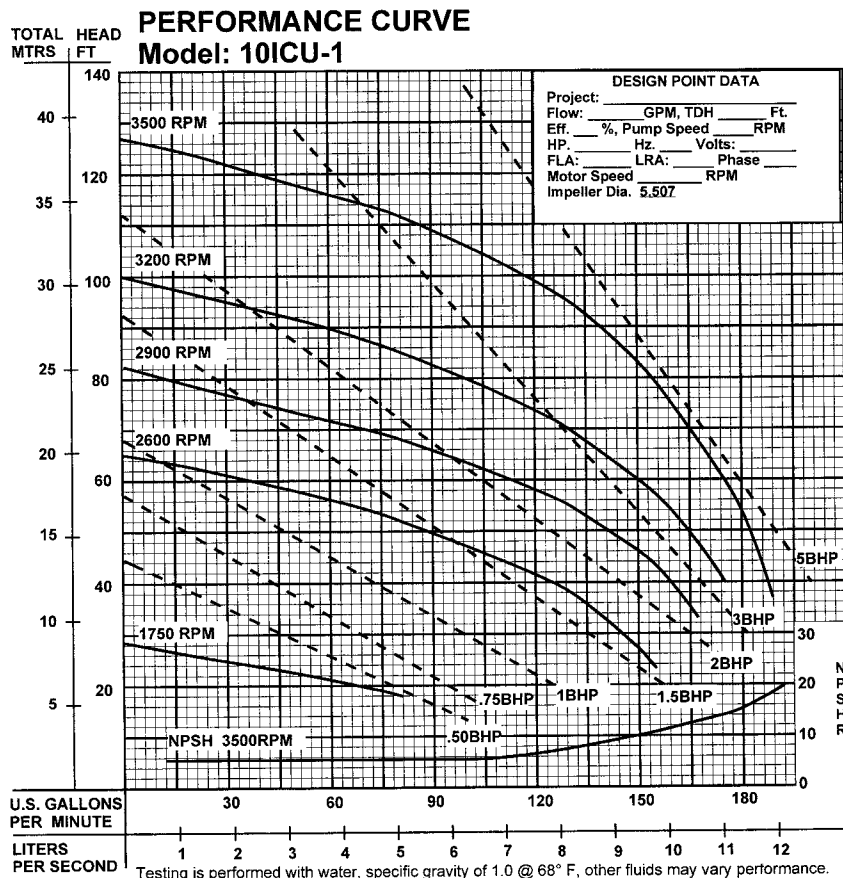
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Certificate No.
01-HS238523E/1-PDA

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	2" (51mm) x 2" (51mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30. Removable.
BODY:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	Design: Open, Trash Type. Material: Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3.
SHAFT:	Stainless Steel
SHAFT SLEEVE:	Stainless Steel
SQUARE RINGS:	Buna-N
HARDWARE:	Stainless Steel
PAINT:	Air Dry Enamel.
SEAL:	Design: Single Mechanical with Lip Seal Lubrication: Grease Material: Rotating Face - Carbon Stationary Face - Ceramic Elastomer - Buna-N Hardware - 300 Series Stainless
BEARING-PUMP END:	Design: Single Row, Ball Lubrication: Grease Load: Radial
BEARING-DRIVE END:	Design: Single Row, Ball Lubrication: Grease Load: Radial
CHECK VALVE:	Material: Valve Flap-Neoprene. Weight-Cast Iron ASTM A-48, Class 30
OPTIONAL EQUIPMENT:	Seal Material, Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.



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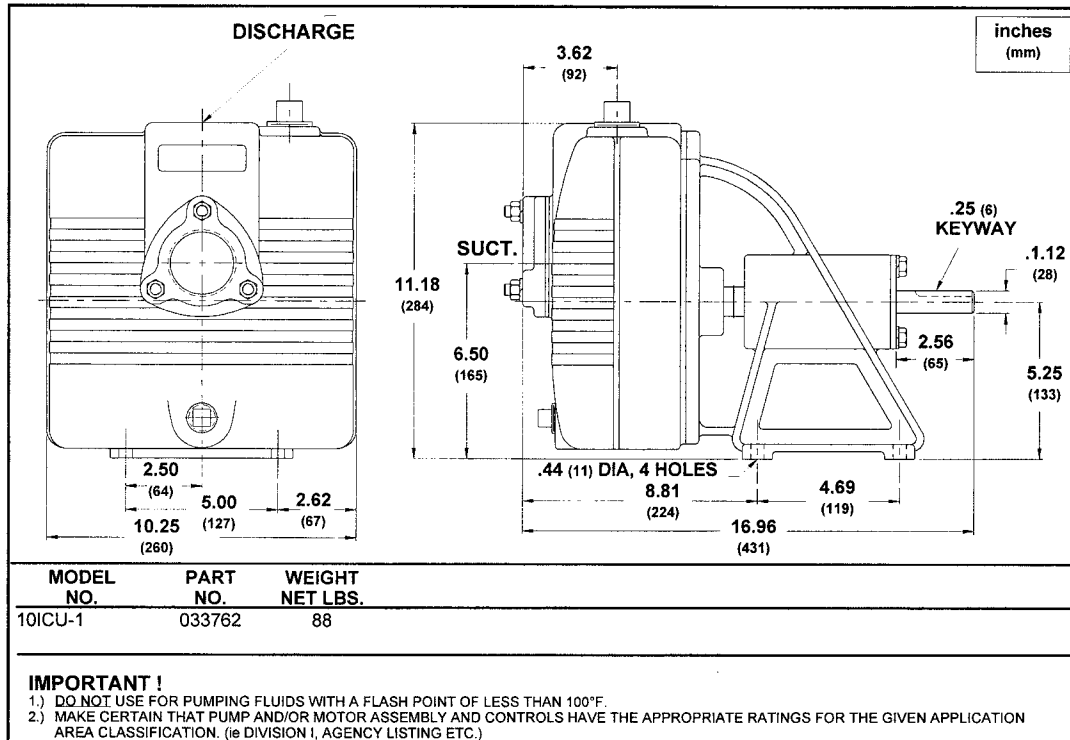
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10ICU-1

SELF-PRIMING PUMPS ELECTRIC DRIVE



TAX BITES ELECTRICITY

Government sees your electric power bill as something you cannot avoid, and they're right, of course. They love to impose taxes on it. In addition to sales taxes, states impose gas import taxes or other surcharges on your bill. As a result, on average 11.2 percent of what you pay for your electric power bill goes to state governments for these taxes alone.

For the average customer, this adds up to about \$206 per year. But that's only the beginning. Of the remaining funds you pay for the utility, roughly another \$266 per year on average goes for taxes as well.

Consequently, about one-fourth of what you pay for your electric bill goes to the government in taxes rather than for the electricity.

For the average customer, this amounts to about \$472 per year. Overall, the government collects almost \$50 billion per year on taxes paid through your electric bill alone.

(Note: If the Senate were to ratify the proposed Global Warming Treaty advocated by former Vice President Al Gore, many experts believe that the above numbers would be more than doubled.)

LANDLINE PHONES

In today's high-tech world, consumers have a wide range of choices for their voice services. Where there used to only be a landline phone, there are now cell phones, Voice over Internet Protocol (VoIP) services, and cable digital voice services. Recently the Beacon Hill Institute of Massachusetts surveyed 59 US cities and came up with average taxes paid for a wide variety of telecommunications services.

According to their study, consumers pay 17.23 percent of their average monthly landline (traditional) phone bill in taxes and fees. With monthly bills estimated at \$49.33, you pay \$8.50 for a landline phone.

These numbers take into account phone-specific taxes like the federal Universal Service Fund, the 911 tax, the city telecom taxes, TDD (deaf tax), and state universal service.

However, what the Beacon Hill study does not take into account are costs for federal income taxes, state income taxes, federal payroll taxes, unemployment insurance taxes, workmen's compensation taxes, local property taxes and any local income taxes. Altogether, these taxes dial up the actual "bite" to \$25.55 for a landline phone.

When added to the taxes and fees paid directly by the consumer, a total of 51.8 percent of a traditional phone bill actually pays for government taxes and fees.



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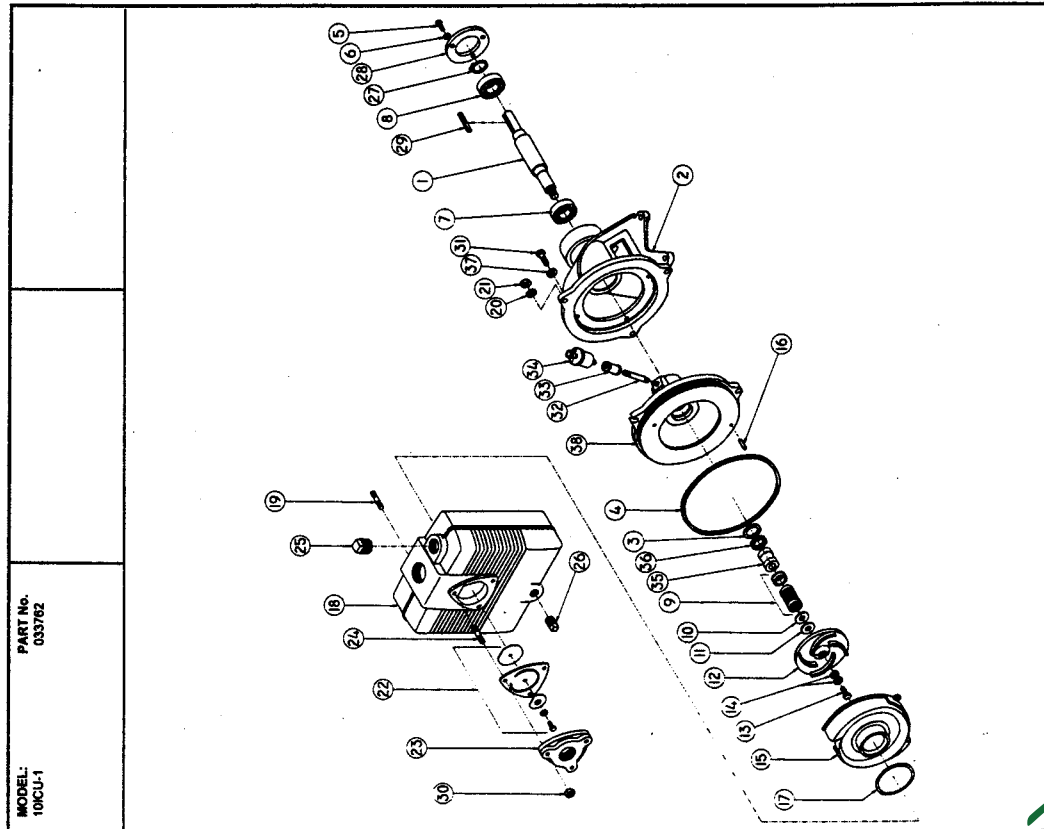
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10ICU-1
SELF-PRIMING PUMPS
Electric Drive

10ICU-1 SELF-PRIMING PUMPS ELECTRIC DRIVE



PARTS LIST

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	Shaft	Stainless	033756
2	1	Pedestal	Buna-N	019843
3	1	Slinger		005163
4	1	O-Ring		017713
5	3	Hex Hd Screw	10-32 x .50" Lg, Zp	019842
6	3	Lockwasher	#10 Steel	002818
7	1	Bearing		019846
8	1	Bearing		019847
9	1	Shaft Seal	CCEN	022187
10	1	Shim, .010		001348
11	1	Shim, .031		001348
12	1	Impeller	4.87" Dia	033759
13	1	Hex Hd Screw	1/2-20 x 1.00" Lg, Stainless	019802
14	2	Shakeproof Washer	1/2" Stainless	019803
15	1	Volute Pin		019069
16	2	Volute Gasket		017715
17	1	Body		019245
18	1	Lock washer	3/8-16 x 2.00" Lg, Stainless	019135
19	3	Hex Nut	3/8", Stainless	033824
20	3	Check Valve Assy	3/8-16, Stainless	016926
21	3	Weight	15-23-1	017718
22	1	Gasket	2.50" O.D.	001338
22A	1	Lock Washer	Neoprene	017712
22B	1	Round Hd Screw	1/4" Stainless	022333
22C	1	Weight	1/4-20 x .625" Lg, Stainless	023469
22D	1	Suction Flange	1.58" O.D.	001339
22E	1	Stud	5/16-18 x 2.25" Lg, Stainless	018100
23	3	Pipe Plug	1.25" NPT	016925
24	1	Pipe Plug	1.75" NPT	033206
25	1	Snap Ring		019851
26	1	Bearing Cap		019851
27	1	Key		021092
28	1	Hex Nut	1/4 Sq. x 1.25" Lg	019845
29	3	Hex Hd Screw	5/16-18, Stainless	15-19-1
30	4	Pipe Nipple	5/16-18 x 1.00", Stainless	1-156-1
31	1	Coupling	25" NPT	003263
32	1	Grease Cup	.25" NPT	003226
33	1	Shaft Sleeve		001684
34	1	Lip Seal	Stainless	033757
35	1	Lock Washer	5/16 Stainless	026322
36	1	Seal Plate		033727

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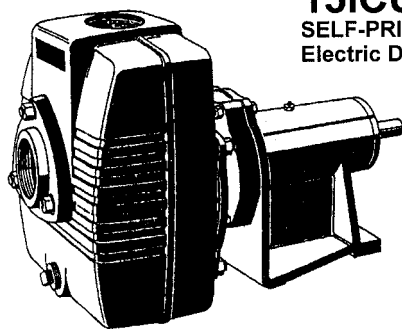
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15 ICU-1 SELF-PRIMING PUMPS ELECTRIC DRIVE

BARNES®



**15ICU-1
SELF-PRIMING PUMPS
Electric Drive**

Models: 15 ICU-1



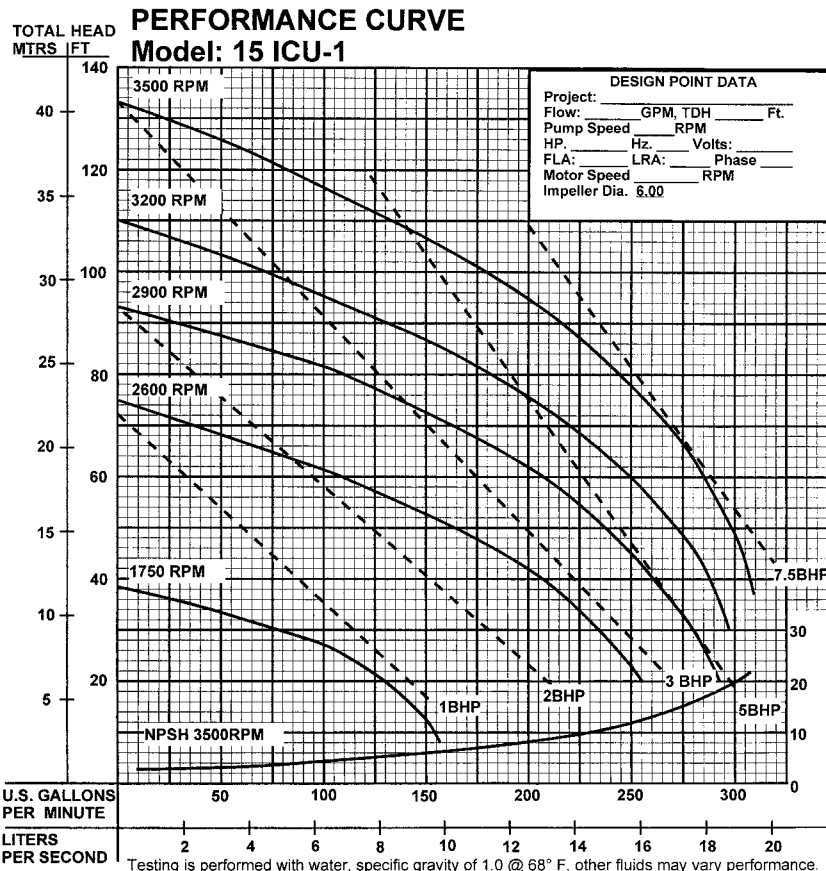
American Bureau of Shipping
Certificate No.
01-HS238523E/1-PDA

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	3" (76mm) x 3" (76mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30. Removable.
BODY:	Cast Iron ASTM A-48, Class 30.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	Design: Open, Trash Type. Material: Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3. Stainless Steel
SHAFT:	Buna-N
SQUARE RINGS:	Stainless Steel
HARDWARE:	Air Dry Enamel
PAINT:	Single Mechanical with Lip Seal
SEAL:	Design: Oil Lubrication: Rotating Face - Carbon Material: Stationary Face - Ceramic Elastomer - Buna-N Hardware - 300 Series Stainless
BEARING-PUMP END:	Design: Single Row, Ball Lubrication: Grease Load: Radial
BEARING-DRIVE END:	Design: Single Row, Ball Lubrication: Grease Load: Radial
CHECK VALVE:	Design: Valve Flap-Neoprene. Material: Weight-Cast Iron ASTM A-48, Class 30
OPTIONAL EQUIPMENT:	Seal Material, Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.

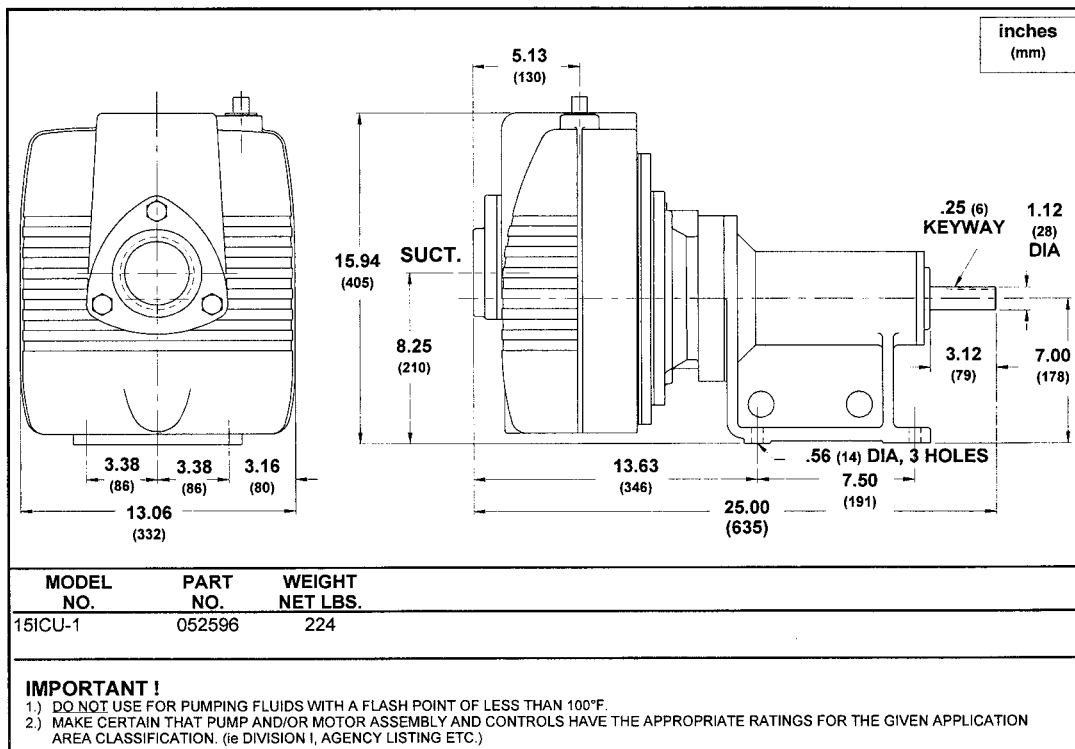


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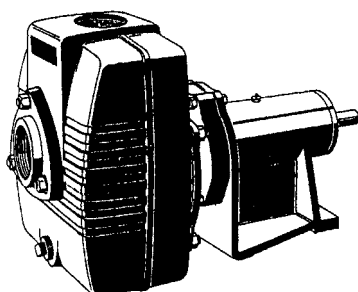
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BARNES®

15 ICU-1 & 20 ICU-1 SELF-PRIMING PUMPS ELECTRIC DRIVE & UNIVERSAL DRIVE



20 ICU-1 SELF-PRIMING PUMPS Universal Drive



Models: 20 ICU-1



American Bureau of Shipping
Certificate No.
01-HS238523E/1-PDA

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	3" (76mm) x 3" (76mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30. Removable.
BODY:	Cast Iron ASTM A-48, Class 30.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	<i>Design:</i> Open, Trash Type. <i>Material:</i> Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3. Stainless Steel
SHAFT:	Buna-N
SQUARE RINGS:	Stainless Steel
HARDWARE:	Air Dry Enamel.
PAINT:	Single Mechanical with Lip Seal
SEAL:	<i>Design:</i> Oil <i>Lubrication:</i> Rotating Face - Carbon <i>Material:</i> Stationary Face - Ceramic Elastomer - Buna-N Hardware - 300 Series Stainless
BEARING-PUMP END:	<i>Design:</i> Single Row, Ball <i>Lubrication:</i> Grease <i>Load:</i> Radial
BEARING-DRIVE END:	<i>Design:</i> Single Row, Ball <i>Lubrication:</i> Grease <i>Load:</i> Radial
CHECK VALVE:	<i>Material:</i> Valve Flap-Neoprene. Weight-Cast Iron ASTM A-48, Class 30
OPTIONAL EQUIPMENT:	Seal Material, Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.



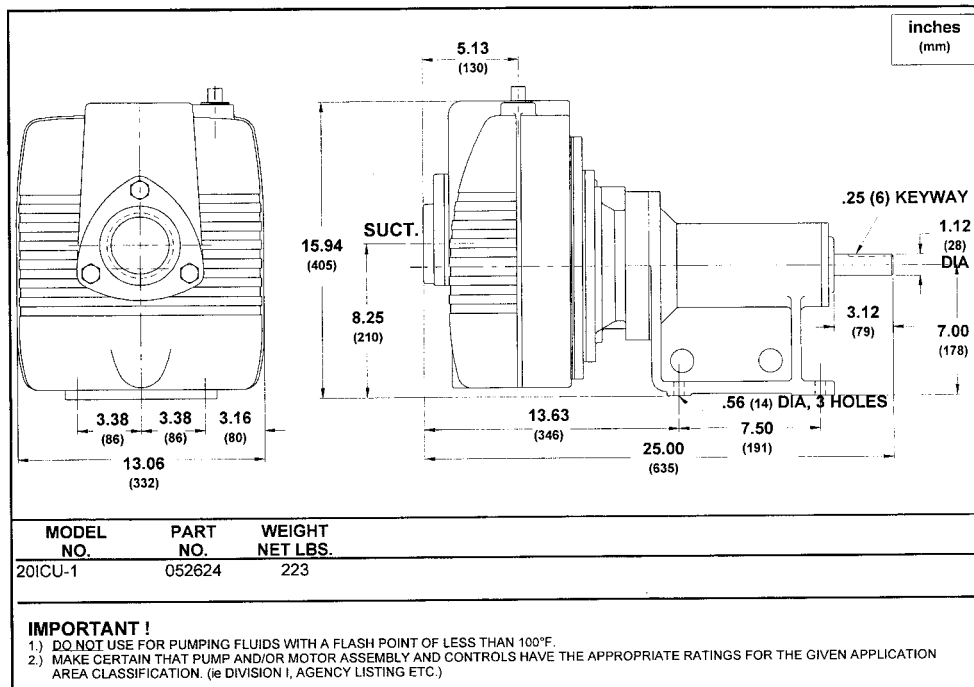
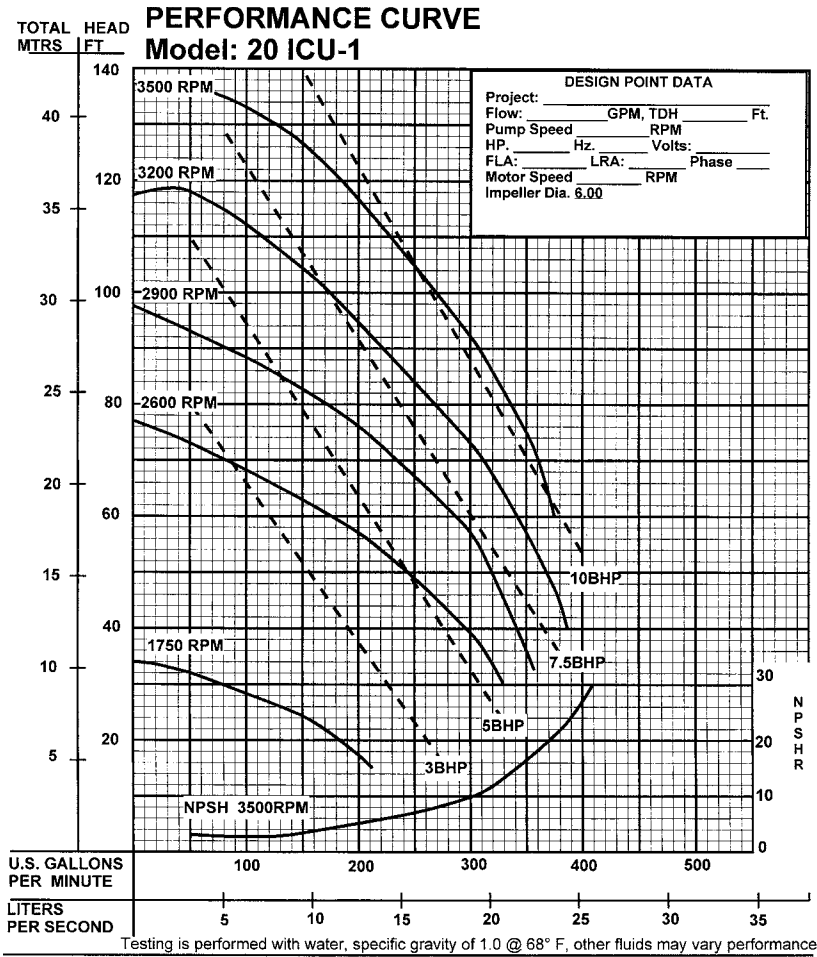
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20 ICU-1

SELF-PRIMING PUMPS UNIVERSAL DRIVE



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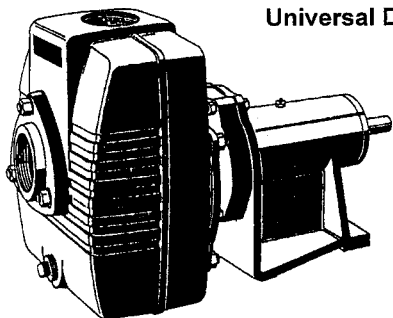
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25 ICU-1

SELF-PRIMING PUMPS UNIVERSAL DRIVE

BARNES®

25 ICU-1 SELF-PRIMING PUMPS Universal Drive



Model: 25 ICU-1



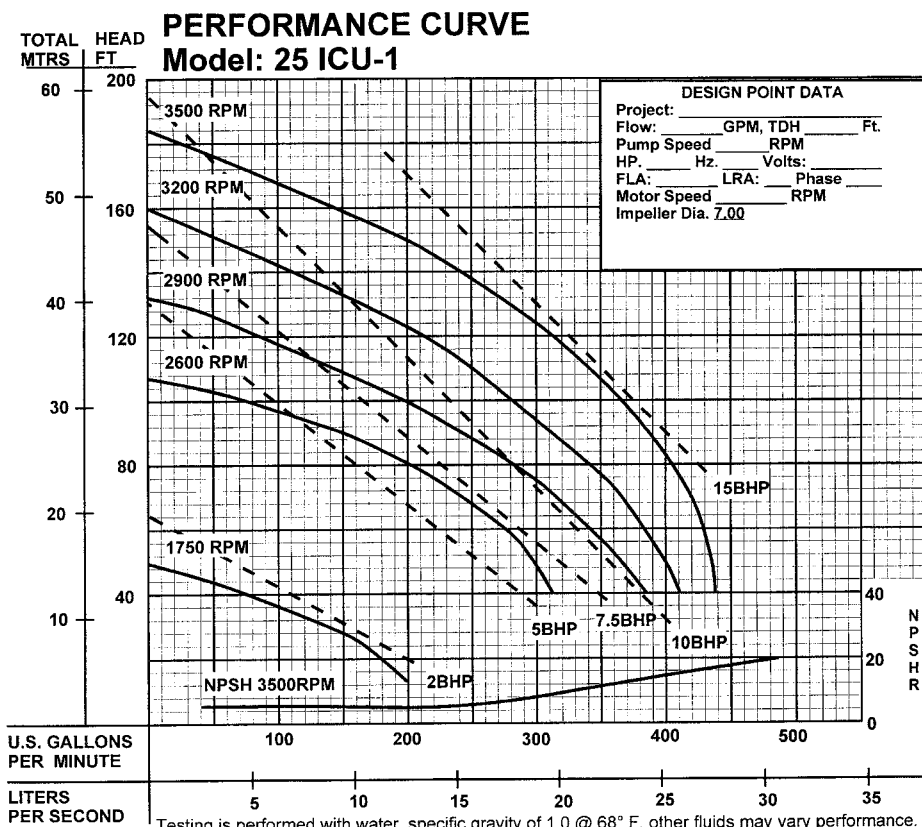
American Bureau of Shipping
Certificate No.
01-HS238523E/1-PDA

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MARINE, MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE:	3" (76mm) x 3" (76mm) NPT, Female.
LIQUID TEMPERATURE:	160°F (71°C) Continuous.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
VOLUTE:	Cast Iron ASTM A-48, Class 30. Removable.
BODY:	Cast Iron ASTM A-48, Class 30.
INTERMEDIATE:	Cast Iron ASTM A-48, Class 30.
PEDESTAL:	Cast Iron ASTM A-48, Class 30.
IMPELLER:	
Design:	Open, Trash Type.
Material:	Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3.
SHAFT:	Stainless Steel
SQUARE RINGS:	Buna-N
HARDWARE:	Stainless Steel
PAINT:	Air Dry Enamel.
SEAL:	
Design:	Single Mechanical with Lip Seal
Lubrication:	Oil
Material:	Rotating Face - Carbon Stationary Face - Ceramic Elastomer - Buna-N Hardware - 300 Series Stainless
BEARING-PUMP END:	
Design:	Single Row, Ball
Lubrication:	Grease
Load:	Radial
BEARING-DRIVE END:	
Design:	Single Row, Ball
Lubrication:	Grease
Load:	Radial
CHECK VALVE:	
Material:	Valve Flap-Neoprene. Weight-Cast Iron ASTM A-48, Class 30
OPTIONAL EQUIPMENT:	Seal Material, Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.



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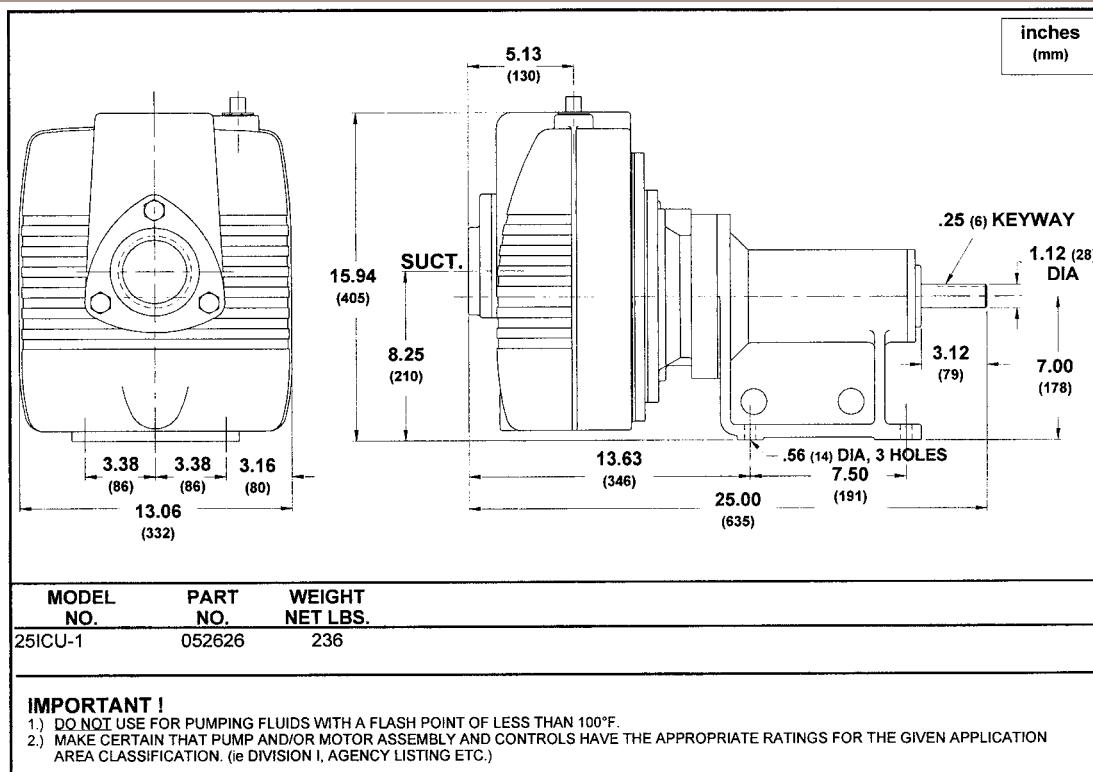
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25 ICU-1

SELF-PRIMING PUMPS UNIVERSAL DRIVE



TAX BITES

Firearms

Whether for sport or self-protection, many citizens jump through bureaucratic hoops to legally purchase a firearm. Before they can pull the trigger, the government targets their purchases for taxes.

All gun sales are subject to a federal excise tax of up to 11 percent paid directly by the consumer in addition to the state and local sales tax rates. But because other taxes are imposed on the manufacturer, the true amount of the price of a gun that pays for taxes must account for federal income taxes, state income taxes, federal payroll taxes, unemployment insurance taxes, workmen's compensation taxes, local property taxes and any local income taxes, which are paid by the producer. These taxes add another \$173 onto the final sale of a \$500 firearm.

For a \$500 firearm, the government loads on 45.6 percent of the cost in taxes – collecting \$228 per gun.

TAXES IMPOSED ON GAS PRODUCTION & SALES:
On the average cost of a gallon of gas, 51% is taxes

FEDERAL TAXES: Corporate Income Tax
Individual Income Tax Capital Gains Tax Corporate Environmental Tax FICA Tax FUTA Tax Duties on Imported Crude and Product Customs Ad Valorem User Fee Airport and Airway Trust Fund Tax Harbor Maintenance Trust Fund Tax Superfund Crude Oil Tax Oil Spill Liability Trust Fund Tax Highway Trust Fund Tax Aquatic Resources Trust Fund Tax Deficit Reduction Excise Tax Inland Waterways Trust Fund Tax Heavy Truck and Trailer Tax Excise Tax on Tires Federal Telephone Excise Taxes

STATE TAXES: Corporate Income Taxes Individual Income Taxes Franchise Taxes Unemployment Taxes Sales and Use Taxes Motor Fuel Excise Taxes Sales Taxes on Motor Fuels Fuel Use Taxes Superfund Taxes Used Oil Disposal Taxes Waste Disposal Taxes Business Property Taxes Real Property Taxes Pipeline Throughput Taxes Severance Taxes Production Taxes Refinery Throughput Taxes Conservation Taxes Telephone Excise Taxes Environmental Impact Taxes Public Highway Use Taxes Heavy Truck Highway Use Taxes



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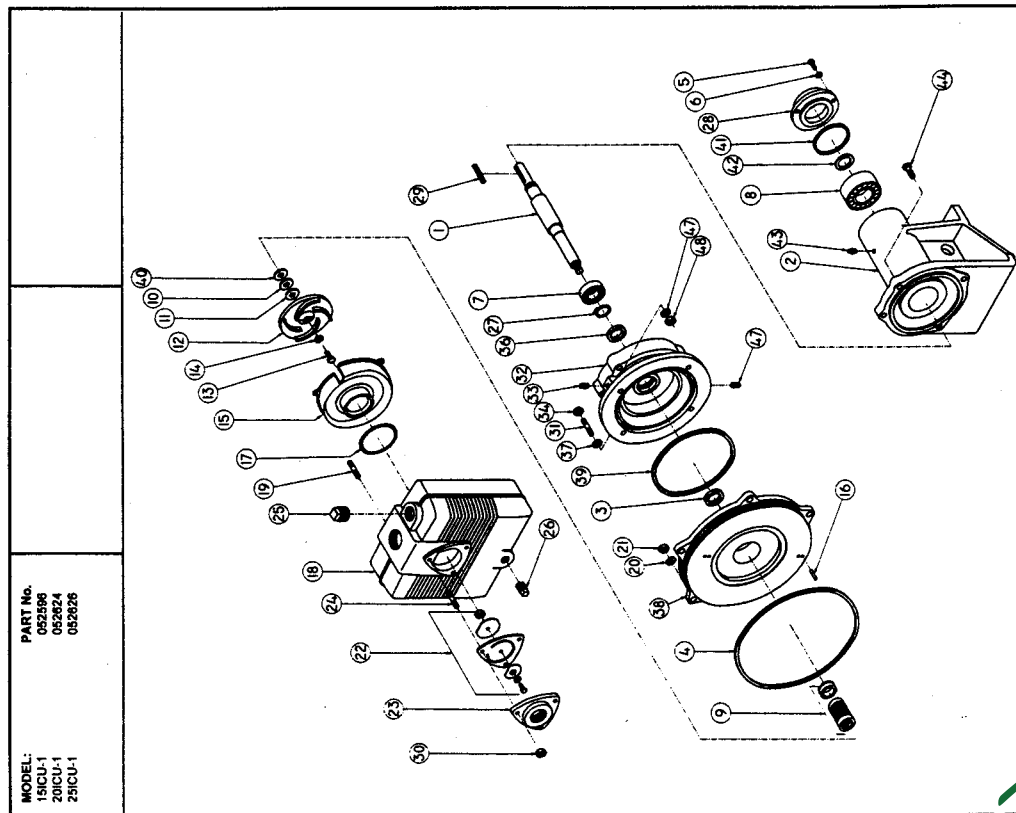
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BARNES®

15 ICU-1, 20 ICU-1, 25 ICU-1 PARTS KIT

SERIES: 15ICU-1, 20ICU-1, 25ICU-1



MODEL:
15ICU-1
20ICU-1
25ICU-1

PART No.
052596
052624
052626

PARTS KIT

Seal Kit PIN: 085241 (+) 4,9,10,11,13,14,17,20,21,22B,36,39

Overhaul Kit . PIN: 085240 (*) 4,5,6,7,8,9,10,11,13,14,17,20,22B,27,28,30,34,36,37,39,41,42,45,46,49

PARTS LIST

ITEM	QTY.	DESCRIPTION	Material	PART No.
1	1	Shaft	Stainless	077004
2	1	Pedestal		039682
3	1	Singer	Buna-N	005163
4	4	O-Ring	5/16-10 x .875" Lg. Stainless	018386
5	4	Hex Hd Screw	5/16 Stainless	027115
6	4	Lockwasher		026322
7	1	Bearing		032461
8	1	Bearing		039332
9	1	Shaft Seal	CICEN	052601
10	1	Shim, .010		001346
11	1	Impeller, 15ICU-1		001347
12	1	Impeller, 20ICU-1		001348
13	1	Impeller, 25ICU-1		0900507B
14	2	Hex Hd Screw	12-20 x 1.00" Lg. Stainless	051102
15	1	Washer, 5/16 x 20ICU-1		019802
16	2	Shakeproof Nut, 15 & 20ICU-1		019803
17	1	Volute Pin	1/2" Stainless	070069
18	1	Volute Pin		018883
19	5	Body		019102
20	5	Lock washer		039982
21	5	Hex Nut	1/2-13 x 2.00" Lg. Stainless	019042
22	1	Check Valve Assy	1/2-13, Stainless	021078
22A	1	Gasket		15-6-1
22B	1	Weight	2.75" O.D.	001588
22C	1	Lock Washer	Neoprene	018008
22E	1	Hex Hd Screw	1/4" Stainless	022333
22F	1	Hex Nut	1/4-20 x 1.00" Lg. Stainless	1-7-1
23	1	Suction Flange	1/4-20, Stainless	15-5-1
24	3	Slud	4" O.D.	087500
25	1	Pipe Plug	1/2-13 x 2.00" Lg. Stainless	018884
26	1	Pipe Plug	1.00" NPT	021078
27	1	Snap Ring	1.00" NPT	003205
28	1	Bearing Cap		019851
29	1	Key	1/4 Sq. x 2.25" Lg	039958
30	3	Hex Nut	1/2-13, Stainless	033771
31	4	Slud	15-6-1	019034
32	1	Coupling Head	3/8-16 x 1.75" Stainless	051186
33	1	Pipe Plug		015000
34	4	Lip Seal	3/8-16, Stainless	15-23-1
36	4	Lip Seal	3/8-16, Stainless	039465
37	4	Lock Washer	3/8 Stainless	018926
38	1	Seal Plate		039984
39	1	Shim Seal		059665
40	1	O-Ring		026990
41	1	O-Ring		026997
42	1	Lip Seal		026309
43	1	Relief Fitting		026307
44	4	Hex Hd Screw	7/16-14 x 2.50" Lg. Stainless	027114
47	4	Lock Washer	7/16-14, Stainless	027115
48	4	Hex Nut		027116

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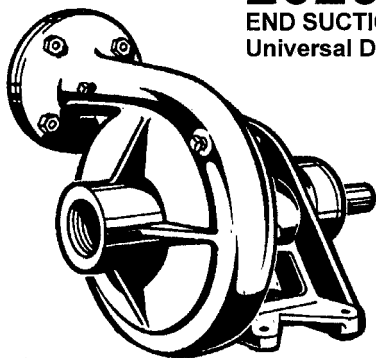
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2020HCU END SUCTION PUMPS UNIVERSAL DRIVE

BARNES®



2020HCU END SUCTION PUMPS Universal Drive

Model: 2020HCU



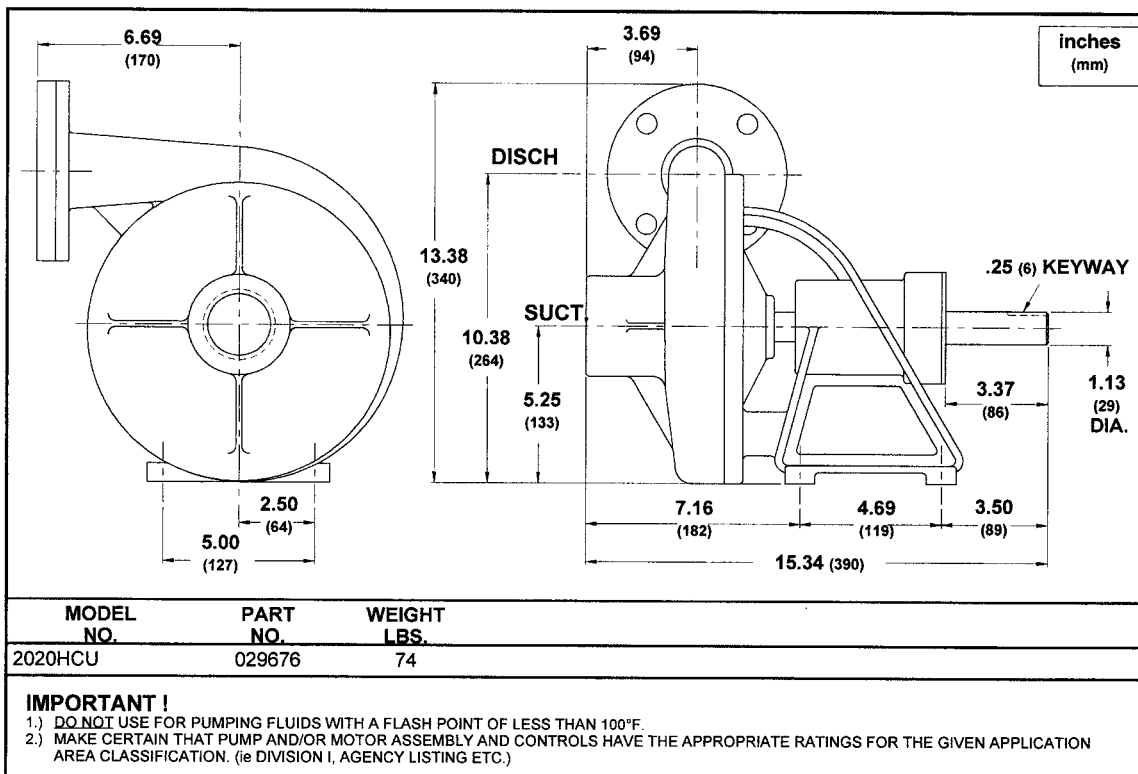
American Bureau of Shipping
Certificate No.
01-HS238523D/1-PDA

Description:

THESE PUMPS ARE SUITABLE FOR GENERAL INDUSTRIAL USE SUCH AS, LIQUID TRANSFER OR AS BOOSTER PUMPS.

Specifications:

SUCTION/DISCHARGE:	2" (51mm) NPT Suction, 2" (51mm) 125lb Flange Discharge. Discharge can be placed in 8 different locations depending on piping requirements.
LIQUID TEMPERATURE:	180°F (82°C) Continuous.
BODY:	Cast Iron, ASTM Class 30, with Air Vent, Vacuum Pressure and Drain Plugs.
PEDESTAL:	Cast Iron, ASTM Class 30.
IMPELLER:	<i>Design:</i> Enclosed Type, 81-3-7-9 Bronze. <i>Material:</i> Dynamically Balanced, ISO G6.3.
WEAR RING:	Teflon "U" Cup
SHAFT:	Steel
SHAFT SLEEVE:	Bronze
HARDWARE:	Steel
PAINT:	Air Dry Enamel.
SEAL:	<i>Design:</i> Single Mechanical <i>Lubrication:</i> Self Lubricating <i>Material:</i> Rotating Face - Carbon Stationary Face - Ni-Resist Elastomer - Buna-N Hardware - Stainless Steel
BEARING-PUMP END:	<i>Design:</i> Single Row, Ball <i>Lubrication:</i> Grease, Factory Lubrication. <i>Load:</i> Radial & Thrust
BEARING-DRIVE END:	<i>Design:</i> Single Row, Ball <i>Lubrication:</i> Grease, Factory Lubrication. <i>Load:</i> Radial & Thrust
OPTIONAL EQUIPMENT:	Discharge Check Valve, Hand Primer, Base & OSHA Coupling Guard, Flex Coupling, Strainer.

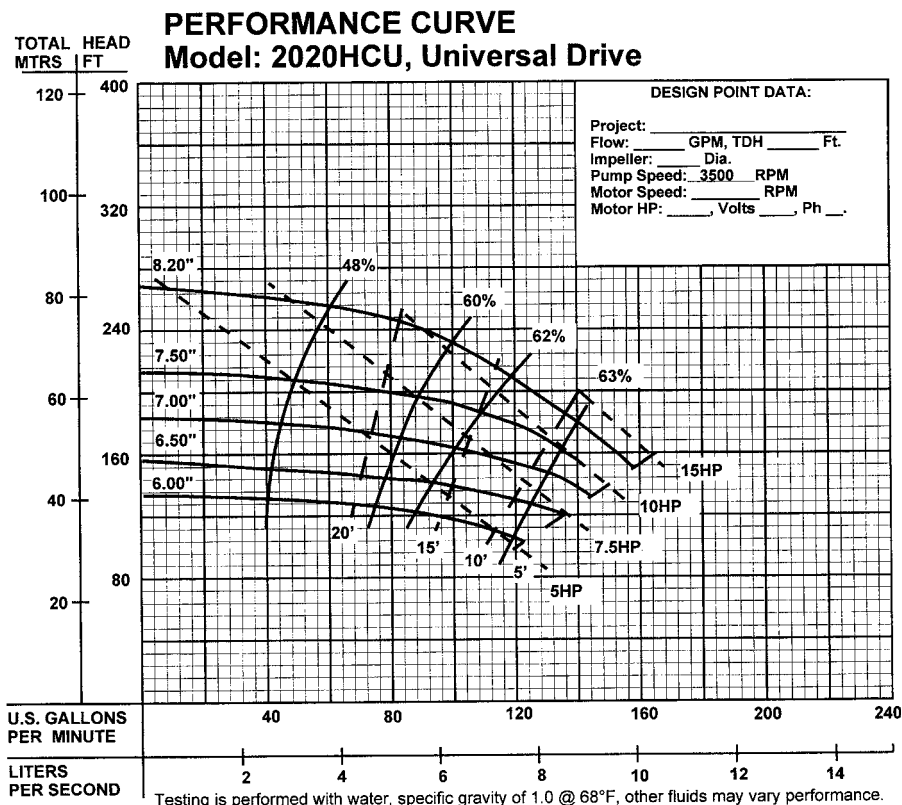
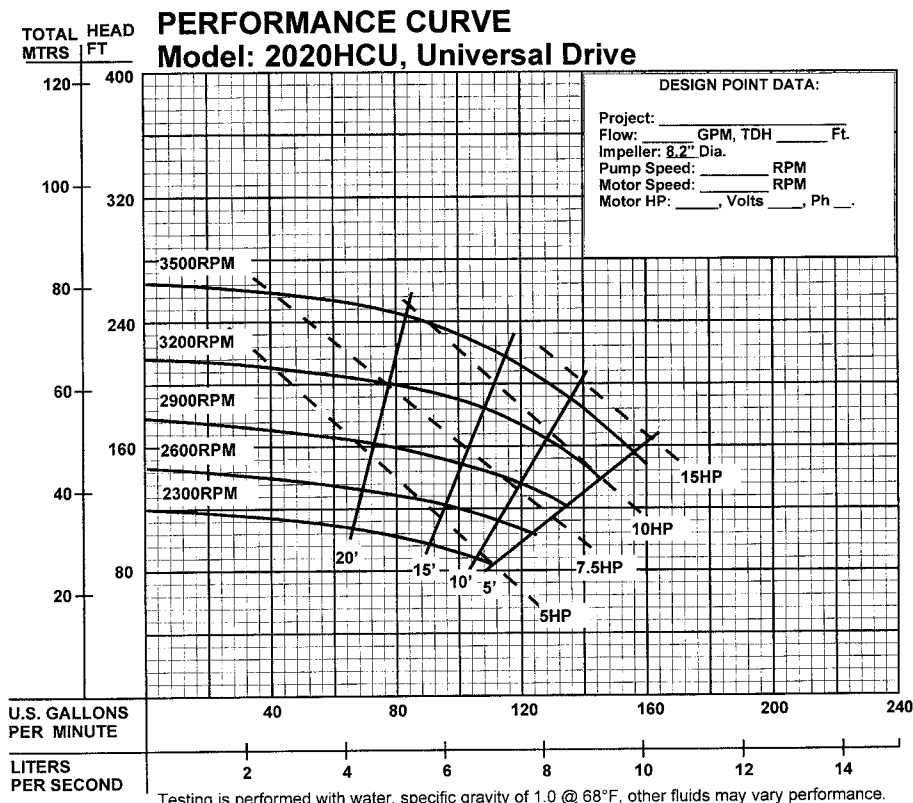


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2020HCU END SUCTION PUMPS UNIVERSAL DRIVE



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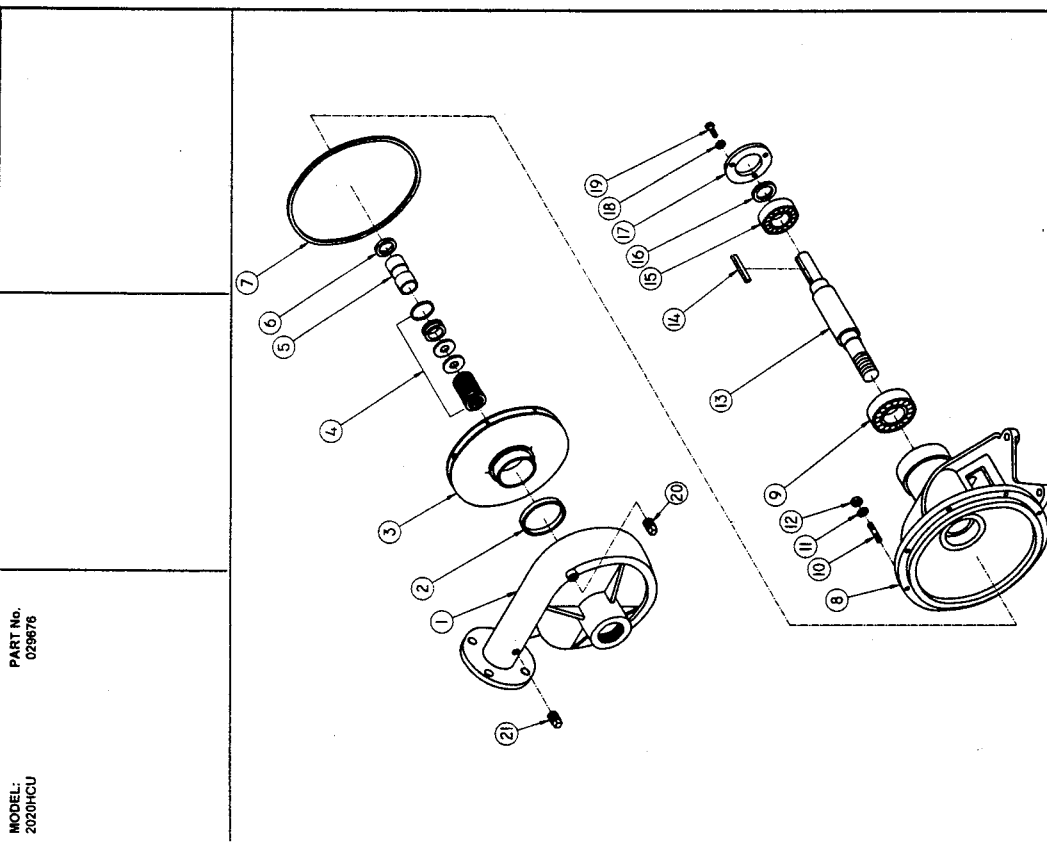
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2020HCU END SUCTION PUMPS UNIVERSAL DRIVE

2020HCU END SUCTION PUMPS Universal Drive

BARNES®



PART No.
029676

MODEL:
2020HCU

PARTS KIT

Seal Kit.....P/N: 083560 (f) 2,4,5,6,7.

PARTS LIST

ITEM	QTY.	DESCRIPTION	PART No.
1	1	Body	022026
2	1	† U-Cup	021858
3	1	Impeller	021284
4	1	† Shaft Seal	018146
5	1	† Shaft Sleeve	018071
6	1	† Slinger	005163
7	1	† Square Ring	021297
8	1	Pedestal	029084
9	1	Bearing	019846
10	8	Stud	002410
11	8	Lock Washer	002603
12	8	Hex Nut	002501
13	1	Shaft	021038
14	1	Shaft Key	021082
15	1	Bearing	019847
16	1	Snap Ring	019851
17	1	Bearing Cap	019845
18	3	Lock Washer	002618
19	3	Machine Screw	019842
20	3	Pipe Plug	015000
21	2	Pipe Plug	003217

C/NR/B
Bronze

5/16-18 x 1.75" Lg
5/16
5/16-18

#10
#10-32 x .50" Lg. ZP
.375" NPT
.25" NPT

TAX BITES

Distilled Spirits

Another target of the "sin tax"- loving legislators is distilled spirits. Taxes on distilled spirits are among the highest taxes imposed on any product. Nearly 80 percent of what you pay for a bottle goes to the government in taxes rather than for the liquor. At an average price of \$13.10 for a 750mL bottle of 80 proof spirits, this amounts to the government stirring in \$10.43 to your total at the register.

The federal excise tax pours \$2.14 into the average cost of a 750 ml bottle, or about 16 percent of the \$13.10. Then the median state excise taxes add another \$3.75 to the same bottle. And because distilled spirits producers must pay federal and state income taxes, federal payroll taxes, property taxes and other taxes, these costs are passed on to consumers. These taxes tack on another \$4.53 to the total price of a bottle of distilled spirits.



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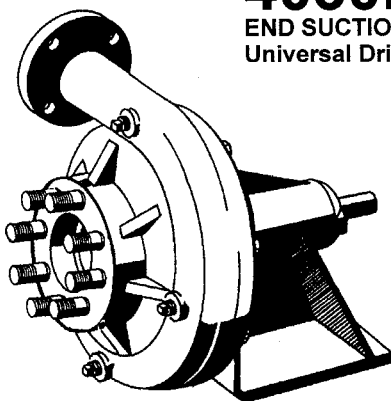
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4030HCU END SUCTION PUMPS UNIVERSAL DRIVE

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4030HCU END SUCTION PUMPS Universal Drive



Model: 4030HCU



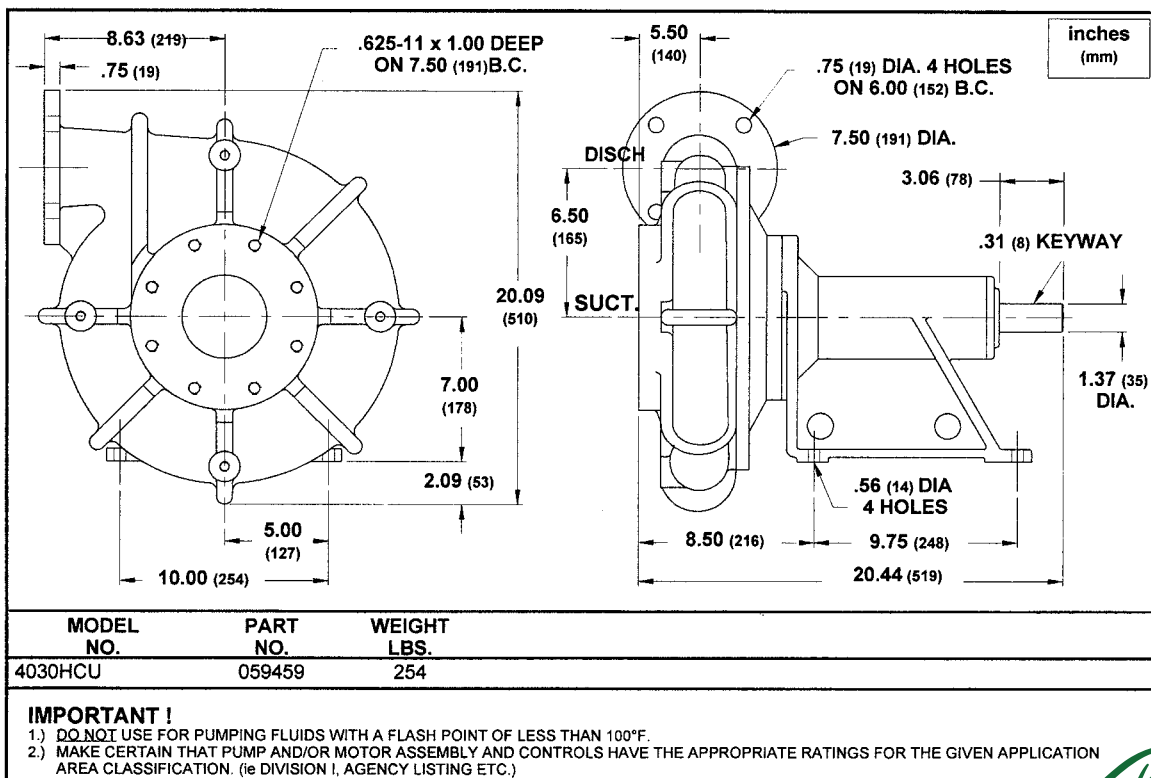
American Bureau of Shipping
Certificate No.
01-HS238523D/1-PDA

Description:

THESE PUMPS ARE SUITABLE FOR GENERAL INDUSTRIAL USE SUCH AS, LIQUID TRANSFER OR AS BOOSTER PUMPS.

Specifications:

SUCTION/DISCHARGE:	4" (102mm) Suction, 3" (76mm) Discharge, 125lb Flange. Discharge can be placed in 8 different locations depending on piping requirements.
LIQUID TEMPERATURE:	180°F (82°C) Continuous.
BODY:	Cast Iron, ASTM Class 30, with Air Vent, Vacuum Pressure and Drain Plugs. Cast Iron, ASTM Class 30.
PEDESTAL:	
IMPELLER:	Design: Enclosed Type, Material: Cast Iron, ASTM Class 30. Dynamically Balanced, ISO G6.3.
WEAR RING:	Bronze
SHAFT:	Steel
SHAFT SLEEVE:	Bronze
HARDWARE:	Steel
PAINT:	Air Dry Enamel.
SEAL:	Design: Single Mechanical Lubrication: Self Lubricating Material: Rotating Face - Carbon Stationary Face - Ni-Resist Elastomer - Buna-N Hardware - Stainless Steel
BEARING-PUMP END:	Design: Single Row, Ball Lubrication: Grease, Factory Lubrication. Load: Radial & Thrust
BEARING-DRIVE END:	Design: Single Row, Ball Lubrication: Grease, Factory Lubrication. Load: Radial & Thrust
OPTIONAL EQUIPMENT:	Discharge Check Valve, Hand Primer, Base & OSHA Coupling Guard, Flex Coupling, Strainer, Bronze Impeller, Companion Flange, Flange Gasket.



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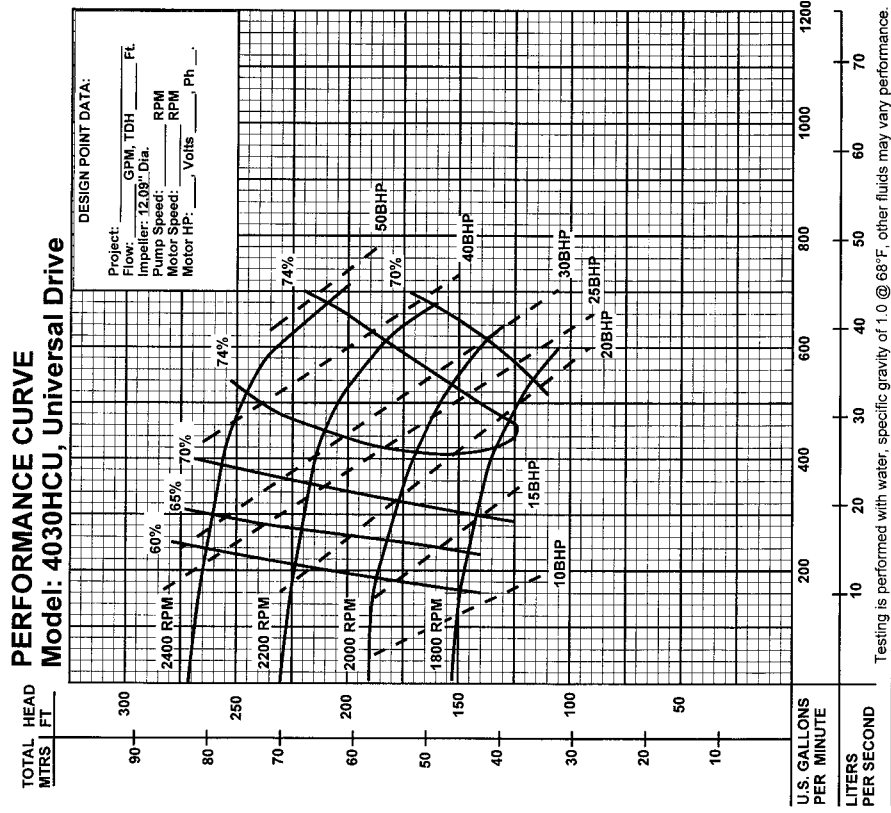
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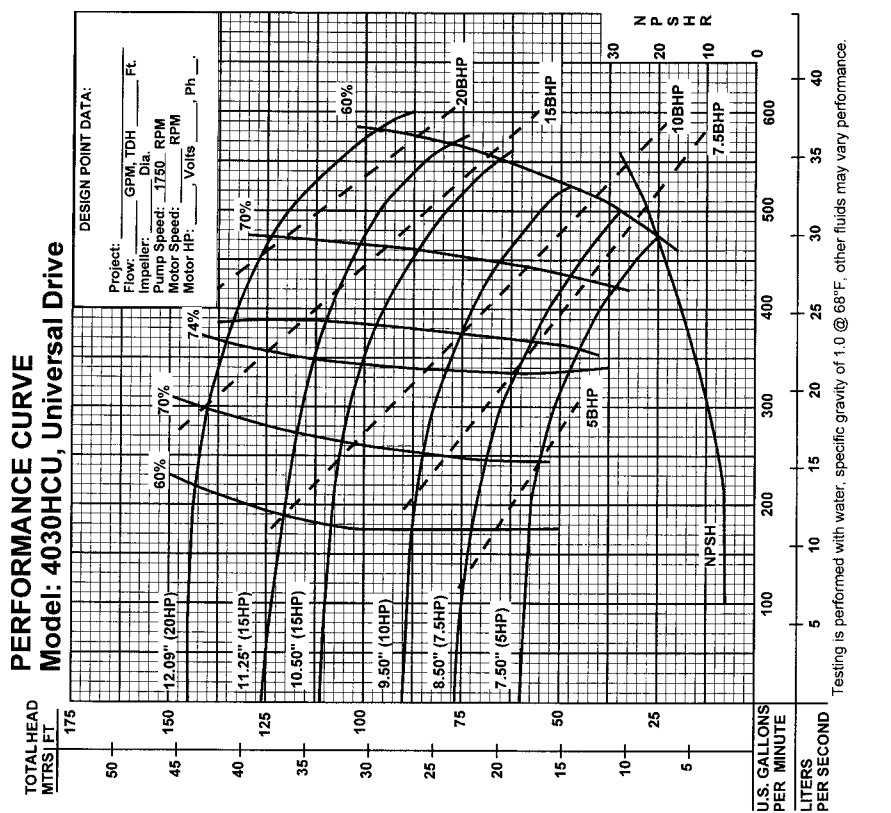
4030HCU

END SUCTION PUMPS UNIVERSAL DRIVE

PERFORMANCE CURVE
Model: 4030HCU, Universal Drive



PERFORMANCE CURVE
Model: 4030HCU, Universal Drive



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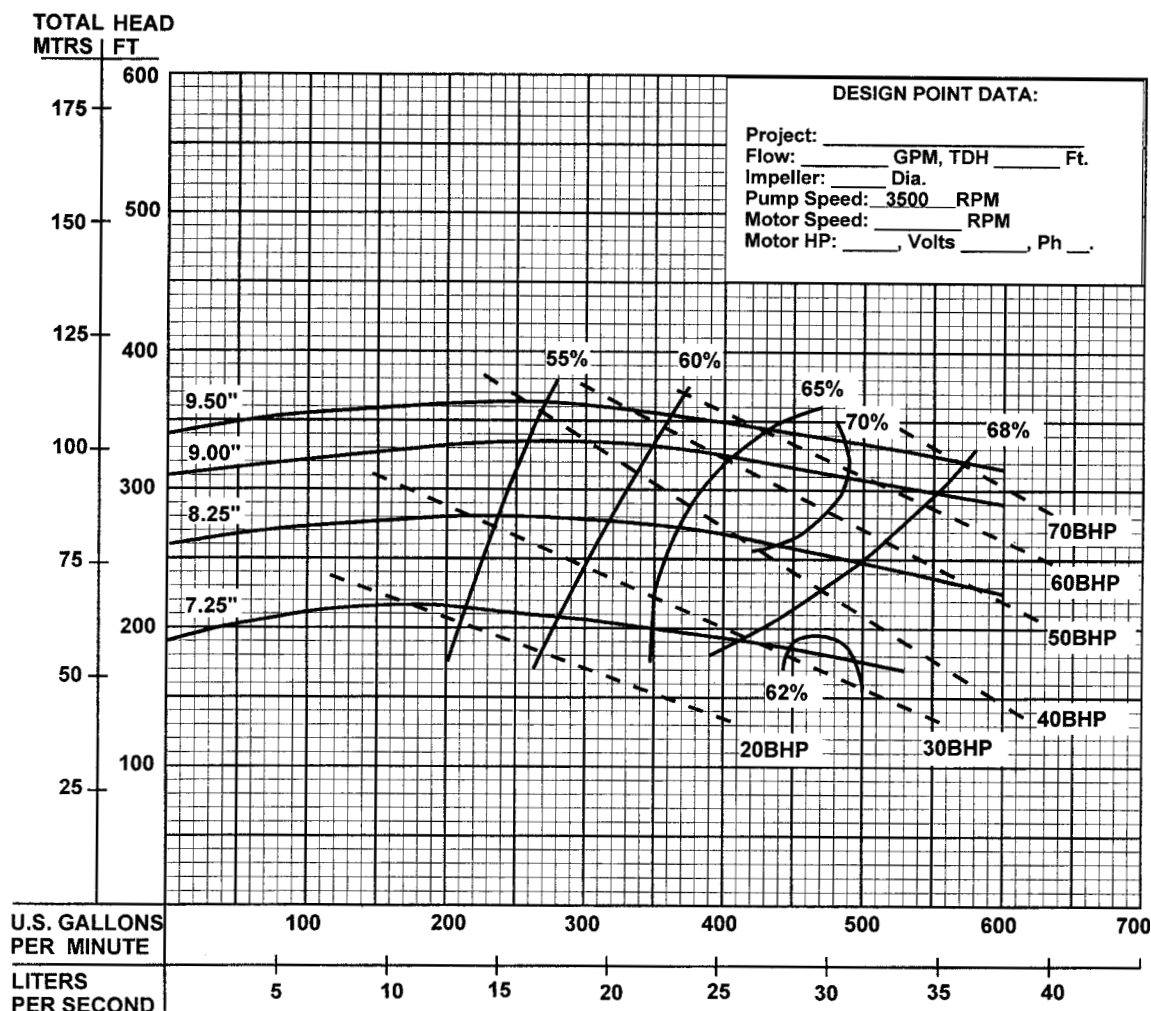
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4030HCU END SUCTION PUMPS UNIVERSAL DRIVE

PERFORMANCE CURVE

Model: 4030HCU, Universal Drive



TAX BITES

CELLULAR PHONES

In today's high-tech world, consumers have a wide range of choices for their voice services. Where there used to only be a landline phone, there are now cell phones, Voice over Internet Protocol (VoIP) services, and cable digital voice services. Recently the Beacon Hill Institute of Massachusetts surveyed 59 US cities and came up with average taxes paid for a wide variety of telecommunications services.

According to their study, consumers pay 11.78 percent of their average monthly wireless bill to the government. With monthly bills estimated at \$49.98, you pay \$5.89 for a wireless.

These numbers take into account phone-specific taxes like the federal Universal Service Fund, the 911 tax, the city telecom taxes, TDD (deaf tax), and state universal service.

However, what the Beacon Hill study does not take into account are costs for federal income taxes, state income taxes, federal payroll taxes, unemployment insurance taxes, workmen's compensation taxes, local property taxes and any local income taxes. Altogether, these taxes dial up the actual "bite" to \$23.19 for a wireless phone. When added to the taxes and fees paid directly by the consumer, a total of 46.4 percent of a wireless bill actually pays for government taxes and fees.

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4030HCU END SUCTION PUMPS UNIVERSAL DRIVE

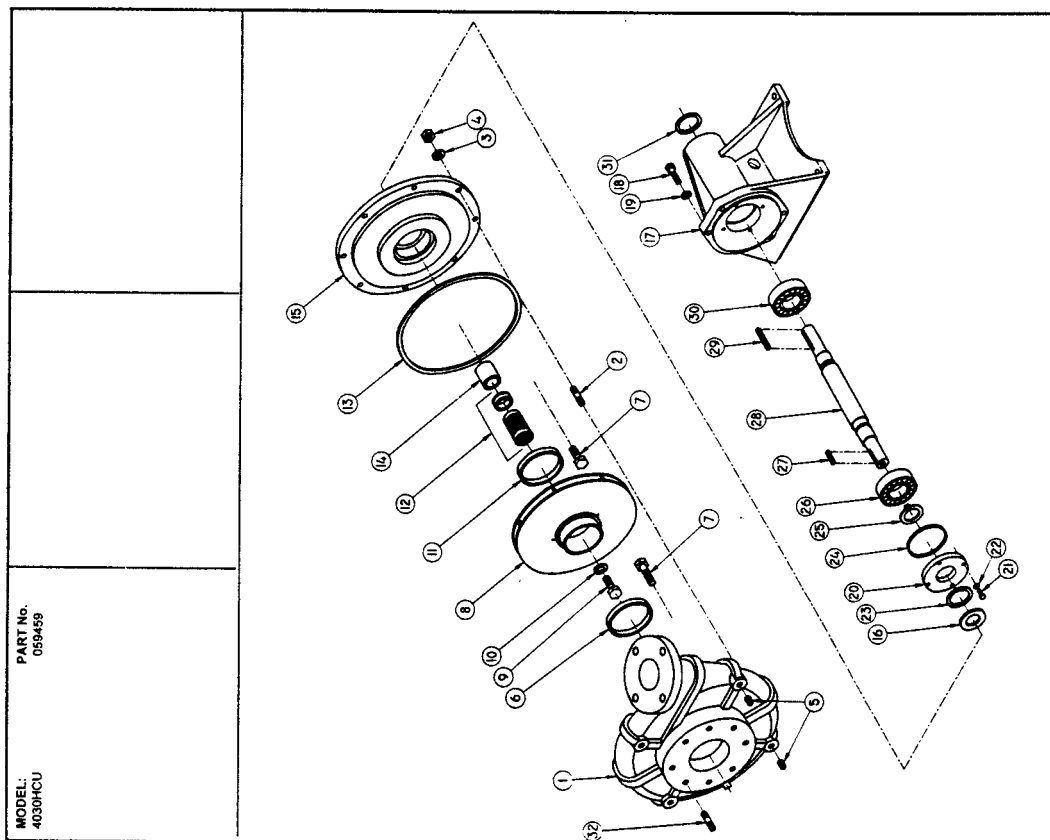
BARNES® 4030HCU END SUCTION PUMPS Universal Drive

PARTS KIT

Seal Kit.....P/N: 083562 (†) 6,12,13,14,16.

PARTS LIST

ITEM	QTY.	DESCRIPTION	PART No.
1	1	Volute	059452
2	8	Stud	018409
3	8	Lock Washer	002608
4	8	Hex Nut	028173
5	8	Pipe Plug	003217
6	1	Wear Ring	030645
7	2	Hex Hd Cap Screw	032129
8	1	Impeller	1-68-1
9	1	Cap Screw	030657
10	1	Washer	030645
11	1	Wear Ring	031000
12	1	Shaft Seal	059321
13	1	O-Ring	030652
14	1	Shaft Sleeve	052094
15	1	Seal Plate	028915
16	1	Slinger	052279
17	1	Pedestal	002250
18	4	Hex Hd Cap Screw	002806
19	4	Lock Washer	030651
20	1	Bearing Cap	002218
21	4	Hex Hd Cap Screw	002602
22	4	Lock Washer	024987
23	1	Grease Seal	028987
24	1	O-Ring	030650
25	1	Snap Ring	052098
26	1	Bearing	031388
27	1	Key	052277
28	1	Shaft	052317
29	1	Bearing	028988
30	1	Grease Seal	052097
31	1	Stud	002454
32	8		



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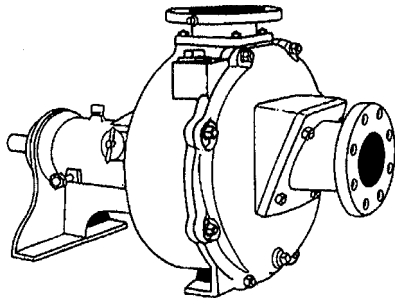
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PROUD DISTRIBUTOR OF
BARNES®

B30 SELF-PRIMING PUMPS UNIVERSAL DRIVE

BARNES®

B30 SELF-PRIMING PUMPS Universal Drive



Model: B30

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE: 3" (76mm) x 3" (76mm) 125lb. Flange.
LIQUID TEMPERATURE: 160°F (71°C) Continuous.
VOLUTE/WEARPLATE: Cast Iron ASTM A-48, Class 30, Replaceable, External Clearance Adjustment.

CASE: Cast Iron ASTM A-48, Class 30.
END COVER: Cast Iron ASTM A-48, Class 30.
SEAL PLATE: Alloy Steel, Replaceable.
PEDESTAL: Cast Iron ASTM A-48, Class 30.

IMPELLER: *Design:* Semi-Open Type. Passes 3/4" Solids.
Material: Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3. Steel.

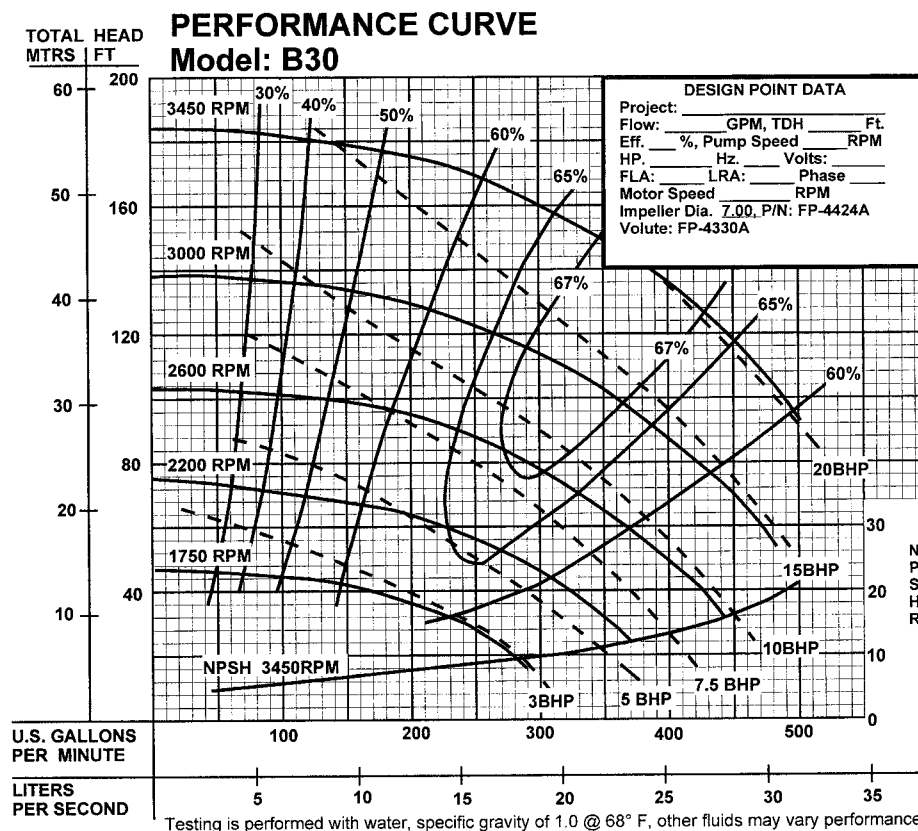
IMPELLER SHAFT: *Design:* Single Row, Ball.
SQUARE RINGS: *Lubrication:* Oil.
HARDWARE: *Load:* Radial & Thrust.
PAINT: *Design:* Single Row, Ball.
SEAL: *Lubrication:* Oil.
Material: Radial & Thrust. Single Mechanical Grease, with Self-Feeding Lubricator. Rotating Face - Carbon. Stationary Face - Ceramic. Elastomer - Buna-N. Hardware - 300 Series Stainless.

BEARING-PUMP END: *Design:* Single Row, Ball.
Lubrication: Oil.
Load: Radial & Thrust.

BEARING-DRIVE END: *Design:* Single Row, Ball.
Lubrication: Oil.
Load: Radial & Thrust.

CHECK VALVE: *Material:* Valve Flap-Neoprene.
Weight-Cast Iron ASTM A-48, Class 30.

OPTIONAL EQUIPMENT: Seal Materials, Case Heater; Stainless Hardware; High Temperature Control; Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.



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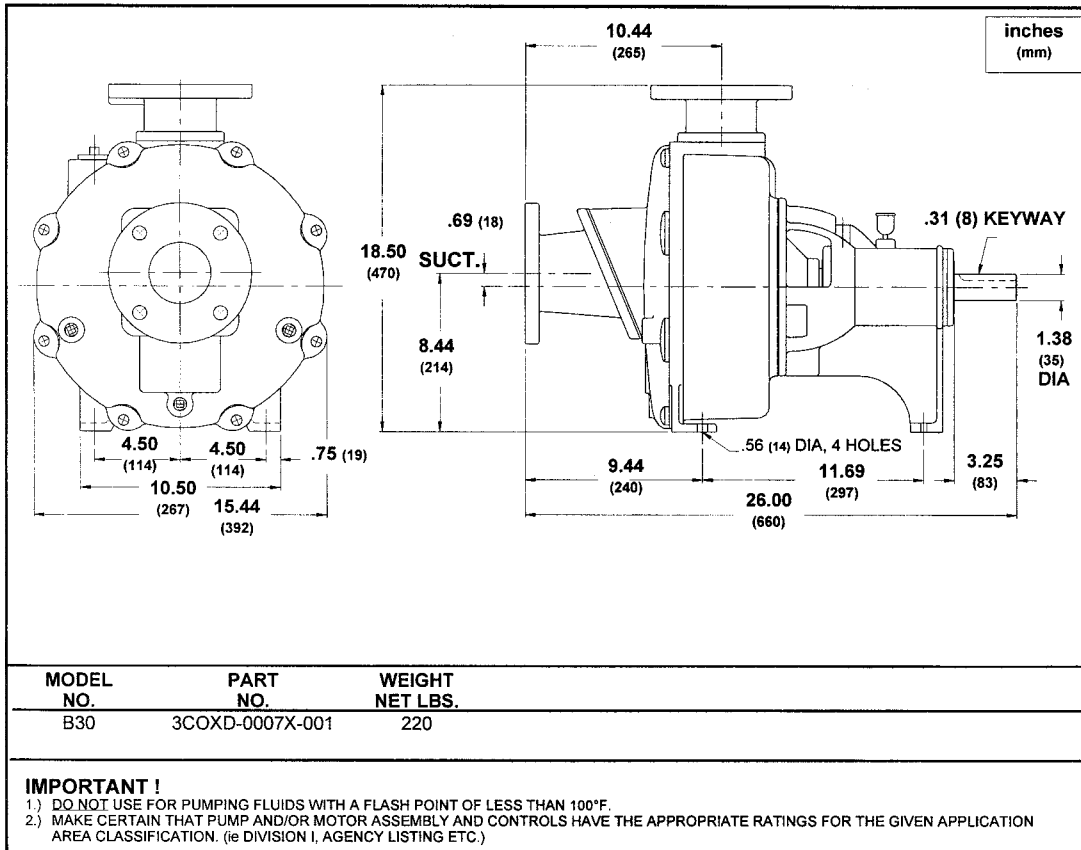
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B30

SELF-PRIMING PUMPS UNIVERSAL DRIVE



POLI-TALKS

"The more we remove penalties for being a bum, the more bumism is going to blossom."

-Sen. Jesse Helms (R-NC), on welfare

"We didn't send you to Washington to make intelligent decisions. We sent you to represent us."

-Kent York, a Texas pastor, to Rep. Bill Sarpa-lius (D-TX)

"President Clinton had a bill, e-i-e-i-o. And in that bill was lots of pork, e-i-e-i-o."

-Sen. Alfonse D'Amato (R-NY)

"I have orders to be awakened at any time in the case of a national emergency, even if I'm in a cabinet meeting."

-Ronald Reagan

"The present system may be flawed, but that's not to say that we in Congress can't make it worse."

-Rep. E. Clay Shaw, Jr. (R-FL)

"Is the country still here?" **-Calvin Coolidge, waking from a nap**

"We've killed health care; now we've got to make sure our fingerprints aren't on it."

-Sen. Bob Packwood (R-OR), in 1994, on the GOP blocking Clinton's health-care reforms

"Ambiguously definitive-or is it definitively ambiguous?"

-Sen. Bill Bradley, on being unclear about his presidential ambitions

"It's no exaggeration to say that the undecideds could go one way or another." **-George H. W. Bush**

"We didn't get the pay raise-why work?"

-Bob Dole, in 1989, on the slow pace of Senate activity

"Welcome to President Clinton, Mrs. Clinton, and my fellow astronauts."

-Al Gore, 1998



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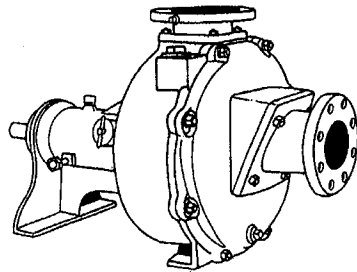
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B40 SELF-PRIMING PUMPS UNIVERSAL DRIVE

BARNES®

B40 SELF-PRIMING PUMPS Universal Drive



Model: B40-10X
B40-9H
B40-9D
B40-8F

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE: 4" (102mm) x 4" (102mm) 125lb. Flange.
LIQUID TEMPERATURE: 160°F (71°C) Continuous.
VOLUTE/WEARPLATE: Cast Iron ASTM A-48, Class 30, Replaceable, External Clearance Adjustment.

CASE: Cast Iron ASTM A-48, Class 30.
END COVER: Cast Iron ASTM A-48, Class 30.
SEAL PLATE: Alloy Steel, Replaceable.
PEDESTAL: Cast Iron ASTM A-48, Class 30.
IMPELLER:

Design: Semi-Open Type, Passes 1" Solids
Material: Cast Iron ASTM A-48, Class 30, Dynamically Balanced, ISO G6.3.

IMPELLER SHAFT: Steel
SQUARE RINGS: Buna-N
HARDWARE: Corrosion Resistant Steel.

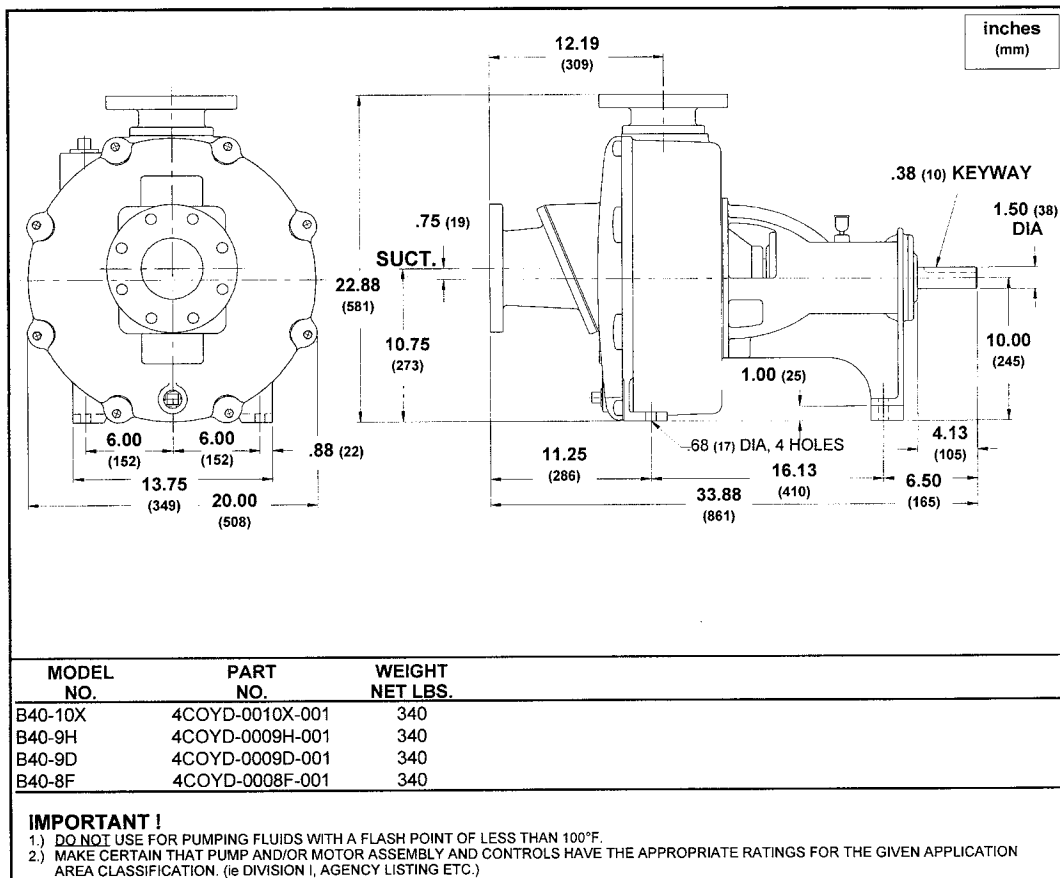
PAINT: Air Dry Enamel.
SEAL: *Design:* Single Mechanical
Lubrication: Grease, with Self-Feeding Lubricator.
Material: Rotating Face - Carbon
Stationary Face - Ceramic
Elastomer - Buna-N
Hardware - 300 Series Stainless

BEARING-PUMP END: *Design:* Double Row, Ball
Lubrication: Oil
Load: Radial & Thrust

BEARING-DRIVE END: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust

CHECK VALVE: *Material:* Elbow-Cast Iron ASTM A-48, Class 30
Valve Flap-Neoprene.
Weight-Cast Iron ASTM A-48, Class 30

OPTIONAL EQUIPMENT: Seal Materials, Case Heater, Stainless Hardware; High Temperature Control; Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.



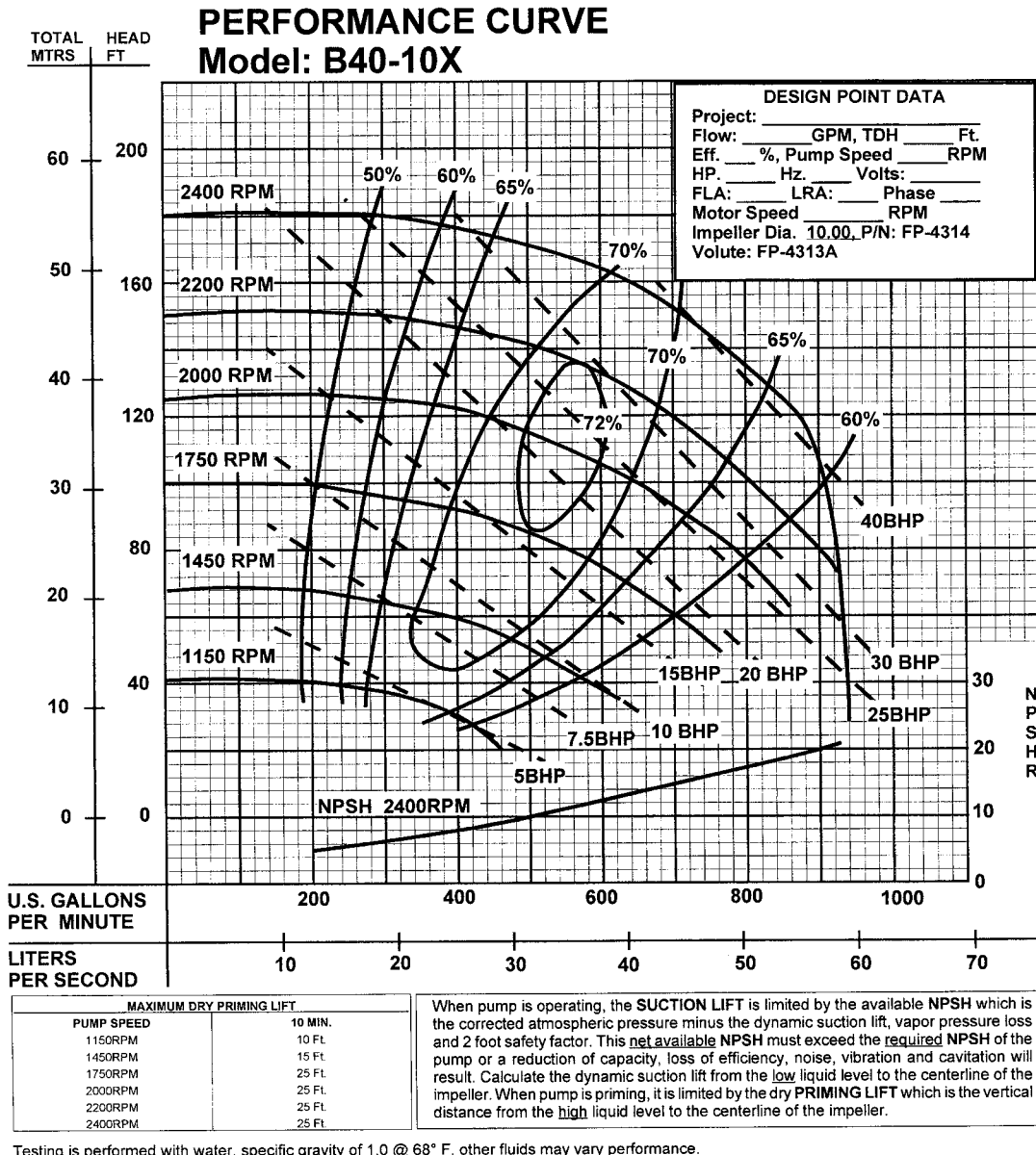
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B40-10X SELF-PRIMING PUMPS UNIVERSAL DRIVE



It's a Weird, Weird World!

TERRORIST VOGUE

"Carlos the Jackal was one of the world's most notorious and elusive terrorists, accused of 83 deaths worldwide and more than a dozen other charges stemming from a 20-year killing spree.

"After two decades of evading the law, he was arrested in a Sudanese hospital while undergoing liposuction and a tummy tuck." —**San Francisco Chronicle**

NOSING AROUND

"Ruth Clarke, 23, of London, England, underwent surgery to correct a lifelong breathing problem in 1981. She was presented with a tiddlywink, which doctors had removed from her nose.

"Clarke vaguely recalled losing the disk as a tot, but she didn't dream it was right under her nose all the time."

—**Encyclopedia Brown's Book of Strange Facts**

THE POSTMAN RINGS MORE THAN TWICE

"From 1974 to 1976, a young man in Taiwan wrote 700 love letters to his girlfriend, trying to talk her into marriage. He succeeded—she married the mailman who delivered the letters to her." **Weird News and Strange Stories**



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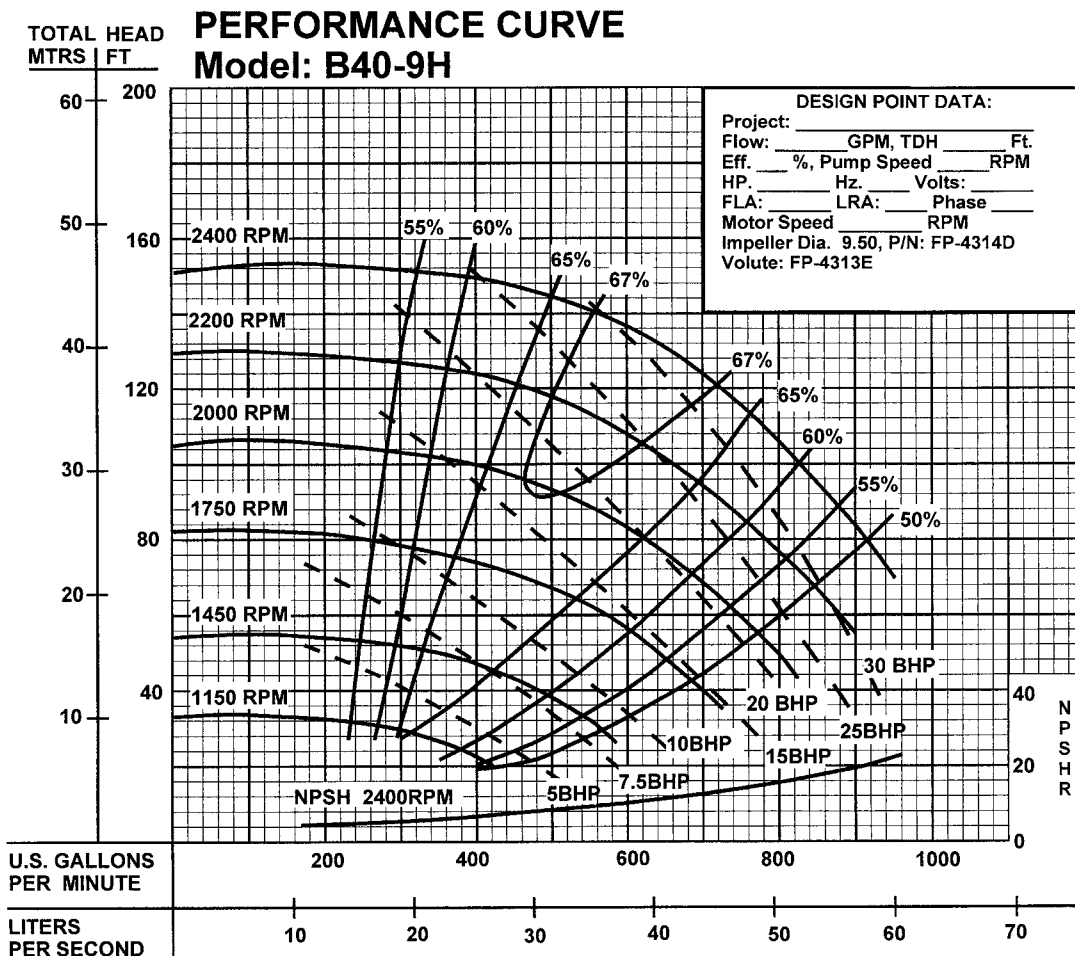
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B40-9H

SELF-PRIMING PUMPS UNIVERSAL DRIVE



MAXIMUM DRY PRIMING LIFT	
PUMP SPEED	10 MIN.
1150RPM	10 Ft.
1450RPM	15 Ft.
1750RPM	20 Ft.
2000RPM	25 Ft.
2200RPM	25 Ft.
2400RPM	25 Ft.

When pump is operating, the **SUCTION LIFT** is limited by the available **NPSH** which is the corrected atmospheric pressure minus the dynamic suction lift, vapor pressure loss and 2 foot safety factor. This net available NPSH must exceed the required NPSH of the pump or a reduction of capacity, loss of efficiency, noise, vibration and cavitation will result. Calculate the dynamic suction lift from the low liquid level to the centerline of the impeller. When pump is priming, it is limited by the dry **PRIMING LIFT** which is the vertical distance from the high liquid level to the centerline of the impeller.

Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.

WORD ORIGINS

EAVESDROP

Meaning: Secretly listen to someone else's conversation

Origin: "In Anglo-Saxon England, a house had very wide overhanging eaves ... to allow rain to drip safely away from the house's foundation. So the eavesdrip, later the *eavesdrop*, provided a place where one could hide to listen clandestinely to conversation within the house." (From Morris Dictionary of Word and Phrase Origins, by William and Mary Morris)

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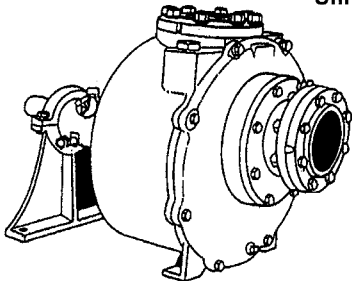
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B60 SELF-PRIMING PUMPS UNIVERSAL DRIVE

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B60 SELF-PRIMING PUMPS Universal Drive



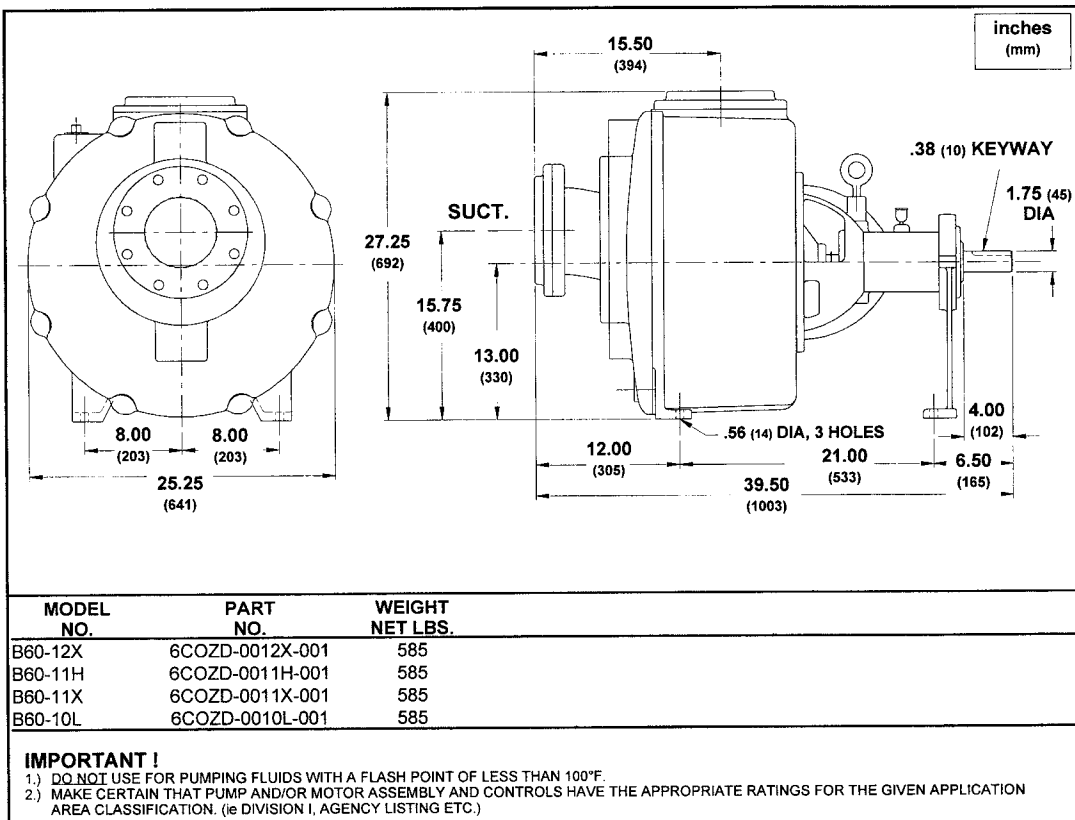
Model: B60-12X
B60-11H
B60-11X
B60-10L

Description:

SELF-PRIMING CENTRIFUGAL PUMPS
DESIGNED FOR MUNICIPAL AND
INDUSTRIAL APPLICATIONS.

Specifications:

SUCTION/DISCHARGE: 6" (152mm) x 6" (152mm) 125lb. Flange.
LIQUID TEMPERATURE: 160°F (71°C) Continuous.
VOLUTE/WEARPLATE: Cast Iron ASTM A-48, Class 30, Replaceable, External Clearance Adjustment.
CASE: Cast Iron ASTM A-48, Class 30.
END COVER: Cast Iron ASTM A-48, Class 30.
SEAL PLATE: Alloy Steel, Replaceable.
PEDESTAL: Cast Iron ASTM A-48, Class 30.
IMPELLER: *Design:* Semi-Open Type, Passes 1-1/2" Solids.
Material: Cast Iron ASTM A-48, Class 30. Dynamically Balanced, ISO G6.3. Steel.
IMPELLER SHAFT: Buna-N
SQUARE RINGS: Corrosion Resistant Steel.
HARDWARE: Air Dry Enamel.
PAINT: Single Mechanical
SEAL: *Design:* Grease, with Self-Feeding Lubricator.
Lubrication: Rotating Face - Carbon
Material: Stationary Face - Ceramic
Elastomer - Buna-N
Hardware - 300 Series Stainless
BEARING-PUMP END: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust
BEARING-DRIVE END: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust
CHECK VALVE: *Design:* Elbow-Cast Iron ASTM A-48, Class 30
Material: Valve Flap-Neoprene.
Weights-Cast Iron ASTM A-48, Class 30
OPTIONAL EQUIPMENT: Seal Materials, Case Heater, Stainless Hardware; High Temperature Control; Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.

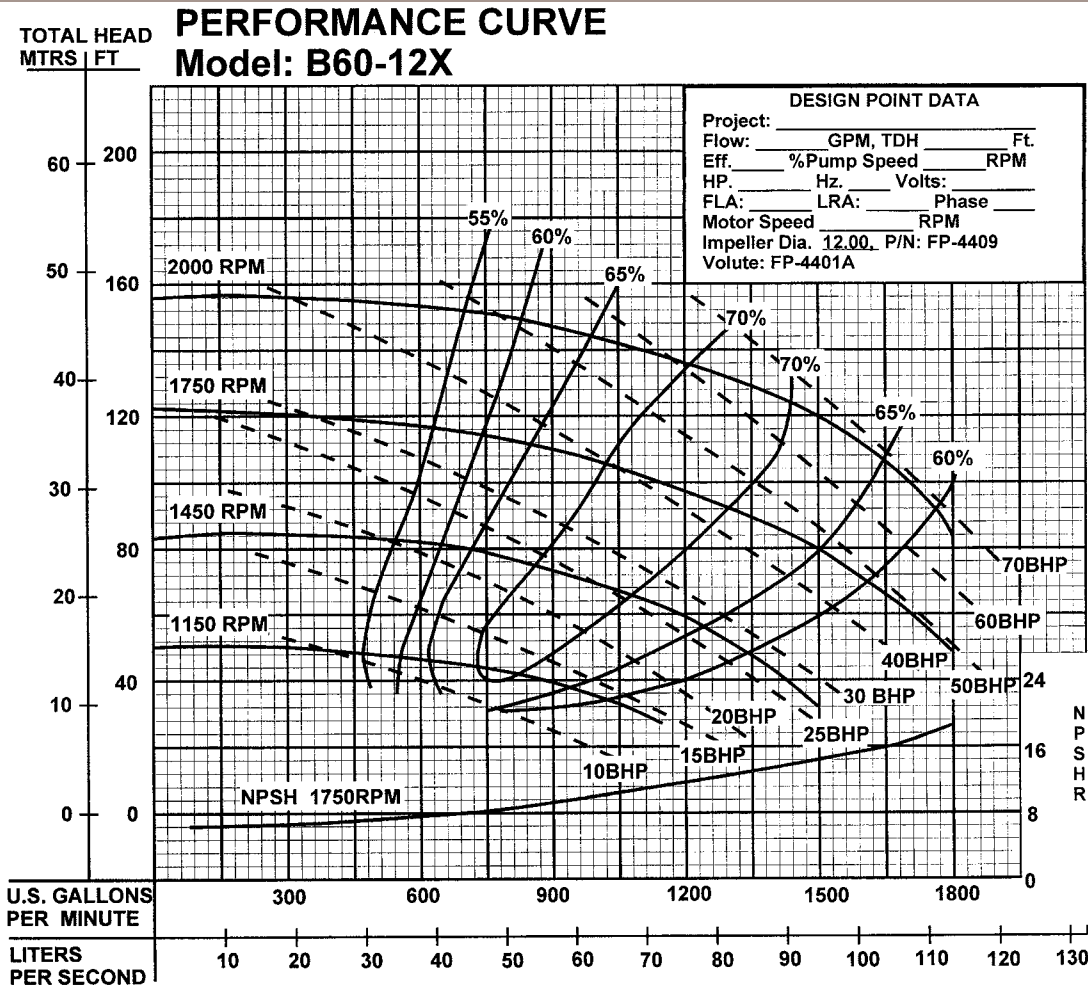


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B60-12X SELF-PRIMING PUMPS UNIVERSAL DRIVE



MAXIMUM DRY PRIMING LIFT	
PUMP SPEED	10 MIN.
1150RPM	20 Ft.
1450RPM	25 Ft.
1750RPM	25 Ft.
2000RPM	25 Ft.
2250RPM	25 Ft.

When pump is operating, the **SUCTION LIFT** is limited by the available **NPSH** which is the corrected atmospheric pressure minus the dynamic suction lift, vapor pressure loss and 2 foot safety factor. This **net available NPSH** must exceed the **required NPSH** of the pump or a reduction of capacity, loss of efficiency, noise, vibration and cavitation will result. Calculate the dynamic suction lift from the **low** liquid level to the centerline of the impeller. When pump is priming, it is limited by the dry **PRIMING LIFT** which is the vertical distance from the **high** liquid level to the centerline of the impeller.

Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.

TAX BITES

Car Rentals

As part of the trend toward exporting a state or local tax burden, car rental taxes are increasingly popular with lawmakers concerned about taxing their voting constituents. Although studies have shown that more than half of cars are rented by local consumers, the notion that taxing rental cars is taxing tourists is pervasive on the state and local level. In fact, the number of car rental excise taxes has nearly doubled in the last decade with taxes in 110 localities in 43 states and Washington, D.C.

Local excise taxes and other charges imposed by states and municipalities have added 26 percent, or \$13.70 to the average \$52.71 rental car bill. However, this doesn't include the full tax burden included in the cost of renting a car. When taking into account taxes including federal and state income taxes, federal payroll taxes, sales taxes, unemployment insurance taxes, workmen's compensation taxes, business license taxes and fees, utility taxes, local property taxes, and any local income taxes, the total cost rises to 60.6 percent of the bill.

All told, whether you are a tourist or a resident, renting that car for \$52.71, will cost you \$31.94 in taxes and fees.

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PO2LA

SELF-PRIMING PUMPS SOLIDS HANDLING UNIVERSAL DRIVE

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Specifications:

SUCTION/DISCHARGE: 2" (51mm) x 2" (51mm) NPT, Female.
LIQUID TEMPERATURE: 160°F (71°C) Continuous.
VOLUTE/WEARPLATE: Cast Iron ASTM A-48, Class 30, Replaceable, External Clearance Adjustment.

CASE: Cast Iron ASTM A-48, Class 30.
END COVER: Cast Iron ASTM A-48, Class 30, Full Diameter, Removable.

SEAL PLATE: Alloy Steel; Replaceable.
PEDESTAL: Cast Iron ASTM A-48, Class 30.

IMPELLER: *Design:* Two Vane, Open.
Material: Cast Iron ASTM A-48, Class 30, Dynamically Balanced, ISO G6.3, High Carbon Steel.
SHAFT: Buna-N.
SQUARE RINGS: Corrosion Resistant Steel.
HARDWARE: Air Dry Enamel.
PAINT: Single Mechanical.
SEAL: *Design:* Grease, with Self-Feeding Lubricator.
Lubrication: Rotating Face - Carbon
Material: Stationary Face - Ceramic
 Elastomer - Buna-N
 Hardware - 300 Series Stainless

BEARING-PUMP END: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust

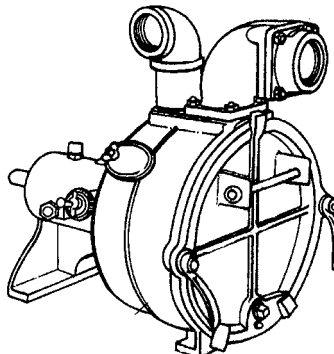
BEARING-DRIVE END: *Design:* Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust

CHECK VALVE: *Material:* Elbow-Cast Iron ASTM A-48, Class 30
 Valve Flap-Neoprene.

OPTIONAL EQUIPMENT: Weight-Cast Iron ASTM A-48, Class 30
 Seal Materials, Case Heater, Stainless Hardware: High Temperature Control; Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy. and Left Hand V-Belt Drive Assy. with Unit Base, Motor Adjusting Base & OSHA Guard.

PO2LA

SELF-PRIMING PUMPS
 Solids Handling Universal Drive
 1-1/4" Spherical Solids Handling



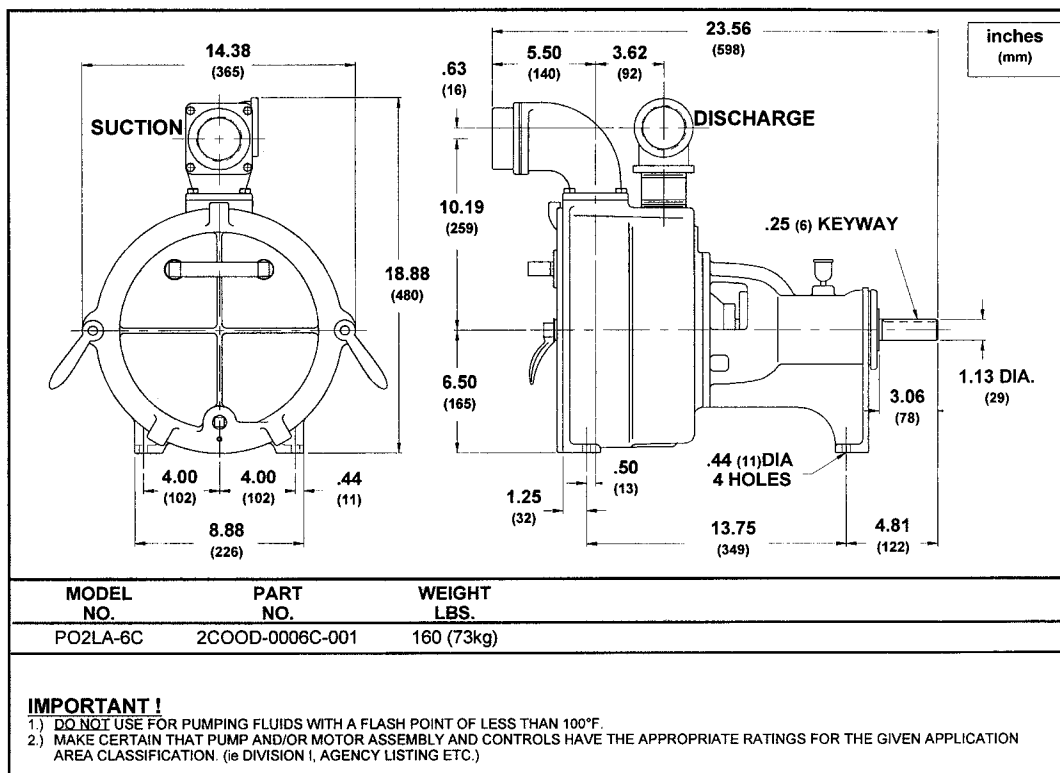
Model: PO2LA-6C



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Description:

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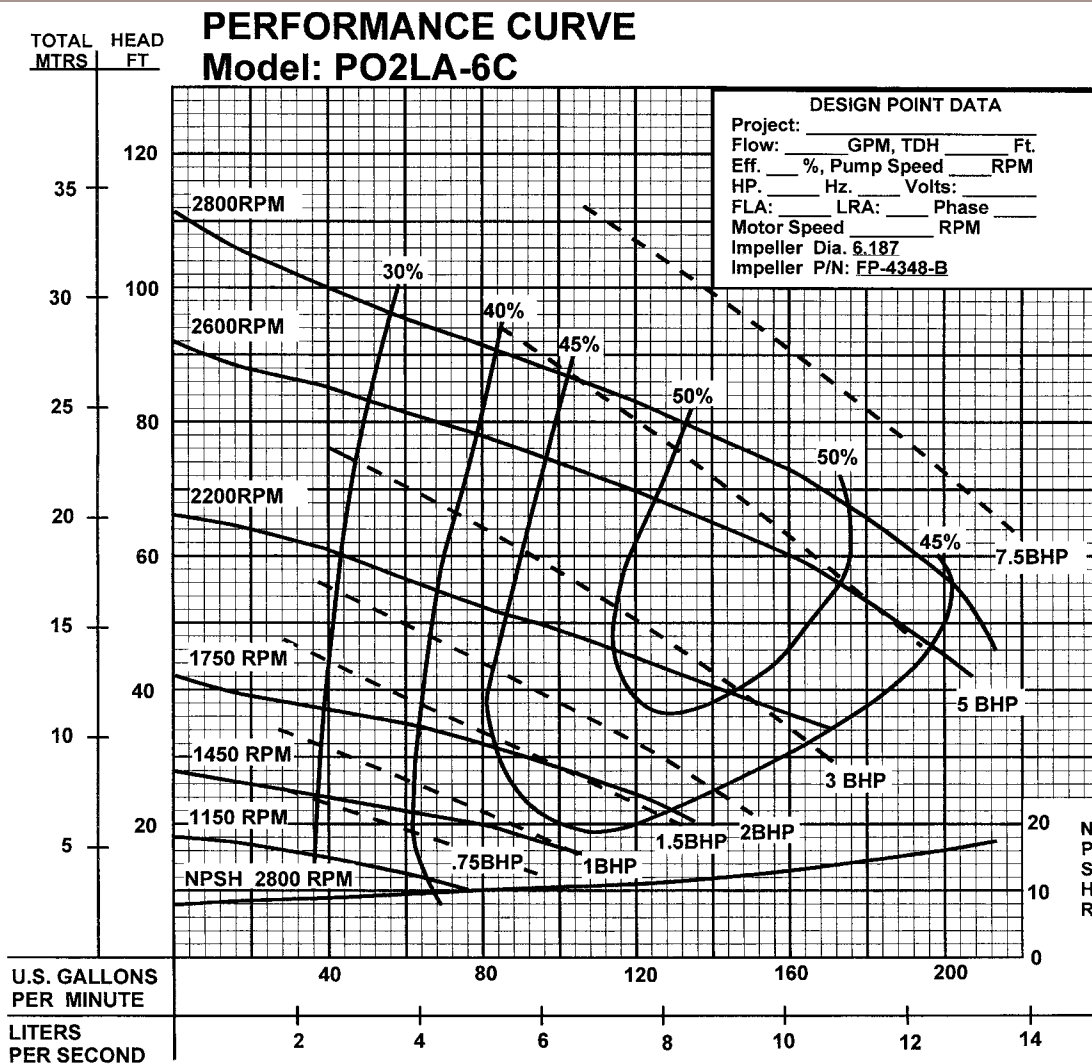
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PO2LA-6C

SELF-PRIMING PUMPS SOLIDS HANDLING UNIVERSAL DRIVE



PUMP SPEED	MAXIMUM DRY PRIMING LIFT				
	2 Min.	4 Min.	6 Min.	8 Min.	10 Min.
1150RPM	3 Ft.	6 Ft.	8 Ft.	9 Ft.	10 Ft.
1450RPM	5 Ft.	8 Ft.	12 Ft.	14 Ft.	16 Ft.
1750RPM	9 Ft.	17 Ft.	22 Ft.	23 Ft.	25 Ft.
2200RPM	17 Ft.	25 Ft.	25 Ft.	25 Ft.	25 Ft.
2600RPM	25 Ft.	25 Ft.	25 Ft.	25 Ft.	25 Ft.
2800RPM	25 Ft.	25 Ft.	25 Ft.	25 Ft.	25 Ft.

When pump is operating, the **SUCTION LIFT** is limited by the available **NPSH** which is the corrected atmospheric pressure minus the dynamic suction lift, vapor pressure loss and 2 foot safety factor. This net available NPSH must exceed the required NPSH of the pump or a reduction of capacity, loss of efficiency, noise, vibration and cavitation will result. Calculate the dynamic suction lift from the low liquid level to the centerline of the impeller. When pump is priming, it is limited by the dry **PRIMING LIFT** which is the vertical distance from the high liquid level to the centerline of the impeller.

Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.

WORD ORIGINS

SNOB

Meaning: A snooty person; someone who puts on airs

Origin: "It seems that Oxford freshmen were required to register 'according to rank.' Those not of noble birth added after their names the phrase *sine nobilitate* which was then abbreviated to 's. nob.,' thus creating ... a perfect definition for the commoner who wishes to mingle with the nobles." (From *Dictionary of Word and Phrase Origins*, Vol. III by William and Mary Morris)

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PO3LA, PO3LB

SELF-PRIMING PUMPS SOLIDS HANDLING UNIVERSAL DRIVE

BARNES®

PO3LA, PO3LB

SELF-PRIMING PUMPS

Solids Handling Universal Drive

1.5" - 2.5" Spherical Solids Handling

Larger sizes available

Specifications:

SUCTION/DISCHARGE: 3" (76mm) x 3" (76mm) 125lb. Flange.
LIQUID TEMPERATURE: 160°F (71°C) Continuous.

SOLIDS HANDLING:
 PO3LA: 1.50" Spherical
 PO3LB: 2.50" Spherical
VOLUTE/WEARPLATE: Cast Iron ASTM A-48, Class 30, Replaceable, External Clearance Adjustment.

CASE: Cast Iron ASTM A-48, Class 30.
END COVER: Cast Iron ASTM A-48, Class 30, Full Diameter, Removable.
SEAL PLATE: Alloy Steel; Replaceable
PEDESTAL: Cast Iron ASTM A-48, Class 30.
IMPELLER:

Design: Two Vane, Open.
Material: Ductile Iron ASTM A-395, Dynamically Balanced, ISO G6.3.

SHAFT: High Carbon Steel
SHAFT SLEEVE: 316 Stainless Steel
SQUARE RINGS: Buna-N
HARDWARE: Corrosion Resistant Steel.

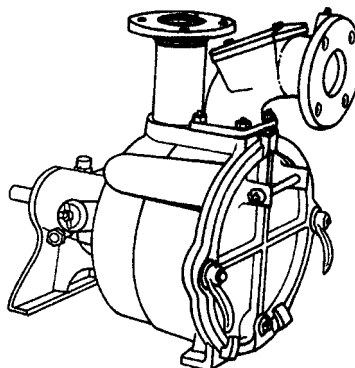
PAINT: Air Dry Enamel.
SEAL: *Design:* Single Mechanical
Lubrication: Grease, with Self-Feeding Lubricator.
Material: Rotating Face - Carbon
 Stationary Face - Ceramic
 Elastomer - Buna-N
 Hardware - 300 Series Stainless

BEARING-PUMP END:
Design: Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust

BEARING-DRIVE END:
Design: Single Row, Ball
Lubrication: Oil
Load: Radial & Thrust

CHECK VALVE:
Material: Elbow-Cast Iron ASTM A-48, Class 30
 Valve Flap-Neoprene.

OPTIONAL EQUIPMENT:
 Hardware; High Temperature Control; Flex Coupled Assy. with Base & OSHA Guard; Right Hand V-Belt Drive Assy., Left Hand V-Belt Drive Assy. and In-Line Vertical V-Belt Drive Assy. with Base, Motor Adjusting Base & OSHA Guard.



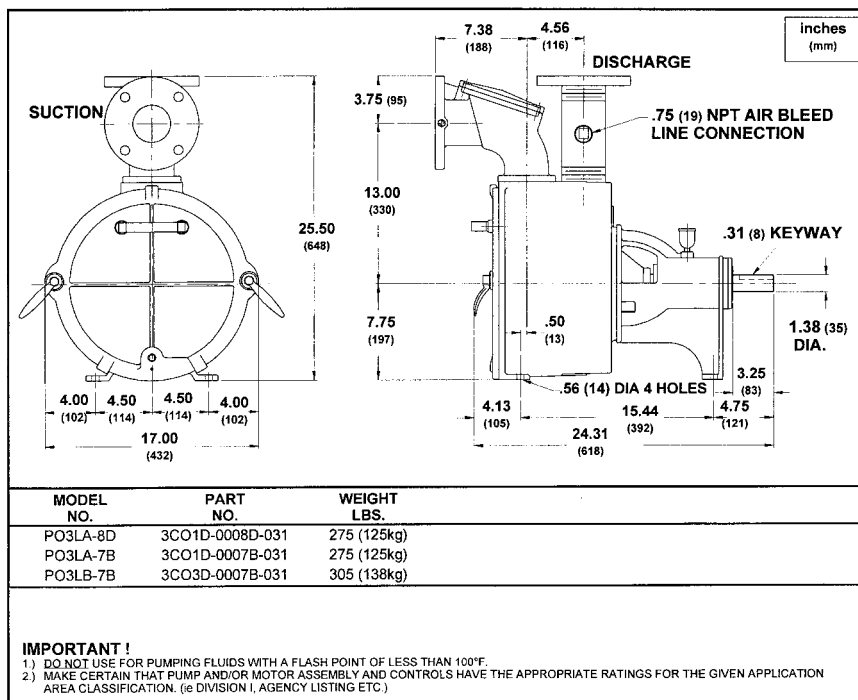
Models: PO3LA-8D
 PO3LA-7B
 PO3LB-7B*



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Description:

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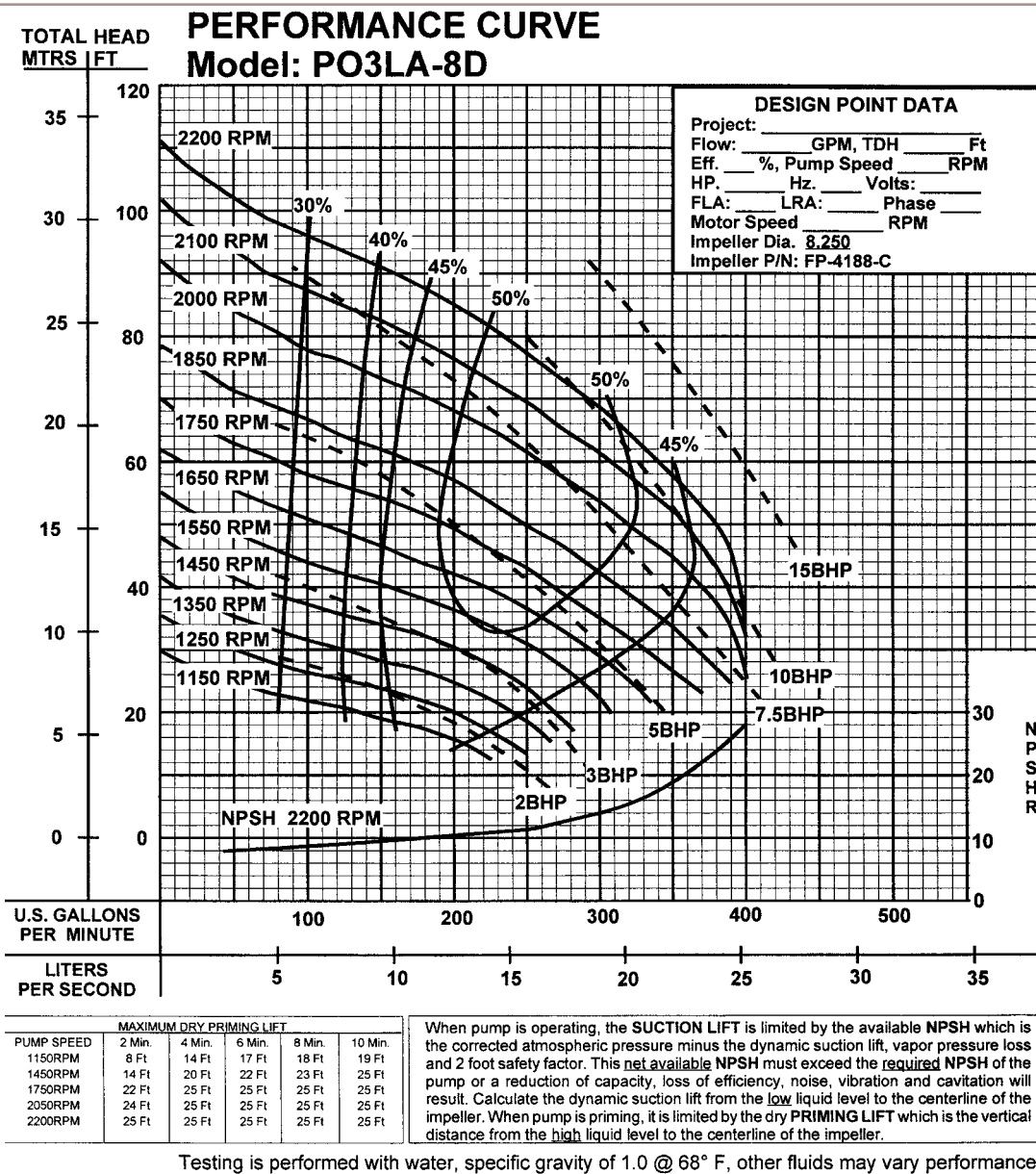
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PO3LA-8D

SELF-PRIMING PUMPS SOLIDS HANDLING UNIVERSAL DRIVE



FAMILIAR PHRASES

WIN HANDS DOWN

Meaning: To win by an enormous margin.

Origin: If a racehorse jockey is so far ahead of the competition that there is no danger he will be passed again, he can drop the reins—and his hands—and let the horse finish the race without spurring it on.

BAKER'S DOZEN

Meaning: Thirteen—one more than a dozen.

Origin: In the Middle Ages, bakers who sold loaves of bread that were lighter than the legal weight were subjected to harsh penalties. To prevent being accused of cheating on the weight, bakers would often give away an extra loaf with every dozen.

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