



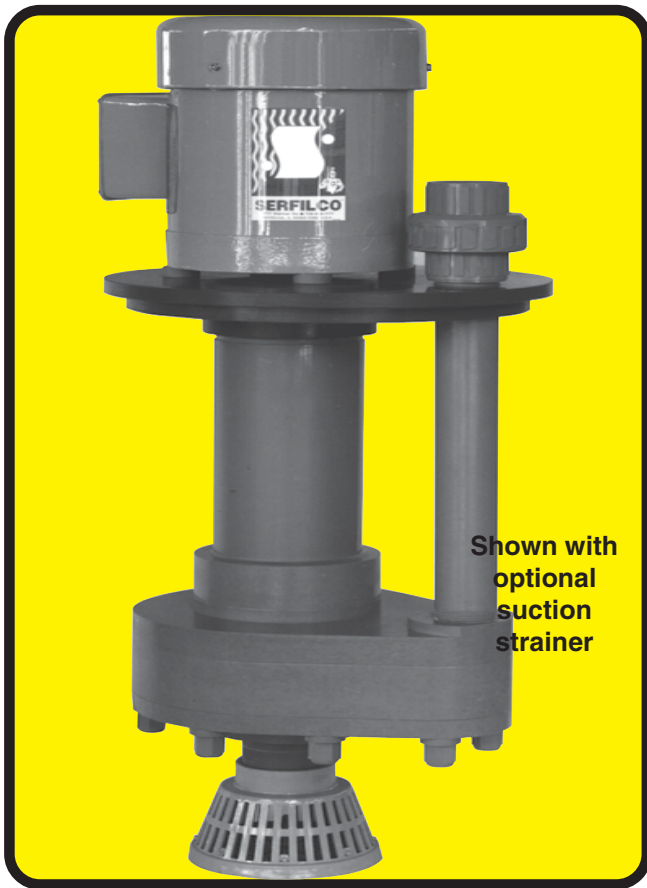
SERFILCO®

SERIES 'EES' (EUROPEAN STANDARD) VERTICAL PUMPS

BULLETIN
P-308B
JULY 1996

High efficiency and low energy usage for:

**PLATING / WET PROCESSING / ACIDS
CHEMICALS / FUME SCRUBBERS
and CLEANING SOLUTIONS**



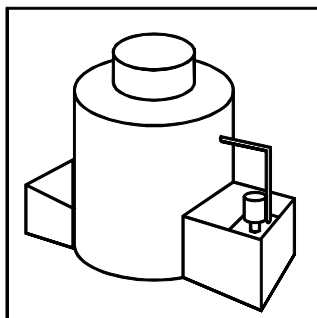
- **Non-metallic solution contact**
(See Chemical Resistance Chart)
- **CPVC (Corzan™) construction**
w/EPDM "O"-ring - to 180°F (82°C)
- **To 85 U.S. GPM or 95 FT. TDH @ 60 Hz**
(300 LPM or 28m @ 50 Hz)
- **Can run dry indefinitely, seal-less, no bearings**
- **Shaft vapor seal protects motor bearing and atmosphere**
- **Centrifugal — quiet, vibration-free**
In-tank or out-of-tank
- **Chemical duty**
Sealed oversized bearings, cast iron end bells with vapor seal, corrosion resistant epoxy enamel finish, stainless steel nameplate, 1.15 service factor at 60 Hz.
- **Includes pump mounting plate and discharge pipe with union**
- **Designed to fit 10⁵/₈" (270mm) opening to replace comparable OEM pump**

The **Series 'EES' Sump Pump** features a cantilevered sleeved stainless steel shaft with vapor seal between the rotating shaft and the mounting plate to further protect the motor. The cantilevered shaft eliminates bearings and conventional pump seals, resulting in a pump that can run dry without damage. A compound impeller prevents liquid from rising in the column, even at maximum TDH, while the fully-enclosed bottom impeller provides high hydraulic efficiency at low horsepower.

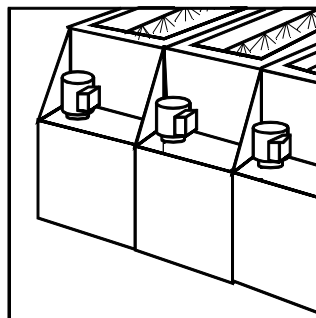
A unique characteristic of all Series 'EES' pumps is their ability to perform on continuous duty as an Automatic Level

Control* when an optional suction extension pipe is installed. With the motor energized, the pump will self-prime when liquid is at impeller level. The solution level will then be pumped down to the end of the suction extension, the pump will lose prime, then automatically reprime when liquid again reaches the impeller.

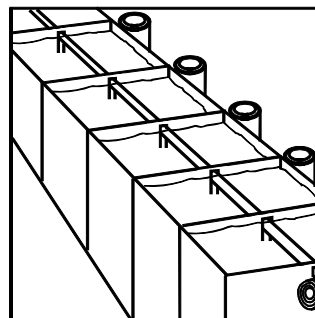
With round mounting plate design, the pump can be rotated for choice of discharge direction and flexibility of installation. Suction extension and suction strainer are available options. Extended length pump for 50 Hz operation only.



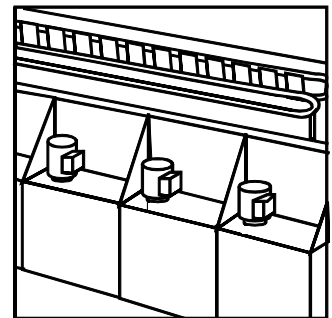
FUME SCRUBBING



PCB WET PROCESSING



STRIP PLATING

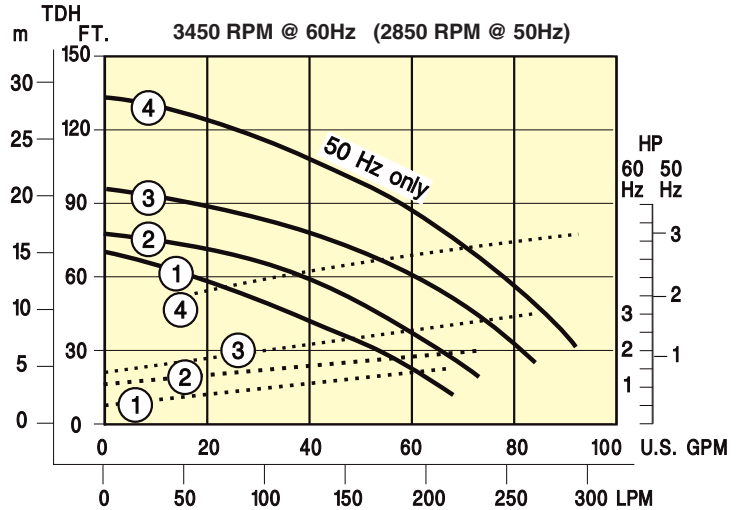


TAB PLATING

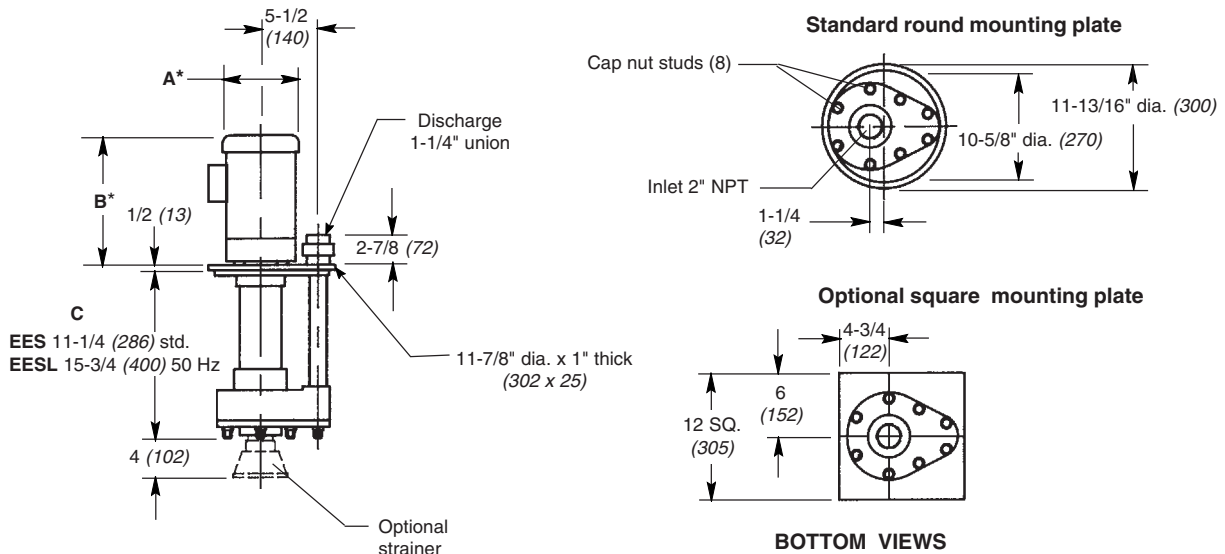
* Read: "Tips for the successful operation of sump pumps".
See Bulletin P-305.

SPECIFICATIONS

Pump models are constructed of CPVC with sleeved stainless steel shaft. The mounting plate is 1" (25mm) thick and includes a PTFE vapor seal. Standard "O"-rings are EPDM (ethylene propylene); Viton is optional. The impeller has a fully enclosed compound design for maximum efficiency. The pump offers non-metallic solution contact. Chemical duty motors are 1 or 3 phase, TEFC, 3450/2850 RPM, NEMA "C" face, painted with two-part epoxy enamel. The pump can be used with a suction extension under certain conditions.



DIMENSIONS - Inches (mm)



* Consult Application Engineering Dept. for 50 Hz dimension

TO ORDER, use Price Code Number

For standard CPVC pump-motor combination, select model from TABLE I.

For custom pump-motor combination, select components from TABLE II.

TABLE I

Select flow curve number providing the desired performance. Then match to Model Numbers listed below. Motor HP is non-overloading at full capacity.

TYPICAL 60 Hz MODELS with 11-1/4" 'C' dimension		
FLOW CURVE NO.	MODEL NUMBERS	PRICE CODE NO.
	CPVC WITH CPVC IMPELLER - SLEEVE	
1	EES 1¼-1SC-D1.5	45-1012
2	EES 1¼-2SC-D2.0	45-1023
3	EES 1¼-3SC-D3.0	45-1034

TYPICAL 50 Hz MODELS with 15-3/4" 'C' dimension		
FLOW CURVE NO.	MODEL NUMBERS	PRICE CODE NO.
	CPVC WITH CPVC IMPELLER - SLEEVE	
1	EESL 1¼-1SC-D1.0 (.75 kW)	45-1111
2	EESL 1¼-2SC-D1.5 (1.1 kW)	45-1122
3	EESL 1¼-3SC-D2.0 (1.5 kW)	45-1133
4	EESL 1¼-4SC-D3.0 (2.2 kW)	45-1144

Custom OEM features and dimensions available. Consult Application Engineering Dept.

TABLE II

To determine pump model for a specified GPM, TDH, material and specific gravity, select performance point on curve. Determine required HP by moving vertically to cor-

responding number dotted line. Read required HP at right ordinate and multiply by specific gravity. Select pump, impeller and motor and construct Model and Price Code No.

EXAMPLE:

PUMP	+	IMPELLER	+	MOTOR	=	PRICE CODE NO.
EES 1¼	+	-1SC	+	-D1.5	=	45-1012

PUMP			
MATERIAL	MODEL	PRICE CODE NO.	
		STD. LGTH.	EXTD. LGTH. ³
CPVC	EES 1¼	45-10	45-11

IMPELLER		
FLOW CURVE NO.	ADD TO . . .	
	MODEL	PRICE CODE NO.
1	-1 SC	1
2	-2 SC	2
3	-3 SC	3
4 ³	-4 SC	4

MOTOR (NEMA) ¹								PUMP + MOTOR	
VOLTAGE	STD. HP (kW.)	ADD TO . . .		DIMENSIONS				SHIPPING WEIGHTS	
		MODEL NO.	PRICE CODE NO. ²	A		B		LBS.	kg.
				inches	mm	inches	mm		
208-230-460V/3/50-60, 3450 RPM or 190-380-415V/3/50, 2850 RPM	1.0 (.75)	-D 1.0	1	7	178	10-3/16	259	66	30
	1.5 (1.1)	-D 1.5	2	7	178	10-3/16	259	70	32
	2.0 (1.5)	-D 2.0	3	7	178	11-1/4	286	75	34
	3.0 (2.2)	-D 3.0	4	7-3/4	197	12-7/8	327	95	43
115-208-230V/1/50-60, 3450 RPM or 190-230V/1/50, 2850 RPM	1.5 (1.1)	-C 1.5	7.5	7	178	10-3/16	259	73	33

¹For metric motor in place of NEMA motor, add suffix **-5** to end of Price Code No. and add suffix **M** to Model No.
For 575 volts, add **-HV** to Price Code No.

²To order pump without motor, use **0** for motor Price Code No.
³50 Hz only - Add **L** to Model Number as shown in Table I
(Example: EESL 1¼)

OPTIONAL

TO ORDER OPTIONAL EQUIPMENT, use a separate line item for each option.

EXAMPLE:

Pump with CPVC suction extension and polyethylene suction strainer

TYPICAL MODEL NUMBER
EES1¼-1SC-D1.5-ST-SX

PRICE CODE NUMBER
+ 45-1012
+ 45-0163
+ 45-0162

DESCRIPTION	ADD SUFFIX TO MODEL	USE SEPARATE PRICE CODE NO.
Viton "O"-rings installed in CPVC pumps	-V	45-1001
PVC mounting plate Square 12" x 12" x 1"	-S	45-1002
Suction strainer, 2" NPT, polyethylene Halar®	-ST	45-0162 99-1030
Suction extension, 24" w/2"NPT CPVC	-SX	45-0163
Titanium shaft for extremely corrosive atmospheres. (Installed)	-T	45-1004

For Motor Starters and Level Controls, see Bulletins A-103 & A-101.

Registered trademarks:
Corzan-B.F. Goodrich Co.;
Viton-DuPont; Halar-Ausimont

Self-priming pumps

Hand operated pumps

Pick up top half of page from bulletin P-302

End section centrifugal pumps

Series 'S'

A lightweight, chemically resistant, plastic pump. Used for general service on water and chemicals within a pH range of 4 to 9.

NO DOTTED LINE

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**Eliminate pumping problems
with Series 'EES' pumps -**

- No bearings -
- No seals -
- Can run dry!