



SERIES 'EF' VERTICAL PUMPS



*Shown with optional
discharge pipe assembly*

HIGH FLOW, HIGH TDH HIGH EFFICIENCY LOW ENERGY USAGE

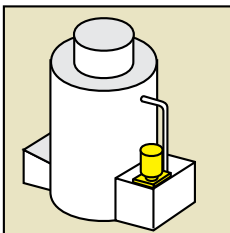
- **Flows to 400 U.S. gpm or 170 ft. TDH @ 60 Hz (1250 l/m or 42m @ 50 Hz)**
- **Non-metallic solution contact high temperature polypropylene or CPVC**
(See a chemical resistance chart)
- **Pump has no bearings, and can run dry indefinitely**
- **Heavy duty PTFE vapor seal**
Protects motor bearing and end bell.
- **Centrifugal - quiet, vibration free**
- **In-tank or Out-of-tank**
- **Chemical duty motor (7.5 - 15.0 HP)**
Sealed oversized bearings. Cast iron end bells with vapor seal. Corrosion resistant two-part epoxy coating. Stainless steel nameplate..
- **Choice of column length 14" or 17"**

The Series 'EF' Vertical Pump represents the next generation of molded pumps from SERFILCO with flows to 400 U.S. GPM at 60 Hz. It is a robust design to meet the most demanding applications while providing the economy of operation found in all of SERFILCO's molded pumps.

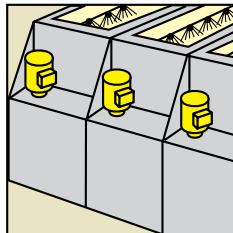
The 'EF' features a cantilevered, sleeved, stainless steel shaft with vapor seal to provide protection for the motor. The cantilevered shaft eliminates bearings and conventional pump seals, resulting in a pump that can run dry indefinitely without damage. This pump is offered in a choice of SERFILCO exclusive high temperature polypropylene or CPVC construction and, as with all of SERFILCO's vertical cantilever pumps, provides non-metallic solution contact.

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.

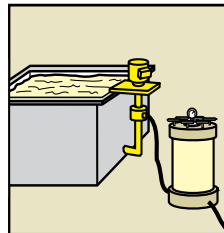
A unique characteristic of these vertical cantilever pumps is their ability to lift liquid with an optional suction extension installed. The pump self primes as long as liquid is at or above the level of the impeller. Once primed the liquid level can be lowered to the end of the suction extension to a maximum depth of 9 ft. (2.7m).



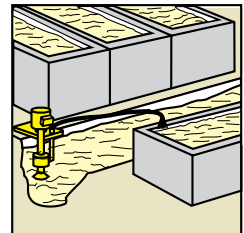
FUME SCRUBBING



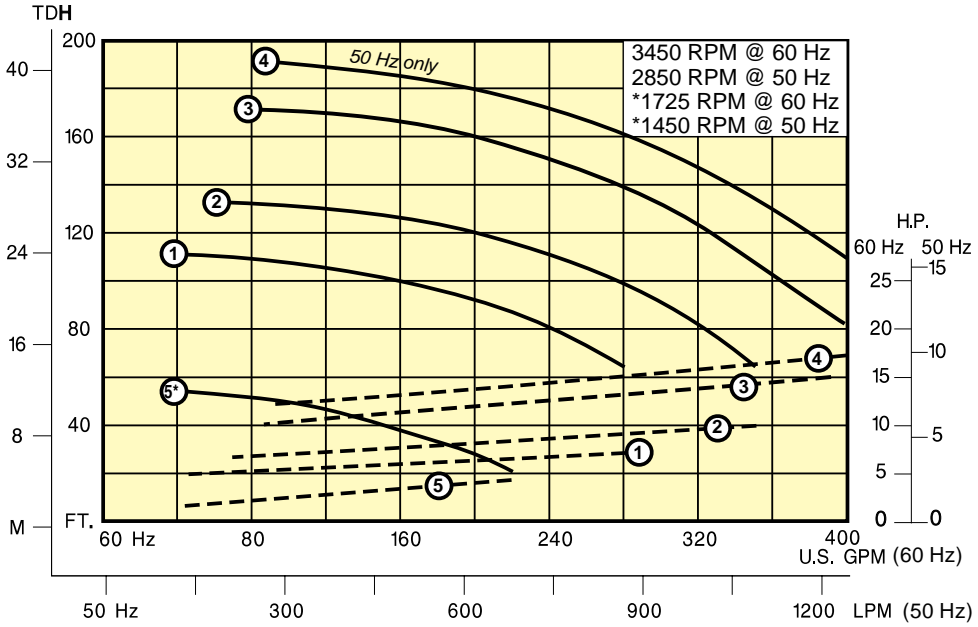
PCB WET
PROCESSING



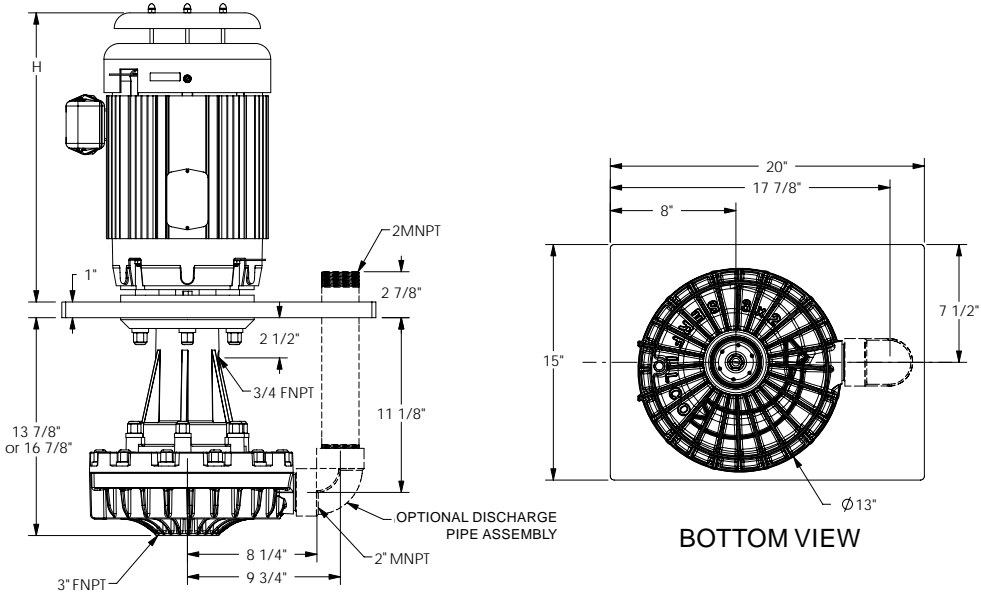
IN-TANK OR OUT OF TANK
PUMPING AGITATION and
FILTRATION



- SUMP DRAINING
- WASTE TREATMENT



DIMENSIONS - Inches (mm)





Pump models are molded of SERFILCO exclusive high temperature polypropylene or CPVC with a sleeved stainless steel shaft for non-metallic solution contact. The 1" thick mounting plate is polypropylene or PVC and includes a PTFE vapor seal. The compound impeller is fully enclosed for maximum efficiency.

The Chemical Duty, NEMA"C" face motors are 208-230-460V/3/60 @ 3450 or 1725 RPM and 190-208-380-415 V/3/50 @ 2850 or 1450 RPM. Motors are coated with two-part epoxy. These pumps can be used with up to a 9 ft (2.7 m) suction extension under certain conditions.

TO ORDER use Price Code Number

*For standard pump-motor combination, select model from TABLE I.
For custom pump-motor combination, select from TABLE II on page 4.*

TABLE I STANDARD MODELS

From performance curvesgraph, select flow curve number providing the desired performance. Then match to Model Number listed below. Motor HP is non-overloading at full capacity. Standard models include EPDM (ehtylene propylene) elastomers.

60 Hz MODELS				
FLOW CURVE	MODEL NUMBER	PRICE CODE NO.	MODEL NUMBER	PRICE CODE NO.
	CPVC		PPP- POLYPROPYLENE	
1	EF 3X2 -1SC-D 7.5	45-2011	EFP 3X2 -1SC-D 7.5	45-2211
2	EF 3X2 -2SC-D 10.0	45-2022	EFP 3X2 -2SC-D 10.0	45-2222
3	EF 3X2 -3SC-D 15.0	45-2033	EFP 3X2 -3SC-D 15.0	45-2233
5	EF 3X2 -5SC-H7.5	45-2054	EFP 3X2 -5SC-H7.5	45-2254

50 Hz MODELS				
FLOW CURVE	MODEL NUMBER	PRICE CODE NO.	MODEL NUMBER	PRICE CODE NO.
	CPVC		PPP- POLYPROPYLENE	
1	EF 3X2 -1SC-D 7.5-50	45-2015	EFP 3X2 -1SC-D 7.5-50	45-2215
2	EF 3X2 -2SC-D 7.5-50	45-2025	EFP 3X2 -2SC-D 7.5-50	45-2225
3	EF 3X2 -3SC-D 10.0-50	45-2036	EFP 3X2 -3SC-D 10.0-50	45-2236
4	EF 3X2 -4SC-D 10.0-50	45-2046	EFP 3X2 -4SC-D 10.0-50	45-2246
5	EF 3X2 -5SC-H 7.5-50	45-2057	EFP 3X2 -5SC-H 7.5-50	45-2257



TABLE II CUSTOM MODELS

To determine pump model for a specified GPM, TDH, and specific gravity (SG), select performance point on curve. Determine required HP by moving vertically to corresponding number dotted line. Read required HP at right ordinate and multiply by SG Select pump, impeller and motor to construct Model and Price Code No.

EXAMPLE: PUMP + IMPELLER + MOTOR = PRICE CODE NO.
 EF 3x2 + -1SC + -D7.5 = 45-2011

PUMP		
MODEL	MATERIAL & COLUMN LENGTH	PRICE CODE NO.
EF 3x2	CPVC - 15"	45-20
EFLX 3x2	CPVC-17"	45-21
EFP 3x2	Hi-temp PP - 15"	45-22
EFPLX 3x2	Hi-temp PP - 17"	45-23

IMPELLER		
FLOW CURVE NO.	ADD TO . . .	
	MODEL	PRICE CODE NO.
1	-1SC	1
2	-2SC	2
3	-3SC	3
4	-4SC	4
5	-5SC	5

MOTOR ¹			
VOLTAGE	STD. HP (kW)	ADD TO . . .	
		MODEL NO.	PRICE CODE NO. ¹
208-230/460/3/60 3450 RPM	7.5	-D 7.5	1
	10	-D 10.0	2
	15	-D 15.0	3
208-230/460/3/60 1725 RPM	7.5	-H 7.5	4
220/380/440/3/50 190/380/3/50 2850 RPM	7.5 (5.5)	-D 7.5 -50	5
	10.0 (7.5)	-D 10.0 -50	6
220/380/440/3/50 1450 RPM	7.5 (5.5)	-H 7.5 -50	7

MOTOR (NEMA)			
DIMENSIONS			
DIAMETER		HEIGHT (H)	
INCHES	mm	INCHES	mm
10-1/4	260	15-5/16	389
10-3/8	264	18-3/8	467
10-3/8	264	18-3/8	467
10-1/4	260	15-9/16	395
10-1/4	260	15-9/16	395
10-3/8	264	18-3/8	467
10-1/4	260	15-9/16	395

PUMP + MOTOR	
SHIPPING WEIGHTS ²	
LBS.	kg.
160	73
215	98
215	98
190	86
190	86
215	98
190	86

¹ To order pump without motor, use 0 for motor Price Code No.
² Pump end only: 60 lbs (27 kg.)

OPTIONAL

DESCRIPTION	ADD SUFFIX TO MODEL	ADD TO OR SEPARATE PRICE CODE NO.
Viton "O"-rings (installed)	-V	V
Titanium shaft — (installed)	-T	T

DESCRIPTION	CPVC		POLYPROPYLENE	
	ADD SUFFIX TO MODEL	USE SEPARATE PRICE CODE NO.	ADD SUFFIX TO MODEL	USE SEPARATE PRICE CODE NO.
Discharge pipe assembly Standard Extended Length	-DPA	45-1202 45-1209	-DPAP	45-1202 PP 45-1209 PP
Suction strainer	-ST	45-1203	-STP	45-1203 PP
Suction extension, CPVC 12" 24" 36"	-K12 -K24 -K36	46-0081 46-0082 46-0083	-K12P -K24P -K36P	46-0081 PP 46-0082 PP 46-0083 PP