

e-SVE: VERSION WITH SMART MOTOR

Background and context

In every sector, from construction and industry to agriculture and building services the need for intelligent, compact and high-efficiency pumping systems is constantly growing.

That's why Goolds Water Technology has developed the e-SVE series: an integrated intelligent pumping system with electronically driven, ultra-premium IE5, permanent magnet motor.

The integrated control system, combined with the high performance, power and efficiency from the motor and hydraulics, guarantees impressively low operating costs. You also benefit from flexibility, precision and its ultra-compact size.

Savings

The electronics and permanent magnet motor are highly efficient and minimize power losses while transferring maximum energy to the hydraulic parts of the pump.

The refined control system with integrated microprocessor adjusts the motor speed, matching the required operating point of the pump or system requirements.

This reduces demand on electricity according to the required working conditions.

This creates economies, especially in systems where pump demand varies over time.

Flexibility

The compact size, low loss and increased control make the e-SVE series a good choice in applications and systems where fixed speed pumps are commonly used. The e-SVE series is easy to integrate in control and regulation loops thanks to the wide availability of compatible communication protocols, including analog and digital inputs.

The pump is supplied with a pressure sensor.

Ease of use and commissioning

e-SVE has an intuitive interface that guides the user through the installation, and a practical area to assist with connections.

The control system is integrated and no additional external electrical panel is required.

Application sectors

- Water supply systems in residential buildings
- Air conditioning/HVAC
- Water treatment plants
- Industrial installations
- Light commercial
- Agriculture
- OEM

e-SVE (Smart Motor with e-SV Pump)

- Delivery: Up to 85 gpm (19 m³/h)
- Head: Up to 710 feet (215 m)
- Liquid temperature: Up to 250°F (120°C)
- Maximum operating pressure
 - SV1-10 with oval flanges: 230 psi (16 bar)
 - SV1-10 with round flanges or Victaulic: 360 or 575 psi (25 or 40 bar)
- Power range: 0.5-3 HP (0.37 - 2.2 kW)

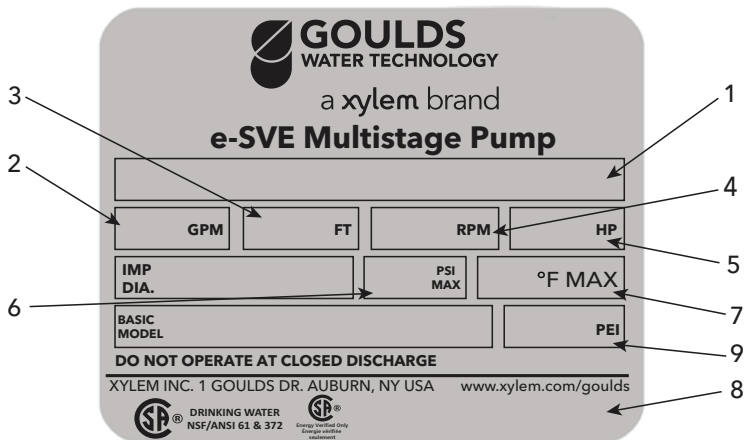
The e-SV pump is a non-self priming vertical multistage pump. The liquid end, located between the upper cover and the pump casing, is held in place by tie rods. The pump casing is available with different configurations and connection types.

Smart Motor

- Voltage: single phase 208-230V to 2 HP, three phase 208-230/460V to 3 HP
- Power: up to 3 HP (2.2 kW)
- Multipump capability: up to 3 units
- Power supply: 50/60 Hz
- Comms: BACnet and Modbus standard for single pumps
- Motor: IES2 package with IE5 motors
- Enclosure rate: IP55 / NEMA 3R
- Ambient temperature: -4°F/ 122°F (20°C / +50°C) full power
- EMC: single phase C1



e-SVE NAMEPLATE



1	Catalog Number
2	Capacity Range
3	TDH Range
4	Rated Speed
5	Rated Horsepower
6	Maximum Operating Pressure
7	Maximum Operating Temperature
8	Pump Serial Number
9	PEI = Pump Efficiency Index

e-SVE SERIES: PUMP WITH DRIVE AND SMART MOTOR (PERMANENT MAGNET MOTOR)

Product Code for 1-10 SVE Pump & Motor Combination

Each e-SVE pump is identified by a product code on the pump label. Each digit in the code is described below. The product code is also the catalog number for the pump. **Note: Not all combinations are possible.**

Example Product Code

10 SVE 2 2 F A 3 B M 0 F H

Special Configurations (1 or 2 Characters)
 N = Low NPSH only
 P = Passivation only
 S = Customized Configuration
 Z = High Press (250/300# pump body)

Seal Material
 0 = Carb-SilCar-Viton
 1 = Carb-SilCar-AFLAS (HighTemp)
 2 = SilCar-SilCar-Viton
 4 = SilCar-SilCar-EPR
 6 = Carb-SilCar-EPR

Motor Enclosure
 M = eSM

Voltage
 B = 208 - 230 D = 380 - 460 (3 HP only)

Pole-Hz-Phase
 3 = 2-60-1 4 = 2-60-3 (Available 3Q 2020)

HP Rating
 A = 0.50 D = 1.50
 B = 0.75 E = 2
 C = 1.00 F = 3

Configuration OPTION
 C = Clamp-316
 F = Round-304 (SVB) R = (SVC) 12Suct-12Disch
 G = CI-304 W = (SVC) 12Suct-03Disch
 N = Round-316 (SVD) X = (SVC) 12Suct-06Disch
 P = Victaulic-316 Y = (SVC) 12Suct-09Disch
 T = Oval-304 (SVA)

Total Number of Impeller Stages (may be 1 or 2 characters)
 Please refer to pages 111 - 133 for more staging information.

Product Line:
 SVE - Stainless Vertical

Nominal Flow:
 1 = 5 GPM 5 = 26 GPM
 3 = 16 GPM 10 = 53 GPM

Bottom / Top
 Suction discharge location

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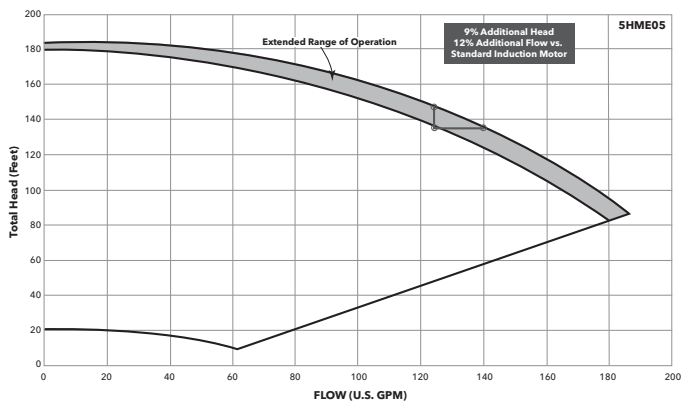
e-SVE

e-SVE series is equipped with an intelligent control that optimizes hydraulic performance while minimizing waste.

Integrated intelligence: The electronic control of the motor enables a 20% increase in performance compared to an equivalent fixed speed pump.

Extended working performances

(smart hydraulic curve vs. previous solution with TKS)



Controls, safety features and monitoring tools

Available control modes include:

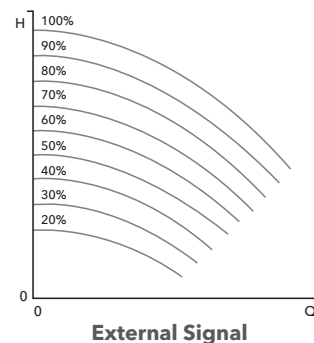
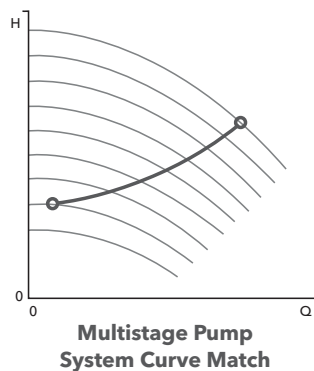
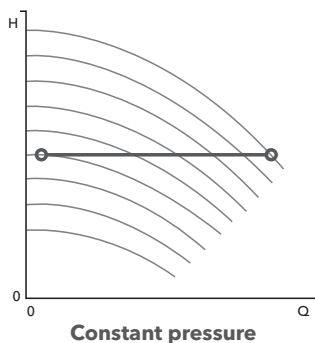
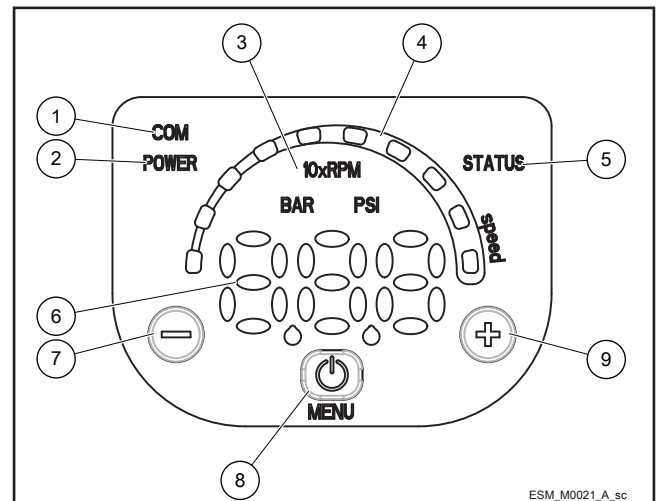
- Control for constant pressure
- Control to match a system curve
- Control according to an external signal

In addition to these regulation functions, the Smart Motor also:

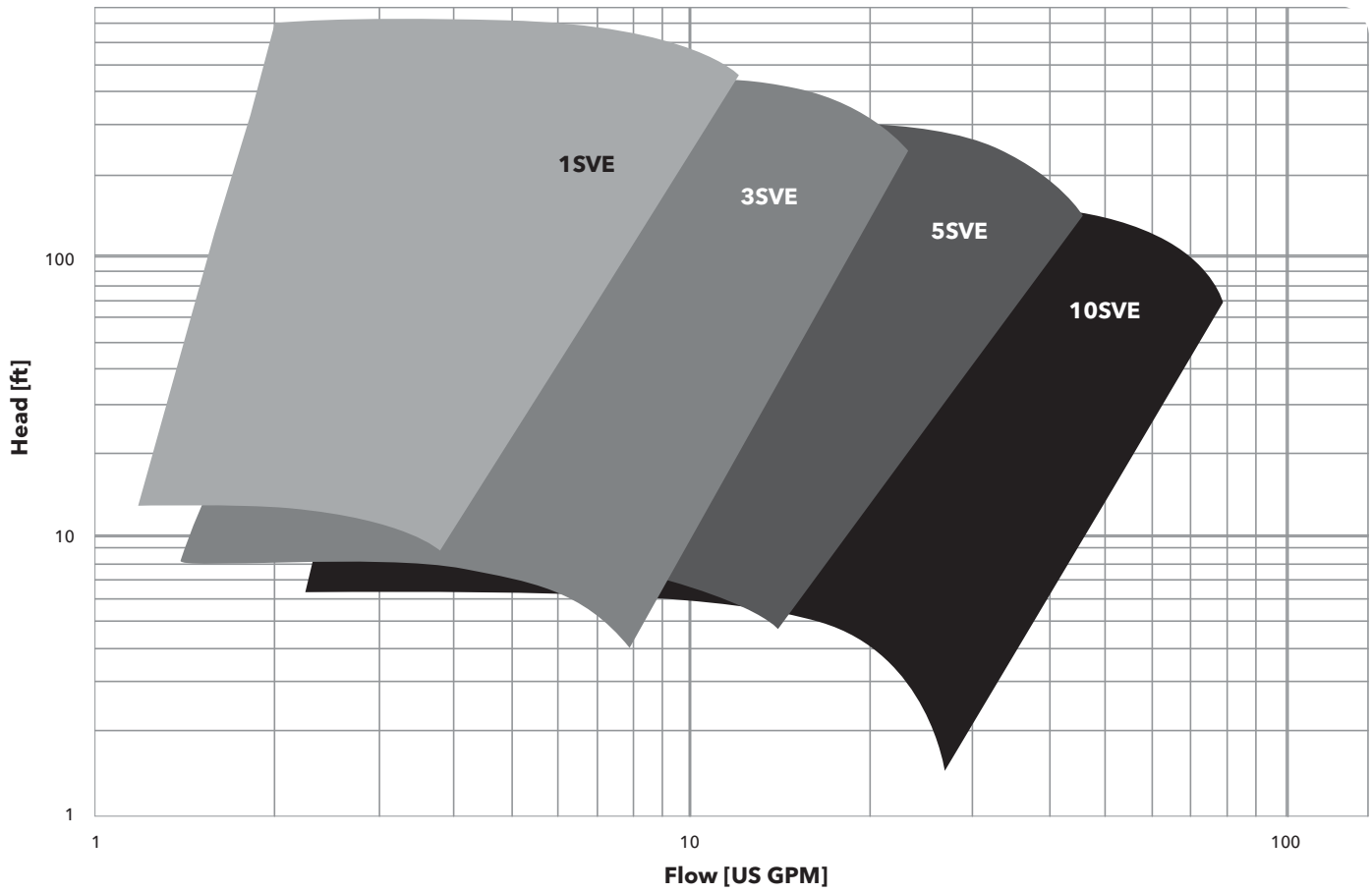
- Stops the pump at zero demand
- Stops the pump in case of water failure
- Allows protection against dry running
- Has failure and over-temperature sensors for both the inverter and motor, which protects the pump and motor from under or over-voltage

Intuitive and simple interface: You can control the unit from just three buttons, with an easy to read display for parameters and alarms, designed for complete control of system operation.

- ① Communication LED
- ② Power on LED
- ③ Unit of measure LED
- ④ Speed LED bar
- ⑤ Status LED
- ⑥ Numeric display
- ⑦ Decrease key
- ⑧ On/off and menu key
- ⑨ Increase key

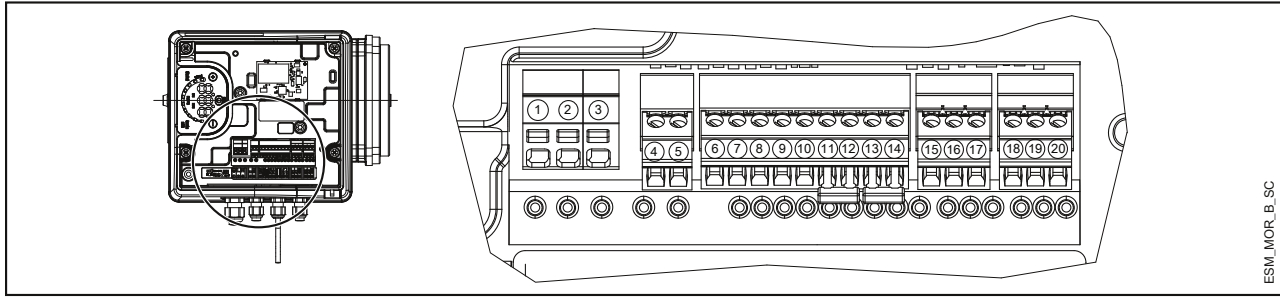


e-SVE Hydraulic Coverage Curve



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e-SVE SERIES SINGLE PHASE TERMINAL BLOCK

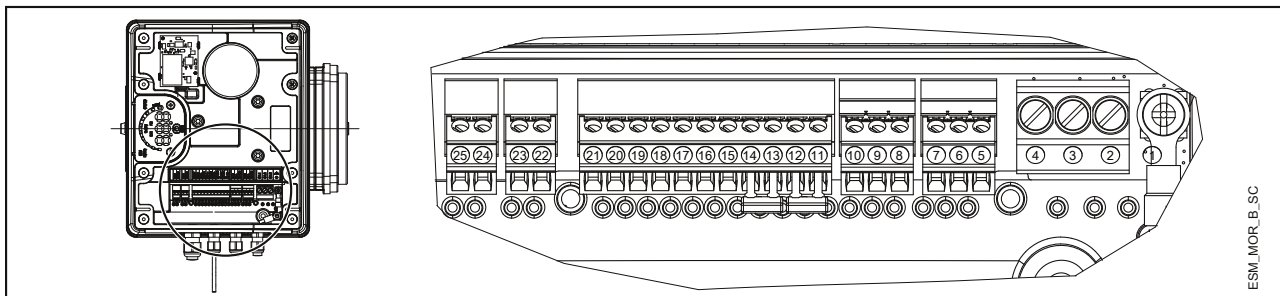


ESM_MOR_B_SC

REF.	ITEM	DESCRIPTION
4	Fault Signal	COM - error status relay
5		NO - error status relay
6	Auxiliary Voltage Supply	Auxiliary voltage supply +15 VDC
7	Analog input 0-10V	Actuator mode 0-10 V input
8		GND for 0-10 V input
9	External Pressure sensor [also Differential]	Power supply external sensor +15 VDC
10		External sensor 4-20 mA input
11	External Start/Stop	External ON/OFF input reference
12		External ON/OFF input
13	External Lack of Water	Low water input
14		Low water reference
15	Communication bus	RS485 port 1: RS485-1N B (-)
16		RS485 port 1: RS485-1P A (+)
17		Electronic GND
18	Communication bus	RS485 port 2: RS485 port 2: RS485-2N B (-) active only with optional module
19		RS485 port 2: RS485 port 2: RS485-2P A (+) active only with optional module
20		Electronic GND

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THREE-PHASE TERMINAL BLOCK



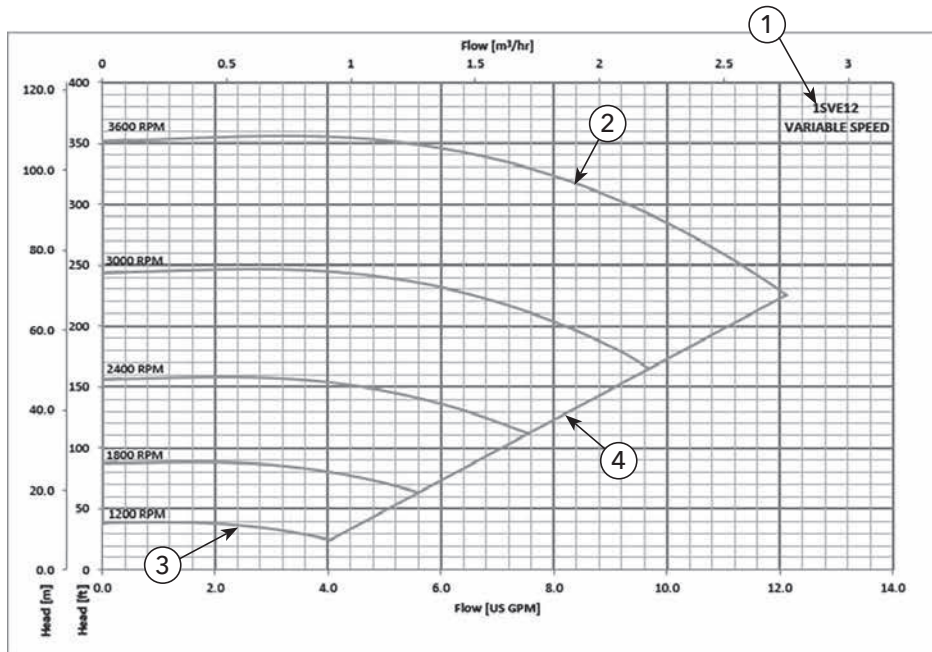
ESM_MOR_B_SC

REF.	ITEM	DESCRIPTION
5	Communication bus	Electronic GND
6		RS485 port 1: RS485-1P A (+)
7	Communication bus	RS485 port 1: RS485-1N B (-)
8		Electronic GND
9	Communication bus	RS485 port 2: RS485 port 2: RS485-2P A (+) active only with optional module
10		RS485 port 2: RS485 port 2: RS485-2N B (-) active only with optional module
11	External Lack of Water	Low water reference
12		Low water input
13	External Start/Stop	External ON/OFF input reference
14		External ON/OFF input
15	External Pressure sensor	External sensor 4-20 mA input
16		Power supply external sensor +15 VDC
17	External Pressure sensor [also Differential]	External sensor 4-20 mA input
18		Power supply external sensor +15 VDC
19	Analog input 0-10V	GND for 0-10 V input
20		Actuator mode 0-10 V input
21	Auxiliary Voltage Supply	Auxiliary voltage supply +15 VDC
22	Motor running signal	Normally open contact
23		Common contact
24	Fault Signal	NO - error status relay
25		COM - error status relay

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e-SVE SERIES HOW TO READ SMART PUMP SERIES CURVES

To exploit to the maximum potential of Smart Pumps it's important to properly read working curves:



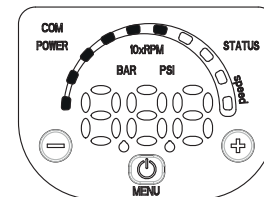
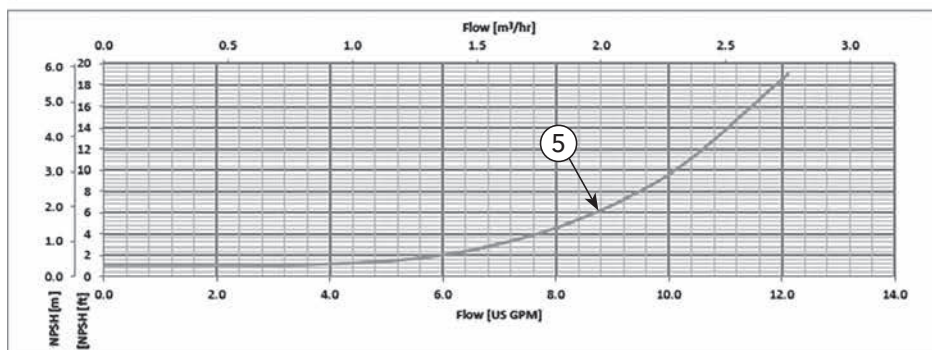
① **Pump model**

② **Maximum speed curve:** equal to 3600 rpm

③ **Minimum speed curve:** it refers to the minimum rpm level the motor is set at 1200 rpm.

④ Each **intermediate curve** between max and min speed shows the speed in rpm the pump+motor+drive system is working at; it's easy to read also from the LED speed bar on the HMI keypad: at 90% there will be 9 LED, at 80% there will be 8 and so on.

Example: at 60% there will be 6 lit LED's

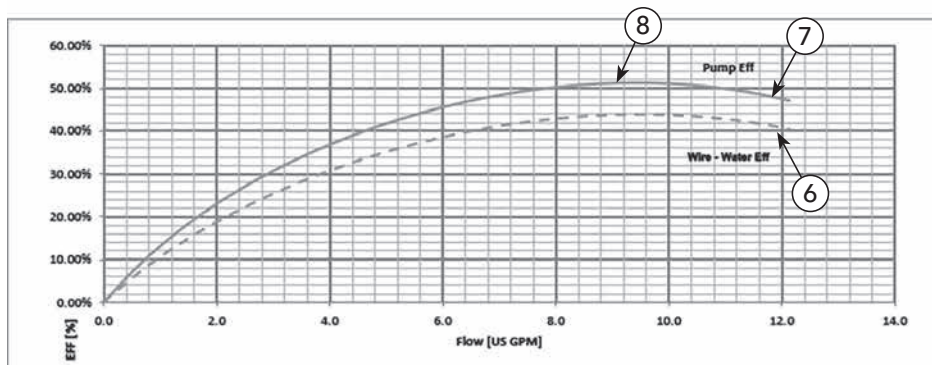


⑤ **NPSH:** is the net positive suction head of pump+motor+drive system working at maximum speed.

⑥ **Wire to Water Efficiency** is the efficiency of pump+motor+drive system working at maximum speed.

⑦ **Pump Efficiency** is the efficiency of the hydraulic part, working at maximum speed.

⑧ **Working point:** it's important to make sure the pump is working at the best working point, the one at highest efficiency.



The performances are valid for liquid with density $\rho = 1 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

It's easy to find it: it's the highest point of the hp pump efficiency curve; once you found it, you can read flow values from x-axis and head values from y-axis which allow the system to work at the best working point.

e-SVE SERIES - SINGLE-PHASE VERSION

PUMP TYPE SVE Single-Phase	MOTOR		SMART MOTOR	
	P _N (HP)	Type 1 x 208-240 V	* P1 (kW) 1 x 208-240 V	I (A) 1 x 208-240 V
1SVE4	0.5	ESM90R/103 SVE	0.49	2.3 - 2.0
1SVE6	0.75	ESM90R/105 SVE	0.69	3.3 - 2.9
1SVE8	1.0	ESM90R/107 SVE	0.91	4.4 - 3.8
1SVE12	1.5	ESM90R/111 SVE	1.33	6.2 - 5.3
1SVE17	2.0	ESM90R/115 SVE	1.77	8.4 - 7.3

PUMP TYPE SVE Single-Phase	MOTOR		SMART MOTOR	
	P _N (HP)	Type 1 x 208-240 V	* P1 (kW) 1 x 208-240 V	I (A) 1 x 208-240 V
3SVE2	0.5	ESM90R/103 SVE	0.49	2.1 - 1.8
3SVE3	0.75	ESM90R/105 SVE	0.69	3.3 - 2.9
3SVE4	1.0	ESM90R/107 SVE	0.91	4.4 - 3.8
3SVE6	1.5	ESM90R/111 SVE	1.33	7.5 - 6.4
3SVE9	2.0	ESM90R/115 SVE	1.77	8.4 - 7.3

PUMP TYPE SVE Single-Phase	MOTOR		SMART MOTOR	
	P _N (HP)	Type 1 x 208-240 V	* P1 (kW) 1 x 208-240 V	I (A) 1 x 208-240 V
5SVE2	0.75	ESM90R/105 SVE	0.49	3.3 - 2.9
5SVE3	1.0	ESM90R/107 SVE	0.69	4.4 - 3.8
5SVE4	1.5	ESM90R/111 SVE	0.91	7.8 - 6.7
5SVE6	2.0	ESM90R/115 SVE	1.33	8.4 - 7.3

PUMP TYPE SVE Single-Phase	MOTOR		SMART MOTOR	
	P _N (HP)	Type 1 x 208-240 V	* P1 (kW) 1 x 208-240 V	I (A) 1 x 208-240 V
10SVE1	1.0	ESM90R/107 SVE	0.86	4.2 - 3.6
10SVE2	2.0	ESM90R/115 SVE	1.33	7.9 - 6.8

* Maximum value in specified range; P_N = HP Rating; P1 = input power; I = input current.

e-SVE SERIES - THREE-PHASE VERSION (AVAILABLE 2Q 2020)

PUMP TYPE SVE Three-Phase	MOTOR		SMART MOTOR		
	P _N (HP)	Type 1 x 208-240 V	* P1 (kW)	I (A) 208-240 V	I (A) 380-460 V
1SVE4	0.5	ESM90R/303 SVE	0.47	2.1 - 1.8	1.4 - 1.3
1SVE6	0.75	ESM90R/305 SVE	0.68	2.9 - 2.5	1.9 - 1.7
1SVE8	1.0	ESM90R/307 SVE	0.9	3.7 - 3.3	2.4 - 2.2
1SVE12	1.5	ESM90R/311 SVE	1.34	5.2 - 4.7	3.5 - 3.1
1SVE17	2.0	ESM90R/315 SVE	1.78	6.7 - 6.1	4.5 - 4.0
1SVE24	3.0	ESM90R/322 SVE	2.55	-	5.9 - 5.2

PUMP TYPE SVE Three-Phase	MOTOR		SMART MOTOR		
	P _N (HP)	Type 1x230 V	* P1 (kW)	I (A) 208-240 V	I (A) 380-460 V
3SVE2	0.5	ESM90R/303 SVE	0.42	1.9 - 1.6	1.3 - 1.2
3SVE3	0.75	ESM90R/305 SVE	0.68	2.9 - 2.5	1.9 - 1.7
3SVE4	1.0	ESM90R/307 SVE	0.9	3.7 - 3.3	2.4 - 2.2
3SVE6	1.5	ESM90R/311 SVE	1.6	6.0 - 5.5	4.0 - 3.6
3SVE9	2.0	ESM90R/315 SVE	1.78	6.7 - 6.1	4.5 - 4.0
3SVE13	3.0	ESM90R/322 SVE	2.55	-	5.9 - 5.2

PUMP TYPE SVE Three-Phase	MOTOR		SMART MOTOR		
	P _N (HP)	Type 1x230 V	* P1 (kW)	I (A) 208-240 V	I (A) 380-460 V
5SVE2	0.75	ESM90R/305 SVE	0.68	2.9 - 2.5	1.9 - 1.7
5SVE3	1.0	ESM90R/307 SVE	0.9	3.7 - 3.3	2.4 - 2.2
5SVE4	1.5	ESM90R/311 SVE	1.71	6.3 - 5.7	4.2 - 3.7
5SVE6	2.0	ESM90R/315 SVE	1.78	6.7 - 6.1	4.5 - 4.0
5SVE9	3.0	ESM90R/322 SVE	2.55	-	5.9 - 5.2

PUMP TYPE SVE Three-Phase	MOTOR		SMART MOTOR		
	P _N (HP)	Type 1x230 V	* P1 (kW)	I (A) 208-240 V	I (A) 380-460 V
10SVE1	1.0	ESM90R/307 SVE	0.87	3.6 - 3.2	2.3 - 2.1
10SVE2	2.0	ESM90R/315 SVE	1.67	6.3 - 5.7	4.2 - 3.7
10SVE3	3.0	ESM90R/322 SVE	2.34	-	5.4 - 4.8

* Maximum value in specified range; PN = HP Rating; P1 = input power; I = input current.

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e-SVE SERIES - ELECTRICAL DATA TABLE

The nominal motor power is guaranteed in the 3000-3600 rpm range. The motor is automatically limited to 3600 rpm maximum; the motor works partially loaded below 3000 rpm.

SINGLE-PHASE VERSION

PN HP	MOTOR TYPE	IEC SIZE	Construction Design	SPEED (RPM)* min-1	INPUT CURRENT I (A) 208-240 V	DATA RELATED TO 230V					
						In A	Power Factor / cos φ	Tn lb.ft	Efficiency η %		
									100	75	50
0.50	ESM90R/103 SVE	90R	SPECIAL	3000	2.28-1.99	2.08	0.95	0.87	81.3	79.1	74.3
				3600	2.30-2.02	2.10		0.72	80.6	77.5	72.0
0.75	ESM90R/105 SVE			3000	3.27-2.85	2.96	0.97	1.29	83.3	82.2	78.8
				3600	3.27-2.85	2.96		1.08	83.3	81.5	77.5
1.0	ESM90R/107 SVE			3000	4.43-3.84	4.00	0.98	1.76	83.3	83.3	81.5
				3600	4.38-3.79	3.94		1.47	84.5	83.5	80.6
1.5	ESM90R/111 SVE			3000	6.26-5.35	5.64	0.99	2.58	85.7	85.1	82.7
				3600	6.20-5.32	5.63		2.15	85.9	84.6	81.4
2.0	ESM90R/115 SVE			3000	8.57-7.32	7.69	0.99	3.52	85.6	85.7	84.7
				3600	8.42-7.25	7.62		2.94	86.3	85.9	84.0

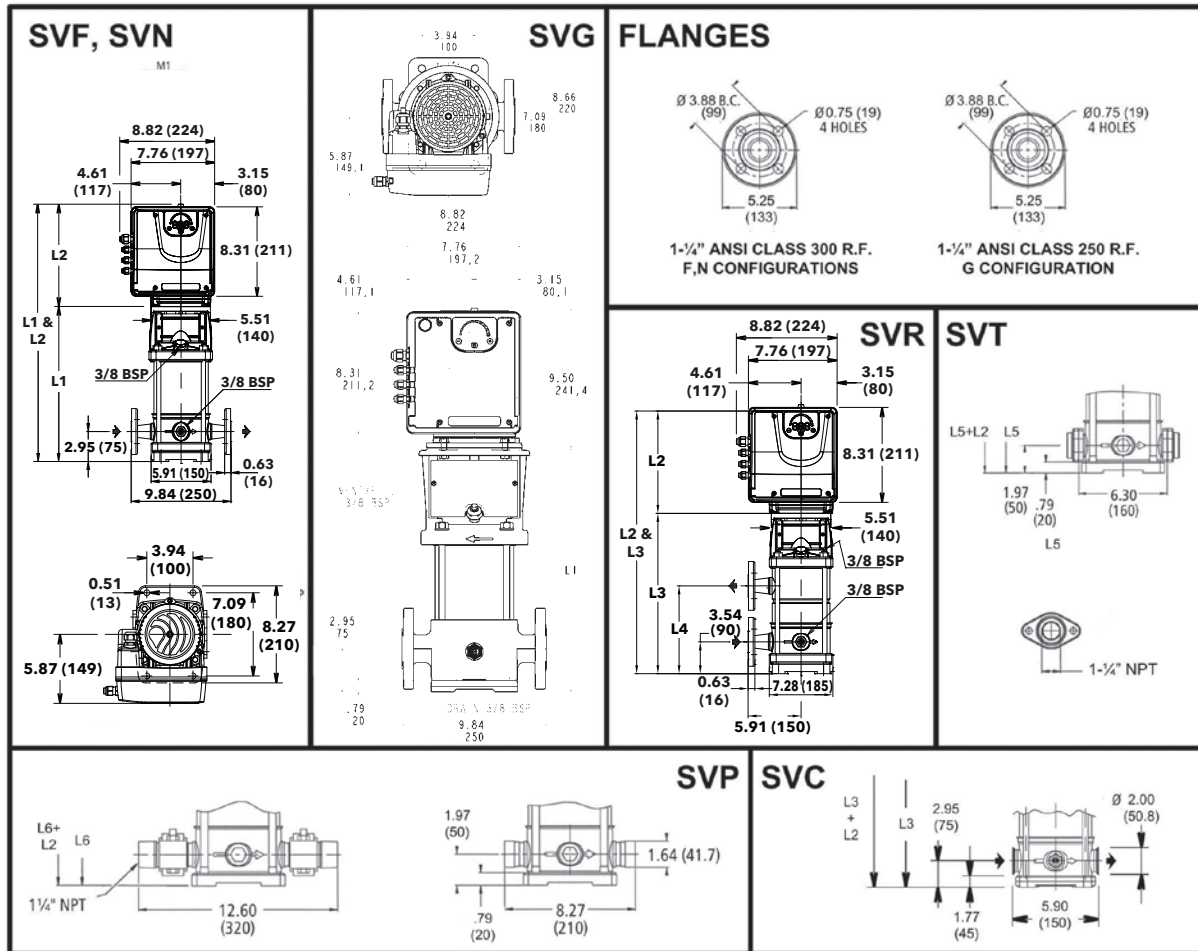
* The indicated rotational speeds represent the upper and lower limits of the speed range for rated power.

THREE-PHASE VERSION (AVAILABLE 2Q 2020)

PN HP	MOTOR TYPE	IEC SIZE	Construction Design	SPEED (RPM)* min-1	INPUT CURRENT I (A) 208-240/380-460 V	DATA RELATED TO 460V					
						In A	Power Factor / cos φ	Tn lb.ft	Efficiency η %		
									100	75	50
0.50	ESM90R/303 SVE	90R	SPECIAL	3000	2.01-1.85/1.41-1.28	1.28	0.45	1.18	81.0	78.6	74.0
				3600	2.13-1.83/1.43-1.33	1.33		0.98	76.3	72.5	65.8
0.75	ESM90R/305 SVE			3000	2.81-2.57/1.89-1.69	1.69	0.50	1.75	82.8	81.5	78.6
				3600	2.90-2.52/1.90-1.73	1.73		1.46	80.1	77.5	72.4
1.0	ESM90R/307 SVE			3000	3.70-3.37/2.44-2.17	2.17	0.52	2.39	83.1	82.8	81.0
				3600	3.74-3.28/2.43-2.20	2.20		1.99	81.9	80.2	76.5
1.5	ESM90R/311 SVE			3000	5.12-4.73/3.41-3.01	3.01	0.55	3.50	83.9	82.9	80.2
				3600	5.15-4.69/3.45-3.06	3.06		2.92	82.2	80.1	75.7
2.0	ESM90R/315 SVE			3000	6.73-6.17/4.49-3.95	4.39	0.59	3.52	83.9	84.0	82.4
				3600	6.69-6.08/4.48-3.97	4.32		2.94	83.4	82.3	79.3
3.0	ESM90R/322 SVE			3000	- /6.03-5.32	5.32	0.60	7.00	86.9	86.7	85.1
				3600	- /5.93-5.24	5.24		5.84	88.2	87.4	85.3

* The indicated rotational speeds represent the upper and lower limits of the speed range for rated power.

1, 3, 5SVE SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS



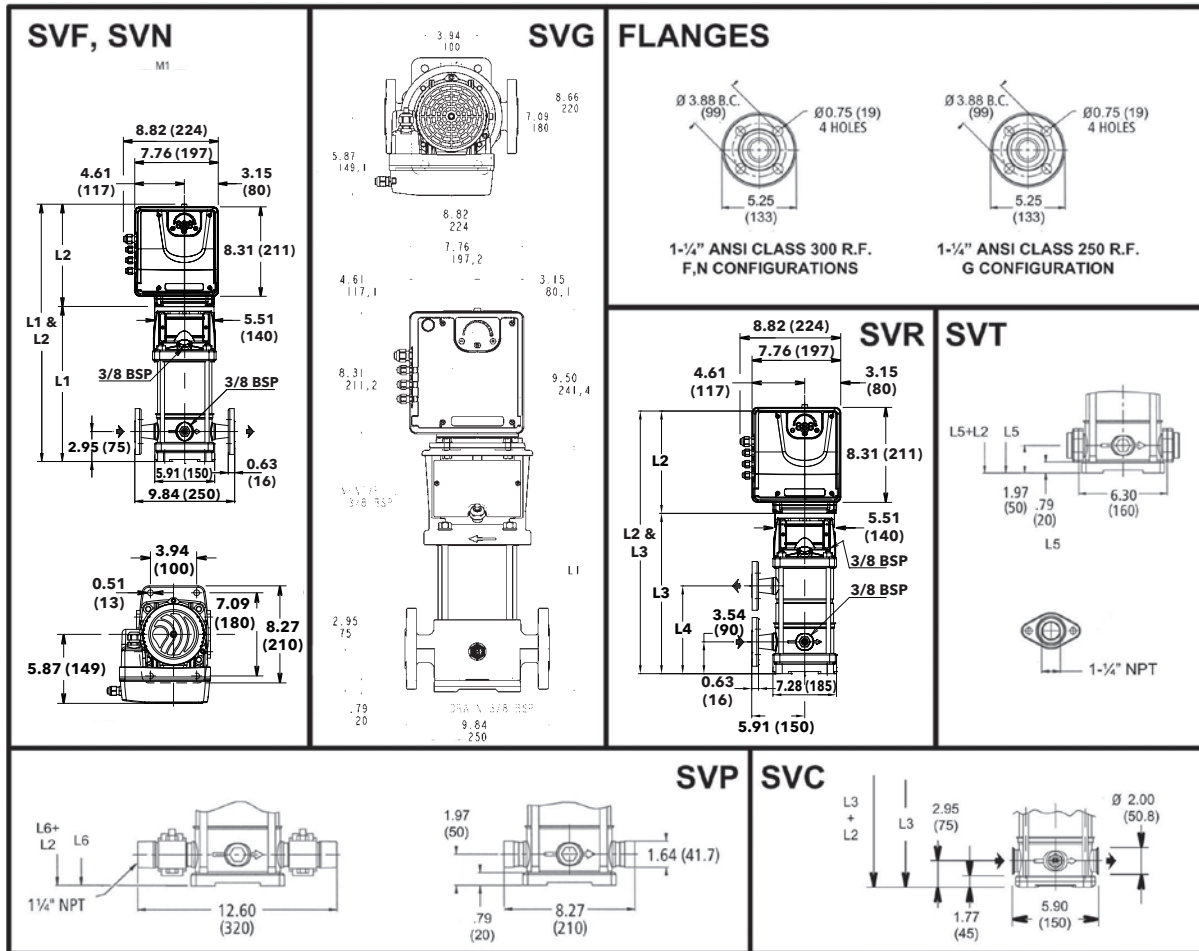
1SV SERIES – 60 HZ, 3600 RPM TEFC ENCLOSURES

Pump Type Stages	Motor		Dimensions (in)									Weight (lbs)		
	P _N (HP)	Type 1 x 208-240 V	L1	L2	L3	L4	L5	L6	M (Ref.)	D1 (max.)	D2	Pump Only	Motor	Pump/Motor
1SVE4	0.5	ESM90R/103 56C	14.06	9.53	-	-	13.07	13.07	5.19	5.20	6.50	27	17	44
1SVE6	0.75	ESM90R/105 56C	15.63	9.53	-	-	14.65	14.65	5.19	5.20	6.50	28	17	45
1SVE8	1	ESM90R/107 56C	17.21	9.53	17.21	8.94	16.22	16.22	5.19	5.20	6.50	30	17	47
1SVE12	1.5	ESM90R/111 56C	20.36	9.53	20.36	12.09	19.37	19.37	5.74	5.20	6.50	34	20	54
1SVE17	2	ESM90R/115 56C	24.29	9.53	24.29	16.02	23.31	23.31	5.74	5.20	6.50	38	20	58

* Maximum value in specified range; P_N = HP Rating; P₁ = input power; I = input current.

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1, 3, 5SVE SERIES - THREE PHASE VERSION (AVAILABLE 2Q 2020) DIMENSIONS AND WEIGHTS

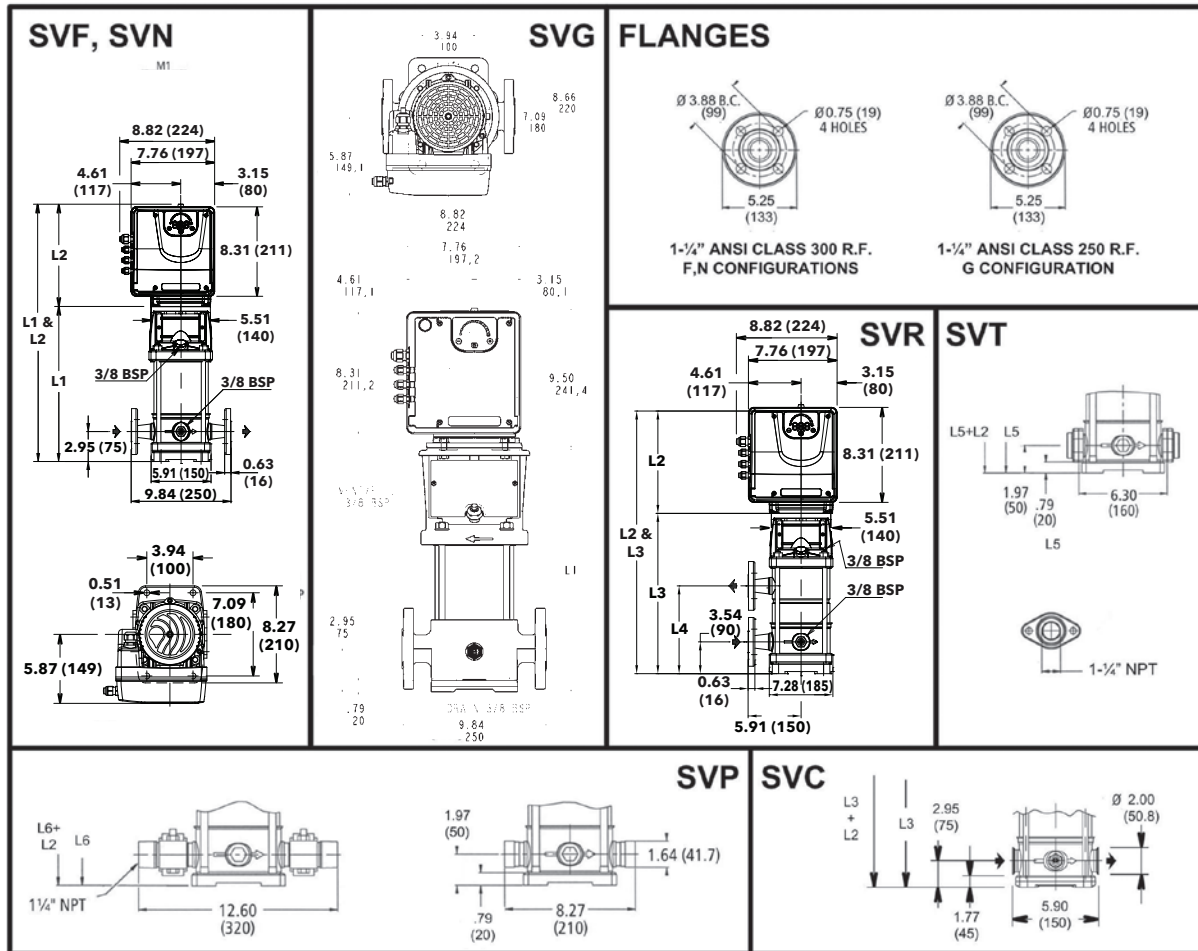


3SV SERIES – 60 HZ, 3600 RPM TEFC ENCLOSURES

Pump Type Stages	Motor		Dimensions (in)									Weight (lbs)		
	P _N (HP)	Type 1 x 208-240 V	L1	L2	L3	L4	L5	L6	M (Ref.)	D1 (max.)	D2	Pump Only	Motor	Pump/Motor
3SVE2	0.5	ESM90R/103 56C	13.27	9.53	-	-	12.29	12.29	5.19	5.20	6.50	24	17	41
3SVE3	0.75	ESM90R/105 56C	13.27	9.53	-	-	12.29	12.29	5.19	5.20	6.50	25	17	42
3SVE4	1	ESM90R/107 56C	14.06	9.53	-	-	13.07	13.07	5.19	5.20	6.50	26	17	43
3SVE6	1.5	ESM90R/111 56C	15.63	9.53	-	-	14.65	14.65	5.74	5.20	6.50	27	20	47
3SVE9	2	ESM90R/115 56C	18.00	9.53	18.00	9.72	17.01	17.01	5.74	5.20	6.50	32	20	52

* Maximum value in specified range; PN = HP Rating; P1 = input power; I = input current.

1, 3, 5SVE SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS

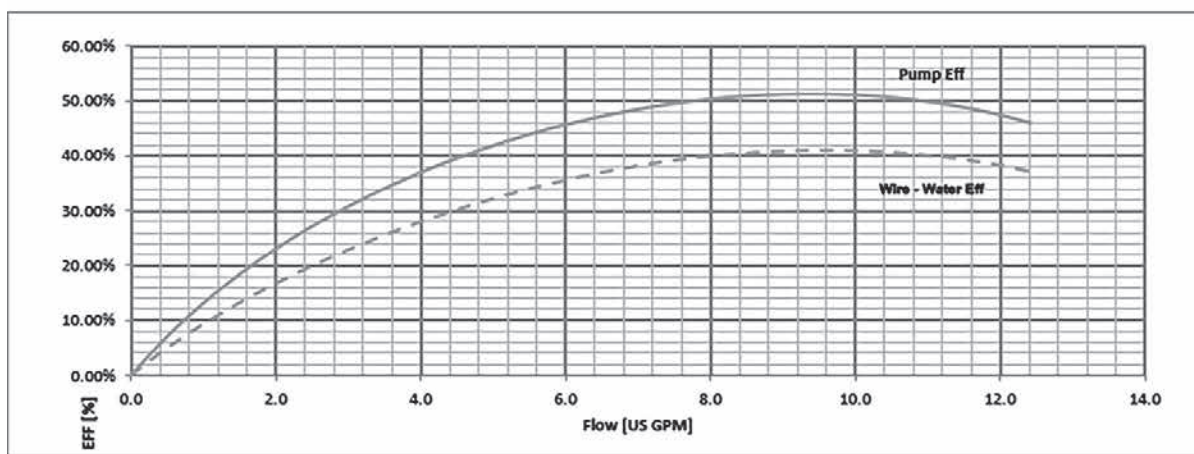
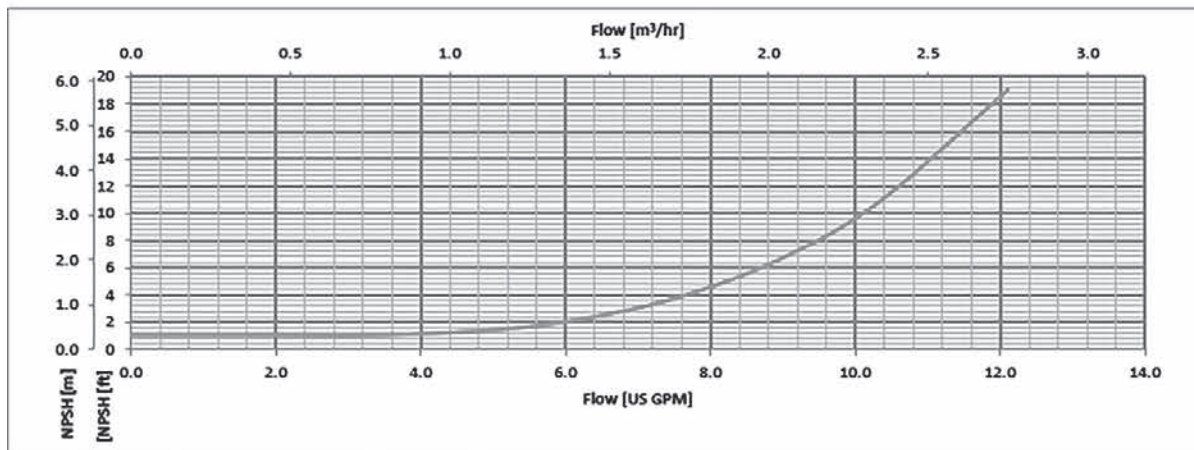
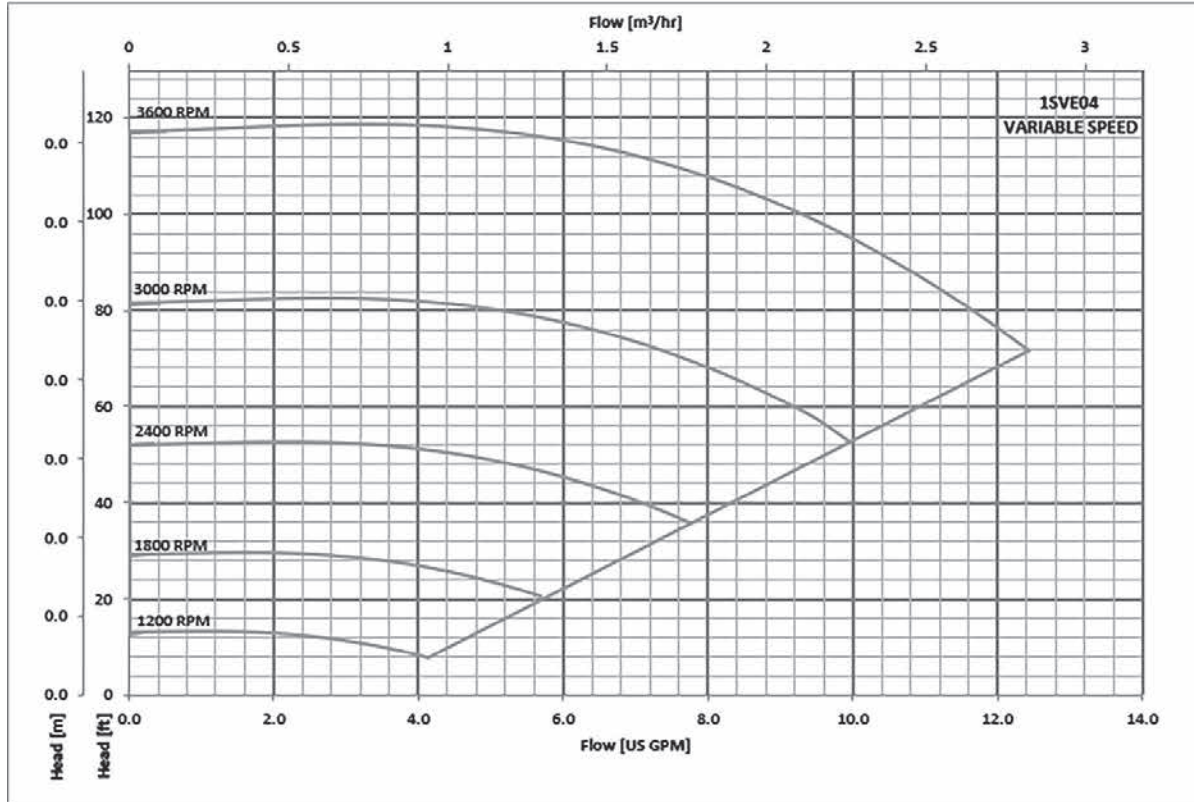


5SV SERIES – 60 HZ, 3600 RPM TEFC ENCLOSURES

Pump Type Stages	Motor		Dimensions (in)									Weight (lbs)		
	P _N (HP)	Type 1 x 208-240 V	L1	L2	L3	L4	L5	L6	M (Ref.)	D1 (max.)	D2	Pump Only	Motor	Pump/Motor
5SVE2	0.75	ESM90R/105 56C	13.86	9.53	–	–	12.88	12.88	5.19	5.20	6.50	25	17	42
5SVE3	1	ESM90R/107 56C	13.86	9.53	–	–	12.88	12.88	5.74	5.20	6.50	26	17	43
5SVE4	1.5	ESM90R/111 56C	14.85	9.53	–	–	13.86	13.86	5.74	5.20	6.50	28	20	48
5SVE6	2	ESM90R/115 56C	16.81	9.53	–	–	15.83	15.83	5.74	5.20	6.50	30	20	50

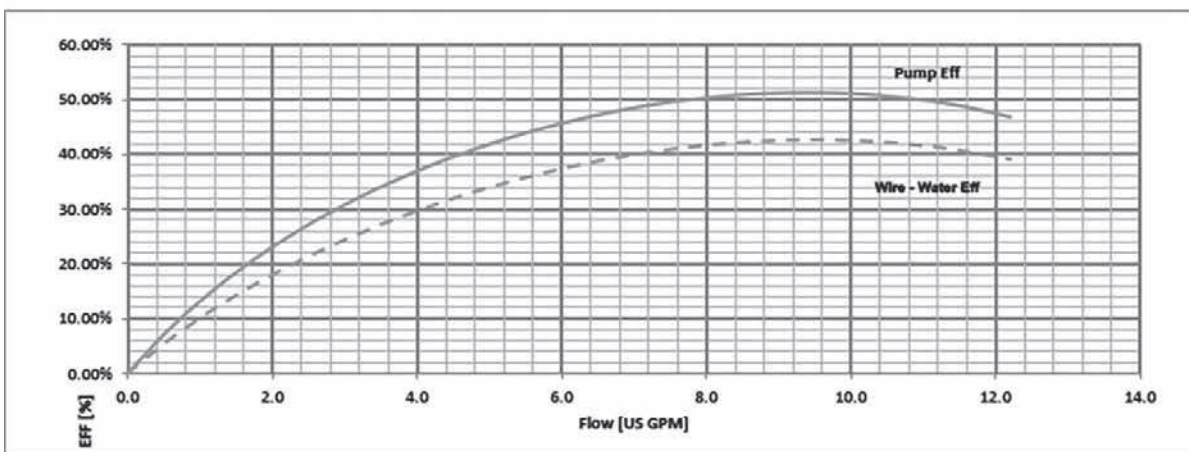
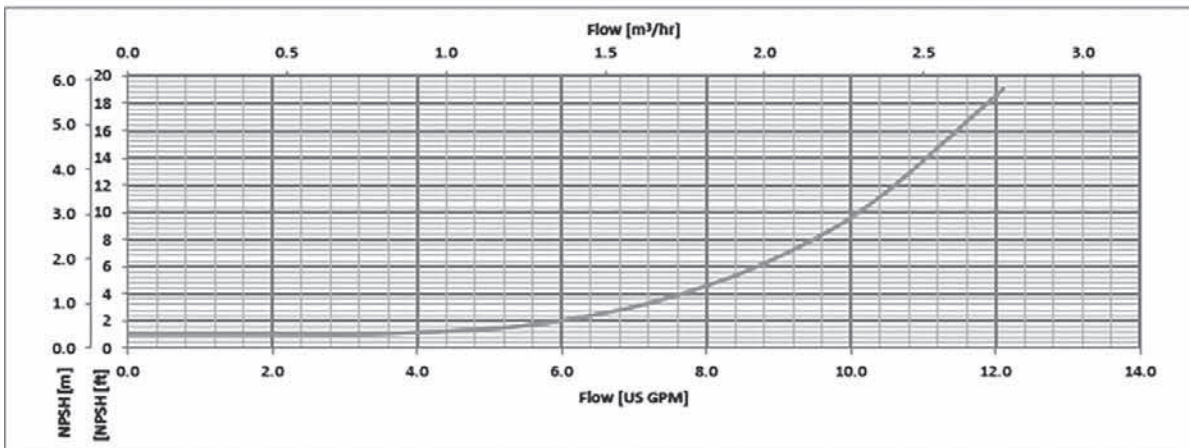
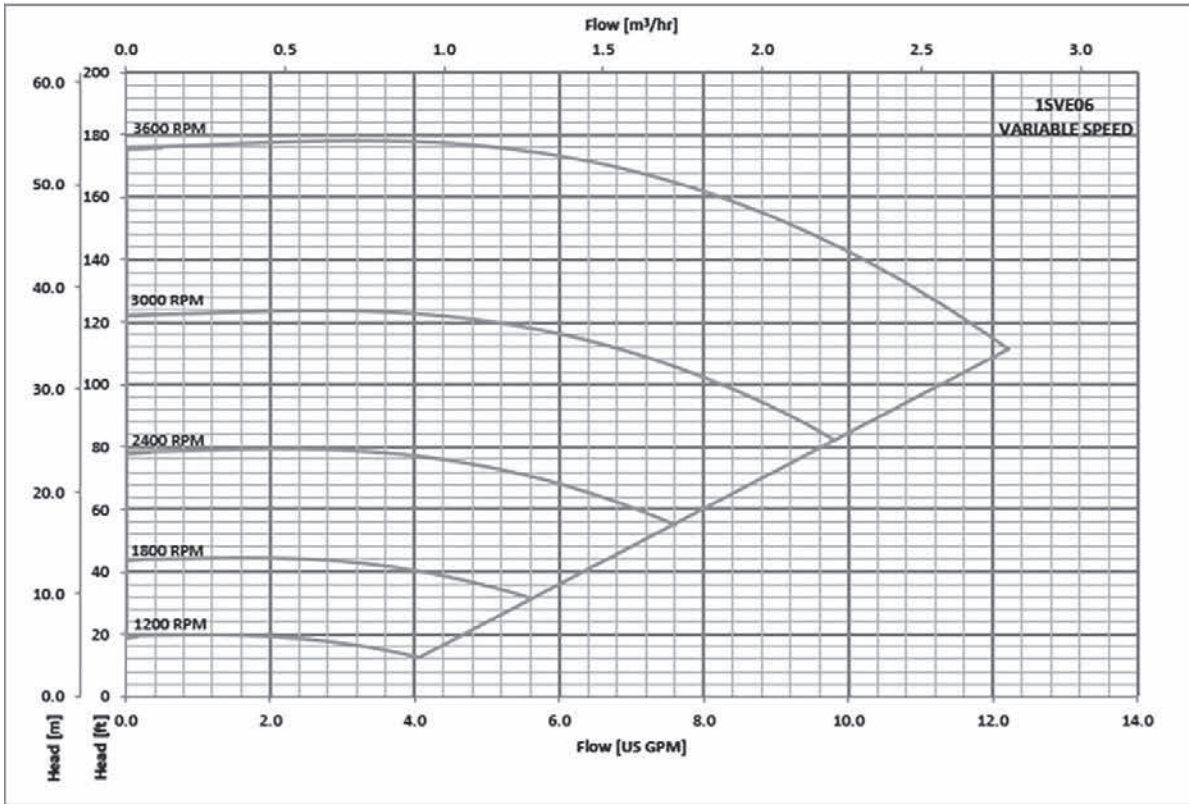
* Maximum value in specified range; P_N = HP Rating; P₁ = input power; I = input current.

1SVE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

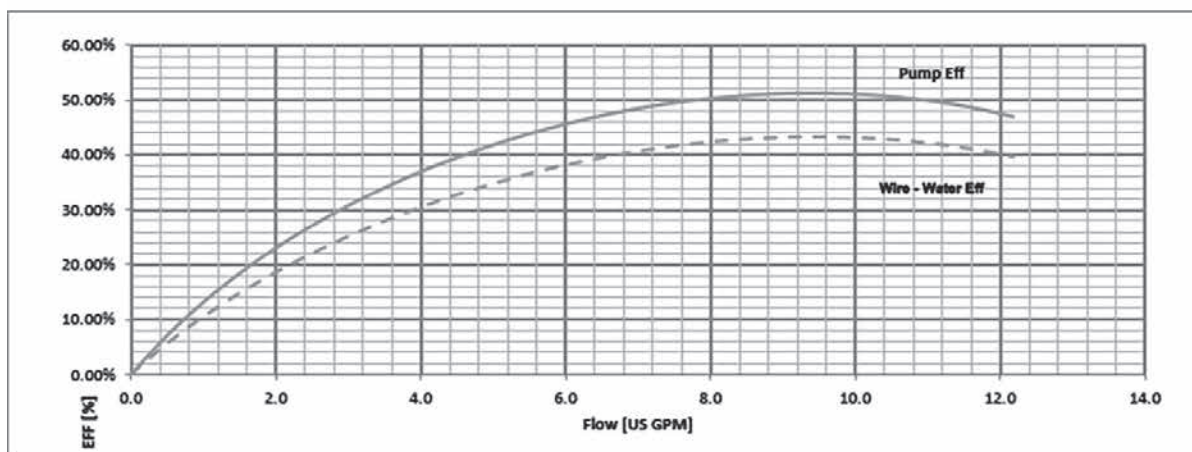
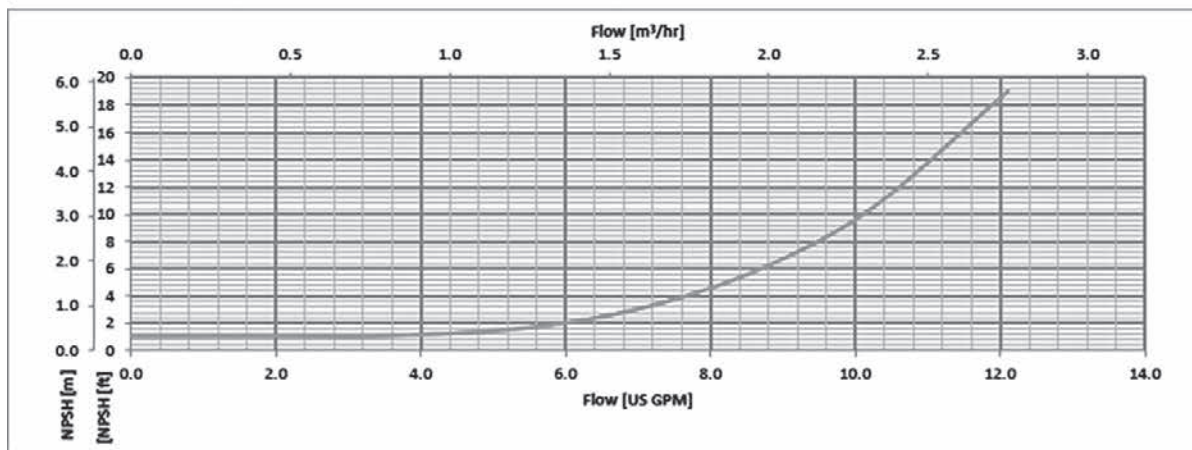
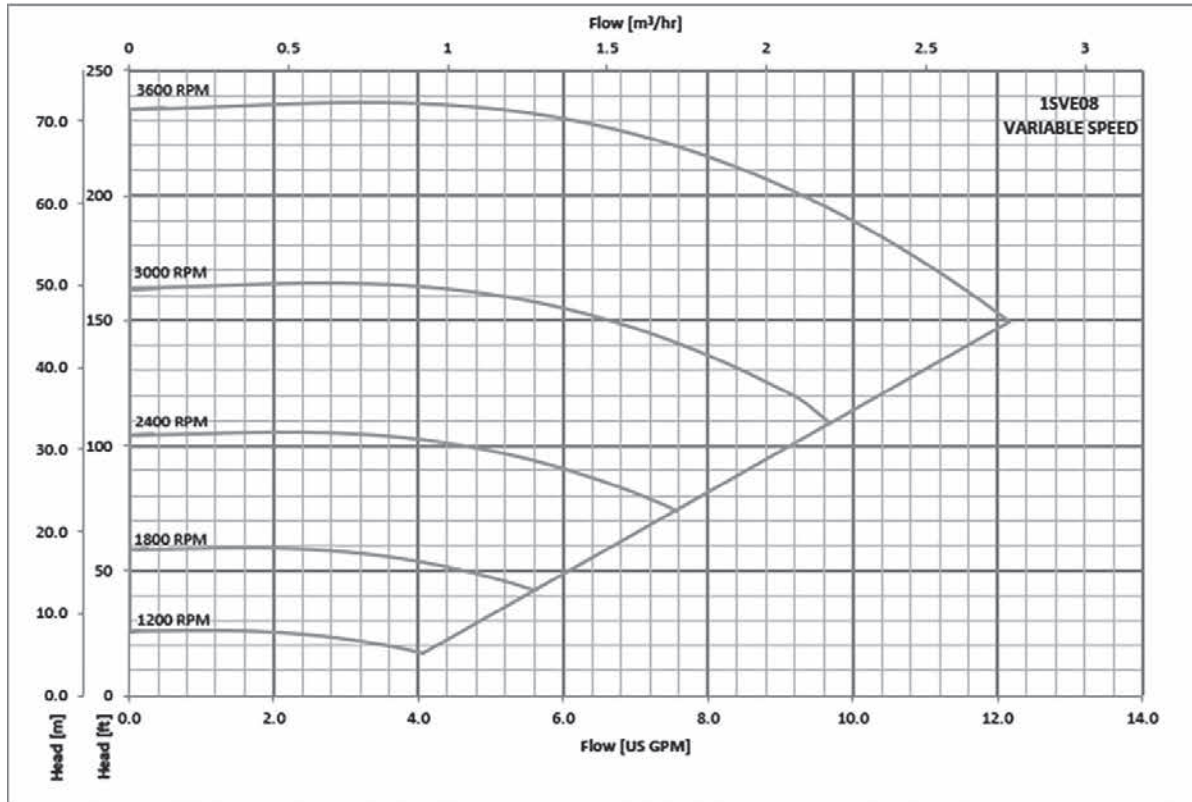
1SVE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

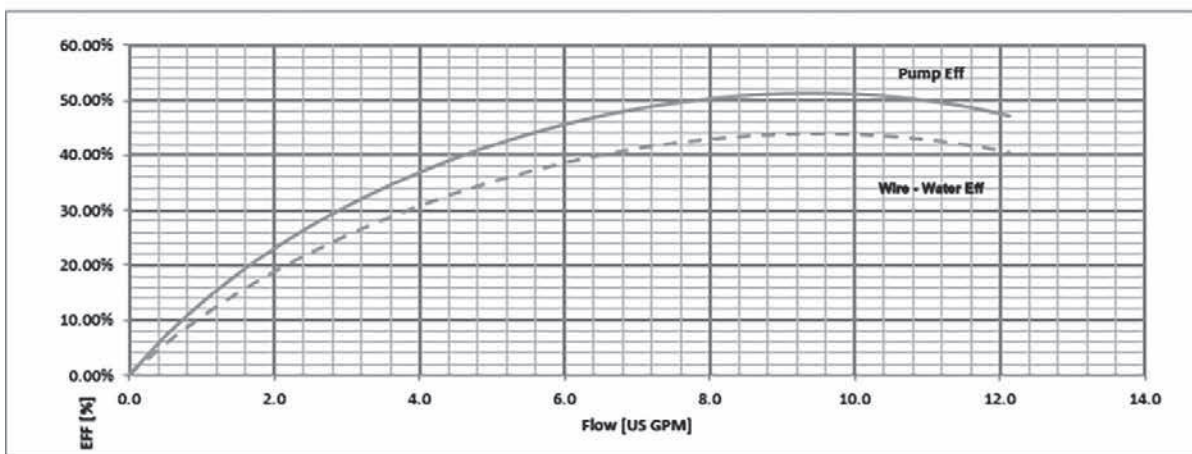
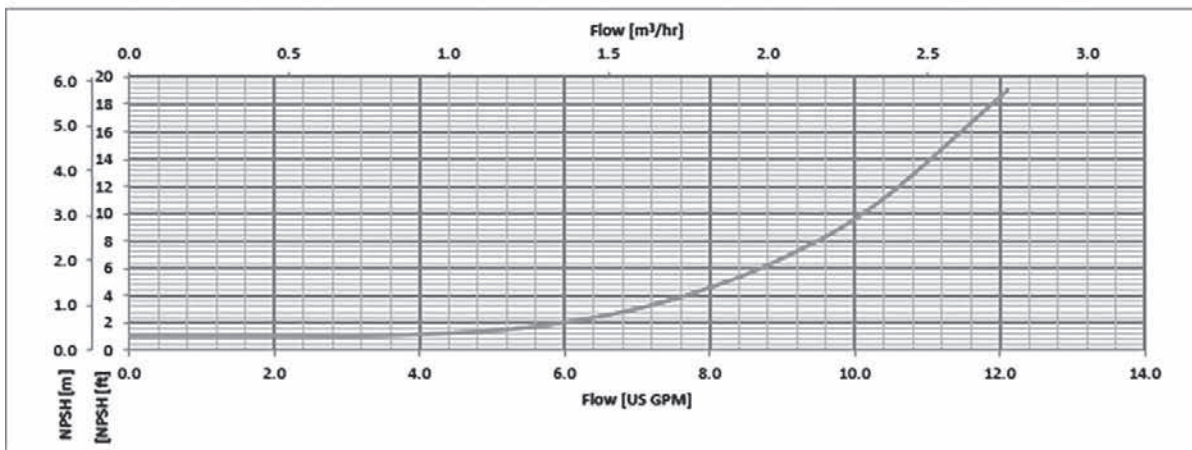
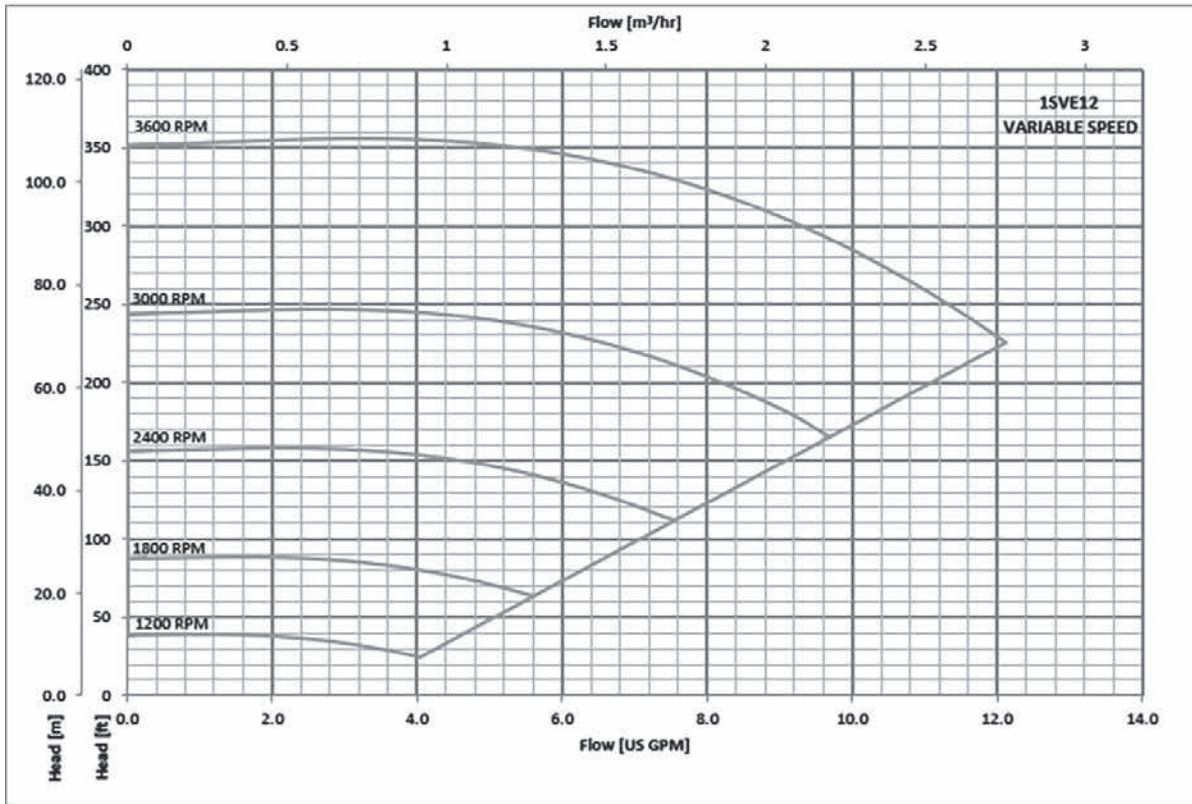
Commercial Water

1SVE SERIES OPERATING CHARACTERISTICS



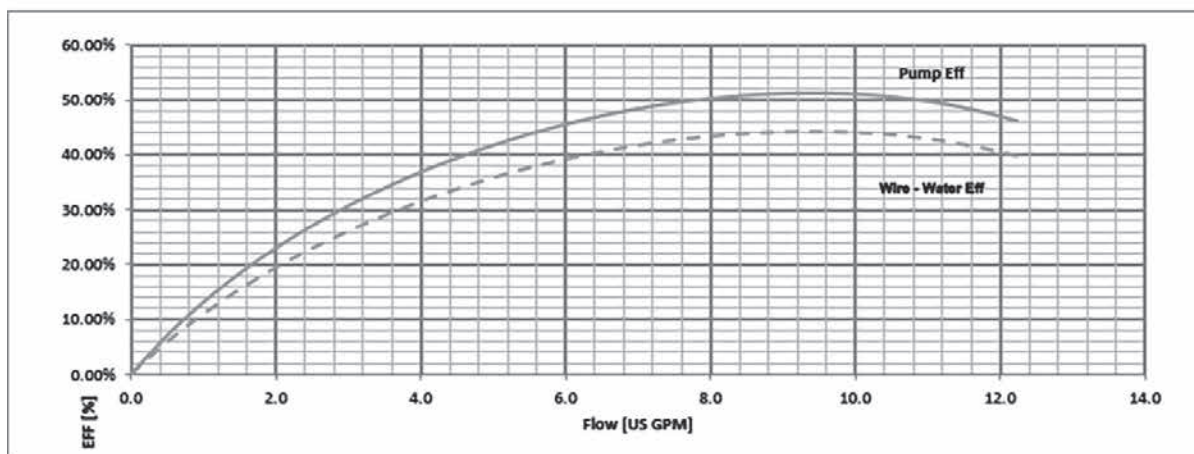
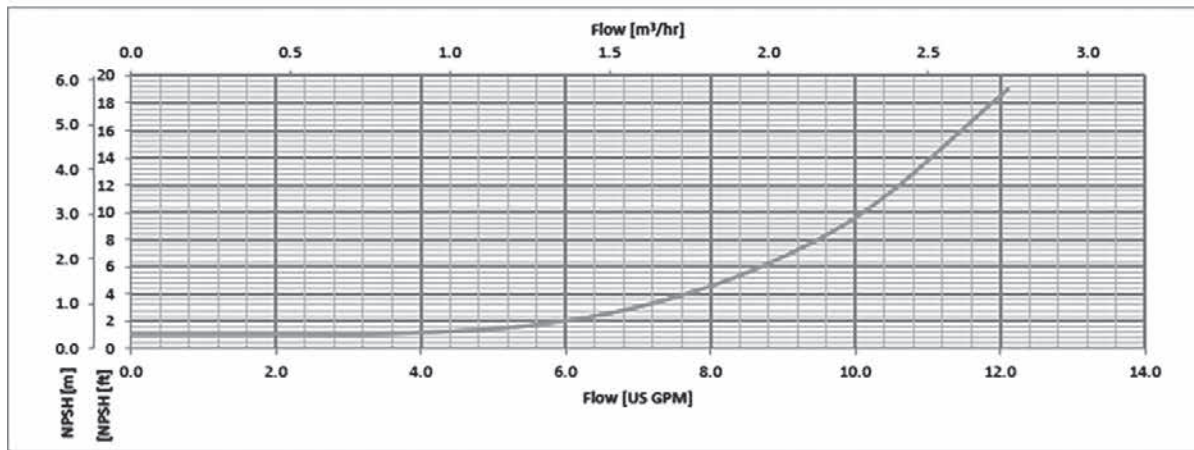
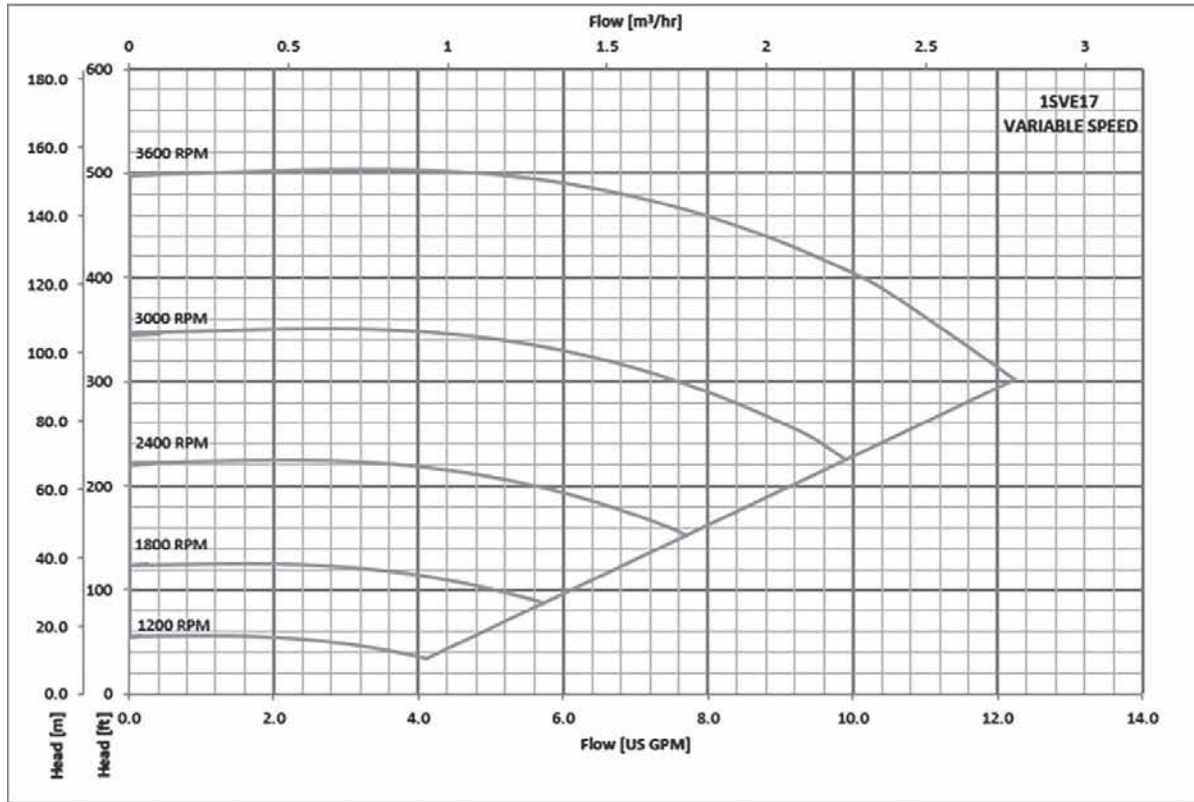
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVE SERIES OPERATING CHARACTERISTICS



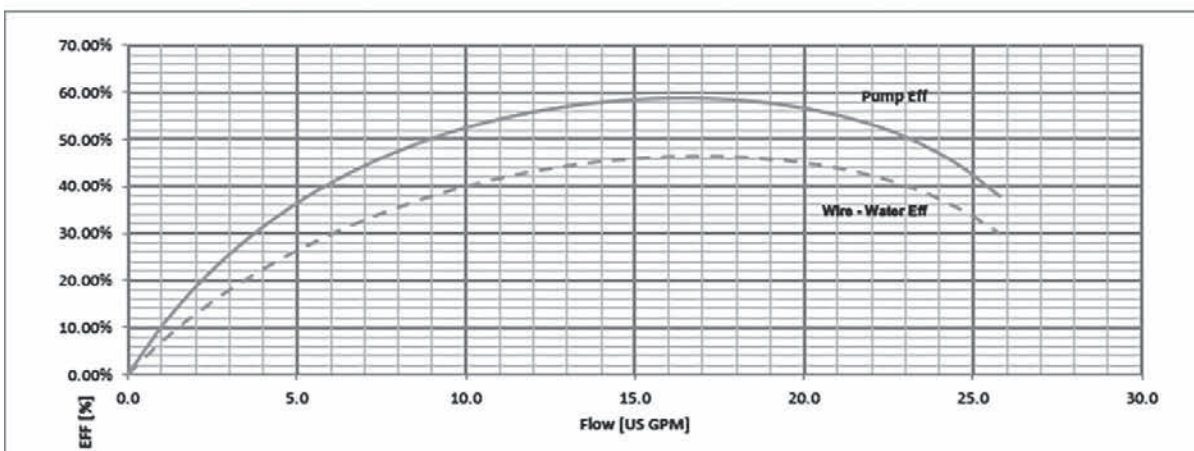
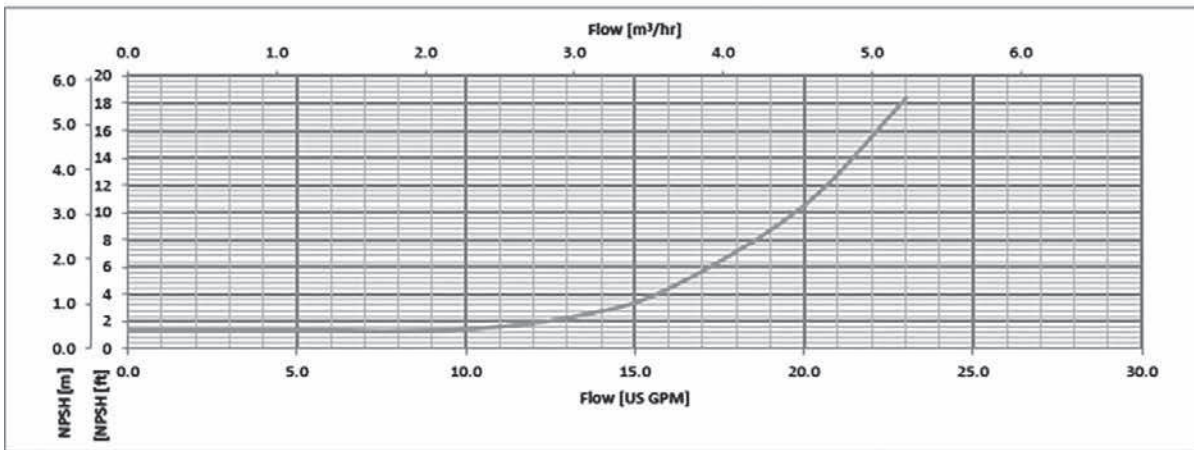
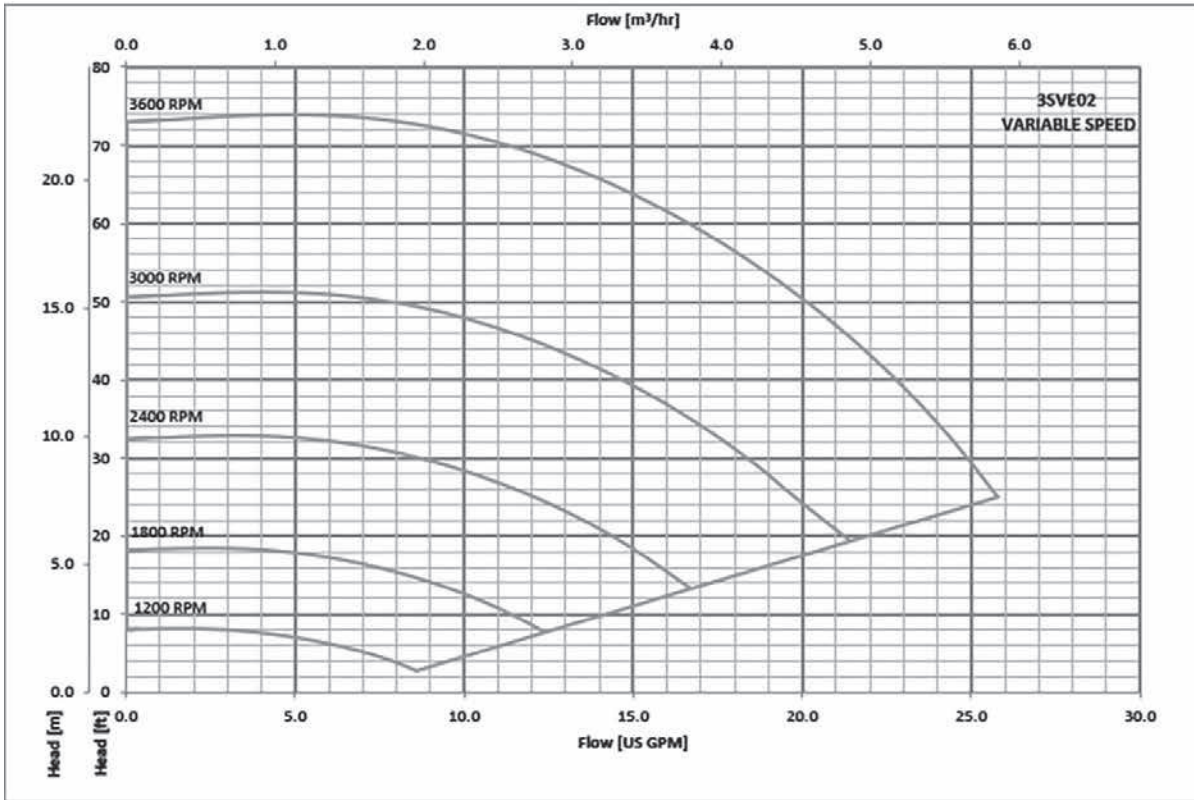
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVE SERIES OPERATING CHARACTERISTICS



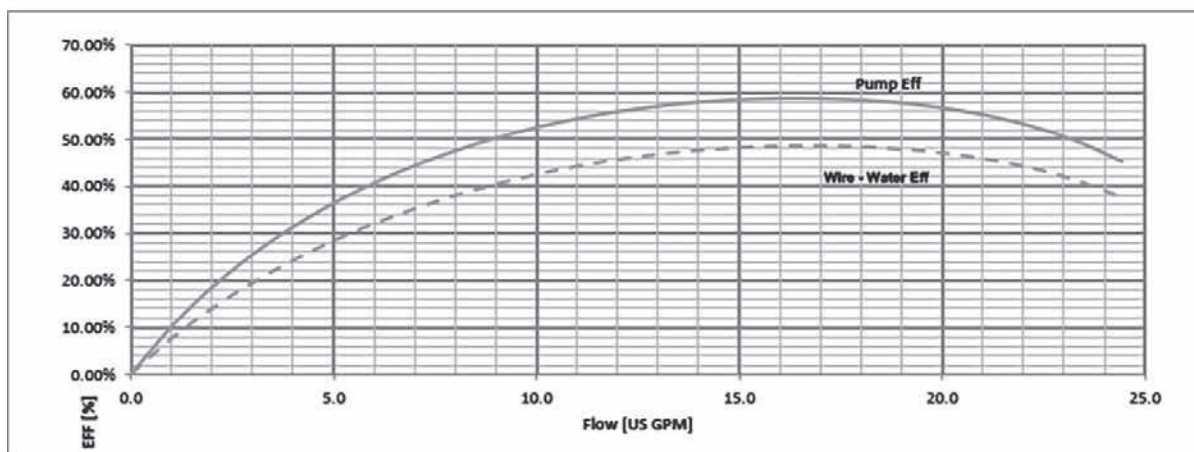
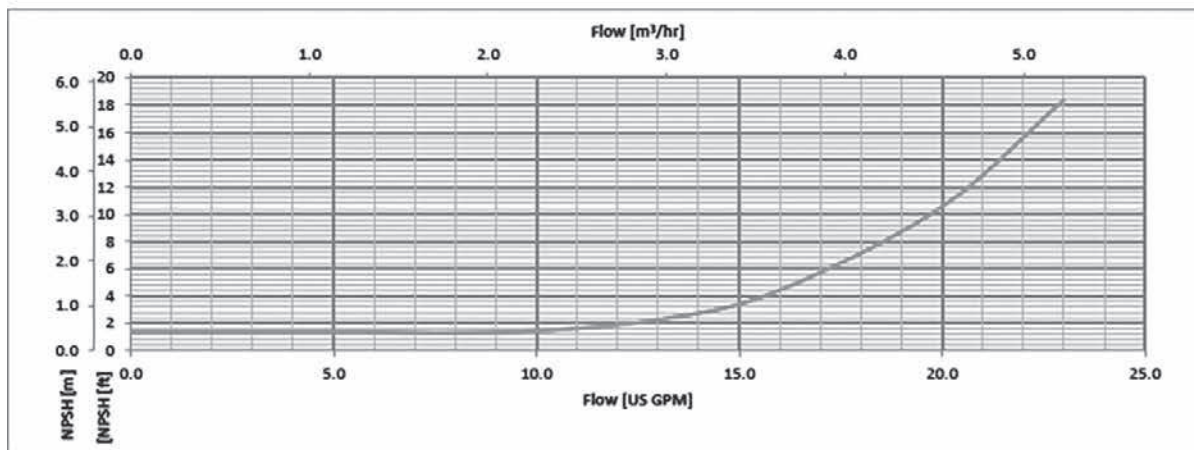
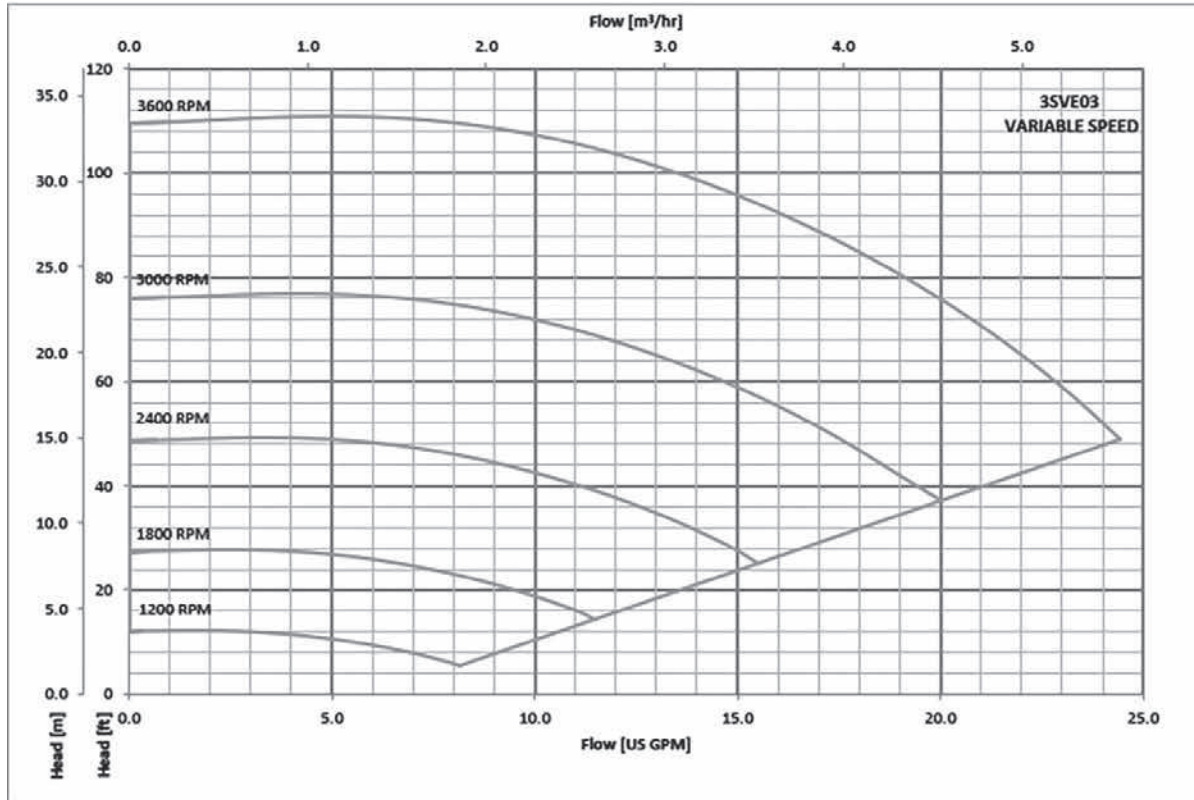
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVE SERIES OPERATING CHARACTERISTICS



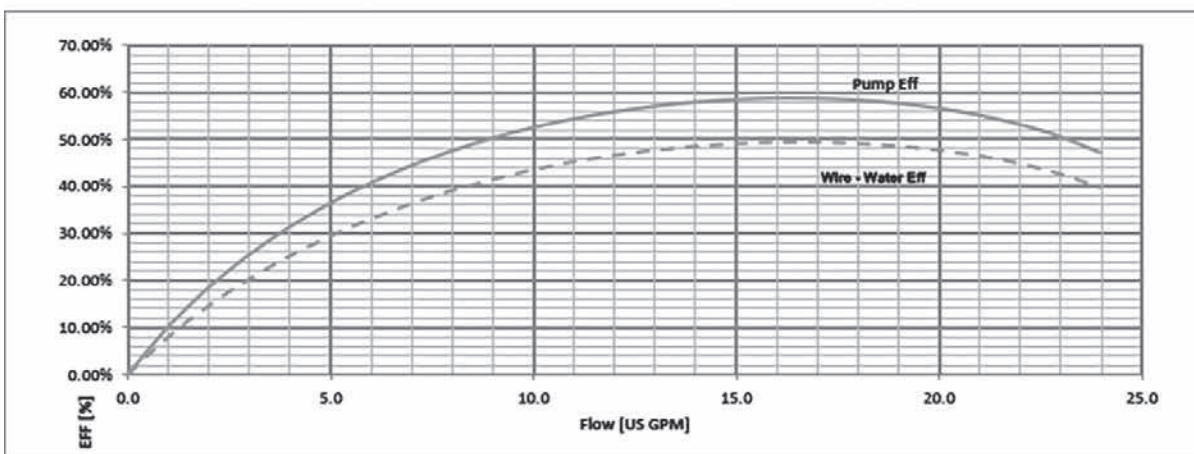
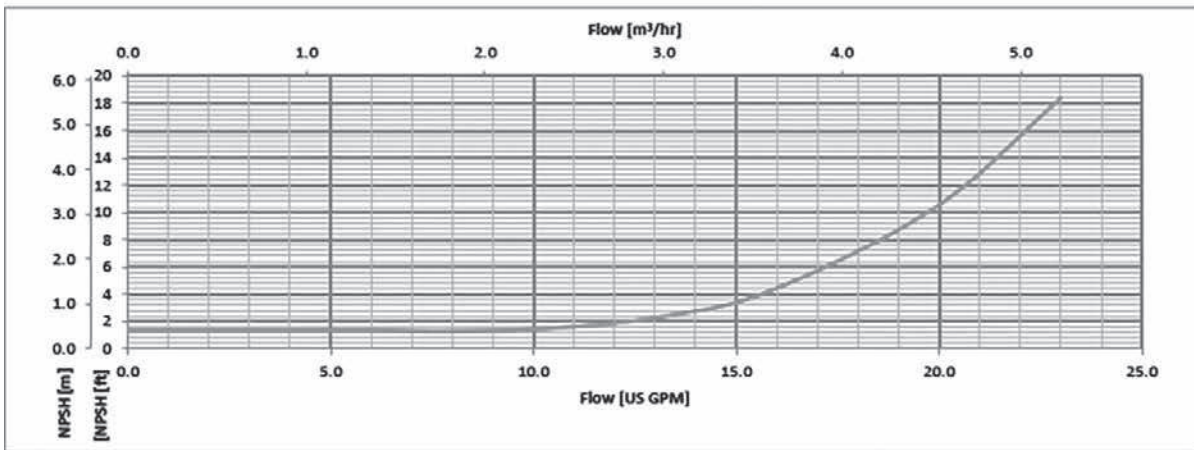
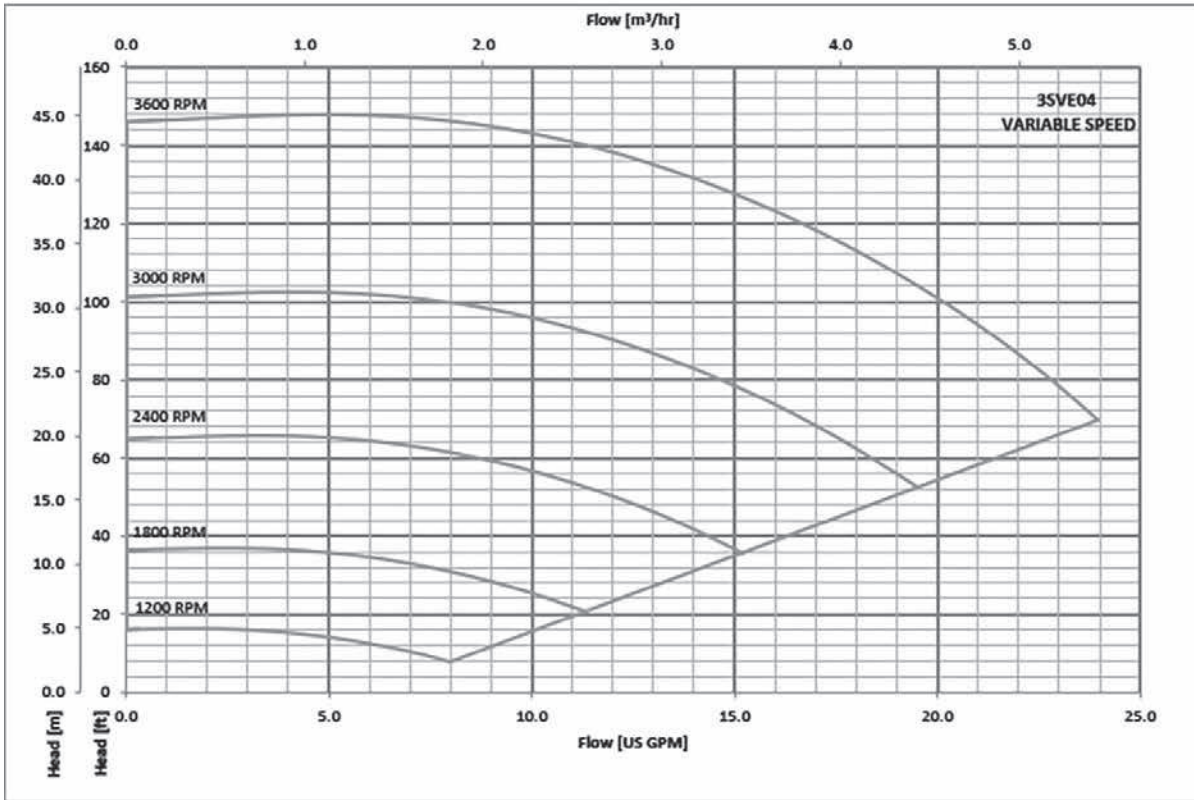
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVE SERIES OPERATING CHARACTERISTICS



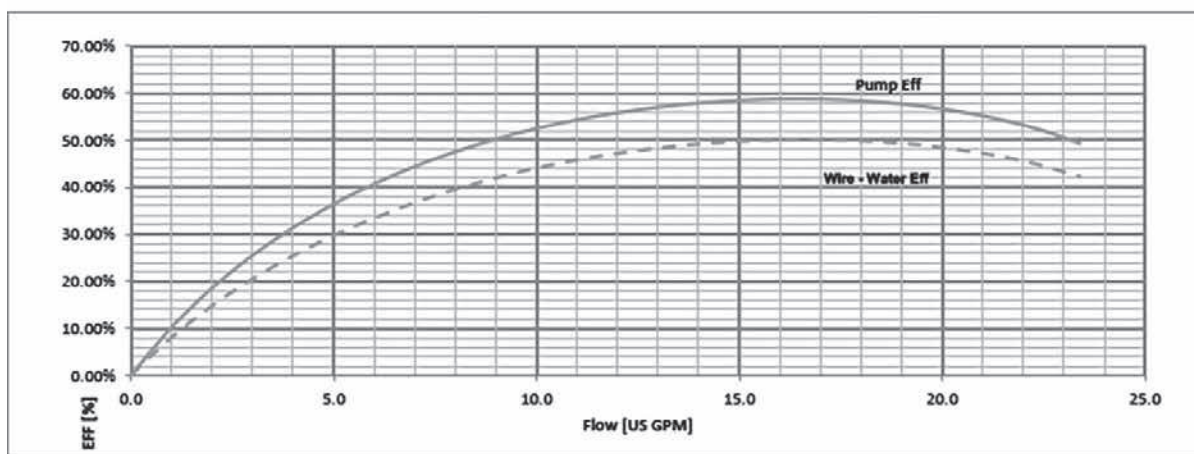
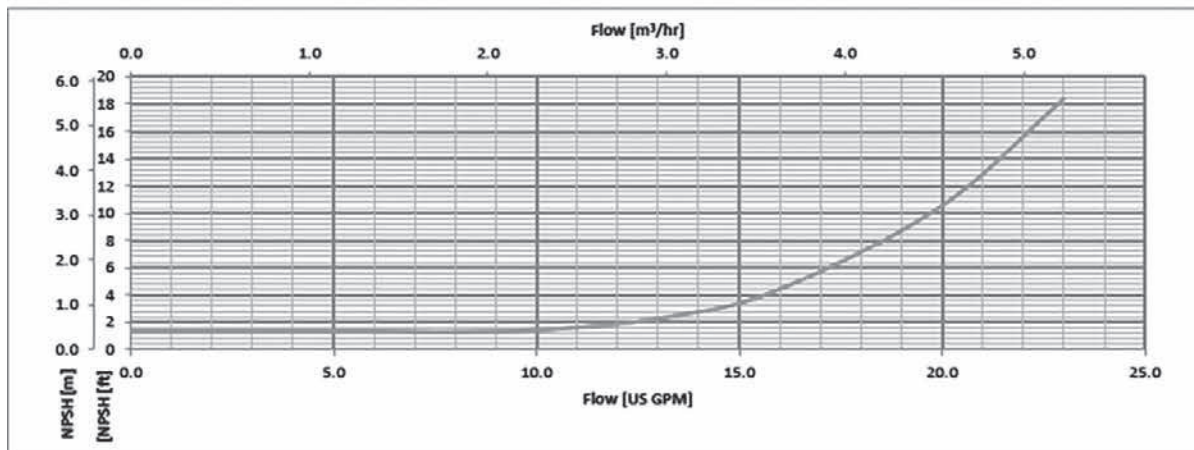
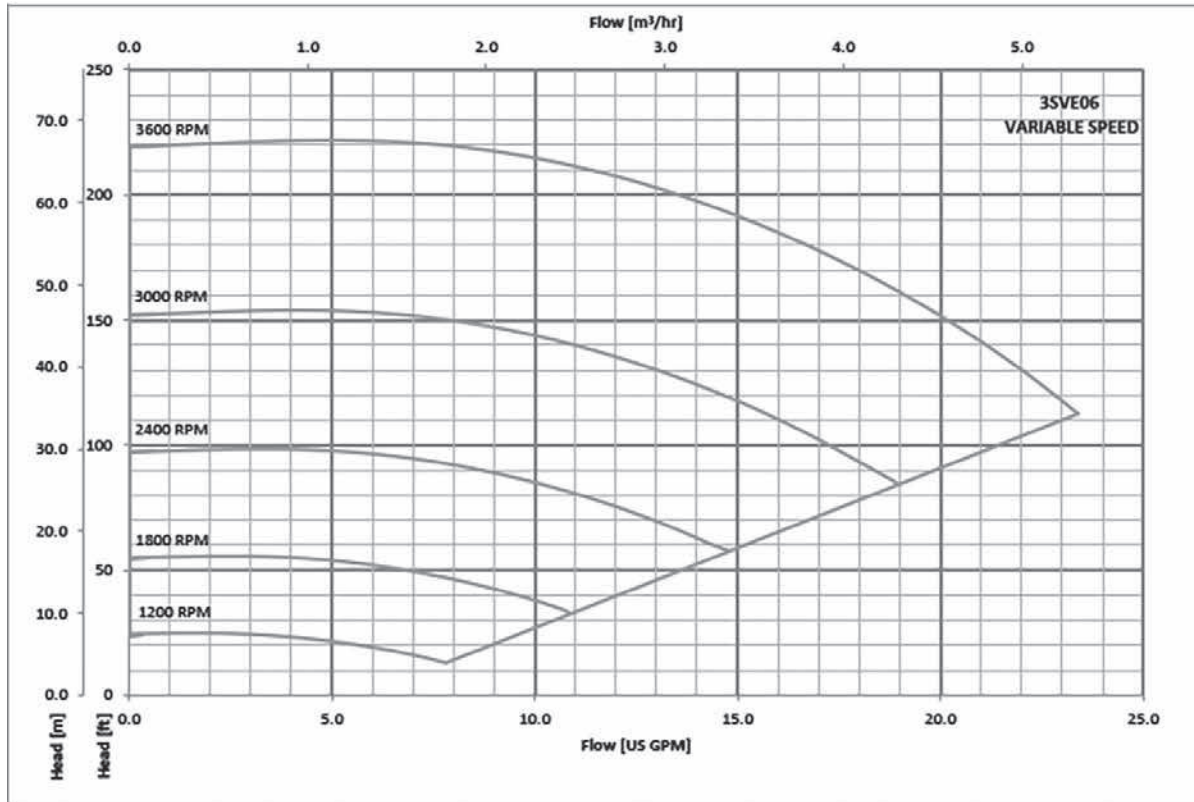
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVE SERIES OPERATING CHARACTERISTICS



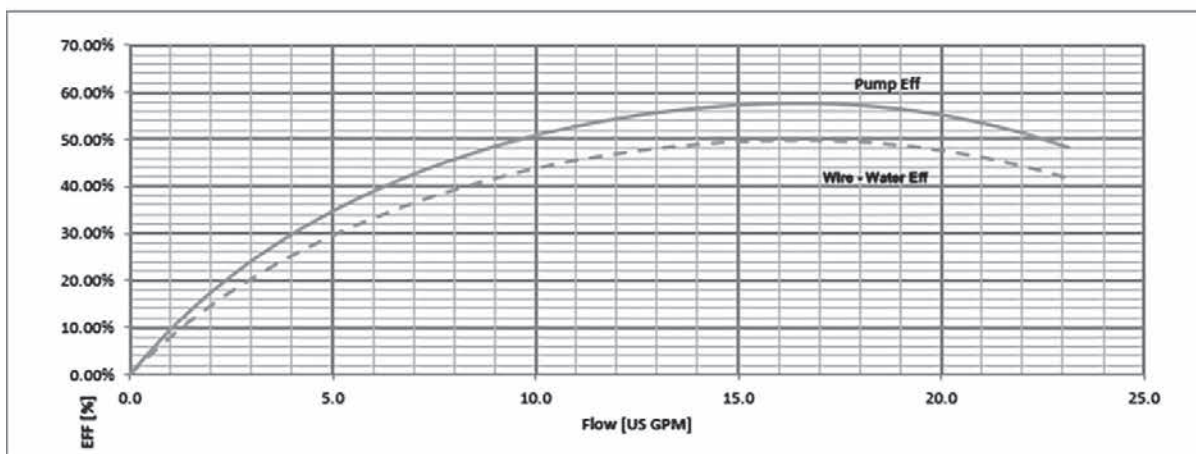
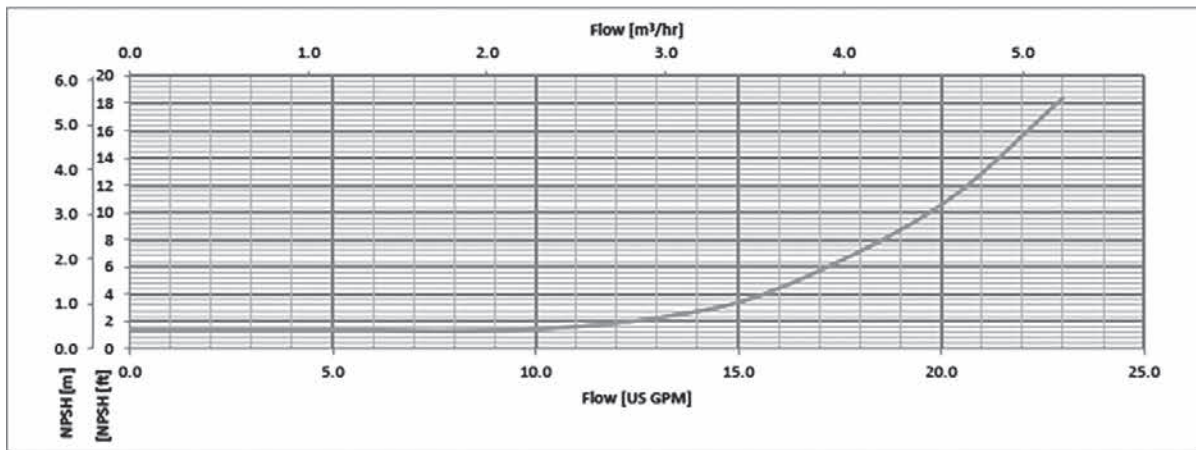
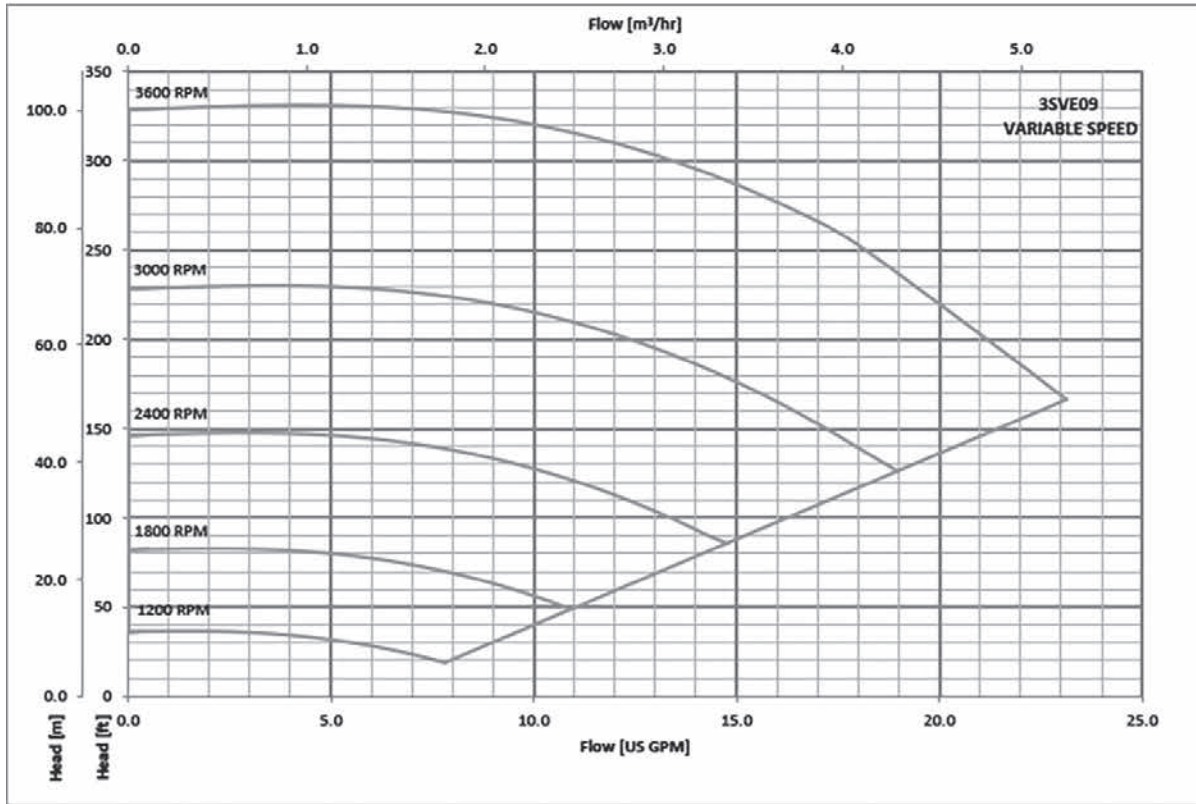
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVE SERIES OPERATING CHARACTERISTICS



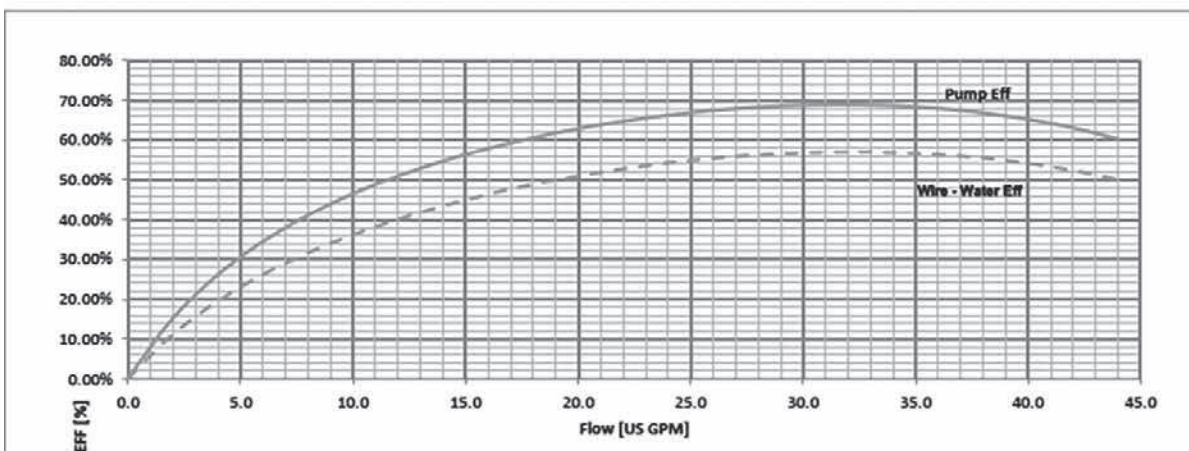
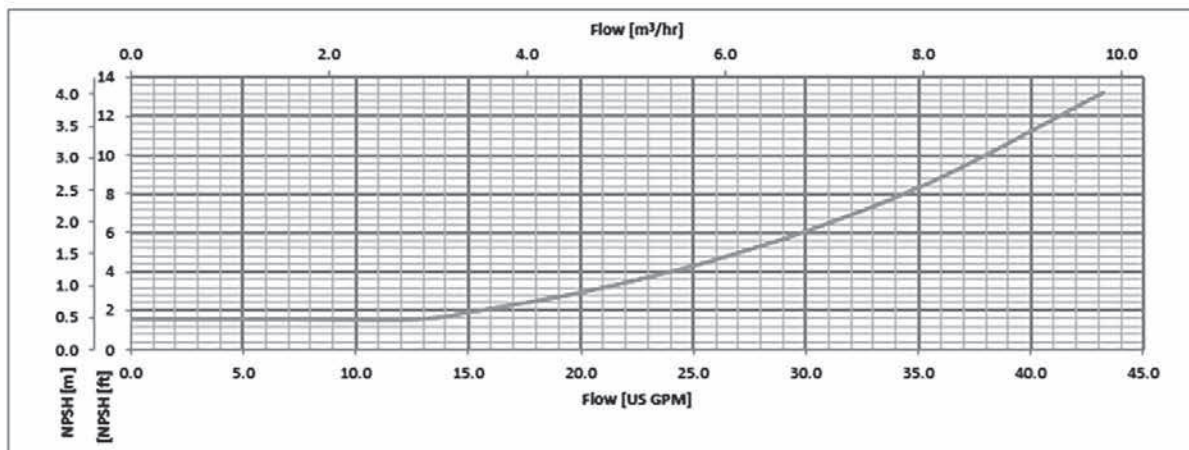
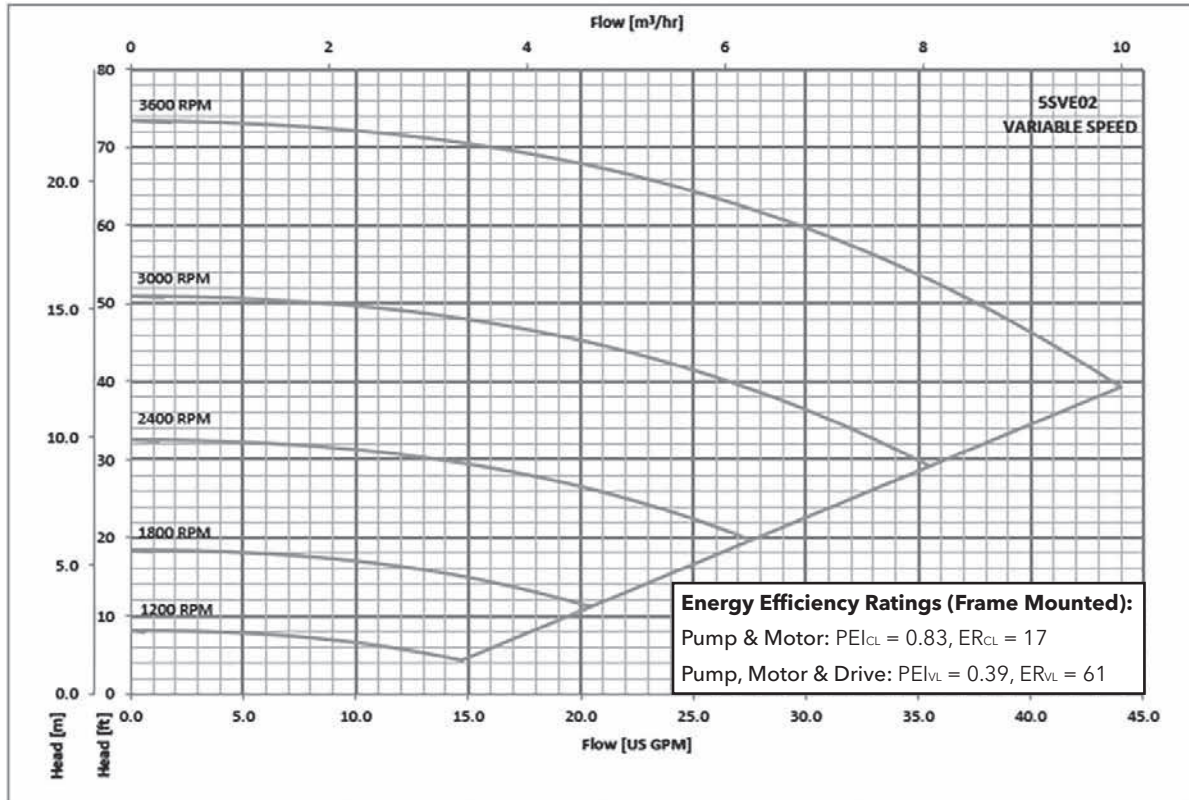
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVE SERIES OPERATING CHARACTERISTICS



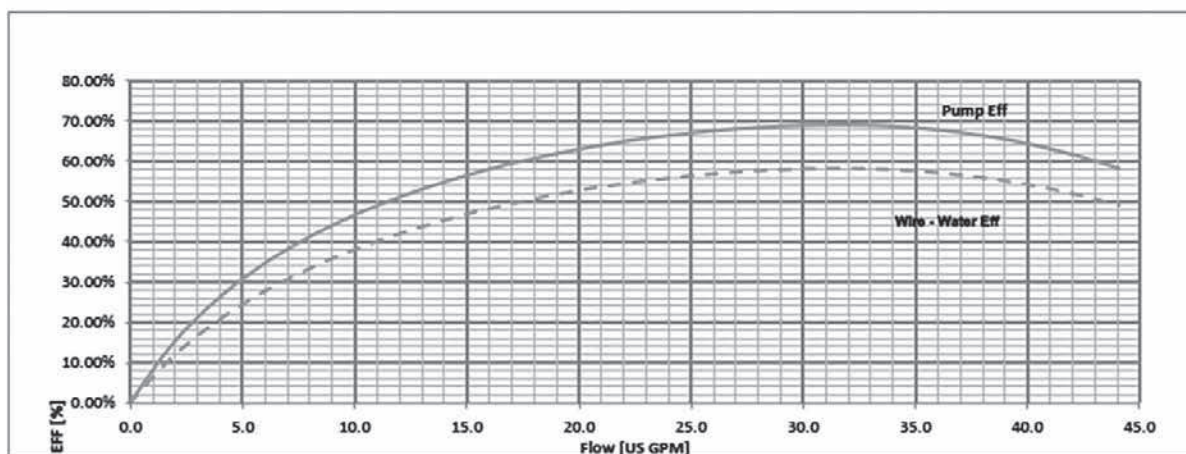
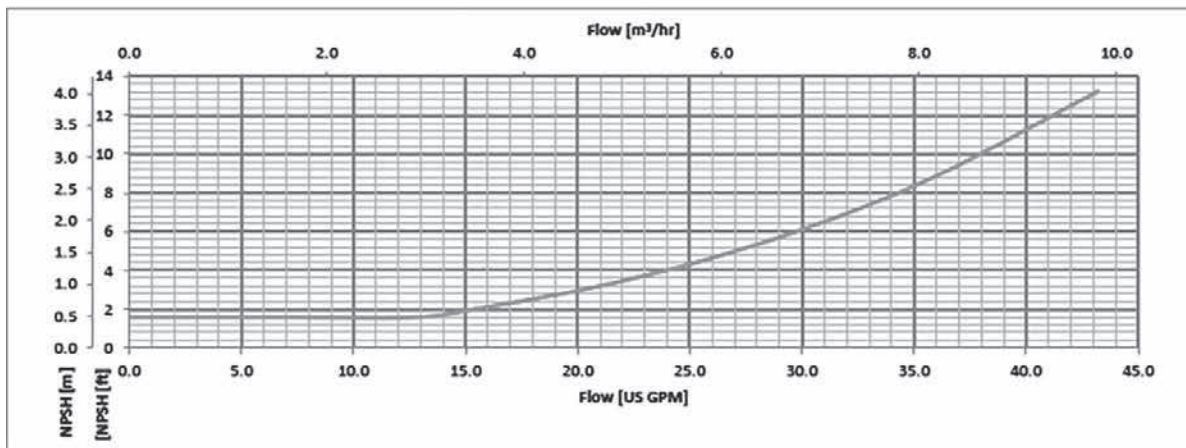
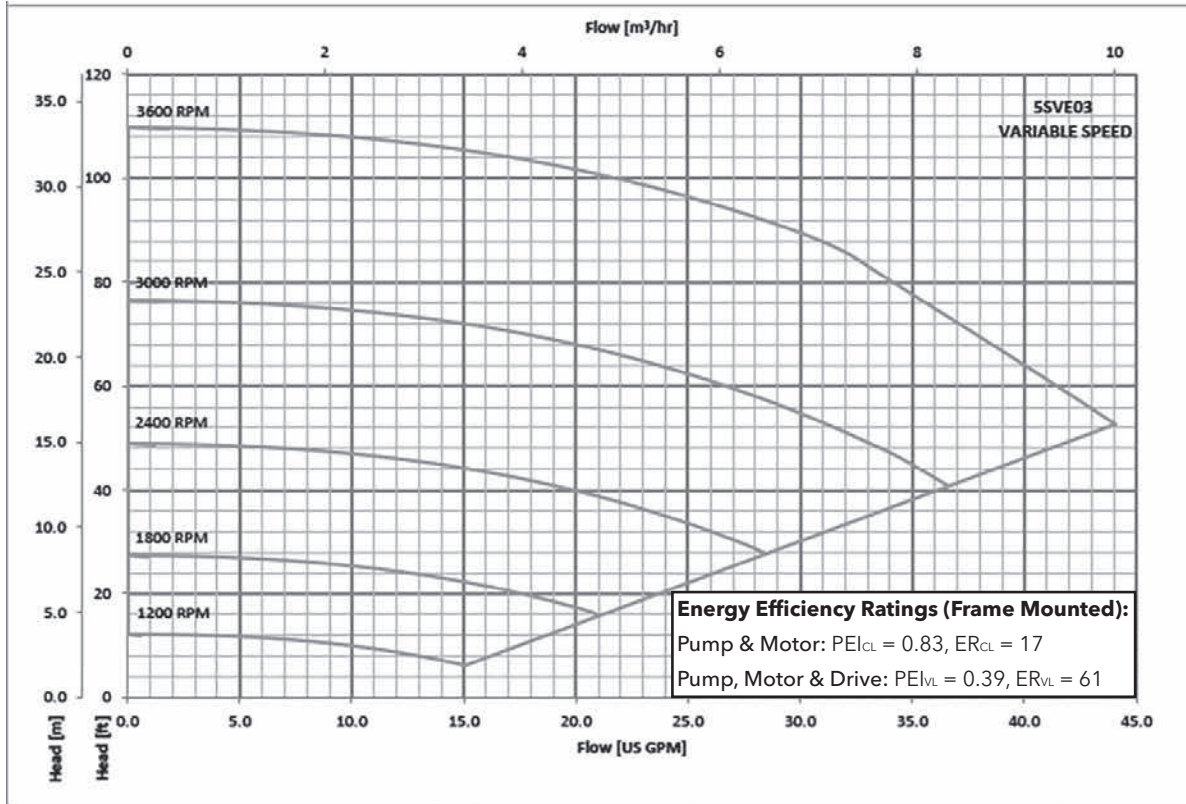
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVE SERIES OPERATING CHARACTERISTICS



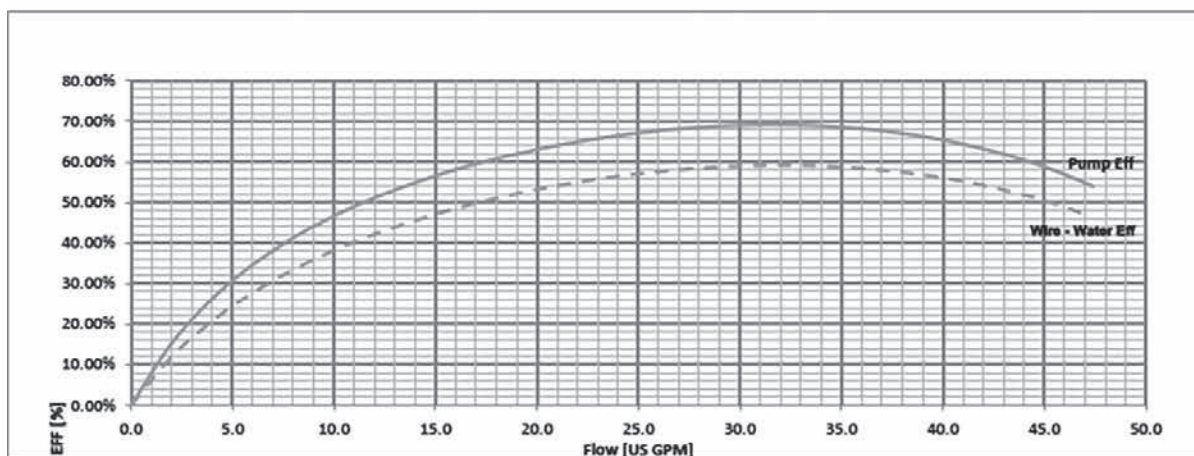
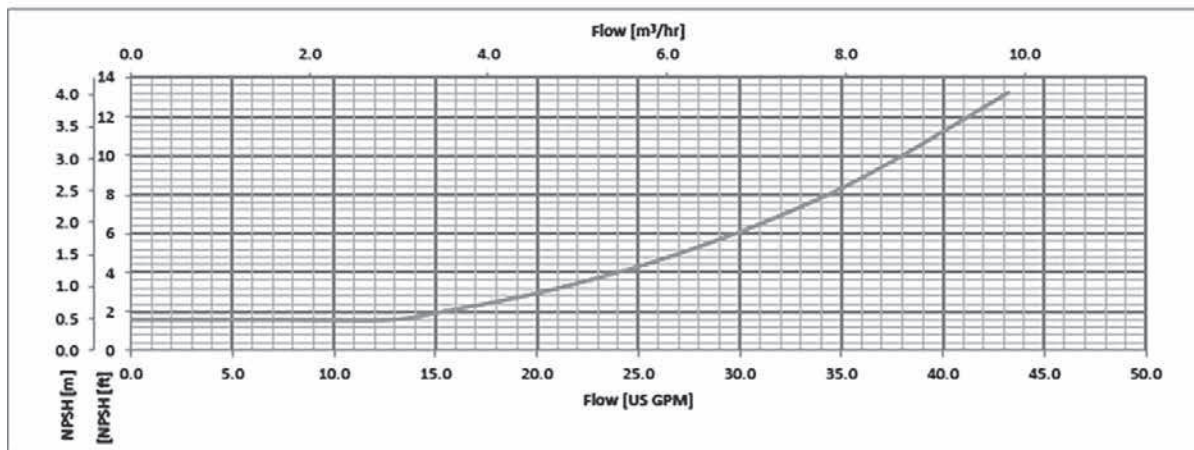
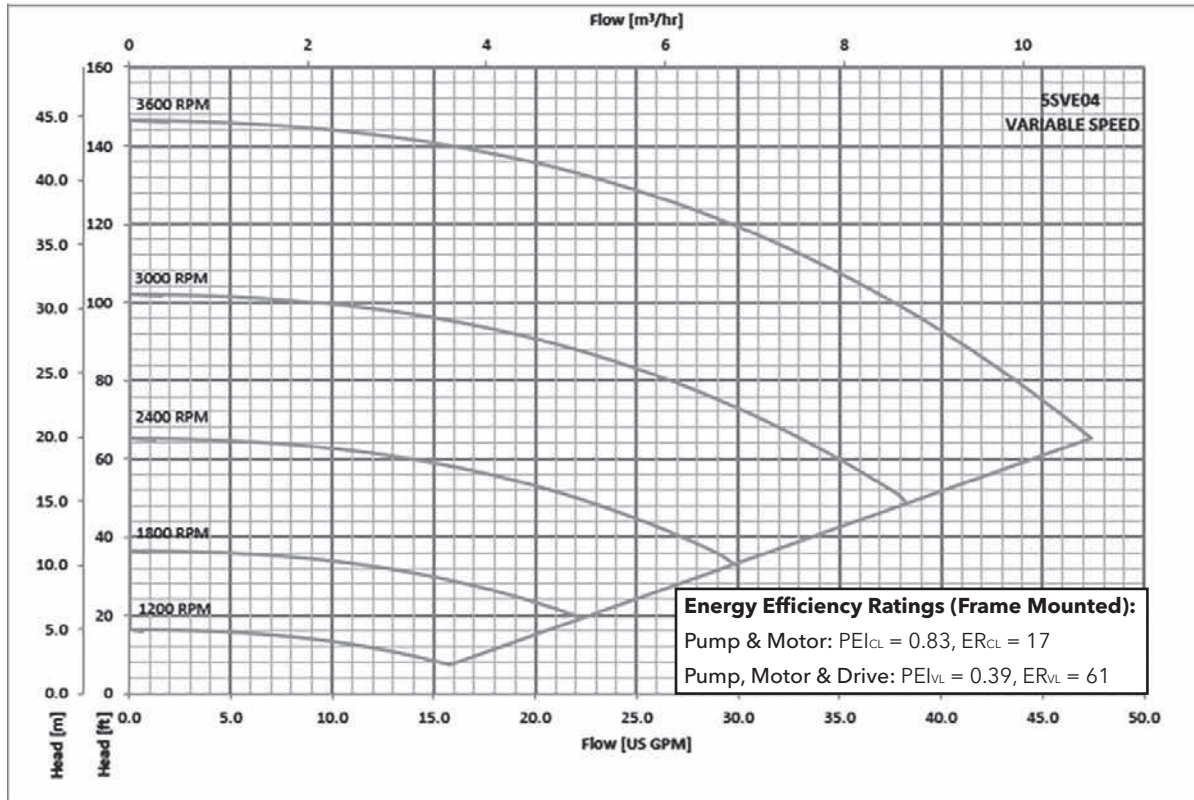
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVE SERIES OPERATING CHARACTERISTICS



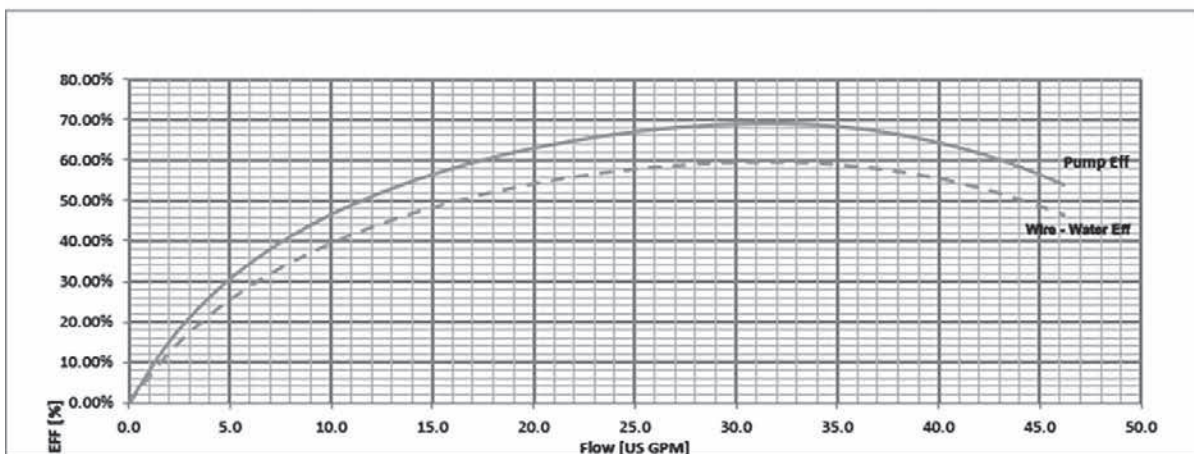
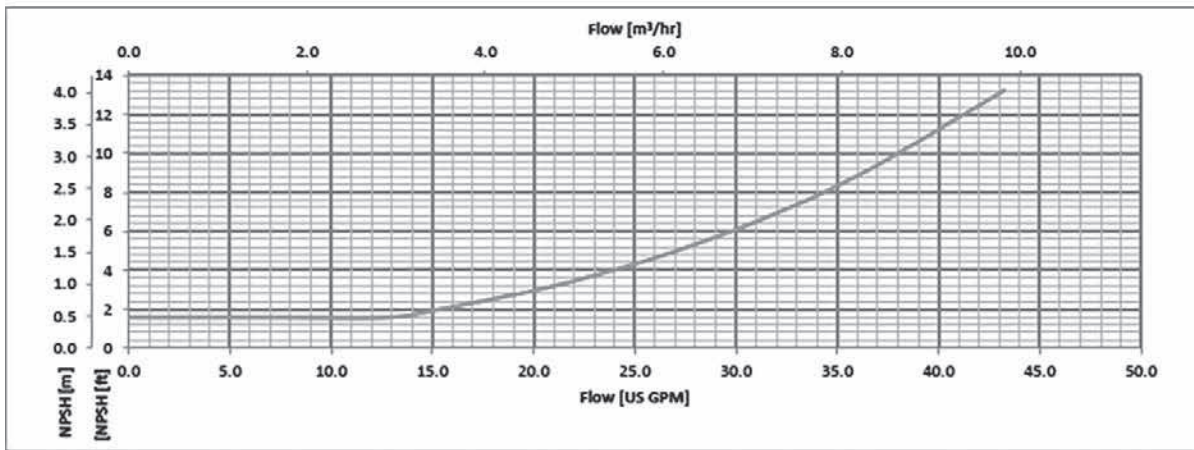
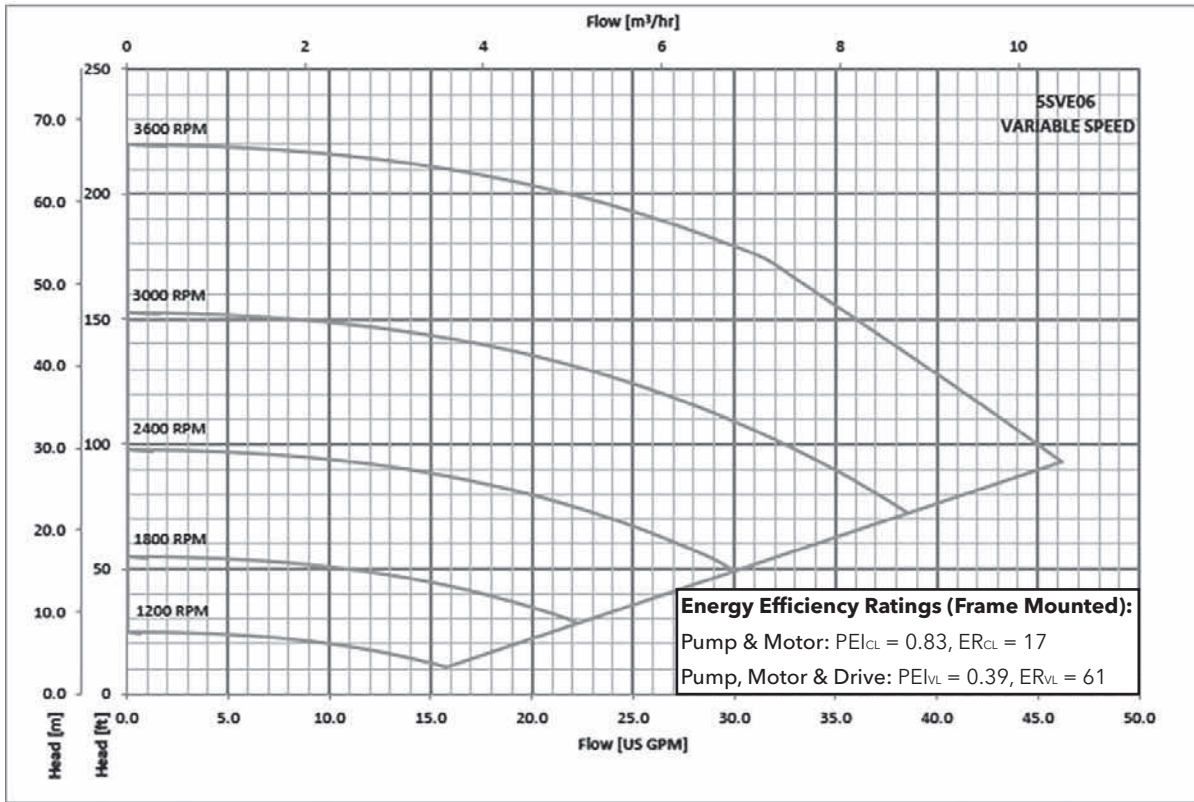
The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

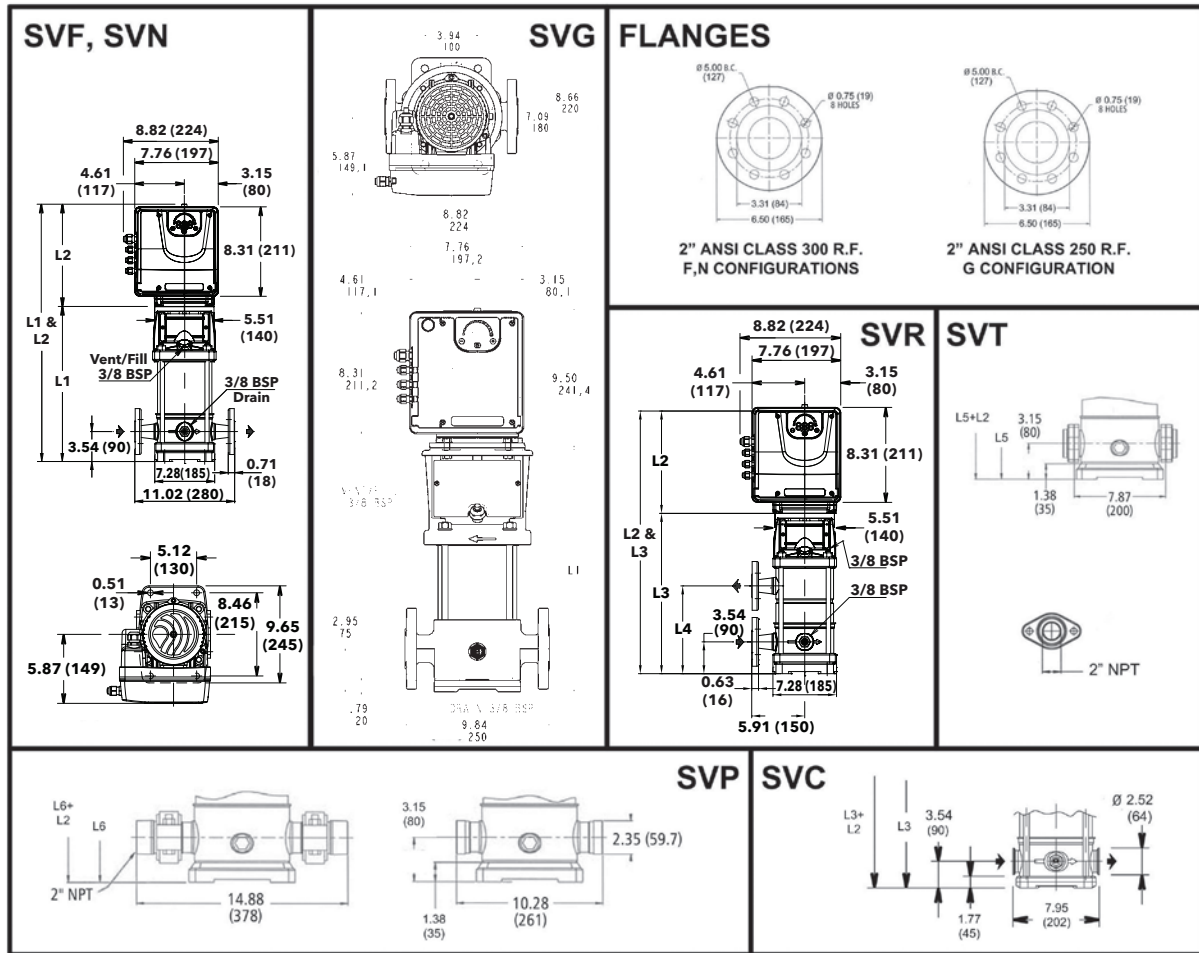
5SVE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

Commercial Water

10 SVE SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS



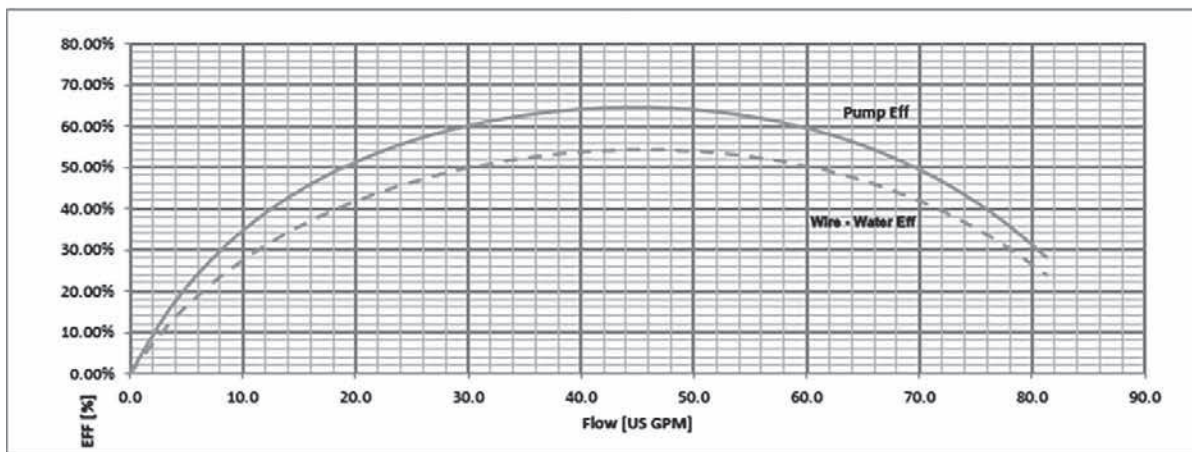
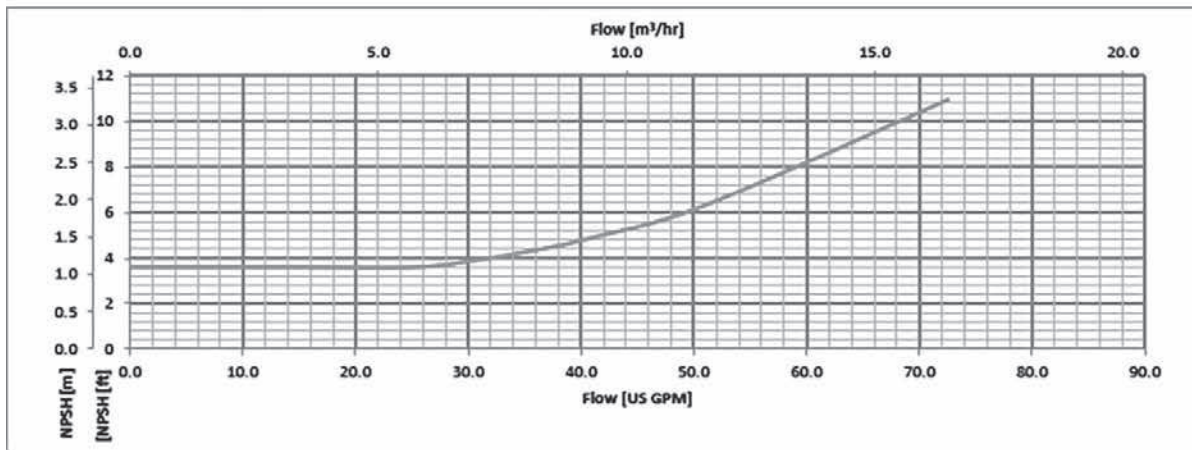
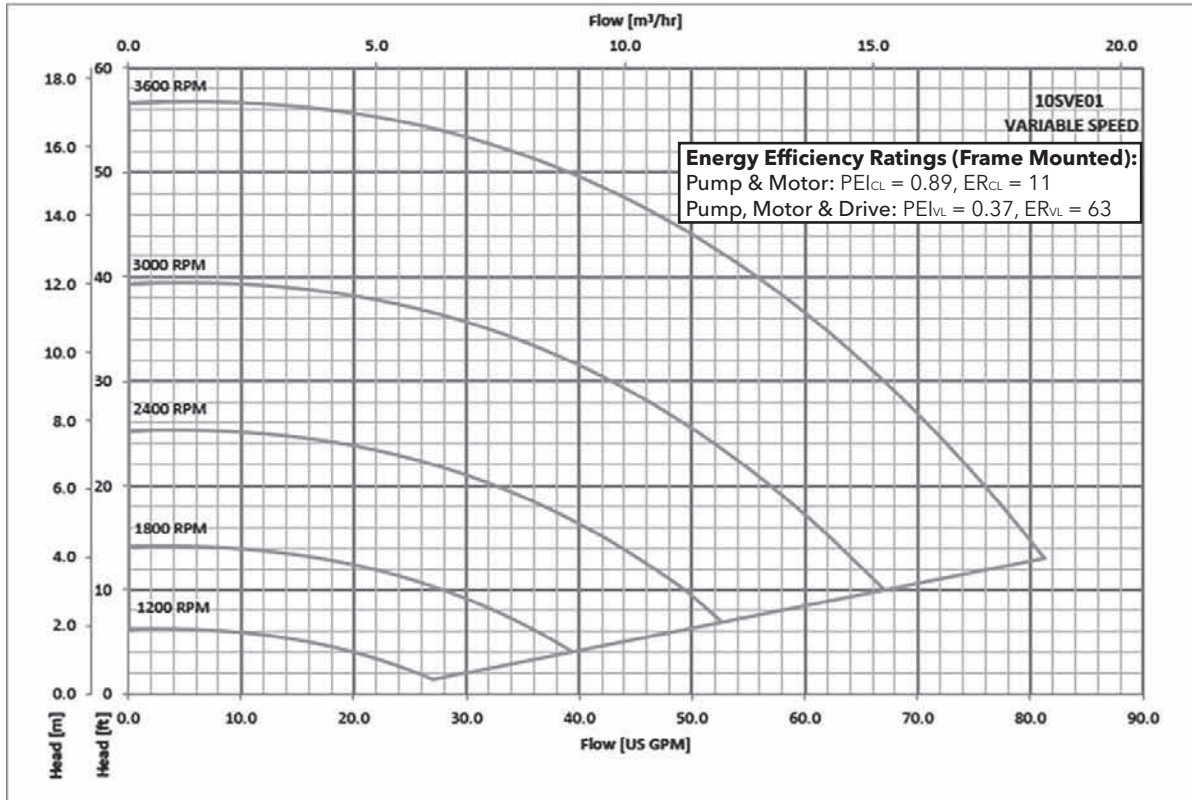
All dimensions are in inches (mm).

10SV SERIES – 60 HZ, 3600 RPM TEFC ENCLOSURES

Pump Type Stages	Motor		Dimensions (in)									Weight (lbs)		
	P _N (HP)	Type 1 x 208-240 V	L1	L2	L3	L4	L5	L6	M (Ref.)	D1 (max.)	D2	Pump Only	Motor	Pump/Motor
10SVE1N07MM1	1	ESM90R/107 56C	16.56	9.53	-	-	16.17	16.17	5.19	5.20	6.50	36	17	53
10SVE2N15MM1	2	ESM90R/115 56C	16.56	9.53	-	-	16.17	16.17	5.74	5.20	6.50	38	20	58

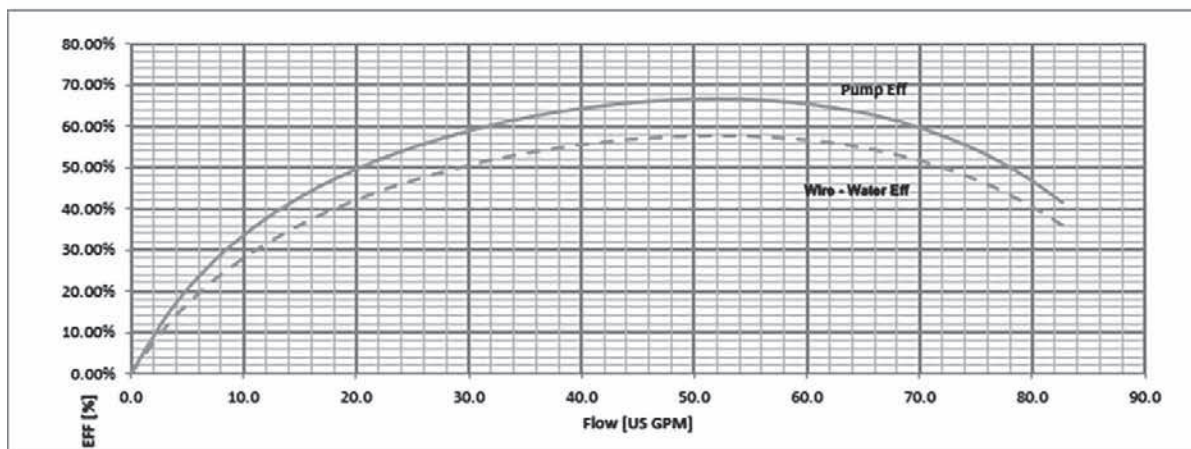
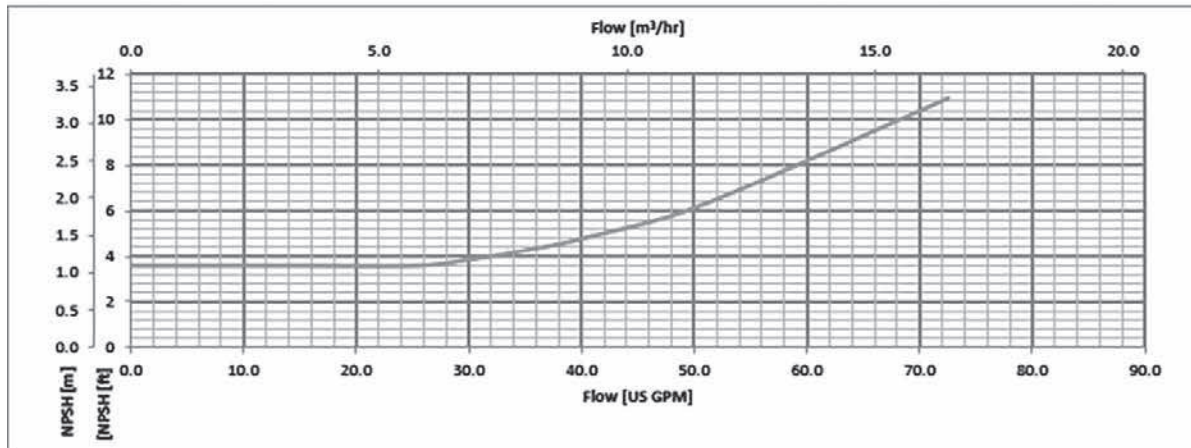
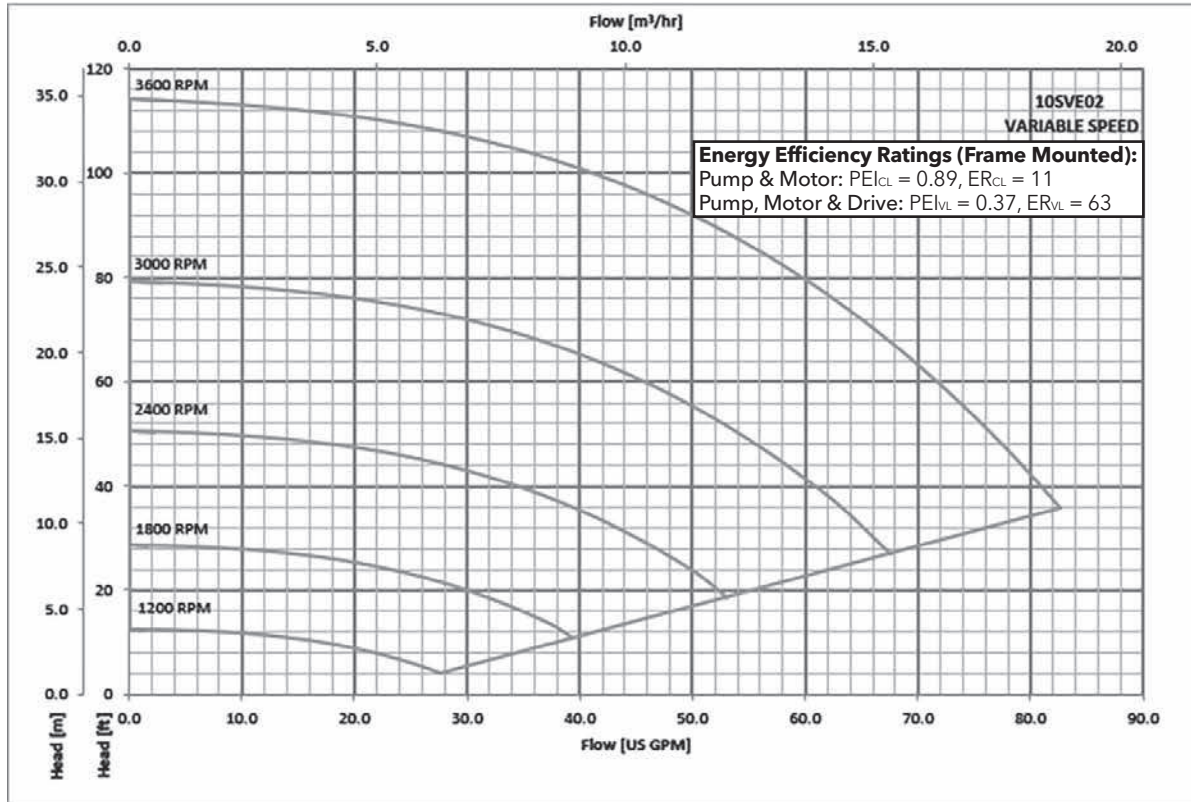
* Maximum value in specified range; PN = HP Rating; P1 = input power; I = input current.

10SVE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

10SVE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.