

**ENERGY SAVING CENTRIFUGAL PUMPS FOR:**

**ACID / AQUEOUS / CAUSTIC  
CHEMICAL / ETCHING / PHOTOGRAPHIC  
PLATING / SCRUBBING / WASTES**

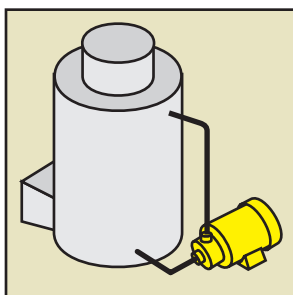


- **Flows to 175 U.S. GPM or 130 ft. TDH @ 60 Hz**  
(552 LPM or 28 M @ 50 Hz)
- **Non-metallic solution contact**  
High temperature polypropylene, CPVC, PVDF or ECTFE (*Refer to a chemical resistance chart*)
- **Single or double mechanical seal,**  
carbon/ceramic, or silicon carbide with EPDM or Viton® elastomers
- **Centrifugal - quiet, vibration-free**
- **NPT or metric connections available**
- **Pump casing indexes to six directions of discharge**
- **Chemical duty motor (1.0 - 7.5 HP)**  
Sealed oversized bearings, liquid/vapor seal and slinger, cast iron end bells, corrosion resistant two-part epoxy finish, stainless steel nameplate, 1.15 service factor at 50 or 60 Hz.

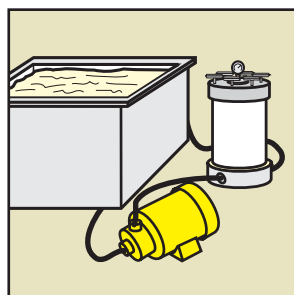
Here is a pump capable of "total" chemical resistance, both internally and externally with its non-metallic construction of all wetted components, choice of seal assembly and elastomer materials. The use of engineered plastics in a choice of materials provide excellent chemical compatibility for the most demanding applications.

The totally enclosed impeller is molded to close tolerances which allow this pump to operate at peak horsepower efficiency across a broad range of operational flow/head requirements

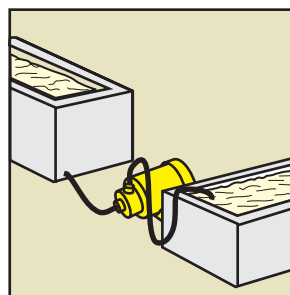
The external mechanical seal and impeller sleeve design isolates metal components to provide non-metallic solution contact with the pumped solution. The standard (M8) seal assembly has silicon carbide seal faces and is the most durable and longest lasting mechanical seal available. The double mechanical seal models require water lubrication of the seal faces and allows the pump to be used for solutions containing abrasives, high salt concentrations and for electroless plating solutions. Either Viton or EPDM elastomers are available on the 'HE' pump.



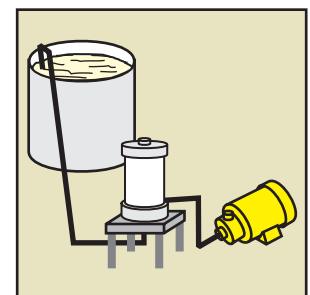
**PRESSURE  
SPRAYING**



**FILTER  
SYSTEM**



**WASTE  
TREATMENT**



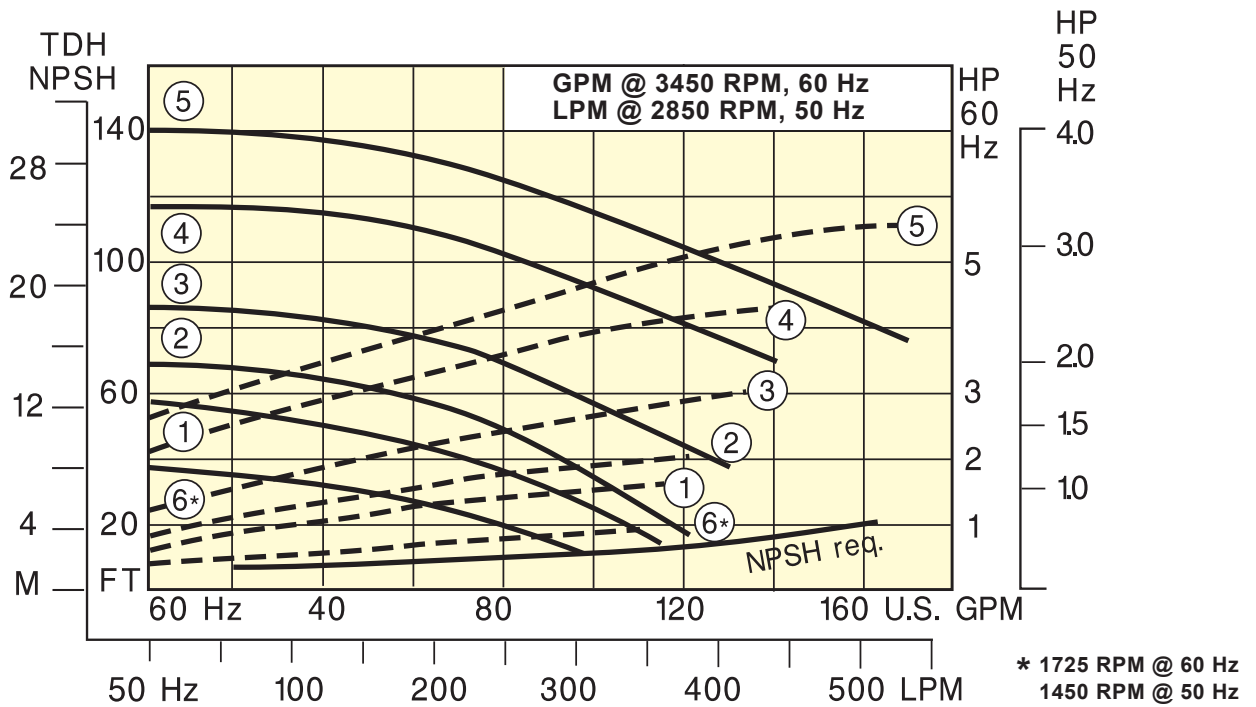
**SOLUTION TRANSFER  
w/PRIMING CHAMBER**



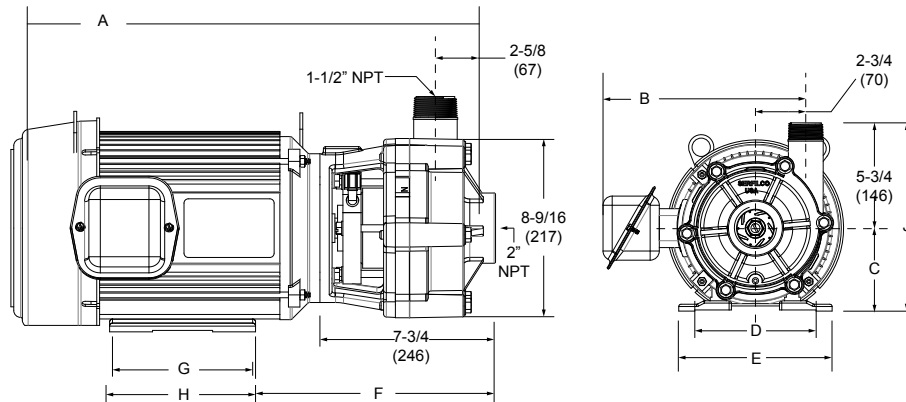
# SERIES 'HE' | Specifications and Performance Curves

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2900 MacArthur Blvd. Northbrook, IL. USA 60062 [www.serfilco.com](http://www.serfilco.com) (800) 323 - 5431



## DIMENSIONS in inches (mm)



DIMENSIONS for NEMA motors are in inches and those for metric motors are in mm.

| DIMENSIONS for NEMA motors are in inches and those for metric motors are in mm. |                      |       |      |     |     |      |       |     |      |       | MOTOR<br>WT.* |
|---|----------------------|-------|------|-----|-----|------|-------|-----|------|-------|---------------|
|   | MOTOR HP             | A     | B    | C   | D   | E    | F     | G   | H    | J     | Lbs.          |
| NEMA  | 1.5 (& 1 @ 1725 RPM) | 16.94 | 8.63 | 3.5 | 5.5 | 6.75 | 10.5  | 4   | 4.75 | 9.25  | 43            |
|   | 2 (& 1.5 @ 1725 RPM) | 18    | 8.63 | 3.5 | 5.5 | 6.75 | 10.5  | 5   | 5.75 | 9.25  | 44            |
|   | 3                    | 19.63 | 9.63 | 4.5 | 7.5 | 9    | 11.25 | 4.5 | 5.5  | 10.25 | 50            |
|   | 5                    | 21    | 9.63 | 4.5 | 7.5 | 9    | 11.25 | 5.5 | 6.5  | 10.25 | 65            |
|   | 7.5                  | 21    | 9.63 | 4.5 | 7.5 | 9    | 11.25 | 5.5 | 6.5  | 10.25 | 110           |
| METRIC  | MOTOR KW             | A     | B    | C   | D   | E    | F     | G   | H    | J     | Kg.           |
|   | 1.5 (90S frame)      | 496   | 212  | 90  | 140 | 170  | 307   | 100 | 125  | 236   | 23            |
|   | 2.2 (90L frame)      | 521   | 212  | 90  | 140 | 170  | 307   | 125 | 150  | 236   | 25            |
|   | 3.0 (100 frame)      | 549   | 236  | 100 | 160 | 197  | 314   | 140 | 172  | 246   | 30            |

\*For shipping weight, add 15 lbs (6.8 Kg.) to motor weight.



Standard models are constructed of CPVC, polypropylene, PVDF, or ECTFE with threaded connections. The motor shaft is protected by the impeller sleeve assembly. Elastomers are EPDM or Viton. Impellers are enclosed. The mechanical seal is type 21, externally mounted with stainless steel components not in solution contact. A double mechanical seal is recommended for solutions

containing abrasives and for high temperature or other critical service. Close coupled motors are NEMA 'JM' or metric (IEC) standard. The motors designated NEMA can operate on 50 or 60 Hz at full rated horsepower. Consult Application Engineering Department for BSP fittings or adapters.

## ORDERING INFORMATION

**For standard CPVC, PP, PVDF, and ECTFE pump-motor combination, select model from TABLE 1.**  
**For other pump-motor combinations, select from TABLE II.**

**TABLE I STANDARD MODELS**

Select flow curve number providing the desired performance. Then match to Model Number listed below. Standard models include silicon carbide single mechanical seal with EPDM or Viton elastomers. Motor HP is non-overloading at full capacity with 1.1 specific gravity fluids.

| FLOW CURVE NO. | CPVC/EPDM              | PRICE CODE NUMBER | POLYPROPYLENE**/EPDM   | PRICE CODE NUMBER |
|----------------|------------------------|-------------------|------------------------|-------------------|
|                | MODEL NO.              |                   | MODEL NO.              |                   |
| 1              | H2 x 1½ CE1L(M8) -D1.5 | 42-0110-A         | H2 x 1½ PE1L(M8) -D1.5 | 42-0410-A         |
| 2              | H2 x 1½ CE2L(M8) -D2.0 | 42-0120-B         | H2 x 1½ PE2L(M8) -D2.0 | 42-0420-B         |
| 3              | H2 x 1½ CE3L(M8) -D3.0 | 42-0130-C         | H2 x 1½ PE3L(M8) -D3.0 | 42-0430-C         |
| 4              | H2 x 1½ CE4L(M8) -D5.0 | 42-0140-D         | H2 x 1½ PE4L(M8) -D5.0 | 42-0440-D         |
| 5              | H2 x 1½ CE5L(M8) -D7.5 | 42-0150-E         | H2 x 1½ PE5L(M8) -D7.5 | 42-0450-E         |
| 6              | H2 x 1½ CE6L(M8) -H1.0 | 42-0160-F         | H2 x 1½ PE6L(M8) -H1.0 | 42-0460-F         |

| FLOW CURVE NO. | PVDF/Viton             | PRICE CODE NUMBER | ECTFE/EPDM             | PRICE CODE NUMBER |
|----------------|------------------------|-------------------|------------------------|-------------------|
|                | MODEL NO.              |                   | MODEL NO.              |                   |
| 1              | H2 x 1½ KE1V(M8) -D1.5 | 42-0318-A         | H2 x 1½ HE1L(M8) -D1.5 | 42-0610-A         |
| 2              | H2 x 1½ KE2V(M8) -D2.0 | 42-0328-B         | H2 x 1½ HE2L(M8) -D2.0 | 42-0620-B         |
| 3              | H2 x 1½ KE3V(M8) -D3.0 | 42-0338-C         | H2 x 1½ HE3L(M8) -D3.0 | 42-0630-C         |
| 4              | H2 x 1½ KE4V(M8) -D5.0 | 42-0348-D         | H2 x 1½ HE4L(M8) -D5.0 | 42-0640-D         |
| 5              | H2 x 1½ KE5V(M8) -D7.5 | 42-0358-E         | H2 x 1½ HE5L(M8) -D7.5 | 42-0650-E         |
| 6              | H2 x 1½ KE6V(M8) -H1.0 | 42-0368-F         | H2 x 1½ HE6L(M8) -H1.0 | 42-0660-F         |

\*\* Polypropylene models are glass reinforced

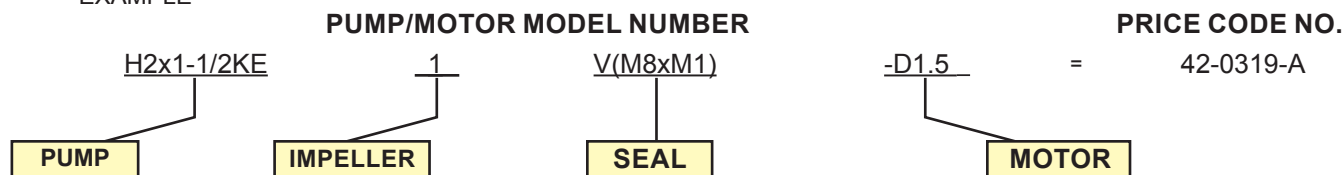


## TO ORDER FROM TABLE II

To determine pump-motor for a selected GPM, TDH and/or specific gravity, select flow/pressure point on curve. Required HP is determined by moving vertically to corresponding dotted line and then horizontally to HP scale. Multiply indicated HP by specific gravity. Select pump materials and mechanical seal(s) and construct Model and Price Code No.

**TABLE II**

EXAMPLE



| PUMP                      | PRICE CODE NO. |
|---------------------------|----------------|
| CPVC<br>H2 x 1-1/2CE      | 42-01          |
| PVDF<br>H2 x 1-1/2KE      | 42-03          |
| POLYPROP.<br>H2 x 1-1/2PE | 42-04          |
| ECTFE<br>H2X1-1/2HE       | 42-06          |

| FLOW CURVE NO. | ADD TO ... |       |
|----------------|------------|-------|
|                | MODEL NO.  | PRICE |
| 1              | 1          | 1     |
| 2              | 2          | 2     |
| 3              | 3          | 3     |
| 4              | 4          | 4     |
| 5              | 5          | 5     |
| 6              | 6          | 6     |

| 'O'-RING & MECHANICAL SEAL MATERIAL (SOLUTION CONTACT) | ADD TO ...   |                |
|--|--------------|----------------|
|  | MODEL NUMBER | PRICE CODE NO. |
| <b>SINGLE MECHANICAL SEAL</b>                          |              |                |
| EPDM CARBON/CERAMIC*                                   | L(M1)        | 1              |
| EPDM SILICON CARBIDE                                   | L(M8)        | 0              |
| VITON CARBON/CERAMIC*                                  | V(M2)        | 2              |
| VITON SILICON CARBIDE                                  | V(M8)        | 8              |
| <b>DOUBLE MECHANICAL SEAL**</b>                        |              |                |
| EPDM CARBON/CERAMIC*                                   | L(M1xM1)     | 5              |
| EPDM SILICON CARBIDE                                   | L(M8xM1)     | 4              |
| VITON CARBON/CERAMIC*                                  | V(M2xM1)     | 6              |
| VITON SILICON CARBIDE                                  | V(M8xM1)     | 9              |

| TEFC 208-230/460/3/60 or 190/380-415/3/50 |                 |                   |
|---|-----------------|-------------------|
| RPM                                       | NEMA MOTORS     |                   |
|   | ADD TO ...      |                   |
|   | HP MODEL NUMBER | PRICE CODE NUMBER |
| 3450<br>or<br>2850                        | D1.5            | A                 |
|   | D2.0            | B                 |
|   | D3.0            | C                 |
|   | D5.0            | D                 |
|   | D7.5            | E                 |
| 1725<br>or<br>1450                        | H1.0            | F                 |
|   | H1.5            | G                 |

\* Ceramic is silica free

\*\* ADRI-STOP pressure switch is available to prevent damage to pump due to dry operation; consult Bulletin A-105.

## OPTIONAL

| DESCRIPTION  | PRICE CODE NUMBER     |
|--|-----------------------|
| FLANGE CONNECTIONS                                       | CPVC 42-0200          |
| ANSI 150 Lbs. (ASA 150) 2"x1-1/2"                        | PVDF 42-0211          |
| (not installed)  | Polypropylene 42-0218 |
| STAINLESS STEEL SHAFT                                    | 42-0230               |
| METRIC PIPE ADAPTER SETS Consult Application Sales Dept. |                       |

| LONG COUPLED KIT           |                 |                   |
|----------------------------|-----------------|-------------------|
| MODEL                      | FOR MOTOR FRAME | PRICE CODE NUMBER |
| LCK-1                      | 182T & 184T     | 42-0201-A         |
| LCK-2                      | 143T & 145T     | 42-0202-A         |
| LCK-3                      | 56              | 42-0203-A         |
| LCK-4                      | 182 & 184       | 42-0205-A         |
| MOTOR MOUNTING & ALIGNMENT |                 | 42-0204           |

Long-coupled kit includes cast iron bearing pedestal frame, fiberglass reinforced channel (23-1/2" x 10" x 2-3/4"), flexible coupling and guard, and stainless steel shaft and fasteners. (Order pump separately)

