

ANSI DIMENSIONAL HEAVY DUTY CONSTRUCTION

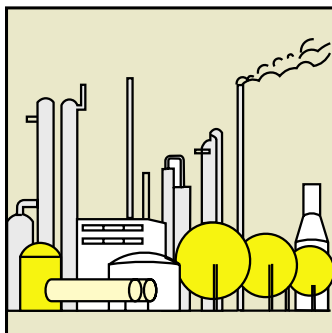
- **Flows to 1200 U.S. GPM or 155 ft. TDH @ 60 Hz (3800 l/min or 34 m @ 50 Hz)**
- **Excellent chemical resistance**
Machined from solid CPVC (Corzan®)
(Refer to a chemical resistance chart)
- **Centrifugal – quiet, vibration free**
- **Single or double mechanical seal**
with EPDM or Viton® elastomers
- **Long or close-coupled**
- **Chemical duty motor – standard**
Sealed oversized bearings, cast iron end bells, corrosion resistant two-part epoxy finish, stainless steel nameplate
- **8x6x13 pump in development for flows to 2400 U.S. GPM**
Consult sales department for availability

The Series 'HA' is a heavy-duty, ANSI dimensional horizontal pump engineered for utmost reliability in severe chemical applications. The pump is machined from solid CPVC and utilizes an externally mounted mechanical seal. The 3x2x6 and 4x3x8 pumps have sleeved shafts for non-metallic solution contact while the 4x3x10 and 6x4x10 pumps utilize titanium or Hastelloy C shafts. This proven design provides excellent resistance to aggressive chemicals as well as economical and reliable operation for many years of service.

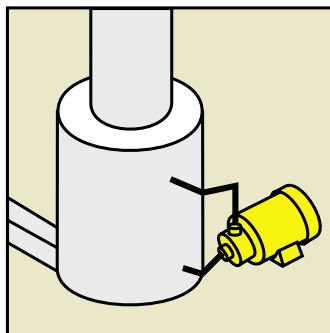
The Series 'HA' horizontal pump is available in four sizes with flow rates to 1200 U.S. GPM (3800 LPM),

and is available with single or double mechanical seals and EPDM or Viton elastomers. Larger sized pumps designed to achieve 2400 U.S. GPM are in development. The standard configuration for these pumps is close coupled, however certain models are available long-coupled.

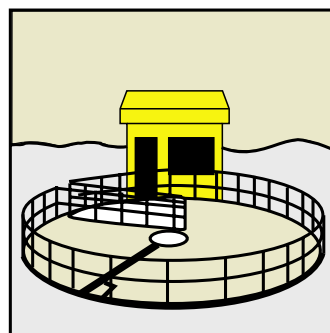
The Series 'HA' pump with its high flow rates, chemical resistance and durability makes it the perfect "workhorse" for chemical processing, transfer and filter pumping, fume scrubbers and cooling towers or for waste treatment applications.



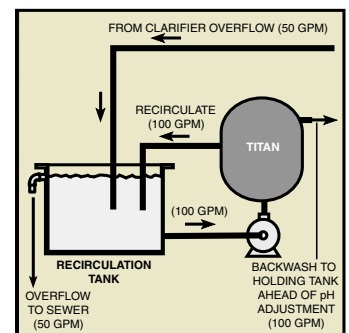
PETROCHEMICAL



FUME SCRUBBING
COOLING TOWER



WASTE TREATMENT



FILTER SYSTEM

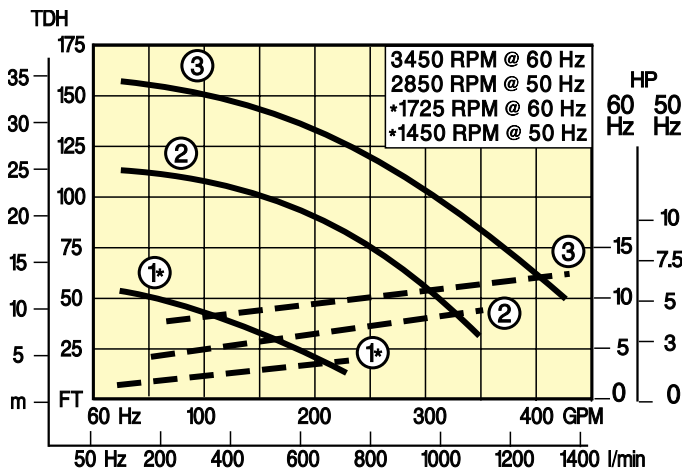
SERIES 'HA' Specifications and Performance Curves

Pumps are machined from solid CPVC. 3x2x6 and 4x3x8 pumps have CPVC sleeved shafts while 4x3x10 and 6x4x10 pumps have titanium shafts standard with Hastelloy C shafts optional. Elastomers are Viton or EPDM. All models have an enclosed impeller, externally mounted Type 21 mechanical seal with silicon carbide seal faces and ANSI 150 lb. flange connections. External hardware not in solution contact is stainless steel. Motor is painted with two-part epoxy paint.

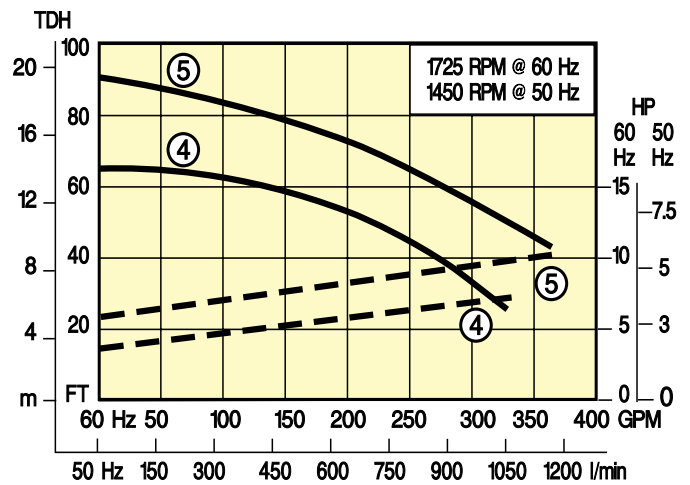
Single or double mechanical seals are available depending on the application. A double, water flushed mechanical seal is recommended for solutions containing abrasives, high temperatures or other critical service applications.

The standard configuration for Series 'HA' pumps is close coupled, however 3x2x6 and 4x3x8 pumps are also available long coupled. Pumps 20 HP and above are mounted on a 36"x15" steel baseplate.

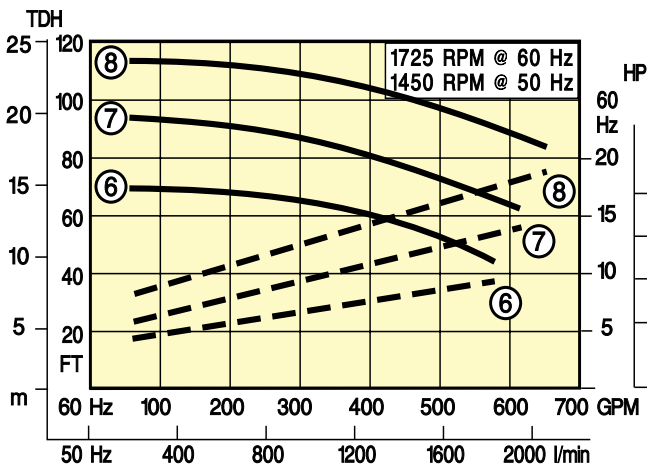
MODEL 3 x 2 x 6



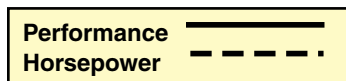
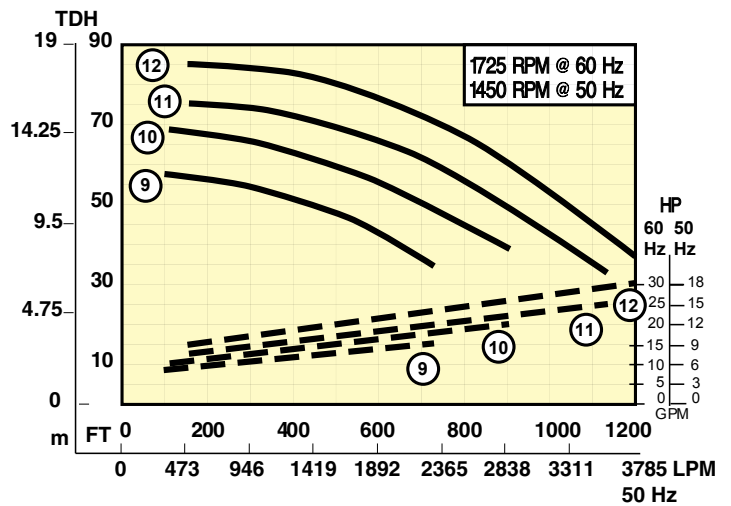
MODEL 4 x 3 x 8



MODEL 4 x 3 x 10

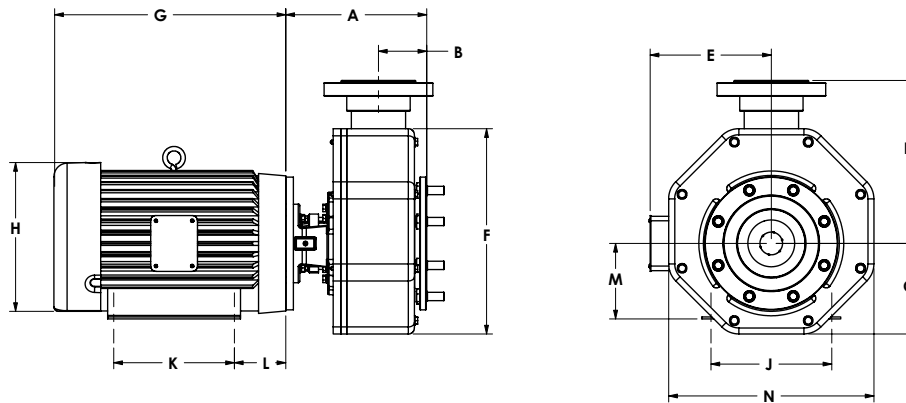


MODEL 6 x 4 x 10



SERIES 'HA' Specifications and Ordering Information

DIMENSIONS



| MODEL | MOTOR FRAME | HP | DIMENSIONS in. (mm) | | | | | | | | | | | |
|------------|-------------|------|--|--------|-------------------------------------|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|
| | | | A | B | C | D | E* | F&N | G* | H* | J | K | L | M |
| 3 x 2 x 6 | 182TC | 3.0 | 10 ¹ / ₁₆ (260) | 4(102) | 8 ¹ / ₄ (210) | 8 ¹ / ₄ (210) | 5.8(147) | 12.0(305) | 14.0(356) | 8.7(221) | 7.5(191) | 4.5(114) | 2.8(71) | 4.5(114) |
| | 184TC | 5.0 | | | | | | | | | | 5.5(140) | | |
| | 213TC | 7.5 | 10 ¹ / ₁₆ (260) | 4(102) | 8 ¹ / ₄ (210) | 8 ¹ / ₄ (210) | 7.3(184) | 12.0(305) | 15.5(394) | 10.3(262) | 8.5(216) | 5.5(140) | 3.5(89) | 5.3(135) |
| | 215TC | 10.0 | | | | | | 16.6(422) | 16.6(422) | 7.0(178) | | 7.0(178) | | |
| | 215TC | 15.0 | 10 ¹ / ₁₆ (260) | 4(102) | 8 ¹ / ₄ (210) | 8 ¹ / ₄ (210) | 7.3(185) | 12.0(305) | 16.6(422) | 10.3(262) | 8.5(216) | 7.0(178) | 3.5(89) | 5.3(135) |
| 4 x 3 x 8 | 213TC | 7.5 | 11 ⁹ / ₁₆ (294) | 4(102) | 8 ¹ / ₄ (210) | 11(279) | 7.3(185) | 15.5(394) | 15.5(394) | 10.3(262) | 8.5(216) | 5.5(140) | 3.5(89) | 5.3(135) |
| | 215TC | 10.0 | | | | | | 16.6(422) | 16.6(422) | 7.0(178) | | 7.0(178) | | |
| | 254TC | 15.0 | 11 ⁹ / ₁₆ (294) | 4(102) | 8 ¹ / ₄ (210) | 11(279) | 9.6(244) | 15.5(394) | 17.8(452) | 12.0(305) | 10.0(254) | 8.3(211) | 4.3(109) | 6.3(160) |
| 4 x 3 x 10 | 215TC | 10.0 | | | | | 7.3(185) | | 16.6(422) | 10.3(262) | 8.5(216) | 7.0(178) | 3.5(89) | 5.3(135) |
| | 254TC | 15.0 | 11 ⁹ / ₁₆ (254) | 4(102) | 8 ¹ / ₄ (210) | 11(279) | 9.6(244) | 15.5(394) | 17.8(452) | 12.0(305) | 10.0(254) | 8.3(211) | 4.3(109) | 6.3(160) |
| | 256TC | 20.0 | | | | | 9.6(244) | | 20.0(508) | 12.0(305) | 10.0(254) | 10.0(254) | 4.3(109) | 6.3(160) |
| 6 x 4 x 10 | 254TC | 15.0 | | | | | 9.6(244) | | 17.8(452) | 12.0(305) | 10.0(254) | 8.3(211) | 4.3(109) | 6.3(160) |
| | 256TC | 20.0 | | | | | 9.6(244) | | 20.0(508) | 12.0(305) | 10.0(254) | 10.0(254) | 4.3(109) | 6.3(160) |
| | 284TC | 25.0 | 11 ¹¹ / ₁₆ (297) | 4(102) | 10(254) | 13 ¹ / ₂ (343) | 13.1(333) | 17.0(432) | 21.6(549) | 14.0(356) | 11.0(279) | 9.5(241) | 4.8(121) | 7.0(178) |
| | 286TC | 30.0 | | | | | 13.1(333) | | 21.6(549) | 14.0(356) | 11.0(279) | 11.0(279) | 4.8(121) | 7.0(178) |

* Motor dimensions will vary with motor manufacturer

TO ORDER, use Price Code Number

TABLE I STANDARD MODEL

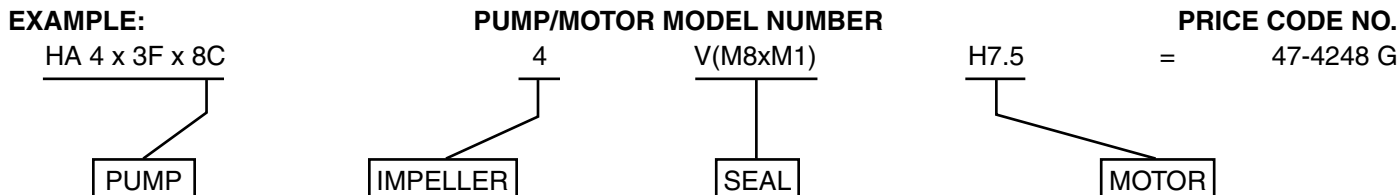
To order standard pump-motor combination select model from Table I. Standard models include CPVC sleeved or titanium shaft, single mechanical seal and Viton elastomers.

| MODEL | FLOW CURVE | MODEL NUMBER | MAXIMUM FLOW (GPM) | MAXIMUM TDH (Ft.) | PRICE CODE NO. 60 Hz |
|------------|------------|--------------------------------|--------------------|-------------------|----------------------|
| 3 x 2 x 6 | 1 | HA 3 x 2F x 6 C1V(M8)-H5.0 | 240 | 50 | 47-4117 F |
| | 2 | HA 3 x 2F x 6 C2V(M8)-D10.0 | 350 | 125 | 47-4127 P |
| | 3 | HA 3 x 2F x 6 C3V(M8)-D15.0 | 425 | 155 | 47-4137 L |
| 4 x 3 x 8 | 4 | HA 4 x 3F x 8 C4V(M8)-H7.5 | 325 | 65 | 47-4247 G |
| | 5 | HA 4 x 3F x 8 C5V(M8)-H10.0 | 370 | 90 | 47-4257 H |
| 4 x 3 x 10 | 6 | HA 4 x 3F x 10 CT6V(M8)-H10.0 | 600 | 70 | 47-4367 H |
| | 7 | HA 4 x 3F x 10 CT7V(M8)-H15.0 | 630 | 95 | 47-4377 S |
| | 8 | HA 4 x 3F x 10 CT8V(M8)-H20.0 | 650 | 110 | 47-4387 V |
| 6 x 4 x 10 | 9 | HA 6 x 4F x 10 CT9V(M8)-H15.0 | 820 | 60 | 47-4497 S |
| | 10 | HA 6 x 4F x 10 CT10V(M8)-H20.0 | 1000 | 75 | 47-4407 V |
| | 11 | HA 6 x 4F x 10 CT11V(M8)-H25.0 | 1120 | 85 | 47-4417 W |
| | 12 | HA 6 x 4F x 10 CT12V(M8)-H30.0 | 1300 | 95 | 47-4427 X |

SERIES 'HA' Specifications and Ordering Information

TABLE II OTHER MODELS

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 corresponding number dotted line. Read the required HP at right ordinate and multiply by S.G. Select pump, "O"-ring and seal, and motor to complete Model Number. Add corresponding number designations together to create Price Code Number.



| PUMP | PRICE CODE NO. |
|------------------|----------------|
| HA 3 x 2F x 6C | 47-41 |
| HA 4 x 3F x 8C | 47-42 |
| HA 4 x 3F x 10CT | 47-43 |
| HA 6 x 4F x 10CT | 47-44 |

| FLOW CURVE NO. | ADD TO ... | |
|----------------|------------|----------------|
| | MODEL NO. | PRICE CODE NO. |
| 1 | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |
| 4 | 4 | 4 |
| 5 | 5 | 5 |
| 6 | 6 | 6 |
| 7 | 7 | 7 |
| 8 | 8 | 8 |
| 9 | 9 | 9 |
| 10 | 10 | 0 |
| 11 | 11 | 1 |
| 12 | 12 | 2 |

| 'O'-RING & MECHANICAL SEAL MATERIAL (SOLUTION CONTACT) | ADD TO ... | |
|--|--------------|----------------|
| | MODEL NUMBER | PRICE CODE NO. |
| SINGLE MECHANICAL SEAL | | |
| EPDM SILICON CARBIDE | L(M8) | 1 |
| VITON SILICON CARBIDE | V(M8) | 7 |
| DOUBLE MECHANICAL SEAL** | | |
| EPDM SILICON CARBIDE | L(M8xM1) | 4 |
| VITON SILICON CARBIDE | V(M8xM1) | 8 |

| TEFC 208-230/460/3/60 or 190/380-415/3/50 | | |
|---|-----------------|-------------------|
| RPM | NEMA MOTORS | |
| | ADD TO ... | |
| | HP MODEL NUMBER | PRICE CODE NUMBER |
| 1725 or 1450 | -H3.0 | K |
| | -H5.0 | F |
| | -H7.5 | G |
| | -H10.0 | H |
| | -H15.0 | S |
| | -H20.0 | V |
| 3450 or 2850 | -H25.0 | W |
| | -H30.0 | X |
| | -D5.0 | J |
| | -D7.5 | T |
| | -D10.0 | P |
| | -D15.0 | L |
| | -D20.0 | M |

OPTIONS

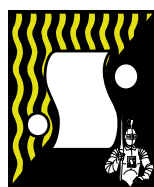
| DESCRIPTION | PRICE CODE NO. |
|---|----------------|
| Trimmed impeller to meet specified flow | 47-0084 |
| Hastelloy C shaft -HC | -HC |

| LONG COUPLING KITS ² | | |
|--|-----------------|----------------|
| FOR MODELS | FOR MOTOR FRAME | PRICE CODE NO. |
| 3 x 2 x 6 4 x 3 x 8 | 143/145T | 42-0500 |
| | 182/184T | 42-0501 |
| | 213/215T | 42-0502 |
| Motor mounting and alignment (For motors 10 H. P. and smaller) | | 42-0504 |

F.O.B. Northbrook, Illinois

Specifications subject to change without notice.

Registered trademarks:
Corzan - B. F. Goodrich Co.; Viton - DuPont Dow Elastomers



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