


Wet-Rotor, In-Line, Single Stage Circulator Pumps

Submittal Data

60 Hertz

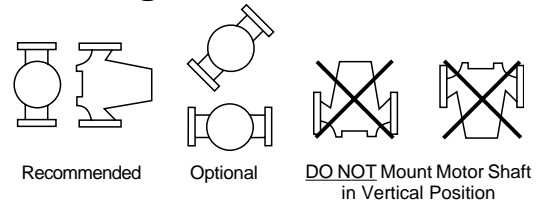
| | | |
|---|--------------------|-------|
|  | JOB or CUSTOMER: | |
| | ENGINEER: | |
| | CONTRACTOR: | |
| | SUBMITTED BY: | DATE: |
| | APPROVED BY: | DATE: |
| | ORDER NO: | DATE: |
| | SPECIFICATION REF: | |

| QUANTITY | TAG NO. | MODEL NO. | GPM | FEET | VOLT | PHASE | COMMENTS |
|----------|---------|-----------|-----|------|------|-------|----------|
| | | | | | | | |
| | | | | | | | |

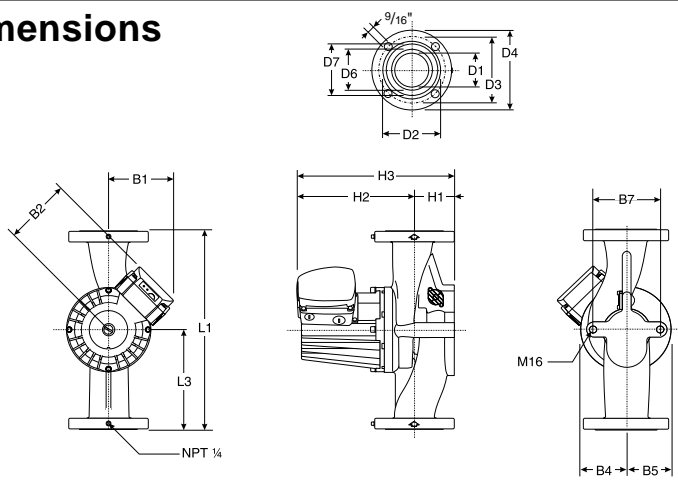
Technical Data

FLOW RANGE: 20 – 180 U.S. GPM **HEAD RANGE:** 1 – 62 FT.
MAXIMUM WORKING PRESSURE: 145 PSI
FLANGES: 2", 4-Bolt with (4) 9/16" diameter holes (NON-ANSI)
MINIMUM FLUID TEMPERATURE: 14°F (-10°C)
MAXIMUM FLUID TEMPERATURE (Open Systems): 140°F* (60°C)
MAXIMUM FLUID TEMPERATURE (Closed Systems): 230°F (110°C)
AMBIENT AIR TEMPERATURE: 32°F (0°C) to 104°F (40°C)
* MAXIMUM TEMPERATURE: 220°F, 104°C
NOTE: It is recommended to keep the operating temperature as low as possible (ie., below 140°F, 60°C to avoid precipitation of calcium).

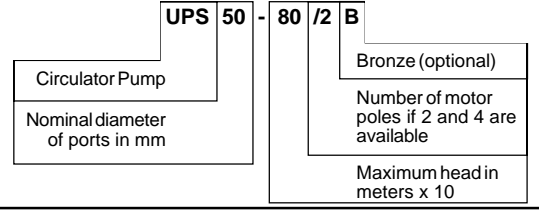
Mounting Positions



Dimensions



Type Designation



Weights

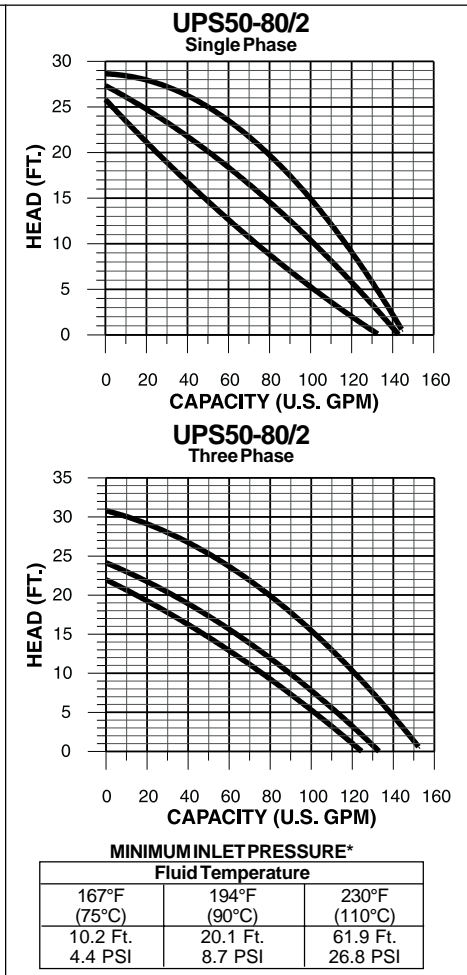
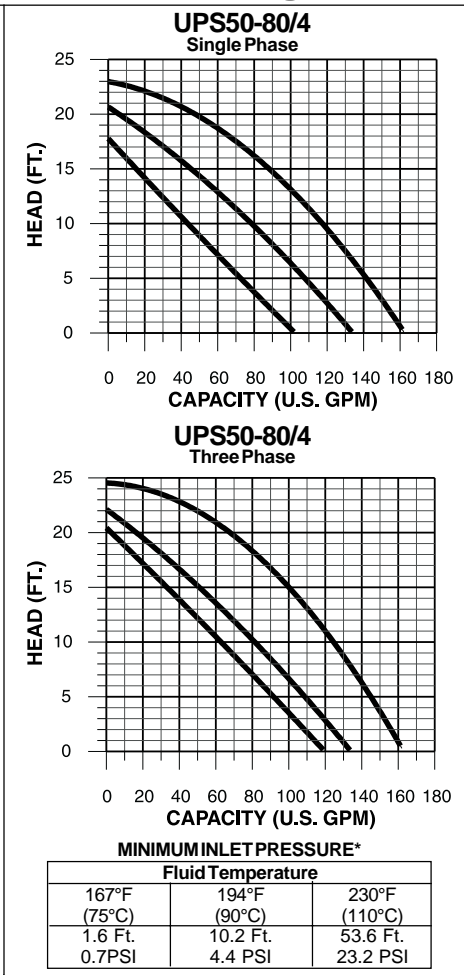
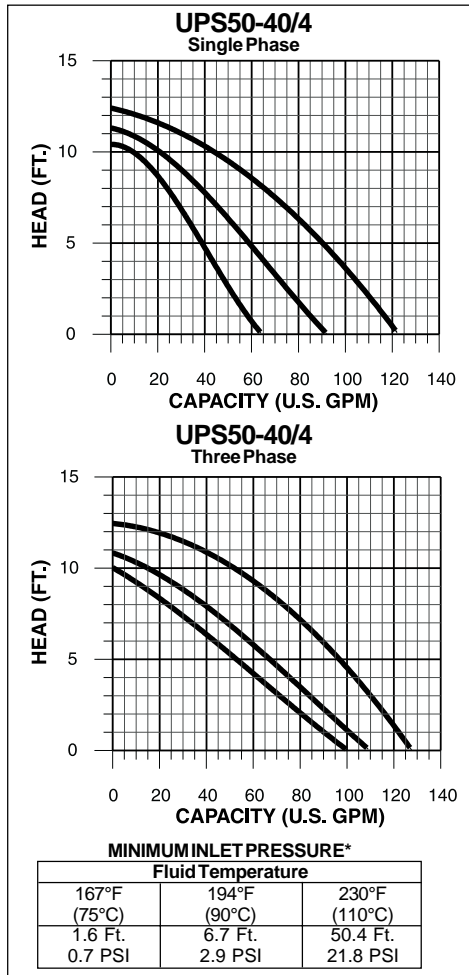
| Pump Type | PH | Net Wt. (Lbs.) | Ship. Wt. (Lbs.) | Ship. Vol. (Cu. Ft.) |
|-------------|-------|----------------|------------------|----------------------|
| UPS50-40/4 | 1 & 3 | 49 | 52.5 | 1.62 |
| UPS50-80/4 | 1 | 64.5 | 68 | 1.62 |
| UPS50-80/4 | 3 | 60.5 | 64 | 1.62 |
| UPS50-80/2 | 1 & 3 | 49 | 52.5 | 1.62 |
| UPS50-160/2 | 1 & 3 | 59.5 | 62.5 | 1.62 |
| UPS50-240/2 | 3 | 62 | 65.5 | 1.62 |

Electrical Data and Dimensions

| Pump Type | Nominal HP at Speed 3 | PH | Voltage | Suc. Disc. Size | DIMENSIONS IN INCHES | | | | | | | | | | | | | | | | |
|-------------|-----------------------|--------|-----------------------------------|-----------------|----------------------|-------|--------|---------|--------|----|-------|-------|---------|---------|-------|--------|--------|-------|-------|--------|--|
| | | | | | L1 | L3 | B1 | B2 | B4 | B5 | B7 | H1 | H2 | H3 | D1 | D2 | D3 | D4 | D6 | D7 | |
| UPS50-40/4 | 1/3 1/3 | 1 3 | 115 or 230 208/230, 460*, 575* | 2 | 14 | 7 | 5 5/16 | 5 9/16 | 3 9/16 | 3 | 4 3/4 | 3 1/4 | 9 3/4 | 13 | 2 1/8 | 3 7/16 | 4 1/16 | 5 1/4 | 2 1/2 | 3 1/16 | |
| UPS50-80/4 | 3/4 3/4 | 1 3 | 115 or 230 208/230, 460*, 575* | 2 | 11 1/2 | 5 3/4 | 5 3/4 | 6 11/16 | 4 3/8 | 4 | 4 3/4 | 3 1/4 | 10 1/2 | 13 3/4 | 2 1/8 | 3 7/16 | 4 1/16 | 5 1/4 | 2 1/2 | 3 1/16 | |
| UPS50-80/2 | 3/4 3/4 | 1 3 | 115 or 230 208/230, 460*, 575* | 2 | 11 1/2 | 5 3/4 | 5 5/16 | 5 9/16 | 3 3/4 | 3 | 4 3/4 | 3 | 9 1/2 | 12 1/2 | 2 1/8 | 3 7/16 | 4 1/16 | 5 1/4 | 2 1/2 | 3 1/16 | |
| UPS50-160/2 | 1 1/2 | 1 3 | 230 only 208/230, 460*, 575* | 2 | 14 | 7 | 5 3/4 | 6 11/16 | 4 | 4 | 4 3/4 | 3 | 10 7/16 | 13 3/8 | 2 1/8 | 3 7/16 | 4 1/16 | 5 1/4 | 2 1/2 | 3 1/16 | |
| UPS50-240/2 | 2 | 3 | 208/230, 460*, 575* | 2 | 14 | 7 | 5 3/4 | 6 11/16 | 4 | 4 | 4 3/4 | 3 | 10 3/8 | 13 5/16 | 2 1/8 | 3 7/16 | 4 1/16 | 5 1/4 | 2 1/2 | 3 1/16 | |

NOTE: *460/575 volt models are two speed only—speeds 2 & 3.

Performance Curves (60 Hz – Single and Three Phase Models)

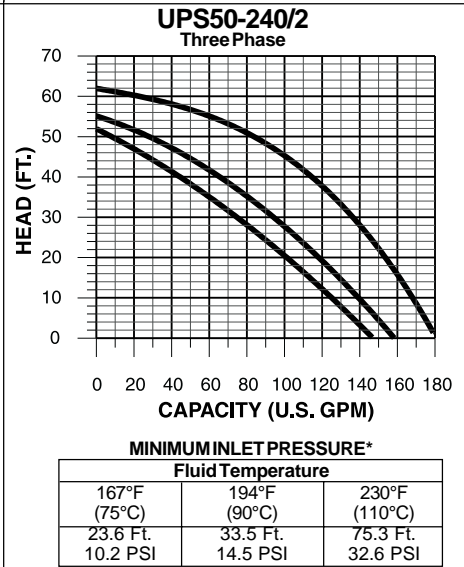


Materials of Construction

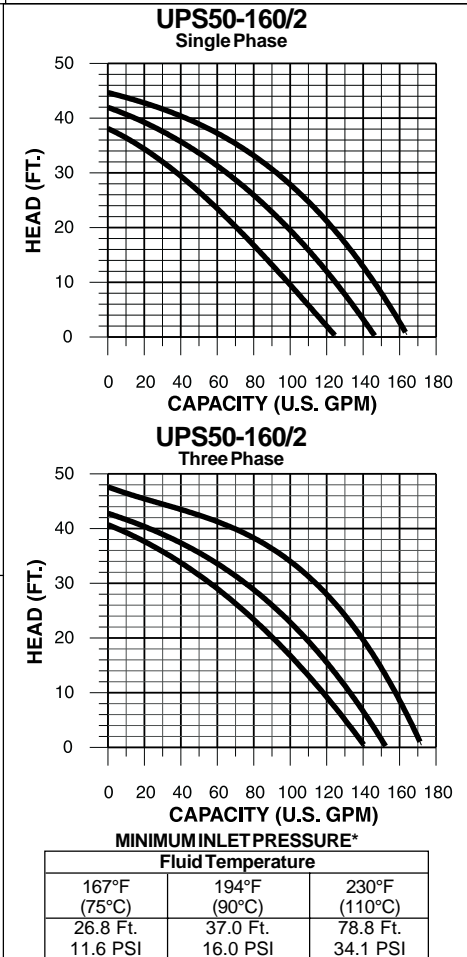
| DESCRIPTION | MATERIAL |
|---|-----------------------------|
| Impeller, Bearing Plate, Rotor Cladding, Rotor Can, Bearing Retainers | AISI 304 SS |
| Impeller Seal Ring | AISI 304 SS/Teflon® |
| Shaft (cast iron pumps), Inspection Screw Split Cone, Split Cone Nut | AISI 303 SS |
| Shaft (bronze pumps) | AISI 316 SS |
| Shaft Bearing Journals | Tungsten Carbide |
| Pump Housing* *Bronze – Optional | Cast Iron ASTM GG25 35B-40B |
| Stator Housing | Aluminum AISI 10Cu2 |
| Rotor End Caps | Copper or Brass |
| Upper and Lower Radial Bearings | Ceramic Al2O3 |
| Thrust Bearing | Carbon MY106 |
| O-Rings | EPDM |
| Terminal Box, Nameplate | Composite PA66 |
| Plug for Sensor | Composite PPS, GF40 |

VersaFlo® is a registered trademark of Grundfos Pumps Corporation.

Teflon® is a registered trademark of Dupont.



* Minimum gauge pressure required at the inlet (suction) to ensure effective, trouble-free operation. Varies by fluid temperature.



GRUNDFOS®



Leaders in Pump Technology

Grundfos Pumps Corporation • 3131 N. Business Park Avenue • Fresno, CA 93727

Customer Service Centers: Allentown, PA • Fresno, CA

Phone: (800) 333-1366 • Fax: (800) 333-1363

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.

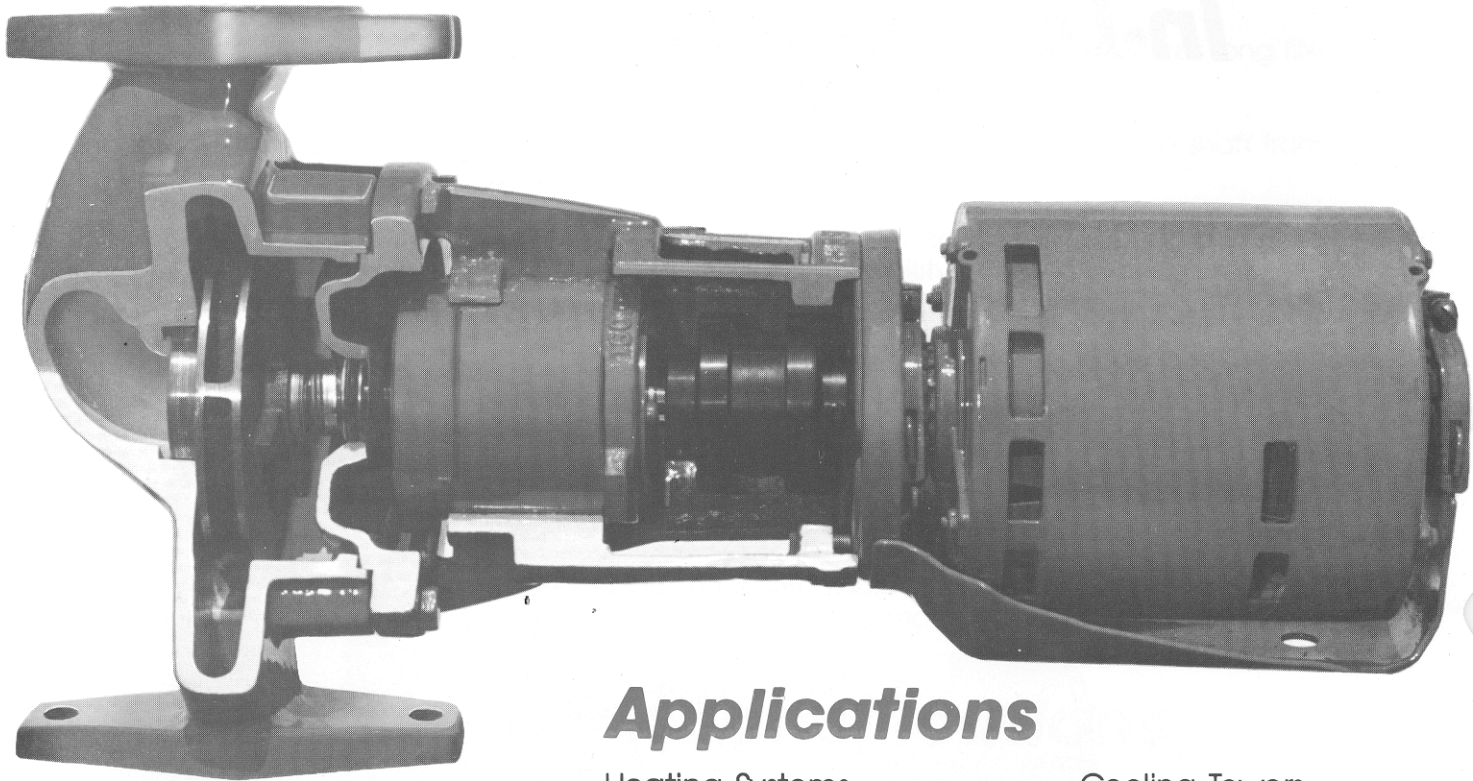
Visit our website at www.us.grundfos.com



L-UPS-TL-050 Rev. 01/01
PRINTED IN USA

"1600" Series In-Line Pumps

The Taco "1600" Series in-line pump is available in 15 models ranging in size from 1½" X 1½" to 2" X 2". These pumps range in performance capacity from 10 GPM to 235 GPM with head capacities up to 68 feet. In addition to pumps, Taco is a leading source for Residential Circulators, Hydronic Specialties, Captive Air Tanks, Heat Transfer Products, Flow Measurement and Control products and much more.



Applications

Heating Systems
Air Conditioning Systems
Recirculation
Booster Service
Dishwashers
Laundry Equipment

Cooling Towers
Golf Courses
Dry Cleaning Plants
Livestock Watering
Bottle Washers
Lawn Sprinklers

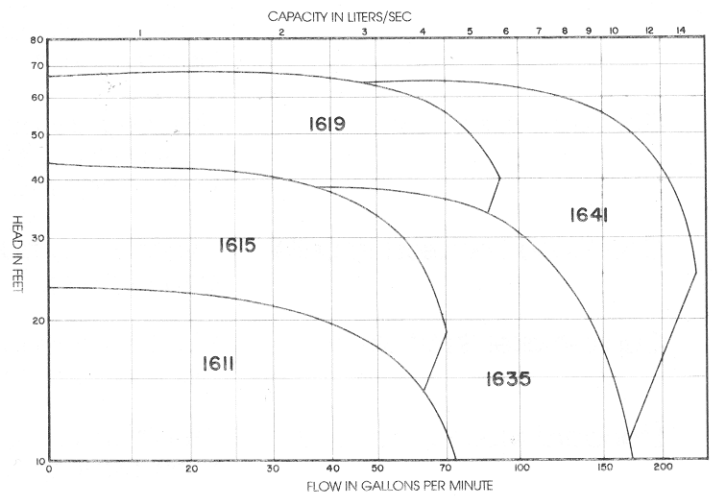
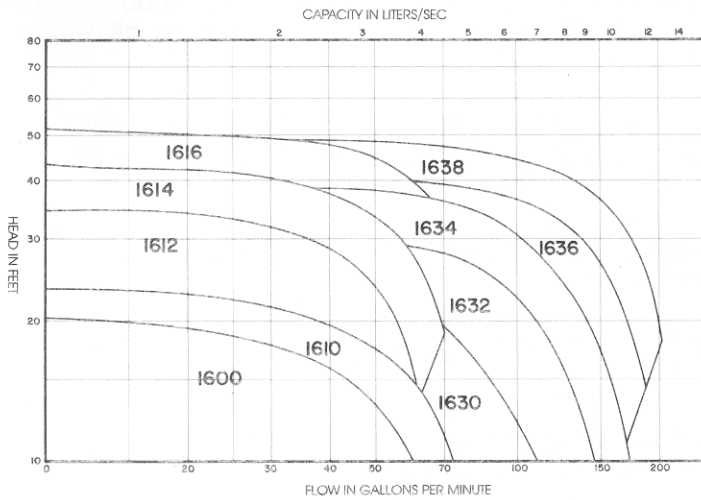
"1600" Bearing Cartridge

The heart of the "1600" Series pump is the replaceable **permanently lubricated** bearing cartridge. The exclusive "1600" cool bearing cartridge design isolates the bearing from the effects of system temperatures to greatly extend the bearing life. In addition, standardization of the bearing design means that a single bearing cartridge can be used to service the entire product line.

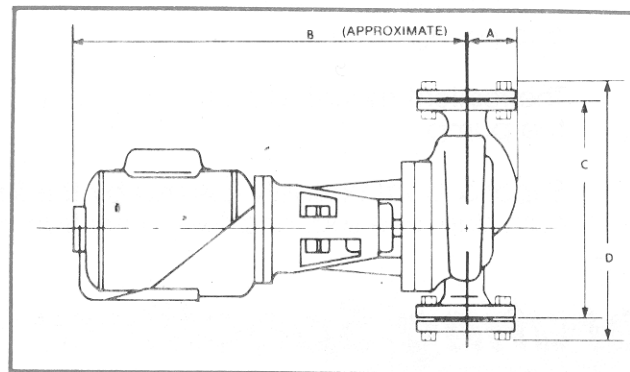
"1600" Series Performance Field

STOCK UNITS (normally in local or factory stock) 1750 R.P.M.

CUSTOM UNITS 1750 R.P.M.



Pump Dimensions



| Model No. | | Flange Size | H.P. | DIMENSIONS (in inches) | | | |
|-------------|------------|-------------|------|------------------------|-----|-----|-----|
| Custom 1600 | Stock 1600 | | | A | B | C | D |
| 1611 | 1600 | 1½" | ¼ * | 3 | 16½ | 10¼ | 12⅞ |
| | 1610 | | 1/3 | 3 | 16½ | | |
| | | | ½ | 3 | 17 | | |
| 1615 | | 1½ | 1/3 | 3⅝ | 18 | 13½ | 16⅞ |
| | | | ½ | 3⅝ | 18½ | | |
| | | | ¾ | 3⅝ | 19 | | |
| | | | 1 | 3⅝ | 19½ | | |
| 1619 | 1616 | 2 | ¾ | 3 | 18½ | 14½ | 17⅜ |
| | | | 1 | 3 | 19 | | |
| | | | 1½ | 3 | 21 | | |
| | | | 2 | 3 | 23 | | |
| 1635 | 1630 | 2 | ½ | 3½ | 18 | 13½ | 16⅞ |
| | | | ¾ | 3½ | 18½ | | |
| | | | 1 | 3½ | 19 | | |
| | | | 1½ | 3½ | 21 | | |
| 1641 | 1636 | 2 | 1½ | 3⅝ | 21 | 16½ | 19½ |
| | | | 2 | 3⅝ | 23 | | |
| | | | 3 | 3⅝ | 24 | | |

*¼ HP AVAILABLE IN 1 PHASE ONLY.

Materials of Construction

CASING
IMPELLER
SHAFT
SHAFT SLEEVE
BRACKET

Standard
CAST IRON
CAST BRONZE
ALLOY STEEL
CUPRO-NICKEL
CAST IRON

Optional
BRONZE

CAST IRON WITH BRONZE FACE PLATE



REPLACEMENT PARTS

121 THRU 138 PUMPS 1600 SERIES PUMPS

IMPORTANT: When ordering, always specify part number, part name, and complete model number of pump. Nameplate located on front of casing.

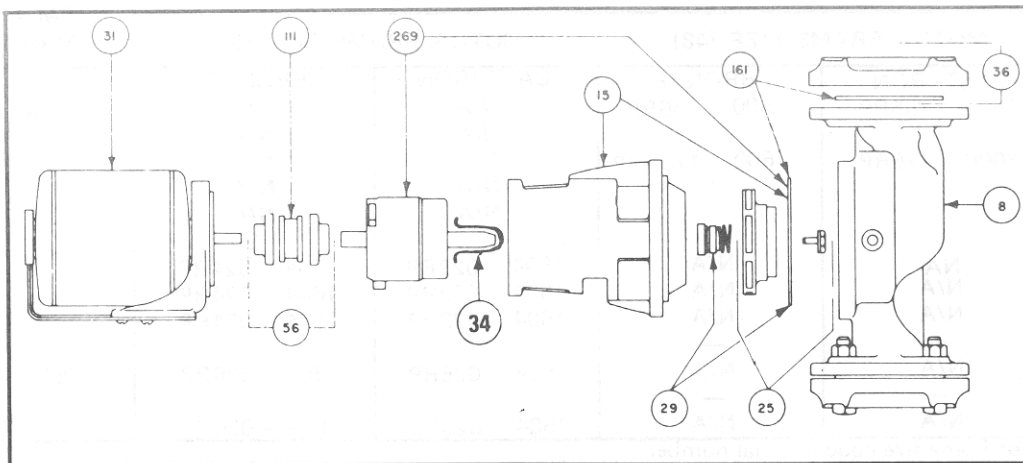
NUMBER

304-001

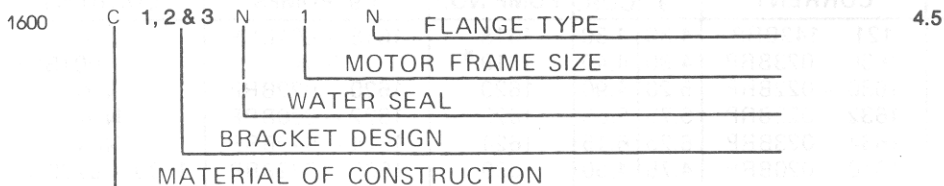
Effective: August 1, 1991
Supersedes: 304-001
dated 6/15/89

CARTRIDGE DESIGN PUMPS

REPLACEMENT PARTS FOR (-9) AND SERIAL NUMBER CARTRIDGE DESIGN PUMPS



SERIAL NUMBER CODE



| MATERIAL OF CONSTRUCTION | | | | | |
|--------------------------|------------------------------------|---|---|---|---|
| | X | O | O | O | O |
| A | CAST IRON PUMP AND IMPELLER | | | | |
| B | ALL BRONZE PUMP AND IMPELLER | | | | |
| C | CAST IRON PUMP AND BRONZE IMPELLER | | | | |

| BRACKET DESIGN | | | | | |
|------------------------------|---|---|---|---|---|
| | O | X | O | O | O |
| 1, 2 & 3 CURRENT STYLE PUMPS | | | | | |

| WATER SEAL KIT, ITEM #29 5/8" DIA. SHAFT | | | | | |
|--|--------------------------------|---|---|---|---|
| | O | O | X | O | O |
| N | 1600 - 170RP NI - RESIST | | | | |
| H | 1600 - 170HRP TUNGSTEN CARBIDE | | | | |
| E | 1600 - 170ERP CERAMIC | | | | |

| MOTOR FRAME SIZE*/SHAFT DIA. | | | | | | |
|--|----------|--------------------|---|---|---|------|
| | | O | O | O | X | O |
| 1 | 48 FRAME | (1/4, 1/3, 1/2 HP) | | | | 1/2" |
| 2 | 56 FRAME | (3/4, 1 HP) | | | | 5/8" |
| 3 | 56 FRAME | (1 1/2, & 2 HP) | | | | 5/8" |
| 4 | 56 FRAME | (3 HP) | | | | 5/8" |
| * Refer to standard motors only. See nameplate for other motors. | | | | | | |

| FLANGE TYPE | | | | | | |
|-------------|----------------|---|---|---|---|---|
| | | O | O | O | O | X |
| N | NPT (STANDARD) | | | | | |
| D | DIN (EXPORT) | | | | | |

| ITEM #8 REPLACEMENT BODY | | | BODY GASKETS |
|--------------------------|------------|-------------|--------------------|
| PUMP MOD. NO. | CAST IRON | BRONZE | CAST IRON & BRONZE |
| 121 | 121—018RP | 121—018BRP | 1600—024RP |
| 122 | " | " | " " |
| 131, 32, 33 & 38' | 133—150RP | 133—150BRP | 133—014RP |
| 1600, 10, 11' | 1610 001RP | 1610—001BRP | 1600—024RP |
| 1602, 1604 ² | N/A | N/A | 133—014RP |
| 1612, 14, 15 | 1614—001RP | 1614—001BRP | " " |
| 1616, 18, 19 | 1618—004RP | 1618—004BRP | 1618—006 |
| 1620, 22, 24 | 1634—001RP | 1634—001BRP | 133—014RP |
| 1630, 1632 | " | " | " " |
| 1634, 1635 | " | " | " " |
| 1636, 1638 | 1640—002RP | 1640—002BRP | 1618—006 |
| 1640, 1641 | " | " | " " |

| ITEM # 15 REPLACEMENT BRACKET | | | | | ITEM # 161 GASKET KIT |
|-------------------------------|-----------------------|---------------|-----------------------|--------------|--------------------------|
| PUMP MOD. NO. | MOTOR FRAME SIZE (48) | | MOTOR FRAME SIZE (56) | | |
| | CAST IRON | BRONZE | CAST IRON | BRONZE | |
| 121, 122 | 1600 - 155RP | 1600 - 156RP | N/A | N/A | 1600 -050RP |
| 1600, 10, 11 | " | " | N/A | N/A | " |
| 1602, 1604 | 1600 - 175RP | 1600 - 176BRP | N/A | N/A | " |
| 1612, 20, 30 | " | " | N/A | N/A | " |
| 131, 132 | " | " | N/A | N/A | " |
| 1615 * | - | - | - | - | " |
| 133, 138 | NA | N/A | 1604 - 023RP | 1604 - 024RP | " |
| 1614, 22, 24 | N/A | N/A | 1604 - 023RP | 1604 - 024RP | " |
| 1632, 34 | N/A | N/A | 1604 - 023RP | 1604 - 024RP | " |
| 1635 * | - | - | - | - | " |
| 1616, 36 | N/A | N/A | 1604 - 025RP | 1604 - 026RP | 1618 - 006RP |
| 1619 * | - | - | - | - | " |
| 1638, 40, 41 | N/A | N/A | 1604 - 025RP | 1604 - 026RP | " |

* Select bracket, per motor frame size code in serial number.

| ITEM #25 REPLACEMENT IMPELLER ASSEMBLY | | | | | | | | |
|--|---------------|---------------|------|-------|----------|---------------|---------------|-------|
| PUMP NO. | (-9) PUMPS | CURRENT | DIA. | | PUMP NO. | (-9) PUMPS | CURRENT | DIA. |
| | | | -9 | CUR. | | | | |
| 121, 122 | 121 - 142BRP | 121 - 142BRP | 4.30 | 4.30 | 1618 | 1618 - 001BRP | N/A | 7.900 |
| 131 | 131 - 075BRP | 1630 - 023BRP | 4.80 | 4.40 | 1619 * | N/A | 1619 - 001BRP | |
| 132 | 132 - 063BRP | 1630 - 022BRP | 5.20 | 4.90 | 1620 | 1620 - 022BRP | N/A | 5.100 |
| 133 | 133 - 075BRP | 1632 - 022BRP | 5.75 | 5.65 | 1622 | 1622 - 020BRP | N/A | 5.850 |
| 138 | 138 - 037BRP | 1634 - 023BRP | 6.25 | 6.15 | 1624 | 1624 - 040BRP | N/A | 6.500 |
| 1600 | 1600 - 179BRP | 1610 - 020BRP | 4.75 | 4.50 | 1630 | 1630 - 022BRP | 1630 - 022BRP | 4.900 |
| 1602 | 1602 - 025BRP | N/A | | 5.500 | 1632 | 1632 - 022BRP | 1632 - 022BRP | 5.650 |
| 1604 | 1604 - 028BRP | N/A | | 6.200 | 1634 | 1634 - 023BRP | 1634 - 023BRP | 6.150 |
| 1610 | 1610 - 019BRP | 1610 - 019BRP | | 4.750 | 1635 * | N/A | 1635 - 001BRP | - |
| 1611* | N/A | 1611 - 001BRP | | - | 1636 | 1636 - 001BRP | 1636 - 001BRP | 6.400 |
| 1612 | 1612 - 019BRP | 1612 - 019BRP | | 5.750 | 1638 | 1638 - 001BRP | 1638 - 001BRP | 6.900 |
| 1614 | 1614 - 018BRP | 1614 - 018BRP | | 6.350 | 1640 | 1640 - 001BRP | N/A | 7.900 |
| 1615 * | N/A | 1615 - 001BRP | | - | 1641 * | N/A | 1641 - 001BRP | - |
| 1616 | 1616 - 002BRP | 1616 - 002BRP | | 7.100 | | | | |

* When ordering, please advise diameter of impeller.

| ITEM # 31 REPLACEMENT MOTOR ASSEMBLY * | | | | |
|--|-------------|--------------|--------------|--------------|
| HP | 115/60/1 | 115/230/60/1 | 200/60/3 | 230/460/60/3 |
| 1/4 | 121 - 151RP | N/A | 121 - 148RP | 121 - 137RP |
| 1/3 | 131 - 143RP | N/A | 131 - 115RP | 131 - 137RP |
| 1/2 | N/A | 132 - 096RP | 132 - 066RP | 132 - 097RP |
| 3/4 | N/A | 133 - 119RP | 133 - 140RP | 133 - 134RP |
| 1 | N/A | 138 - 119RP | 138 - 148RP | 138 - 142RP |
| 1 1/2 | N/A | 1636 - 013RP | 1636 - 019RP | 1636 - 010RP |
| 2 | N/A | 1638 - 012RP | 1638 - 015RP | 1638 - 010RP |
| 3 | N/A | N/A | 1640 - 013RP | 1640 - 010RP |

* When ordering other than standard, refer to nameplate, then consult factory.

Note (1) When replacing Item #8 body on 131, 132, 133, 138 and 1600C—1&—9, you must also order current style impeller.

Note (2) Body for the 1602 & 1604 are no longer available. Consult factory.

ITEM #36 REPLACEMENT FLANGE SET
FLANGE GASKET SET

| PUMP MOD. NO. | BRONZE | CAST IRON | CURRENT | OLD STYLE PUMPS |
|-------------------|-------------|------------|------------|-----------------|
| 121 | 1600—033BRP | 1600—033RP | 133—152RP | 131—019RP |
| 122 | 1600—034BRP | 1600—034RP | " " | " " |
| 131, 32, 33, & 38 | " | " | " " | " " |
| 1600, 10, 11 | 1600—031BRP | 1600—031RP | 1600—169RP | 1600—009RP |
| 1602, 1604 | " | " | " " | " " |
| 1612, 14, 15 | " | " | " " | " " |
| 1616, 18, 19 | 1600—032BRP | 1600—032RP | " " | " " |
| 1620, 22, 24 | " | " | " " | " " |
| 1630, 1632 | " | " | " " | " " |
| 1634, 1635 | " | " | " " | " " |
| 1636, 1638 | 1600—174BRP | 1600—174RP | " " | N/A |
| 1640, 1641 | " | " | " " | N/A |

MOTOR ASSEMBLY LESS MOTOR

| HP | 115/60/1 | 115/230/60/1 | 200/60/3 | 230/460/60/3 |
|-------|-----------|--------------|------------|--------------|
| 1/4 | 121—056RP | N/A | N/A | N/A |
| 1/3 | 121—056RP | N/A | N/A | N/A |
| 1/2 | N/A | 132—033RP | 121—051RP | 121—051RP |
| 3/4 | N/A | 133—031RP | 133—031RP | 133—031RP |
| 1 | N/A | 133—031RP | 133—031RP | 133—031RP |
| 1-1/2 | N/A | 133—031RP | 133—031RP | 133—031RP |
| 2 | N/A | 1636—004RP | 1636—004RP | 1636—004RP |
| 3 | | N/A | 1636—004RP | 1636—004RP |

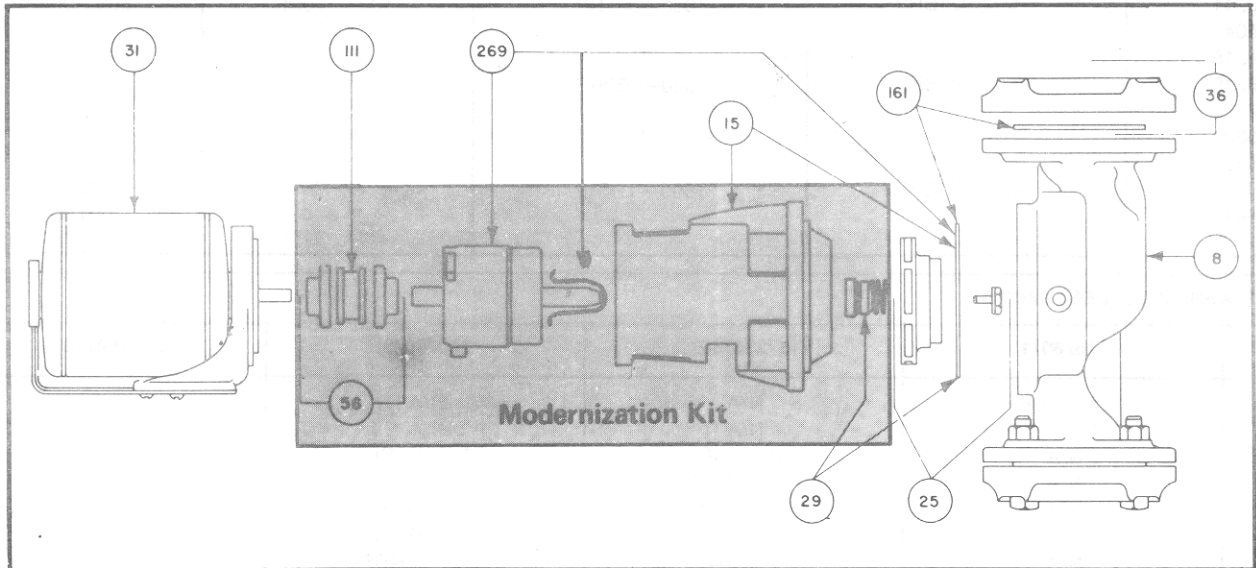
121—079RP Motor Assy. L/Motor, for 56 Frame Motors on 48 Frame Pumps

OTHER REPLACEMENT PARTS

| ITEM# | DESCRIPTION | PART NUMBER | WHERE USED |
|-------|-----------------|--------------|--------------------------------|
| 34 | SHAFT SLEEVE | 1600—205RP | All—9 and Serial Number Pumps. |
| 56 | COUPLER | 1624—053RP | All Inline Pumps ¼ thru 2 HP. |
| 56 | COUPLER | 1624—041RP | All Inline Pumps 3 HP. |
| 111 | RUBBER INSERT | 1624—004RP | All 4J Couplers. |
| 111 | RUBBER INSERT | 1624—020RP | All 3J Couplers. |
| 111 | RUBBER INSERT | 900—512 | All 5J Couplers. |
| 269 | CARTRIDGE ASSY. | 1600—160RP-1 | All 9—and Serial Number Pumps. |
| | ADAPTER PLATE | 1600—194RP | All (Left Hand Thread) |
| | IMPELLER BOLT | 1600—215RP | All |
| | IMPELLER WASHER | 1600—151RP | All Inlines ¼ & ½ HP. |
| 56 | COUPLER | 1624—043RP | |

REPLACEMENT PARTS FOR OLD STYLE PUMPS AND CIRCULATORS *

*121+122-3-7; 131, 132+133-3-6; 138-1+2; 1600, 1602, 1604, 1610, 1612, 1614, 1620, 1622, 1624, 1630, 1632, 1634-1+C1.



OTHER REPLACEMENT PARTS

| ITEM# | DESCRIPTION | WHERE USED |
|------------|-----------------------------|---|
| ITEM # 8 | BODY | Same as -9 and Serial Number Pumps. |
| ITEM # 25 | IMPELLER AND SHAFT ASSEMBLY | No longer available . Must purchase Item #74 Modernization Kit listed below, Plus -9 IMPELLER |
| ITEM # 29 | SEAL KIT | Part No. 1600 - 055RP |
| ITEM # 31 | MOTOR ASSEMBLY | Same as -9 and Serial Number Pumps. |
| ITEM # 36 | FLANGE SET | Same as -9 and Serial Number Pumps. |
| ITEM # 56 | COUPLER | Same as -9 and Serial Number Pumps. |
| ITEM # 111 | RUBBER INSERT | Same as -9 and Serial Number Pumps. |
| ITEM # 161 | GASKET KIT | Same as -9 and Serial Number Pumps. |

ITEM # 74 MODERNIZATION KIT*

| PUMP NO. | MOTOR FRAME SIZE (48) | | MOTOR FRAME SIZE (56) | |
|-------------------------|-----------------------|-------------|-----------------------|-------------|
| | CAST IRON | BRONZE | CAST IRON | BRONZE |
| 121, 122 | 121 - 154RP | 122 - 002RP | N/A | N/A |
| 131, 132 ² | 131 - 144RP | 132 - 145RP | 133 - 147RP | 138 - 153RP |
| 133, 138 | N/A | N/A | " | " |
| 1600, 1610 | 121 - 154RP | 122 - 022RP | N/A | N/A |
| 1602, 1604 ² | 131 - 144RP | 132 - 145RP | 133 - 147RP | 133 - 147RP |
| 1612, 1620 ² | " | " | 133 - 147RP | 138 - 153RP |
| 1630 ² | " | " | " | " |
| 1614, 1622 | N/A | N/A | " | " |
| 1624, 1632 | N/A | N/A | " | " |
| 1634 | N/A | N/A | " | " |

Note (2) Select modernization kit per motor frame size. Select impellers per selection chart on previous page, under -9 column