

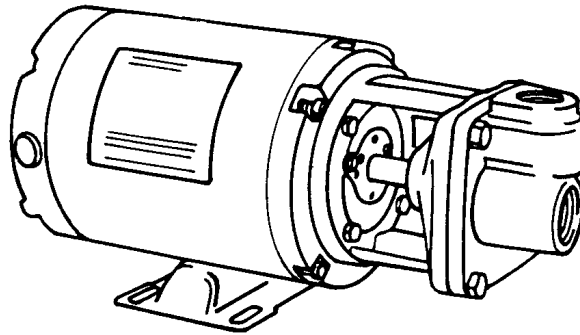


SERIES

CT

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## CLOSE COUPLED TURBINE PUMPS



**4CT - 1725 RPM - 60Hz.**

**CT - 3450 RPM - 60Hz.**

(See Individual curves for symbol number)

**CT - 2900 RPM - 50Hz.**

(See Individual curves for symbol number)

| * MAXIMUM HEAD |      |                |           |
|----------------|------|----------------|-----------|
| Symbol No.     | H.P. | Catalog Number |           |
|                |      | 1 - Phase      | 3 - Phase |
| 1              | 1/2  | 5CT7M          | 35CT7M    |
| 2              | 3/4  | 7CT7M          | 37CT7M    |
| 3              | 1/3  | 3CT6M          | 33CT6M    |
| 4              | 1/2  | 5CT6M          | 35CT6M    |
| 5              | 3/4  | 7CT6M          | 37CT6M    |
| 6              | 1/3  | 3CT5M          | 33CT5M    |
| 7              | 1/2  | 5CT5M          | 35CT5M    |
| 8              | 1/4  | 24CT7M         |           |
| 9              | 1/4  | 24CT6M         |           |
| 10             | 1/2  | 5CT8M          | 35CT8M    |
| 11             | 3/4  | 7CT8M          | 37CT8M    |

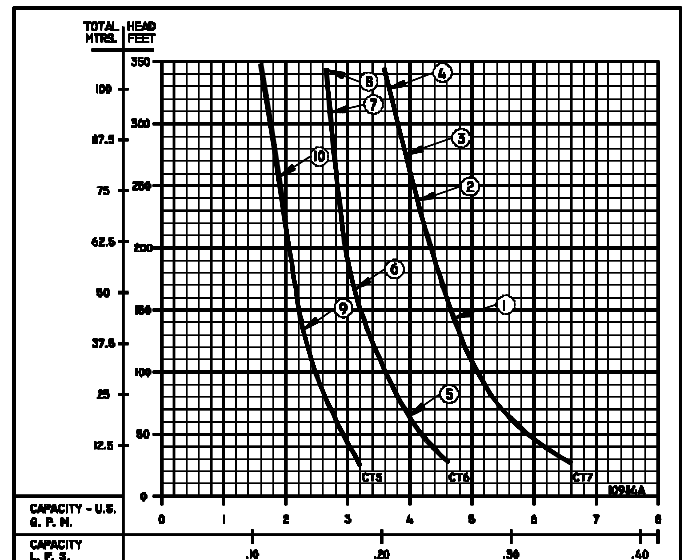
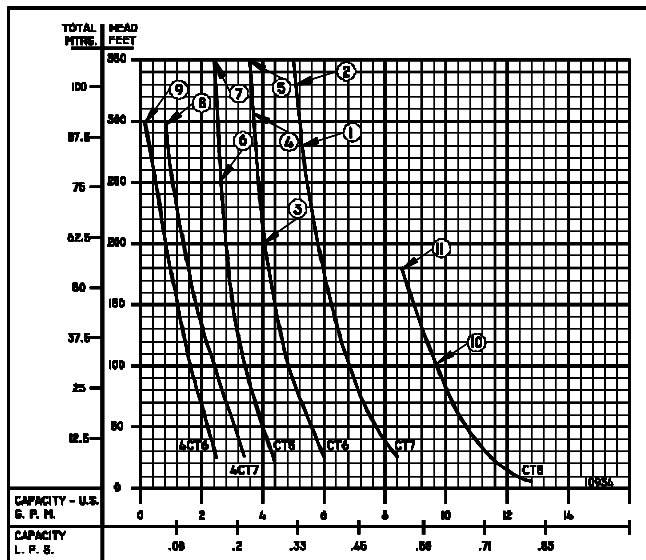
| MAXIMUM HEAD |       |                |    |       |
|--------------|-------|----------------|----|-------|
| Symbol No.   | H.P.  | Catalog Number | PH | ENCL. |
| 1            | .8    | L35CT7M        | 3  | ODP   |
| ** 2         | 1.0   | TL310CT7M      | 3  | TEFC  |
| 3            | 1.125 | L37CT7M        | 3  | ODP   |
| * 4          | 1.3   | L10CT7M        | 1  | ODP   |
| 5            | .58   | L33CT6M        | 3  | ODP   |
| 6            | .8    | L35CT6M        | 3  | ODP   |
| ** 7         | 1.0   | TL310CT6M      | 3  | TEFC  |
| 8            | 1.125 | L37CT6M        | 3  | ODP   |
| 9            | .58   | L33CT5M        | 3  | ODP   |
| 10           | .8    | L35CT5M        | 3  | ODP   |

\* This pump is 115/230 Volt Single phase Only.

\*\* This pump is available only with TEFC motor for 50 Hz use.

\* For Standard Pumps with ODP Motors

All of the pumps above are available with stuffing box.



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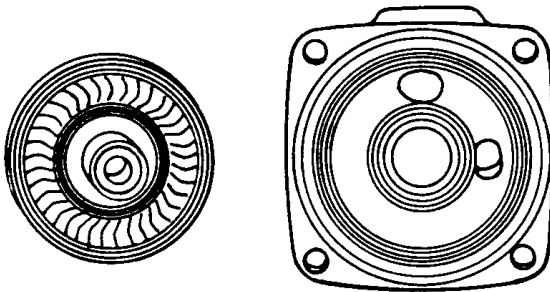
**CLOSE COUPLED TURBINE PUMPS**

| 60 HZ - PERFORMANCE & SELECTION CHART |                         |                            |                    |             |             |            |                   |                   |                   |                   |                   |                   |                   |                   |            |            |     |       |       |  |
|---------------------------------------|-------------------------|----------------------------|--------------------|-------------|-------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|------------|-----|-------|-------|--|
| Catalog Number                        |                         | HP                         | Tappings           |             | PSI FEET    | TOTAL HEAD |                   |                   |                   |                   |                   |                   |                   |                   |            |            |     |       |       |  |
|                                       |                         |                            | Suct. NPT          | Disch. NPT  |             | 8.6        | 17.2              | 26                | 43.3              | 54.1              | 64.9              | 75.8              | 86.6              | 97.4              | 108.3      | 119.1      | 130 | 140.1 | 151.6 |  |
| 20                                    | 40                      |                            |                    |             |             | 60         | 100               | 125               | 150               | 175               | 200               | 225               | 250               | 275               | 300        | 325        | 350 |       |       |  |
| 1750 RPM                              | 1-Phase                 | 3-Phase                    | CAPACITY IN G.P.M. |             |             |            |                   |                   |                   |                   |                   |                   |                   |                   |            |            |     |       |       |  |
|                                       | 24CT6M                  | ---                        | 1/4                | 1           | 1           |            | 2.4               | 2.2               | 1.9               | 1.6               | 1.4               | 1.2               | 1.0               | 0.8               | 0.6        | 0.5        | 0.4 | 0.3   |       |  |
|                                       | 24CT7M                  | ---                        | 1/4                | 1           | 1           |            | 3.4               | 3.1               | 2.8               | 2.3               | 2.1               | 1.8               | 1.6               | 1.4               | 1.2        | 1.0        | 0.8 | 0.7   |       |  |
|                                       | 3CT5M<br>5CT5M          | 33CT5M<br>35CT5M           | 1/3<br>1/2         | 1<br>1      | 1<br>1      |            | 4.2<br>4.2        | 4.0<br>4.0        | 3.8<br>3.8        | 3.4<br>3.4        | 3.2<br>3.2        | 3.0<br>3.0        | 2.9<br>2.9        | 2.8<br>2.8        | 2.7<br>2.7 | 2.6<br>2.6 |     |       |       |  |
| 3450 RPM                              | 3CT6M<br>5CT6M<br>7CT6M | 33CT6M<br>35CT6M<br>37CT6M | 1/3<br>1/2<br>3/4  | 1<br>1<br>1 | 1<br>1<br>1 |            | 6.0<br>6.0<br>6.0 | 5.7<br>5.7<br>5.7 | 5.3<br>5.3<br>5.3 | 4.8<br>4.8<br>4.8 | 4.6<br>4.6<br>4.6 | 4.4<br>4.4<br>4.4 | 4.3<br>4.3<br>4.3 | 4.2<br>4.2<br>4.2 |            |            |     |       |       |  |
|                                       | 5CT7M<br>7CT7M          | 35CT7M<br>37CT7M           | 1/2<br>3/4         | 1<br>1      | 1<br>1      |            | 8.3<br>8.3        | 7.8<br>7.8        | 7.4<br>7.4        | 6.8<br>6.8        | 6.5<br>6.5        | 6.2<br>6.2        | 6.0<br>6.0        | 5.8<br>5.8        | 5.5<br>5.5 |            |     |       |       |  |
|                                       | 5CT8M<br>7CT8M          | 35CT8M<br>37CT8M           | 1/2<br>3/4         | 1<br>1      | 1<br>1      |            | 11.7<br>11.7      | 11.0<br>11.0      | 10.5<br>10.5      | 9.7<br>9.7        |                   |                   |                   |                   |            |            |     |       |       |  |

|          |                         | 60 HZ - PERFORMANCE & SELECTION CHART |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|----------|-------------------------|---------------------------------------|-------------------|-------------|----------------|-----------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------|--------------|-------|
|          |                         | Catalog Number                        |                   | HP          | Tappings       |                 | kPa Meters           | TOTAL HEAD           |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|          |                         |                                       |                   |             | Suct. NPT (in) | Disch. NPT (in) |                      | 59                   | 119                  | 179                  | 299                  | 373                  | 447                  | 523                  | 597                  | 672                  | 747                  | 821                  | 896          | 966          | 1045  |
|          |                         | 1-Phase                               | 3-Phase           |             |                |                 |                      | 6.1                  | 12.1                 | 18.2                 | 30.5                 | 38.1                 | 45.7                 | 53.3                 | 61                   | 68.6                 | 76.2                 | 83.8                 | 91.4         | 99.1         | 106.6 |
| 1750 RPM | CAPACITY IN L.P.S.      |                                       |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|          | 24CT6M                  | ---                                   | 1/4               | 1           | 1              |                 | 0.15                 | 0.13                 | 0.11                 | 0.10                 | 0.08                 | 0.07                 | 0.06                 | 0.05                 | 0.03                 | 0.03                 | 0.02                 | 0.01                 |              |              |       |
|          | 24CT7M                  | ---                                   | 1/4               | 1           | 1              |                 | 0.21                 | 0.19                 | 0.17                 | 0.14                 | 0.13                 | 0.11                 | 0.10                 | 0.08                 | 0.07                 | 0.06                 | 0.05                 | 0.04                 |              |              |       |
|          | 3CT5M<br>5CT5M          | 33CT5M<br>35CT5M                      | 1/3<br>1/2        | 1<br>1      | 1<br>1         |                 | 0.26<br>0.26         | 0.25<br>0.25         | 0.23<br>0.23         | 0.21<br>0.21         | 0.20<br>0.20         | 0.18<br>0.18         | 0.18<br>0.18         | 0.17<br>0.17         | 0.17<br>0.17         | 0.16<br>0.16         |                      |                      | 0.15<br>0.15 | 0.15<br>0.15 |       |
| 3450 RPM | 3CT6M<br>5CT6M<br>7CT6M | 33CT6M<br>35CT6M<br>37CT6M            | 1/3<br>1/2<br>3/4 | 1<br>1<br>1 | 1<br>1<br>1    |                 | 0.37<br>0.37<br>0.37 | 0.35<br>0.35<br>0.35 | 0.33<br>0.33<br>0.33 | 0.30<br>0.30<br>0.30 | 0.29<br>0.29<br>0.29 | 0.27<br>0.27<br>0.27 | 0.27<br>0.27<br>0.27 | 0.26<br>0.26<br>0.26 | 0.25<br>0.25<br>0.25 | 0.24<br>0.24<br>0.24 | 0.23<br>0.23<br>0.23 | 0.23<br>0.23<br>0.23 |              | 0.22         |       |
|          | 5CT7M<br>7CT7M          | 35CT7M<br>37CT7M                      | 1/2<br>3/4        | 1<br>1      | 1<br>1         |                 | 0.52<br>0.52         | 0.49<br>0.49         | 0.46<br>0.46         | 0.42<br>0.42         | 0.41<br>0.41         | 0.39<br>0.39         | 0.37<br>0.37         | 0.36<br>0.36         | 0.34<br>0.34         |                      | 0.34<br>0.33         | 0.32<br>0.32         | 0.32<br>0.32 | 0.31         |       |
|          | 5CT8M<br>7CT8M          | 35CT8M<br>37CT8M                      | 1/2<br>3/4        | 1<br>1      | 1<br>1         |                 | 0.73<br>0.73         | 0.69<br>0.69         | 0.66<br>0.66         | 0.61<br>0.61         |                      | 0.58<br>0.56         | 0.53                 |                      |                      |                      |                      |                      |              |              |       |
|          |                         |                                       |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|          |                         |                                       |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|          |                         |                                       |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|          |                         |                                       |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |
|          |                         |                                       |                   |             |                |                 |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |              |              |       |

**NOTE:** When pumping hot water over 180°F (82.2°C), check the NPSH available in the pumping system against the required pump NPSH shown on pump performance curves. Available NPSH must be greater than required NPSH.

## FEATURES



**BURKS** close coupled turbine pumps, Series CT, 3450 (60Hz) and 2900 (50Hz) R.P.M. and 4CT, 1725 R.P.M. are available for capacities up to 8 g.p.m. (0.50 L.P.S.)-pressures up to 150 p.s.i. (1034 kPa) and temperatures up to 225°F (107°C), come with standard mechanical shaft seal. Special shaft seals are available for higher temperatures and fluids other than water.

These compact turbine pumps are designed for pumping clear water and many other non-abrasive, lower viscosity liquids. They are especially engineered for boiler feed on steam process applications and will serve up to a 38 hp. boiler at a 3 to 1 safety factor. Available in bronze fitted as standard. All bronze or stainless steel construction also available. These pumps are recommended for many application requiring higher pressures and lower capacities.

**BURKS** is the only turbine pump with Life-Lok® External Impeller Adjustment feature that allows readjustment of impeller without disturbing piping, disassembling pump or replacing parts. Gives up to 40% longer service life than turbine pumps of other designs.

| MAXIMUM OPERATING CONDITIONS              |                   |
|-------------------------------------------|-------------------|
| TEMPERATURE<br>(For Standard Buna-N Seal) | 225°F (107°C)     |
| INLET PRESSURE                            | 100 PSI (689kPa)  |
| CASING WORKING PRESSURE                   | 250 PSI (1724kPa) |
| VISCOSITY                                 | 200 SSU           |

### MOTOR INFORMATION

Standard pump motors have open drip proof construction and are rated with jet pump service factors for continuous duty operation at all ratings shown.

**Single phase** motors are 115/230 volt, 60 Hz, capacitor start/induction run with built-in overload protection. Single phase motors 1/3, 1/2 & 3/4 HP are U.L. recognized.

**Three phase** motors require a magnetic type starter which provides full 3-leg overload protection. Failure to use the correct starter and overloads will void the warranty.

All three phase motors are 208-230/460 volt, 60/50Hz, 3450/2900 RPM.

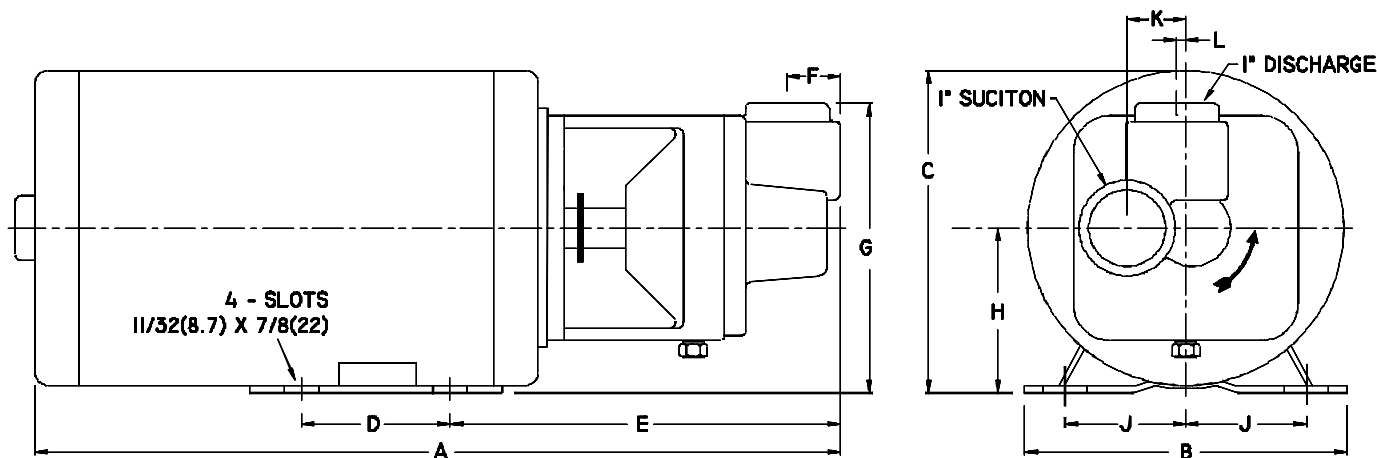
### FOR TEMPERATURES TO 500°F (260°C).

Series CT Pumps are available in a Jacketed Seal Cavity design for pumping hot oil, hot water and heat transfer fluids in common use in high temperature heating or cooling applications. This feature greatly extends seal life in high temperature applications. To order, add suffix "J" to pump catalog number for temperatures below 400°F (204°C) and add suffix "JK" to pump catalog number for temperatures over 400°F (204°C). Example: 5CT5MJ. See Section on High Temperature Pumps for more information.

| MATERIALS OF CONSTRUCTION |                                   |                                   |                                   |
|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| PART                      | BRONZE<br>FITTED                  | ALL BRONZE                        | STAINLESS<br>STEEL                |
| Frame                     | Cast Iron                         | Bronze                            | #316 Stainless                    |
| Impeller                  | Bronze<br>(Monel Blades)          | Bronze<br>(Monel Blades)          | #303 Stainless                    |
| Raceway                   | Bronze                            | Bronze                            | #303 Stainless                    |
| Shaft                     | #316 Stainless                    | #316 Stainless                    | #316 Stainless                    |
| Shaft Seal                | Carbon-Ceramic<br>S. Steel-Buna-N | Carbon-Ceramic<br>S. Steel-Buna-N | Carbon-Ceramic<br>S. Steel-Buna-N |



## DIMENSIONS



| DIMENSIONS IN INCHES |     |              |              |                                |                                |                               |                               |   |                               |   |                               |                               |                                |                                |                                |
|----------------------|-----|--------------|--------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|---|-------------------------------|---|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| SERIES               | HP  | Tappings     |              | 1 PH<br>A                      | 3 PH<br>A                      | B                             | C                             | D | E                             | F | G                             | H                             | J                              | K                              | L                              |
|                      |     | Disc.<br>NPT | Suct.<br>NPT |                                |                                |                               |                               |   |                               |   |                               |                               |                                |                                |                                |
| 4CT                  | 1/4 | 1            | 1            | 16 <sup>1</sup> / <sub>4</sub> | ----                           | 6 <sup>1</sup> / <sub>2</sub> | 6 <sup>5</sup> / <sub>8</sub> | 3 | 7 <sup>7</sup> / <sub>8</sub> | 1 | 5 <sup>7</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>2</sub> | 2 <sup>7</sup> / <sub>16</sub> | 1 <sup>5</sup> / <sub>32</sub> | 3 <sup>3</sup> / <sub>16</sub> |
| CT                   | 1/3 | 1            | 1            | 16 <sup>1</sup> / <sub>4</sub> | 16 <sup>1</sup> / <sub>4</sub> | 6 <sup>1</sup> / <sub>2</sub> | 6 <sup>5</sup> / <sub>8</sub> | 3 | 7 <sup>7</sup> / <sub>8</sub> | 1 | 5 <sup>7</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>2</sub> | 2 <sup>7</sup> / <sub>16</sub> | 1 <sup>5</sup> / <sub>32</sub> | 3 <sup>3</sup> / <sub>16</sub> |
|                      | 1/2 | 1            | 1            | 16 <sup>1</sup> / <sub>4</sub> | 16 <sup>1</sup> / <sub>4</sub> | 6 <sup>1</sup> / <sub>2</sub> | 6 <sup>5</sup> / <sub>8</sub> | 3 | 7 <sup>7</sup> / <sub>8</sub> | 1 | 5 <sup>7</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>2</sub> | 2 <sup>7</sup> / <sub>16</sub> | 1 <sup>5</sup> / <sub>32</sub> | 3 <sup>3</sup> / <sub>16</sub> |
|                      | 3/4 | 1            | 1            | 16 <sup>1</sup> / <sub>4</sub> | 16 <sup>1</sup> / <sub>4</sub> | 6 <sup>1</sup> / <sub>2</sub> | 6 <sup>5</sup> / <sub>8</sub> | 3 | 7 <sup>7</sup> / <sub>8</sub> | 1 | 5 <sup>7</sup> / <sub>8</sub> | 3 <sup>1</sup> / <sub>2</sub> | 2 <sup>7</sup> / <sub>16</sub> | 1 <sup>5</sup> / <sub>32</sub> | 3 <sup>3</sup> / <sub>16</sub> |

| DIMENSIONS IN MILLIMETERS |     |                   |                   |           |           |     |     |    |     |    |     |    |    |    |     |
|---------------------------|-----|-------------------|-------------------|-----------|-----------|-----|-----|----|-----|----|-----|----|----|----|-----|
| SERIES                    | HP  | Tappings          |                   | 1 PH<br>A | 3 PH<br>A | B   | C   | D  | E   | F  | G   | H  | J  | K  | L   |
|                           |     | Disc.<br>NPT (in) | Suct.<br>NPT (in) |           |           |     |     |    |     |    |     |    |    |    |     |
| 4CT                       | 1/4 | 1                 | 1                 | 413       | ----      | 165 | 168 | 76 | 200 | 25 | 149 | 89 | 62 | 29 | 4.8 |
| CT                        | 1/3 | 1                 | 1                 | 413       | 413       | 165 | 168 | 76 | 200 | 25 | 149 | 89 | 62 | 29 | 4.8 |
|                           | 1/2 | 1                 | 1                 | 413       | 413       | 165 | 168 | 76 | 200 | 25 | 149 | 89 | 62 | 29 | 4.8 |
|                           | 3/4 | 1                 | 1                 | 413       | 413       | 165 | 168 | 76 | 200 | 25 | 149 | 89 | 62 | 29 | 4.8 |

Dimensions shown above are approximate maximum dimensions for standard pumps equipped with open drip-proof motors.

A strainer, approximately 20 mesh, should be installed on the suction side of the pump to prevent chips, scale or hard foreign particales from entering the pump and damaging the raceway and impeller.



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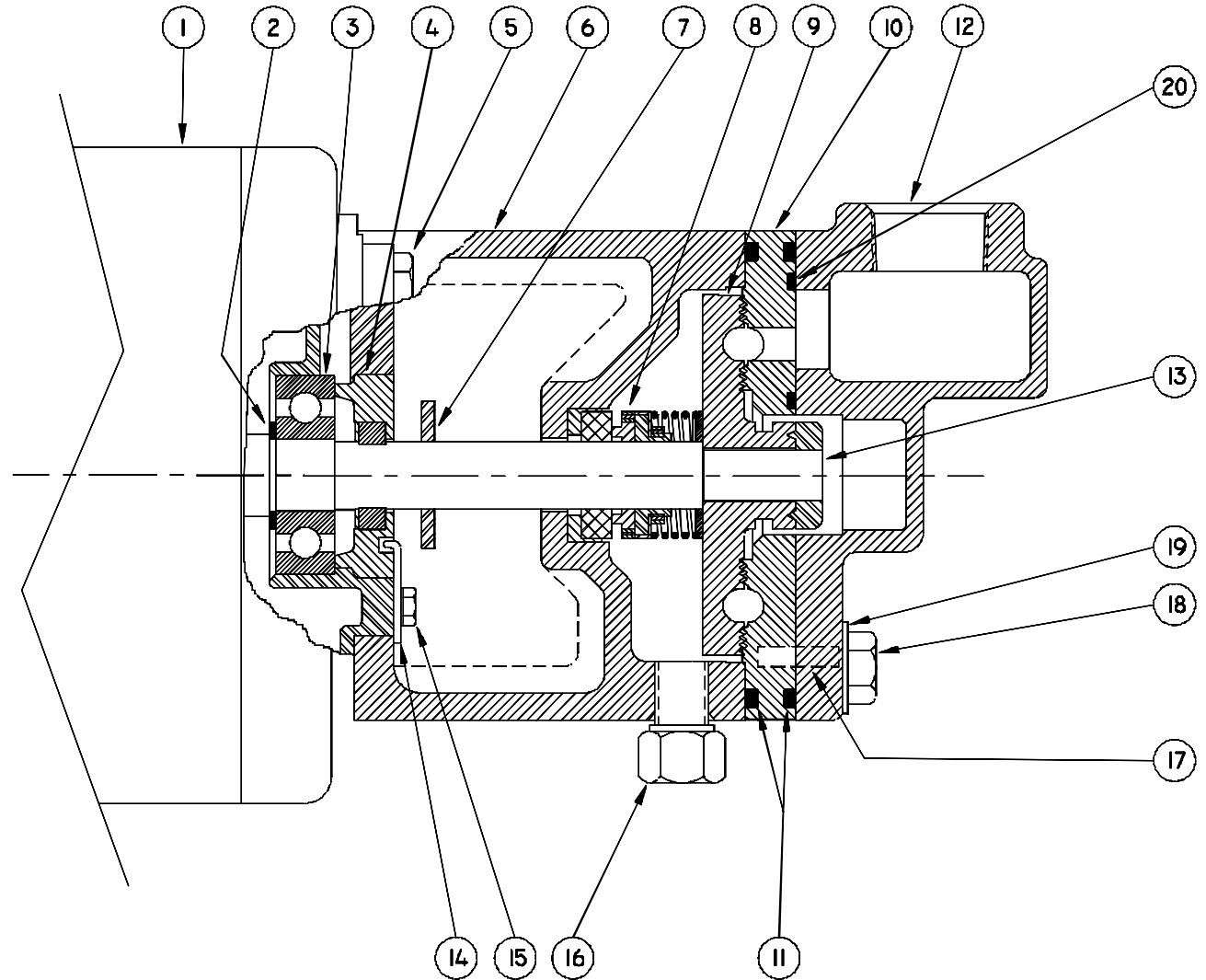
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TCCP-74

| 1 - MOTORS                                                         |                                           |                        |
|--------------------------------------------------------------------|-------------------------------------------|------------------------|
| RPM & PHASE                                                        | PART NUMBER                               | HP                     |
| <b>1725RPM - OPEN DRIP PROOF - SINGLE PHASE</b>                    |                                           |                        |
| 1725 RPM Single Phase (ODP)                                        | 09755                                     | 1/4                    |
| <b>3450RPM - OPEN DRIP PROOF - SINGLE PHASE</b>                    |                                           |                        |
| 3450 RPM Single Phase (ODP)                                        | 09896                                     | 1/3                    |
|                                                                    | 09897                                     | 1/2                    |
|                                                                    | 09898                                     | 3/4                    |
| <b>3450/2900 RPM - OPEN DRIP PROOF - THREE PHASE</b>               |                                           |                        |
| 3450/2900 RPM Three Phase (ODP)                                    | 09704                                     | 1/3                    |
|                                                                    | 09637                                     | 1/2                    |
|                                                                    | 09622                                     | 3/4                    |
| <b>3450/2900 RPM - TOTALLY ENCLOSED</b>                            |                                           |                        |
| 3450/2900 RPM Single Phase (TEFC)                                  | 09793                                     | 3/4                    |
| 3450/2900 RPM Three Phase (TEFC)                                   | 09794<br>20472 (60/50)                    | 3/4<br>1               |
| <b>2900 RPM - 50 HZ<br/>OPEN DRIP PROOF &amp; TOTALLY ENCLOSED</b> |                                           |                        |
| 2900 RPM Single Phase (ODP)                                        | 09896-50<br>09897-50<br>09898-50<br>20142 | 1/3<br>1/2<br>3/4<br>1 |
| 2900 RPM Three Phase (TEFC)- 60/50                                 | 20472                                     | 1                      |



**SERIES: CT STAINLESS STEEL CLOSE COUPLED TURBINE PUMPS**

File: CT-SLS.dwg

| SYMBOL NUMBER | PART NUMBER | QUANTITY | DESCRIPTION                            |
|---------------|-------------|----------|----------------------------------------|
| 2             | 02726       | 1        | Washer - Bearing Back Up               |
| 3             | 09164       | 1        | Ball Bearing - Pump End                |
| 4             | 01332-B     | 1        | Screw, Impeller Adjusting              |
| 5             | 03121-B     | 4        | Screw, 1/4-20 x 3/4                    |
| 6             | 09521-C     | 1        | Frame                                  |
| 7             | 08105       | 1        | Slinger Washer                         |
| 8             | 08514-C     | 1        | Mechanical Seal - Buna N               |
|               | 09762       | 1        | Mechanical Seal - Viton                |
|               | 20764-C     | 1        | Mechanical Seal - EPDM*                |
| 9             | SA09524-A-5 | 1        | Impeller - 5/16 CT5M - S.S.            |
|               | SA09524-A-6 | 1        | Impeller - 3/8 CT6M - S.S.             |
|               | SA09524-A-7 | 1        | Impeller - 7/16 CT7M - S.S.            |
| 10            | 20706-5     | 1        | Raceway, Plate Type - 5/16 CT5M - S.S. |
|               | 20706-6     | 1        | Raceway, Plate Type - 3/8 CT6M - S.S.  |
|               | 20706-7     | 1        | Raceway, Plate Type - 7/16 CT7M - S.S. |
| 11            | 09530       | 2        | O-Ring Gasket - Buna N                 |
|               | 09699       | 2        | O-Ring Gasket - Viton                  |
|               | 22134       | 2        | O-Ring Gasket - EPT*                   |
|               | 09530-T     | 2        | O-Ring Gasket - Teflon                 |

| SYMBOL NUMBER | PART NUMBER | QUANTITY | DESCRIPTION                     |
|---------------|-------------|----------|---------------------------------|
| 12            | 09525-B     | 1        | Housing, Raceway                |
| 13            | 02258-A     | 1        | Locknut, Impeller               |
| 14            | 07576       | 1        | Lock, Adjusting Screw           |
| 15            | 07577       | 1        | Screw, #10 x 3/8" Lg.           |
| 16            | 04236-A     | 1        | Pipe Plug, 1/4" Hex Hd.         |
| 17            | 20101       | 1        | Pin, Locating - 3/16 x 3/4" Lg. |
| 18            | 01929-B     | 4        | Cap Screw, 3/8 x 1-1/2" Lg      |
| 19            | 20056       | 4        | Lockwasher                      |
| 20            | 21472       | 1        | O-Ring, Viton (std.)            |
|               | 22065       | 1        | O-Ring, Teflon                  |
|               | 22843       | 1        | O-Ring, EPT*                    |

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