

# ZP SERIES

## POSITIVE DISPLACEMENT PUMPS



# ZP Series Pumps

## REDEFINING ENGINEERED EXCELLENCE

The ZP Series establishes a new standard of value, quality and features in the positive displacement pump market.

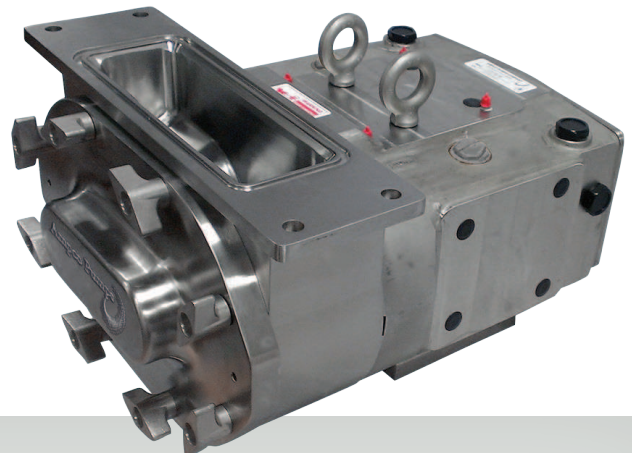
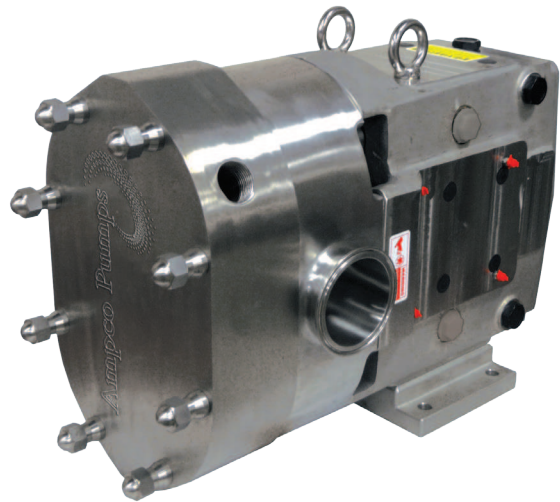
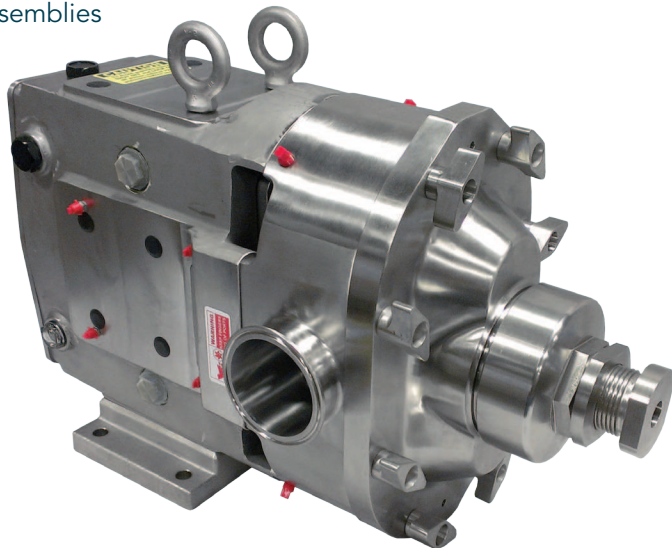
In 2010, Ampco introduced the ZP1 and ZP2 Series of positive displacement pumps. The ZP Series offers more standard features than competing pumps including a stainless steel gearcase. ZP1 and ZP2 Series pumps are part-for-part, 100% interchangeable with the competition.

Raising the bar in 2012 Ampco introduced the ZP3 Series. The patented ZP3 is fully CIP-able without modification or loss of efficiency. The front-loading seal design allows for fast and easy maintenance without removing process piping or the heavy fluid end. The unique rotor case design eliminates all dead zones within the pump making the ZP3 the only fully CIP-able choice in sanitary positive displacement pumps. The ZP3 is EHEDG certified; in conformance with 3A standards and the ATEX Directive.

Further advancing the traditional design features of positive displacement pumps Ampco introduced the patented ZP1+ Series, which is designed to allow o-ring seals to be changed without disconnecting the pump from the piping system. Both the ZP3 and ZP1+ set a new standard for sanitary processing. The entire ZP Series offers quality, enhanced features, value and proven performance.

### Available Options

- Rectangular inlets
- Heating jackets
- Pressure relief valves
- Aseptic design
- Optional rotor designs
- Full assemblies
- Flat body profile
- Tethered wing nuts
- Cover handles
- Consult with engineering for additional options



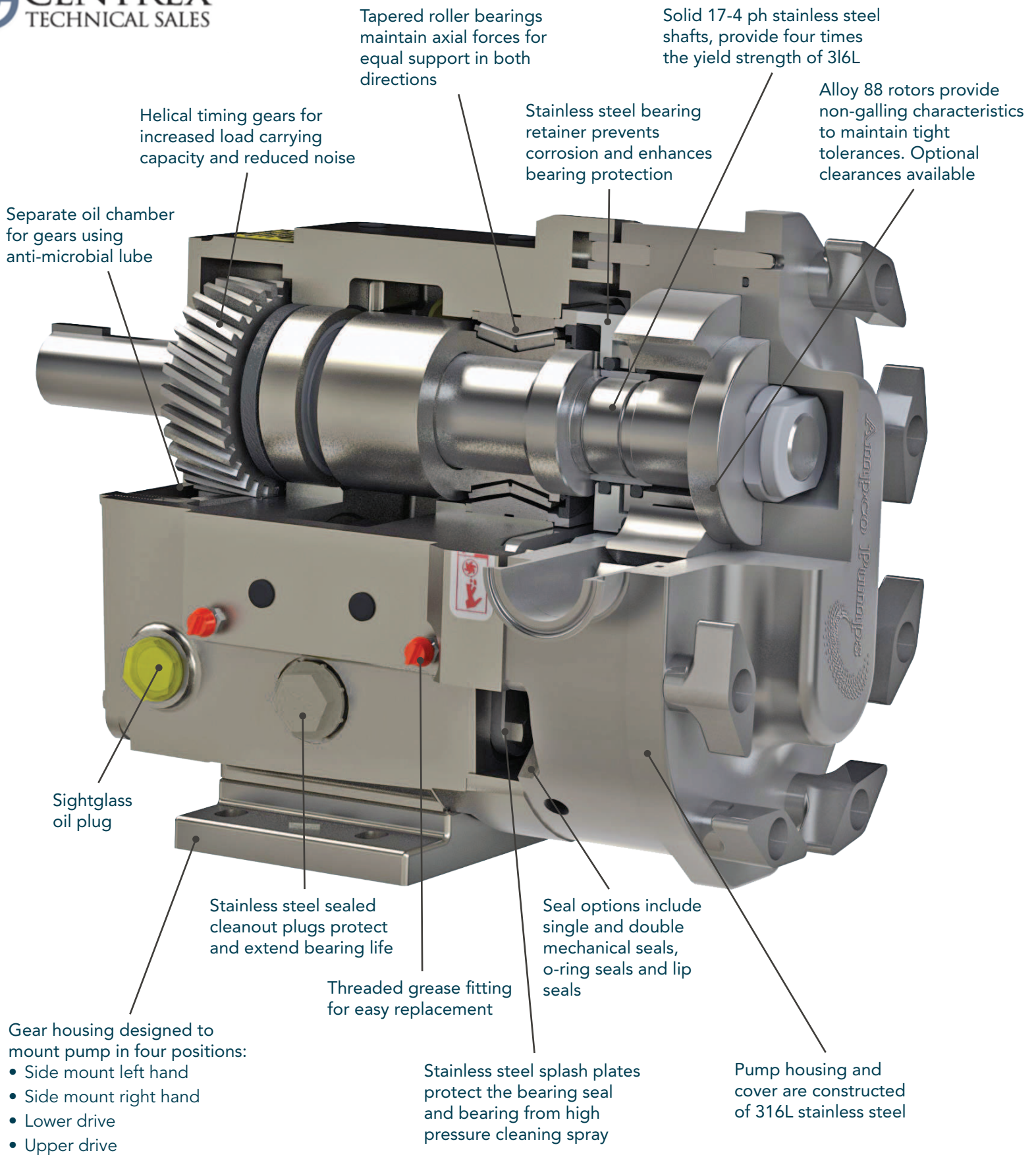
### ZP GENERAL PERFORMANCE RANGE

- Capacity range: 0.1 to 648 gpm (0.02 to 147.2 m<sup>3</sup>/hr)
- Pressure range: up to 500 psi/34 Bar
- Temperature range: -40°F to +300°F (-40°C to +150°C)  
Note: Hot clearances required for high temp operation
- Viscosity range: 1 to 1,000,000 CPS



Ampco Pumps Company is  
ISO 9001:2008 certified.





#### ALL ZP PUMPS INCLUDE

a stainless steel gearcase, providing high-resistance to corrosion and compatibility with caustic agents.

#### ALL ZP PUMPS INCLUDE

stainless steel cleanout plugs and splash plate.

#### ALL STAINLESS STEEL

hardware prevents corrosion and stripped bolts.

## ZP1+ SERIES

Ampco continues to bring innovation to the sanitary pump market. We have enhanced the traditional design of the popular ZP1 pump and are pleased to introduce the **NEW** ZP1+ (available in models 30 and larger) for ease of maintenance and reduced downtime.

## Patent Pending ZP1+ Easy Maintenance and Reduced Downtime

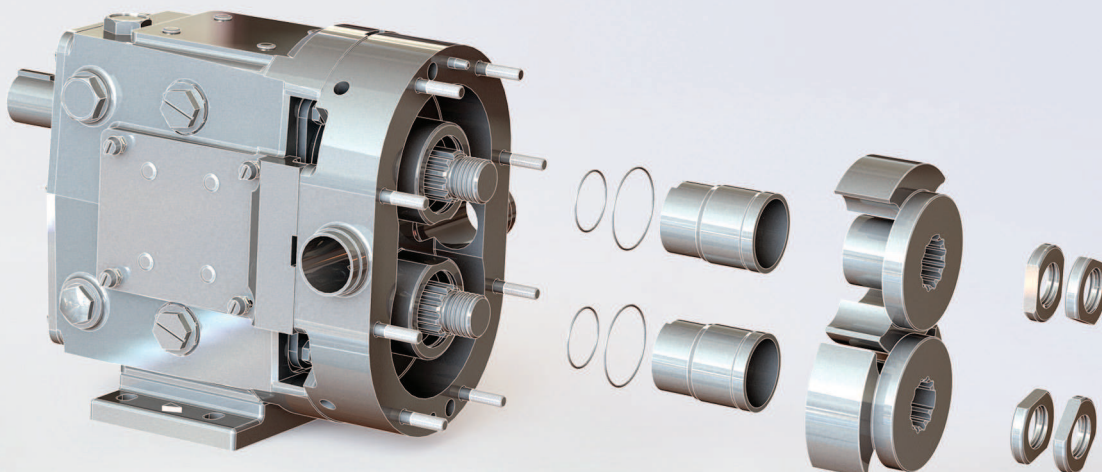
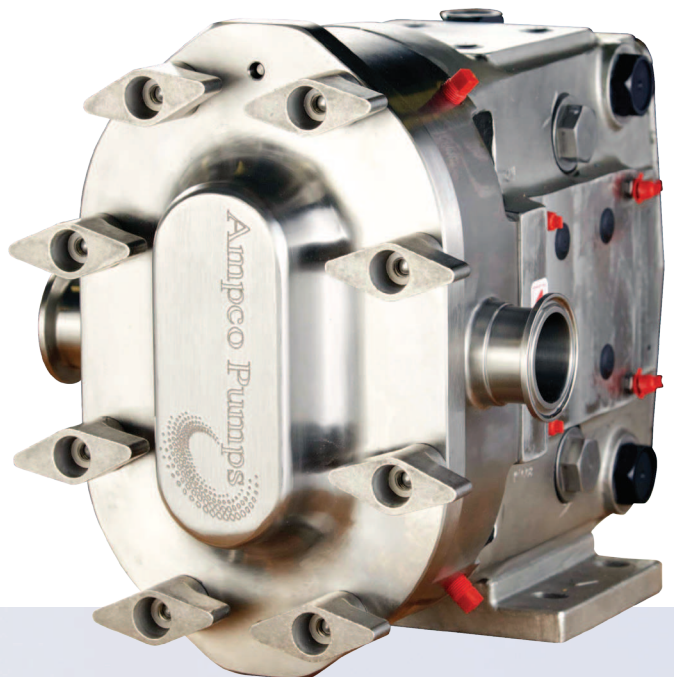


### AMPCO ZP1+ DESIGN

The patent pending design changes the position of the dynamic o-ring, allowing replacement without removing the body or having to disconnect the pump from the piping system. The one piece sleeve design seals the pump if the rotors are removed for CIP processing. Fewer parts, simple maintenance and reduced downtime all lead to substantial savings.

### REMANUFACTURING OPTION

Existing ZP1 pumps (and competing models) can be converted to a ZP1+ pump during the remanufacturing process at no extra charge.



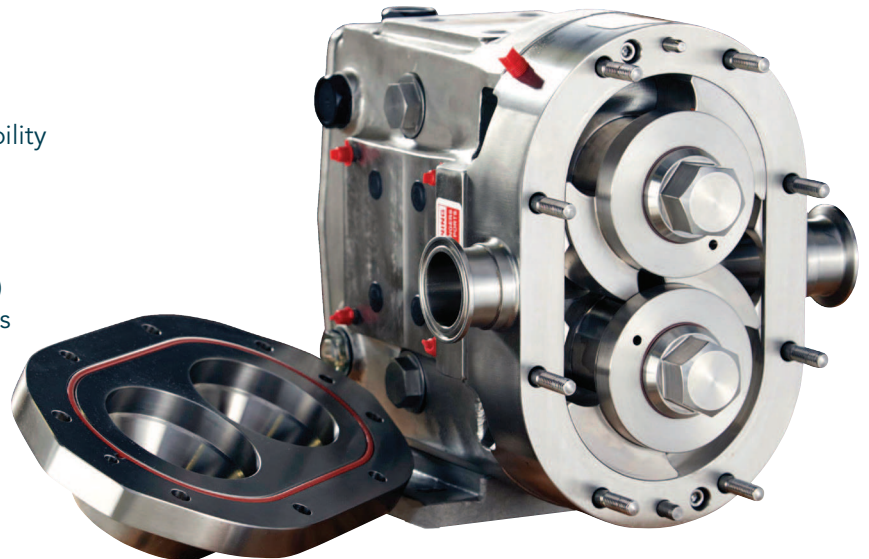
## ZP3 SERIES

### THE SIMPLE CHOICE FOR SANITARY PROCESSING

Ampco's patented ZP3 Series is CIP-able without modification or loss of efficiency. The front-loading seal design reduces maintenance time and costs.

### ZP3 SERIES FEATURES

- Front-loading seals are located closer to the product flow, offering improved CIP-ability with no disassembly required.
- Front-loading seals allow for ease-of-maintenance and reduced service time. Maintenance personnel no longer need to disconnect the pump from piping.
- EHEDG Certified and in conformance with 3A Sanitary Standards and the ATEX Directive.
- Cover design maximizes exposure of the cover o-ring to the CIP fluid.
- Free drain design improves CIP-ability while maintaining maximum pump efficiency.
- CIP holes in rotor ensure turbulent flow to the cover hub.
- Elimination of dead zones in shaft bore improves cleanability and increases seal life.
- The ZP3 pump is mounted on a ZP2 gear case, including shafts, to maximize parts interchangeability.
- Existing ZP2 pumps (and our competitors' similar pumps) can be upgraded to the ZP3 design with new rotors, seals and re-machining the existing rotor case.
- New pumps can be reconditioned 2 to 3 times.

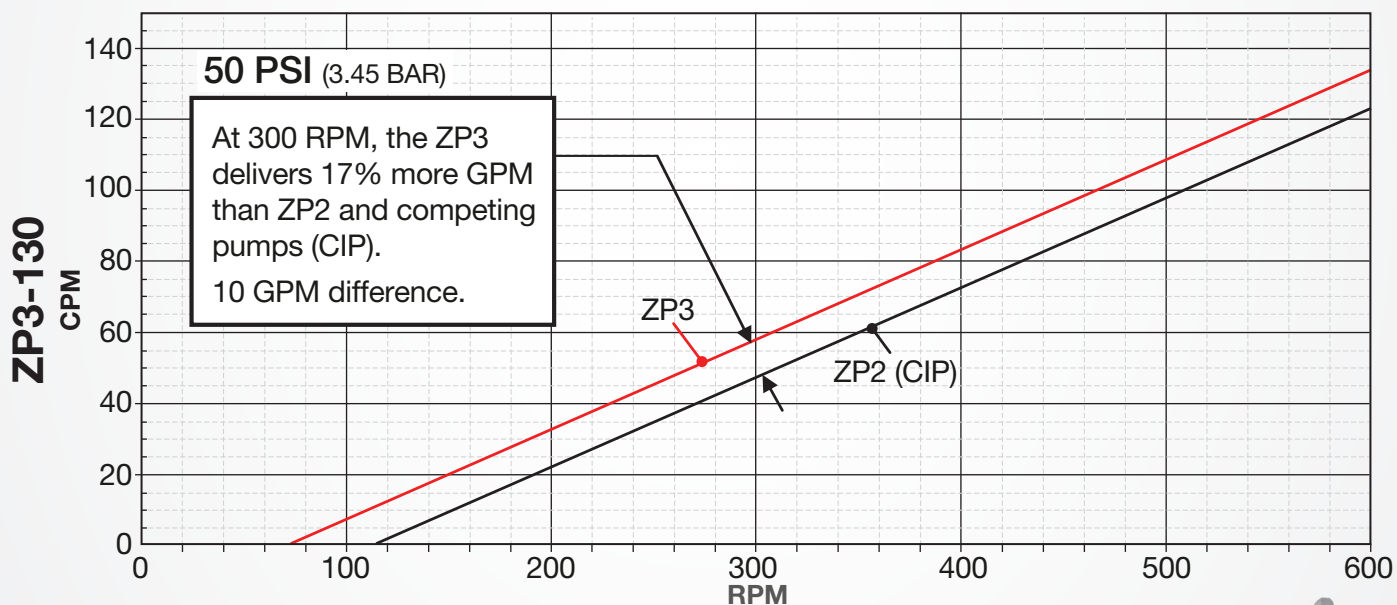
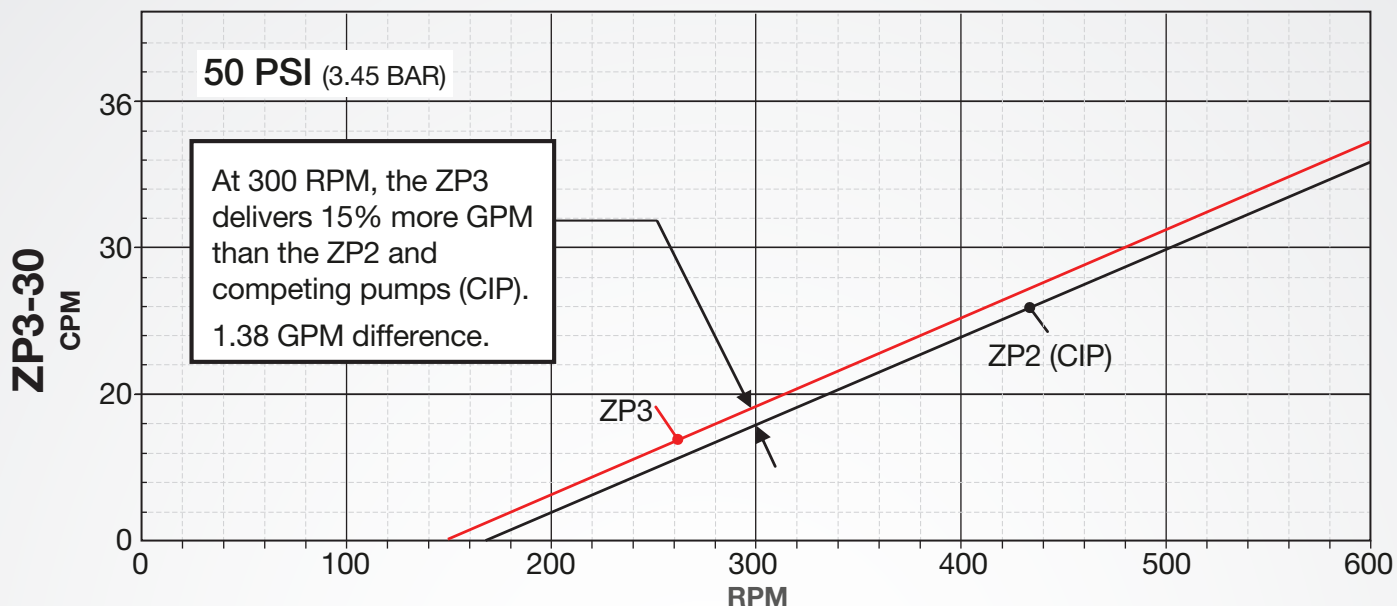


For additional information on the ZP3 Series and other Ampco products, please visit [www.ampcopumps.com](http://www.ampcopumps.com).



# ZP3 PERFORMANCE

## SAMPLE COMPARISON CHART



### AMPCO ZP SERIES ADVANTAGES

Only Ampco ZP pumps offer all of these upgrades at no additional charge

- Stainless steel gearcase
- Stainless steel retainers
- 17-4ph shafts
- Helical gears
- 4-way mounting
- 2-side threaded grease zerks
- Anti-microbial lube
- 6 oil fill plugs with sight glass
- Gasketed stainless steel cleanout plugs and splash plate.



# ZP Series Pumps

## REDEFINING ENGINEERED EXCELLENCE

The ZP Series establishes a new standard of value, quality and features in the positive displacement pump market.

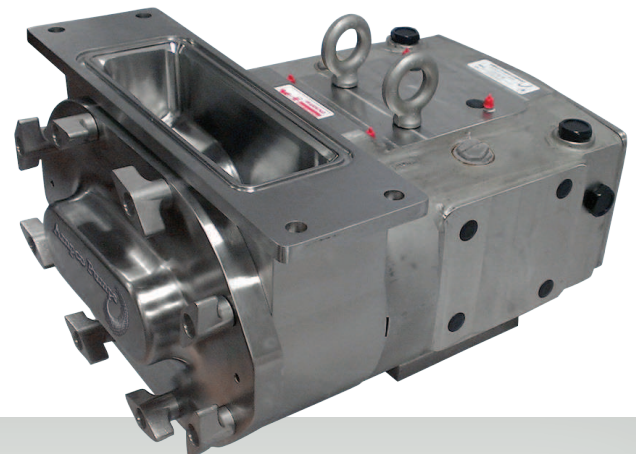
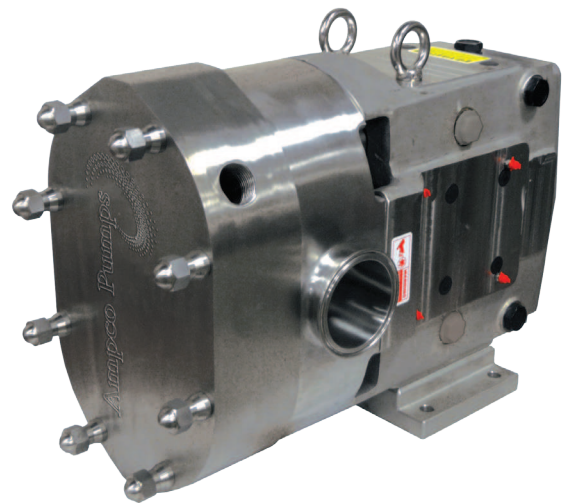
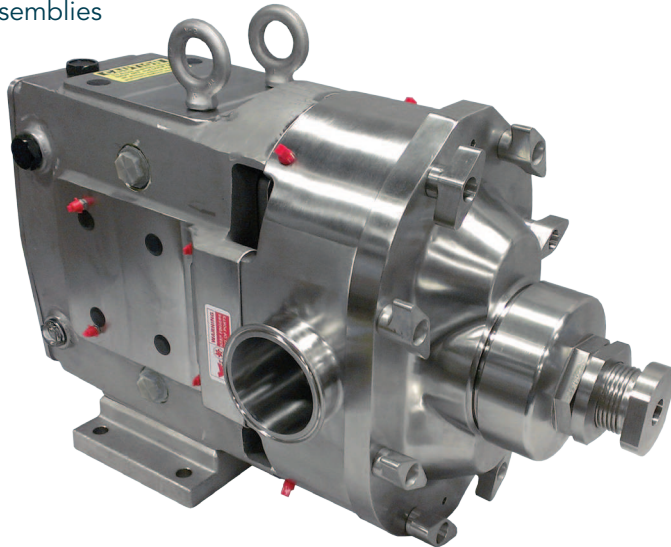
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Note: Hot clearances required for high temp operation
- Viscosity range: 1 to 1,000,000 CPS



Ampco Pumps Company is ISO 9001:2008 certified.



# ZP PUMP TECHNICAL DATA

### ZP1 PUMP PERFORMANCE

| Model<br>ZP1 | Nominal<br>Capacity |       | Displacement |       | Maximum<br>Differential Pressure |      | Standard<br>Connection Size |           | Optional<br>Connection Size |         | Maximum<br>Speed | Temperature<br>Range |                 |
|--------------|---------------------|-------|--------------|-------|----------------------------------|------|-----------------------------|-----------|-----------------------------|---------|------------------|----------------------|-----------------|
|              | GPM                 | M³/hr | Gal/Rev      | L/Rev | PSI                              | Bar  | IN.                         | MM.       | IN.                         | MM.     | Rev/Min          | °F                   | °C              |
| 6            | 7                   | 1.6   | .0082        | .031  | 200                              | 13.8 | 1"                          | 25        | 1½"                         | 38      | 800              | -40° to<br>300°      | -40° to<br>149° |
| 15           | 10                  | 2.3   | .0142        | .054  | 200                              | 13.8 | 1½"                         | 38        | —                           | —       | 700              |                      |                 |
| 18           | 17                  | 3.9   | .029         | .110  | 200                              | 13.8 | 1½"                         | 38        | 2"                          | 51      | 600              |                      |                 |
| 30           | 36                  | 8.2   | .060         | .227  | 200                              | 13.8 | 1½"                         | 38        | 2"                          | 51      | 600              |                      |                 |
| 40           | 46                  | 10.4  | .076         | .288  | 150                              | 10.3 | 2"                          | 51        | 2½"                         | 64      | 600              |                      |                 |
| 60           | 92                  | 20.9  | .153         | .579  | 200                              | 13.8 | 2½"                         | 64        | 3"                          | 76      | 600              |                      |                 |
| 130          | 152                 | 34.5  | .254         | .961  | 200                              | 13.8 | 3"                          | 76        | —                           | —       | 600              |                      |                 |
| 220          | 313                 | 71.1  | .522         | 1.976 | 200                              | 13.8 | 4"                          | 102       | —                           | —       | 600              |                      |                 |
| 320          | 452                 | 103   | .754         | 2.854 | 200                              | 13.8 | 6"                          | 152       | —                           | —       | 600              |                      |                 |
| 323          | 370                 | 84    | .616         | 2.332 | 225                              | 15.5 | 6"                          | 152       | —                           | —       | 600              |                      |                 |
| Model<br>ZP1 | Nominal<br>Capacity |       | Displacement |       | Maximum<br>Differential Pressure |      | Rec. Inlet (W x L)          |           | Outlet                      |         | Maximum<br>Speed | Temperature<br>Range |                 |
|              | GPM                 | M³/hr | Gal/Rev      | L/Rev | PSI                              | Bar  | IN.                         | MM.       | IN.                         | MM.     | Rev/Min          | °F                   | °C              |
| 34           | 24                  | 5.5   | .060         | .227  | 200                              | 13.8 | 1.75 x 6.75                 | 44 x 171  | 2"                          | 51      | 400              | -40° to<br>300°      | -40° to<br>149° |
| 64           | 61                  | 13.9  | .153         | .579  | 200                              | 13.8 | 2.24 x 8.82                 | 57 x 224  | 2½" (3")                    | 64 (76) | 400              |                      |                 |
| 134          | 102                 | 23.2  | .254         | .961  | 200                              | 13.8 | 2.97 x 9.25                 | 75 x 235  | 3"                          | 76      | 400              |                      |                 |
| 224          | 208                 | 47.2  | .521         | 1.972 | 200                              | 13.8 | 3.87 x 11                   | 98 x 279  | 4"                          | 102     | 400              |                      |                 |
| 324          | 301                 | 68.3  | 0.754        | 2.854 | 200                              | 13.8 | 5.00 x 17.38                | 127 x 441 | 6"                          | 152     | 400              |                      |                 |

### ZP2 / ZP3 PUMP PERFORMANCE

| Model<br>ZP2<br>ZP3 | Nominal Capacity |       | Displacement |       | Maximum Differential Pressure |      | Standard Connection Size |     | Optional Connection Size |     | Maximum Speed | Temperature Range |              |
|---------------------|------------------|-------|--------------|-------|-------------------------------|------|--------------------------|-----|--------------------------|-----|---------------|-------------------|--------------|
|                     | GPM              | M³/hr | Gal/Rev      | L/Rev | PSI                           | Bar  | IN.                      | MM. | IN.                      | MM. | Rev/Min       | °F                | °C           |
| 6                   | 8                | 1.8   | .0082        | .031  | 300                           | 20.7 | 1"                       | 25  | 1½"                      | 38  | 1000          | -40° to 300°      | -40° to 149° |
| 15                  | 11               | 2.5   | .0142        | .054  | 250                           | 17.2 | 1½"                      | 38  | —                        | —   | 800           |                   |              |
| 18                  | 20               | 4.5   | .029         | .110  | 200                           | 13.8 | 1½"                      | 38  | 2"                       | 51  | 700           |                   |              |
| 30                  | 36               | 8.2   | .060         | .227  | 250                           | 17.2 | 1½"                      | 38  | 2"                       | 51  | 600           |                   |              |
| 40                  | 46               | 10.4  | .076         | .288  | 150                           | 10.3 | 2"                       | 51  | 2½"                      | 64  | 600           |                   |              |
| 45                  | 59               | 13.4  | .098         | .371  | 450                           | 31.0 | 2"                       | 51  | —                        | —   | 600           |                   |              |
| 60                  | 92               | 20.9  | .153         | .579  | 300                           | 20.7 | 2½"                      | 64  | 3"                       | 76  | 600           |                   |              |
| 130                 | 152              | 34.5  | .254         | .961  | 200                           | 13.8 | 3"                       | 76  | —                        | —   | 600           |                   |              |
| 180                 | 228              | 51.8  | .380         | 1.438 | 450                           | 31.0 | 3"                       | 76  | —                        | —   | 600           |                   |              |
| 210                 | 301              | 68.4  | .502         | 1.900 | 500                           | 34.5 | 4"                       | 102 | —                        | —   | 600           |                   |              |
| 220                 | 313              | 71.1  | .522         | 1.976 | 300                           | 20.7 | 4"                       | 102 | —                        | —   | 600           |                   |              |
| 320                 | 452              | 103   | .754         | 2.854 | 300                           | 20.7 | 6"                       | 152 | —                        | —   | 600           |                   |              |

| Model<br>ZP2<br>ZP3 | Nominal Capacity |       | Displacement |       | Maximum Differential Pressure |      | Rec. Inlet (W x L) |             | Outlet   |         | Maximum Speed | Temperature Range |              |
|---------------------|------------------|-------|--------------|-------|-------------------------------|------|--------------------|-------------|----------|---------|---------------|-------------------|--------------|
|                     | GPM              | M³/hr | Gal/Rev      | L/Rev | PSI                           | Bar  | IN.                | MM.         | IN.      | MM.     | Rev/Min       | °F                | °C           |
| 34                  | 24               | 5.5   | .060         | .227  | 250                           | 17.2 | 1.81 x 6.84        | 46 x 174    | 2"       | 51      | 400           | -40° to 300°      | -40° to 149° |
| 64                  | 61               | 13.9  | .153         | .579  | 300                           | 20.7 | 2.44 x 9.0         | 62 x 229    | 2½" (3") | 64 (76) | 400           |                   |              |
| 134                 | 102              | 23.2  | .254         | .961  | 200                           | 13.8 | 3.19 x 9.38        | 81 x 238    | 3"       | 76      | 400           |                   |              |
| 184                 | 152              | 34.5  | .380         | 1.438 | 450                           | 31.0 | 3.28 x 11.25       | 83 x 286    | 3"       | 76      | 400           |                   |              |
| 214                 | 200              | 45.4  | .502         | 1.90  | 500                           | 34.5 | 3.45 x 12.70       | 88 x 323    | 4"       | 102     | 400           |                   |              |
| 224                 | 208              | 47.2  | .521         | 1.972 | 300                           | 20.7 | 4.06 x 11.25       | 103 x 286   | 4"       | 102     | 400           |                   |              |
| 324                 | 401              | 91    | .752         | 2.847 | 300                           | 20.7 | 4.25 x 12.7        | 108 x 322.5 | 6"       | 152.4   | 400           |                   |              |

### XP PUMP PERFORMANCE

| XP<br>Model | Nominal Capacity |       | Displacement |       | Maximum Differential Pressure |      | STD Connection |     | Maximum Speed | Temperature Range |              |
|-------------|------------------|-------|--------------|-------|-------------------------------|------|----------------|-----|---------------|-------------------|--------------|
|             | GPM              | M³/hr | Gal/Rev      | L/Rev | PSI                           | Bar  | IN.            | MM. | Rev/Min       | °F                | °C           |
| 320         | 452              | 103   | .754         | 2.854 | 200                           | 13.8 | 6"             | 152 | 600           | -40° to 300°      | -40° to 149° |
| 323         | 370              | 84    | .616         | 2.332 | 225                           | 15.5 | 6"             | 152 | 600           |                   |              |
| 380         | 660              | 150   | 1.10         | 4.164 | 250                           | 17.2 | 6"             | 152 | 600           |                   |              |
| 420         | 648              | 145.4 | 1.62         | 6.129 | 200                           | 13.8 | 6"             | 152 | 400           |                   |              |
| 423         | 648              | 145.4 | 1.62         | 6.129 | 200                           | 13.8 | 6"             | 152 | 400           |                   |              |

# ZP1 PUMP DIMENSIONS

| Model ZP1 |    | A     | B    | C     | D     | E     | F    | G    | H         | J    | K     |
|-----------|----|-------|------|-------|-------|-------|------|------|-----------|------|-------|
| 6         | IN | 4.75  | 1.95 | 3.75  | 12.04 | 5.50  | 1.94 | 2.31 | .41, SLOT | 2.93 | 9.61  |
|           | MM | .21   | 50   | 95    | 306   | 140   | 49   | 59   | 10, SLOT  | 74   | 244   |
| 15        | IN | 4.75  | 1.95 | 3.75  | 12.04 | 5.50  | 1.94 | 2.31 | .41, SLOT | 2.93 | 9.61  |
|           | MM | 121   | 50   | 95    | 306   | 140   | 49   | 59   | 10, SLOT  | 74   | 244   |
| 18        | IN | 4.75  | 2.18 | 3.75  | 12.46 | 5.50  | 1.94 | 2.31 | .41, SLOT | 2.93 | 9.84  |
|           | MM | 121   | 55   | 95    | 316   | 140   | 49   | 59   | 10, SLOT  | 74   | 250   |
| 30        | IN | 6.25  | 2.78 | 4.25  | 14.58 | 6.86  | 2.31 | 2.56 | .41, SLOT | 3.56 | 11.61 |
|           | MM | 159   | 71   | 108   | 370   | 174   | 59   | 65   | 10, SLOT  | 90   | 295   |
| 40        | IN | 6.25  | 2.94 | 4.25  | 14.96 | 6.86  | 2.31 | 2.56 | .41, SLOT | 3.56 | 11.99 |
|           | MM | 159   | 75   | 108   | 380   | 174   | 59   | 65   | 10, SLOT  | 90   | 305   |
| 60        | IN | 8.25  | 4.14 | 5.87  | 18.91 | 9.56  | 3.50 | 4.12 | 0.53      | 5.06 | 15.14 |
|           | MM | 210   | 105  | 149   | 480   | 243   | 89   | 105  | 13        | 129  | 385   |
| 130       | IN | 8.25  | 4.78 | 5.87  | 19.85 | 9.56  | 3.50 | 4.12 | 0.53      | 5.06 | 15.77 |
|           | MM | 210   | 121  | 149   | 504   | 243   | 89   | 105  | 13        | 129  | 401   |
| 220       | IN | 8.50  | 3.69 | 9.00  | 23.37 | 12.38 | 3.75 | 7.25 | .53, SLOT | 6.38 | 18.49 |
|           | MM | 216   | 94   | 229   | 594   | 314   | 95   | 184  | 13 SLOT   | 162  | 470   |
| 320       | IN | 12.00 | 4.12 | 11.63 | 30.17 | 13.88 | 5.25 | 8.00 | .66, SLOT | 6.88 | 21.92 |
|           | MM | 305   | 105  | 295   | 766   | 353   | 133  | 203  | 17 SLOT   | 175  | 557   |
| 323       | IN | 12.00 | 4.12 | 11.63 | 30.17 | 13.88 | 5.25 | 8.00 | .66, SLOT | 6.88 | 21.92 |
|           | MM | 305   | 105  | 295   | 766   | 353   | 133  | 203  | 17 SLOT   | 175  | 557   |

# ZP2 ZP3 PUMP DIMENSIONS

| Model ZP2 / ZP3 |    | A     | B    | C     | D     | E     | F    | G    | H         | J    | K     |
|-----------------|----|-------|------|-------|-------|-------|------|------|-----------|------|-------|
| 6               | IN | 4.75  | 1.95 | 3.75  | 11.80 | 5.50  | 1.94 | 2.31 | .41, SLOT | 2.93 | 9.61  |
|                 | MM | 1.21  | 50   | 95    | 300   | 140   | 49   | 59   | 10, SLOT  | 74   | 244   |
| 15              | IN | 4.75  | 1.95 | 3.75  | 11.80 | 5.50  | 1.94 | 2.31 | .41, SLOT | 2.93 | 9.61  |
|                 | MM | 121   | 50   | 95    | 300   | 140   | 49   | 59   | 10, SLOT  | 74   | 244   |
| 18              | IN | 4.75  | 2.18 | 3.75  | 12.49 | 5.50  | 1.94 | 2.31 | .41, SLOT | 2.93 | 9.84  |
|                 | MM | 121   | 55   | 95    | 317   | 140   | 49   | 59   | 10, SLOT  | 74   | 250   |
| 30              | IN | 6.25  | 2.78 | 4.25  | 14.58 | 6.86  | 2.31 | 2.56 | .41, SLOT | 3.56 | 11.61 |
|                 | MM | 159   | 71   | 108   | 370   | 174   | 59   | 65   | 10, SLOT  | 90   | 295   |
| 40              | IN | 6.25  | 2.94 | 4.25  | 14.87 | 6.86  | 2.31 | 2.56 | .41, SLOT | 3.56 | 11.99 |
|                 | MM | 159   | 75   | 108   | 380   | 174   | 59   | 65   | 10, SLOT  | 90   | 305   |
| 45              | IN | 8.25  | 3.86 | 5.87  | 18.56 | 9.56  | 3.50 | 4.12 | 0.53      | 5.06 | 14.86 |
|                 | MM | 210   | 98   | 149   | 471   | 243   | 89   | 105  | 13        | 129  | 377   |
| 60              | IN | 8.25  | 4.14 | 5.87  | 19.32 | 9.56  | 3.50 | 4.12 | 0.53      | 5.06 | 15.14 |
|                 | MM | 210   | 105  | 149   | 491   | 243   | 89   | 105  | 13        | 129  | 385   |
| 130             | IN | 8.25  | 4.78 | 5.87  | 20.33 | 9.56  | 3.50 | 4.12 | 0.53      | 5.06 | 15.77 |
|                 | MM | 210   | 121  | 149   | 516   | 243   | 89   | 105  | 13        | 129  | 401   |
| 180             | IN | 8.50  | 3.45 | 9.00  | 23.53 | 12.38 | 3.75 | 7.25 | .53, SLOT | 6.38 | 18.25 |
|                 | MM | 216   | 88   | 229   | 598   | 314   | 95   | 184  | 13 SLOT   | 162  | 464   |
| 220             | IN | 8.50  | 3.69 | 9.00  | 24.27 | 12.38 | 3.75 | 7.25 | .53, SLOT | 6.38 | 18.49 |
|                 | MM | 216   | 94   | 229   | 616   | 314   | 95   | 184  | 13 SLOT   | 162  | 470   |
| 210             | IN | 12.00 | 3.45 | 11.63 | 27.08 | 13.88 | 5.25 | 8.00 | .66, SLOT | 6.88 | 21.24 |
|                 | MM | 305   | 88   | 295   | 688   | 353   | 133  | 203  | 17 SLOT   | 175  | 539   |
| 320             | IN | 12.00 | 3.84 | 11.63 | 27.66 | 13.88 | 5.25 | 8.00 | .66, SLOT | 6.88 | 21.92 |
|                 | MM | 305   | 98   | 295   | 703   | 353   | 133  | 203  | 17 SLOT   | 175  | 557   |

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| Model XP |    | A     | B    | C     | D     | E     | F    | G     | H         | J    | K     |
|----------|----|-------|------|-------|-------|-------|------|-------|-----------|------|-------|
| 320      | IN | 12.00 | 4.12 | 11.63 | 30.17 | 13.88 | 5.25 | 8.00  | .66, SLOT | 6.88 | 21.92 |
|          | MM | 305   | 105  | 295   | 766   | 353   | 133  | 203   | 17 SLOT   | 175  | 557   |
| 323      | IN | 12.00 | 4.12 | 11.63 | 30.17 | 13.88 | 5.25 | 8.00  | .66, SLOT | 6.88 | 21.92 |
|          | MM | 305   | 105  | 295   | 766   | 353   | 133  | 203   | 17 SLOT   | 175  | 557   |
| 380      | IN | 12.00 | 4.13 | 11.63 | 30.28 | 13.88 | 5.25 | 8.00  | .66, SLOT | 6.88 | 21.95 |
|          | MM | 305   | 105  | 295   | 769   | 353   | 133  | 203   | 17, SLOT  | 175  | 558   |
| 420/423  | IN | 21.00 | 5.60 | 22.00 | 49.60 | 18.75 | 9.00 | 16.50 | 1.06      | 9.75 | 39.22 |
|          | MM | 533   | 142  | 559   | 1260  | 476   | 229  | 419   | 27        | 248  | 996   |

| L    | M    | N     | Port Size   | P    | Q     | Key    | R    | S     | OAH   | Weight |     |
|------|------|-------|-------------|------|-------|--------|------|-------|-------|--------|-----|
| 2.12 | 2.00 | 4.21  | 1"          | 2.79 | 0.875 | 0.1875 | 3.49 | 6.97  | 8.30  | LB     | 60  |
| 54   | 51   | 107   | 25          | 71   | 22.2  | 4.76   | 89   | 177   | 211   | KG     | 27  |
| 2.12 | 2.00 | 4.21  | 1½"         | 2.79 | 0.875 | 0.1875 | 3.49 | 6.97  | 8.30  | LB     | 60  |
| 54   | 51   | 107   | 38          | 71   | 22.2  | 4.76   | 89   | 177   | 211   | KG     | 27  |
| 212  | 2.00 | 4.21  | 1½"         | 3.02 | 0.875 | 0.1875 | 3.55 | 7.09  | 8.30  | LB     | 64  |
| 54   | 51   | 107   | 38          | 77   | 22.2  | 4.76   | 90   | 180   | 211   | KG     | 29  |
| 2.62 | 2.32 | 5.21  | 1½"         | 3.84 | 1.25  | 0.250  | 4.25 | 8.50  | 10.29 | LB     | 130 |
| 67   | 59   | 132   | 38          | 98   | 31.8  | 6.35   | 108  | 216   | 261   | KG     | 59  |
| 2.62 | 2.32 | 5.21  | 2"          | 4.00 | 1.25  | 0.250  | 4.31 | 8.62  | 10.29 | LB     | 140 |
| 67   | 59   | 132   | 51          | 102  | 31.8  | 6.35   | 109  | 219   | 261   | KG     | 64  |
| 3.50 | 2.25 | 7.31  | 2½"         | 5.01 | 1.625 | 0.375  | 5.37 | 10.75 | 15.31 | LB     | 285 |
| 89   | 57   | 186   | 64          | 127  | 41.3  | 9.53   | 136  | 273   | 389   | KG     | 129 |
| 3.50 | 2.25 | 7.31  | 3"          | 5.65 | 1.625 | 0.375  | 5.37 | 10.75 | 15.31 | LB     | 305 |
| 89   | 57   | 186   | 76          | 144  | 41.3  | 9.53   | 136  | 273   | 389   | KG     | 138 |
| 4.50 | 2.75 | 9.38  | 4"          | 4.44 | 2.00  | 0.500  | 6.63 | 13.25 | 19.13 | LB     | 565 |
| 114  | 70   | 238   | 102         | 113  | 50.8  | 12.70  | 168  | 337   | 486   | KG     | 256 |
| 5.06 | 4.06 | 10.38 | 6" 150# FLG | 5.37 | 2.375 | 0.625  | 8.00 | 16.00 | 22.38 | LB     | 900 |
| 129  | 103  | 264   |             | 136  | 60.3  | 15.88  | 203  | 406   | 568   | KG     | 408 |
| 5.06 | 4.06 | 10.38 | 6" 150# FLG | 5.37 | 2.375 | 0.625  | 8.00 | 16.00 | 22.38 | LB     | 900 |
| 129  | 103  | 264   |             | 163  | 60.3  | 15.88  | 203  | 406   | 568   | KG     | 408 |

| L    | M    | N     | Port Size   | P    | Q     | Key    | R    | S     | OAH   | Weight |     |
|------|------|-------|-------------|------|-------|--------|------|-------|-------|--------|-----|
| 2.12 | 2.00 | 4.21  | 1"          | 2.79 | 0.875 | 0.1875 | 3.49 | 6.97  | 8.30  | LB     | 56  |
| 54   | 51   | 107   | 25          | 71   | 22.2  | 4.76   | 89   | 177   | 211   | KG     | 25  |
| 2.12 | 2.00 | 4.21  | 1½"         | 2.79 | 0.875 | 0.1875 | 3.49 | 6.97  | 8.30  | LB     | 60  |
| 54   | 51   | 107   | 38          | 71   | 22.2  | 4.76   | 89   | 177   | 211   | KG     | 27  |
| 2.12 | 2.00 | 4.21  | 1½"         | 3.02 | 0.875 | 0.1875 | 3.49 | 6.97  | 8.30  | LB     | 65  |
| 54   | 51   | 107   | 38          | 77   | 22.2  | 4.76   | 89   | 177   | 211   | KG     | 30  |
| 2.62 | 2.32 | 5.21  | 1½"         | 3.84 | 1.25  | 0.250  | 4.25 | 8.50  | 10.29 | LB     | 130 |
| 67   | 59   | 132   | 38          | 98   | 31.8  | 6.35   | 108  | 216   | 261   | KG     | 59  |
| 2.62 | 2.32 | 5.21  | 2"          | 4.00 | 1.25  | 0.250  | 4.31 | 8.62  | 10.29 | LB     | 140 |
| 67   | 59   | 132   | 51          | 102  | 31.8  | 6.35   | 109  | 219   | 261   | KG     | 64  |
| 3.50 | 2.25 | 7.31  | 2"          | 4.73 | 1.625 | 0.375  | 5.37 | 10.75 | 15.31 | LB     | 265 |
| 89   | 57   | 186   | 51          | 120  | 41.3  | 9.53   | 136  | 273   | 389   | KG     | 120 |
| 3.50 | 2.25 | 7.31  | 2½"         | 5.01 | 1.625 | 0.375  | 5.37 | 10.75 | 15.31 | LB     | 285 |
| 89   | 57   | 186   | 64          | 127  | 41.3  | 9.53   | 136  | 273   | 389   | KG     | 129 |
| 3.50 | 2.25 | 7.31  | 3"          | 5.65 | 1.625 | 0.375  | 5.37 | 10.75 | 15.31 | LB     | 305 |
| 89   | 57   | 186   | 76          | 144  | 41.3  | 9.53   | 136  | 273   | 389   | KG     | 138 |
| 4.50 | 2.75 | 9.38  | 3"          | 4.20 | 2.00  | 0.500  | 6.53 | 13.06 | 19.13 | LB     | 520 |
| 114  | 70   | 238   | 76          | 107  | 50.8  | 12.70  | 166  | 332   | 486   | KG     | 236 |
| 4.50 | 2.75 | 9.38  | 4"          | 4.44 | 2.00  | 0.500  | 6.63 | 13.25 | 19.13 | LB     | 590 |
| 114  | 70   | 238   | 102         | 113  | 50.8  | 12.70  | 168  | 337   | 486   | KG     | 268 |
| 5.06 | 4.06 | 10.38 | 4"          | 4.70 | 2.38  | 0.625  | 7.38 | 14.75 | 22.38 | LB     | 802 |
| 129  | 103  | 264   | 102         | 119  | 60.5  | 15.88  | 187  | 375   | 568   | KG     | 364 |
| 5.06 | 4.06 | 10.38 | 6" 150# FLG | 5.09 | 2.38  | 0.625  | 8.00 | 16.00 | 22.38 | LB     | 850 |
| 129  | 103  | 264   |             | 129  | 60.5  | 15.88  | 203  | 406   | 568   | KG     | 386 |

| L    | M    | N     | Port Size   | P    | Q     | Key   | R     | S     | OAH   | Weight |      |
|------|------|-------|-------------|------|-------|-------|-------|-------|-------|--------|------|
| 5.06 | 4.06 | 10.38 | 6" 150# FLG | 5.37 | 2.375 | 0.625 | 8.00  | 16.00 | 22.38 | LB     | 900  |
| 129  | 103  | 264   |             | 136  | 60.3  | 15.88 | 203   | 406   | 568   | KG     | 408  |
| 5.06 | 4.06 | 10.38 | 6" 150# FLG | 5.37 | 2.375 | 0.625 | 8.00  | 16.00 | 22.38 | LB     | 900  |
| 129  | 103  | 264   |             | 163  | 60.3  | 15.88 | 203   | 406   | 568   | KG     | 408  |
| 5.06 | 4.03 | 10.38 | 6" 150# FLG | 5.38 | 2.375 | 0.625 | 8.00  | 16.00 | 22.38 | LB     | 1100 |
| 129  | 102  | 264   |             | 137  | 60.3  | 15.88 | 203   | 406   | 568   | KG     | 499  |
| 7.69 | 6.04 | 14.25 | 6" 150# FLG | 8.35 | 3.875 | 1.00  | 11.25 | 22.50 | 27.25 | LB     | 2600 |
| 195  | 153  | 362   |             | 212  | 98.43 | 25.4  | 286   | 572   | 692   | KG     | 1179 |

# ZP PUMP TECHNICAL DATA

## ZP1 PUMP PERFORMANCE

| Model<br>ZP1 | Nominal<br>Capacity |       | Displacement |       | Maximum<br>Differential Pressure |      | Standard<br>Connection Size |           | Optional<br>Connection Size |         | Maximum<br>Speed | Temperature<br>Range |                 |
|--------------|---------------------|-------|--------------|-------|----------------------------------|------|-----------------------------|-----------|-----------------------------|---------|------------------|----------------------|-----------------|
|              | GPM                 | M³/hr | Gal/Rev      | L/Rev | PSI                              | Bar  | IN.                         | MM.       | IN.                         | MM.     | Rev/Min          | °F                   | °C              |
| 6            | 7                   | 1.6   | .0082        | .031  | 200                              | 13.8 | 1"                          | 25        | 1½"                         | 38      | 800              | -40° to<br>300°      | -40° to<br>149° |
| 15           | 10                  | 2.3   | .0142        | .054  | 200                              | 13.8 | 1½"                         | 38        | —                           | —       | 700              |                      |                 |
| 18           | 17                  | 3.9   | .029         | .110  | 200                              | 13.8 | 1½"                         | 38        | 2"                          | 51      | 600              |                      |                 |
| 30           | 36                  | 8.2   | .060         | .227  | 200                              | 13.8 | 1½"                         | 38        | 2"                          | 51      | 600              |                      |                 |
| 40           | 46                  | 10.4  | .076         | .288  | 150                              | 10.3 | 2"                          | 51        | 2½"                         | 64      | 600              |                      |                 |
| 60           | 92                  | 20.9  | .153         | .579  | 200                              | 13.8 | 2½"                         | 64        | 3"                          | 76      | 600              |                      |                 |
| 130          | 152                 | 34.5  | .254         | .961  | 200                              | 13.8 | 3"                          | 76        | —                           | —       | 600              |                      |                 |
| 220          | 313                 | 71.1  | .522         | 1.976 | 200                              | 13.8 | 4"                          | 102       | —                           | —       | 600              |                      |                 |
| 320          | 452                 | 103   | .754         | 2.854 | 200                              | 13.8 | 6"                          | 152       | —                           | —       | 600              |                      |                 |
| 323          | 370                 | 84    | .616         | 2.332 | 225                              | 15.5 | 6"                          | 152       | —                           | —       | 600              |                      |                 |
| Model<br>ZP1 | Nominal<br>Capacity |       | Displacement |       | Maximum<br>Differential Pressure |      | Rec. Inlet (W x L)          |           | Outlet                      |         | Maximum<br>Speed | Temperature<br>Range |                 |
|              | GPM                 | M³/hr | Gal/Rev      | L/Rev | PSI                              | Bar  | IN.                         | MM.       | IN.                         | MM.     | Rev/Min          | °F                   | °C              |
| 34           | 24                  | 5.5   | .060         | .227  | 200                              | 13.8 | 1.75 x 6.75                 | 44 x 171  | 2"                          | 51      | 400              | -40° to<br>300°      | -40° to<br>149° |
| 64           | 61                  | 13.9  | .153         | .579  | 200                              | 13.8 | 2.24 x 8.82                 | 57 x 224  | 2½" (3")                    | 64 (76) | 400              |                      |                 |
| 134          | 102                 | 23.2  | .254         | .961  | 200                              | 13.8 | 2.97 x 9.25                 | 75 x 235  | 3"                          | 76      | 400              |                      |                 |
| 224          | 208                 | 47.2  | .521         | 1.972 | 200                              | 13.8 | 3.87 x 11                   | 98 x 279  | 4"                          | 102     | 400              |                      |                 |
| 324          | 301                 | 68.3  | 0.754        | 2.854 | 200                              | 13.8 | 5.00 x 17.38                | 127 x 441 | 6"                          | 152     | 400              |                      |                 |

## ZP2 / ZP3 PUMP PERFORMANCE

| Model<br>ZP2<br>ZP3 | Nominal Capacity |       | Displacement |       | Maximum Differential Pressure |      | Standard Connection Size |     | Optional Connection Size |     | Maximum Speed | Temperature Range |              |
|---------------------|------------------|-------|--------------|-------|-------------------------------|------|--------------------------|-----|--------------------------|-----|---------------|-------------------|--------------|
|                     | GPM              | M³/hr | Gal/Rev      | L/Rev | PSI                           | Bar  | IN.                      | MM. | IN.                      | MM. | Rev/Min       | °F                | °C           |
| 6                   | 8                | 1.8   | .0082        | .031  | 300                           | 20.7 | 1"                       | 25  | 1½"                      | 38  | 1000          | -40° to 300°      | -40° to 149° |
| 15                  | 11               | 2.5   | .0142        | .054  | 250                           | 17.2 | 1½"                      | 38  | —                        | —   | 800           |                   |              |
| 18                  | 20               | 4.5   | .029         | .110  | 200                           | 13.8 | 1½"                      | 38  | 2"                       | 51  | 700           |                   |              |
| 30                  | 36               | 8.2   | .060         | .227  | 250                           | 17.2 | 1½"                      | 38  | 2"                       | 51  | 600           |                   |              |
| 40                  | 46               | 10.4  | .076         | .288  | 150                           | 10.3 | 2"                       | 51  | 2½"                      | 64  | 600           |                   |              |
| 45                  | 59               | 13.4  | .098         | .371  | 450                           | 31.0 | 2"                       | 51  | —                        | —   | 600           |                   |              |
| 60                  | 92               | 20.9  | .153         | .579  | 300                           | 20.7 | 2½"                      | 64  | 3"                       | 76  | 600           |                   |              |
| 130                 | 152              | 34.5  | .254         | .961  | 200                           | 13.8 | 3"                       | 76  | —                        | —   | 600           |                   |              |
| 180                 | 228              | 51.8  | .380         | 1.438 | 450                           | 31.0 | 3"                       | 76  | —                        | —   | 600           |                   |              |
| 210                 | 301              | 68.4  | .502         | 1.900 | 500                           | 34.5 | 4"                       | 102 | —                        | —   | 600           |                   |              |
| 220                 | 313              | 71.1  | .522         | 1.976 | 300                           | 20.7 | 4"                       | 102 | —                        | —   | 600           |                   |              |
| 320                 | 452              | 103   | .754         | 2.854 | 300                           | 20.7 | 6"                       | 152 | —                        | —   | 600           |                   |              |

| Model<br>ZP2<br>ZP3 | Nominal Capacity |       | Displacement |       | Maximum Differential Pressure |      | Rec. Inlet (W x L) |             | Outlet   |         | Maximum Speed | Temperature Range |              |
|---------------------|------------------|-------|--------------|-------|-------------------------------|------|--------------------|-------------|----------|---------|---------------|-------------------|--------------|
|                     | GPM              | M³/hr | Gal/Rev      | L/Rev | PSI                           | Bar  | IN.                | MM.         | IN.      | MM.     | Rev/Min       | °F                | °C           |
| 34                  | 24               | 5.5   | .060         | .227  | 250                           | 17.2 | 1.81 x 6.84        | 46 x 174    | 2"       | 51      | 400           | -40° to 300°      | -40° to 149° |
| 64                  | 61               | 13.9  | .153         | .579  | 300                           | 20.7 | 2.44 x 9.0         | 62 x 229    | 2½" (3") | 64 (76) | 400           |                   |              |
| 134                 | 102              | 23.2  | .254         | .961  | 200                           | 13.8 | 3.19 x 9.38        | 81 x 238    | 3"       | 76      | 400           |                   |              |
| 184                 | 152              | 34.5  | .380         | 1.438 | 450                           | 31.0 | 3.28 x 11.25       | 83 x 286    | 3"       | 76      | 400           |                   |              |
| 214                 | 200              | 45.4  | .502         | 1.90  | 500                           | 34.5 | 3.45 x 12.70       | 88 x 323    | 4"       | 102     | 400           |                   |              |
| 224                 | 208              | 47.2  | .521         | 1.972 | 300                           | 20.7 | 4.06 x 11.25       | 103 x 286   | 4"       | 102     | 400           |                   |              |
| 324                 | 401              | 91    | .752         | 2.847 | 300                           | 20.7 | 4.25 x 12.7        | 108 x 322.5 | 6"       | 152.4   | 400           |                   |              |

## XP PUMP PERFORMANCE

| XP<br>Model | Nominal Capacity |       | Displacement |       | Maximum Differential Pressure |      | STD Connection |     | Maximum Speed | Temperature Range |              |
|-------------|------------------|-------|--------------|-------|-------------------------------|------|----------------|-----|---------------|-------------------|--------------|
|             | GPM              | M³/hr | Gal/Rev      | L/Rev | PSI                           | Bar  | IN.            | MM. | Rev/Min       | °F                | °C           |
| 320         | 452              | 103   | .754         | 2.854 | 200                           | 13.8 | 6"             | 152 | 600           | -40° to 300°      | -40° to 149° |
| 323         | 370              | 84    | .616         | 2.332 | 225                           | 15.5 | 6"             | 152 | 600           |                   |              |
| 380         | 660              | 150   | 1.10         | 4.164 | 250                           | 17.2 | 6"             | 152 | 600           |                   |              |
| 420         | 648              | 145.4 | 1.62         | 6.129 | 200                           | 13.8 | 6"             | 152 | 400           |                   |              |
| 423         | 648              | 145.4 | 1.62         | 6.129 | 200                           | 13.8 | 6"             | 152 | 400           |                   |              |

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