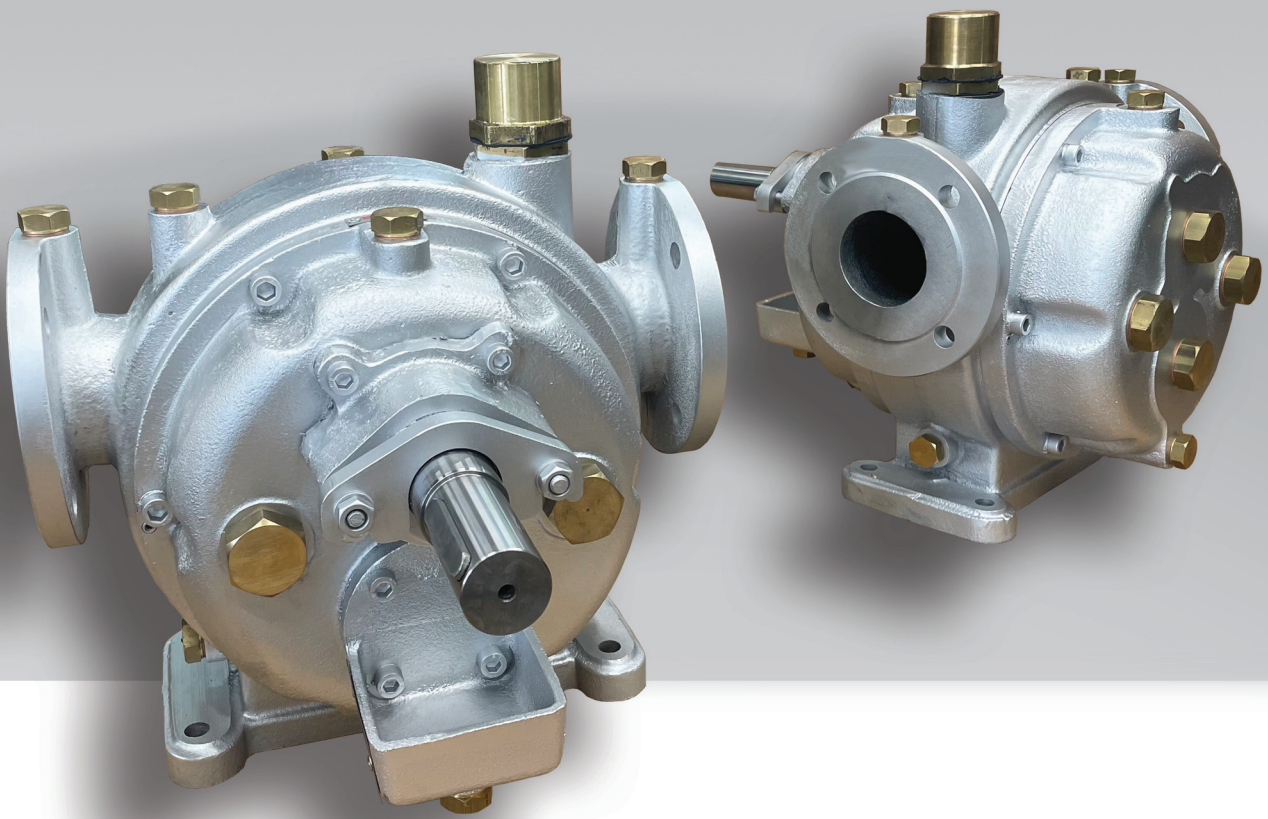


**ZP**  
**ZUPČASTE PUMPE**  
*GEAR PUMPS*



## PRIMENA

Obrtne zupčaste pumpe tip ZP služe za transport, pretovar i mešanje samopodmazujućih tečnosti, niskih i visokih gustina pri nižim radnim pritiscima. Radni fluid pumpe ne sme da sadrži pesak, mehaničke nečistoće ili druge abrazivne čvrste čestice.

## OPIS

Zupčaste pumpe tip ZP sastoje se iz sledećih glavnih delova: kućišta pumpe, poklopca, pogonskog i gonjenog vratila, radnih zupčanika i ležajnih čaura. Pogonsko i gonjeno vratilo su spregnuti preko zupčanika i uležištena su pomoću kliznih ležajeva, podmazivanih tečnošću koja se pumpa. Zaptivanje pogonskog vratila izvedeno je pomoću zaptivača (pletenica) od ekspaniranog grafita. Da bi se izbegao negativan uticaj na okolinu, usled curenja radnog fluida, na pumpe je ugrađena sabirna posuda, sa priključkom za odvod tečnosti koja dospeva u kapljicama, direktno ispod pritezača pletenice. Usisni i potisni priključak su horizontalni i upravni na osu pumpe. U standardnom izvođenju, pumpe se mogu koristiti za tečnosti temperature do 80 °C.

U kućištu pumpe ugrađen je sigurnosni ventil koji onemogućava preopterećenje pumpe. Pritisak pri kom će se sigurnosni ventil otvoriti i spojiti potisni sa usisnim delom pumpe se može podešavati prema potrebnom radnom pritisku

## POSEBNA IZVOĐENJA

Za transport tečnosti temperature 80-130°C pumpe tip ZP snabdevene su komorom za dovodenje rashladne vode u zaptivač.

Za transport vrlo viskoznih tečnosti pumpe tipa ZP snabdevene su komorom u koju se dovodi topla voda ili para temperature do 130 °C i nadpritiska do 2 bar-a. Zagreva komora omogućava zagrevanje pumpe pre stavljanja u pogon, eventualno i za vreme trajanja pogona. Ova mogućnost ne postoji kod pumpi veličine ZP 25.

## VRSTA POGONA I SMER OBRTRANJA

Pumpe tip ZP su standardno pogonjene elektromotorima, uz direktno sprezanje preko elastične spojnice.

Prema specijalnim zahtevima kupca, pri potrebi za nižim brojevima obrtaja (ispod 700 min<sup>-1</sup>) mogu biti isporučeni pumpni agregati sa instalisanim reduktorom broja obrtaja ili sa frekventnom regulacijom. Smer obrtanja pumpi je desni, gledano sa strane pogonskog elektromotora.

## ZAPTIVANJE

U zavisnosti od radnog fluida, potreba i lokacije ugradnje, zaptivanja mogu biti:

- meko zaptivanje (grafitne pletenice), sa mogućnošću dovodenja drugog fluida za zaptivanje, ispiranje ili hlađenje,
- mehanički zaptivač,
- radialni osovinski zaptivač (posebno profilisan zaptivača).

## MATERIJALI IZRADE

Kućište i poklopci su od sivog liva, zupčanici i vratila od kvalitetnog čelika. Klizni ležajevi su izrađeni od kalajne bronzne (zbog svojih dobrih kliznih svojstava).

U specijalnim slučajevima, npr.: kod pumpi za prehrambenu industriju, zupčanici, a eventualno i cela pumpa, mogu biti izrađeni od bronzne. U ovom slučaju se vratila rade od nerđajućeg čelika.

TABELA 1

| POZICIJA<br><i>Position</i> | NAZIV DELA<br><i>Part name</i>                                  | VRSTA MATERIJALNOG IZVOĐENJA<br><i>Material</i> |   |   |
|-----------------------------|---|---|---|---|
|                             |   | STANDARDNO<br><i>Standard</i>                   | PREHRAMBENA<br>INDUSTRIJA<br><i>Food industry</i> | EX IZVEDBA<br>ATEX                      |
| 111                         | Kućište pumpe<br><i>Casing</i>                                  | SL250<br>GJL250                                 | PCuSn10<br>GCuSn10                                | SL250<br>GJL250                         |
| 112                         | Poklopac kućišta do pogona<br><i>Casing cover on motor side</i> | SL250<br>GJL250                                 | PCuSn10<br>GCuSn10                                | SL250<br>GJL250                         |
| 113                         | Poklopac kućišta<br><i>Casing cover</i>                         | SL250<br>GJL250                                 | PCuSn10<br>GCuSn10                                | SL250<br>GJL250                         |
| 120                         | Klizni ležaj<br><i>Sliding bearing</i>                          | PCuSn14<br>GCuSn14                              | PCuSn14/PTFE<br>GCuSn14/PTFE                      | PCuSn14/PTFE<br>GCuSn14/PTFE            |
| 210                         | Zupčanik - pogonski<br><i>Gear - drive</i>                      | Č. 4732.4<br>AISI 4142                          | PCuSn10<br>GCuSn10                                | PCuSn10<br>C.4574<br>GCuSn10<br>AISI316 |
| 211                         | Zupčanik - gonjeni<br><i>Gear - driven</i>                      |   |   |   |
| 212                         | Vratilo - pogonsko<br><i>Shaft - drive</i>                      | Č.4732.4+T.O.<br>AISI4142+Q.T.                  | Č.4574<br>AISI316                                 | Č.4574<br>AISI316                       |
| 213                         | Vratilo - gonjeno<br><i>Shaft - driven</i>                      |   |   |   |

## USES

Rotary gear pumps type ZP are used for transportation, handling and mixing of self-lubricating liquids, low and high densities at lower working pressures. The working fluid of the pump must not contain sand, mechanical impurities or other abrasive solid particles.

## DESCRIPTION

Gear pumps type ZP consist of the following main parts: casing, cover, drive and driven shaft, gears and bearing sleeves. The drive and driven shafts are coupled with gears and are supported by sliding bearings, lubricated by the pumped liquid. The drive shaft is sealed using expanded graphite sealant (gland packing). In order to avoid a negative impact on the environment, due to the leakage of the working fluid a collecting container is installed on the pumps, with a connection for draining the liquid that arrives in drops, directly under the gland. The suction and discharge connections are horizontal and perpendicular to the pump axis. In the standard version, the pumps can be used for liquids with a temperature of up to 80 °C.

A safety valve is installed in the pump casing, which prevents overloading of the pump. The pressure at which the safety valve will open and connect the pressure to the suction part of the pump can be adjusted according to the required working pressure.

## SPECIAL CONSTRUCTIONS

For the transport of liquids with a temperature of 80-130 °C, ZP pumps are equipped with a chamber for supplying cooling water to the seal.

For the transport of highly viscous liquids, the ZP pumps are equipped with a chamber into which hot water or steam at a temperature of up to 130 °C and a pressure of up to 2 bar is supplied. The heating chamber enables the pump to be heated before it is put into operation, possibly also during operation. This possibility does not exist with pumps of size ZP 25.

## TYPE OF DRIVE AND DIRECTION OF ROTATION

ZP pumps are standardly driven by electric motors, with direct coupling via an elastic coupling.

According to special requirements of customer, if necessary for lower speeds (below 700 r.p.m), pump sets can be delivered with an installed reduction drive or with frequency regulation.

The direction of rotation of the pumps is clockwise, seen from the side of electric motor.

## SEALING

Depending on the working fluid, the needs and location of the installation, the sealing may be:

- soft sealing (graphite gland packing), with the possibility of supplying another fluid for sealing, flushing or cooling,
- mechanical seal,
- radial shaft seal (specially profiled seal)

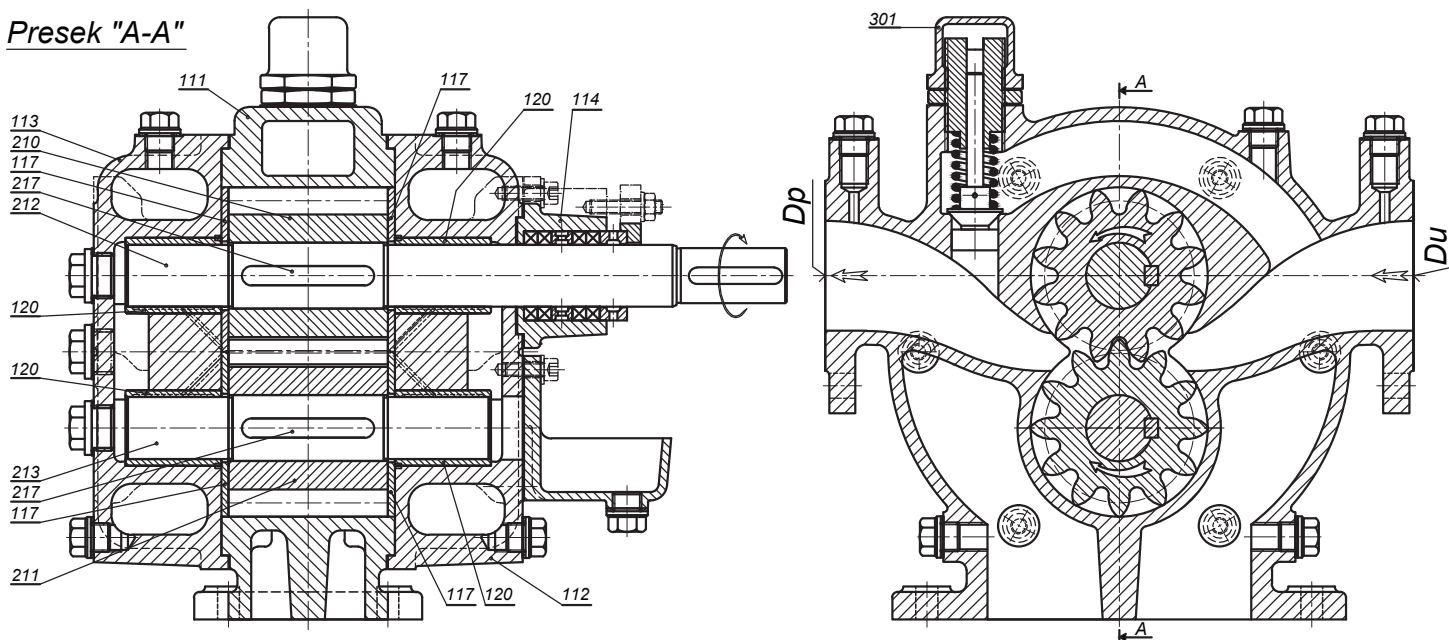
## MATERIALS

Casing and covers are made of cast iron, gears and shafts are made of high-quality steel. Sliding bearings are made of tin bronze (due to their good sliding features).

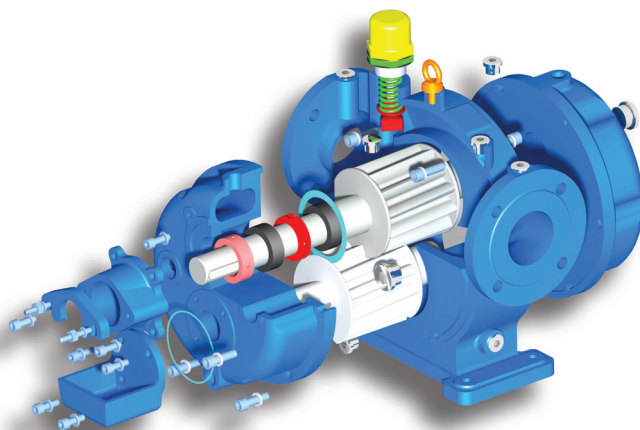
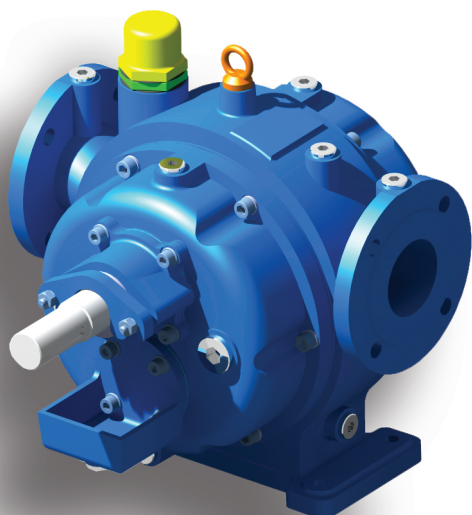
In special cases, e.g.: with pumps for the food industry, gears, and possibly the entire pump, can be made of bronze. In this case, the shafts are made of stainless steel.

TABLE 1

Presek "A-A"



| Naziv                      | Poz / Item | Part Name                  |
|----------------------------|------------|----------------------------|
| Ventil                     | 301        | Valve                      |
| Klin                       | 217        | Key                        |
| Vratilo gonjeno            | 213        | Driven shaft               |
| Vratlo pogonsko            | 212        | Drive shaft                |
| Zupčanik gonjeni           | 211        | Driven gear                |
| Zupčanik pogonski          | 210        | Drive gear                 |
| Klizni ležaj               | 120        | Sliding bearing            |
| Habajuća ploča             | 117        | Wear plate                 |
| Nosač pletenice            | 114        | Gland packing              |
| Poklopac kućišta           | 113        | Casing cover               |
| Poklopac kućišta od pogona | 112        | Casing cover on motor side |
| Kućište pumpe              | 111        | Casing                     |



**TABELA 2**

| TIP PUMPE<br>Type of pump | Q<br>l/min | H<br>m | P<br>kW | min <sup>-1</sup><br>r.p.m. | El. motor |
|---------------------------|------------|--------|---------|-----------------------------|-----------|
| ZP 25-1                   | 11         | 60     | 0,55    | 700                         | 90 La-8   |
| ZP 25-2                   | 14         |        | 0,75    | 950                         | 90 S-6    |
| ZP 25-3                   | 22         |        | 1,1     | 1450                        | 90 S-4    |
| ZP 25-4                   | 10         | 100    | 0,75    | 700                         | 100 La-8  |
| ZP 25-5                   | 14         |        | 1,1     | 950                         | 90 La-6   |
| ZP 25-6                   | 21         |        | 1,5     | 1450                        | 90 La-4   |
| ZP 25-7                   | 10         | 160    | 1,1     | 700                         | 100 Lb-8  |
| ZP 25-8                   | 13         |        | 1,5     | 950                         | 100 La-6  |
| ZP 25-9                   | 20         |        | 2,2     | 1450                        | 100 La-4  |

**TABLE 2**

| TIP PUMPE<br>Type of pump | Q<br>l/min | H<br>m | P<br>kW | min <sup>-1</sup><br>r.p.m. | El. motor |
|---------------------------|------------|--------|---------|-----------------------------|-----------|
| ZP 32-1                   | 45         | 20     | 0,55    | 700                         | 90 La-8   |
| ZP 32-2                   | 59         |        | 0,75    | 950                         | 90 S-6    |
| ZP 32-3                   | 90         |        | 1,1     | 1450                        | 90 S-4    |
| ZP 32-4                   | 43         | 60     | 1,5     | 700                         | 112 Ma-8  |
| ZP 32-5                   | 57         |        | 2,2     | 950                         | 112 M-6   |
| ZP 32-6                   | 86         |        | 3       | 1450                        | 100 Lb-4  |
| ZP 32-7                   | 41         | 100    | 2,2     | 700                         | 132 Sa-8  |
| ZP 32-8                   | 54         |        | 3       | 950                         | 132 Sa-6  |
| ZP 32-9                   | 82         |        | 4       | 1450                        | 112 Ma-4  |

| TIP PUMPE<br>Type of pump | Q<br>l/min | H<br>m | P<br>kW | min na <sup>-1</sup><br>r.p.m. | El. motor |
|---------------------------|------------|--------|---------|--------------------------------|-----------|
| ZP 50-3                   | 151        | 20     | 4       | 700                            | 160 Ma-8  |
| ZP 50-4                   | 198        |        | 5,5     | 950                            | 132 Mb-6  |
| ZP 50-7                   | 148        | 60     | 5,5     | 700                            | 160 Mb-8  |
| ZP 50-8                   | 194        |        | 7,5     | 950                            | 160 M-6   |
| ZP 50-11                  | 145        | 100    | 7,5     | 700                            | 160 La-8  |
| ZP 50-12                  | 190        |        | 11      | 950                            | 160 L-6   |

| TIP PUMPE<br>Type of pump | Q<br>l/min | H<br>m | P<br>kW | min <sup>-1</sup><br>r.p.m. | El. motor |
|---------------------------|------------|--------|---------|-----------------------------|-----------|
| ZP 80-3                   | 460        | 20     | 5,5     | 700                         | 160 Mb-8  |
| ZP 80-6                   | 453        | 40     | 7,5     | 700                         | 160 La-8  |
| ZP 80-9                   | 432        | 60     | 11      | 700                         | 180 L-8   |

| TIP PUMPE<br>Type of pump | Q<br>l/min | H<br>m | P<br>kW | min <sup>-1</sup><br>r.p.m. | El. motor |
|---------------------------|------------|--------|---------|-----------------------------|-----------|
| ZP 100-3                  | 1000       | 20     | 11      | 700                         | 180 L-8   |
| ZP 100-6                  | 990        | 40     | 15      | 700                         | 200 La-8  |
| ZP 100-9                  | 950        | 60     | 22      | 700                         | 225 M-8   |

### PREPORUKA ZA BROJ OBRTAJA

Za tečnosti veće gustine i niži radni pritisak treba birati pumpu sa nižim brojem obrtaja.

Približna granica najvišeg broja obrtaja za različite tečnosti:

- 1500 min<sup>-1</sup> za normalno tečna ulja i za ostale samopodmazujuće tečnosti manje gustine,
- 1000 min<sup>-1</sup> za transport samopodmazujućih tečnosti veće gustine,
- 300-500 min<sup>-1</sup> kod pumpanja „teških“ ulja, tera, melase, tutkala, laka, sirupa i drugo.

### SPEED RECOMMENDATION

For liquids of higher density and lower working pressure, a pump with a lower speed should be chosen.

Approximate limit of the highest speed for different liquids:

- 1500 r.p.m for normally liquid oils and for other self-lubricating oils liquids of lower density,
- 1000 r.p.m for the transport of self-lubricating liquids of higher density,
- 300-500 r.p.m when pumping “heavy” oils, teres, molasses, pastes, varnishes, syrups and others.

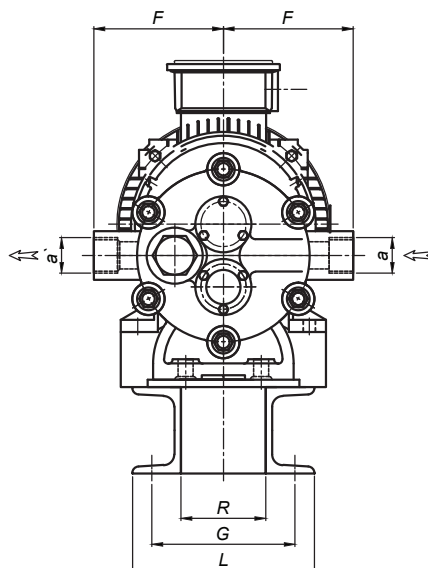
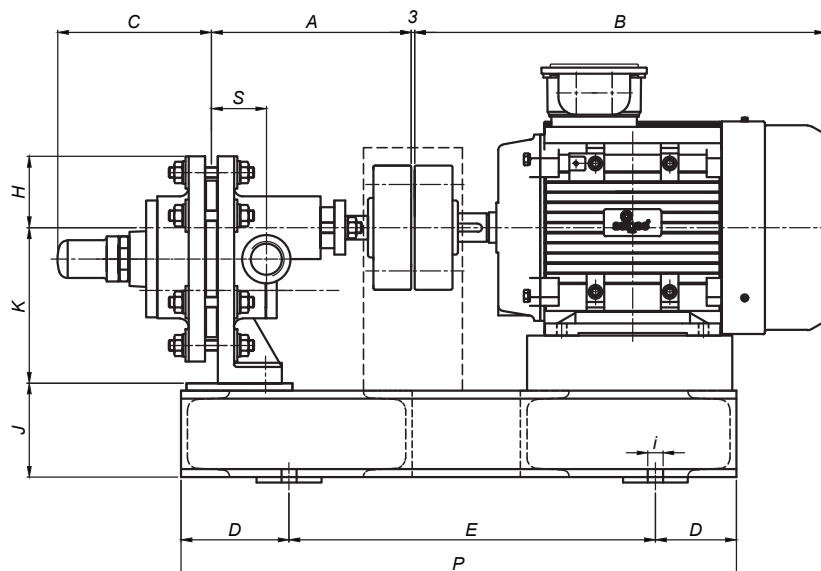
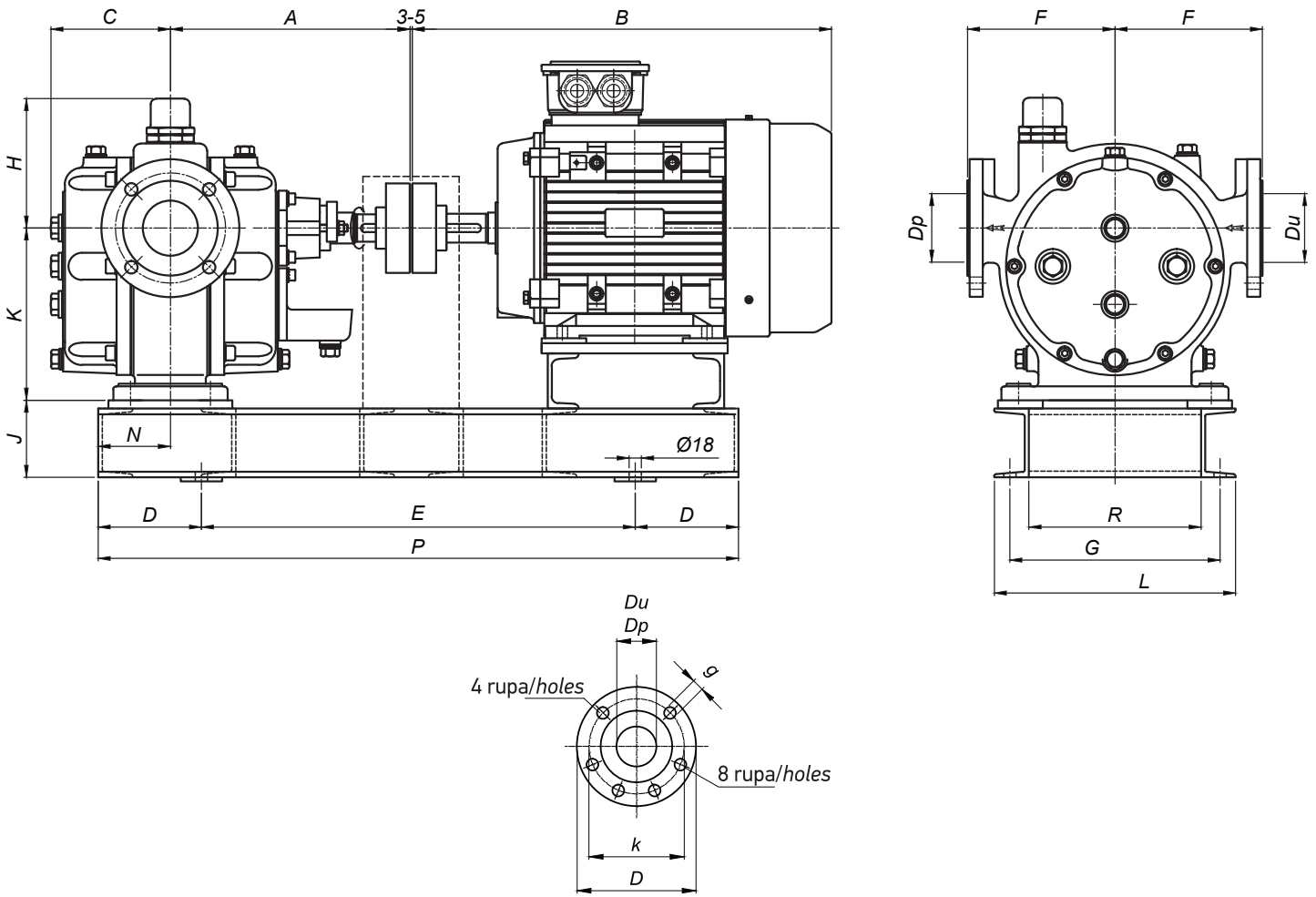


TABELA 3

TABLE 3

| TIP PUMPE<br>Type of pump | El. motor | A   | B   | C   | D  | E   | P   | H  | K   | J  | F   | R   | G   | L   | i  | s  | a   | a'  |
|---------------------------|-----------|-----|-----|-----|----|-----|-----|----|-----|----|-----|-----|-----|-----|----|----|-----|-----|
| ZP 25-1                   | 90 La-8   | 190 | 345 | 142 | 50 | 445 | 545 | 63 | 144 | 87 | 120 | 200 | 250 | 290 | 16 | 50 | 1"R | 1"R |
| ZP 25-2                   | 90 S-6    | 190 | 320 | 142 | 50 | 445 | 545 | 63 | 144 | 87 | 120 | 210 | 250 | 290 | 16 | 50 | 1"R | 1"R |
| ZP 25-3                   | 90 S-4    | 190 | 320 | 142 | 50 | 445 | 545 | 63 | 144 | 87 | 120 | 210 | 250 | 290 | 16 | 50 | 1"R | 1"R |
| ZP 25-4                   | 100 La-8  | 190 | 398 | 142 | 50 | 470 | 570 | 63 | 144 | 87 | 120 | 235 | 275 | 315 | 16 | 50 | 1"R | 1"R |
| ZP 25-5                   | 90 La-6   | 190 | 345 | 142 | 50 | 445 | 545 | 63 | 144 | 87 | 120 | 210 | 250 | 290 | 16 | 50 | 1"R | 1"R |
| ZP 25-6                   | 90 La-4   | 190 | 345 | 142 | 50 | 445 | 545 | 63 | 144 | 87 | 120 | 210 | 250 | 290 | 16 | 50 | 1"R | 1"R |
| ZP 25-7                   | 100 Lb-8  | 190 | 398 | 142 | 50 | 470 | 570 | 63 | 144 | 87 | 120 | 235 | 275 | 315 | 16 | 50 | 1"R | 1"R |
| ZP 25-8                   | 100 La-6  | 190 | 398 | 142 | 50 | 470 | 570 | 63 | 144 | 87 | 120 | 235 | 275 | 315 | 16 | 50 | 1"R | 1"R |
| ZP 25-9                   | 100 La-4  | 190 | 398 | 142 | 50 | 470 | 570 | 63 | 144 | 87 | 120 | 235 | 275 | 315 | 16 | 50 | 1"R | 1"R |



**TABELA 4**

**TABLE 4**

| TIP PUMPE<br>Type of pump | El. motor | A   | B   | C  | D   | E   | P   | H   | K   | J  | N  | F    | R   | G   | L   | Du | k   | D   | g  | z | Dp | k   | D   | g  | z |
|---------------------------|-----------|-----|-----|----|-----|-----|-----|-----|-----|----|----|------|-----|-----|-----|----|-----|-----|----|---|----|-----|-----|----|---|
| ZP 32-1                   | 90 L-8    | 200 | 345 | 90 | 100 | 320 | 520 | 140 | 100 | 78 | 60 | 92,5 | 106 | 148 | 190 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-2                   | 90 S-6    | 200 | 320 | 90 | 100 | 320 | 520 | 140 | 100 | 78 | 60 | 92,5 | 106 | 148 | 190 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-3                   | 90 S-4    | 200 | 320 | 90 | 100 | 320 | 520 | 140 | 100 | 78 | 60 | 92,5 | 106 | 148 | 190 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-4                   | 112 M-8   | 200 | 401 | 90 | 100 | 370 | 570 | 140 | 100 | 78 | 60 | 92,5 | 166 | 208 | 250 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP32-5                    | 112 M-6   | 200 | 401 | 90 | 100 | 370 | 570 | 140 | 100 | 78 | 60 | 92,5 | 166 | 208 | 250 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-6                   | 100 Ld-4  | 200 | 398 | 90 | 100 | 355 | 555 | 140 | 100 | 78 | 60 | 92,5 | 136 | 178 | 220 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-7                   | 132 S-8   | 200 | 475 | 90 | 100 | 415 | 615 | 140 | 100 | 78 | 60 | 92,5 | 206 | 248 | 290 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-8                   | 132 S-6   | 200 | 475 | 90 | 100 | 415 | 615 | 140 | 100 | 78 | 60 | 92,5 | 206 | 248 | 290 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |
| ZP 32-9                   | 112 M-4   | 200 | 401 | 90 | 100 | 370 | 570 | 140 | 100 | 78 | 60 | 92,5 | 166 | 208 | 250 | 40 | 110 | 150 | 18 | 4 | 32 | 100 | 140 | 18 | 4 |

**TABELA 5**

**TABLE 5**

| TIP PUMPE<br>Type of pump | El. motor | A   | B   | C   | D   | E   | P    | H   | K   | J   | N   | F     | R   | G   | L   | Du,Dp | k   | D   | g  | z |
|---------------------------|-----------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-------|-----|-----|-----|-------|-----|-----|----|---|
| ZP 50-3                   | 160 Mk-8  | 300 | 610 | 120 | 150 | 610 | 910  | 185 | 195 | 93  | 105 | 162,5 | 200 | 245 | 290 | 50    | 125 | 165 | 18 | 4 |
| ZP 50-4                   | 132 M-6   | 300 | 513 | 120 | 150 | 525 | 825  | 185 | 195 | 93  | 105 | 162,5 | 200 | 245 | 290 | 50    | 125 | 165 | 18 | 4 |
| ZP 50-7                   | 160 M-8   | 300 | 610 | 120 | 150 | 610 | 910  | 120 | 195 | 93  | 105 | 162,5 | 200 | 245 | 290 | 50    | 125 | 165 | 18 | 4 |
| ZP 50-8                   | 160 M-6   | 300 | 610 | 120 | 150 | 610 | 910  | 120 | 195 | 93  | 105 | 162,5 | 200 | 245 | 290 | 50    | 125 | 165 | 18 | 4 |
| ZP 50-11                  | 160 L-8   | 300 | 655 | 120 | 150 | 655 | 955  | 185 | 195 | 93  | 105 | 162,5 | 200 | 245 | 290 | 50    | 125 | 165 | 18 | 4 |
| ZP 50-12                  | 160 L-6   | 300 | 655 | 120 | 150 | 655 | 955  | 185 | 100 | 93  | 105 | 162,5 | 200 | 245 | 290 | 50    | 125 | 165 | 18 | 4 |
| ZP 80-3                   | 160 M-8   | 350 | 610 | 175 | 200 | 560 | 960  | 180 | 250 | 118 | 105 | 214   | 250 | 300 | 350 | 80    | 160 | 200 | 18 | 4 |
| ZP 80-6                   | 160 L-8   | 350 | 655 | 175 | 200 | 605 | 1005 | 180 | 250 | 118 | 105 | 214   | 250 | 300 | 350 | 80    | 160 | 200 | 18 | 4 |
| ZP 80-9                   | 180 L-8   | 350 | 726 | 175 | 200 | 615 | 1015 | 180 | 250 | 118 | 105 | 214   | 250 | 300 | 350 | 80    | 160 | 200 | 18 | 4 |
| ZP 100-3                  | 180 L-8   | 445 | 726 | 230 | 200 | 730 | 1130 | 205 | 280 | 138 | 125 | 250   | 270 | 325 | 380 | 100   | 180 | 220 | 18 | 8 |
| ZP 100-6                  | 200 L-8   | 445 | 779 | 230 | 200 | 810 | 1210 | 205 | 280 | 138 | 125 | 250   | 270 | 325 | 380 | 100   | 180 | 220 | 18 | 8 |
| ZP 100-9                  | 225 M-8   | 445 | 849 | 230 | 200 | 880 | 1280 | 205 | 280 | 138 | 125 | 250   | 270 | 520 | 380 | 100   | 180 | 220 | 18 | 8 |

## PRIMENE U INDUSTRIJI

### Hemijska industrija / Chemical industry

- Aditivi / Additives
- Katalizatori / Catalyst
- Usporivači požara / Fire retardants
- Lepkovi / Glues
- Magnezijum hidroksid / Magnesium hydroxide
- Fosforne kiseline / Phosphoric acids
- Pigmenti / Pigments
- Plastifikatori / Plasticisers
- Polimeri / Polymers
- Polivinil alkohol / Polyvinyl alcohol
- Smole / Resins
- Silikonska ulja / Silicon oil
- Natrijum hidroksid / Sodium hydroxide

### Građevinski materijal / Building material

- Bitumen (asfalt) / Bitumen (asphalt)
- Zaptivne mase / Sealing compounds
- Dodaci za betone / Concrete additives
- Razne mase veće gustine / Compounds with higher density

### Rafinerijski proizvodi / Refinery products

- Dizel gorivo / Diesel fuel
- Sistemi podrške bušenja / Boring fluids

- Lož ulje / Hard fuel oil
- Masti / Greases
- Ulja za podmazivanje / Lubrication oil
- Motorno ulje / Engine oil
- Sintetička ulja / Syntetic oil
- Turbinska ulja / Turbine oil
- Biodizel / Biodiesel
- Glicerin / Glycerin
- Otpadna ulja / Waste oil

### Poljoprivredne hemikalije / Agricultural chemicals

- Biocidi / Biocides
- Herbicidi / Herbicides
- Urea / Urea

### Boje i premazi / Paints and coatings

- Emajl / Email
- Mastila / Inks
- Boje / Paints
- Rastvori / Dissolvers
- Lakovi / Lacquers

### Industrija / Industry

- Kompresorska ulja / Compressor oils
- Glikol / Glycol

## APPLICATIONS IN INDUSTRY

- Tečnosti za prenos toplote / Heat transfer fluids
- Toplo ulje / Warm oil
- Hidraulično ulje / Hydraulic oil
- Premazi od gline / Clay coatings
- Skrob / Starch
- Talno ulje / Lubrication oil
- Deterđženti / Detergents
- Parafinski vosak / Paraffin wax
- Parfemi / Perfumes
- Sapun / Soap

### Prehrambena industrija / Food Industry

- Ulje od repice / Canola oil
- Karamel boje / Caramel color
- Čokolada / Chocolate
- Glukoza / Glucose
- Kukuruzni sirup / Corn syrup
- Med / Honey
- Svinjska mast / Pork fat
- Tečni šećeri / Liquid sugars
- Melasa / Molasses
- Senf / Mustard
- Puter od kikirikija / Peanut butter
- Sojino ulje / Soybean oil
- Saharozu / Sucrose



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