

## VERTICAL SUMP PROCESS PUMP



### Handled Liquids

Clean or normal contaminated low or medium viscosity liquids without solid & fibrous particles.

### Technical Data

Discharge Flange \_\_\_\_\_ DN 32....DN 150 mm

Capacity \_\_\_\_\_ up to 400 m<sup>3</sup>/h

Head \_\_\_\_\_ up to 220 m

Speed \_\_\_\_\_ up to 1450 rpm

Operating Temperature \_\_\_\_\_ up to +95 °C

Casing Pressure (Pmax) \_\_\_\_\_ 30 bar

### Design Features

- Vertical ring section, multistage, centrifugal pumps with closed impellers and diffusers.
- Up to 4 m. column length.
- Suction nozzle flanges conform to EN 1092 - 2 / PN 16 and discharge nozzle flanges conform to EN 1092 - 2 / PN 40 (PN 63) (For steel or stainless steel casing pumps, flanges conform to related pressure class ratings defined in EN 1092 - 1)
- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

### Pump Designation

Pump Type \_\_\_\_\_

Discharge Nozzle (DN-mm) \_\_\_\_\_

Nominal Impeller Diameter (mm) \_\_\_\_\_

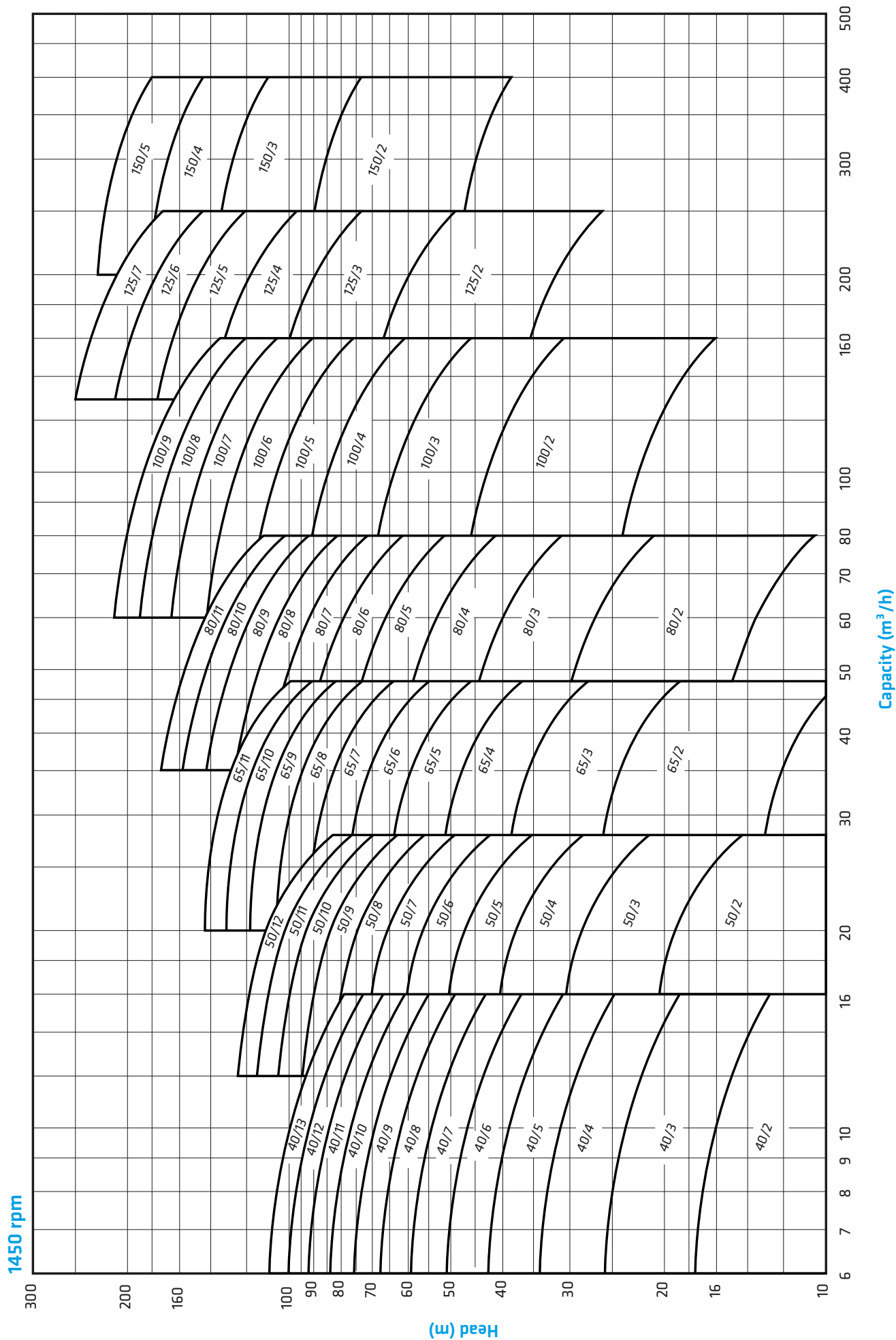


- Axial thrust is balanced by impeller balancing holes system.
- Direction of rotation is counter clockwise viewed from driver.
- Bearings of SKM-EVK type pumps are grease lubricated. Bottom and internal sleeve bearings are lubricated by the pumping liquid. (different lubrication systems can be applied for the sleeve bearings in case of request or requirement. Contact for detailed information)

### Shaft Sealing

- In standard production soft packed stuffing boxes are used.
- Depending on customer request, mechanical seals are available. In this case, pump shaft is always stainless steel.

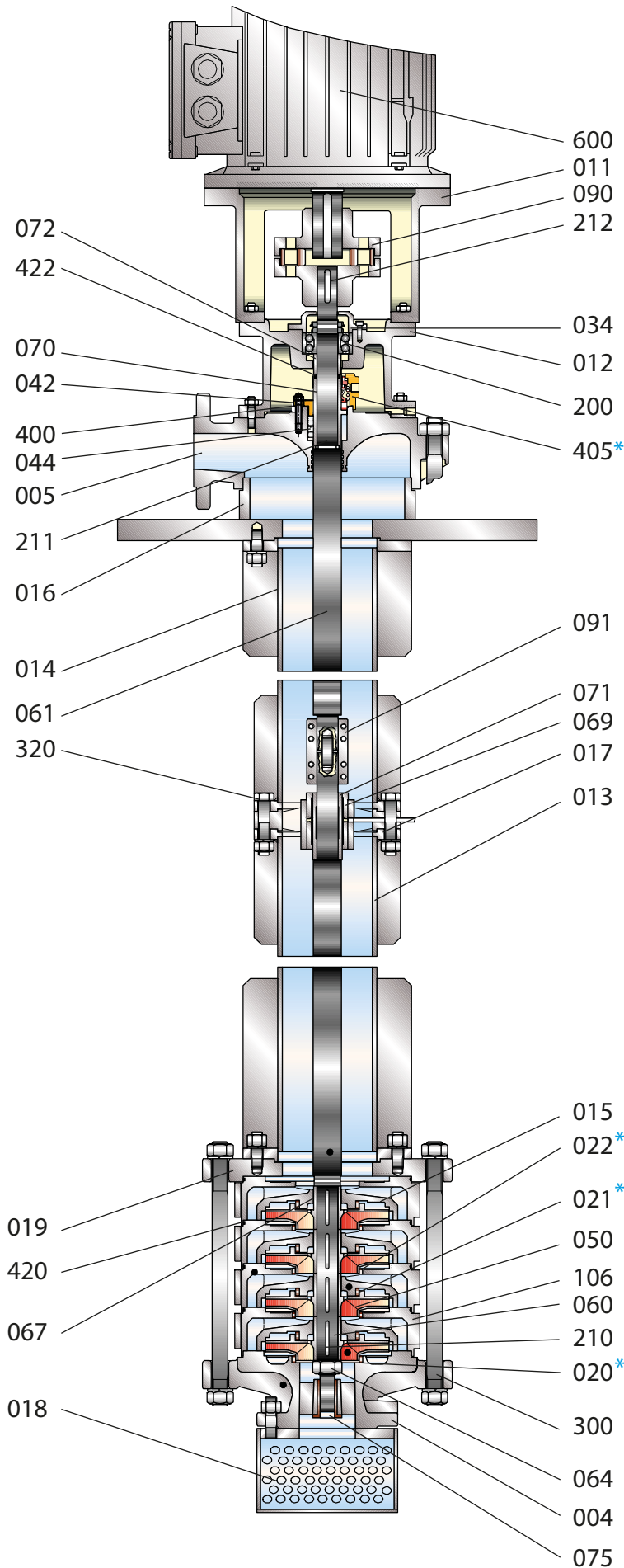
## SKM-EVK 40 / 3



## Part List

|      |                              |
|------|------------------------------|
| 004  | Suction Casing               |
| 005  | Discharge Casing             |
| 011  | Motor Pedestal               |
| 012  | Bearing Housing              |
| 013  | Column Pipe (Bottom)         |
| 014  | Column Pipe (Up)             |
| 015  | Diffuser                     |
| 016  | Base Plate                   |
| 017  | Intermediate Bearing Housing |
| 018  | Filter                       |
| 019  | Casing Flange                |
| *020 | Wear Ring (Suction Casing)   |
| *021 | Wear Ring (diffuser)         |
| *022 | Wear Ring (Stage)            |
| 034  | Bearing Housing Cover        |
| 042  | Gland                        |
| 044  | Lantern Ring                 |
| 050  | Impeller                     |
| 060  | Shaft (Bottom)               |
| 061  | Shaft (Up)                   |
| 064  | Impeller Nut                 |
| 067  | Interstage Sleeve            |
| 069  | Intermediate Sleeve Bearing  |
| 070  | Shaft Protecting Sleeve      |
| 071  | Intermediate Bearing Sleeve  |
| 072  | Spacer Sleeve                |
| 075  | Bottom Sleeve Bearing        |
| 090  | Flexible Coupling            |
| 091  | Rigid Coupling               |
| 106  | Stage Casing                 |
| 200  | Bearing                      |
| 210  | Impeller Key                 |
| 211  | Sleeve Key                   |
| 212  | Coupling Key                 |
| 300  | Stud                         |
| 320  | Screw                        |
| 400  | Soft Packing                 |
| *405 | Mechanical Seal              |
| 420  | O-ring                       |
| 422  | O-ring                       |
| 600  | Electrical Motor             |

(\*) Optional



| Part List               | 0.6025   | 0.7040 | 1.0619 | 1.4308 | 1.4309 | 1.4408 | 1.4409 | 1.4500 | 1.4517 | 1.4469 | 1.4317 | 1.4008 | 2.1050.01 | 2.0975.01 | 2.1096.01 | 1.0037 | 1.0503 | 1.4021 | 1.4021+QT | 1.4301 | 1.4404 | 1.4460 | 1.4462 | Tungsten Carbide |
|-------------------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|-----------|-----------|--------|--------|--------|-----------|--------|--------|--------|--------|------------------|
| Suction Casing          | ●        | ○      |        | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         |           |           |        |        |        |           |        |        |        |        |                  |
| Discharge Casing        | ●        | ○      |        | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         |           |           |        |        |        |           |        |        |        |        |                  |
| Stage Casing            | ●        | ○      |        | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         |           |           |        |        |        |           |        |        |        |        |                  |
| Diffuser                | ●        | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         |           |           |        |        |        |           |        |        |        |        |                  |
| Impeller                | ●        | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         | ○         | ○         |        |        |        |           |        |        | ○      |        |                  |
| Shaft                   |          |        |        |        |        |        |        |        |        |        |        |        |           |           |           |        | ●      | ○      | ○         | ○      | ○      |        | ○      |                  |
| Bearing Housing         | ●        | ○      | ○      | ○      | ○      | ○      | ○      |        |        |        |        |        |           |           |           |        |        |        |           |        |        |        |        |                  |
| Wear Ring               | ○        | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         | ○         | ○         |        |        |        |           |        |        |        |        |                  |
| Spacer Sleeve           |          |        |        |        |        |        |        |        |        |        |        |        |           |           |           |        | ●      | ○      | ○         | ○      | ○      |        | ○      |                  |
| Shaft Protecting Sleeve |          |        |        |        |        |        |        |        |        |        |        |        |           |           |           |        | ●      | ○      | ○         | ○      | ○      |        | ○      |                  |
| Interstage Sleeve       |          |        |        |        |        |        |        |        |        |        |        |        |           |           |           |        | ●      | ○      | ○         | ○      | ○      |        | ○      |                  |
| Sleeve Bearing          |          |        |        |        |        |        |        |        |        |        |        |        | ●         |           |           |        |        |        |           |        |        |        |        | ○                |
| Column Pipe             |          |        |        |        |        |        |        |        |        |        |        |        |           |           |           | ●      |        |        |           | ○      | ○      |        |        |                  |
| Mechanical Seal (*)     | EN 12756 |        |        |        |        |        |        |        |        |        |        |        |           |           |           |        |        |        |           |        |        |        |        |                  |

● Standard manufacturing  
○ Optional

## Material Equivalents

| Description                                      | DIN / EN  |                            | AISI / SAE / ASTM |
|--------------------------------------------------|-----------|----------------------------|-------------------|
| Cast Iron                                        | 0.6025    | EN-GJL-250 (GG25)          | A48 Class 40B     |
| Nodular Cast Iron                                | 0.7040    | EN-GJS-400-15 (GGG40)      | A536 60-40-18     |
| Nodular Cast Iron                                | 0.7043    | EN-GJS-400-18-LT (GGG40.3) | A536 60-40-18     |
| Cast Steel                                       | 1.0619    | GP240GHGS-C25              | A216 WCB          |
| Chrome Nickel Cast Steel                         | 1.4308    | GX5CrNi19-10               | A351 CF8          |
| Chrome Nickel Cast Steel (low carbon)            | 1.4309    | GX2CrNi19-11               | A351 CF3          |
| Chrome Nickel Molybdenum Cast Steel              | 1.4408    | GX5CrNiMo19-11-2           | A351 CF8M         |
| Chrome Nickel Molybdenum Cast Steel (low carbon) | 1.4409    | GX2CrNiMo19-11-2           | A351 CF3M         |
| Austenitic Cast Steel                            | 1.4500    | GX7NiCrMoCuNb25-20         | A351 CN7M         |
| Austenitic - Ferritic Cast Steel (duplex)        | 1.4517    | GX2CrNiMoCuN25-6-3-3       | A890 CD4MCuN      |
| Austenitic - Ferritic Cast Steel (super duplex)  | 1.4469    | GX2CrNiMoN26-7-4           | A890 CE3MN        |
| Martenzitic Stainless Cast Steel                 | 1.4317    | GX4CrNi13-4                | A352 CA6NM        |
| Martenzitic Stainless Cast Steel                 | 1.4008    | GX7CrNiMo12-1              | A217 CA15         |
| Cast Bronze (tin alloy)                          | 2.1050.01 | G-CuSn10                   | B427 C90700       |
| Cast Bronze (nickel alloy)                       | 2.0975.01 | G-CuAl10Ni                 | B148 C95500       |
| Cast Bronze (lead)                               | 2.1096.01 | G-CuSn5ZnPb                | B584 C83600       |
| Carbon Steel                                     | 1.0503    | C45                        | AISI 1045         |
| Chrome Steel                                     | 1.4021    | X20Cr13                    | A276 Type 420     |
| Chrome Steel (heat treated)                      | 1.4021    | X20Cr13                    | A276 Type 420+QT  |
| Chrome Nickel Steel                              | 1.4301    | X5CrNi18-10                | A276 Type 304     |
| Chrome Nickel Steel (low carbon)                 | 1.4404    | X2CrNiMo17-12-2            | A276 Type 316L    |
| Duplex (austenitic-ferritic) Steel               | 1.4460    | X3CrNiMoN27-5-2            | AISI 329          |
| Duplex (austenitic-ferritic) Steel               | 1.4462    | X2CrNiMoN22-5-3            | UNS S32205        |

## Flange Dimensions

| DNe/DNb | Suction & Discharge (PN 16) |     |    |    | Suction & Discharge (PN 40) |     |    |    |
|---------|-----------------------------|-----|----|----|-----------------------------|-----|----|----|
|         | Df                          | k   | s  | n  | Df                          | k   | s  | n  |
| 40      | 150                         | 110 | 19 | 4  | 150                         | 110 | 19 | 4  |
| 50      | 165                         | 125 | 19 | 4  | 165                         | 125 | 19 | 4  |
| 65      | 185                         | 145 | 19 | 4  | 185                         | 145 | 19 | 8  |
| 80      | 200                         | 160 | 19 | 8  | 200                         | 160 | 19 | 8  |
| 100     | 220                         | 180 | 19 | 8  | 235                         | 190 | 23 | 8  |
| 125     | 250                         | 210 | 19 | 8  | 270                         | 220 | 28 | 8  |
| 150     | 285                         | 240 | 23 | 8  | 300                         | 250 | 28 | 8  |
| 200     | 340                         | 295 | 23 | 12 | 375                         | 320 | 31 | 12 |

"n" number of holes

