

# KIV Inline Multistage Centrifugal Pump

## Application

Vertical centrifugal pumps of the KIV series are applied for pumping clean, water-like liquids.

They can be used for the following purposes:

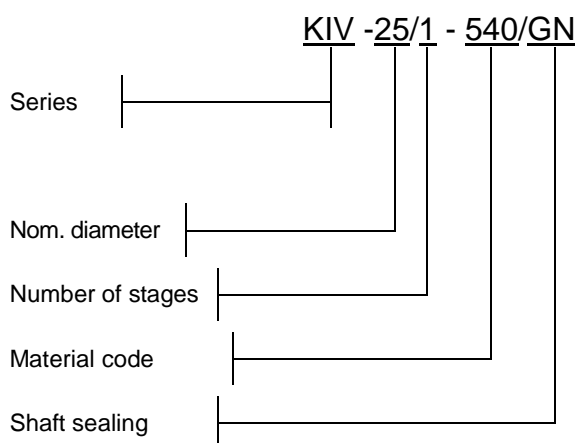
- Booster stations
- Water treatment stations
- Air-conditioning equipment
- Boiler feed
- Fire-fighting systems
- Car wash stations
- Cooling water supply
- Marine
- Irrigation systems
- Sprinkler systems

## Operating data

|                |                           |
|----------------|---------------------------|
| Flow:          | max. 50 m <sup>3</sup> /h |
| Head:          | max. 250 m                |
| Temperature:   | < 120 °C                  |
| Case pressure: | PN 16*/ 25**)             |
| Nom. Diam.     | 25 - 100                  |



## Designation



## Design

Multi-stage, normal-suction, vertical centrifugal pumps in process design (Inline). With all wetted parts produced of either SS-304 or SS-316. The series is service-friendly. If repair works is required, the casing can remain within the station.

The pump is directly coupled with the motor by means of a split coupling.

## Flange

Available in oval or round flange connections depending on the pressure.

## Pump Bearing

Bearings are wear-resistant, liquid-lubricated sliding bearings.

## Shaft sealing

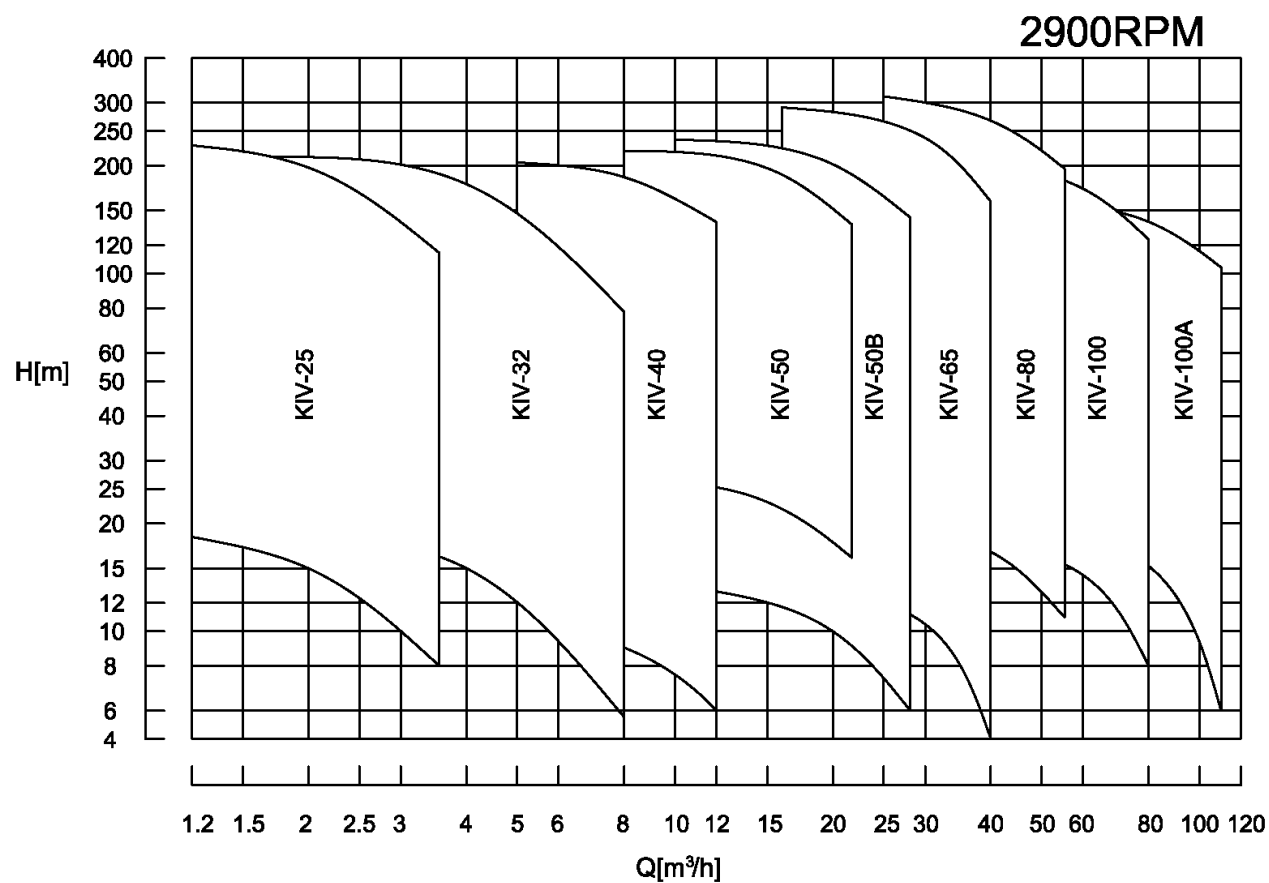
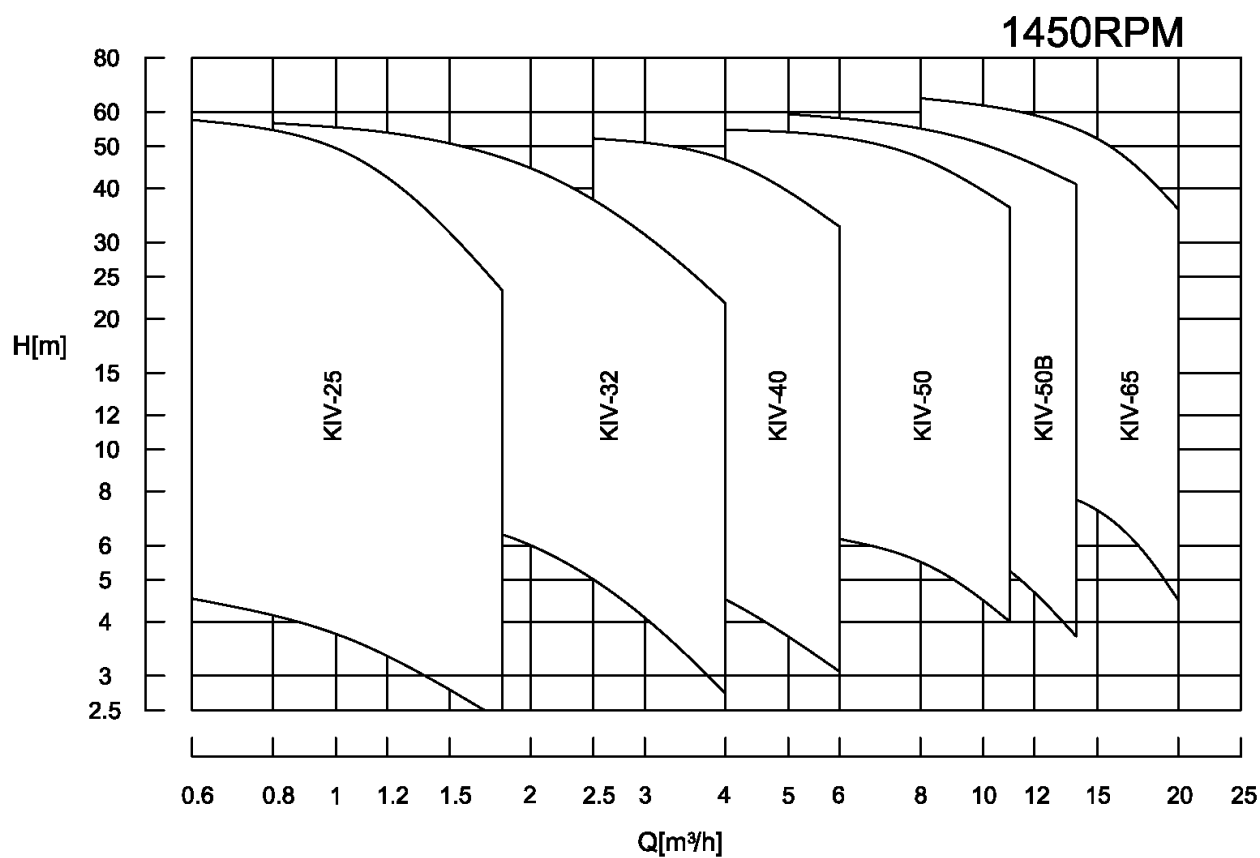
KIV pumps are equipped with high-quality mechanical seals.

## Drive

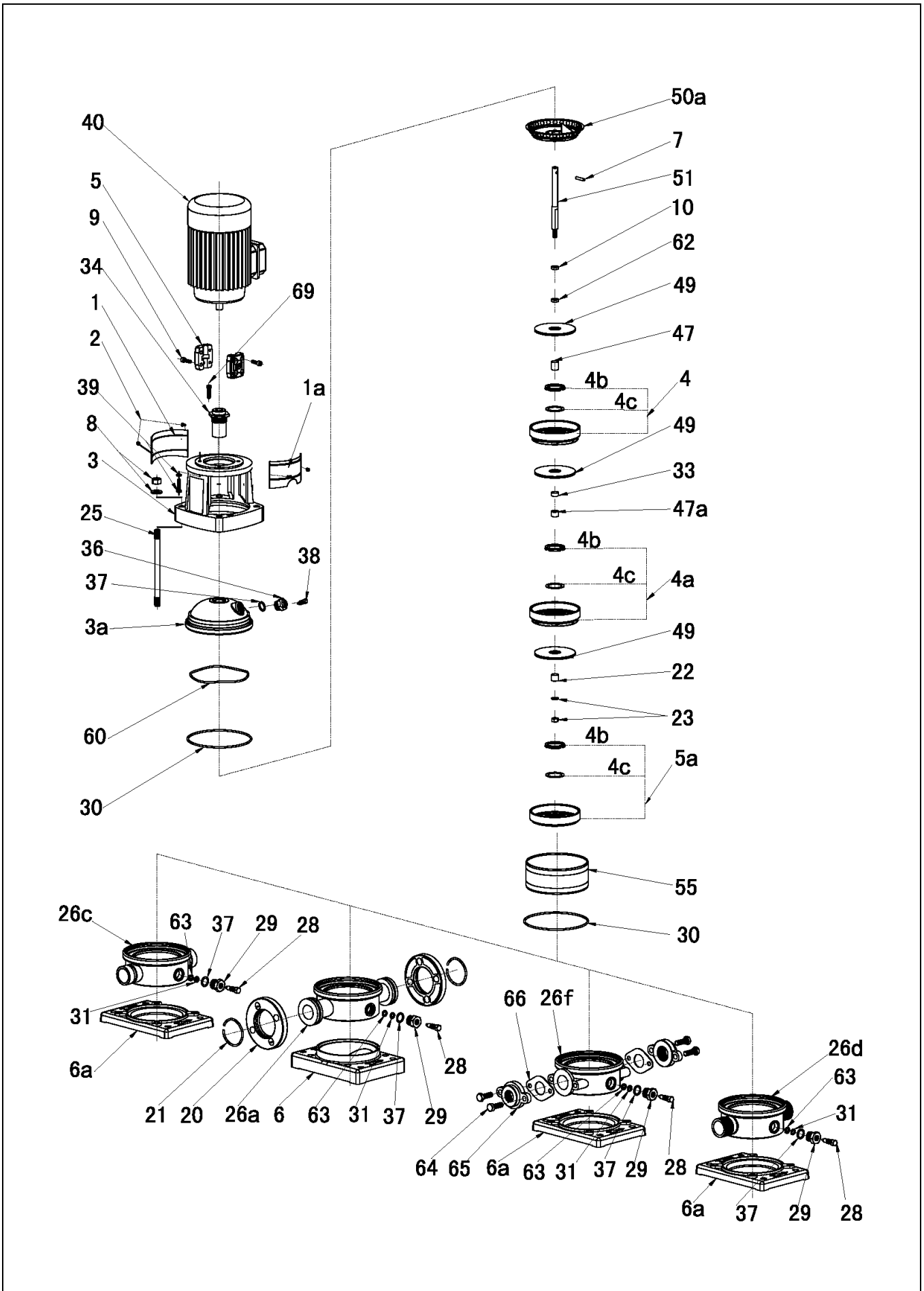
The KIV pumps are equipped with a surface-cooled squirrel-cage motor of a special design in accordance to IEC standard, IP55, Class F Insulation, 380/3/50. Also available with 230/1/50 against request.

Shaft, bearings and lubrication are designed for a long service lift. So, each motor disposes of a re-inforced DE fixed bearing. Sense of rotation is clockwise seen from the drive.

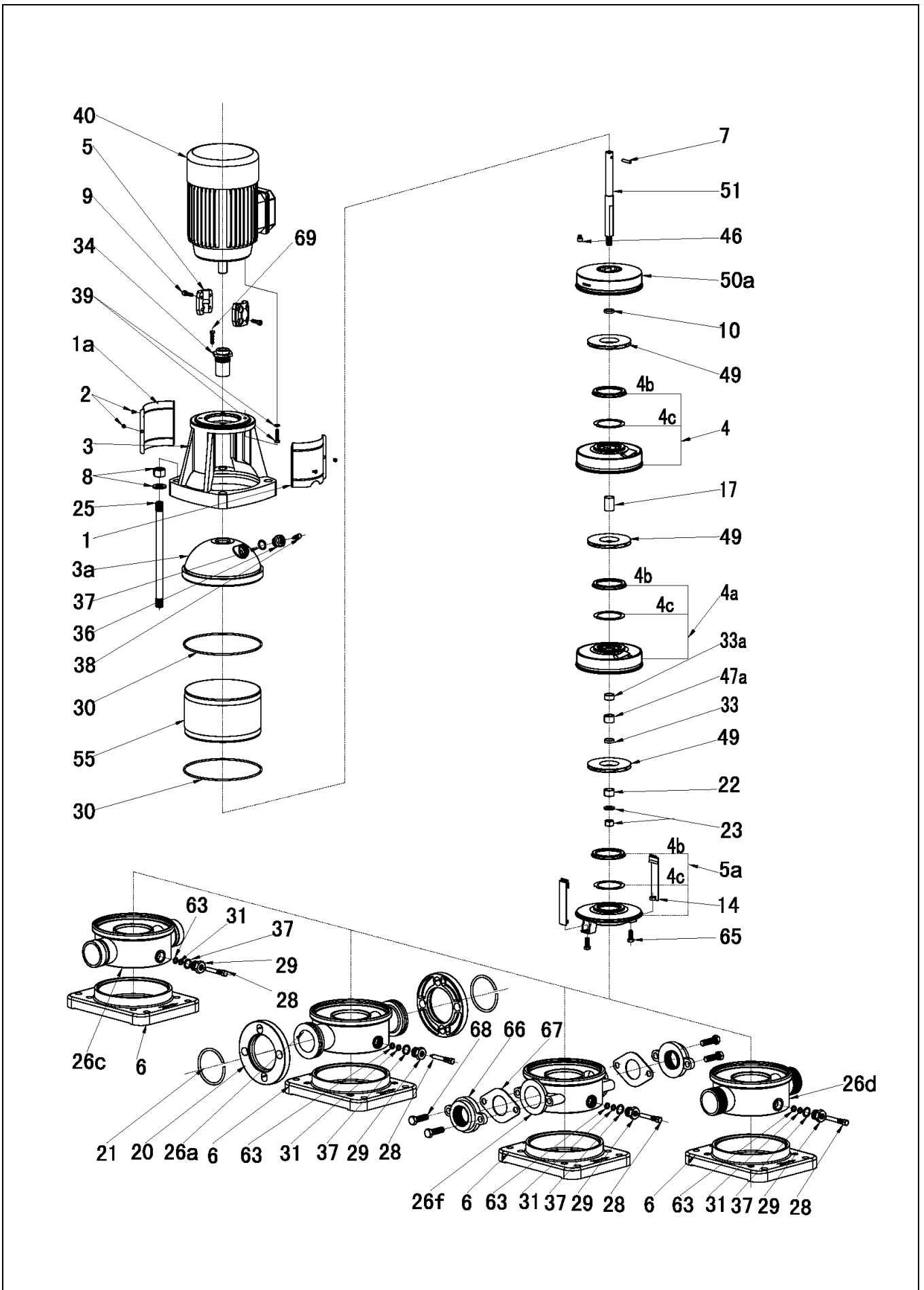
## Selection Charts



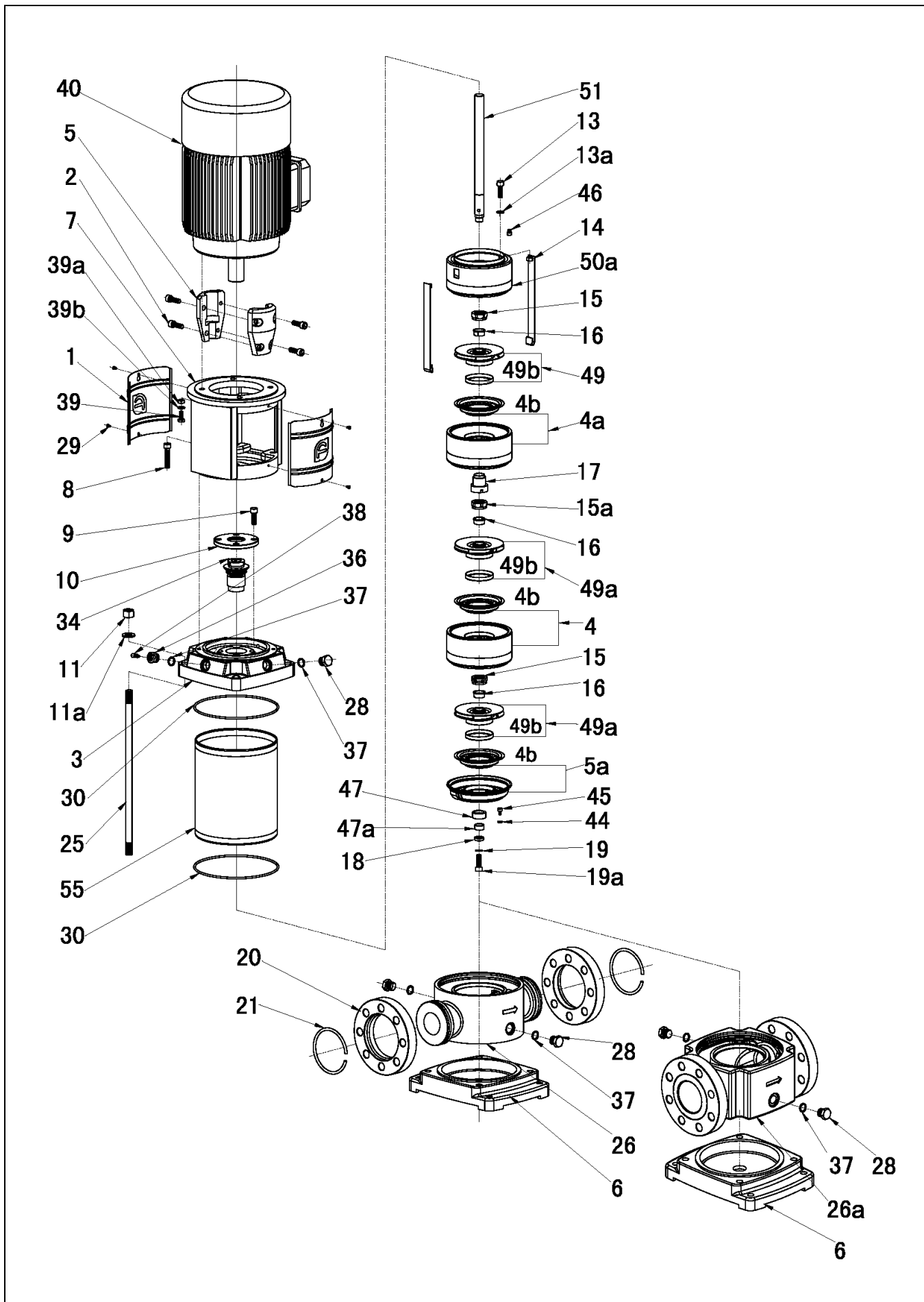
## Sectional Drawing



## Sectional Drawing



## Sectional Drawing



| Part No. | Part Description                            | Material (CODE 540)            | Material (CODE 544)        |
|----------|---|--------------------------------|----------------------------|
| 1        | Coupling guard(No nick)                     | Stainless steel (AISI304)      | Stainless steel (AISI304)  |
| 1a       | Coupling guard                              | Stainless steel (AISI304)      | Stainless steel (AISI304)  |
| 2        | Screw M4x8                                  | Steel                          | Steel                      |
| 3        | Pump head                                   | Ductile iron                   | Ductile iron               |
| 3a       | Lining                                      | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 4        | Diffuser                                    | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 4a       | Support diffuser                            | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 4b       | Neck ring cover                             | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 4c       | Neck ring                                   | PTFE                           | PTFE                       |
| 5        | Coupling                                    | Cast steel                     | Cast steel                 |
| 5a       | Inducer                                     | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 6        | Flange type base plate                      | Cast iron                      | Cast iron                  |
| 6a       | Cutting ferrule type base plate             | Cast iron                      | Cast iron                  |
| 7        | Shaft pin                                   | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 8        | Nut M12 & Washer 12                         | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 9        | Hexagon socke head screw                    | Alloy steel                    | Alloy steel                |
| 10       | Circlip cover                               | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 20       | Flange                                      | Carbon steel                   | Carbon steel               |
| 21       | Lock ring                                   | Carbon steel                   | Carbon steel               |
| 22       | First impeller cover                        | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 23       | Nut M8 & washer 8                           | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 25       | Stay bolt                                   | Carbon steel                   | Carbon steel               |
| 26a      | Flange type Inlet & outlet chamber          | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 26c      | Cutting ferrule type Inlet & outlet chamber | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 26d      | Pipe thread type Inlet & outlet chamber     | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 26f      | Oval flange type Inlet & outlet chamber     | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 28       | Drainage screw M10                          | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 29       | Drainage nut                                | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 30       | O-ring136.5x3.3                             | NBR                            | NBR                        |
| 31       | O-ring 8x2.65                               | NBR                            | NBR                        |
| 33       | Impeller sleeve(S)                          | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 34       | Mechanical seal                             | SiC/Graphite/Viton/SS304       | SiC/Graphite/Viton/SS316   |
| 36       | Air vent nut                                | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 37       | O-ring16x2.65                               | NBR                            | NBR                        |
| 38       | Air vent screw                              | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 39       | Screw & washer                              | Steel                          | Steel                      |
| 40       | Motor                                       | IE1 or IE2 or IE3              | IE1 or IE2 or IE3          |
| 47       | Impeller sleeve                             | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 47a      | Bearing                                     | Hard alloy (WC)                | Hard alloy (WC)            |
| 49       | Impeller                                    | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 50a      | Top diffuser                                | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 51       | Shaft                                       | ≤3kw=AISI304,<br>>3kw=AISI316L | Stainless steel (AISI316L) |
| 55       | Cylinder                                    | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 60       | Corrugated spring                           | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 62       | Seal sleeve(only for KIV-32)                | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 63       | O-ring retainer                             | Stainless steel (AISI304)      | Stainless steel (AISI316)  |
| 64       | Bolt M10x40                                 | Steel                          | Steel                      |
| 65       | Oval flange                                 | Carbon steel                   | Carbon steel               |
| 66       | Oval flange gasket                          | NBR                            | NBR                        |
| 69       | Screw                                       | Stainless steel (AISI304)      | Stainless steel (AISI304)  |

| Part No. | Part Description                            | Material (CODE 540)              | Material (CODE 544)        |
|----------|---|----------------------------------|----------------------------|
| 1        | Coupling guard                              | Stainless steel (AISI304)        | Stainless steel (AISI304)  |
| 1a       | Coupling guard(No nick)                     | Stainless steel (AISI304)        | Stainless steel (AISI304)  |
| 2        | Screw M4x8                                  | Steel                            | Steel                      |
| 3        | Pump head                                   | Cast iron                        | Cast iron                  |
| 3a       | Lining                                      | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 4        | Diffuser                                    | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 4a       | Support diffuser                            | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 4b       | Neck ring cover                             | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 4c       | Neck ring                                   | PTFE                             | PTFE                       |
| 5        | Coupling                                    | Cast steel                       | Cast steel                 |
| 5a       | Inducer                                     | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 6        | Flange type base plate                      | Cast iron                        | Cast iron                  |
| 7        | Shaft pin                                   | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 8        | Nut M16& Washer 16                          | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 9        | Hexagon socke head screw                    | Alloy steel                      | Alloy steel                |
| 10       | Circlip cover                               | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 14       | Strap                                       | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 17       | Impeller sleeve                             | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 20       | Flange                                      | Carbon steel                     | Carbon steel               |
| 21       | Lock ring                                   | Carbon steel                     | Carbon steel               |
| 22       | First impeller cover                        | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 23       | Nut M12 & washer 12                         | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 25       | Stay bolt                                   | Carbon steel                     | Carbon steel               |
| 26a      | Flange type Inlet & outlet chamber          | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 26c      | Cutting ferrule type Inlet & outlet chamber | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 26d      | Pipe thread type Inlet & outlet chamber     | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 26f      | Oval flange type Inlet & outlet chamber     | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 28       | Drainage screw M10                          | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 29       | Drainage nut                                | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 30       | O-ring169x3.3                               | NBR                              | NBR                        |
| 31       | O-ring 8x2.65                               | NBR                              | NBR                        |
| 33       | Impeller sleeve(S)                          | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 33a      | Impeller sleeve(L)                          | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 34       | Mechanical seal                             | SiC/Graphite/Viton/SS304         | SiC/Graphite/Viton/SS316   |
| 36       | Air vent nut                                | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 37       | O-ring16x2.65                               | NBR                              | NBR                        |
| 38       | Air vent screw                              | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 39       | Screw & washer                              | Steel                            | Steel                      |
| 40       | Motor                                       | IE1 or IE2 or IE3                | IE1 or IE2 or IE3          |
| 46       | Adjusting rubber                            | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 47a      | Bearing                                     | Hard alloy (WC)                  | Hard alloy (WC)            |
| 49       | Impeller                                    | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 50a      | Top diffuser                                | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 51       | Shaft                                       | ≤11kw=AISI304,<br>>11kw=AISI316L | Stainless steel (AISI316L) |
| 55       | Cylinder                                    | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 63       | O-ring retainer                             | Stainless steel (AISI304)        | Stainless steel (AISI316)  |
| 65       | Bolt M8x20                                  | Steel                            | Steel                      |
| 66       | Oval flange                                 | Carbon steel                     | Carbon steel               |
| 67       | Oval flange gasket                          | NBR                              | NBR                        |
| 68       | Bolt M12x40                                 | Steel                            | Steel                      |
| 69       | Screw                                       | Stainless steel (AISI304)        | Stainless steel (AISI304)  |

| Part No. | Part Description                                 | Material (CODE 540)             | Material (CODE 544)             |
|----------|--|---------------------------------|---------------------------------|
| 1        | Coupling guard                                   | Stainless steel (AISI304)       | Stainless steel (AISI304)       |
| 2        | Hexagon socke head screw                         | Alloy steel                     | Alloy steel                     |
| 3        | Pump head  | Cast iron                       | Cast iron                       |
| 4        | Diffuser(Not for 1 stage impeller)               | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 4a       | Support diffuser(Not for 1 or 2 stages impeller) | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 4b       | Neck ring base assembly                          | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 5        | Coupling   | Cast steel                      | Cast steel                      |
| 5a       | Inducer  | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 6        | Flange type base plate                           | Cast iron                       | Cast iron                       |
| 7        | Bracket  | Cast iron                       | Cast iron                       |
| 8        | Hexagon socke head screw                         | Alloy steel                     | Alloy steel                     |
| 9        | Hexagon socke head screw                         | Alloy steel                     | Alloy steel                     |
| 10       | Seal cover                                       | Cast iron                       | Cast iron                       |
| 11       | Nut M16  | Stainless steel (AISI316)       | Stainless steel (AISI316)       |
| 11a      | Washer 16  | Stainless steel (AISI316)       | Stainless steel (AISI316)       |
| 13       | Nut M8x30  | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 13a      | Washer 8   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 14       | Strap  | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 15       | Impeller nut                                     | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 15a      | Impeller nut(for support diffuser)               | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 16       | Bush   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 17       | Impeller sleeve(Not for 1 stages)                | Hard alloy(WC)                  | Hard alloy(WC)                  |
| 18       | Cover  | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 19       | Washer   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 19a      | Hexagon socke head screw                         | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 20       | Flange   | Cast iron                       | Cast iron                       |
| 25       | Stay bolt M16                                    | Carbon steel                    | Carbon steel                    |
| 26       | Inlet & outlet chamber(for SS Type)              | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 26a      | Inlet & outlet chamber(for CI Type)              | Cast iron                       | Cast iron                       |
| 28       | Drainage nut                                     | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 29       | Screw  | Stainless steel (AISI316)       | Stainless steel (AISI316)       |
| 30       | O-ring216x4.0                                    | NBR                             | NBR                             |
| 34       | Mechanical seal                                  | SiC/Graphite/Viton/SS304        | SiC/Graphite/Viton/SS316        |
| 36       | Air vent nut                                     | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 37       | O-ring16x2.65                                    | NBR                             | NBR                             |
| 38       | Air vent screw                                   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 39       | Screw M10  | Steel                           | Steel                           |
| 39a      | Nut 10   | Steel                           | Steel                           |
| 39b      | Washer 10  | Steel                           | Steel                           |
| 40       | Motor  | IE1 or IE2 or IE3               | IE1 or IE2 or IE3               |
| 44       | Washer   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 45       | Hexagon socke head screw                         | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 46       | Adjusting rubber                                 | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 47       | Bottom bearing                                   | Hard alloy (WC)                 | Hard alloy (WC)                 |
| 47a      | Bottom sleeve                                    | Hard alloy (WC)                 | Hard alloy (WC)                 |
| 49       | Small Impeller                                   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 49a      | Impeller   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 49b      | Ring or neck ring                                | PTFE                            | PTFE                            |
| 50a      | Top diffuser                                     | Stainless steel (AISI304)       | Stainless steel (AISI316)       |
| 51       | Shaft  | ≤22kw=AISI304,<br>>22kw=AISI431 | ≤22kw=AISI316L,<br>>22kw=N05500 |
| 55       | Cylinder   | Stainless steel (AISI304)       | Stainless steel (AISI316)       |