

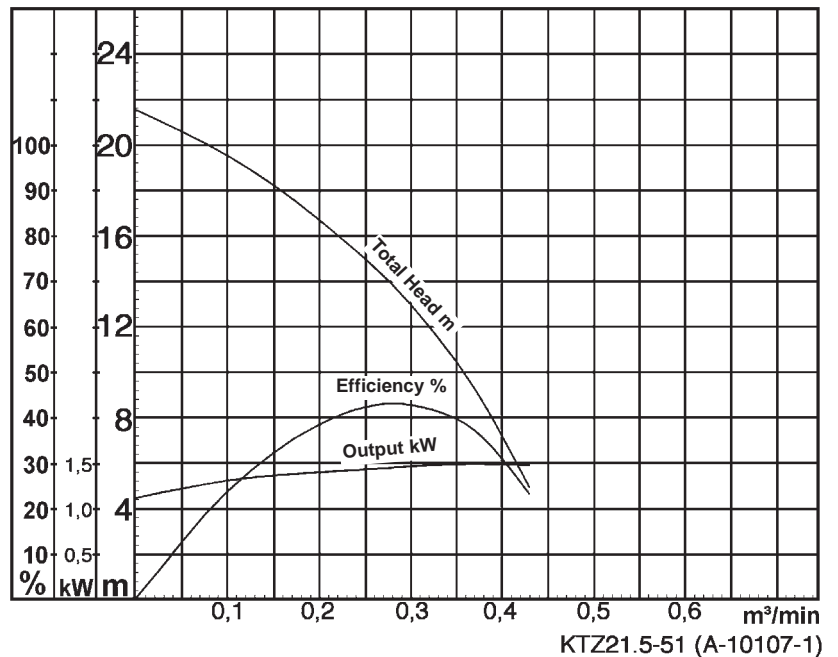
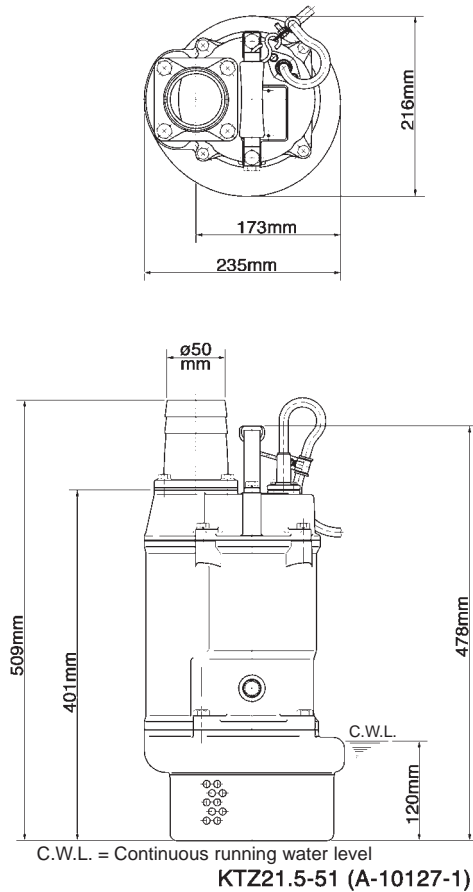


# TSURUMI PUMP

## KTZ21.5-51

- data sheet
  - parts list
  - exploded view
  - dimensional drawing
  - sectional drawing
  - performance curve
- 
- parts list as Excel-spreadsheet

# Data Sheet KTZ21.5-51



## Classification

Electric submersible pump  
Protection class IP68  
Depth of submersion max. 50m  
Open type impeller  
Max. solid handling 8,5mm  
Suitable for spring water, rain water, ground water, sand carrying water

## Electric Motor

Dry-type submersible induction motor,  
Insulation class F, 2 poles, 2850 r.p.m.  
Direct on line start  
Voltage: 400V, 50Hz, 3-phase  
Power input: 2,02kW  
Power output: 1,5kW  
Nominal current: 3,5A  
Start current: 22,0A

## Electric Cable

20m H07RN-F 4Cx1,5mm<sup>2</sup>

## Motor Protection

Circle thermal protector  
(snap-action bi-metal device)

## Shaft Seal

Double mechanical seal in oil bath  
additional lubrication by oil lifting device  
Primary Seal:  
silicon carbide on silicon carbide  
Secondary Seal:  
silicon carbide on silicon carbide

## Bearings

Shielded ball bearings, maintenance-free

## Materials

|                |                       |
|----------------|-----------------------|
| Impeller:      | Chromium iron casting |
| Casing:        | FC200 (EN-GJL-200)    |
| Suction Cover: | FCD500 (EN-GJS-500-7) |
| Motor frame:   | FC150 (EN-GJL-150)    |
| Shaft:         | SUS420J2 (EN-X30Cr13) |

## Discharge Connection

2" (50mm) BS-Coupling (threaded flange)

## Weight

30 kg (dry weight of the pump without cable)

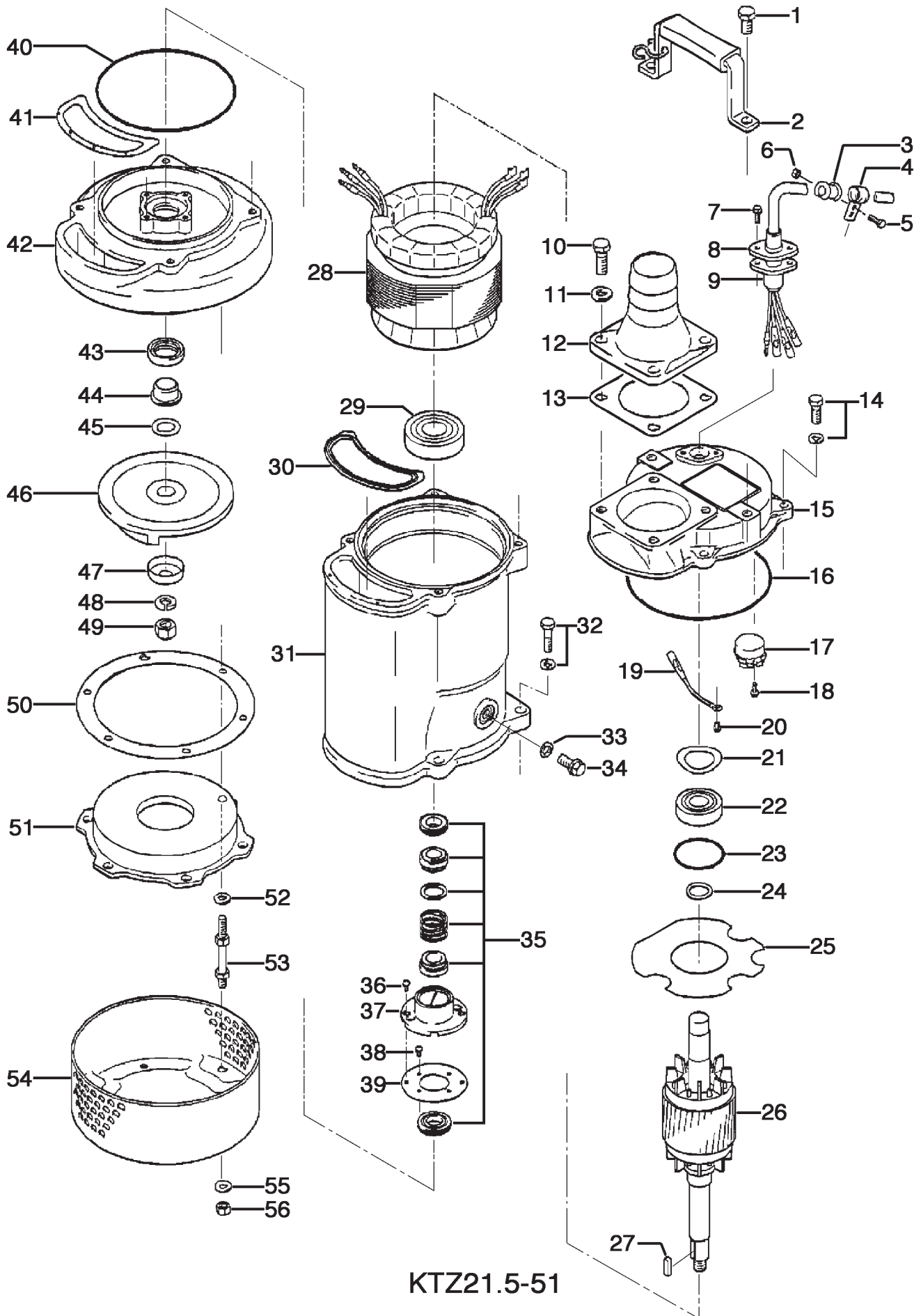
# KTZ21.5-51

Control No. KTZ-25-1-1

12.01.2006

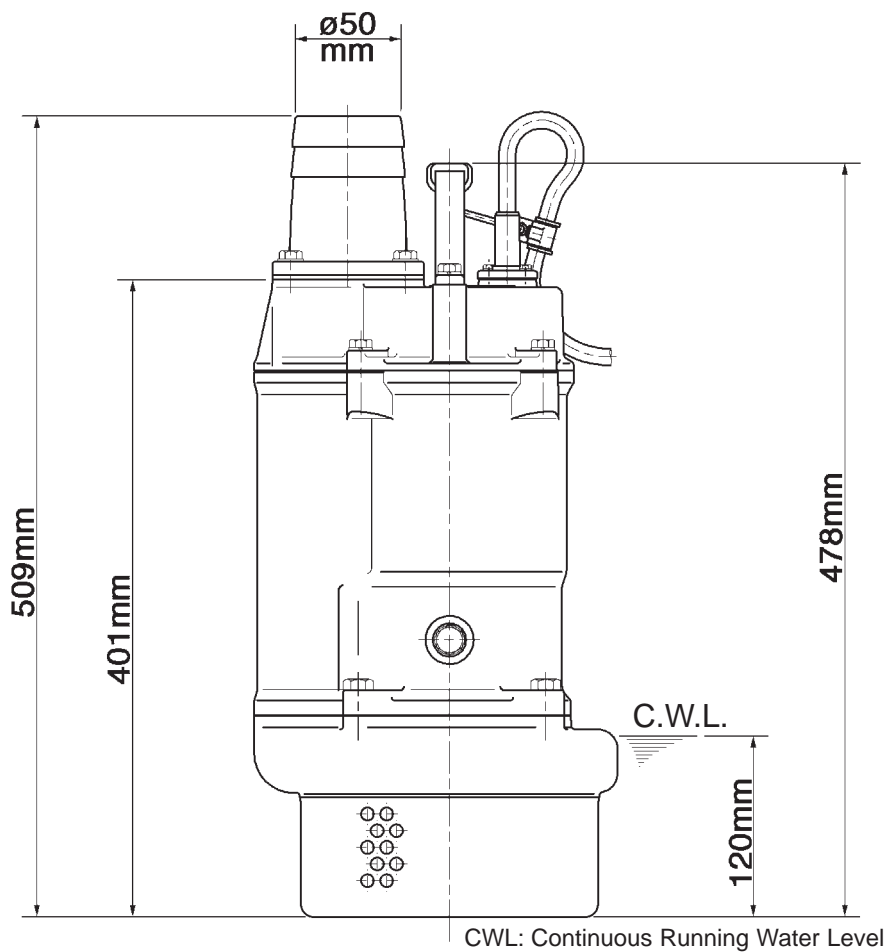
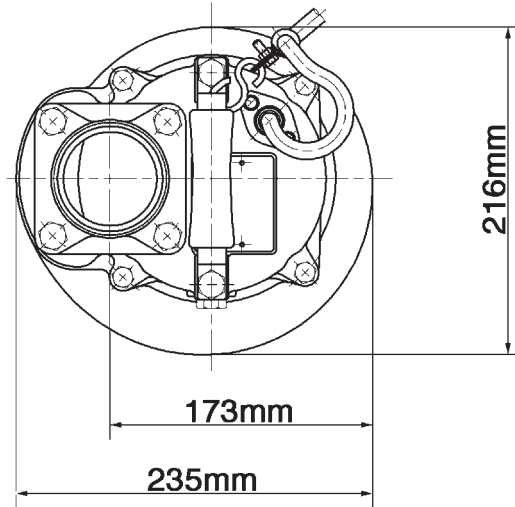
| ITEM | CODE No.   | DESCRIPTION                              | Q'TY | SIZE                     | MATERIAL | WEIGHT kg | REMARKS            |
|------|------------|--|------|--------------------------|----------|-----------|--------------------|
| 1    | 140-074-15 | Hex.Bolt                                 | 2    | M10x20                   | SUS304   | 0.024     |                    |
| 2    | 068-000-08 | Handle                                   | 1    | KTZ21.5/32.2( w/Shackle) | SPC+NBR  |           |                    |
| 3    | 010-126-17 | Cable Clip Rubber                        | 1    | HS2                      | NBR      | 0.002     |                    |
| 4    | 010-105-10 | Cable Clip                               | 1    | SB                       | SPC      | 0.01      |                    |
| 5    | 140-018-37 | Hex.Bolt                                 | 1    | M5x15                    | SWRM     |           |                    |
| 6    | 141-003-58 | Hex.Nut                                  | 1    | M5                       | SWRM     | 0.001     |                    |
| 7    | 140-427-17 | Hex.Bolt (w/Plain Washer)                | 2    | M5x15                    | SUS304   | 0.001     |                    |
| 8    | 003-100-13 | Gland                                    | 1    |                          | LB       | 0.01      |                    |
| 9    | 001-482-29 | Cabtyre Cable Set                        | 20m  | H07RN4Cx1,5mm²(CEE)      | LBT(HAR) | 1,50      |                    |
| 9A   | 061-TEG-02 | Cable Repair Kit                         | 1    |                          |          |           |                    |
| 10   | 140-076-59 | Hex.Bolt                                 | 4    | M10x30                   | SUS410   | 0.029     |                    |
| 11   | 142-12824  | Plain Washer                             | 4    | M10                      | SPC      | 0.001     |                    |
| 12   | 032-111-17 | Hose Coupling                            | 1    | 50mm(15H)                | ADC      | 0.4       |                    |
| 12   | 032-434-19 | BS-coupling (outside thread)             | 1    | 50mm                     | FC       |           |                    |
| 13   | 121-181-17 | Packing                                  | 1    | KT-15                    | NBR      | 0,02      | *                  |
| 14   | 140-488-16 | Hex.Bolt (w/Spring Washer)               | 4    | M8x30                    | SUS304   |           |                    |
| 15   | 050-421-19 | Motor Bracket                            | 1    |                          | FC       | 3,5       |                    |
| 16   | 122-140-17 | O-Ring                                   | 1    | G-145                    | NBR      | 0,00      | *                  |
| 17   | 053-471-13 | Motor Protector 380-420V-50HZ 380-460V   | 1    | KA311-DPWJ78             | (T.C)    |           |                    |
| 18   | 143-126-12 | Pan Screw (w/Spring Washer/Plain Washer) | 2    | M4x12                    | SWRM     |           |                    |
| 19   | 009-292-11 | Earth Terminal                           | 1Set | 1.25mmx140L              |          |           |                    |
| 20   | 143-085-34 | Pan Screw (w/Spring Washer)              | 1    | M4x6                     | BSBM     | 0.001     |                    |
| 21   | 142-389-12 | Wave Washer                              | 1    | #6204                    | SK-5     | 0.001     |                    |
| 22   | 052-103-18 | Bearing                                  | 1    | 6204ZZC3                 |          | 0.11      |                    |
| 23   | 122-293-16 | O-Ring                                   | 1    | 47xd3.1                  | NBR      | 0.002     | *                  |
| 24   | 061-174-18 | Slinger                                  | 1    | d20xd27x2t               | SPC      |           |                    |
| 25   | 058-000-01 | Lead Wire Protection Plate               | 1    | d61xd136x2t              | Resin    |           |                    |
| 26   | 055-705-15 | Rotor                                    | 1Set |                          |          | 3,00      |                    |
| 27   | 147-017-11 | Impeller Key                             | 1    | 5x5x20l                  | SUS      |           |                    |
| 28   | 056-001-14 | Stator 380-420V-50HZ 380-460V-60HZ       | 1Set |                          |          |           |                    |
| 29   | 052-108-13 | Bearing                                  | 1    | 6305ZZC3                 |          | 0.24      |                    |
| 30   | 121-507-13 | Packing (Water Way, Upp.)                | 1    | KTZ21.5/32.2             | NBR      | 0.001     | *                  |
| 31   | 064-000-10 | Motor Frame                              | 1    |                          | FC       | 9,00      |                    |
| 32   | 140-488-16 | Hex.Bolt (w/Spring Washer)               | 4    | M8x30                    | SUS304   |           |                    |
| 33   | 121-246-11 | Packing                                  | 1    | d10.3xd16x2t             | PE       | 0.001     | *                  |
| 34   | 035-000-01 | Oil Plug                                 | 1    | M10x16L                  | SUS304   | 0.02      |                    |
| 34   | 035-125-13 | Oil Plug (old version)                   | 1    | M10x20(B=13)             | SUS304   | 0.02      | old version        |
| 35   | 025-243-17 | Mechanical Seal                          | 1    | H-20T                    | SiC+CCBN | 0.09      | Oil ISO VG32 740ml |
| 36   | 143-070-23 | Pan Screw                                | 2    | M5x6                     | SWRM     | 0.001     |                    |
| 37   | 030-144-13 | Oil Lifter                               | 1    | H-20(A)(T)               | Resin    | 0.038     |                    |
| 38   | 143-070-10 | Pan Screw                                | 4    | M5x6                     | SWRM     | 0.001     |                    |
| 39   | 030-154-16 | Seal Stopper                             | 1    | H-20T                    | SPCC     | 0.059     |                    |
| 40   | 122-139-13 | O-Ring                                   | 1    | G-140                    | NBR      | 0.001     | *                  |
| 41   | 121-501-17 | Packing (Water Way, Low.)                | 1    | KTZ21.5/22.2             | NBR      | 0.002     | *                  |
| 42   | 020-001-01 | Pump Casing                              | 1    | KTZ21.5/32.2             | FC       | 5,00      |                    |
| 42   | 020-972-17 | Pump Casing (old version)                | 1    | KTZ21.5/32.2             | FC       | 5,00      | old version        |
| 43   | 026-105-19 | Oil Seal                                 | 1    | TC-253808                | NBR      | 0.008     |                    |
| 43   | 026-105-19 | Oil Seal (old version)                   | 1    | TC-25388                 | NBR      | 0.008     | old version        |
| 44   | 071-314-13 | Shaft Sleeve                             | 1    | d20xd25x16l              | SUS304   | 0.025     |                    |
| 45   | 040-104-25 | Impeller Shim                            | 1    | d18.2xd29x0.3t           | SUS304   | 0.001     |                    |
| 46   | 021-554-12 | Impeller (50Hz)                          | 1    | KTZ21.5-51               | HiCrFC   | 1,20      |                    |
| 46   | 021-555-26 | Impeller (60Hz)                          | 1    | KTZ21.5-61               | HiCrFC   | 1,20      |                    |
| 47   | 047-113-28 | Impeller Thread Protect.Cover            | 1    | No.3A(13.5)              | SUS304   | 0.014     |                    |
| 48   | 142-165-10 | Spring Washer                            | 1    | M12                      | SUS304   | 0.001     |                    |
| 49   | 141-032-14 | Hex.Cap Nut                              | 1    | M12                      | SUS304   | 0.02      |                    |
| 50   | 120-110-12 | Packing (S.Cover)                        |      | d150xd186x0.3t           | PE       | 0.004     |                    |
| 51   | 022-000-52 | Suction Cover                            | 1    | KTZ21.5/22.5             | FCD      | 2,00      |                    |
| 51   | 022-748-18 | Suction Cover old                        | 1    | KTZ21.5/22.5             | FCD      | 2,00      | old version        |
| 52   | 142-127-23 | Plain Washer                             | 3    | M8                       | SPC      | 0.001     |                    |
| 53   | 144-492-15 | Stud Bolt                                | 3    | M8x85(12/30)             | SUS410   | 0.039     |                    |
| 54   | 023-472-11 | Strainer Stand                           | 1    | KTZ21.5/32.2             | SPCC     | 0.88      |                    |
| 55   | 142-127-23 | Plain Washer                             | 3    | M8                       | SPC      | 0.001     |                    |
| 56   | 141-005-89 | Hex.Nut                                  | 3    | M8                       | SWRM     | 0.001     |                    |
|      |            | <Packing O-Ring Set>                     |      |                          |          |           |                    |
|      | 173-513-13 | Packing O-Ring Set                       | 1Set | (*)                      |          |           |                    |

# Exploded View KTZ21.5-51



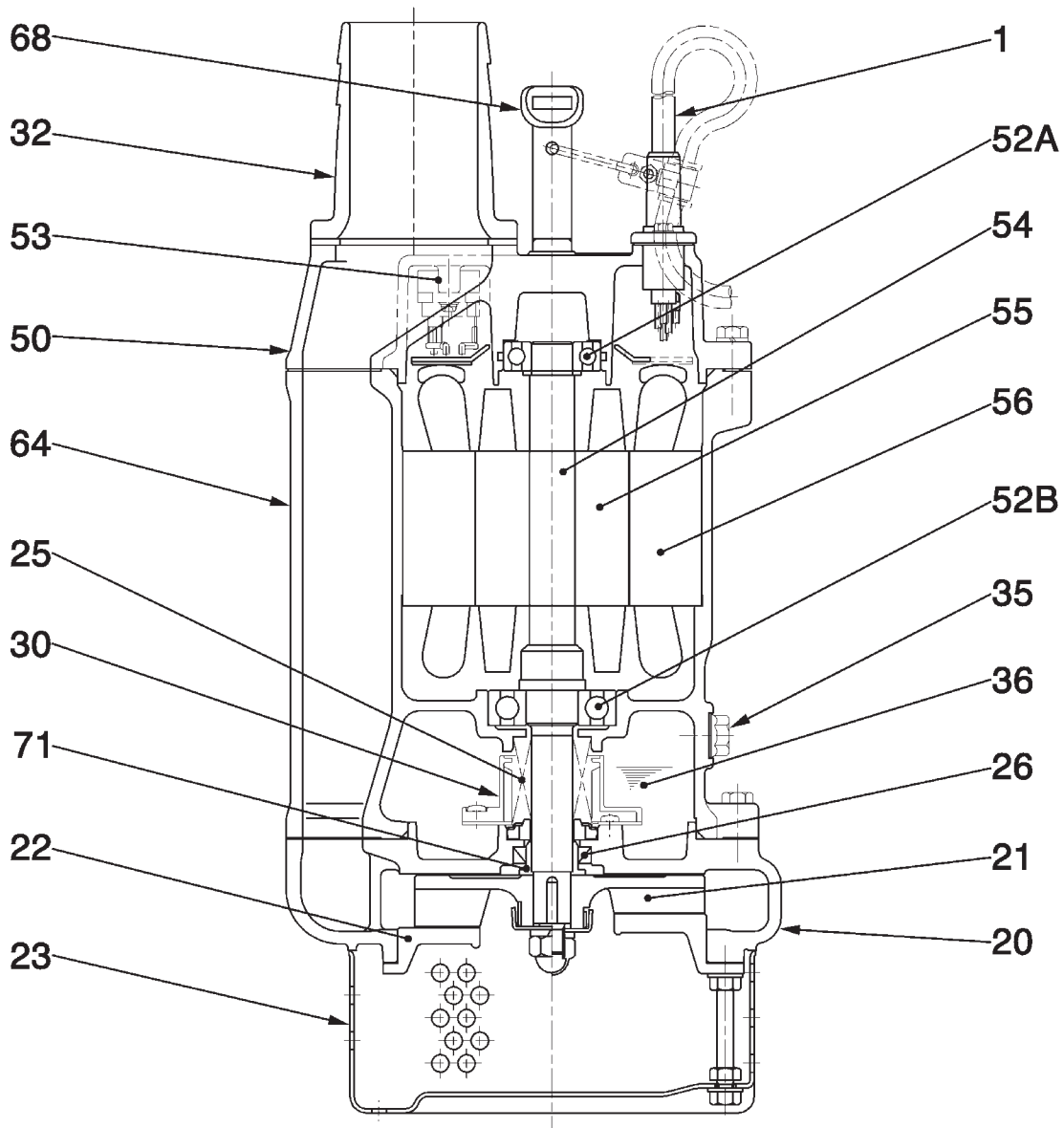
KTZ21.5-51

# Dimensional Drawing KTZ21.5-51



CWL: Continuous Running Water Level  
**KTZ21.5-51 (A-10127-1)**

# Sectional Drawing KTZ21.5-51



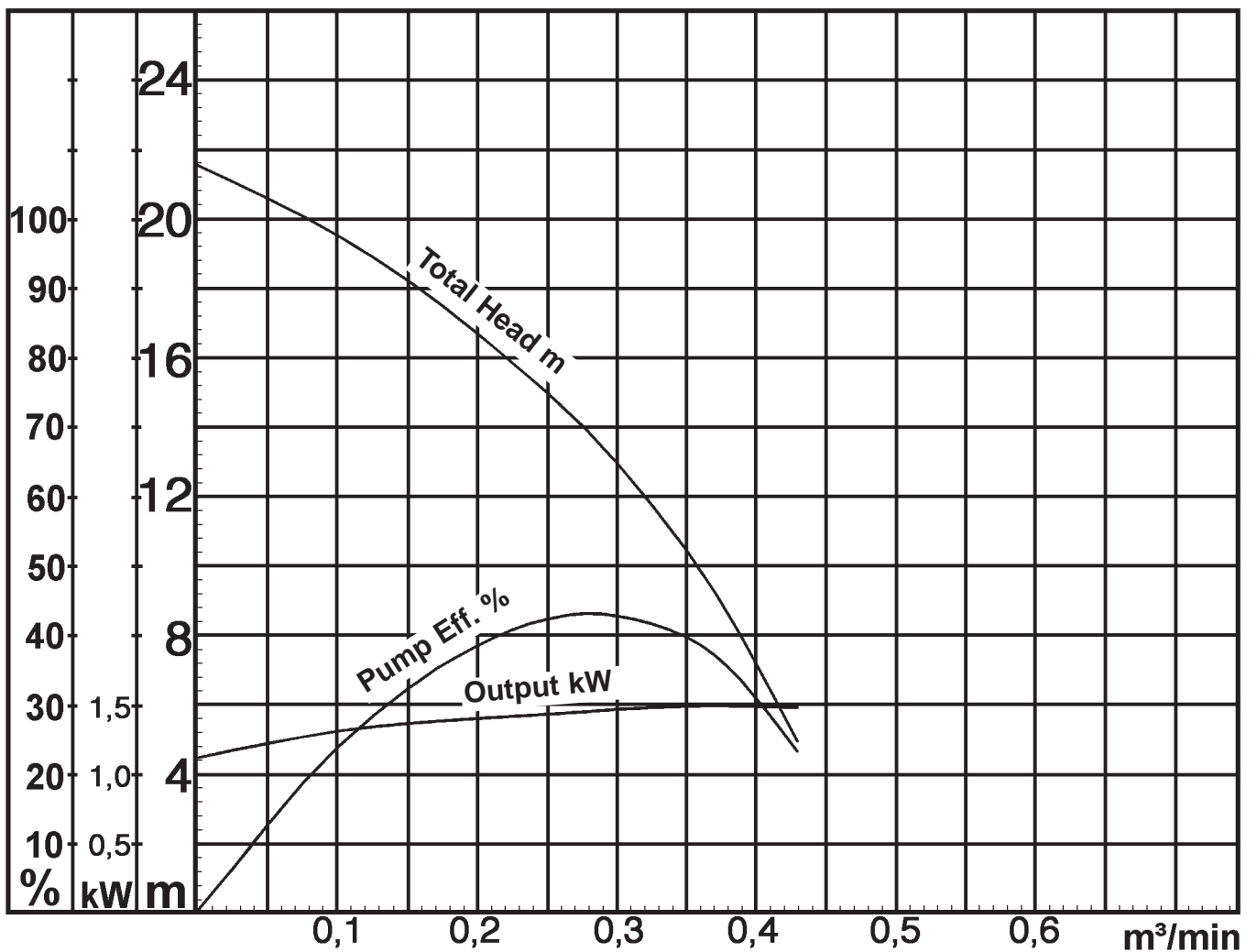
**KTZ21.5-51 (A-1031-1)**

| No. | Description     | Qty. | Remarks                       | No. | Description     | Qty. | Remarks                       |
|-----|-----------------|------|-------------------------------|-----|-----------------|------|-------------------------------|
| 1   | Cable           | 1    | H07RN-F                       | 53  | Motor Protector | 1    |                               |
| 20  | Pump Casing     | 1    | FC200 (EN-GJL-200)            | 54  | Shaft           | 1    | SUS420J2 (EN-X30Cr13)         |
| 21  | Impeller        | 1    | Chromium Iron Casting HiCrFC  | 55  | Rotor           | 1    |                               |
| 22  | Suction Cover   | 1    | FCD500 (EN-GJS-500-7)         | 56  | Stator complete | 1    |                               |
| 23  | Strainer Stand  | 1    | Steel Plate SPCC              | 64  | Motor Frame     | 1    | FC150 (EN-GJL-150)            |
| 25  | Mechanical Seal | 1    | H-20T                         | 68  | Handle          | 1    | Steel Plate SPCC + Rubber NBR |
| 26  | Oil Seal        | 1    | DD25388                       | 71  | Shaft Sleeve    | 1    | SUS304 (EN-X5CrNi18-10)       |
| 30  | Oil Lifter      | 1    | Plastic                       |     |                 |      |                               |
| 32  | Hose Coupling   | 1    | Aluminium Alloy Casting ADC12 |     |                 |      |                               |
| 35  | Oil Plug        | 1    | SUS304 (EN-X5CrNi18-10)       |     |                 |      |                               |
| 36  | Lubricant       |      | Turbine Oil (ISO VG32)        |     |                 |      |                               |
| 50  | Motor Bracket   | 1    | FC150 (EN-GJL-150)            |     |                 |      |                               |
| 52A | Upper Bearing   | 1    | 6204ZZC3                      |     |                 |      |                               |
| 52B | Lower Bearing   | 1    | 6305ZZC3                      |     |                 |      |                               |

# Pump Performance Curve

## KTZ21.5-51

|                  |                          |
|------------------|--------------------------|
| Discharge Bore   | 50 mm                    |
| Total Head       | 15 m                     |
| Capacity         | 0,25 m <sup>3</sup> /min |
| Motor Output     | 1,50 kW                  |
| Motor Input      | 2,02 kW                  |
| Phase            | 3                        |
| Voltage          | 400 V                    |
| Frequency        | 50 Hz                    |
| Rated Current    | 3,5 A                    |
| Starting Current | 22 A                     |
| Poles            | 2                        |
| Revolution       | S.S. 2850 r.p.m.         |
| Starting Method  | direct on line           |
| Insulation Class | F                        |



KTZ21.5-51 (A-10107-1)