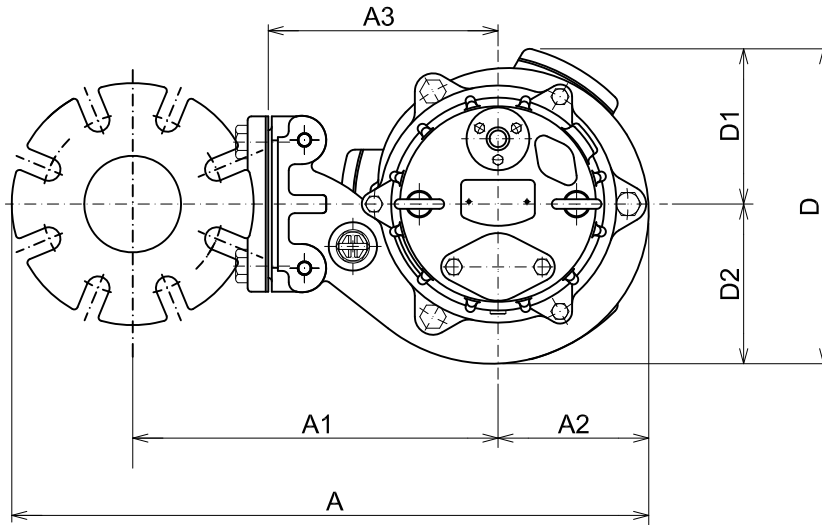




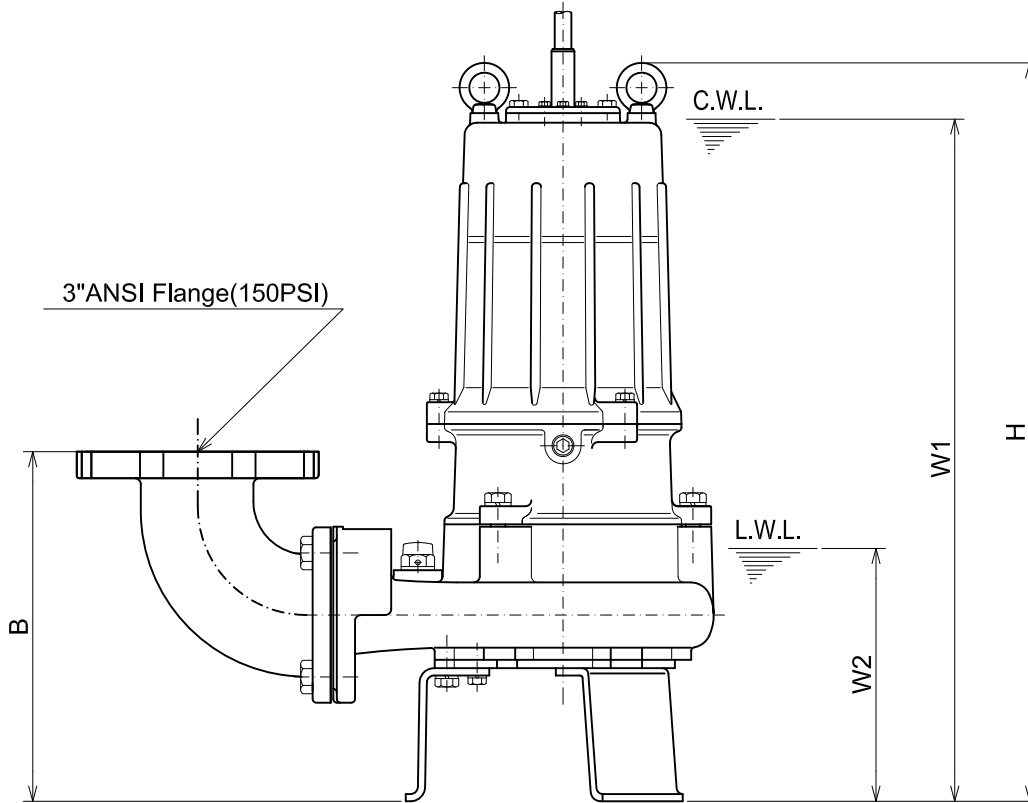
**C-SERIES  
CUTTER - TYPE - SEWAGE & WASTEWATER PUMPS**

**DIMENSIONS**

Bend model:  
BEND80-80 ANSI



**80C22.2-CR -61  
80C23.7-CR -61**



C.W.L. :Continuous running Water Level  
L.W.L. :Lowest running Water Level

**DIMENSIONS:USCS(Inch)**

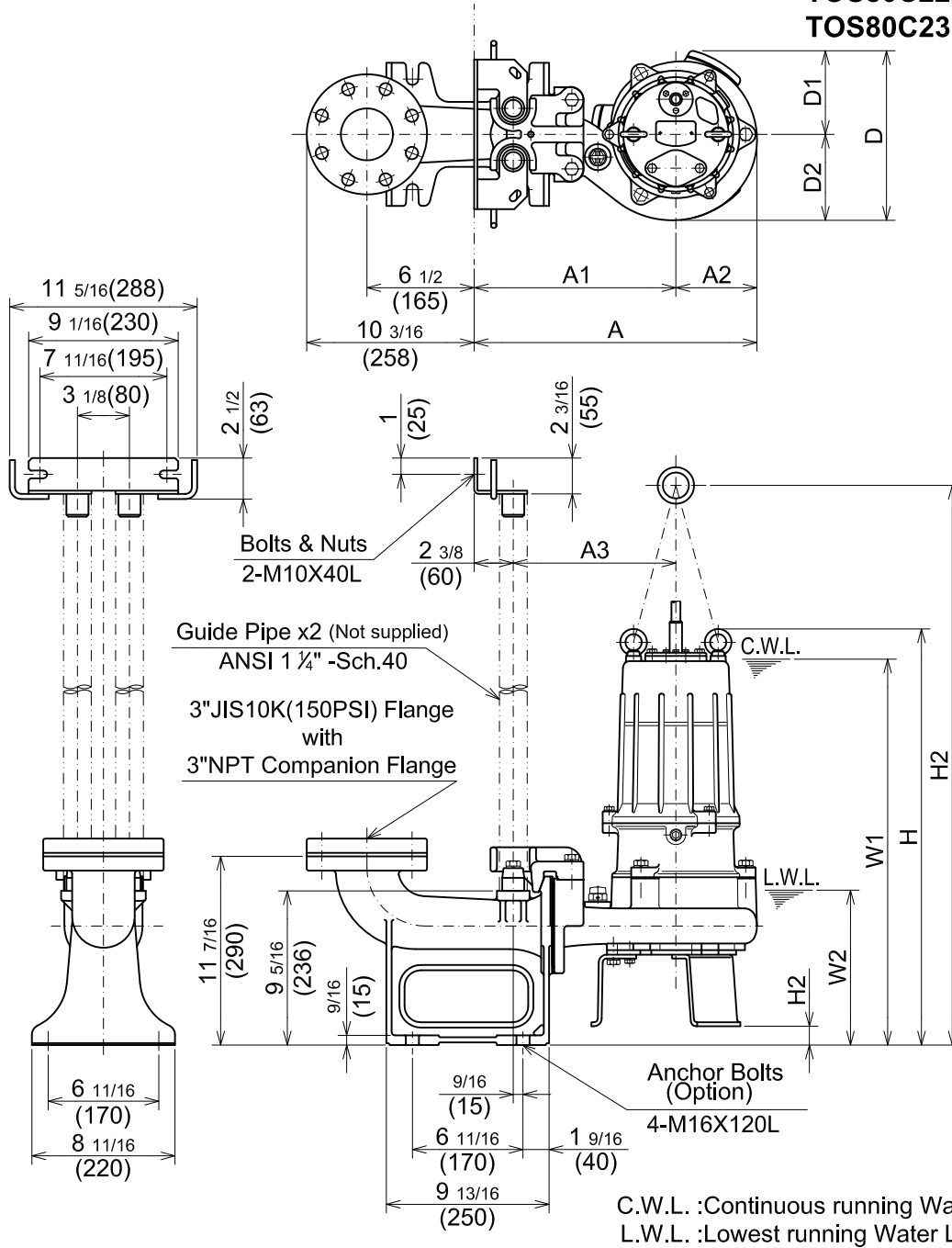
| Model          | HP | NOM. SIZE | Pump & Motor |         |         |       |        |        |        |        |         | C.W.L. W1 | L.W.L. W2 | *Wt. (lbs.) |
|----------------|----|-----------|--------------|---------|---------|-------|--------|--------|--------|--------|---------|-----------|-----------|-------------|
|                |    |           | A            | A1      | A2      | A3    | B      | D      | D1     | D2     | H       |           |           |             |
| 80C22.2-CR -61 | 3  | 3"        | 21 1/8       | 12 5/16 | 4 15/16 | 7 1/2 | 11 3/8 | 10 1/4 | 5 1/16 | 5 3/16 | 24 1/16 | 22 1/4    | 8 1/4     | 150         |
| 80C23.7-CR -61 | 5  | 3"        | 21 1/8       | 12 5/16 | 4 15/16 | 7 1/2 | 11 3/8 | 10 1/4 | 5 1/16 | 5 3/16 | 24 1/16 | 22 1/4    | 8 1/4     | 150         |

**DIMENSIONS:METRIC(mm)**

| Model          | kW  | NOM. SIZE | Pump & Motor |     |     |     |     |     |     |     |     | C.W.L. W1 | L.W.L. W2 | *Wt. (kg) |
|----------------|-----|-----------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----------|-----------|-----------|
|                |     |           | A            | A1  | A2  | A3  | B   | D   | D1  | D2  | H   |           |           |           |
| 80C22.2-CR -61 | 2.2 | 80        | 537          | 312 | 125 | 190 | 289 | 260 | 128 | 132 | 611 | 565       | 210       | 68        |
| 80C23.7-CR -61 | 3.7 | 80        | 537          | 312 | 125 | 190 | 289 | 260 | 128 | 132 | 611 | 565       | 210       | 68        |

\*Excluding Cable.

**TOS80C22.2-CR -61**  
**TOS80C23.7-CR -61**



C.W.L. :Continuous running Water Level  
L.W.L. :Lowest running Water Level

**DIMENSIONS:USCS(Inch)**

| Model             | HP | NOM. SIZE | Pump & Motor |         |         |         |        |        |        |         |        |       | C.W.L. | L.W.L. | Wt. (lbs.) |
|-------------------|----|-----------|--------------|---------|---------|---------|--------|--------|--------|---------|--------|-------|--------|--------|------------|
|                   |    |           | A            | A1      | A2      | A3      | D      | D1     | D2     | H       | H1     | H2    |        |        |            |
| TOS80C22.2-CR -61 | 3  | 3"        | 17 1/8       | 12 3/16 | 4 15/16 | 9 13/16 | 10 1/4 | 5 1/16 | 5 3/16 | 25 3/16 | 33 7/8 | 1 1/8 | 23 3/8 | 9 1/2  | 141        |
| TOS80C23.7-CR -61 | 5  | 3"        | 17 1/8       | 12 3/16 | 4 15/16 | 9 13/16 | 10 1/4 | 5 1/16 | 5 3/16 | 25 3/16 | 33 7/8 | 1 1/8 | 23 3/8 | 9 1/2  | 141        |

**DIMENSIONS:METRIC(mm)**

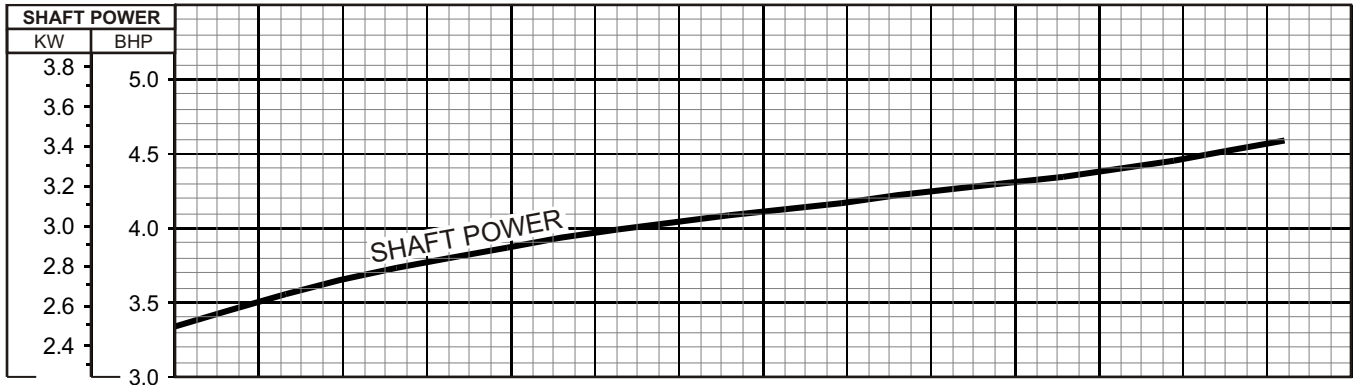
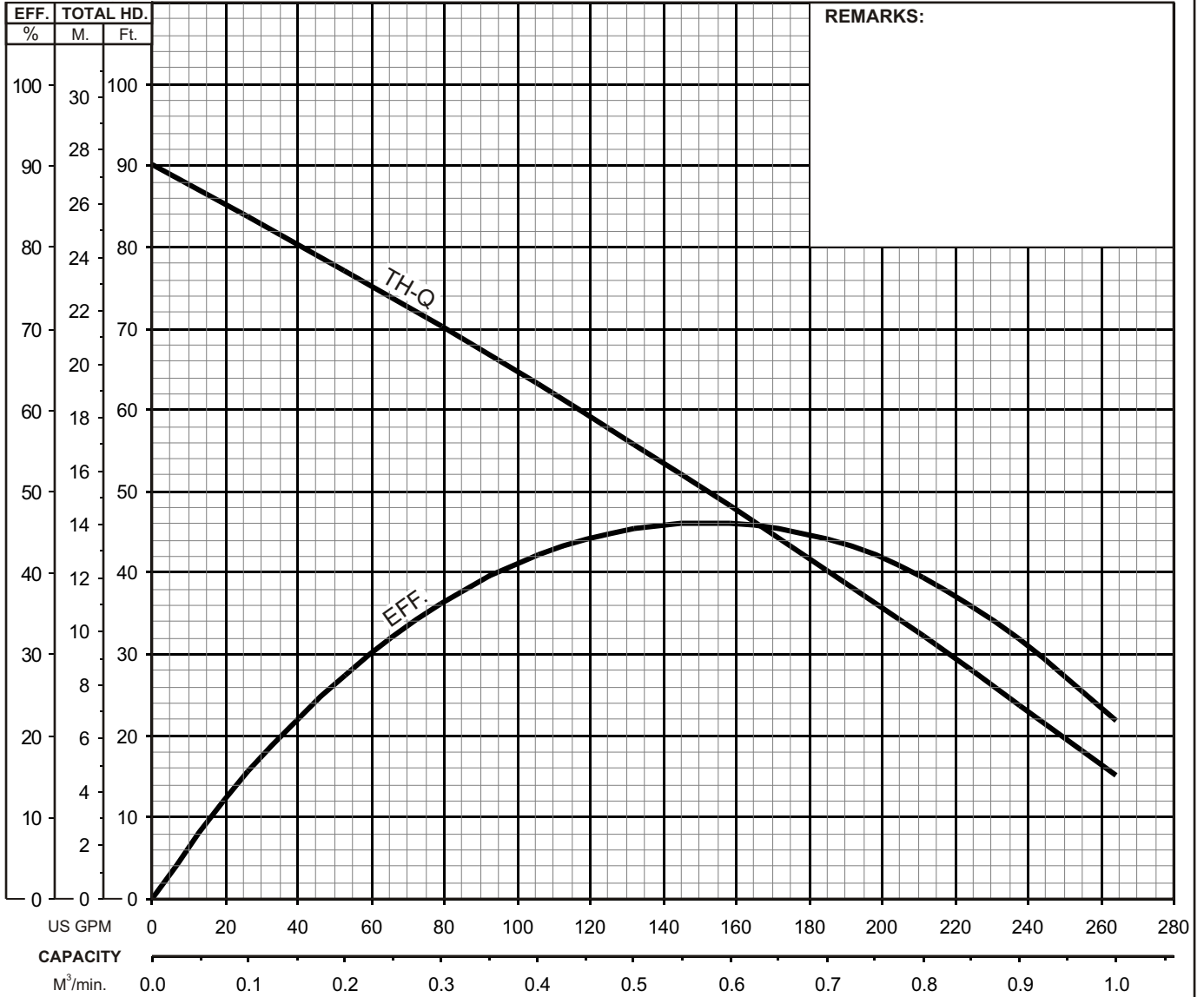
| Model             | kW  | NOM. SIZE | Pump & Motor |     |     |     |     |     |     |     |     |    | C.W.L. | L.W.L. | Wt. (kg) |
|-------------------|-----|-----------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|----|--------|--------|----------|
|                   |     |           | A            | A1  | A2  | A3  | D   | D1  | D2  | H   | H1  | H2 |        |        |          |
| TOS80C22.2-CR -61 | 2.2 | 80        | 435          | 310 | 125 | 250 | 260 | 128 | 132 | 640 | 860 | 29 | 595    | 240    | 64       |
| TOS80C23.7-CR -61 | 3.7 | 80        | 435          | 310 | 125 | 250 | 260 | 128 | 132 | 640 | 860 | 29 | 595    | 240    | 64       |



## C - SERIES CUTTER-TYPE - SEWAGE & WASTEWATER PUMPS

## PERFORMANCE CURVE

| MODEL                             |      | BORE    | HP              | KW       | RPM                     | SOLIDS DIA      | LIQUID     | SG.             | VISCOSITY  | TEMP.      |
|-----------------------------------|------|---------|-----------------|----------|-------------------------|-----------------|------------|-----------------|------------|------------|
| (TOS) 80C23.7-CR -61              |      | 3"/80mm | 5               | 3.7      | 3410                    | 0.87"/22mm      | Water      | 1.0             | 1.123 cSt. | 60°F       |
| PUMP TYPE                         |      | PHASE   | VOLTAGE         |          | AMPERAGE                |                 | HZ         | STARTING METHOD |            | INS. CLASS |
| Cutter-Type - Sewage & Wastewater |      | 3       | 208-230/460/575 |          | 14.4 - 13.6 / 6.8 / 5.3 |                 | 60         | Direct On Line  |            | F          |
| CURVE No.                         | DATE | PHASE   | VOLTAGE         | AMPERAGE | HZ                      | STARTING METHOD | INS. CLASS |                 |            |            |
| -                                 | -    | -       | -               | -        | -                       | -               | -          |                 |            |            |



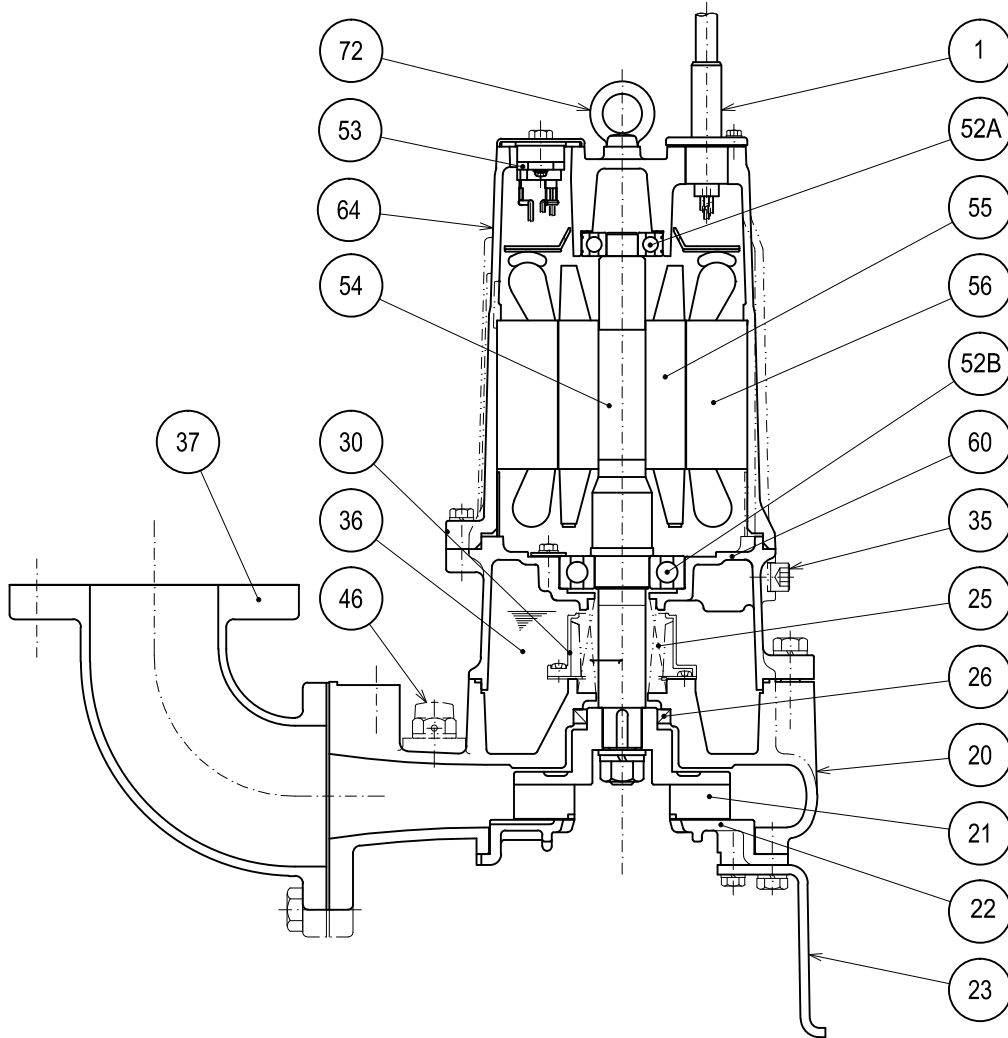


**TSURUMI PUMP**

**C-SERIES  
CUTTER - TYPE - SEWAGE & WASTEWATER PUMPS**

**SECTIONAL VIEW**

**80C22.2-CR -61  
80C23.7-CR -61**



| PART# | DESCRIPTION       | MAIN MATERIAL / NOTE                     | RELATED ASTM,AISI CODE | RELATED EN CODE     | QTY |
|-------|-------------------|------------------------------------------|------------------------|---------------------|-----|
| 1     | Power Cable       | PVC Sheath AWG 12/4-32ft                 |                        |                     | 1   |
| 20    | Pump Casing       | Cast Iron                                | A48M Class30B          | EN 1561 GJL-200     | 1   |
| 21    | Impeller          | High Chrome Cast Iron W/Tungsten Carbide | A532 Class III TypeA   | DIN 1695 G-X260Cr27 | 1   |
| 22    | Suction Cover     | High Chrome Cast Iron                    | A532 Class III TypeA   | DIN 1695 G-X260Cr27 | 1   |
| 23    | Pump Stand        | Steel                                    | A283 Grade D           | EN 10025 S275       | 3   |
| 25    | Mechanical Seal   | Silicon Carbide / H-30                   |                        |                     | 1   |
| 26    | Oil Seal          | NBR / TC45629                            |                        |                     | 1   |
| 30    | Oil Lifter        | PBT Resin W/GF40                         |                        |                     | 1   |
| 35    | Oil Plug          | Stainless Steel                          | S 30400                | 1.4301              | 1   |
| 36    | Lubricant         | Turbine Oil ISO VG32 or SAE 10W-20       |                        |                     |     |
| 37    | Discharge Bend    | Cast Iron / 3"ANSI Flange(150PSI)        | A48M Class30B          | EN 1561 GJL-200     | 1   |
| 46    | Air Release Valve | Nylon                                    |                        |                     | 1   |
| 52A   | Upper Bearing     | AC-#6304ZZC3                             |                        |                     | 1   |
| 52B   | Lower Bearing     | #6307ZZC3                                |                        |                     | 1   |
| 53    | Motor Protector   |                                          |                        |                     | 1   |
| 54    | Shaft             | Stainless Steel                          | S 42000                | 1.4028              | 1   |
| 55    | Rotor             |                                          |                        |                     | 1   |
| 56    | Stator            |                                          |                        |                     | 1   |
| 60    | Bearing Housing   | Cast Iron                                | A48M Class25B          | EN 1561 GJL-150     | 1   |
| 64    | Motor Housing     | Cast Iron                                | A48M Class25B          | EN 1561 GJL-150     | 1   |
| 72    | Lifting Lug Bolt  | Stainless Steel                          | S 30400                | 1.4301              | 2   |

| PARTS LIST |            | SUBMERSIBLE CUTTER PUMP                  |      |                       | 8/5/2016 |       |
|------------|------------|------------------------------------------|------|-----------------------|----------|-------|
| ITEM       | PART No.   | DESCRIPTION                              | QTY  | SIZE                  | MATERIAL | NOTES |
| 1          | 001-150-25 | Cabtyre Cable Set (32') 60Hz(USA)        | 1    | VCT4Cx3.5mm2          | BE/CE    |       |
| 2          | 140-021-17 | Hex.Bolt                                 | 3    | M5x20                 | SUS304   |       |
| 3          | 142-422-18 | Seal Washer                              | 3    | PM-5                  | SUS+NBR  |       |
| 4          | 003-111-20 | Gland                                    | 1    |                       | SUS304   |       |
| 5          | 009-275-18 | Compression type Terminal                | 3    | TGNB-5.5(Insulated)   | CU       |       |
| 6          | 140-052-17 | Hex.Bolt                                 | 2    | M8x16                 | SUS304   |       |
| 7          | 127-000-16 | Protector Fixing Plate                   | 1    |                       | SUS304   |       |
| 8          | 121-000-23 | Packing                                  | 1    |                       | NBR      | *     |
| 9          | 053-000-31 | Motor Protector 230V-60Hz(USA)           | 1    | KA313-GDBL110         | (T.C)    |       |
|            | 053-000-36 | Motor Protector 460V-60Hz(USA)           | 1    | KA313-GBTL102         | (T.C)    |       |
| 10         | 143-126-38 | Pan Screw (w/Spring Washer/Plain Washer) | 2    | M4x12                 | SWRM     |       |
| 11         | 072-100-20 | Eye Bolt                                 | 2    | M10                   | SUS304   |       |
| 12         | 064-000-20 | Motor Frame                              | 1    |                       | FC       |       |
| 13         | 140-057-12 | Hex.Bolt                                 | 3    | M8x35                 | SUS304   |       |
| 14         | 142-163-18 | Spring Washer                            | 3    | M8                    | SUS304   |       |
| 15         | 009-212-17 | Earth Terminal                           | 1Set | 2mm2x130L             |          |       |
| 16         | 143-085-21 | Pan Screw (w/Spring Washer)              | 1    | M4x6                  | SWRM     |       |
| 17         | 122-333-19 | O-Ring                                   | 1    | 170xd3.1              | NBR      | *     |
| 18         | 142-196-10 | Wave Washer                              | 1    | 6205/6304             | SK5      |       |
| 19         | 052-188-17 | Bearing (w/O-ring)                       | 1    | AC-6304ZZC3           |          |       |
| 20         | 058-000-04 | Lead Wire Protection Plate               | 1    | d66xd150x1.5t         | Bakelite |       |
| 21         | 055-001-56 | Rotor                                    | 1Set |                       |          |       |
| 22         | 147-079-11 | Impeller Key                             | 1    | 7x7x18l               | SUS420   |       |
| 23         | 056-001-27 | Stator 230V-60Hz(USA)                    | 1Set |                       |          |       |
|            | 056-001-29 | Stator 460V-60Hz(USA)                    | 1Set |                       |          |       |
| 24         | 140-000-06 | Hex.Bolt (w/Spring Washer/Plain Washer)  | 3    | M6x12                 | SWCH     |       |
| 25         | 052-110-18 | Bearing                                  | 1    | 6307ZZC3              |          |       |
| 26         | 071-336-11 | Collar                                   | 1    | 41L                   | SECC     |       |
| 27         | 060-000-97 | Bearing Housing                          | 1    |                       | FC       |       |
| 28         | 035-113-18 | Oil Plug                                 | 1    | M12x14                | SUS304   |       |
| 29         | 121-247-12 | Packing                                  | 1    | d12.3xd18x2t          | PE       | *     |
| 30         | 140-098-15 | Hex.Bolt                                 | 3    | M12x35                | SUS304   |       |
| 31         | 142-165-10 | Spring Washer                            | 3    | M12                   | SUS304   |       |
| 32         | 025-194-12 | Mechanical Seal                          | 1    | H-30                  | SiC      |       |
| 33         | 143-070-23 | Pan Screw                                | 2    | M5x6                  | SWRM     |       |
| 34         | 030-142-11 | Oil Lifter                               | 1    | H-30(A)(T)            | Resin    |       |
| 35         | 143-070-10 | Pan Screw                                | 3    | M5x6                  | SWRM     |       |
| 36         | 030-151-13 | Seal Stopper                             | 1    | H-30(A)(T)            | SPCC     |       |
| 37         | 046-107-13 | Air Release Valve                        | 1    | PT-1/2                | Nylon    |       |
| 38         | 122-246-14 | O-Ring                                   | 1    | 180xd3.1              | NBR      | *     |
| 39         | 020-002-06 | Pump Casing                              | 1    | 80C22.2/23.7-CR-51/61 | FC       |       |
| 40         | 026-155-14 | Oil Seal                                 | 1    | TC-45629              | NBR      |       |
| 41         | 040-107-28 | Impeller Shim                            |      | d25.2xd38x0.3t        | SUS304   |       |
| 42         | 021-007-05 | Impeller (60Hz)                          | 1    | 80C23.7-CR-61         | HiCrFC   |       |

| PARTS LIST |            | SUBMERSIBLE CUTTER PUMP          |      |                          | 8/5/2016 |       |
|------------|------------|----------------------------------|------|--------------------------|----------|-------|
| ITEM       | PART No.   | DESCRIPTION                      | QTY  | SIZE                     | MATERIAL | NOTES |
| 43         | 142-166-11 | Spring Washer                    | 1    | M16                      | SUS304   |       |
| 44         | 141-033-15 | Hex.Cap Nut                      | 1    | M16                      | SUS304   |       |
| 45         | 120-127-12 | Packing                          |      | d171xd186x0.3t           | PE       |       |
| 46         | 022-001-45 | Suction Cover                    | 1    | 80C23.7-CR-51/61         | HiCrFC   |       |
| 47         | 023-469-15 | Pump Stand                       | 3    | 22/37-BE3                | SPHC     |       |
| 48         | 142-164-19 | Spring Washer                    | 3    | M10                      | SUS304   |       |
| 49         | 140-076-17 | Hex.Bolt                         | 3    | M10x30                   | SUS304   |       |
| 50         | 142-163-18 | Spring Washer                    | 3    | M8                       | SUS304   |       |
| 51         | 140-054-19 | Hex.Bolt                         | 3    | M8x20                    | SUS304   |       |
| 52         | 140-130-36 | Hex.Bolt                         | 8    | M16x70                   | SWRM     |       |
| 53         | 048-000-54 | Screwed Flange                   | 1    | NPT-3(JIS10K)            | FC       |       |
| 54         | 121-105-33 | Packing                          | 1    | JIS10Kx80mm              | NR       |       |
| 55         | 142-166-37 | Spring Washer                    | 8    | M16                      | SWRH     |       |
| 56         | 141-008-11 | Hex.Nut                          | 8    | M16                      | SUS304   |       |
| 57         | 140-123-10 | Hex.Bolt                         | 4    | M16x35                   | SUS304   |       |
| 58         | 037-169-15 | Discharge Bend                   | 1    | 80x80mm                  | FC       |       |
| 59         | 121-152-19 | Packing                          | 1    | 145mm2(P.C.145)          | NBR      | *     |
|            | 173-000-79 | <b>Packing O-Ring Set</b>        | 1Set | (Marked by *)            |          |       |
| 8          | 121-000-23 | Packing (Protector Fixing Plate) | 1    |                          | NBR      | *     |
| 17         | 122-333-19 | O-Ring (M.Frame/Brg.Housing)     | 1    | 170xd3.1                 | NBR      | *     |
| 29         | 121-247-12 | Packing (Oil Plug)               | 1    | d12.3xd18x2t             | PE       | *     |
| 38         | 122-246-14 | O-Ring (Brg.Housing/P.Casing)    | 1    | 180xd3.1                 | NBR      | *     |
| 59         | 121-152-19 | Packing (Discharge Bend)         | 1    | 145mm2(P.C.145)          | NBR      | *     |
|            |            | Lubricant                        |      | Turbine Oil VG32 1,890ml |          |       |

| PARTS LIST |          | SUBMERSIBLE CUTTER PUMP |     |      |          | 8/5/2016 |
|------------|----------|-------------------------|-----|------|----------|----------|
| ITEM       | PART No. | DESCRIPTION             | QTY | SIZE | MATERIAL | NOTES    |

## EXPLODED VIEW

(TOS) 80C22. 2-CR-51/61

(TOS) 80C23. 7-CR-51/61

