



# CRN1 HS

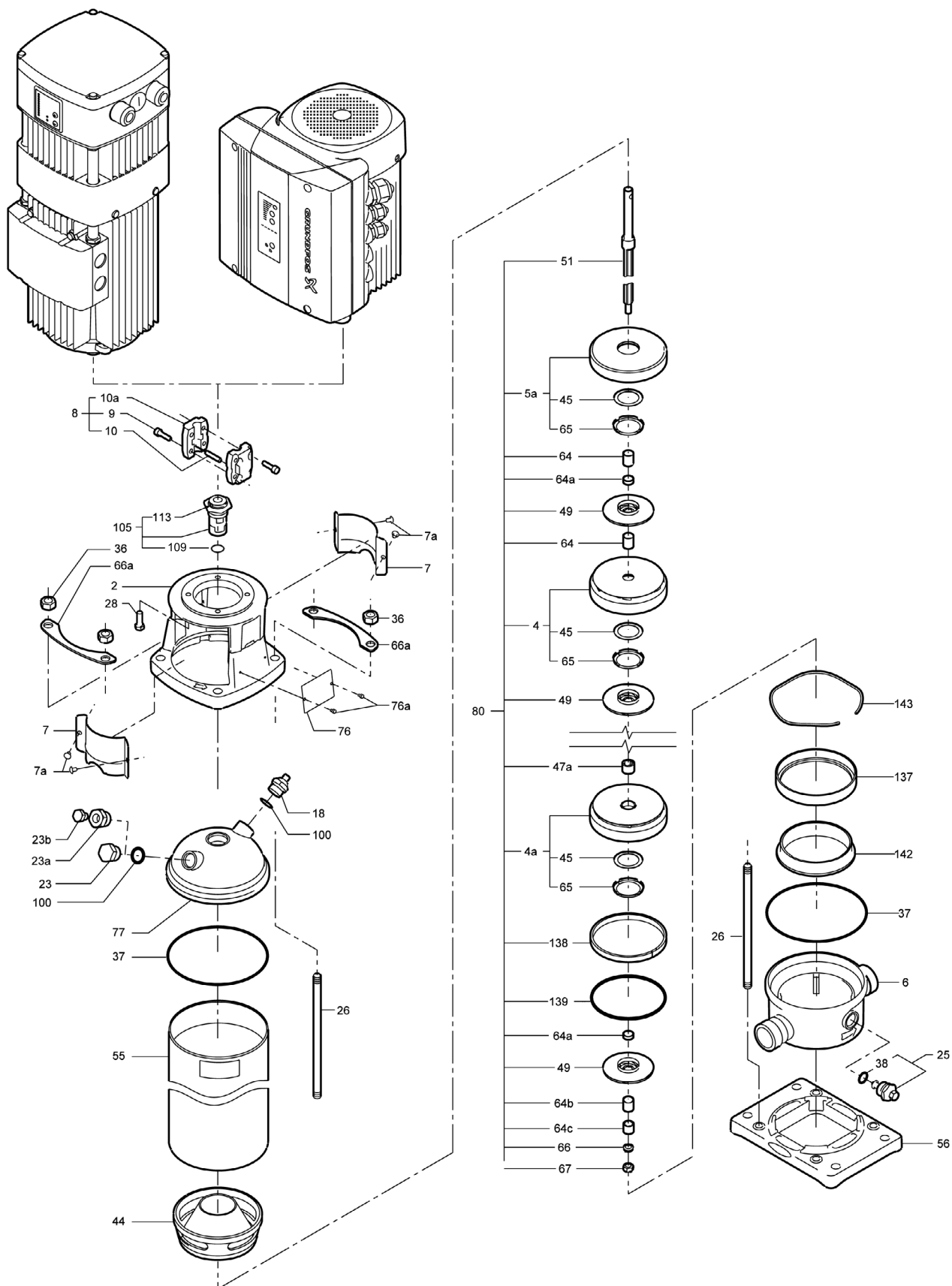
## Parts List & Kits

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# Parts List & Kits CRN1 HS

| Pos. No.          | Part Description                                | Model | Stages | No. Used | Comments/Dimensions                               | B.O.M. Ref. No. | Material No. | Included in kits ? |
|-------------------|-------------------------------------------------|-------|--------|----------|---------------------------------------------------|-----------------|--------------|--------------------|
| <b>PARTS LIST</b> |                                                 |       |        |          |                                                   |                 |              |                    |
| 2                 | Motor Stool                                     |       | 23     | 1        | IEC, F130, MG 100/112, 3.0 - 4.0 kW               | 96436509        |              | No                 |
| 4                 | Reinforced Chamber, Complete with Pos.45 & 65   |       | 23     | 19       | PTFE Pos.45                                       | 96475578        |              | No                 |
| 4a                | Reinforced Cmb. Cpl. w/Pos.45 & 65 & Bearing    |       | 23     | 3        | Silicon Carbide Bearing, PTFE Pos.45              | 96475577        |              | YES                |
| 5a                | Reinforced Bottom. Cmb. Cpl. with Pos.45 & 65   |       | 23     | 1        | PTFE Pos.45                                       | 96475576        |              | No                 |
| 6                 | Base                                            |       | 23     | 1        | Victualic (PJE) 1.25", Stainless (Max 362 PSI)    | 96460189        |              | No                 |
| 7                 | Coupling Guard                                  |       | 23     | 2        | NEMA-56C, IEC-F115,130, & 265                     | 96438137        |              | YES                |
| 7a                | Screw for Coupling Guard                        |       | 23     | 4        | M4 x 8mm                                          | 96488481        |              | YES                |
| 9                 | Allen Screw                                     |       | 23     | 4        | M8 x 25mm, Delta Seal                             | 001D7900        |              | YES                |
| 10                | Shaft Pin                                       |       | 23     | 1        | ø5 x 26mm                                         | 310192          |              | YES                |
| 10a               | Coupling Half                                   |       | 23     | 2        | IEC, F130, MG100/112, 3-4 kW.ø28/ø12              | 410047          |              | YES                |
| 18                | Priming/Vent Plug                               |       | 23     | 1        | G 1/2A, NV24 with NV9 x M8 stem                   | 405150          | 96505133     | YES                |
| 23                | Plug (option)                                   |       | 23     | 1        | G 1/2A, Solid no port, NV24                       | 370025          | 96505133     | YES                |
| 23a               | Plug                                            |       | 23     | 1        | G 1/2A, w/1/4" port, NV24                         | 91120659        | 96511103     | No                 |
| 23b               | Pipe Plug for Pos.23 & 25 with hollow stem      |       | 23     | 1        | 1/4" NPT,SS SQHD                                  | 001D7216        |              | No                 |
| 25                | Drain/Priming Plug Cpl. with O-rings            |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 stem, EPDM                | 96440611        | 96588243     | No                 |
|                   | Drain/Priming Plug Cpl. with O-rings (option)   |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 stem, FKM                 | 96446891        |              | No                 |
|                   | Dr./Pr. Plug Cpl. for gauge, w/O-rings (option) |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 stem, FXM                 | 96460009        |              | No                 |
|                   |                                                 |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 stem, FFKM                | 96475474        |              | No                 |
|                   |                                                 |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 hollow stem, EPDM         | 96527050        |              | No                 |
|                   |                                                 |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 hollow stem, FKM          | 96527051        |              | No                 |
|                   |                                                 |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 hollow stem, FXM          | 96549174        |              | No                 |
|                   |                                                 |       | 23     | 1        | G 1/2A, NV24 w/NV9 x M8 hollow stem, FFKM         | 96527052        |              | No                 |
| 26                | Staybolt                                        |       | 23     | 4        | M12 x 551mm                                       | 414146          |              | No                 |
| 28                | Motor Bolt                                      |       | 23     | 4        | IEC, F130, MG100/112, 3-4 kW. M8 x 25mm           | 001D8025        |              | No                 |
| 36                | Staybolt Nut                                    |       | 23     | 4        | 19mm x M12, 316SS                                 | 001D0876        |              | No                 |
| 37                | Sleeve O-ring                                   |       | 23     | 2        | EPDM, ø137.5 x 3.3mm                              | 96438743        |              | YES                |
|                   | Sleeve O-ring (option)                          |       | 23     | 2        | FKM, ø137.5 x 3.3mm                               | 96438744        |              | YES                |
|                   |                                                 |       | 23     | 2        | FKM, ø137.5 x 3.3mm                               | 96458109        |              | YES                |
|                   |                                                 |       | 23     | 2        | FFKM, ø136.12 x 3.53mm                            | 96466718        |              | YES                |
| 38                | Drain Plug O-ring                               |       | 23     | 1        | EPDM, ø16.3 x 2.4mm                               | 001D1288        |              | YES                |
|                   | Drain Plug O-ring (option)                      |       | 23     | 1        | FKM, ø16.3 x 2.4mm                                | 001D2231        |              | YES                |
|                   |                                                 |       | 23     | 1        | FFKM, ø16.3 x 2.4mm                               | 96428162        |              | YES                |
|                   |                                                 |       | 23     | 1        | FKM, ø16.3 x 2.4mm                                | 96442869        |              | YES                |
| 44                | Inlet crown                                     |       | 23     | 1        | Stainless                                         | 96464941        |              | No                 |
| 45                | Neck Ring                                       |       | 23     | 23       | ø41.3 x ø30.6 x .75mm, PTFE (96536194 qty. of 24) | 400003          | 96536194     | No                 |
| 47a               | Bearing Ring/Spacer                             |       | 23     | 3        | SiC 150, ø17.37 x ø13.10 x ø10.9 x 13mm           | 96437488        | 96547649     | No                 |
| 49                | Impeller                                        |       | 23     | 23       | ø73.6 x ø30.6 x 9.1mm (back-plate .5mm)           | 96440326        |              | No                 |
|                   |                                                 |       | 23     | 23       | ø73.6 x ø30.6 x 9.1mm (96547666 qty. of 24)       | 96440326        | 96547666     | No                 |
| 51                | Shaft, Complete                                 |       | 23     | 1        | ø12 x 556.5mm                                     | 96440405        | 96588237     | No                 |
| 55                | Outer Sleeve                                    |       | 23     | 1        | ø138 x 440.6mm                                    | 96441543        |              | No                 |
| 56                | Base Plate N (Low) for PJE Pos. 6               |       | 23     | 1        | Cast Stainless                                    | 96437870        | 98052563     | No                 |
| 64                | Spacing Pipe                                    |       | 23     | 20       | ø15.85 x ø12.85 x 17.525mm                        | 400252          |              | No                 |
| 64a               | Spacing Pipe                                    |       | 23     | 4        | ø15.85 x ø12.85 x 4.5mm                           | 96440292        |              | No                 |
|                   |                                                 |       | 23     | 4        | ø15.85 x ø12.85 x 4.5mm (96536450 qty. of 24)     | 96440292        | 96536450     | No                 |
| 64b               | Spacing Pipe                                    |       | 23     | 1        | ø15.85 x ø12.85 x 13.0mm                          | 96443611        |              | No                 |
|                   |                                                 |       | 23     | 1        | ø15.85 x ø12.85 x 13.0mm (96536452 qty. of 24)    | 96443611        | 96536452     | No                 |
| 64c               | Clamp, Splined                                  |       | 23     | 1        | ø15 x ø13.10 x ø10.9 x 13.0mm                     | 96439668        |              | No                 |
| 65                | Neck Ring Retainer                              |       | 23     | 23       | ø43.5 x ø34.0 x 3.6mm                             | 96438746        |              | YES                |
| 66                | Lock Washer Set for Shaft                       |       | 23     | 1        | ø13.5 x ø8.2 x 2.6mm                              | 96417297        |              | YES                |
| 66a               | Reinforcing plate for staybolts                 |       | 23     | 2        | 3.0mm                                             | 96461736        |              | No                 |
| 67                | Lock Nut for Shaft                              |       | 23     | 1        | 13mm x M8                                         | 001D2061        |              | YES                |
| 76                | Nameplate                                       |       | 23     | 1        | 304SS, 60 x 45mm                                  | 96439820        |              | No                 |
| 76a               | Rivet for Nameplate                             |       | 23     | 2        | 304SS, ø3 x 5mm                                   | 96022882        |              | No                 |
| 77                | Pump Head Cover for Motor Stool Pos. 2          |       | 23     | 1        | Cast Stainless                                    | 96436340        | 96588244     | No                 |
| 100               | Priming/Vent Plug O-ring                        |       | 23     | 2        | EPDM, ø16.3 x 2.4mm                               | 001D1288        |              | YES                |
|                   | Priming/Vent Plug O-ring (option)               |       | 23     | 2        | FKM, ø16.3 x 2.4mm                                | 001D2231        |              | YES                |
|                   |                                                 |       | 23     | 2        | FFKM, ø16.3 x 2.4mm                               | 96428162        |              | YES                |
|                   |                                                 |       | 23     | 2        | FKM, ø16.3 x 2.4mm                                | 96442869        |              | YES                |
| 105               | Shaft Seal HUUE                                 |       | 23     | 1        | TC, TC, EPDM                                      | 96441875        |              | YES                |
|                   | Shaft Seal HUUV                                 |       | 23     | 1        | TC, TC, FKM                                       | 96441876        |              | YES                |
|                   | Shaft Seal HUUF (option)                        |       | 23     | 1        | TC, TC, FXM                                       | 96475542        |              | YES                |
|                   | Shaft Seal HUUK (option)                        |       | 23     | 1        | TC, TC, FFKM                                      | 96467885        |              | YES                |
| 109(a)            | O-ring for Shaft Seal Pos. 105                  |       | 23     | 1        | EPDM, ø21.3 x 3.0mm                               | 001D1798        |              | YES                |
|                   |                                                 |       | 23     | 1        | FKM, ø21.2 x 3.0mm                                | 001D2339        |              | YES                |
| 109(a)            | O-ring for Shaft Seal Pos. 105 (option)         |       | 23     | 1        | FKM, ø22 x 2.75mm                                 | 96458111        |              | YES                |
|                   |                                                 |       | 23     | 1        | FFKM, ø23.47 x 2.62mm                             | 96464384        |              | YES                |
| 137               | Guide Ring                                      |       | 23     | 1        | Stainless, ø114.0 x ø111.5 x 17.0mm               | 410191          |              | No                 |
| 138               | Retainer for O-ring Pos. 139                    |       | 23     | 1        | PTFE, 333.0 x 9.0 x 3.0mm                         | 400211          | 96483490     | No                 |
| 139               | O-ring for Pos. 137 to 143                      |       | 23     | 1        | EPDM, ø102.0 x 4.0mm                              | 96467802        | 96483491     | YES                |
|                   |                                                 |       | 23     | 1        | FKM, ø102.0 x 4.0mm                               | 96467803        |              | YES                |
| 142               | Guide Ring                                      |       | 23     | 1        | Stainless, ø114.0 x ø102.9 x 25.0mm               | 410192          |              | No                 |
| 143               | Corrugated Spring                               |       | 23     | 1        | Stainless, ø111.0 x 3.5mm                         | 96463642        |              | No                 |

Due to part changes over time, all position numbers (1-203) may not be used.

This column indicates which model uses the spare part. If blank, the part is used in all models.

B.O.M. Ref. Number is only available if it is not included in a kit or does not have a material number listed. If it is included in a kit (YES), or has a material number, request one of these numbers. If not included in a kit (No), but has a Material Number, use Material Number.

## Key to Symbols

KITS (YES) ..... Recommended spare part  
 Ø ..... Diameter  
 ANSI ..... American National Standards Institute  
 CPL ..... Complete Assembly – these parts consist of more than one component  
 EPDM ..... Ethylene Propylene (also known as EPR and EPT) – an elastic substance similar to rubber  
 FFKM ..... Kalrez Elastomer made by DuPont  
 FKM ..... Fluoro Elastomer (generic for Viton)  
 FXM ..... Fluoraz Elastomer made by Greene Tweed  
 M ..... International standard thread size designation (thread diameter in mm)

mm ..... Millimeter  
 MG ..... Identifies Grundfos motor type/size  
 N ..... Stainless  
 NBR ..... Buna - N (also known as Nitrile) – an elastic substance similar to rubber  
 NEMA ..... National Electrical Manufacturers Association  
 PTFE ..... Teflon  
 SiC ..... Silicon Carbide  
 TC ..... Tungsten Carbide  
 UNC ..... Unified National Coarse – a standard for threads on bolts

## Spare Part Kits

Since certain pump parts can be expected to exhibit wear at the same time as related pump parts, they have been grouped into the following kits for your convenience. The numbers indicate the quantity of the part within each kit. Please order these kits using the kit material number at the top of the columns.

| STACK KITS      |                 |
|-----------------|-----------------|
| Model           | Material Number |
| CRN1-23 HS EPDM | 96478701        |
| CRN1-23 HS FKM  | 96478702        |

| GASKET KIT (EPDM) |                                                     | Kit No.      | 96455090                  |   |   |   |
|-------------------|-----------------------------------------------------|--------------|---------------------------|---|---|---|
| GASKET KIT (FKM)  |                                                     | Kit No.      | 96455091                  |   |   |   |
| GASKET KIT (FXM)  |                                                     | Kit No.      | 96463944                  |   |   |   |
| GASKET KIT (FFKM) |                                                     | Kit No.      | 96533328                  |   |   |   |
| Pos. No.          | Description                                         | Material No. | Qty. Included in each Kit |   |   |   |
| 37                | Sleeve O-ring, EPDM, ø137.5 x 3.3mm                 | 96438743     | 2                         |   |   |   |
|                   | Sleeve O-ring, FKM, ø137.5 x 3.3mm                  | 96438744     |                           | 2 |   |   |
| 37b               | Sleeve O-ring, FXM, ø137.5 x 3.3mm                  | 96458109     |                           |   | 2 |   |
|                   | Sleeve O-ring, FFKM, ø136.12 x 3.53mm               | 96466718     |                           |   |   | 2 |
| 38, 100(a)        | Drain Plug O-ring, EPDM, Ø16.3 x 2.4mm              | 00ID1288     | 3                         |   |   |   |
|                   | Drain Plug O-ring, FKM, Ø16.3 x 2.4mm               | 00ID2231     |                           | 3 |   |   |
| 38, 100a          | Drain Plug O-ring, FXM, ø16.3 x 2.4mm               | 96442869     |                           |   | 3 |   |
|                   | Drain Plug O-ring, FFKM, ø16.3 x 2.4mm              | 96428162     |                           |   |   | 3 |
| 109(a)            | O-ring for Pos. 105(b) & 149, EPDM, Ø21.3 x 3.0mm   | 00ID1798     | 1                         |   |   |   |
|                   | O-ring for Pos. 105(b) & 149, FKM, Ø21.2 x 3.0mm    | 00ID2339     |                           | 1 |   |   |
| 109b              | O-ring for Pos. 105(b) & 149, FXM, Ø22.0 x 2.75mm   | 96458111     |                           |   | 1 |   |
|                   | O-ring for Pos. 105(b) & 149, FFKM, Ø23.47 x 2.62mm | 96464384     |                           |   |   | 1 |

| STANDARD SHAFT SEAL KIT, BALANCED CARTRIDGE<br>(Maximum allowed working PSI is 435) |                                      |              | Kit No. 96455084          |   |   |   |
|-------------------------------------------------------------------------------------|--------------------------------------|--------------|---------------------------|---|---|---|
|                                                                                     |                                      |              | Kit No. 96455085          |   |   |   |
|                                                                                     |                                      |              | Kit No. 96533325          |   |   |   |
|                                                                                     |                                      |              | Kit No. 96533324          |   |   |   |
| Pos. No.                                                                            | Description                          | Material No. | Qty. Included in each Kit |   |   |   |
| 105                                                                                 | HUUE                                 | 96441875     | 1                         |   |   |   |
|                                                                                     | HUUV                                 | 96441876     |                           | 1 |   |   |
|                                                                                     | HUUF                                 | 96475542     |                           |   | 1 |   |
|                                                                                     | HUUK                                 | 96498108     |                           |   |   | 1 |
| N/A                                                                                 | Grinding Device Tool for Emery Cloth | 370711       | 1                         | 1 | 1 | 1 |
| N/A                                                                                 | Emery Cloth                          | 370712       | 1                         | 1 | 1 | 1 |

| IEC COUPLING KIT |                                                | Kit No.      | 415063                    |
|------------------|------------------------------------------------|--------------|---------------------------|
| ø28/ø12          |                                                | Kit No.      | 415063                    |
| Pos. No.         | Description                                    | Material No. | Qty. Included in each Kit |
| 9                | Allen Screw, M8 x 25mm, Delta Seal             | 00ID7900     | 4                         |
| 10               | Shaft Pin, ø5 x 26mm, Stainless                | 310192       | 1                         |
| 10a              | Coupling Half, F130, MG100/112, 3-4 kW ø28/ø12 | 410047       | 2                         |

| COUPLING GUARD KIT                                       |                                          | Kit No.      | 96505130                  |
|----------------------------------------------------------|------------------------------------------|--------------|---------------------------|
| IEC, F85-F100, .37 to 1.1 kW                             |                                          | Kit No.      | 96505131                  |
| NEMA 56C, 1/3-2HP; IEC-F115-130 & NEMA 182-215TC, 3-10HP |                                          | Kit No.      | 96505132                  |
| Pos. No.                                                 | Description                              | Material No. | Qty. Included in each Kit |
| 7                                                        | Coupling Guard, W=127mm x H=66mm         | 96438136     | 2                         |
|                                                          | Coupling Guard, W=127mm x H=90.5mm       | 96438137     | 2                         |
|                                                          | Coupling Guard, W=157mm x H=171mm        | 96438138     | 2                         |
| 7a                                                       | Screw comb.slot torx/straight slot 4x8mm | 96488481     | 4                         |

## Accessories

| VICTAULIC TYPE COMPANION CONNECTIONS FOR SMALL CRI(N) |                                         | Kit No.      | 4013010                   |
|-------------------------------------------------------|-----------------------------------------|--------------|---------------------------|
|                                                       |                                         | Kit No.      | 01D00118                  |
| Pos. No.                                              | Description                             | Material No. | Qty. Included in each Kit |
| N/A                                                   | Victaulic Type Coupling, 1-1/4", EPDM   | 01D17810     | 2                         |
| N/A                                                   | Victaulic Type Coupling, 1-1/4", 77 FKM | 01D00112     | 2                         |
| N/A                                                   | 1-1/4" Stainless NPT Nipple             | 4000011      | 2                         |

## Special Tools

Tools not generally available from normal sources.

| Mat. No. | Description and Use                                                                                                           |                                                                                     |
|----------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 00SV0040 | <b>Shaft Holder for Dismantling/Assembly</b><br>Used to hold and protect the shaft during dismantling and assembly.           |  |
| 00SV2007 | <b>Tubular Box Spanner for Shaft Seal 36.1 mm</b><br>Used to install and remove the shaft seal.<br>Fits a 1/2" drive ratchet. |    |
| 00SV0239 | <b>Puller for Neck Ring</b><br>Used to remove the Neck Ring from Chamber.                                                     |  |
| 00SV2014 | <b>Circlip Pliers for Flange Lock Ring</b><br>Used to remove the Lock Ring for the Flange.                                    |    |
| 00SV2066 | <b>Tool for Outer Sleeve</b><br>Used to press sleeve into base.                                                               |  |
| 00SV2011 | <b>Bit Holder</b><br>Used with Bits Kit, 1/4"                                                                                 |    |
| 00SV2010 | <b>Bits Kit</b><br>NV 5 mm for M6, 1/4"<br>NV 6 mm for M8, 1/4"<br>NV 8 mm for M10, 1/4"                                      |    |
| 00SV2012 | <b>Hexagon Socket Bit</b><br>Used for Shaft Seal<br>NV 2.5 mm for M5, 1/4"                                                    |  |
| 00SV2085 | <b>Tool for Chamber</b><br>Used for Dismantling and Reassembling Bottom Chamber                                               |   |
| 00SV2086 | <b>Tool for Guide Ring</b><br>Used for Dismantling and Reassembling Bottom Chamber                                            |  |

## Standard Tools

In addition to being available from Grundfos, comparable tools can be purchased through normal sources.

| Mat. No.                                                 | Description and Use                                                                                                                                |                                                                                      |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 00SV0083<br>00SV0055<br>00SV0056<br>00SV0054<br>00SV0122 | <b>Wrenches</b><br>Used to tighten various nuts.<br>NV 10 mm for M6<br>NV 13 mm for M8<br>NV 17 mm for M10<br>NV 19 mm for M12<br>NV 24 mm for M16 |   |
| 00SV0292<br>00SV0269<br>00SV0400                         | <b>Torque Wrench</b><br>Used to torque various screws.<br>4-20 Nm, 9 x 12<br>20-100 Nm, 9 x 12<br>40-200 Nm, 14x18                                 |   |
| 00SV0438                                                 | <b>Torque Screwdriver</b><br>Used to tighten various nuts.<br>1-6 Nm, 1/4"                                                                         |   |
| 00SV0295                                                 | <b>Ratchet Spanner for all Adapters</b><br>9 mm x 12 mm, 1/2"                                                                                      |  |
| 00SV0296<br>00SV0297<br>00SV0298                         | <b>Socket Spanner with Inside Hex</b><br>NV 5 mm for M6, 1/2" x 1/2"<br>NV 6 mm for M8, 1/2" x 1/2"<br>NV 8 mm for M10, 1/2" x 1/2"                |   |
| 00SV0310<br>00SV0294<br>00SV0270<br>00SV0271<br>00SV0524 | <b>Ring Spanner</b><br>NV 10 mm for M6<br>NV 13 mm for M8<br>NV 17 mm for M10<br>NV 19 mm for M12<br>NV 24 mm for M16                              |   |
| 00SV2013                                                 | <b>Socket Spanner</b><br>NV 13 mm for M8, 9 x 12                                                                                                   |   |



L-CR-SM-030 0713

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