



# CR1-H

## Parts List & Kits

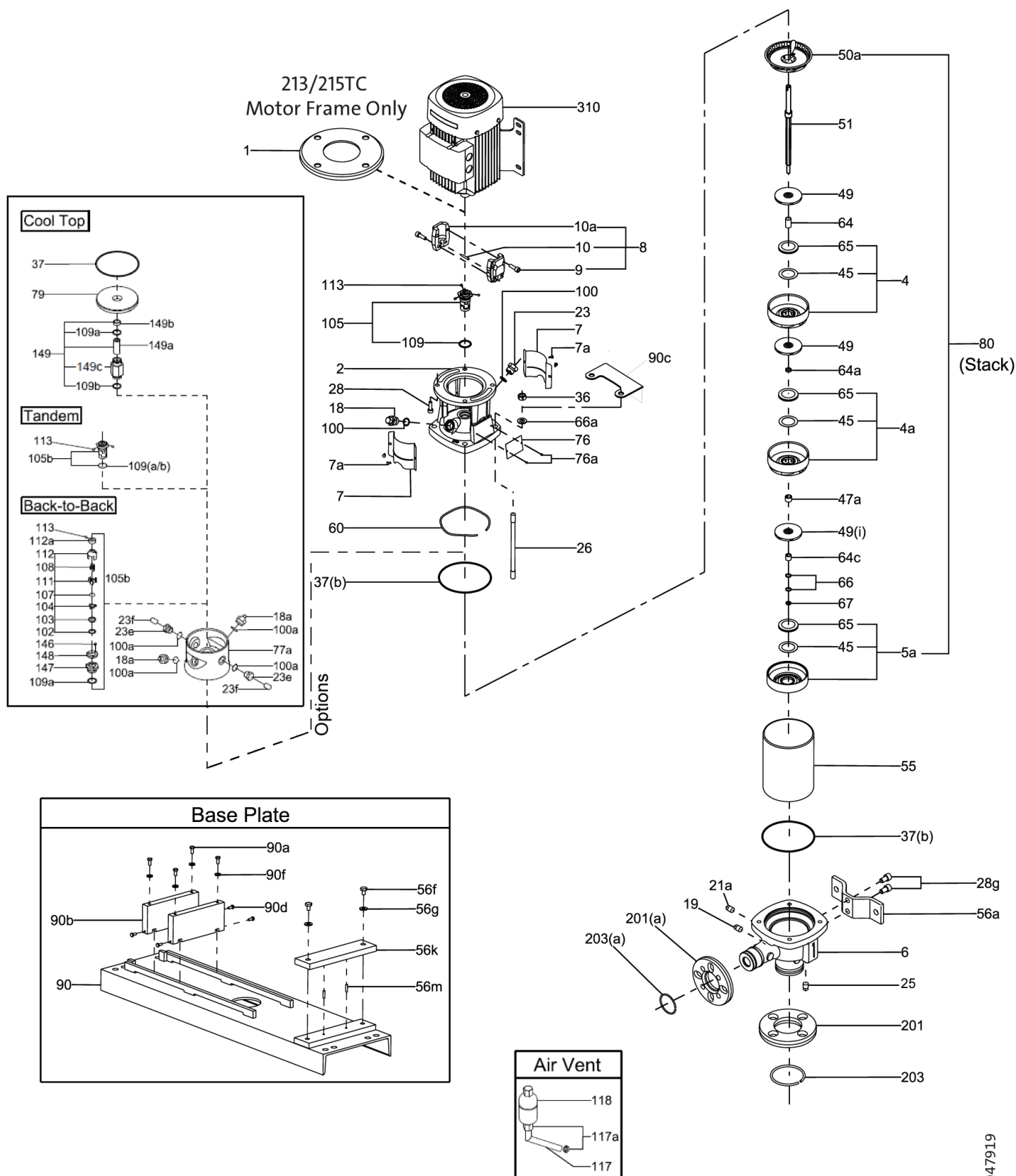
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# Exploded View **CR1-H**



TM047919

# Parts List & Kits CR1-H

| Pos. No.          | Part Description                                      | Model | Stages                    | No. Used    | Comments/Dimensions                                                                                                    | B.O.M. Ref. No.                  | Material No. | Included in kits ? |
|-------------------|-------------------------------------------------------|-------|---------------------------|-------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------|--------------------|
| <b>PARTS LIST</b> |                                                       |       |                           |             |                                                                                                                        |                                  |              |                    |
| 1                 | Adapter for Motor Stool                               |       |                           | 1           | For NEMA, 213/215TC, 7.5 - 10 HP                                                                                       | 96476208                         |              | No                 |
| 2                 | Motor Stool                                           |       | 3/2-17<br>19-27           | 1<br>1      | NEMA, 56C, 1/3 - 2HP<br>NEMA, 182/184TC, 3 - 5 HP                                                                      | 96436501<br>96436502             |              | No<br>No           |
| 4                 | Chamber, Complete with Pos. 45 & 65                   |       | 3/2-36                    | ^^^         | PTFE Pos. 45                                                                                                           | 96439480                         | 97690020     | No                 |
| 4a                | Chamber Cpl. w/Pos. 45 & 65 & Bearing                 |       | 3/2-36                    | ^^^         | PTFE Pos. 45 (97690020 is qty of 5)                                                                                    | 96439480                         |              | No                 |
|                   |                                                       |       | 3/2-36                    | ^^^^        | Silicon Carbide Brg, PTFE Pos. 45                                                                                      | 96439475                         | 97690601     | YES                |
|                   | Chamber Cpl. w/Pos. 45 & 65 & Brg. (option)           |       | 3/2-36                    | ^^^^        | Silicon Crb. Brg, PTFE Pos. 45 (97690601 qty 5)                                                                        | 96439475                         |              | YES                |
|                   |                                                       |       | 3/2-36                    | ^^^^        | Bronze Bearing, PTFE Pos. 45                                                                                           | 96440612                         |              | YES                |
|                   |                                                       |       | 3/2-36                    | ^^^^        | Graflon Bearing, PTFE Pos. 45                                                                                          | 96440615                         |              | YES                |
| 5a                | Chamber, Bottom Complete with Pos. 45 & 65            |       | 3/2-36                    | 1*          | PTFE Pos. 45                                                                                                           | 96439484                         | 96588148     | No                 |
| 6                 | Base                                                  |       | 3/2-36                    | 1           | GA, Cast Iron                                                                                                          | 95922004                         |              | No                 |
| 7                 | Coupling Guard                                        |       | 3/2-17<br>19-27           | 2<br>2      | NEMA, 56C<br>NEMA, 182-215TC                                                                                           | 96438137<br>96438138             |              | YES<br>YES         |
| 7a                | Screw for Coupling Guard                              |       | 3/2-36                    | 4           | Screw comb. slot torx/straight slot 4 x 8mm                                                                            | 96488481                         |              | YES                |
| 9                 | Allen Screw                                           |       | 3/2-17<br>19-27           | 4<br>4      | M6 x 20mm, Delta Tone/Seal<br>M8 x 25mm, Delta Tone/Seal<br>M10 x 25mm, Delta Tone/Seal                                | 00ID7899<br>00ID7900<br>00ID7901 |              | YES<br>YES<br>YES  |
| 10                | Shaft Pin                                             |       | 3/2-36                    | 1           | ø5 x 26mm                                                                                                              | 310192                           |              | YES                |
| 10a               | Coupling Half                                         |       | 3/2-17<br>3/2-27<br>19-27 | 2<br>1<br>2 | NEMA, 56C, 1/3 - 2HP, ø15.8 / ø12<br>NEMA, 143/5TC, 1/3-3HP, ø22.225 / ø12 (Mach)<br>NEMA, 182/184TC, 3-5HP, ø28.5/ø12 | 410108<br>97851501<br>410109     |              | YES<br>YES<br>YES  |
|                   |                                                       |       |                           |             | NEMA, 213TC, 7.5-10HP, ø34.9/ø12                                                                                       | 96472175                         |              | YES                |
| 18(a)             | Priming/Vent Plug                                     |       | 3/2-36                    | *           | G 1/2A, NV24 with NV9 x M8 stem                                                                                        | 405150                           | 95061351     | No                 |
| 19(a)             | Pipe Plug                                             |       | 3/2-36                    | **          | 1/4" NPT,SS SQHD, with Loctite                                                                                         | 91136507                         | 95061733     | No                 |
| 21a               | Pipe Plug                                             |       | 3/2-36                    | **          | 1/4" NPT,SS SQHD, with Loctite                                                                                         | 91136507                         |              | No                 |
| 23(c)             | Plug                                                  |       | 3/2-36                    | **          | G 1/2A, Solid No port, NV24                                                                                            | 370025                           |              | No                 |
| 23a, e            | Plug (option)                                         |       | 3/2-36                    | **          | G 1/2A, w/1/4"port, NV24                                                                                               | 91120659                         |              | No                 |
| 23b, f            | Pipe Plug for Pos. 23a , 23e                          |       | 3/2-36                    | **          | 1/4" NPT,SS SQHD, with Loctite                                                                                         | 91136507                         |              | No                 |
| 23d               | Plug, Vented for Pos. 77a Cool Top® option only       |       | 3/2-36                    | 2           | G 1/2A, NV24, Vented                                                                                                   | 96510323                         |              | No                 |
| 25                | Drain Plug                                            |       | 3/2-36                    | 1           | 1/4" NPT,SS SQHD, with Loctite                                                                                         | 91136507                         |              | No                 |
| 26                | Staybolt                                              |       | 3/2-3                     | 4           | M12, ø10,7 x 79mm                                                                                                      | 96919075                         |              | No                 |
|                   |                                                       |       | 4                         | 4           | M12, ø10,7 x 97mm                                                                                                      | 96919076                         |              | No                 |
|                   |                                                       |       | 5                         | 4           | M12, ø10,7 x 115mm                                                                                                     | 96919078                         |              | No                 |
|                   |                                                       |       | 6                         | 4           | M12, ø10,7 x 133mm                                                                                                     | 96919079                         |              | No                 |
|                   |                                                       |       | 7                         | 4           | M12, ø10,7 x 151mm                                                                                                     | 96919080                         |              | No                 |
|                   |                                                       |       | 8                         | 4           | M12, ø10,7 x 169mm                                                                                                     | 96919092                         |              | No                 |
|                   |                                                       |       | 9                         | 4           | M12, ø10,7 x 187mm                                                                                                     | 96919093                         |              | No                 |
|                   |                                                       |       | 10                        | 4           | M12, ø10,7 x 205mm                                                                                                     | 96919094                         |              | No                 |
|                   |                                                       |       | 11                        | 4           | M12, ø10,7 x 223mm                                                                                                     | 96919096                         |              | No                 |
|                   |                                                       |       | 12                        | 4           | M12, ø10,7 x 241mm                                                                                                     | 96919097                         |              | No                 |
|                   |                                                       |       | 13                        | 4           | M12, ø10,7 x 259mm                                                                                                     | 96919098                         |              | No                 |
|                   |                                                       |       | 15                        | 4           | M12, ø10,7 x 295mm                                                                                                     | 96919101                         |              | No                 |
|                   |                                                       |       | 17                        | 4           | M12, ø10,7 x 331mm                                                                                                     | 96919503                         |              | No                 |
|                   |                                                       |       | 19                        | 4           | M12, ø10,7 x 367mm                                                                                                     | 96919505                         |              | No                 |
|                   |                                                       |       | 21                        | 4           | M12, ø10,7 x 403mm                                                                                                     | 96919507                         |              | No                 |
|                   |                                                       |       | 23                        | 4           | M12, ø10,7 x 439mm                                                                                                     | 96919509                         |              | No                 |
|                   |                                                       |       | 25                        | 4           | M12, ø10,7 x 475mm                                                                                                     | 96919511                         |              | No                 |
|                   |                                                       |       | 27                        | 4           | M12, ø10,7 x 511mm                                                                                                     | 96919542                         |              | No                 |
|                   |                                                       |       | 30                        | 4           | M12, ø10,7 x 565mm, 4 pole & 50 Hz.                                                                                    | 96923538                         |              | No                 |
|                   |                                                       |       | 33                        | 4           | M12, ø10,7 x 619mm, 4 pole & 50 Hz.                                                                                    | 96923539                         |              | No                 |
|                   |                                                       |       | 36                        | 4           | M12, ø10,7 x 673mm, 4 pole & 50 Hz.                                                                                    | 96923540                         |              | No                 |
|                   | Staybolt (Cool Top®, Back-to-Back&Tandem Seal option) |       | 3/2-3                     | 4           | M12, ø10,7 x 187mm                                                                                                     | 96919093                         |              | No                 |
|                   |                                                       |       | 4                         | 4           | M12, ø10,7 x 205mm                                                                                                     | 96919094                         |              | No                 |
|                   |                                                       |       | 5                         | 4           | M12, ø10,7 x 223mm                                                                                                     | 96919096                         |              | No                 |
|                   |                                                       |       | 6                         | 4           | M12, ø10,7 x 241mm                                                                                                     | 96919097                         |              | No                 |
|                   |                                                       |       | 7                         | 4           | M12, ø10,7 x 259mm                                                                                                     | 96919098                         |              | No                 |
|                   |                                                       |       | 8                         | 4           | M12, ø10,7 x 277mm                                                                                                     | 97525055                         |              | No                 |
|                   |                                                       |       | 9                         | 4           | M12, ø10,7 x 295mm                                                                                                     | 96919101                         |              | No                 |
|                   |                                                       |       | 10                        | 4           | M12, ø10,7 x 313mm                                                                                                     | 97525057                         |              | No                 |
|                   |                                                       |       | 11                        | 4           | M12, ø10,7 x 331mm                                                                                                     | 96919503                         |              | No                 |
|                   |                                                       |       | 12                        | 4           | M12, ø10,7 x 349mm                                                                                                     | 96919504                         |              | No                 |
|                   |                                                       |       | 13                        | 4           | M12, ø10,7 x 367mm                                                                                                     | 96919505                         |              | No                 |
|                   |                                                       |       | 15                        | 4           | M12, ø10,7 x 403mm                                                                                                     | 96919507                         |              | No                 |
|                   |                                                       |       | 17                        | 4           | M12, ø10,7 x 439mm                                                                                                     | 96919509                         |              | No                 |
|                   |                                                       |       | 19                        | 4           | M12, ø10,7 x 475mm                                                                                                     | 96919511                         |              | No                 |
|                   |                                                       |       | 21                        | 4           | M12, ø10,7 x 511mm                                                                                                     | 96919542                         |              | No                 |
|                   |                                                       |       | 23                        | 4           | M12, ø10,7 x 547mm                                                                                                     | 97525060                         |              | No                 |
|                   |                                                       |       | 25                        | 4           | M12, ø10,7 x 583mm                                                                                                     | 97525081                         |              | No                 |
|                   |                                                       |       | 27                        | 4           | M12, ø10,7 x 619mm                                                                                                     | 96923539                         |              | No                 |

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| Pos. No.          | Part Description                                                  | Model | Stages | No. Used | Comments/Dimensions                       | B.O.M. Ref. No. | Material No. | Included in kits ? |
|-------------------|-------------------------------------------------------------------|-------|--------|----------|-------------------------------------------|-----------------|--------------|--------------------|
| <b>PARTS LIST</b> |                                                                   |       |        |          |                                           |                 |              |                    |
| 26                | Staybolt (Cool Top®, Back-to-Back&Tandem Seal option) (Continued) |       | 30     | 4        | M12, ø10,7 x 673mm, 4 pole & 50 Hz.       | 96923540        |              | No                 |
|                   |                                                                   |       | 33     | 4        | M12, ø10,7 x 727mm, 4 pole & 50 Hz.       | 97525082        |              | No                 |
|                   |                                                                   |       | 36     | 4        | M12, ø10,7 x 781mm, 4 pole & 50 Hz.       | 97525084        |              | No                 |
| 28                | Motor Bolt                                                        |       | 3/2-17 | 4        | NEMA, 56C, 1/3 - 2 HP, UNC 3/8" x 25mm    | 00ID1839        |              | No                 |
|                   |                                                                   |       | 19-27  |          | NEMA, 182/184TC, 3 - 5HP, UNC1/2" x 25mm  | 00ID1840        |              | No                 |
|                   |                                                                   |       |        |          | NEMA, 213TC, 7.5 -10 HP, UNC 1/2" x 1.25" | 91128631        |              | No                 |
| 28g               | Bolt for foot Pos. 56a                                            |       | 3/2-36 | 2        | M12 x 1.75 x 20mm, Delta Tone/Seal        | 95922048        |              | No                 |
| 36                | Staybolt Nut                                                      |       | 3/2-36 | 4        | 19mm x M12, Delta Tone/Seal               | 00ID7917        |              | No                 |
| 37                | Sleeve O-ring                                                     |       | 3/2-36 | ◆◆       | EPDM, ø137.5 x 3.3mm                      | 96438743        |              | YES                |
|                   |                                                                   |       | 3/2-36 | ◆◆       | FKM, ø137.5 x 3.3mm                       | 96438744        |              | YES                |
| 37b               | Sleeve O-ring (option)                                            |       | 3/2-36 | ◆◆       | FXM, ø137.5 x 3.3mm                       | 96458109        |              | YES                |
|                   |                                                                   |       | 3/2-36 | ◆◆       | FFKM, ø136.12 x 3.53mm                    | 96466718        |              | YES                |
| 45                | Neck Ring                                                         |       | 3/2-36 | # stgs   | ø41.3 x ø30.6 x .75mm, PTFE               | 400003          |              | YES                |
| 47a               | Bearing Ring/Spacer                                               |       | 3/2-36 | ^^^^     | SiC 150, ø17.37 x ø13.10 x ø10.9 x 13mm   | 96437488        |              | YES                |
|                   | Brg. Ring/Spacer (option for Graflon / Brz. 4a)                   |       | 3/2-36 | ^^^^     | TC, ø15.92 x ø13.10 x ø10.9 x 9.7mm       | 400041          |              | YES                |
| 49                | Impeller                                                          |       | 3/2-36 | # stgs   | ø73.6 x ø30.6 x 9.1mm (back-plate .5mm)   | 96440325        |              | No                 |
|                   |                                                                   |       | 3/2-36 | # stgs   | 96547665 has a qty of 24                  | 96440325        | 96547665     | No                 |
| 50a               | Top Guide Vane                                                    |       | 3-36   | 1        |                                           | 96457637        |              | No                 |
|                   | Top Guide Vane Plate (option for destaging)                       |       | 3/2    | 1        |                                           | 96478562        |              | No                 |
| 51                | Shaft, Complete                                                   |       | 3/2-3  | 1        | ø12 x 160.5mm                             | 96439607        | 96588198     | No                 |
|                   |                                                                   |       | 4      | 1        | ø12 x 180.5mm                             | 96440386        | 96588199     | No                 |
|                   |                                                                   |       | 5      | 1        | ø12 x 196.5mm                             | 96440387        | 96588230     | No                 |
|                   |                                                                   |       | 6      | 1        | ø12 x 214.5mm                             | 96440388        |              | No                 |
|                   |                                                                   |       | 7      | 1        | ø12 x 234.5mm                             | 96440389        | 96588231     | No                 |
|                   |                                                                   |       | 8      | 1        | ø12 x 250.5mm                             | 96440390        |              | No                 |
|                   |                                                                   |       | 9      | 1        | ø12 x 268.5mm                             | 96440391        |              | No                 |
|                   |                                                                   |       | 10     | 1        | ø12 x 288.5mm                             | 96440392        |              | No                 |
|                   |                                                                   |       | 11     | 1        | ø12 x 304.5mm                             | 96440393        |              | No                 |
|                   |                                                                   |       | 12     | 1        | ø12 x 322.5mm                             | 96440394        | 96588233     | No                 |
|                   |                                                                   |       | 13     | 1        | ø12 x 342.5mm                             | 96440395        | 96588234     | No                 |
|                   |                                                                   |       | 15     | 1        | ø12 x 376.5mm                             | 96440396        | 96588235     | No                 |
|                   |                                                                   |       | 17     | 1        | ø12 x 412.5mm                             | 96440398        |              | No                 |
|                   |                                                                   |       | 19     | 1        | ø12 x 450.5mm                             | 96440400        |              | No                 |
|                   |                                                                   |       | 21     | 1        | ø12 x 484.5mm                             | 96440401        | 96588236     | No                 |
|                   |                                                                   |       | 23     | 1        | ø12 x 520.5mm                             | 96440403        |              | No                 |
|                   |                                                                   |       | 25     | 1        | ø12 x 556.5mm                             | 96440405        | 96588237     | No                 |
|                   |                                                                   |       | 27     | 1        | ø12 x 592.5mm                             | 96440406        |              | No                 |
|                   |                                                                   |       | 30     | 1        | ø12 x 646.5mm, 4 pole & 50 Hz.            | 96440408        |              | No                 |
|                   |                                                                   |       | 33     | 1        | ø12 x 700.5mm, 4 pole & 50 Hz.            | 96440410        |              | No                 |
|                   |                                                                   |       | 36     | 1        | ø12 x 754.5mm, 4 pole & 50 Hz.            | 96440411        | 96588238     | No                 |
|                   | Shaft, Cpl. (Cool Top®, Back-to-Back&Tandem Seal option)          |       | 3/2-3  | 1        | ø12 x 265.5mm                             | 96457560        |              | No                 |
|                   |                                                                   |       | 4      | 1        | ø12 x 285.5mm                             | 96457561        |              | No                 |
|                   |                                                                   |       | 5      | 1        | ø12 x 301.5mm                             | 96457562        |              | No                 |
|                   |                                                                   |       | 6      | 1        | ø12 x 319.5mm                             | 96457563        |              | No                 |
|                   |                                                                   |       | 7      | 1        | ø12 x 339.5mm                             | 96457564        |              | No                 |
|                   |                                                                   |       | 8      | 1        | ø12 x 355.5mm                             | 96457565        |              | No                 |
|                   |                                                                   |       | 9      | 1        | ø12 x 373.5mm                             | 96457566        |              | No                 |
|                   |                                                                   |       | 10     | 1        | ø12 x 393.5mm                             | 96457567        |              | No                 |
|                   |                                                                   |       | 11     | 1        | ø12 x 409.5mm                             | 96457568        |              | No                 |
|                   |                                                                   |       | 12     | 1        | ø12 x 427.5mm                             | 96457569        |              | No                 |
|                   |                                                                   |       | 13     | 1        | ø12 x 447.5mm                             | 96457570        |              | No                 |
|                   |                                                                   |       | 15     | 1        | ø12 x 481.5mm                             | 96457571        |              | No                 |
|                   |                                                                   |       | 17     | 1        | ø12 x 517.5mm                             | 96457573        |              | No                 |
|                   |                                                                   |       | 19     | 1        | ø12 x 555.5mm                             | 96457575        |              | No                 |
|                   |                                                                   |       | 21     | 1        | ø12 x 589.5mm                             | 96457576        |              | No                 |
|                   |                                                                   |       | 23     | 1        | ø12 x 625.5mm                             | 96457578        |              | No                 |
|                   |                                                                   |       | 25     | 1        | ø12 x 661.5mm                             | 96457580        |              | No                 |
|                   |                                                                   |       | 27     | 1        | ø12 x 697.5mm                             | 96457581        |              | No                 |
|                   |                                                                   |       | 30     | 1        | ø12 x 751.5mm, 4 pole & 50 Hz.            | 96457583        |              | No                 |
|                   |                                                                   |       | 33     | 1        | ø12 x 805.5mm, 4 pole & 50 Hz.            | 96457585        |              | No                 |
|                   |                                                                   |       | 36     | 1        | ø12 x 859.5mm, 4 pole & 50 Hz.            | 96457586        |              | No                 |
| 55                | Outer Sleeve                                                      |       | 3/2-3  | 1        | ø138 x 44.6mm                             | 96437865        |              | No                 |
|                   |                                                                   |       | 4      | 1        | ø138 x 62.6mm                             | 96440010        |              | No                 |
|                   |                                                                   |       | 5      | 1        | ø138 x 80.6mm                             | 96441510        |              | No                 |
|                   |                                                                   |       | 6      | 1        | ø138 x 98.6mm                             | 96439999        |              | No                 |
|                   |                                                                   |       | 7      | 1        | ø138 x 116.6mm                            | 96441511        | 96588241     | No                 |
|                   |                                                                   |       | 8      | 1        | ø138 x 134.6mm                            | 96441513        |              | No                 |
|                   |                                                                   |       | 9      | 1        | ø138 x 152.6mm                            | 96440000        |              | No                 |
|                   |                                                                   |       | 10     | 1        | ø138 x 170.6mm                            | 96441514        |              | No                 |

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|-------------------|-------------------------------------------------------|-----------|--------|----------|-------------------------------------------------|-----------------|--------------|--------------------|
| <b>PARTS LIST</b> |                                                       |           |        |          |                                                 |                 |              |                    |
| 55                | Outer Sleeve (Continued)                              |           | 11     | 1        | ø138 x 188.6mm                                  | 96441516        |              | No                 |
|                   |                                                       |           | 12     | 1        | ø138 x 206.6mm                                  | 96440001        |              | No                 |
|                   |                                                       |           | 13     | 1        | ø138 x 224.6mm                                  | 96441517        |              | No                 |
|                   |                                                       |           | 15     | 1        | ø138 x 260.6mm                                  | 96440002        |              | No                 |
|                   |                                                       |           | 17     | 1        | ø138 x 296.6mm                                  | 96441520        |              | No                 |
|                   |                                                       |           | 19     | 1        | ø138 x 332.6mm                                  | 96441521        |              | No                 |
|                   |                                                       |           | 21     | 1        | ø138 x 368.6mm                                  | 96440004        |              | No                 |
|                   |                                                       |           | 23     | 1        | ø138 x 404.6mm                                  | 96441524        |              | No                 |
|                   |                                                       |           | 25     | 1        | ø138 x 440.6mm                                  | 96441525        |              | No                 |
|                   |                                                       |           | 27     | 1        | ø138 x 476.6mm                                  | 96440006        |              | No                 |
|                   |                                                       |           | 30     | 1        | ø138 x 530.6mm, 4 pole & 50 Hz.                 | 96440007        |              | No                 |
|                   |                                                       |           | 33     | 1        | ø138 x 584.6mm, 4 pole & 50 Hz.                 | 96440008        |              | No                 |
|                   |                                                       |           | 36     | 1        | ø138 x 638.6mm, 4 pole & 50 Hz.                 | 96439652        |              | No                 |
| 56a               | Foot for Pos. 6                                       | 56C/182TC | 3/2-36 | 1        | H=43mm, W=196mm, ø16mm hole CL 152mm, CL.       | 95922025        |              | No                 |
| 56f               | Bolt for base Pos. 90                                 |           | 3/2-36 | 2        | Hex Hd. 1/2 -13 UNC x 1" SAE 5, Zinc plated     |                 |              | YES                |
| 56g               | Washer for bolt Pos. 56f                              |           | 3/2-36 | 2        | 1/2" SAE, Zinc plated                           |                 |              | YES                |
| 60                | Stack Compression Spring                              |           | 3/2-36 | 1        | ø136 x 3.5mm                                    | 96439662        | 96547664     | No                 |
| 64                | Spacing Pipe                                          |           | 2-36   | ^^^      | ø15.85 x ø12.85 x 17.52mm                       | 400035          | 95061339     | No                 |
| 64a               | Spacing Pipe                                          |           | 3/2-36 | ^^^^     | ø15.85 x ø12.85 x 4.5mm                         | 96440292        |              | YES                |
|                   | Spacing Pipe (option for Graflon / Brz. 4a)           |           | 3/2-36 | ^^^^     | Use with TC Pos. 47a, ø15 x ø12.7 x 7.8mm       | 400016          |              | YES                |
| 64c               | Clamp, Splined                                        |           | 3/2-36 | 1        | ø15 x ø13.10 x ø10.9 x 13mm                     | 96439668        |              | YES                |
| 65                | Neck Ring Retainer                                    |           | 3/2-36 | # stgs   | ø43.5 x ø34.0 x 3.6mm                           | 96438746        |              | YES                |
| 66                | Lock Washer Set for Shaft                             |           | 3/2-36 | 1        | ø13.5 x ø8.2 x 2.6mm                            | 96417297        |              | YES                |
| 66a               | Washer for Staybolt                                   |           | 3/2-36 | 4        | DIN 125A, ø24 x ø13 x 2.5mm, Delta Tone/Seal    | 96430377        |              | No                 |
| 67                | Lock Nut for Shaft                                    |           | 3/2-36 | 1        | 13mm x M8                                       | 00ID2061        |              | YES                |
| 69                | Spacing Pipe                                          |           | 3/2    | 1        | ø15.85 x 12.85 x 18.0mm                         | 400125          | 95061443     | No                 |
| 76                | Nameplate                                             |           | 3/2-36 | 1        | 304SS, 60 x 45mm                                | 96439820        |              | No                 |
| 76a               | Rivet for Nameplate                                   |           | 3/2-36 | 2        | 304SS, ø3 x 5mm                                 | 96022882        |              | No                 |
| 77a               | Pump Head Cover for Back-to-Back, Tandem Seal         |           | 3/2-36 | 1        | Cast Stainless                                  | 96456293        |              | No                 |
| 77a               | Pump Head Cover for Cool Top® (option)                |           | 3/2-36 | 1        | Cast Stainless                                  | 96456294        |              | No                 |
| 79                | Disc / Plate for Cool Top®                            |           | 3/2-36 | 1        | Stainless                                       | 96456296        |              | No                 |
| 90                | Main Support Baseplate                                | GA        | 3/2-19 | 1        | BP. Cpl.139, L=991mm x W=305mm x H=106.5mm      | 96956336        |              | YES                |
|                   | Main Support Baseplate - Longer versions              | GA        | 21-27  | 1        | XLBP1 (139), L=1500mm x W=381mm x H=106.5mm     | 96956376        |              | YES                |
| 90a               | Bolt for motor to slider Pos. 90b                     | 56C       | 3/2-17 | 4        | Hex Head 5/16 -18 UNC x .75" SAE 5, Zinc plated |                 |              | YES                |
|                   |                                                       | 182TC     | 19-27  | 4        | Hex Head 3/8 -16 UNC x .5" SAE 5, Zinc plated   |                 |              | YES                |
| 90b               | Motor support /slide rail                             | 56C       | 3/2-17 | 2        | BP139, L=204mm x H=45.5mm x W=25.4mm            | 96956339        |              | YES                |
|                   |                                                       | 182TC     | 19-27  | 2        | BP139, L=230mm x H=23.0mm x W=25.4mm            | 96956338        |              | YES                |
| 90c               | Support Bracket for Pump Cartridge                    |           | 3/2-27 | 1        | 304 SS, H=74mm CL of hole, GA                   | 95131235        |              | No                 |
| 90d               | Bolt for motor slide rail Pos. 90b to base Pos. 90    | 56C       | 3/2-17 | 4        | Hex Head 1/4 -20 UNC x 1" SAE 5, Zinc plated    |                 |              | YES                |
|                   |                                                       | 182TC     | 19-27  | 4        | Hex Head 1/4 -20 UNC x 1.75" SAE 5, Zinc plated |                 |              | YES                |
| 90f               | Washer for motor bolt Pos. 90a to slide rail Pos. 90b | 56C       | 3/2-17 | 4        | 5/16" SAE, Zinc plated                          |                 |              | YES                |
|                   |                                                       | 182TC     | 19-27  | 4        | 3/8" SAE, Zinc plated                           |                 |              | YES                |
| 100               | Priming/Vent Plug O-ring                              |           | 3/2-36 | ■        | EPDM, ø16.3 x 2.4mm                             | 00ID1288        |              | YES                |
|                   |                                                       |           | 3/2-36 | ■        | FKM, ø16.3 x 2.4mm                              | 00ID2231        |              | YES                |
| 100(a)            | Priming/Vent Plug O-ring (option)                     |           | 3/2-36 | ■        | FFKM, ø16.3 x 2.4mm                             | 96428162        |              | YES                |
|                   |                                                       |           | 3/2-36 | ■        | FXM, ø16.3 x 2.4mm                              | 96442869        |              | YES                |
| 102               | O-ring for Pos. 105b Back-to-Back                     |           | 3/2-36 | 1        | EPDM, ø18 x 2.5mm                               | 00ID2041        |              | YES                |
|                   |                                                       |           | 3/2-36 | 1        | FKM, ø17.86 x 2.62mm                            | 00ID2187        |              | YES                |
|                   | O-ring for Pos. 105b Back-to-Back (option)            |           | 3/2-36 | 1        | FFKM, ø17.86 x 2.62mm                           | 96440281        |              | YES                |
|                   |                                                       |           | 3/2-36 | 1        | FXM, ø17.86 x 2.62mm                            | 96472584        |              | No                 |
| 103               | Stationary Seal Ring for 105b Back-to-Back            |           | 3/2-36 | 1        | TC, 12mm                                        | 980190          |              | YES                |
|                   | Stationary Seal Ring for 105b Back-to-Back (opt.)     |           | 3/2-36 | 1        | SiC, 12mm                                       | 980746          |              | YES                |
| 104               | Rotating Seal Ring for 105b Back-to-Back              |           | 3/2-36 | 1        | TC, 12mm                                        | 980163          |              | YES                |
|                   | Rotating Seal Ring for 105b Back-to-Back (opt.)       |           | 3/2-36 | 1        | SiC, 12mm                                       | 980733          |              | YES                |
| 105(b)            | Shaft Seal HQBE                                       |           | 3/2-36 | ***      | SiC, Carbon with resin-impregnated, EPDM        | 96441879        |              | YES                |
|                   | Shaft Seal HQBV                                       |           | 3/2-36 | ***      | SiC, Carbon with resin-impregnated, FKM         | 96441880        |              | YES                |
|                   | Shaft Seal HQBK (option)                              |           | 3/2-36 | ***      | SiC, Carbon with resin-impregnated, FFKM        | 96489537        |              | YES                |
|                   | Shaft Seal HQQE                                       |           | 3/2-36 | ***      | SiC, SiC, EPDM                                  | 96441877        |              | YES                |
|                   | Shaft Seal HQQV                                       |           | 3/2-36 | ***      | SiC, SiC, FKM                                   | 96441878        |              | YES                |
|                   | Shaft Seal HQQF (option)                              |           | 3/2-36 | ***      | SiC, SiC, FXM                                   | 96472620        |              | YES                |
|                   | Shaft Seal HQQK (option)                              |           | 3/2-36 | ***      | SiC, SiC, FFKM                                  | 96464381        |              | YES                |
| 105(b)            | Shaft Seal HUBE                                       |           | 3/2-36 | ***      | TC, Carbon with resin-impregnated, EPDM         | 96441873        |              | YES                |
|                   | Shaft Seal HUBV                                       |           | 3/2-36 | ***      | TC, Carbon with resin-impregnated, FKM          | 96441874        |              | YES                |
|                   | Shaft Seal HUBF (option)                              |           | 3/2-36 | ***      | TC, Carbon with resin-impregnated, FXM          | 96481464        |              | YES                |
|                   | Shaft Seal HUBK (option)                              |           | 3/2-36 | ***      | TC, Carbon with resin-impregnated, FFKM         | 96481463        |              | YES                |
|                   | Shaft Seal HUUE                                       |           | 3/2-36 | ***      | TC, TC, EPDM                                    | 96441875        |              | YES                |
|                   | Shaft Seal HUUV                                       |           | 3/2-36 | ***      | TC, TC, FKM                                     | 96441876        |              | YES                |
|                   | Shaft Seal HUUF (option)                              |           | 3/2-36 | ***      | TC, TC, FXM                                     | 96475542        |              | YES                |
|                   | Shaft Seal HUUK (option)                              |           | 3/2-36 | ***      | TC, TC, FFKM                                    | 96467885        |              | YES                |

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

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# Parts List & Kits **CR1-H**

| Pos. No.          | Part Description                                   | Model | Stages | No. Used | Comments/Dimensions                                | B.O.M. Ref. No. | Material No. | Included in kits ? |
|-------------------|----------------------------------------------------|-------|--------|----------|----------------------------------------------------|-----------------|--------------|--------------------|
| <b>PARTS LIST</b> |                                                    |       |        |          |                                                    |                 |              |                    |
| 105b              | Shaft Seal/inboard for Back-to-Back OQQE           |       | 3/2-36 | 1        | SiC, SiC, EPDM                                     | 985200          |              | YES                |
|                   | Shaft Seal/inboard for Back-to-Back OQQV           |       | 3/2-36 | 1        | SiC, SiC, FKM                                      | 985760          |              | YES                |
|                   | Shaft Seal/inboard for Back-to-Back OUUE           |       | 3/2-36 | 1        | TC, TC, EPDM                                       | 985189          | 405145       | YES                |
|                   | Shaft Seal/inboard for Back-to-Back OUUV           |       | 3/2-36 | 1        | TC, TC, FKM                                        | 985190          | 405145       | YES                |
| 107               | O-ring for Pos. 105b Back-to-Back                  |       | 3/2-36 | 1        | EPDM, ø11.5 x 4.3mm                                | 00ID2040        |              | YES                |
|                   |                                                    |       | 3/2-36 | 1        | FKM, ø11.5 x 4.3mm                                 | 00ID2186        |              | YES                |
|                   | O-ring for Pos. 105b Back-to-Back (option)         |       | 3/2-36 | 1        | FFKM, ø11.5 x 4.3mm                                | 96440282        |              | YES                |
|                   |                                                    |       | 3/2-36 | 1        | FXM, ø11.5 x 3.18mm                                | 96472618        |              | No                 |
| 108               | Spring for Pos. 105b Back-to-Back                  |       | 3/2-36 | 1        | 12mm                                               | 980195          |              | YES                |
| 109(a)            | O-ring for Shaft Seal Pos. 105                     |       | 3/2-36 | 1        | EPDM, ø21.3 x 3.0mm                                | 00ID1798        |              | YES                |
|                   |                                                    |       | 3/2-36 | 1        | FKM, ø21.2 x 3.0mm                                 | 00ID2339        |              | YES                |
| 109b              | O-ring for Shaft Seal Pos. 105 (option)            |       | 3/2-36 | 1        | FFKM, ø23.47 x 2.62mm                              | 96464384        |              | YES                |
|                   |                                                    |       | 3/2-36 | 1        | FXM, ø22 x 2.75mm                                  | 96458111        |              | YES                |
| 111               | Seal Driver (small) for Pos. 105b Back-to-Back     |       | 3/2-36 | 1        |                                                    | 980192          |              | YES                |
| 112               | Seal Driver (large) for Pos. 105b Back-to-Back     |       | 3/2-36 | 1        |                                                    | 980191          |              | YES                |
| 112a              | Seal Drv threaded for 112, Pos. 105b Back-to-Back  |       | 3/2-36 | 1        |                                                    | 400203          |              | YES                |
| 113               | Set Screw for 112a, for Pos. 105b Back-to-Back     |       | 3/2-36 | 1        | 3mm x M5 x 6mm                                     | 00ID7392        |              | YES                |
| 117               | Air Vent Pipe for 118                              |       | 3/2-36 | 1        | G1/2, 316SS, 60 x 43mm                             | 96525189        |              | YES                |
| 117a              | Counter Nut for Pipe 117                           |       | 3/2-36 | 1        | NV24, internal G1/2, 316SS                         | 96506709        |              | YES                |
| 118               | Air Vent                                           |       | 3/2-36 | 1        | Air vent type 1511-AV - 5/6430                     | 96427483        |              | YES                |
| 146               | Allen Bolt for 147/148, for Pos. 105b Back-to-Back |       | 3/2-36 | 1        | 2.5mm x M3 x 5mm                                   | 96462639        |              | YES                |
| 147               | Stationary Seal Retainer - Pos. 105b Back-to-Back  |       | 3/2-36 | 1        | NV36, 316SS                                        | 96457354        |              | YES                |
| 148               | Seal Retainer Washer - Pos. 105b Back-to-Back      |       | 3/2-36 | 1        | 316SS, ø36.0 x ø26.0 x ø23.0 x ø21.6 x 5.0mm       | 96457355        |              | YES                |
| 149               | Connecting Pipe Complete for Cool Top®             |       | 3/2-36 | 1        | NV36, 316SS, FXM & EPDM                            | 96460414        |              | YES                |
|                   |                                                    |       | 3/2-36 | 1        | NV36, 316SS, FXM & FKM                             | 96460415        |              | YES                |
| 149a              | Retainer for bushing                               |       | 3/2-36 | 1        | 316SS, ø22.0 x ø17.0 x 9mm                         | 96457639        |              | YES                |
| 149b              | Bushing                                            |       | 3/2-36 | 1        | Graflon®, ø21...2 x ø12.4 x 53mm                   | 96456297        |              | YES                |
| 149c              | Connecting Pipe less 109a&b and 149a&b             |       | 3/2-36 | 1        | NV36, 316SS                                        | 96456295        |              | YES                |
| 201               | Flange, Suction                                    |       | 3/2-17 | 1        | 1.5" 150#, 4 x 1/2"-13 UNC threaded flange, e-coat | 96922828        |              | No                 |
|                   |                                                    |       | 3/2-36 | 1        | 1.5" 300#, 4 x 3/4"-10 UNC threaded flange, e-coat | 96956145        |              | No                 |
| 201a              | Flange, Discharge                                  |       | 3/2-17 | 1        | 1" 150#, 4 x 1/2"-13 UNC threaded flange, e-coat   | 96922827        |              | No                 |
|                   |                                                    |       | 3/2-36 | 1        | 1" 300#, 4 x 5/8"-11 UNC threaded flange, e-coat   | 96956144        |              | No                 |
| 203               | Retaining ring for 201, 1.5" flange                |       | 3/2-36 | 1        | Stainless, ø72.6 x 5                               | 96475395        |              | No                 |
| 203a              | Retaining ring for 201a, 1.0" flange               |       | 3/2-36 | 1        | Stainless, ø53.6 x 3.2                             | 96439718        |              | No                 |

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## Notes:

The first number is total number of impellers.

An exceptions to this format is the CR1-2H.

**Example: a CR1-2H is actually a CR1-3/2H, it has 3 chambers and 2 impellers (de-staged by 1) - it uses a 3 stage shaft.**

- ^^^ 3/2 to 9 stage = # of stages less 2  
 10 to 19 stage = # of stages less 3  
 21 to 27 stage = # of stages less 4  
 29 to 36 stage = # of stages less 5  
 Exception: When de-staging pump by 2 impellers, replace top chamber Pos. 4 with Pos. 5a
- ^^^^ 3/2 to 9 stage = use 1  
 10 to 19 stage = use 2  
 21 to 27 stage = use 3  
 29 to 36 stage = use 4
- \* Standard use 1. Back-to-Back or Tandem pump version use 3  
 \*\* Standard use 1. Back-to-Back or Tandem pump version use 3  
 \*\*\* 1 used in Hxxx (Standard), 2 used in Pxxx (Tandem) pump version  
 1 used in Hxxx (Standard) plus an Oxxx for back to Back pump version
- # stgs- Use the number of stages in standard models, less 1 in a 2 stage
- ◆◆ Standard use 2. Back-to-Back or Tandem pump version use 3
- Standard use 2. Back-to-Back or Tandem pump version use 6
- 1\* Standard use 1. When de-staging pump by 2 impellers, replace top chamber Pos. 4 with an additional Pos. 5a

## Key to Symbols:

|      |       |                                                                                         |
|------|-------|-----------------------------------------------------------------------------------------|
| KITS | ..... | 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                               |

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# Spare Part Kits CR1-H

## 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.

| CR(I, N)1S, 1, & 3 SiC Bearing |                                              | Kit No. 96455095 |                           | 96455092 |    | 96455093 |  | 96455094 |  |
|--------------------------------|----------------------------------------------|------------------|---------------------------|----------|----|----------|--|----------|--|
| WEAR PARTS KIT 2-9             |                                              | Kit No.          |                           | 96455092 |    | 96455093 |  | 96455094 |  |
| WEAR PARTS KIT 10-19           |                                              | Kit No.          |                           | 96455092 |    | 96455093 |  | 96455094 |  |
| WEAR PARTS KIT 20-27           |                                              | Kit No.          |                           | 96455092 |    | 96455093 |  | 96455094 |  |
| WEAR PARTS KIT 28-36           |                                              | Kit No.          |                           | 96455092 |    | 96455093 |  | 96455094 |  |
| Pos. No.                       | Description                                  | Material No.     | Qty. Included in each Kit |          |    |          |  |          |  |
| 4a                             | Chamber N Cpl. w/Pos.45 & 65 & SiC Bearing   | 96439476         | 1                         | 2        | 3  | 4        |  |          |  |
| 39                             | Gasket for Oval Flange, 95 x 55 x ø35 x 2mm  | 400189           | 2                         | 2        | 2  | 2        |  |          |  |
| 45                             | Neck Ring, ø41.3 x ø30.6 x .75mm, PTFE       | 400003           | 8                         | 17       | 24 | 32       |  |          |  |
| 47a                            | Bearing Ring/Spacer, SiC 150, 13mm           | 96437488         | 1                         | 2        | 3  | 4        |  |          |  |
| 64a                            | Spacing Pipe, ø15.85 x ø12.85 x 4.5mm        | 96440292         | 1                         | 2        | 3  | 4        |  |          |  |
| 64c                            | Clamp, Splined, ø15 x ø13.10 x ø10.9 x 13mm  | 96439668         | 1                         | 1        | 1  | 1        |  |          |  |
| 65                             | Neck Ring Retainer, N, ø43.5 x ø34.0 x 3.6mm | 96438746         | 8                         | 17       | 24 | 32       |  |          |  |
| 66                             | Lock Washer Set of 2, ø13.5 x ø8.2 x 2.6mm   | 96417297         | 1                         | 1        | 1  | 1        |  |          |  |
| 67                             | Lock Nut, 13mm x M8                          | 00ID2061         | 1                         | 1        | 1  | 1        |  |          |  |

| CR(I, N)1S, 1, & 3 Graflon Bearing |                                                |              |                           |          |    |          |  |
|------------------------------------|------------------------------------------------|--------------|---------------------------|----------|----|----------|--|
| WEAR PARTS KIT 2-9                 |                                                | Kit No.      |                           | 96460140 |    |          |  |
| WEAR PARTS KIT 10-19               |                                                | Kit No.      |                           | 96455110 |    |          |  |
| WEAR PARTS KIT 20-27               |                                                | Kit No.      |                           |          |    | 96455111 |  |
| WEAR PARTS KIT 28-36               |                                                | Kit No.      |                           |          |    | 96455112 |  |
| Pos. No.                           | Description                                    | Material No. | Qty. Included in each Kit |          |    |          |  |
| 4a                                 | Chamber N Cpl. w/Pos.45 & 65 & Graflon Bearing | 96440615     | 1                         | 2        | 3  | 4        |  |
| 39                                 | Gasket for Oval Flange, 95 x 55 x ø35 x 2mm    | 400189       | 2                         | 2        | 2  | 2        |  |
| 45                                 | Neck Ring, ø41.3 x ø30.6 x .75mm, PTFE         | 400003       | 8                         | 17       | 24 | 32       |  |
| 47a                                | Bearing Ring/Spacer, TC, 9.7mm                 | 400041       | 1                         | 2        | 3  | 4        |  |
| 64a                                | Spacing Pipe, ø15.85 x ø12.85 x 7.8mm          | 400016       | 1                         | 2        | 3  | 4        |  |
| 64c                                | Clamp, Splined, ø15 x ø13.10 x ø10.9 x 13mm    | 96439668     | 1                         | 1        | 1  | 1        |  |
| 65                                 | Neck Ring Retainer, N, ø43.5 x ø34.0 x 3.6mm   | 96438746     | 8                         | 17       | 24 | 32       |  |
| 66                                 | Lock Washer Set of 2, ø13.5 x ø8.2 x 2.6mm     | 96417297     | 1                         | 1        | 1  | 1        |  |
| 67                                 | Lock Nut, 13mm x M8                            | 00ID2061     | 1                         | 1        | 1  | 1        |  |

|                                |                                              |              |  |                           |    |          |    |          |  |
|--------------------------------|----------------------------------------------|--------------|--|---------------------------|----|----------|----|----------|--|
| CR(I)1S, 1, & 3 Bronze Bearing |                                              |              |  |                           |    |          |    |          |  |
| WEAR PARTS KIT 2-9             |                                              | Kit No.      |  | 96455102                  |    |          |    |          |  |
| WEAR PARTS KIT 10-19           |                                              | Kit No.      |  |                           |    | 96455104 |    |          |  |
| WEAR PARTS KIT 20-27           |                                              | Kit No.      |  |                           |    |          |    | 96455105 |  |
| WEAR PARTS KIT 28-36           |                                              | Kit No.      |  |                           |    |          |    | 96455106 |  |
| Pos. No.                       | Description                                  | Material No. |  | Qty. Included in each Kit |    |          |    |          |  |
| 4a                             | Chamber Cpl. w/Pos.45 & 65 & Bronze Bearing  | 96440612     |  | 1                         | 2  | 3        | 4  |          |  |
| 39                             | Gasket for Oval Flange, 95 x 55 x ø35 x 2mm  | 400189       |  | 2                         | 2  | 2        | 2  |          |  |
| 45                             | Neck Ring, ø41.3 x ø30.6 x .75mm, PTFE       | 400003       |  | 8                         | 17 | 24       | 32 |          |  |
| 47a                            | Bearing Ring/Spacer, TC, 9.7mm               | 400041       |  | 1                         | 2  | 3        | 4  |          |  |
| 64a                            | Spacing Pipe, ø15.85 x ø12.85 x 7.8mm        | 400016       |  | 1                         | 2  | 3        | 4  |          |  |
| 64c                            | Clamp, Splined, ø15 x ø13.10 x ø10.9 x 13mm  | 96439668     |  | 1                         | 1  | 1        | 1  |          |  |
| 65                             | Neck Ring Retainer, N, ø43.5 x ø34.0 x 3.6mm | 96438746     |  | 8                         | 17 | 24       | 32 |          |  |
| 66                             | Lock Washer Set of 2, ø13.5 x ø8.2 x 2.6mm   | 96417297     |  | 1                         | 1  | 1        | 1  |          |  |
| 67                             | Lock Nut, 13mm x M8                          | 00ID2061     |  | 1                         | 1  | 1        | 1  |          |  |

|                                                                                                                                              |                                      |              |                           |   |          |   |          |   |          |   |          |   |   |   |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|---------------------------|---|----------|---|----------|---|----------|---|----------|---|---|---|---|---|
| STANDARD SHAFT SEAL KIT, BALANCED CARTRIDGE<br>(Maximum allowed working PSI is 435)<br>(Tandem Seal option Pumps require 2 of each Seal Kit) |                                      | Kit No.      | 96455088                  |   |          |   |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              |                                      | Kit No.      | 96491375                  |   |          |   |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              |                                      | Kit No.      |                           |   | 96455089 |   |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              |                                      | Kit No.      |                           |   |          |   | 96455086 |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              |                                      | Kit No.      |                           |   |          |   |          |   | 96533327 |   |          |   |   |   |   |   |
|                                                                                                                                              |                                      | Kit No.      |                           |   |          |   |          |   | 96533326 |   |          |   |   |   |   |   |
|                                                                                                                                              |                                      | Kit No.      |                           |   |          |   |          |   |          |   | 96455087 |   |   |   |   |   |
| Pos. No.                                                                                                                                     | Description                          | Material No. | Qty. Included in each Kit |   |          |   |          |   |          |   |          |   |   |   |   |   |
| 105                                                                                                                                          | HQBE                                 | 96441879     | 1                         |   |          |   |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              | HQBK                                 | 96489537     |                           | 1 |          |   |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              | HQBV                                 | 96441880     |                           |   | 1        |   |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              | HQQE                                 | 96441877     |                           |   |          | 1 |          |   |          |   |          |   |   |   |   |   |
|                                                                                                                                              | HQQF                                 | 96472620     |                           |   |          |   |          | 1 |          |   |          |   |   |   |   |   |
|                                                                                                                                              | HQQK                                 | 96498109     |                           |   |          |   |          |   | 1        |   |          |   |   |   |   |   |
|                                                                                                                                              | HQQV                                 | 96441878     |                           |   |          |   |          |   |          | 1 |          |   |   |   |   |   |
|                                                                                                                                              |                                      |              |                           |   |          |   |          |   |          |   |          |   |   |   | 1 |   |
| N/A                                                                                                                                          | Grinding Device Tool for Emery Cloth | 370711       | 1                         | 1 | 1        | 1 | 1        | 1 | 1        | 1 | 1        | 1 | 1 | 1 | 1 | 1 |
| N/A                                                                                                                                          | Emery Cloth                          | 370712       | 1                         | 1 | 1        | 1 | 1        | 1 | 1        | 1 | 1        | 1 | 1 | 1 | 1 | 1 |

| STACK KITS    |                 |
|---------------|-----------------|
| Model         | Material Number |
| CR(I)1-3/2    | 96453485        |
| CR(I)1-3      | 96453486        |
| CR(I)1-4      | 96453487        |
| CR(I)1-5      | 96453488        |
| CR(I)1-6      | 96453489        |
| CR(I)1-7      | 96453490        |
| CR(I)1-8      | 96453491        |
| CR(I)1-9      | 96453492        |
| CR(I)1-10     | 96453493        |
| CR(I)1-11     | 96453494        |
| CR(I)1-12     | 96453495        |
| CR(I)1-13     | 96453496        |
| CR(I)1-15     | 96453497        |
| CR(I)1-17     | 96453498        |
| CR(I)1-19     | 96453499        |
| CR(I)1-21     | 96453500        |
| CR(I)1-23     | 96453501        |
| CR(I)1-25     | 96453502        |
| CR(I)1-27     | 96453503        |
| *** CR(I)1-30 | 96453504        |
| *** CR(I)1-33 | 96453505        |
| *** CR(I)1-36 | 96453506        |

\*\*\*For 50 Hz & 4 pole operation only.

**Spare Part Kits** (continued)

|                                                                                                                                              |                                      |              |                           |   |   |   |   |   |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|---------------------------|---|---|---|---|---|---|---|
| OPTIONAL SHAFT SEAL KIT, BALANCED CARTRIDGE<br>(Maximum allowed working PSI is 435)<br>(Tandem Seal option Pumps require 2 of each Seal Kit) |                                      |              | Kit No. 96455082          |   |   |   |   |   |   |   |
|                                                                                                                                              |                                      |              | Kit No. 96533323          |   |   |   |   |   |   |   |
|                                                                                                                                              |                                      |              | Kit No. 96533322          |   |   |   |   |   |   |   |
|                                                                                                                                              |                                      |              | Kit No. 96455083          |   |   |   |   |   |   |   |
|                                                                                                                                              |                                      |              | Kit No. 96455084          |   |   |   |   |   |   |   |
|                                                                                                                                              |                                      |              | Kit No. 96533325          |   |   |   |   |   |   |   |
|                                                                                                                                              |                                      |              | Kit No. 96533324          |   |   |   |   |   |   |   |
| Kit No. 96455085                                                                                                                             |                                      |              |                           |   |   |   |   |   |   |   |
| Pos. No.                                                                                                                                     | Description                          | Material No. | Qty. Included in each Kit |   |   |   |   |   |   |   |
| 105                                                                                                                                          | HUBE                                 | 96441873     | 1                         |   |   |   |   |   |   |   |
|                                                                                                                                              | HUBF                                 | 96481464     |                           | 1 |   |   |   |   |   |   |
|                                                                                                                                              | HUBK                                 | 96481463     |                           |   | 1 |   |   |   |   |   |
|                                                                                                                                              | HUBV                                 | 96441874     |                           |   |   | 1 |   |   |   |   |
|                                                                                                                                              | HUUE                                 | 96441875     |                           |   |   |   | 1 |   |   |   |
|                                                                                                                                              | HUUF                                 | 96475542     |                           |   |   |   |   | 1 |   |   |
|                                                                                                                                              | HUUK                                 | 96498108     |                           |   |   |   |   |   | 1 |   |
|                                                                                                                                              | HUUV                                 | 96441876     |                           |   |   |   |   |   |   | 1 |
| N/A                                                                                                                                          | Grinding Device Tool for Emery Cloth | 370711       | 1                         | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| N/A                                                                                                                                          | Emery Cloth                          | 370712       | 1                         | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQE                                     |                                                     | Kit No.      |                           | 96533360 |   |   |
|----------------------------------------------------------------------------------------|-----------------------------------------------------|--------------|---------------------------|----------|---|---|
| INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQV                                     |                                                     | Kit No.      |                           | 96533361 |   |   |
| INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQW                                     |                                                     | Kit No.      |                           | 96989183 |   |   |
| INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQK                                     |                                                     | Kit No.      |                           | 96536168 |   |   |
| INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQUE/V                                   |                                                     | Kit No.      |                           | 405145   |   |   |
| (An HQQx or HUUX seal kit must also be used for respectively to complete seal repairs) |                                                     |              |                           |          |   |   |
| Pos. No.                                                                               | Description                                         | Material No. | Qty. Included in each Kit |          |   |   |
| 37                                                                                     | Sleeve O-ring, EPDM, Ø137.5 x 3.3mm                 | 96438743     | 3                         |          |   |   |
|                                                                                        | Sleeve O-ring, FKM, Ø137.5 x 3.3mm                  | 96438744     |                           | 3        |   |   |
| 38, 100(a)                                                                             | Drain Plug O-ring, EPDM, Ø16.3 x 2.4mm              | 00ID1288     | 7                         |          |   |   |
|                                                                                        | Drain Plug O-ring, FKM, Ø16.3 x 2.4mm               | 00ID2231     |                           | 7        |   |   |
| 102                                                                                    | O-ring, EPDM, Ø18 x 2.5mm                           | 00ID2041     | 1                         |          |   | 1 |
|                                                                                        | O-ring, FKM, Ø17.86 x 2.62mm                        | 00ID2187     |                           | 1        | 1 |   |
| 103                                                                                    | O-ring, FFKM, Ø17.86 x 2.62mm                       | 96440281     |                           |          |   | 1 |
|                                                                                        | Stationary Seal Ring, SiC,12mm                      | 980746       | 1                         |          |   |   |
| 104                                                                                    | Stationary Seal Ring, TC,12mm                       | 980190       |                           |          |   | 1 |
|                                                                                        | Rotating Seal Ring, SiC, 12mm                       | 980733       | 1                         | 1        | 1 |   |
| 107                                                                                    | Rotating Seal Ring, TC, 12mm                        | 989163       |                           |          |   | 1 |
|                                                                                        | O-ring, EPDM, Ø11.5 x 4.3mm                         | 00ID2040     | 1                         |          |   | 1 |
| 108                                                                                    | O-ring, FKM, Ø11.5 x 4.3mm                          | 00ID2186     |                           | 1        | 1 |   |
|                                                                                        | O-ring, FFKM, Ø11.5 x 4.3mm                         | 96440282     |                           |          |   | 1 |
| 109a                                                                                   | Spring, 12mm                                        | 980195       | 1                         | 1        | 1 | 1 |
|                                                                                        | O-ring, EPDM, Ø21.3 x 3.0mm                         | 00ID1798     | 1                         |          |   |   |
| 111                                                                                    | O-ring, FKM, Ø21.2 x 3.0mm                          | 00ID2339     |                           | 1        | 1 |   |
|                                                                                        | O-ring, FFKM, Ø23.47 x 2.62mm                       | 96464384     |                           |          |   | 1 |
| 112                                                                                    | Driver for pos.104                                  | 980192       | 1                         | 1        | 1 | 1 |
| 112a                                                                                   | Driver for pos.111                                  | 980191       | 1                         | 1        | 1 | 1 |
| 113                                                                                    | Driver for pos.112                                  | 400203       | 1                         | 1        | 1 | 1 |
| 113a                                                                                   | Set Screw for pos.112a                              | 00ID7392     | 2                         | 2        | 2 | 2 |
| 146                                                                                    | Allen Bolt for pos.147 & 148, 2.5mm x M3 x 5mm      | 96462639     | 3                         | 3        | 3 | 3 |
| 147                                                                                    | Stationary Seal Retainer - NV36, 316SS              | 96457354     |                           |          | 1 | 1 |
| 148                                                                                    | Seal Retainer Washer - 316SS, Ø36.0 x Ø21.6 x 5.0mm | 96457355     |                           |          | 1 | 1 |
| N/A                                                                                    | Grinding Device Tool for Emery Cloth                | 370711       |                           |          |   | 1 |
| N/A                                                                                    | Emery Cloth                                         | 370712       |                           |          |   | 1 |

| GASKET KIT (EPDM)                         |                                                   |              | Kit No.                   |   | 96455090 |   |          |   |   |  |
|-------------------------------------------|---------------------------------------------------|--------------|---------------------------|---|----------|---|----------|---|---|--|
| GASKET KIT (FKM)                          |                                                   |              | Kit No.                   |   | 96455091 |   |          |   |   |  |
| GASKET KIT (FXM)                          |                                                   |              | Kit No.                   |   | 96463944 |   |          |   |   |  |
| GASKET KIT (FFKM)                         |                                                   |              | Kit No.                   |   | 96533328 |   |          |   |   |  |
| GASKET KIT (EPDM)-Double Seal option.     |                                                   |              | Kit No.                   |   | 96533362 |   |          |   |   |  |
| GASKET KIT (FKM)-Double Seal option.      |                                                   |              | Kit No.                   |   | 96533363 |   |          |   |   |  |
| GASKET KIT (FFKM)-Double Seal option.     |                                                   |              | Kit No.                   |   | 96533364 |   |          |   |   |  |
| GASKET KIT (FKM, & EPDM)- Cool-Top option |                                                   |              | Kit No.                   |   |          |   | 96533329 |   |   |  |
| Pos. No.                                  | Description                                       | Material No. | Qty. Included in each Kit |   |          |   |          |   |   |  |
| 37                                        | Sleeve O-ring, EPDM, Ø137.5 x 3.3mm               | 96438743     | 2                         |   |          |   | 3        |   | 1 |  |
|                                           | Sleeve O-ring, FKM, Ø137.5 x 3.3mm                | 96438744     |                           | 2 |          |   |          | 3 |   |  |
| 37b                                       | Sleeve O-ring, FXM, Ø137.5 x 3.3mm                | 96458109     |                           |   | 2        |   |          |   | 2 |  |
|                                           | Sleeve O-ring, FFKM, Ø136.12 x 3.53mm             | 96466718     |                           |   |          | 2 |          | 3 |   |  |
| 38, 100(a)                                | Drain Plug O-ring, EPDM, Ø16.3 x 2.4mm            | 00ID1288     | 3                         |   |          |   | 7        |   | 4 |  |
|                                           | Drain Plug O-ring, FKM, Ø16.3 x 2.4mm             | 00ID2231     |                           | 3 |          |   |          | 7 |   |  |
| 38, 100a                                  | Drain Plug O-ring, FXM, Ø16.3 x 2.4mm             | 96442869     |                           |   | 3        |   |          |   | 3 |  |
|                                           | Drain Plug O-ring, FFKM, Ø16.3 x 2.4mm            | 96428162     |                           |   |          | 3 |          | 7 |   |  |
| 109(a)                                    | O-ring for Pos.105(b) &149, EPDM, Ø21.3 x 3.0mm   | 00ID1798     | 1                         |   |          |   | 1        |   |   |  |
|                                           | O-ring for Pos.105(b) &149, FKM, Ø21.2 x 3.0mm    | 00ID2339     |                           | 1 |          |   |          | 1 |   |  |
| 109b                                      | O-ring for Pos.105(b) &149, FXM, Ø22.0 x 2.75mm   | 96458111     |                           |   | 1        |   |          |   | 2 |  |
|                                           | O-ring for Pos.105(b) &149, FFKM, Ø23.47 x 2.62mm | 96464384     |                           |   |          | 1 |          | 2 |   |  |

| NEMA COUPLING KIT |                                                  | ø15.8/ø12    | Kit No.                   | 415314   |          |   |
|-------------------|--------------------------------------------------|--------------|---------------------------|----------|----------|---|
|                   |                                                  | ø22.225/ø12  | Kit No.                   | 97919247 |          |   |
|                   |                                                  | ø28.5/ø12    | Kit No.                   | 415315   |          |   |
|                   |                                                  | ø34.9/ø12    | Kit No.                   |          | 96478700 |   |
| Pos. No.          | Description                                      | Material No. | Qty. Included in each Kit |          |          |   |
| 9                 | Allen Screw, M6 x 20mm, Delta Seal               | 00ID7899     | 4                         | 4        |          |   |
|                   | Allen Screw, M8 x 25mm, Delta Seal               | 00ID7900     |                           |          | 4        | 4 |
|                   | Allen Screw, M10 x 25mm, Delta Seal              | 00ID7901     |                           |          |          |   |
| 10                | Shaft Pin, ø5 x 26mm, Stainless                  | 310192       | 1                         | 1        | 1        | 1 |
|                   | Coupling Half, 56C, 1/3 - 2HP. ø15.8 / ø12       | 410108       | 2                         |          |          |   |
| 10a               | Coupling Half, 143/5TC, 1/3 - 3HP. ø22.225 / ø12 | 97851501     |                           | 2        | 2        |   |
|                   | Coupling Half, 182/184TC, 3-5HP. ø28.5/ø12       | 410109       |                           |          | 2        |   |
|                   | Coupling Half, 213TC, 7.5-10HP. ø34.9/ø12        | 96472175     |                           |          |          | 2 |

# Spare Part Kits • Accessories **CR1-H**

## Spare Part Kits (continued)

| COUPLING GUARD KIT     |                                            |              |                           |   |
|------------------------|--------------------------------------------|--------------|---------------------------|---|
| NEMA 56C, 1/3-2HP      |                                            | Kit No.      | 96505131                  |   |
| 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=90.5mm         | 96438137     | 2                         |   |
|                        | Coupling Guard, W=157mm x H=171mm          | 96438138     |                           | 2 |
| 7a                     | Screw comb.slot torx/straight slot 4 x 8mm | 96488481     | 4                         | 4 |

| Air Vent Kit - Horizontal Units |                                           |              |                           |  |
|---------------------------------|-------------------------------------------|--------------|---------------------------|--|
| CR-H, CRN-H15 to 20             |                                           | Kit No.      | 91136720                  |  |
| Pos. No.                        | Description                               | Material No. | Qty. Included in each Kit |  |
| 117                             | Air Vent Pipe, short for 118, G1/2, 60x43 | 96525189     | 1                         |  |
| 117a                            | Counter Nut for Pipe 117, G1/2            | 96506709     | 2                         |  |
| 118                             | Air vent type 1511-AV - 5/6430            | 96427483     | 1                         |  |

| Connecting Pipe for Cool Top<br>(EPDM, FKM & FXM) |                                                  |              |                           |  |
|---------------------------------------------------|--------------------------------------------------|--------------|---------------------------|--|
|                                                   |                                                  | Kit No.      | 96578704                  |  |
| Pos. No.                                          | Description                                      | Material No. | Qty. Included in each Kit |  |
| 109a                                              | 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                         |  |
| 149a                                              | Retainer for bushing, 316SS, Ø22.0 x Ø17.0 x 9mm | 96457639     | 1                         |  |
| 149b                                              | Bushing, Graflon®, Ø21.2 x Ø12.4 x 53mm          | 96456297     | 1                         |  |
| 149c                                              | Connecting pipe, NV36, 316SS                     | 96456295     | 1                         |  |

## Accessories

| ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20<br>1-1/2" and 1" Threaded CI Black for GA 125 Lb. Class |                                              |              |                           |  |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------|---------------------------|--|
|                                                                                                        |                                              | Kit No.      | 97642565                  |  |
| Pos. No.                                                                                               | Description                                  | Material No. | Qty. Included in each Kit |  |
| N/A                                                                                                    | Hex Head Cap Screw/Bolt 1/2"-13X 2" UNC ZP   | 97743748     | 8                         |  |
| N/A                                                                                                    | Flange ANSI #150 1.5" NPT. Cast Iron - Black | 91123167     | 1                         |  |
| N/A                                                                                                    | Flange ANSI #150 1" NPT. Cast Iron - Black   | 96983489     | 1                         |  |
| N/A                                                                                                    | Gasket 1 1/2" Full Face 150 Lb. ANSI         | 91123168     | 1                         |  |
| N/A                                                                                                    | Gasket 1" Full Face 150 Lb. ANSI             | 97692916     | 1                         |  |

| ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20<br>1-1/2" and 1" Threaded CI Black for GA 250 Lb. Class |                                                |              |                           |  |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------|---------------------------|--|
|                                                                                                        |                                                | Kit No.      | 96967594                  |  |
| Pos. No.                                                                                               | Description                                    | Material No. | Qty. Included in each Kit |  |
| N/A                                                                                                    | Hex Head Cap Screw/Bolt 3/4"-10 X 2.5" UNC ZP  | 91137423     | 4                         |  |
| N/A                                                                                                    | Hex Head Cap Screw/Bolt 5/8"-11 X 2.25" UNC ZP | 91130816     | 4                         |  |
| N/A                                                                                                    | Flange ANSI #300 1.5" NPT. Cast Iron - Black   | 96983494     | 1                         |  |
| N/A                                                                                                    | Flange ANSI #300 1" NPT. Cast Iron - Black     | 96983493     | 1                         |  |
| N/A                                                                                                    | Gasket 1 1/2" Full Face 300 Lb. ANSI           | 97694408     | 1                         |  |
| N/A                                                                                                    | Gasket 1" Full Face 300 Lb. ANSI               | 97694407     | 1                         |  |

| ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20<br>1-1/2" and 1" Threaded Stainless, 150 Lb. Class |                                           |              |                           |  |
|---------------------------------------------------------------------------------------------------|-------------------------------------------|--------------|---------------------------|--|
|                                                                                                   |                                           | Kit No.      | 97698645                  |  |
| Pos. No.                                                                                          | Description                               | Material No. | Qty. Included in each Kit |  |
| N/A                                                                                               | Hex Head Cap Screw/Bolt 1/2"-13X 2" 316SS | 97743748     | 8                         |  |
| N/A                                                                                               | Flange ANSI #150 1.5" NPT 316SS           | 96983498     | 1                         |  |
| N/A                                                                                               | Flange ANSI #150 1" NPT 316SS             | 96983497     | 1                         |  |
| N/A                                                                                               | Gasket 1 1/2" Full Face 150 Lb. ANSI      | 97694409     | 1                         |  |
| N/A                                                                                               | Gasket 1" Full Face 150 Lb. ANSI          | 97692916     | 1                         |  |

| ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20<br>1-1/2" and 1" Threaded Stainless, 300 Lb. Class |                                               |              |                           |  |
|---------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------|---------------------------|--|
|                                                                                                   |                                               | Kit No.      | 97698646                  |  |
| Pos. No.                                                                                          | Description                                   | Material No. | Qty. Included in each Kit |  |
| N/A                                                                                               | Hex Head Cap Screw/Bolt 3/4"-10 X 2.5" 316SS  | 91143035     | 4                         |  |
| N/A                                                                                               | Hex Head Cap Screw/Bolt 5/8"-11 X 2.25" 316SS | 91143029     | 4                         |  |
| N/A                                                                                               | Flange ANSI #300 1.5" NPT 316SS               | 96983496     | 1                         |  |
| N/A                                                                                               | Flange ANSI #300 1" NPT 316SS                 | 96983495     | 1                         |  |
| N/A                                                                                               | Gasket 1 1/2" Full Face 300 Lb. ANSI          | 97694408     | 1                         |  |
| N/A                                                                                               | Gasket 1" Full Face 300 Lb. ANSI              | 97694407     | 1                         |  |

| Baseplate Kit |                                                             |              |                           |   |   |   |
|---------------|-------------------------------------------------------------|--------------|---------------------------|---|---|---|
| 139           | 56C for GA                                                  | Kit No.      | 97534517                  |   |   |   |
|               | 182TC for GA                                                | Kit No.      | 97534518                  |   |   |   |
| XLBP1         | 56C for GA                                                  | Kit No.      | 97534573                  |   |   |   |
|               | 182TC for GA                                                | Kit No.      | 97534574                  |   |   |   |
| Pos. No.      | Description                                                 | Material No. | Qty. Included in each Kit |   |   |   |
| 90            | Baseplate Cpl. 139, L=991" x W=305" x H=106.4768"           | 96956336     | 1                         | 1 |   |   |
|               | Baseplate Cpl. XLBP1, L=1500" x W=305" x H=106.4768"        | 96956376     |                           |   | 1 | 1 |
| N/A           | Slider & fastners for 56C (consists of slider & hardware)   | 96983855     | 1                         |   | 1 |   |
| N/A           | Slider & fastner for 182TC (consists of slider & hardware)  | 96983858     |                           | 1 |   | 1 |
| N/A           | Hardware Kit -96983855/68/78 (cont. pos.56f, g, 90a,d& f)** | 97501470     | 1                         |   | 1 |   |
| N/A           | Hardware Kit -96983858 (cont. pos.56f & g, 90a, d & f)**    | 97501481     |                           | 1 |   | 1 |
| 56f           | Bolt, Hex Head 1/2 -13 UNC x 1" SAE 5, Zinc plated          | N/A          | 2                         | 2 | 2 | 2 |
| 56g           | Washer, 1/2" SAE, Zinc plated                               | N/A          | 2                         | 2 | 2 | 2 |
| 90a           | Bolt, Hex Head 5/16 -18 UNC x .75" SAE 5, Zinc plated       | N/A          | 4                         |   | 4 |   |
|               | Bolt, Hex Head 3/8 -16 UNC x .5" SAE 5, Zinc plated         | N/A          |                           | 4 |   | 4 |
| 90b           | Slider, GA/B/C 56C/139BP, L=204" x H=45.5" x W=25.4"        | 96956339     | 2                         |   | 2 |   |
|               | Slider, GA/B/C 182TC/139 BP, L=230" x H=23" x W=25.4"       | 96956338     |                           | 2 |   | 2 |
| 90d           | Bolt, Hex Head 1/4 -20 UNC x 1" SAE 5, Zinc plated          | N/A          | 4                         |   | 4 |   |
|               | Bolt, Hex Head 1/4 -20 UNC x 1.75" SAE 5, Zinc plated       | N/A          |                           | 4 |   | 4 |
| 90f           | Washer, 5/16" SAE, Zinc plated                              | N/A          | 4                         |   | 4 |   |
|               | Washer. 3/8" SAE. Zinc plated                               | N/A          |                           | 4 |   | 4 |

\* Values in mm, Length (L) is +/- 2mm, Height (H) is +/- 1mm, Width (W). \*\* Hardware kits 97501470 and 81 are also available for sale.

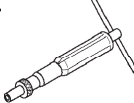
## Special Tools

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. (optional)                                                    |  |
| 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"                                                    |   |

## 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                                                                                                   |    |

be think innovate

Being responsible is our foundation  
Thinking ahead makes it possible  
Innovation is the essence



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