

# SILVER LINE SERIES



# SILVER LINE SERIES

## Pumped Liquids

Clean, Thin, Non-aggressive, Non explosive, Clear, Cold, Fresh Water without abrasives, Solid particles or fibre having the following characteristics

|    |                            |  |
|----|----------------------------|--|
| a) | Temperature                | 33 °C (max.)   |
| b) | Permissible amount of sand | 3" - 25 g/m <sup>3</sup> (max.), 4" - 50g/m <sup>3</sup> |
| c) | Chlorine ion density       | 500 ppm (max.)   |
| d) | Allowable solids           | 3000 ppm (max.)  |
| e) | Specific gravity           | 1.004 (max.)   |
| f) | Hardness (Drinking water)  | 300 (max.)   |
| g) | Viscosity                  | 1.75 x 10 <sup>-6</sup> m <sup>2</sup> /sec (max.)       |
| h) | Turbidity                  | 50 ppm silica scale(max.)                                |
| i) | pH                         | 6.5 to 8.5   |

| Pump Operating Limitations |                   |               |               |
|----------------------------|-------------------|---------------|---------------|
| Nominal Diameter           |                   | 3"(80mm)      | 4"(100mm)     |
| Power Range                |                   | 0.25 - 1.1 kW | 0.37 - 7.5 kW |
| Speed                      |                   | 2850 rpm      | 2900 rpm      |
| Discharge Range            | m <sup>3</sup> /h | 0.6 - 3       | 0.75 - 24     |
|                            | lps               | 0.16 - 0.83   | 0.20 - 6.66   |
| Total Head Range           | m                 | 8 - 138       | 4.0 - 250     |
|                            | ft                | 26 - 453      | 13.0 - 820    |
| Outlet Size in Inches      |                   | 1             | 1¼, 1½ & 2    |

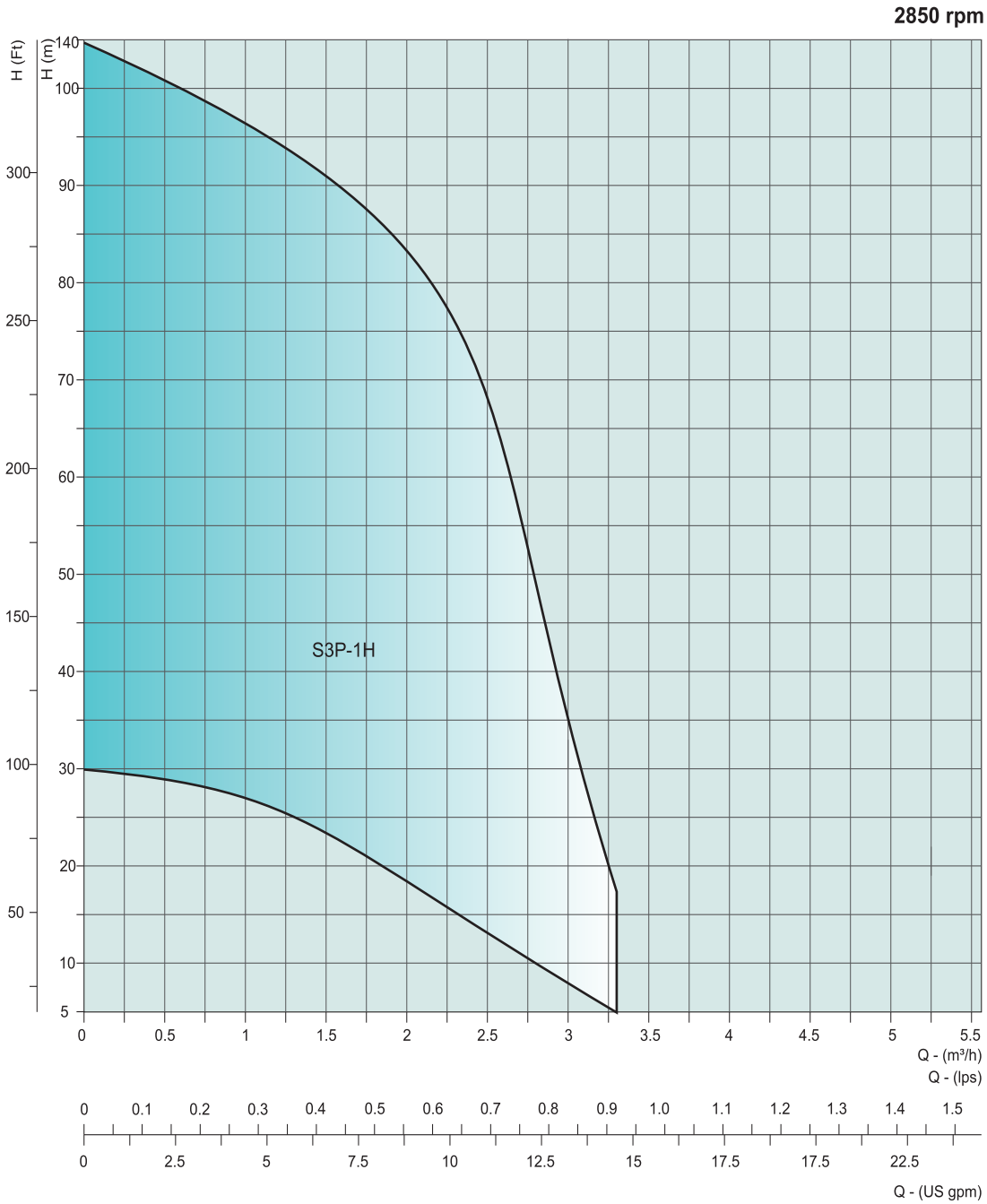
### Maximum Temperature of Pumped Liquid

| Motor   | Minimum cooling flow along the motor | Vertical installation | Horizontal installation minimum 30° angle |
|---------|--------------------------------------|-----------------------|---|
| 3" & 4" | 0.15 m/s                             | 33 °C                 | 33 °C                                     |

| Maximum operating pressure |                  |
|----------------------------|------------------|
| 3" Submersible pump        | 1.4 Mpa (14 bar) |
| 4" Submersible pump        | 2.5 Mpa (25 bar) |

# GENERAL INFORMATION

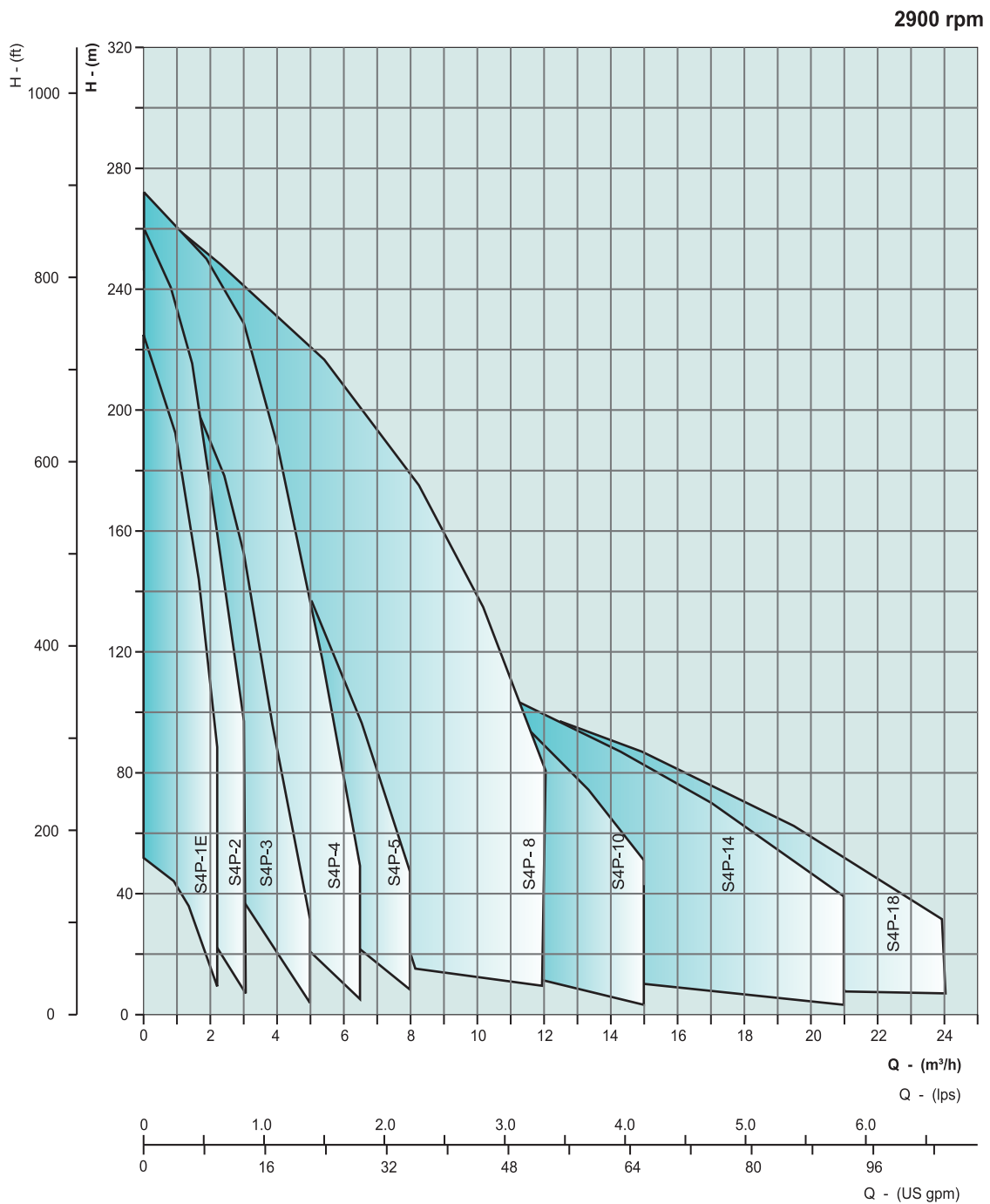
## Group Performance Curves - 3"



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## Group Performance Curves - 4" (Floating Impeller Model)



# GENERAL INFORMATION

## Material of Construction

| PART NAME                            | PART No. | NOMINAL DIA. 3"      | NOMINAL DIA. 4"          |
|--------------------------------------|----------|----------------------|--------------------------|
|                                      |          | TYPE - P             | TYPE - P                 |
| CHECK VALVE HOUSING                  | 21.00    | S.S - 304            | S.S - 304                |
| CHECK VALVE                          | 21.07    | THERMO PLASTIC (POM) | DELTRIN                  |
| CHECK VALVE SEAT                     | 21.01    | THERMO PLASTIC (POM) | NBR                      |
| OUTER SHELL                          | 21.04    | S.S - 304            | S.S - 304                |
| IMPELLER                             | 19.00    | THERMO PLASTIC (PPO) | NORYL*/ DELTRIN/ LEXAN** |
| DIFFUSER CHAMBER                     | 18.03    | THERMO PLASTIC (POM) | NORYL*/ LEXAN**          |
| STOP RING                            | 13.03    | S.S - 304            | HYLEM                    |
| INTERMEDIATE BEARING (SLEEVE / BUSH) | 18.06    | NBR                  | S.S. - 304 / NBR BRONZE  |
| SUCTION INTER CONNECTOR              | 17.00    | S.S - 304            | S.S. - 304               |
| INLET SCREEN                         | 14.03    | S.S - 304            | S.S - 304                |
| PUMP SHAFT HEXAGONAL                 | 22.00    | S.S - 431            | S.S - 431                |
| CABLE GUARD                          | 17.04    | S.S - 304            | S.S - 304                |
| *COUPLING SPLINES                    | --       | S.S - 329            | S.S - 329                |

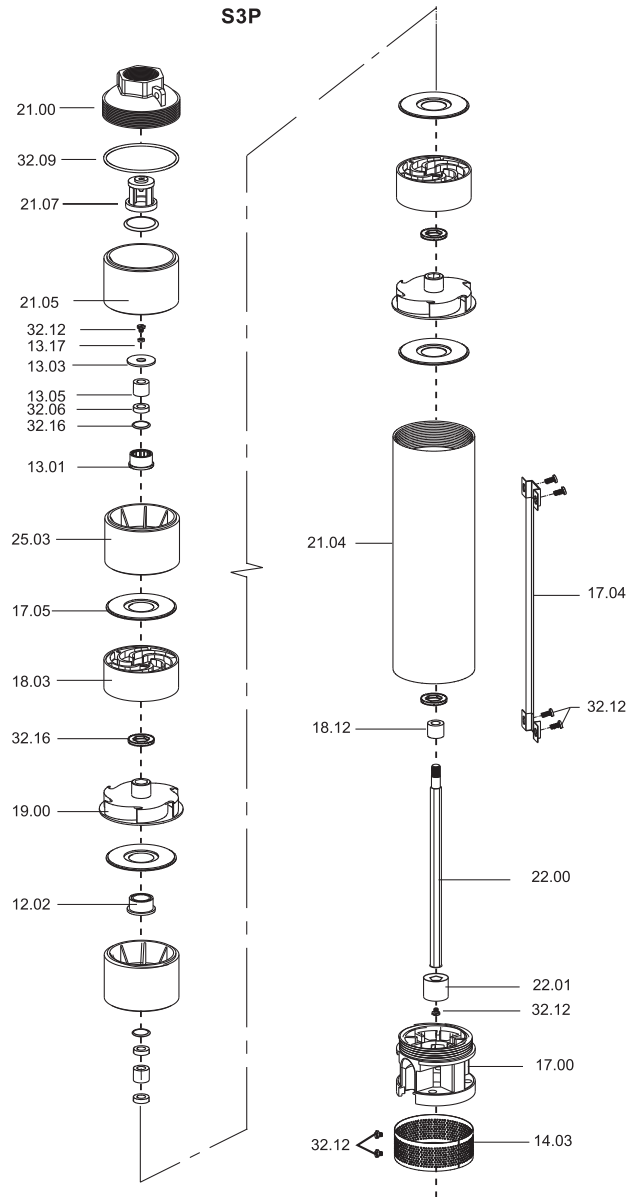
\*Friction welded with shaft

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\*NORYL and \*\*LEXAN are Registered Trade Mark of G.E Plastics.

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## Exploded View



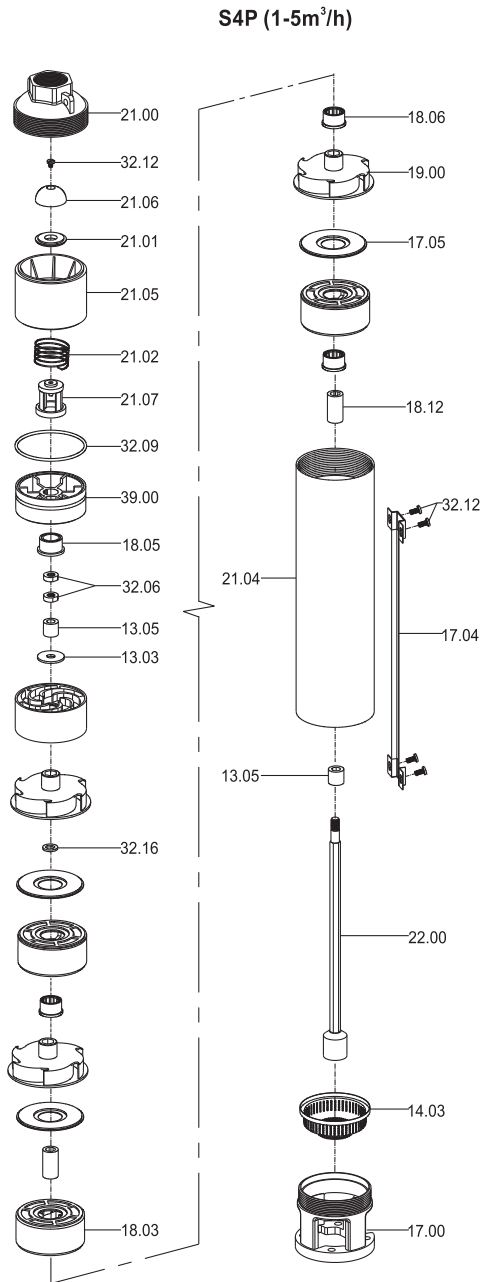
| Part No. | Part Name                   |
|----------|-----------------------------|
| 13.03    | Upthrust Washer / Stop Ring |
| 13.05    | Sleeve                      |
| 14.03    | Inlet Screen                |
| 17.00    | Suction Inter-Connector     |
| 17.04    | Cable Guard                 |
| 17.05    | Diffuser Plate              |
| 18.03    | Diffuser chamber            |
| 18.05    | Bush - CT Pad               |

| Part No. | Part Name             |
|----------|-----------------------|
| 18.06    | Bush-Diffuser Chamber |
| 18.12    | Spacer Sleeve         |
| 19.00    | Impeller              |
| 21.00    | check Valve Housing   |
| 21.04    | Outer Shell           |
| 21.05    | Check Valve Bracket   |
| 21.07    | Check Valve           |
| 22.00    | Pump Shaft            |

| Part No. | Part Name       |
|----------|-----------------|
| 22.01    | Coupling        |
| 39.00    | Chamber-Bracket |
| 32.06    | Lock Nut        |
| 32.09    | O-Ring          |
| 32.12    | Screw           |
| 32.16    | Washer          |
| 32.17    | Metal Washer    |

# GENERAL INFORMATION

## Exploded View



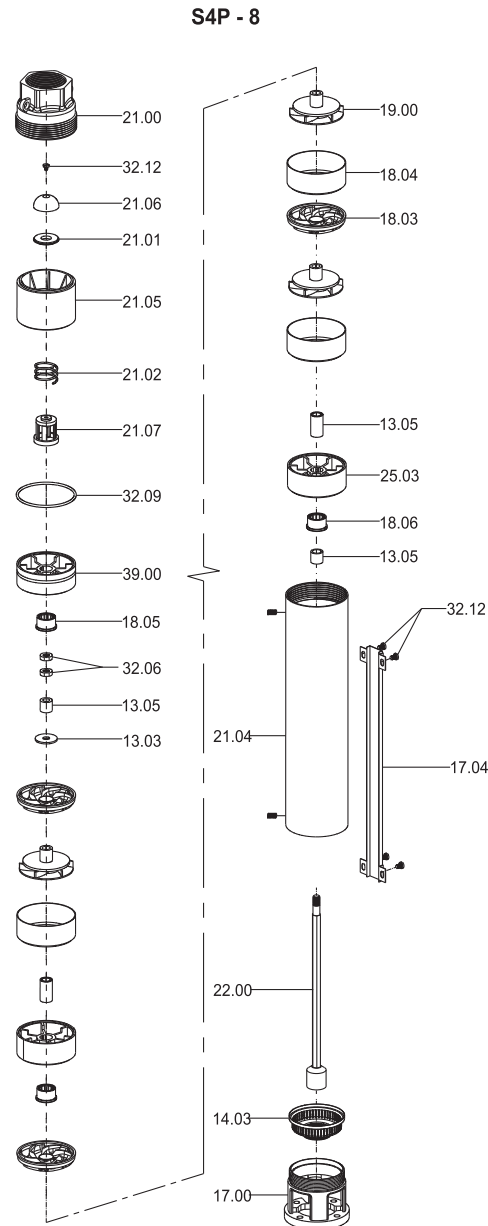
| Part No. | Part Name                  |
|----------|----------------------------|
| 13.03    | Uphrust Washer / Stop Ring |
| 13.05    | Sleeve                     |
| 14.03    | Inlet Screen               |
| 17.00    | Suction Inter-Connector    |
| 17.04    | Cable Guard                |
| 17.05    | Diffuser Plate             |
| 18.03    | Diffuser Chamber           |
| 18.05    | Bush - CT Pad              |

| Part No. | Part Name             |
|----------|-----------------------|
| 18.06    | Bush-Diffuser Chamber |
| 18.12    | Spacer Sleeve         |
| 19.00    | Impeller              |
| 21.00    | Check Valve Housing   |
| 21.01    | Check Valve Seat      |
| 21.02    | Check Valve Spring    |
| 21.04    | Outer Shell           |
| 21.05    | Check Valve Bracket   |

| Part No. | Part Name                |
|----------|--------------------------|
| 21.06    | Check Valve Disc         |
| 21.07    | Check valve              |
| 22.00    | Pump Shaft with Coupling |
| 32.06    | Lock Nut                 |
| 32.09    | O-Ring                   |
| 32.12    | Screw                    |
| 32.16    | Washer                   |
| 39.00    | Chamber-Bracket          |

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## Exploded View



| Part No. | Part Name                   |
|----------|-----------------------------|
| 13.03    | upthrust Washer / Stop Ring |
| 13.05    | Spacer Sleeve               |
| 14.03    | Inlet Screen                |
| 17.00    | Suction Inter-connector     |
| 17.04    | Cable Guard                 |
| 18.03    | Diffuser                    |
| 18.04    | Chamber                     |
| 18.05    | Bush - CT Pad               |

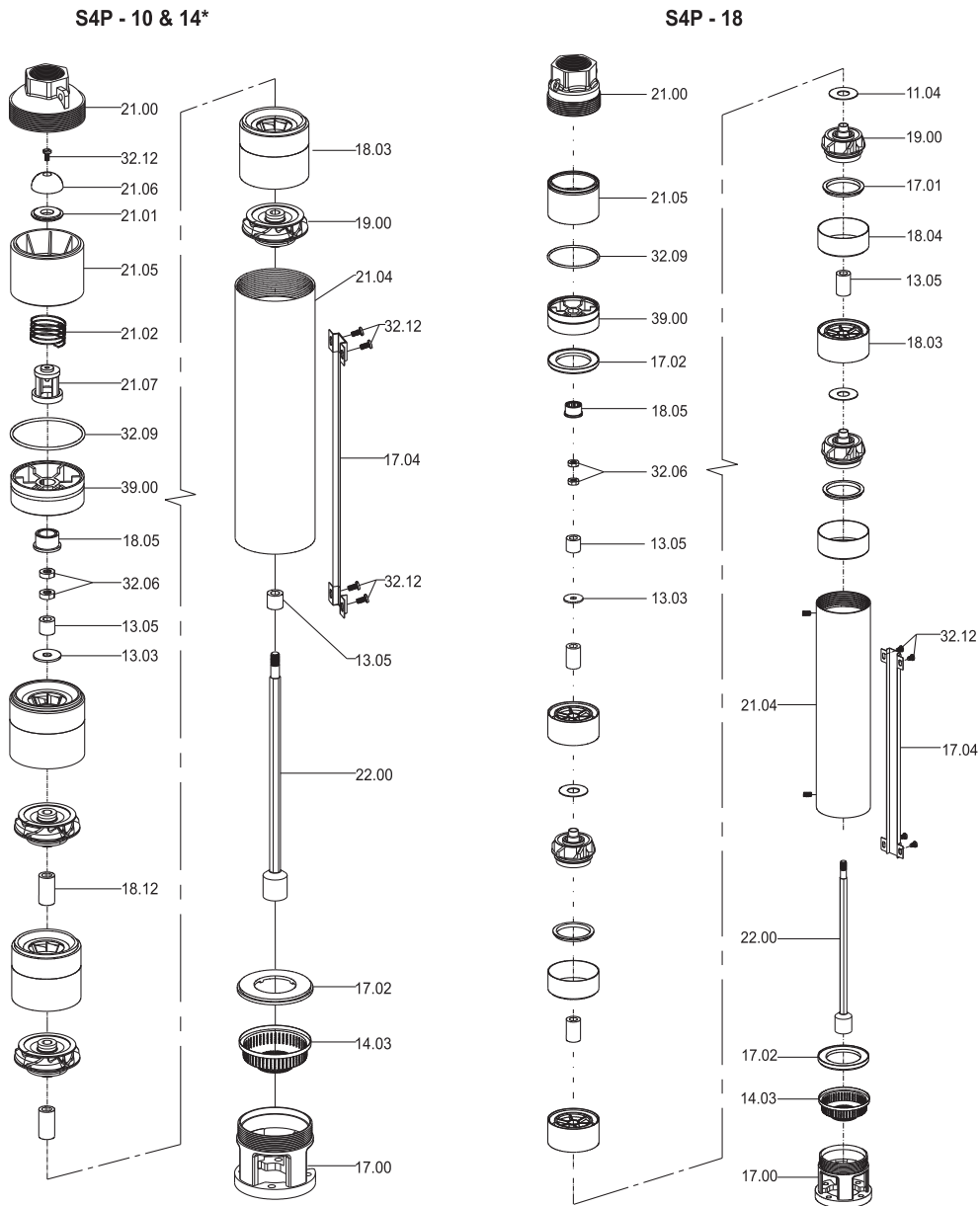
| Part No. | Part Name             |
|----------|-----------------------|
| 18.06    | Bush-Diffuser Chamber |
| 19.00    | Impeller              |
| 21.00    | Check Valve Housing   |
| 21.01    | Check Valve Seat      |
| 21.02    | Check Valve Spring    |
| 21.04    | Outer Shell           |
| 21.05    | Check Valve Bracket   |
| 21.06    | Check Valve Disc      |

| Part No. | Part Name                |
|----------|--------------------------|
| 21.07    | Check Valve              |
| 22.00    | Pump Shaft with Coupling |
| 39.00    | Chamber-Bracket          |
| 32.06    | Lock Nut                 |
| 32.09    | O-Ring                   |
| 32.12    | Screw                    |
| 32.16    | Washer                   |



# GENERAL INFORMATION

## Exploded View



| Part No. | Part Name                     |
|----------|-------------------------------|
| 11.04    | Thrust Pad                    |
| 13.01    | Bush - CT Pad                 |
| 13.03    | Upthrust Washer / Stop Ring   |
| 13.05    | Sleeve                        |
| 14.03    | Inlet Screen                  |
| 17.00    | Suction Inter-Connector       |
| 17.01    | Wear ring / Seal              |
| 17.02    | Suction Inter-Connector plate |
| 17.04    | Cable Guard                   |

| Part No. | Part Name             |
|----------|-----------------------|
| 18.03    | Diffuser Chamber      |
| 18.04    | Chamber               |
| 18.05    | Bush-Diffuser Chamber |
| 18.12    | Spacer Sleeve         |
| 19.00    | Impeller              |
| 21.00    | Check Valve Housing   |
| 21.01    | Check Valve Seat      |
| 21.02    | Check Valve Spring    |
| 21.04    | Outer Shell           |

| Part No. | Part Name                |
|----------|--------------------------|
| 21.05    | Check Valve Bracket      |
| 21.06    | Check Valve Disc         |
| 21.07    | Check Valve              |
| 22.00    | Pump Shaft with Coupling |
| 39.00    | Chamber Bracket          |
| 32.06    | Lock Nut                 |
| 32.09    | O-Ring                   |
| 32.12    | Screw                    |
| 32.16    | Washer                   |

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\* For 14m<sup>3</sup>/h pumps internal NRV is not provided.