

## Inventflow: Grundfos A-partner

### Grundfos NBE 50-160/177 ASF2ABQQE

Find the pump here:

<https://inventflow.nl/en/pompenfilter/nbe/grundfos-nbe-50-160-177-asf2abqqe>

#### Contact

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#### Datasheet

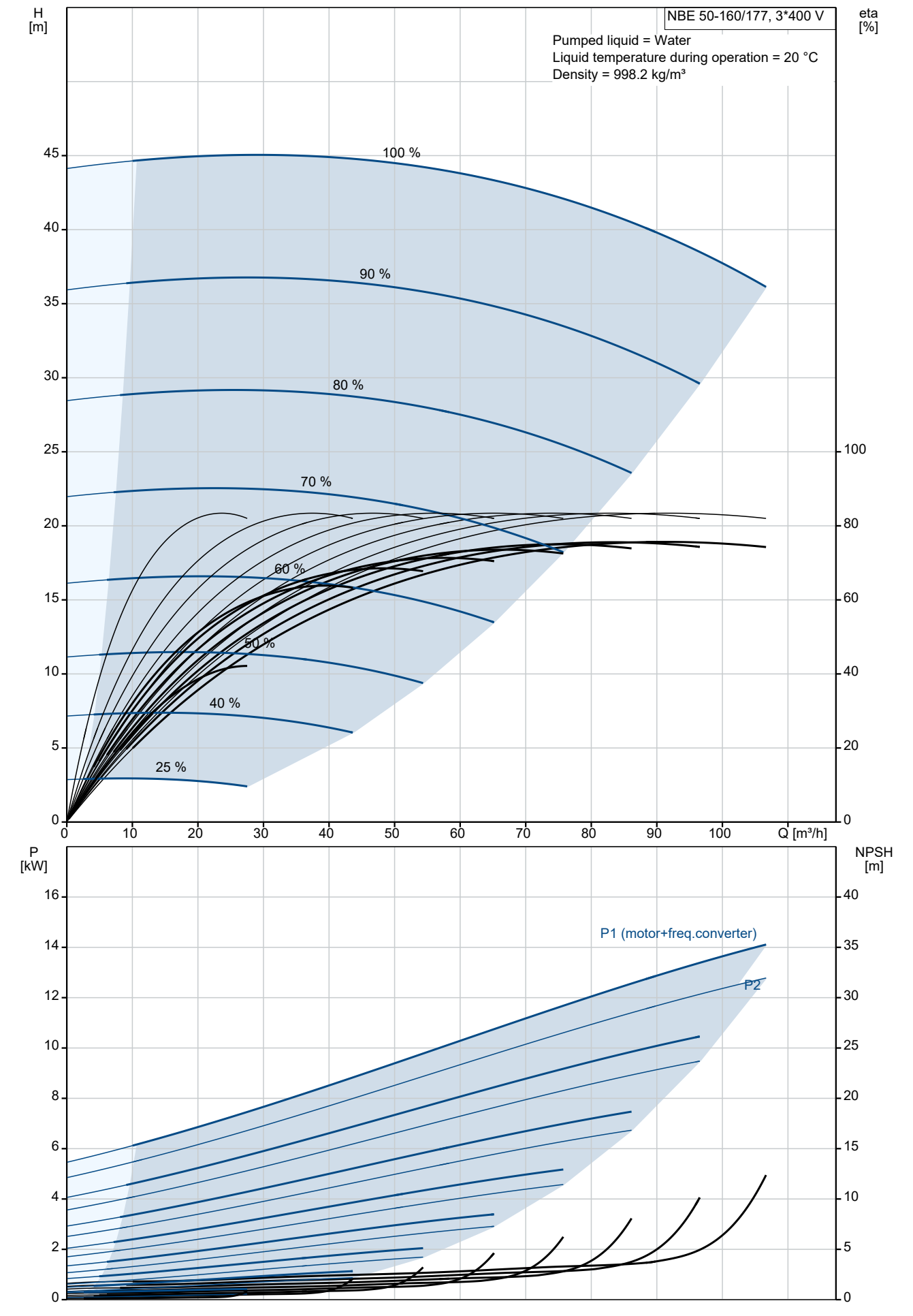


| Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| 1    | <p data-bbox="204 159 542 188"><b>NBE 50-160/177 ASF2ABQQE</b></p>  <p data-bbox="595 483 1062 508"><b>Note! Product picture may differ from actual product</b></p> <p data-bbox="204 515 464 539">Product No.: <a href="#">98468706</a></p> <p data-bbox="204 573 893 633">Non-self priming, single-stage centrifugal<br/>Flange standard: pump according to EN 1092-2.</p> <p data-bbox="204 663 683 779">The pump is for the pumping of thin, clean or slightly contaminated liquids without abrasive or long-fibred solids.</p> <p data-bbox="204 810 612 871">The impeller is hydraulically as well as dynamically balanced.</p> <p data-bbox="204 900 667 927">The pump has the following characteristics:</p> <ul data-bbox="240 931 612 992" style="list-style-type: none"> <li>- flange dimensions according to EN 1092-2,</li> </ul> <p data-bbox="204 992 750 1050">Pump housing: - Cast iron volute pump housing,</p> <ul data-bbox="240 1052 491 1077" style="list-style-type: none"> <li>- stainless steel shaft</li> </ul> <p data-bbox="204 1079 802 1196">Impeller: and Cast iron impeller and bronze wear rings,</p> <ul data-bbox="240 1140 643 1196" style="list-style-type: none"> <li>- unbalanced mechanical shaft seal according to EN 12756.</li> </ul> <p data-bbox="204 1227 748 1404">The pump is fitted with an IEC-flanged three-phase MGE motor with frequency converter and PI-controller integrated in the motor terminal box. No additional motor protection is required, as both motor and electronics are protected by integrated overload and temperature protection.</p> <p data-bbox="204 1435 732 1523">An external sensor can be connected if controlled pump operation based on for example flow, differential pressure or temperature is required.</p> <p data-bbox="204 1554 738 1671">A control panel enables setting of required setpoint as well as setting of pump to MIN or MAX operation or to STOP. The control panel has indicator lights for "Operation" and "Fault".</p> <p data-bbox="204 1702 759 1850">Communication with the pump is possible by means of Grundfos R100 Remote Control enabling further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".</p> <p data-bbox="204 1881 628 1939">The terminal box holds terminals for the connection of:</p> <ul data-bbox="240 1942 764 2085" style="list-style-type: none"> <li>- pump start/stop (potential-free contact),</li> <li>- external remote setpoint setting via analog signal, 0 - 5 V, 0 - 10 V, 0(4) - 20 mA,</li> <li>- 5 V voltage supply for setpoint potentiometer, I<sub>max</sub> = 5 mA,</li> </ul> |

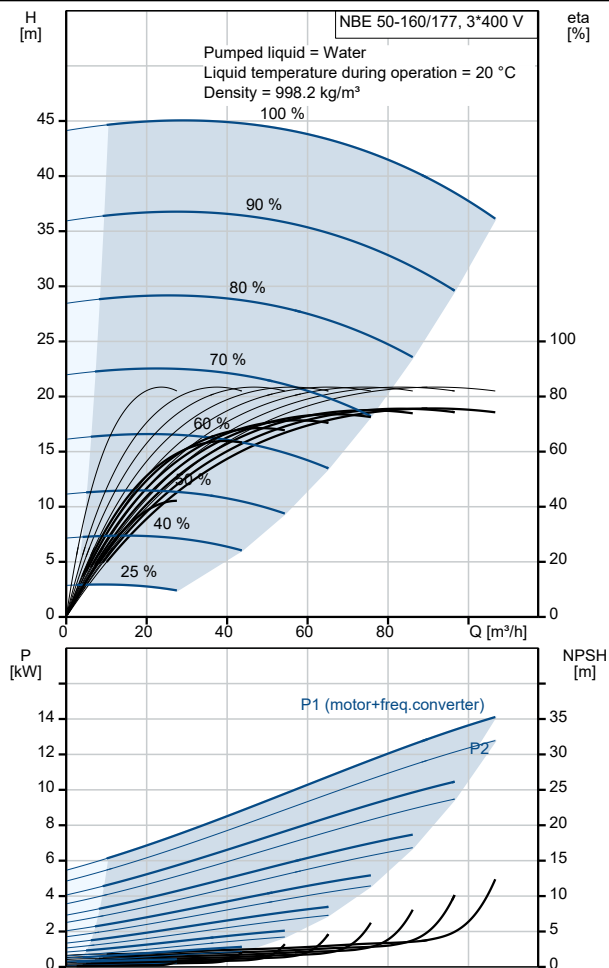
| Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|      | <ul style="list-style-type: none"> <li>- sensor, 0 - 5 V, 0 - 10 V, 0(4) - 20 mA,</li> <li>- 24 V voltage supply for sensor, I<sub>max</sub> = 40 mA,</li> <li>- input for forced control to MIN or MAX (potential-free contact),</li> <li>- potential-free fault signal relay with changeover contact,</li> <li>- RS485 GENIbus.</li> </ul> <p>Controls:</p> <p>Frequency converter: Built-in</p> <p>Pressure sensor: N</p> <p>Liquid:</p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: -25 .. 120 °C</p> <p>Selected liquid temperature: 20 °C</p> <p>Density: 998.2 kg/m<sup>3</sup></p> <p>Technical:</p> <p>Pump speed on which pump data are based: 2930 rpm</p> <p>Rated flow: 94.37 m<sup>3</sup>/h</p> <p>Rated head: 38.38 m</p> <p>Actual impeller diameter: 177 mm</p> <p>Nominal impeller diameter: 160</p> <p>Shaft seal arrangement: Single</p> <p>Code for shaft seal: BQQE</p> <p>Curve tolerance: ISO9906:2012 3B</p> <p>Bearing design: Standard</p> <p>Materials:</p> <p>Pump housing: Cast iron<br/>EN-GJL-250<br/>ASTM class 35</p> <p>Wear ring: Brass</p> <p>Impeller: Cast iron<br/>EN-GJL-200<br/>ASTM class 30</p> <p>Shaft: Stainless steel<br/>EN 1.4301<br/>AISI 304</p> <p>Internal pump house coating: CED</p> <p>Installation:</p> <p>Maximum ambient temperature: 40 °C</p> <p>Maximum operating pressure: 16 bar</p> <p>Pipe connection standard: EN 1092-2</p> <p>Size of inlet connection: DN 65</p> <p>Size of outlet connection: DN 50</p> <p>Pressure rating for connection: PN 16</p> <p>Bearing lubrication: Grease</p> <p>Pump housing with feet: No</p> <p>Support block: Y</p> <p>Electrical data:</p> <p>IE Efficiency class: IE3</p> <p>Rated power - P<sub>2</sub>: 15 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 380-480 V</p> <p>Rated current: 30.0-26.0 A</p> <p>Cos phi - power factor: 0.91-0.86</p> <p>Rated speed: 480-3540 rpm</p> <p>Efficiency: IE3 91,9%</p> <p>Motor efficiency at full load: 91.9 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): IP55</p> |

| Qty. | Description                                                                                                                                                                                                                                                                                                                            |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <div data-bbox="194 159 678 224"> Insulation class (IEC 85): F<br/> Motor No: 85901265 </div> <div data-bbox="194 248 678 459"> Others:<br/> Minimum efficiency index, MEI ≥: 0.70<br/> Net weight: 187 kg<br/> Gross weight: 208 kg<br/> Shipping volume: 0.509 m³<br/> Country of origin: HU<br/> Custom tariff no.: 84137051 </div> |

98468706 NBE 50-160/177 ASF2ABQQE 50 Hz

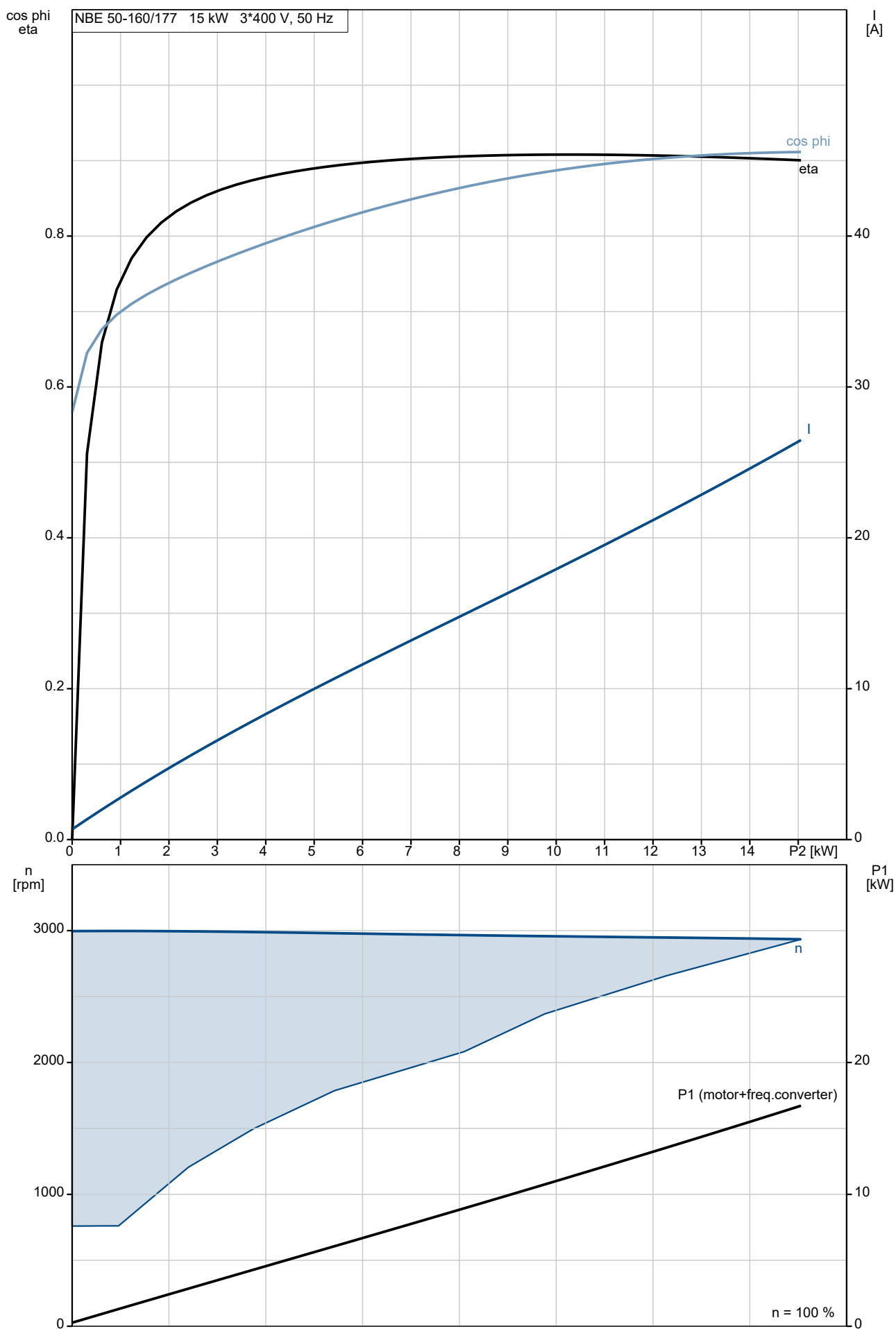


| Description                              | Value                       |
|------------------------------------------|-----------------------------|
| <b>General information:</b>              |                             |
| Product name:                            | NBE 50-160/177<br>ASF2ABQQE |
| Product No:                              | 98468706                    |
| EAN number:                              | 5711495600822               |
| <b>Technical:</b>                        |                             |
| Pump speed on which pump data are based: | 2930 rpm                    |
| Rated flow:                              | 94.37 m³/h                  |
| Rated head:                              | 38.38 m                     |
| Actual impeller diameter:                | 177 mm                      |
| Nominal impeller diameter:               | 160                         |
| Shaft seal arrangement:                  | Single                      |
| Shaft diameter:                          | 24 mm                       |
| Code for shaft seal:                     | BQQE                        |
| Curve tolerance:                         | ISO9906:2012 3B             |
| Pump version:                            | AS                          |
| Bearing design:                          | Standard                    |
| <b>Materials:</b>                        |                             |
| Pump housing:                            | Cast iron                   |
| Pump housing:                            | EN-GJL-250                  |
| Pump housing:                            | ASTM class 35               |
| Wear ring:                               | Brass                       |
| Impeller:                                | Cast iron                   |
| Impeller:                                | EN-GJL-200                  |
| Impeller:                                | ASTM class 30               |
| Shaft:                                   | Stainless steel             |
| Shaft:                                   | EN 1.4301                   |
| Shaft:                                   | AISI 304                    |
| Internal pump house coating:             | CED                         |
| Material code:                           | A                           |
| Code for rubber:                         | E                           |
| <b>Installation:</b>                     |                             |
| Maximum ambient temperature:             | 40 °C                       |
| Maximum operating pressure:              | 16 bar                      |
| Pipe connection standard:                | EN 1092-2                   |
| Size of inlet connection:                | DN 65                       |
| Size of outlet connection:               | DN 50                       |
| Pressure rating for connection:          | PN 16                       |
| Bearing lubrication:                     | Grease                      |
| Pump housing with feet:                  | No                          |
| Support block:                           | Y                           |
| Connect code:                            | F2                          |
| <b>Liquid:</b>                           |                             |
| Pumped liquid:                           | Water                       |
| Liquid temperature range:                | -25 .. 120 °C               |
| Selected liquid temperature:             | 20 °C                       |
| Density:                                 | 998.2 kg/m³                 |
| <b>Electrical data:</b>                  |                             |
| IE Efficiency class:                     | IE3                         |
| Rated power - P2:                        | 15 kW                       |
| Mains frequency:                         | 50 Hz                       |
| Rated voltage:                           | 3 x 380-480 V               |
| Rated current:                           | 30.0-26.0 A                 |
| Cos phi - power factor:                  | 0.91-0.86                   |
| Rated speed:                             | 480-3540 rpm                |
| Efficiency:                              | IE3 91,9%                   |
| Motor efficiency at full load:           | 91.9 %                      |
| Number of poles:                         | 2                           |
| Enclosure class (IEC 34-5):              | IP55                        |
| Insulation class (IEC 85):               | F                           |
| Motor protec:                            | YES                         |
| Motor No:                                | 85901265                    |
| Mount. design. acc. IEC 34-7:            | IM B35                      |

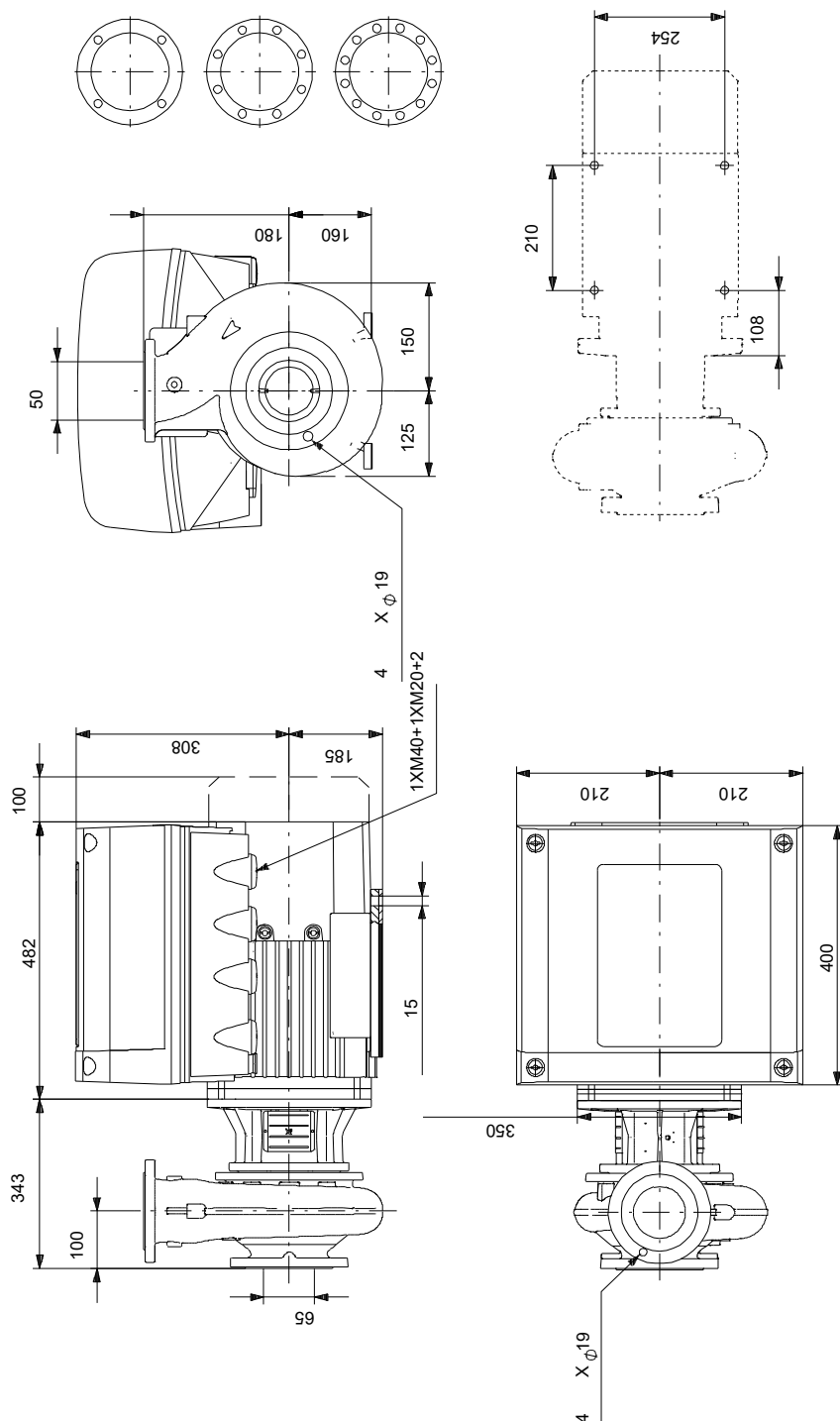


| Description                      | Value    |
|----------------------------------|----------|
| <b>Controls:</b>                 |          |
| Control panel:                   | Standard |
| Function Module:                 | PUMP I/O |
| Frequency converter:             | Built-in |
| Pressure sensor:                 | N        |
| <b>Others:</b>                   |          |
| Minimum efficiency index, MEI ≥: | 0.70     |
| Net weight:                      | 187 kg   |
| Gross weight:                    | 208 kg   |
| Shipping volume:                 | 0.509 m³ |
| Country of origin:               | HU       |
| Custom tariff no.:               | 84137051 |

# 98468706 NBE 50-160/177 ASF2ABQQE 50 Hz



# 98468706 NBE 50-160/177 ASF2ABQQE 50 Hz



Note! All units are in [mm] unless others are stated.  
Disclaimer: This simplified dimensional drawing does not show all details.

**Spare parts NBE 50-160/177, Product No. 98468706**  
**Produced After 2101 (production year and week number)**

| Pos   | Omschrijving        | Opmerking tekst | Classificatie Gegevens | Onderdeelnr. | Aantal | Eenheid |
|-------|---------------------|-----------------|------------------------|--------------|--------|---------|
| -     | Bulk, Nut           |                 |                        | 92514630     | 1      | pcs     |
| 67    | Nut                 |                 | Thread: M14            |              | 5      |         |
| -     | Bulk, o-ring        |                 |                        | 92547662     | 1      | pcs     |
| 72a   | O-ring              |                 |                        |              | 5      |         |
| -     | Bulk, Plug vent     |                 |                        | 96620482     | 1      | pcs     |
| 18    | Plug                |                 |                        |              | 5      |         |
| -     | Bulk, Shaft seal    |                 |                        | 99380916     | 1      | pcs     |
| 105   | Shaft seal          |                 |                        |              | 5      |         |
| -     | Kit, coupling guard |                 |                        | 96809946     | 1      | pcs     |
| 7a    | Pan head screw      |                 |                        |              | 4      |         |
| 7     | Coupling guard      |                 |                        |              | 2      |         |
| -     | Kit, motor stool    |                 |                        | 98990918     | 1      | pcs     |
| 1a    | Motor stool         |                 |                        |              | 1      |         |
| 7     | Coupling guard      |                 |                        |              | 2      |         |
| 18    | Plug                |                 |                        |              | 1      |         |
| 28    | Hex head screw      |                 |                        |              | 4      |         |
| 36    | Hex nut             |                 | Thread: M16            |              | 4      |         |
| 36    | Nut                 |                 | Thread: M10            |              | 6      |         |
| 76a   | Rivet               |                 |                        |              | 2      |         |
| 77a   | Pan head screw      |                 |                        |              | 4      |         |
| -     | Kit, nut            |                 |                        | 96939128     | 1      | pcs     |
| 11    | Parallel key        |                 | Dimension: 6X6X35      |              | 1      |         |
| -     | 36 Nut              |                 |                        |              | 1      |         |
| 66a   | Spring lock washer  |                 |                        |              | 1      |         |
| 66    | Washer              |                 |                        |              | 1      |         |
| 67    | Nut                 |                 | Thread: M14            |              | 1      |         |
| -     | Kit, pump housing   |                 |                        | 95131716     | 1      | pcs     |
| -     | 6 Pump housing      |                 |                        |              | 1      |         |
| 26    | Staybolt            |                 | Length (mm): 40        |              | 6      |         |
|       |                     |                 | Thread: M10            |              |        |         |
| 45b   | Wear ring           |                 |                        |              | 1      |         |
| 20    | Pipe plug           |                 | Thread: R 3/8          |              | 2      |         |
| 36    | Nut                 |                 | Thread: M10            |              | 6      |         |
| -     | Kit, stub shaft     |                 |                        | 96039354     | 1      | pcs     |
| 9     | Socket set screw    |                 | Length (mm): 10        |              | 2      |         |
|       |                     |                 | Thread: M8             |              |        |         |
| 11    | Parallel key        |                 | Dimension: 6X6X35      |              | 1      |         |
| 51    | Pump shaft          |                 |                        |              | 1      |         |
| 66a   | Spring lock washer  |                 |                        |              | 1      |         |
| 66    | Washer              |                 |                        |              | 1      |         |
| 67    | Nut                 |                 | Thread: M14            |              | 1      |         |
| -     | Spare, O-ring       |                 |                        | 97757659     | 1      | pcs     |
| 72a   | O-ring              |                 |                        |              | 1      |         |
| -     | Spare, plug vent    |                 |                        | 98164277     | 1      | pcs     |
| 18    | Plug                |                 |                        |              | 1      |         |
| -     | Spare, shaft seal   |                 |                        | 98434904     | 1      | pcs     |
| 105   | Shaft seal          |                 |                        |              | 1      |         |
| -     | Spare, wear ring    |                 |                        | 99208819     | 1      | pcs     |
| 45    | Wear ring           |                 |                        |              | 1      |         |
| -     | Motor               |                 |                        |              | 1      | pcs     |
| -     | Kit, bearing cpl.   |                 |                        | 96796674     | 1      |         |
| 32b   | Waved washer        |                 |                        |              | 1      |         |
| 111   | Ball bearing        |                 |                        |              | 1      |         |
| 154   | Ball bearing        |                 |                        |              | 1      |         |
| 157   | O-ring              |                 |                        |              | 1      |         |
| -     | Kit, bearing plate  |                 |                        | 96796664     | 1      |         |
| 155.a | Bearing cover       |                 |                        |              | 1      |         |
| 208a  | Gasket              |                 |                        |              | 3      |         |

| Pos   | Omschrijving                   | Opmerking tekst | Classificatie Gegevens     | Onderdeelnr. | Aantal | Eenheid |
|-------|--------------------------------|-----------------|----------------------------|--------------|--------|---------|
| 208   | Hex socket head cap screw      |                 | Designation: DIN912        |              | 3      |         |
|       |                                |                 | Length (mm): 40            |              |        |         |
|       |                                |                 | Thread: M5                 |              |        |         |
| -     | Kit, connector plugs           |                 |                            | 96348923     | 1      |         |
|       | Connector plug 5-pole          |                 |                            |              | 1      |         |
|       | Connector plug 4-pole          |                 |                            |              | 1      |         |
|       | Connector plug 4-pole          |                 |                            |              | 1      |         |
|       | Connector plug 3-pole          |                 |                            |              | 1      |         |
|       | Connector plug 3-pole          |                 |                            |              | 1      |         |
|       | Connector plug 3-pole          |                 |                            |              | 1      |         |
|       | Connector plug 3-pole          |                 |                            |              | 1      |         |
|       | Connector plug                 |                 |                            |              | 1      |         |
| - 273 | Kit, control board             |                 |                            | 96348918     | 1      |         |
|       | Service kit instruction        |                 |                            |              | 1      |         |
|       | Controlboard                   |                 |                            |              | 1      |         |
| -     | Kit, eyebolt                   |                 |                            | 96796712     | 1      |         |
| 189   | Eyebolt                        |                 |                            |              | 2      |         |
| -     | Kit, fan cover                 |                 |                            | 96830826     | 1      |         |
| 151   | Fan cover                      |                 |                            |              | 1      |         |
| 152.a | Rubber bush                    |                 |                            |              | 4      |         |
| 152   | Hex head cap screw             |                 |                            |              | 4      |         |
| 196   | Diaphragm                      |                 |                            |              | 1      |         |
| -     | Kit, flange                    |                 |                            | 96796662     | 1      |         |
| 156.b | Flange                         |                 |                            |              | 1      |         |
| 159.b | Seal ring                      |                 |                            |              | 1      |         |
| 185.b | Nut                            |                 |                            |              | 4      |         |
| 185   | Hex socket head cap screw      |                 |                            |              | 4      |         |
| 186   | Drain plug                     |                 |                            |              | 4      |         |
| 195.a | Grease nipple                  |                 |                            |              | 1      |         |
| -     | Kit, foot                      |                 |                            | 96796666     | 1      |         |
| 191   | Foot                           |                 |                            |              | 2      |         |
| 192   | Hex socket head cap screw      |                 |                            |              | 4      |         |
| 194   | Lock washer                    |                 |                            |              | 4      |         |
| 194   | Nut                            |                 |                            |              | 4      |         |
| -     | Kit, funct. module - E-pump    |                 |                            | 96348929     | 1      |         |
| 263   | MGE large I/O add-on           |                 |                            |              | 1      |         |
| -     | Kit, funct. module -Geni/RS485 |                 |                            | 96348932     | 1      |         |
| 263   | Add-on module, cpl. w/plugs    |                 |                            |              | 1      |         |
| -     | Kit, gaskets                   |                 |                            | 96798508     | 1      |         |
| 184   | O-ring                         |                 | Diameter: 235              |              | 2      |         |
| 275   | Kit, inverter board            |                 |                            | 96348920     | 1      |         |
| -     | Kit, key                       |                 |                            | 96279873     | 1      |         |
| 40    | Parallel key                   |                 | Designation: DS96 DIN 6885 |              | 1      |         |
|       |                                |                 | Dimension: 12X8X90         |              |        |         |
| -     | Kit, lubrication nipple        |                 |                            | 96796671     | 1      |         |
| 195.b | Grease nipple                  |                 |                            |              | 2      |         |
| 195.a | Grease nipple                  |                 |                            |              | 1      |         |
| -     | Kit, motor                     |                 |                            | 96844387     | 1      |         |
|       | Flex insulation                |                 |                            |              | 3      |         |
|       | EMC filter                     |                 |                            |              | 1      |         |
|       | Cover cpl.                     |                 |                            |              | 1      |         |
|       | Motor                          |                 |                            |              | 1      |         |
| 99a   | Retaining ring                 |                 |                            |              | 1      |         |
| 151   | Fan cover                      |                 |                            |              | 1      |         |
| 152.a | Rubber bush                    |                 |                            |              | 4      |         |
| 152   | Hex head cap screw             |                 |                            |              | 4      |         |
| 156   | Fan                            |                 |                            |              | 1      |         |

| Pos   | Omschrijving                  | Opmerking tekst     | Classificatie Gegevens | Onderdeelnr. | Aantal | Eenheid |
|-------|-------------------------------|---------------------|------------------------|--------------|--------|---------|
| 177   | Torx Screw                    |                     |                        |              | 1      |         |
| 185.b | Nut                           |                     |                        |              | 4      |         |
| 185.b | Nut                           |                     |                        |              | 4      |         |
| 191   | Foot                          |                     |                        |              | 2      |         |
| 192   | Hex socket head cap screw     |                     |                        |              | 4      |         |
| 194   | Lock washer                   |                     |                        |              | 4      |         |
| 196   | Diaphragm                     |                     |                        |              | 1      |         |
| 273a  | Pan head thread forming screw |                     |                        |              | 4      |         |
| -     | Kit, ND-end shield cpl.       |                     |                        | 96796669     | 1      |         |
| 32b   | Waved washer                  |                     |                        |              | 1      |         |
| 156.a | End shield NDE                |                     |                        |              | 1      |         |
| 157   | O-ring                        |                     |                        |              | 1      |         |
| 159   | V-ring                        |                     |                        |              | 1      |         |
| 185.c | Nut                           |                     |                        |              | 4      |         |
| 185.a | Hex socket head cap screw     |                     |                        |              | 4      |         |
| 195.b | Grease nipple                 |                     |                        |              | 1      |         |
| -     | Kit, opr. panel               |                     |                        | 96348924     | 1      |         |
| 259   | Operation panel               |                     |                        |              | 1      |         |
| 274   | Kit, rectifier board          |                     |                        | 96348921     | 1      |         |
| -     | Kit, terminal box             |                     |                        | 96348914     | 1      |         |
| 164   | Cover cpl.                    |                     |                        |              | 1      |         |
| 166   | Pan head thread forming screw |                     |                        |              | 5      |         |
| 251   | Terminal box                  |                     |                        |              | 1      |         |
| 277   | Blind cover                   |                     |                        |              | 1      |         |
| 283   | Motor cover cpl.              |                     |                        |              | 1      |         |
| 284   | Cover                         |                     |                        |              | 1      |         |
| -     | Kit, varistor                 |                     |                        | 96348917     | 1      |         |
| 279.b | Pan head thread forming screw |                     |                        |              | 2      |         |
| 279   | Varistor                      |                     |                        |              | 1      |         |
| 49    | Impeller                      | Outer diameter: 177 |                        | 96794878     | 1      | pcs     |