

## NB150-500/513 AS-F-A-GQQE

Grundfos pump 98303556



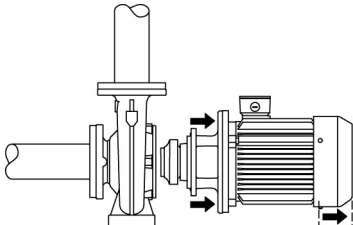
Thank you for your interest in our products. Please contact us for more information, or visit our website

<https://www.lenntech.com/grundfos/NB000/98303556/NB-150-500-513-AS-F1-A-E-GQQE.html>

[info@lenntech.com](mailto:info@lenntech.com)

tel. +31 152 610 900

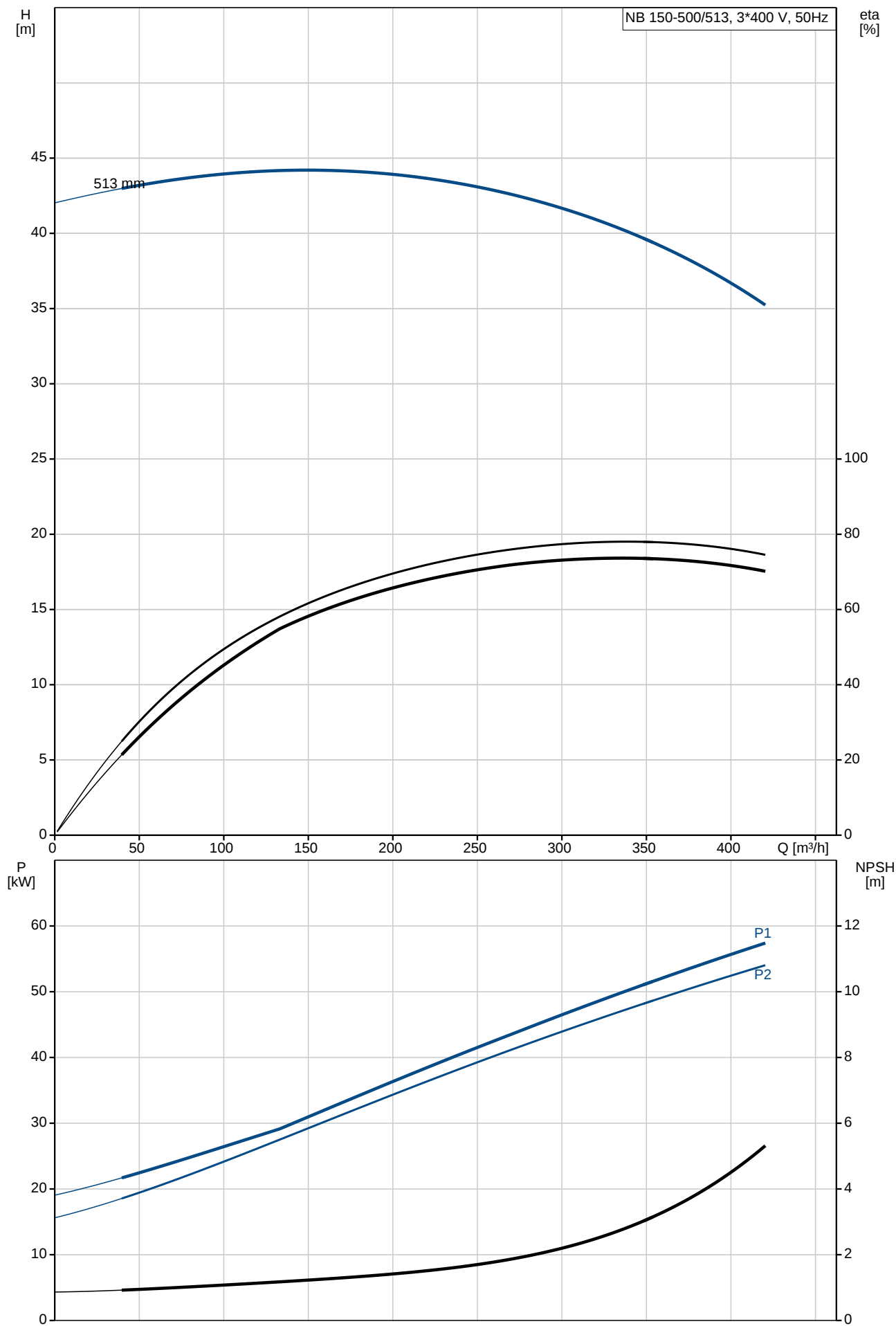
fax. +31 152 616 289

| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 1    | <p><b>NB 150-500/513 AS-F1-A-E-GQQE</b></p>  <p>Product No.: On request</p> <p>Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733 (10 bar). Flanges are PN 10 with dimensions according to EN 1092-2. The pump has an axial suction port, radial discharge port, horizontal shaft and a back pull-out design enabling removal of the motor, motor stool, cover and impeller without disturbing the pump housing or pipework.</p> <p>The unbalanced rubber bellows shaft seal with reduced seal face is according to DIN EN 12756. The pump is close-coupled to a fan-cooled asynchronous motor.</p> <p><b>Further product details</b></p> <p>The back pull-out design means that the pump can be serviced by a single person without disturbing the pump housing or pipe work.</p>  <p>The pump is to be secured to the foundation with bolts through the pump housing feet and motor feet. The pump is delivered with steel support blocks to be fitted under the motor feet during installation, thus enabling horizontal alignment of the pump and ensuring a minimum clearance of 5 mm between the motor stool/motor flange and the foundation.</p> <p>Cast-iron parts have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:</p> <ol style="list-style-type: none"> <li>1) Alkaline-based cleaning.</li> <li>2) Zinc phosphating.</li> <li>3) Cathodic electro-deposition.</li> <li>4) Curing to a dry film thickness 18-22 my m.</li> </ol> <p>The colour code for the finished product is NCS 9000/RAL 9005.</p> <p><b>Pump</b></p> <p>The pump housing has both a priming and a drain hole closed by plugs.</p> <p>The impeller is a closed impeller with double-curved blades with smooth surfaces. The impeller is statically balanced according to ISO 1940-1 class G6.3 and hydraulically balanced to compensate for axial thrust.</p> <p>Wear rings used in pump housing and for impeller are made of bronze/brass or cast iron.</p> <p>Motor stool and pump cover are made of cast iron (EN-GJL-250). Coupling guards are fitted to the motor stool. The pump cover is provided with a manual air vent screw for venting of the pump housing and the shaft seal chamber.</p> <p>The shaft seal is an unbalanced rubber bellows seal with reduced seal face. Due to the bellows, the seal does not wear the shaft, and the axial movement is not prevented by deposits on the shaft. The narrow seal face makes the seal perform well in high-viscosity and anti-freezing liquids.</p> <p>Primary seal:</p> <ul style="list-style-type: none"> <li>• Rotating seal ring material: silicon carbide (SiC)</li> <li>• Stationary seat material: silicon carbide (SiC)</li> </ul> <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber)</p> |

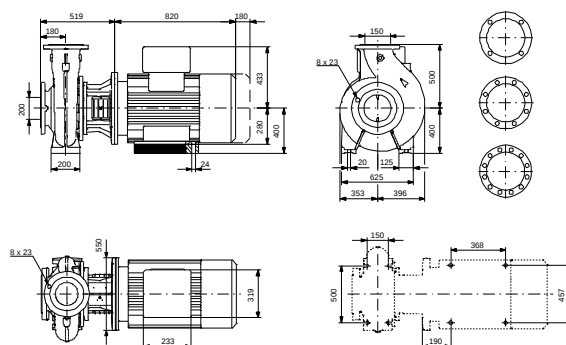
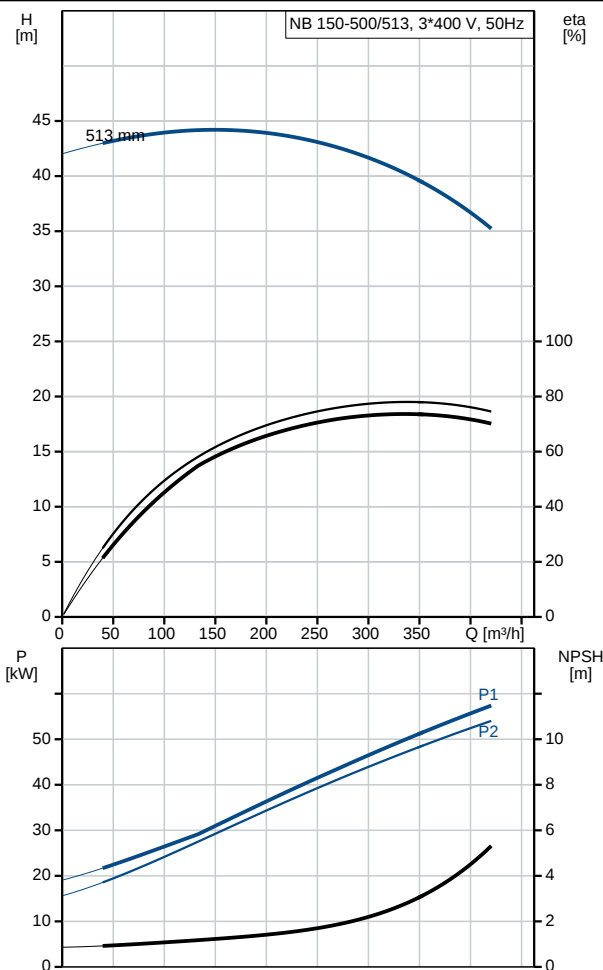
| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |      | <p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.</p> <p><b>Motor</b></p> <p>The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p>The motor has thermistors (PTC sensors) in the windings in accordance with DIN 44081/DIN 44082. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p>Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to local regulations.</p> <p>A variable speed drive makes adjustment of pump performance to any duty point possible. If the motor is to be connected to a variable speed drive, the pump must be ordered with an electrically insulated motor bearing.</p> <p><b>Technical data</b></p> <p><b>Liquid:</b></p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: -25 .. 60 °C</p> <p>Liquid temperature during operation: 20 °C</p> <p>Density: 998.2 kg/m<sup>3</sup></p> <p><b>Technical:</b></p> <p>Rated flow: 337 m<sup>3</sup>/h</p> <p>Rated head: 40 m</p> <p>Actual impeller diameter: 513 mm</p> <p>Impeller nom: 500 mm</p> <p>Primary shaft seal: GQQE</p> <p>Secondary shaft seal: NONE</p> <p>Curve tolerance: ISO9906:2012 3B</p> <p><b>Materials:</b></p> <p>Pump housing: Cast iron<br/>EN-GJL-250<br/>ASTM A48-40 B</p> <p>Impeller: Cast iron<br/>EN-GJL-200<br/>ASTM A48-30 B</p> <p>Shaft: Stainless steel<br/>1.4301<br/>304</p> <p>Rubber: EPDM</p> <p>Wear ring mat.: High alloy brass(CuZn34Mn3Al2</p> <p><b>Installation:</b></p> <p>Maximum ambient temperature: 55 °C</p> <p>Maximum operating pressure: 10 bar</p> <p>Flange standard: EN 1092-2</p> <p>Pump inlet: DN 200</p> <p>Pump outlet: DN 150</p> <p>Pressure rating: PN 10</p> <p><b>Electrical data:</b></p> <p>Motor type: SIEMENS</p> <p>IE Efficiency class: IE3</p> <p>Rated power - P2: 55 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 380-420D/660-725Y V</p> <p>Rated current: 106-97,0/61,0-56,0 A</p> <p>Starting current: 720-720 %</p> |

| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |      | <p> Cos phi - power factor: 0.85<br/> Rated speed: 990 rpm<br/> Efficiency: IE3 94,1%<br/> Motor efficiency at full load: 94.1-94.1 %<br/> Motor efficiency at 3/4 load: 94.6-94.6 %<br/> Motor efficiency at 1/2 load: 94.4-94.4 %<br/> Number of poles: 6<br/> Enclosure class (IEC 34-5): 55 Dust/Jetting<br/> Insulation class (IEC 85): F<br/> Lubricant type: Grease </p> <p> <b>Others:</b><br/> Minimum efficiency index, MEI ≥: 0.66<br/> ErP status: EuP Standalone/Prod.<br/> Net weight: 976 kg<br/> Gross weight: 1050 kg<br/> Shipping volume: 1.73 m<sup>3</sup> </p> |

On request NB 150-500/513 AS-F1-A-E-GQQE 50 Hz

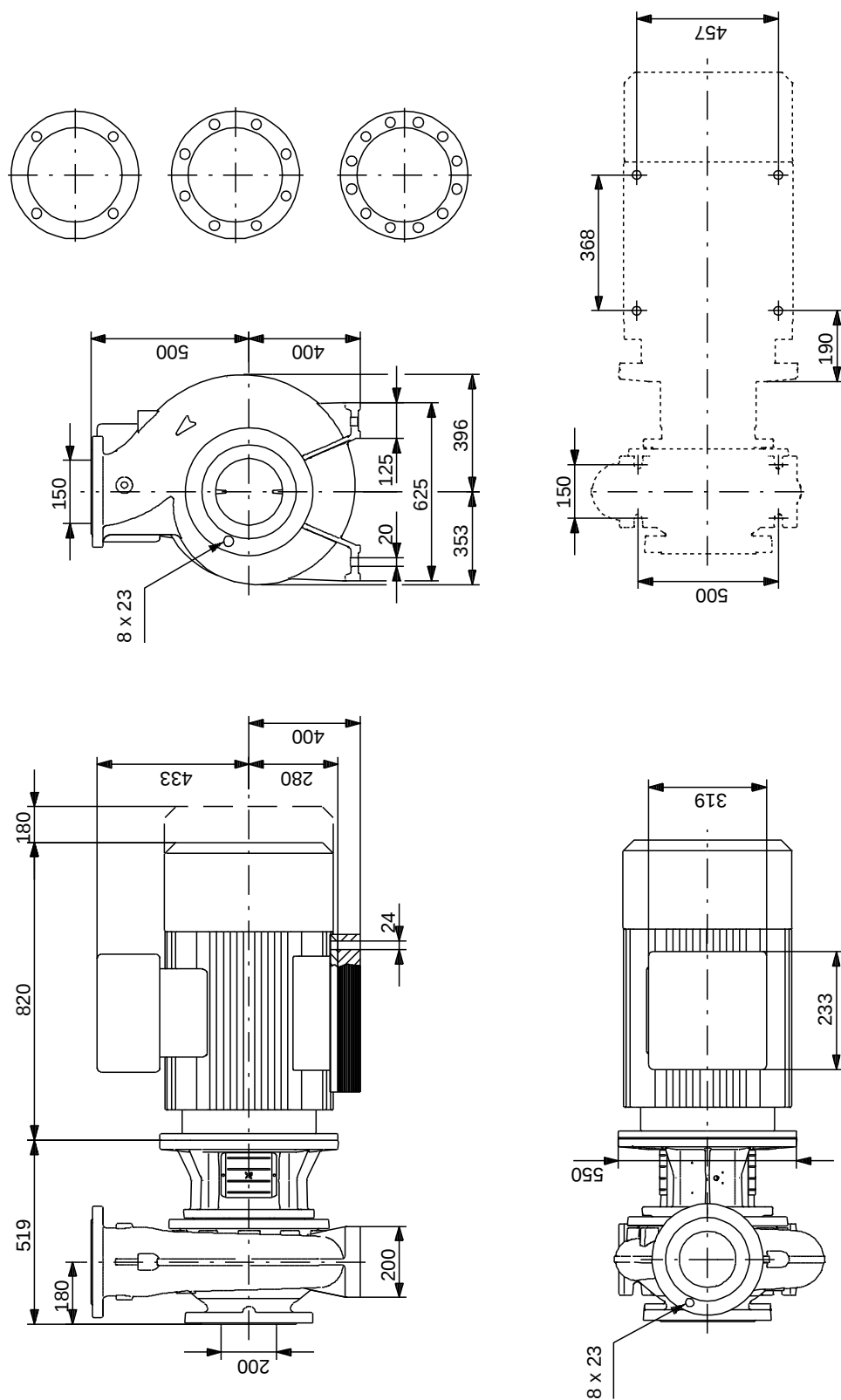


| Description                          | Value                                    |
|--------------------------------------|------------------------------------------|
| <b>General information:</b>          |                                          |
| Product name:                        | NB 150-500/513<br>AS-F1-A-E-GQQE         |
| Product No:                          | On request                               |
| EAN number:                          | On request                               |
| <b>Technical:</b>                    |                                          |
| Rated flow:                          | 337 m³/h                                 |
| Rated head:                          | 40 m                                     |
| Actual impeller diameter:            | 513 mm                                   |
| Impeller nom:                        | 500 mm                                   |
| Primary shaft seal:                  | GQQE                                     |
| Secondary shaft seal:                | NONE                                     |
| Shaft diameter:                      | 60 mm                                    |
| Curve tolerance:                     | ISO9906:2012 3B                          |
| Pump version:                        | AS                                       |
| <b>Materials:</b>                    |                                          |
| Pump housing:                        | Cast iron<br>EN-GJL-250<br>ASTM A48-40 B |
| Impeller:                            | Cast iron<br>EN-GJL-200<br>ASTM A48-30 B |
| Shaft:                               | Stainless steel<br>1.4301<br>304         |
| Material code:                       | A                                        |
| Rubber:                              | EPDM                                     |
| Code for rubber:                     | E                                        |
| Wear ring mat.:                      | High alloy<br>brass(CuZn34Mn3Al2         |
| <b>Installation:</b>                 |                                          |
| Maximum ambient temperature:         | 55 °C                                    |
| Maximum operating pressure:          | 10 bar                                   |
| Flange standard:                     | EN 1092-2                                |
| Pump inlet:                          | DN 200                                   |
| Pump outlet:                         | DN 150                                   |
| Pressure rating:                     | PN 10                                    |
| Wear ring(s):                        | neckring(s)                              |
| Connect code:                        | F1                                       |
| <b>Liquid:</b>                       |                                          |
| Pumped liquid:                       | Water                                    |
| Liquid temperature range:            | -25 .. 60 °C                             |
| Liquid temperature during operation: | 20 °C                                    |
| Density:                             | 998.2 kg/m³                              |
| <b>Electrical data:</b>              |                                          |
| Motor type:                          | SIEMENS                                  |
| IE Efficiency class:                 | IE3                                      |
| Rated power - P2:                    | 55 kW                                    |
| Mains frequency:                     | 50 Hz                                    |
| Rated voltage:                       | 3 x 380-420D/660-725Y V                  |
| Rated current:                       | 106-97,0/61,0-56,0 A                     |
| Starting current:                    | 720-720 %                                |
| Cos phi - power factor:              | 0.85                                     |
| Rated speed:                         | 990 rpm                                  |
| Efficiency:                          | IE3 94,1%                                |
| Motor efficiency at full load:       | 94.1-94.1 %                              |
| Motor efficiency at 3/4 load:        | 94.6-94.6 %                              |
| Motor efficiency at 1/2 load:        | 94.4-94.4 %                              |
| Number of poles:                     | 6                                        |
| Enclosure class (IEC 34-5):          | 55 Dust/Jetting                          |
| Insulation class (IEC 85):           | F                                        |
| Motor protec:                        | PTC                                      |
| Motor No:                            | 83W15438                                 |
| Mount. design. acc. IEC 34-7:        | IM B35                                   |



| Description                      | Value                |
|----------------------------------|----------------------|
| Lubricant type:                  | Grease               |
| <b>Others:</b>                   |                      |
| Minimum efficiency index, MEI ≥: | 0.66                 |
| ErP status:                      | EuP Standalone/Prod. |
| Net weight:                      | 976 kg               |
| Gross weight:                    | 1050 kg              |
| Shipping volume:                 | 1.73 m <sup>3</sup>  |

# On request NB 150-500/513 AS-F1-A-E-GQQE 50 Hz



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

# Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

# Exploded view ( TM057026 for MGE model H/I )



**Parts list NB 150-500/513, Product No. On request**  
**Valid from 1.3.2010 (1009)**

| Pos  | Description               | Annotation | Données de classification | Référence | Quantité | Unité |
|------|---------------------------|------------|---------------------------|-----------|----------|-------|
| +    | Motor                     |            |                           |           | 1        | pcs   |
| -    | Nut                       |            |                           |           | 1        | pcs   |
| 66   | Washer                    |            |                           |           | 1        |       |
| 66a  | Spring lock washer        |            |                           |           | 1        |       |
| 67   | Nut                       |            |                           |           | 1        |       |
|      | Sticker                   |            |                           |           | 1        | pcs   |
| -    | Motor stool cpl.          |            |                           |           | 1        | pcs   |
| 1a   | Motor stool               |            |                           |           | 1        |       |
| 7    | Coupling guard            |            |                           |           | 2        |       |
| 77a  | Pan head screw            |            |                           |           | 4        |       |
| -    | Pump housing cpl.         |            |                           |           | 1        | pcs   |
| 6    | Pump housing              |            |                           |           | 1        |       |
| 36a  | Nut                       |            | Thread: M16               |           | 16       |       |
| -    | Shaft cpl.                |            |                           |           | 1        | pcs   |
| 9    | Hex socket head cap screw |            | Length (mm): 25           |           | 8        |       |
|      |                           |            | Thread: M12               |           |          |       |
| 10a  | Bushing                   |            |                           |           | 1        |       |
| 11   | Parallel key              |            |                           |           | 2        |       |
| 51   | Pump shaft                |            |                           |           | 1        |       |
| 89.a | Socket set screw          |            | Length (mm): 10           |           | 3        |       |
|      |                           |            | Thread: M8                |           |          |       |
| 49   | Impeller                  |            |                           |           | 1        | pcs   |
| 72.a | O-ring                    |            | Material type: EPDM       |           | 1        | pcs   |
| -    | 77 Cover                  |            |                           |           | 1        | pcs   |
| 36   | Hex nut                   |            | Thread: M16               |           | 14       |       |
| 77   | Cover                     |            |                           |           | 1        |       |
| 105  | Shaft seal                |            |                           |           | 1        | pcs   |

*Disclaimer: The information about the Grundfos pump in this document may be outdated.*

*Data may be subject to alterations without further notice.*

*Please contact us to verify the data above is still accurate/up-to-date.*

*All information is copyright Grundfos.*



[info@lenntech.com](mailto:info@lenntech.com)

<https://www.lenntech.com>

tel. +31 152 610 900

fax. +31 152 616 289