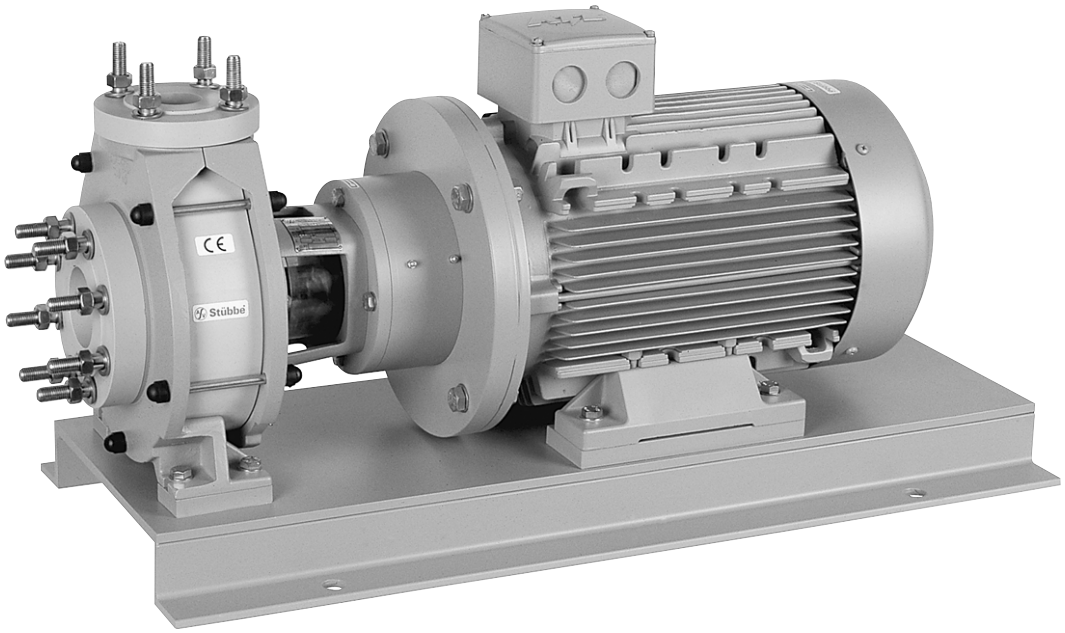
# Thermoplastic Centrifugal Pump
# Type NMB-S

**Suction and pressure connection acc. to EN 22858, ISO 2858**

| | |
|---|---|
| Sizes: | 32 - 125 up to 80 - 315 |
| Capacity Q: | up to 100 $m^3/h$ (1450 rpm)<br>up to 200 $m^3/h$ (2900 rpm) |
| Head H: | up to 35 m (1450 rpm)<br>up to 60 m (2900 rpm) |
| Operating temperature t: | max. 60 °C PE, 80 °C PP, 110 °C PVDF |




**The ASV thermoplastic centrifugal pump**

- for transportation of aggressive fluids like acids, alkalines and solvents
- constructional components highly resistant

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# Execution

**Construction**

ASV thermoplastic chemical centrifugal pump type NMB-S is a single-stage spiral casing pump in horizontal construction with axial suction and radial pressure connection.
Low maintenance, space-saving compact pump.
Due to redesigning of the pump shaft bearing the pump head is directly flanged at motor. Standard flange motors acc. to IEC or Nema may be used via flange adaptor.
Nominal output and flange connections acc. to EN 22858.
The modular concept of the ASV thermoplastic centrifugal pump allows an easy and fast exchange of wear and tear parts.
The mounting of the pump into the line system is problemfree as an adjustment of the coupling is not necessary.
The hydraulic of the ASV centrifugal pump is made of few solid thermoplastic parts in order to guarantee high operational reliability. To ensure this reliability high chemical and wearing resistant thermoplastics like high molecular weight Polyethylene (PE), ultra high molecular weight low-pressure-Polyethylene (Hostalen GUR), Polypropylene (PP) or Polyvinylidene fluoride (PVDF) are used.
Absorption of external forces by robust metal casing. Drainholes on spiral casings on request.

**Suction**

The pump is not self-priming and has to be installed with positive liquid supply. Self-priming can be arranged with the help of a footvalve (only for liquids free of solid particles) at the end of the suction line or the installation of an ASV self-priming container. Respective brochures are available.

**Impeller**

- closed radial impeller
- axial-thrust-compensation by relief holes
- impeller mounting independent of direction of rotation
- seal of impeller by impeller cap and internal O-ring

**Shaft and shaft protection sleeve**

- extended motor shaft made of stainless steel
- shaft protection sleeves made of resin impregnated carbon or thermoplastic depending on flow medium

**Shaft seal**

- sealing of the shaft by single or double mechanical seals of various executions and brands
- circulation, flushing or quenching arrangeable depending on the application (see illustration)
- sliding surface combination in silicated carbon against silicated carbon, O-rings and liner of Viton (FPM) or Hypalon (CSM), metal parts of SS 1.4571or Hastelloy as standard execution and allows a wide range of application.
  Materials in other combinations are also possible.

**Painting**

- several coatings protect all metal parts of the pump
- special coating systems for higher protection available

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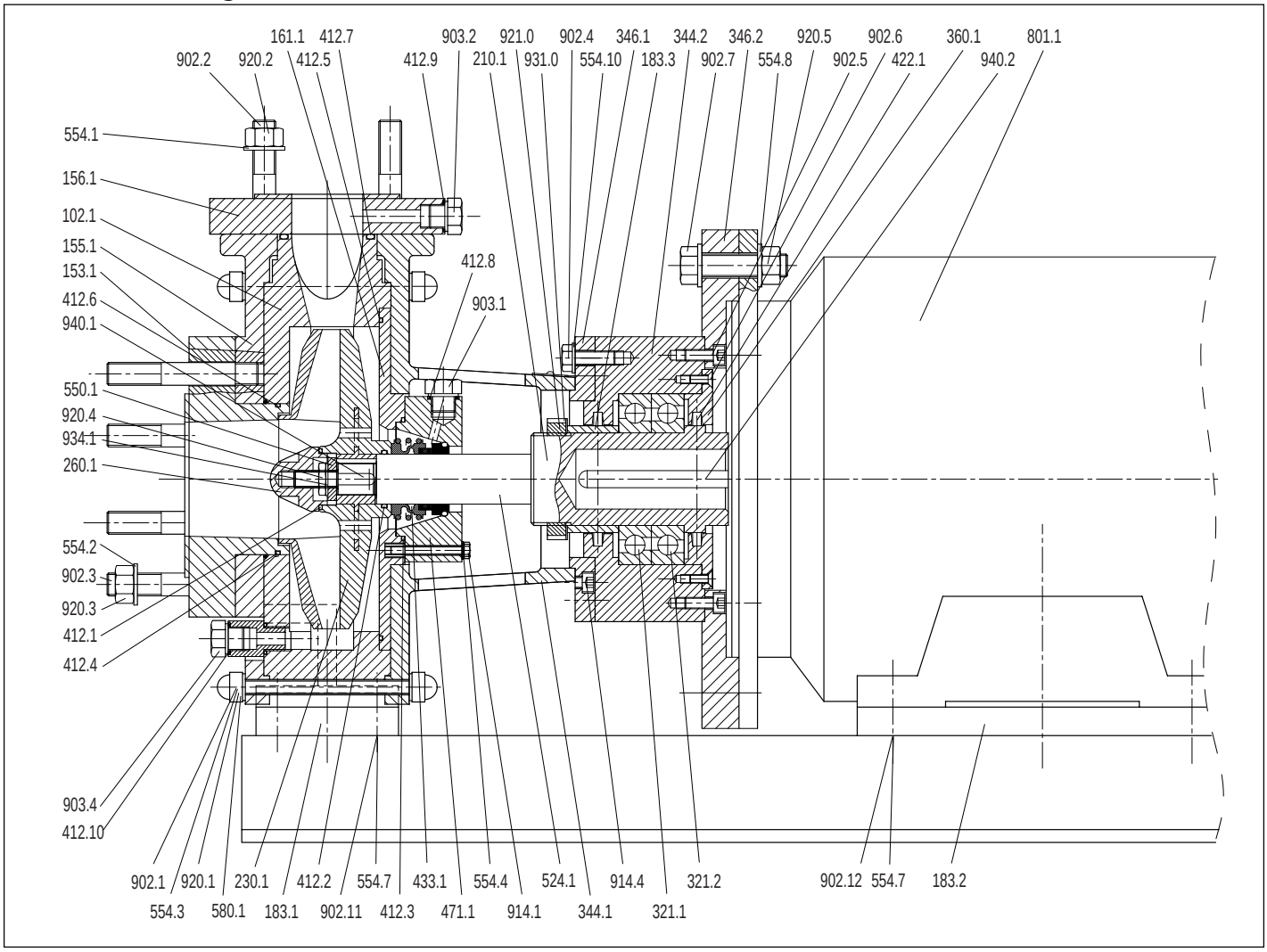
## Sectional drawing




| Item | Description | Item | Description | Item | Description |
|---|---|---|---|---|---|
| 102.1 | spiral casing | 412.5 | O-ring | 902.3 | stud bolt |
| 153.1 | suction connection | 412.6 | O-ring | 902.4 | hexagonal bolt |
| 155.1 | armour housing | 412.7 | O-ring | 902.5 | socket head cap srew |
| 156.1 | pressure connection | 412.8 | O-ring | 902.6 | plug screw |
| 161.1 | casing cover | 412.9 | O-ring | 902.7 | hexagonal bolt |
| 183.1 | distance piece | 412.10 | O-ring | 902.11 | hexagonal bolt |
| 183.2 | distance piece | 422.1 | felt ring | 902.12 | hexagonal bolt |
| 183.3 | distance piece | 433.1 | mechanical seal | 903.1 | plug screw |
| 210.1 | pump shaft | 471.1 | sealing casing | 903.2 | plug screw |
| 230.1 | impeller | 524.1 | shaft protection sleeve | 903.4 | plug screw |
| 260.1 | impeller cap | 550.1 | U-washer | 914.1 | hexagonal bolt |
| 321.1 | angular ball bearing | 554.1 | U-washer | 914.4 | socket head cap srew |
| 321.2 | angular ball bearing | 554.2 | U-washer | 920.1 | hexagonal nut |
| 344.1 | bearing carrier lantern | 554.3 | U-washer | 920.2 | hexagonal nut |
| 344.2 | bearing housing | 554.4 | U-washer | 920.3 | hexagonal nut |
| 346.1 | intermediate flange | 554.7 | U-washer | 920.4 | hexagonal nut |
| 346.2 | intermediate flange | 554.8 | U-washer | 920.5 | hexagonal nut |
| 360.1 | bearing cover | 554.10 | U-washer | 921 | hexagonal shaft nut |
| 412.1 | O-ring | 580.1 | hexagonal protection cap | 931 | locking plate |
| 412.2 | O-ring | 801.1 | three-phase-current motor | 934.1 | spring ring |
| 412.3 | O-ring | 902.1 | stud bolt | 940.1 | feather key |
| 412.4 | O-ring | 902.2 | stud bolt | 940.2 | feather key |

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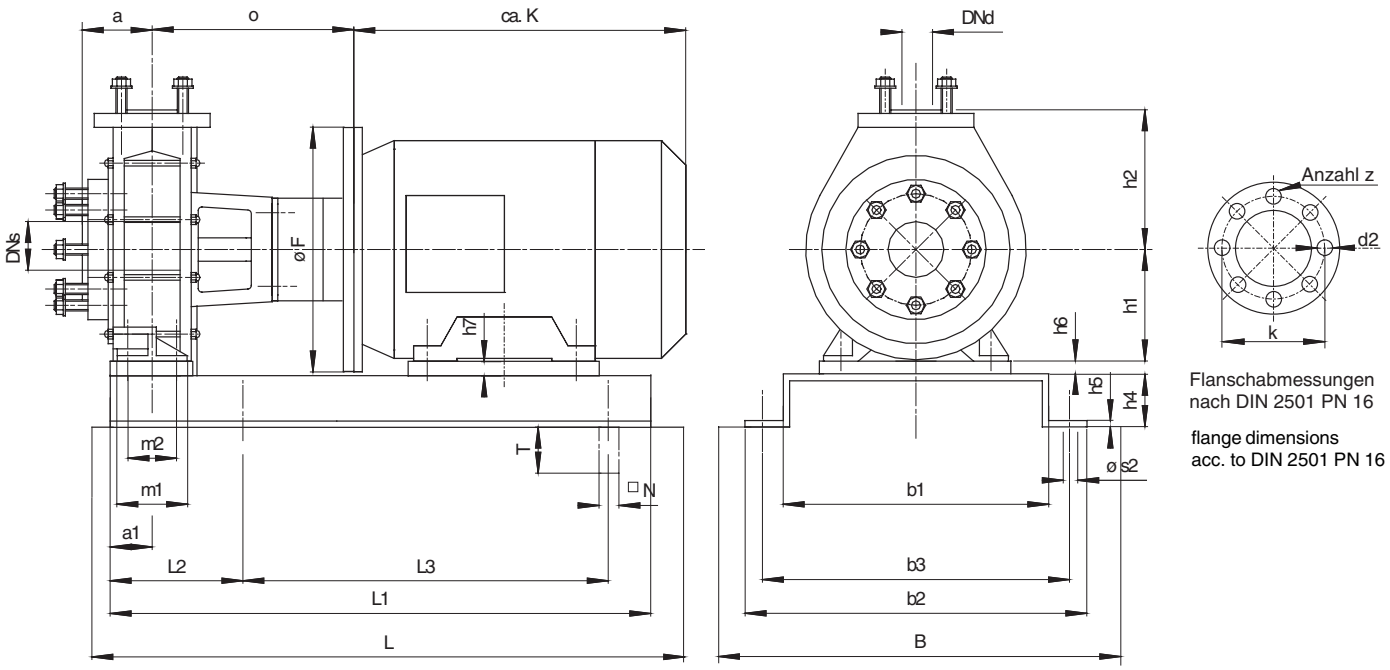
## Pump dimensions




Flanschabmessungen
nach DIN 2501 PN 16

flange dimensions
acc. to DIN 2501 PN 16

| type | | | pump dimensions | | | | | | plate dimensions | | | | | | | | | | | | foot measure | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMB-S | DNd | DNs | a | h1 | h2 | o | F | K | a1 | b1 | b2 | b3 | h4 | h5 | h6 | L1 | L2 | L3 | oN | s2 | b | h7 | m1 |
| 32-160 | 32 | 50 | 80 | 132 | 160 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 48 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 32-200 | 32 | 50 | 80 | 160 | 180 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 20 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 32-250 | 32 | 50 | 100 | 180 | 225 | 326 | 350 | 365 | 75 | 340 | 450 | 400 | 75 | 9 | - | 1000 | 170 | 660 | 85 | 24 | 65 | - | 125 |
| 40-125 | 40 | 65 | 80 | 112 | 140 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 68 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 40-160 | 40 | 65 | 80 | 132 | 160 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 48 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 40-200 | 40 | 65 | 100 | 160 | 180 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 20 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 40-250 | 40 | 65 | 100 | 180 | 225 | 326 | 350 | 365 | 75 | 340 | 450 | 400 | 75 | 9 | - | 1000 | 170 | 660 | 85 | 24 | 65 | - | 125 |
| 40-315 | 40 | 65 | 125 | 200 | 250 | 326 | 350 | 365 | 75 | 380 | 490 | 440 | 75 | 9 | - | 1120 | 190 | 740 | 85 | 24 | 65 | 40 | 125 |
| 50-125 | 50 | 80 | 100 | 132 | 160 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 48 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 50-160 | 50 | 80 | 100 | 160 | 180 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 20 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 50-200 | 50 | 80 | 100 | 160 | 200 | 289 | 350 | 365 | 60 | 340 | 450 | 400 | 75 | 9 | 20 | 1000 | 170 | 660 | 85 | 24 | 50 | 20 | 100 |
| 50-250 | 50 | 80 | 125 | 180 | 225 | 326 | 350 | 365 | 75 | 340 | 450 | 400 | 75 | 9 | - | 1000 | 170 | 660 | 85 | 24 | 65 | - | 125 |
| 50-315 | 50 | 80 | 125 | 225 | 280 | 326 | 350 | 365 | 75 | 380 | 490 | 440 | 75 | 9 | - | 1120 | 190 | 740 | 85 | 24 | 65 | 65 | 125 |
| 65-160 | 65 | 100 | 100 | 160 | 200 | 289 | 350 | 365 | 75 | 340 | 450 | 400 | 75 | 9 | 20 | 1000 | 170 | 660 | 85 | 24 | 65 | 20 | 125 |
| 65-200 | 65 | 100 | 100 | 180 | 225 | 326 | 350 | 365 | 75 | 340 | 450 | 400 | 75 | 9 | - | 1000 | 170 | 660 | 85 | 24 | 65 | - | 125 |
| 65-250 | 65 | 100 | 125 | 200 | 250 | 326 | 350 | 365 | 90 | 380 | 490 | 440 | 75 | 9 | - | 1120 | 190 | 740 | 85 | 24 | 80 | 40 | 160 |
| 65-315 | 65 | 100 | 125 | 225 | 280 | 336 | 350 | 365 | 90 | 430 | 540 | 490 | 75 | 9 | - | 1250 | 205 | 840 | 85 | 24 | 80 | 65 | 160 |
| 80-160 | 80 | 125 | 125 | 180 | 225 | 326 | 350 | 365 | 75 | 340 | 450 | 400 | 75 | 9 | - | 1000 | 170 | 660 | 85 | 24 | 65 | - | 125 |
| 80-200 | 80 | 125 | 125 | 180 | 250 | 326 | 350 | 365 | 75 | 380 | 490 | 440 | 75 | 9 | - | 1120 | 190 | 740 | 85 | 24 | 65 | - | 125 |
| 80-250 | 80 | 125 | 125 | 225 | 280 | 326 | 350 | 365 | 90 | 430 | 540 | 490 | 75 | 9 | - | 1250 | 205 | 840 | 85 | 24 | 80 | 65 | 160 |
| 80-315 | 80 | 125 | 125 | 250 | 315 | 336 | 350 | 365 | 90 | 430 | 540 | 490 | 75 | 9 | - | 1250 | 205 | 840 | 85 | 24 | 80 | 90 | 160 |

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## Pump dimensions

| type | flange dimensions | | | | | | | | foot measure | | | | baseplate measure | | | stone bolts | base plate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | pressure connection | | | | suction connection | | | | | | | | | | | | |
| NMB-S | DNd | k | d2 | z | DNs | k | d2 | z | m2 | n1 | n2 | s1 | L | B | T | | size |
| 32-160 | 32 | 100 | M 16 | 4 | 50 | 125 | M 16 | 4 | 70 | 240 | 190 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 32-200 | 32 | 100 | M 16 | 4 | 50 | 125 | M 16 | 4 | 70 | 240 | 190 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 32-250 | 32 | 100 | M 16 | 4 | 50 | 125 | M 16 | 4 | 95 | 320 | 250 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 40-125 | 40 | 110 | M 16 | 4 | 65 | 145 | M 16 | 4 | 70 | 210 | 160 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 40-160 | 40 | 110 | M 16 | 4 | 65 | 145 | M 16 | 4 | 70 | 240 | 190 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 40-200 | 40 | 110 | M 16 | 4 | 65 | 145 | M 16 | 4 | 70 | 265 | 212 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 40-250 | 40 | 110 | M 16 | 4 | 65 | 145 | M 16 | 4 | 95 | 320 | 250 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 40-315 | 40 | 110 | M 16 | 4 | 65 | 145 | M 16 | 4 | 95 | 345 | 280 | M12 | 1250 | 620 | 180 | M 20 x 200 | 5 |
| 50-125 | 50 | 125 | M 16 | 4 | 80 | 160 | M 16 | 8 | 70 | 240 | 190 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 50-160 | 50 | 125 | M 16 | 4 | 80 | 160 | M 16 | 8 | 70 | 265 | 212 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 50-200 | 50 | 125 | M 16 | 4 | 80 | 160 | M 16 | 8 | 70 | 265 | 212 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 50-250 | 50 | 125 | M 16 | 4 | 80 | 160 | M 16 | 8 | 95 | 320 | 250 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 50-315 | 50 | 125 | M 16 | 4 | 80 | 160 | M 16 | 8 | 95 | 345 | 280 | M12 | 1250 | 620 | 180 | M 20 x 200 | 5 |
| 65-160 | 65 | 145 | M 16 | 4 | 100 | 180 | M 16 | 8 | 95 | 280 | 212 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 65-200 | 65 | 145 | M 16 | 4 | 100 | 180 | M 16 | 8 | 95 | 320 | 250 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 65-250 | 65 | 145 | M 16 | 4 | 100 | 180 | M 16 | 8 | 120 | 360 | 280 | M16 | 1250 | 620 | 180 | M 20 x 200 | 5 |
| 65-315 | 65 | 145 | M 16 | 4 | 100 | 180 | M 16 | 8 | 120 | 400 | 315 | M16 | 1380 | 670 | 180 | M 20 x 200 | 6 |
| 80-160 | 80 | 160 | M 16 | 8 | 125 | 210 | M 16 | 8 | 95 | 320 | 250 | M12 | 1130 | 580 | 180 | M 20 x 200 | 4 |
| 80-200 | 80 | 160 | M 16 | 8 | 125 | 210 | M 16 | 8 | 95 | 345 | 280 | M12 | 1250 | 620 | 180 | M 20 x 200 | 5 |
| 80-250 | 80 | 160 | M 16 | 8 | 125 | 210 | M 16 | 8 | 120 | 400 | 315 | M16 | 1380 | 670 | 180 | M 20 x 200 | 6 |
| 80-315 | 80 | 160 | M 20 | 8 | 125 | 210 | M 16 | 8 | 120 | 400 | 315 | M16 | 1380 | 670 | 180 | M 20 x 200 | 6 |

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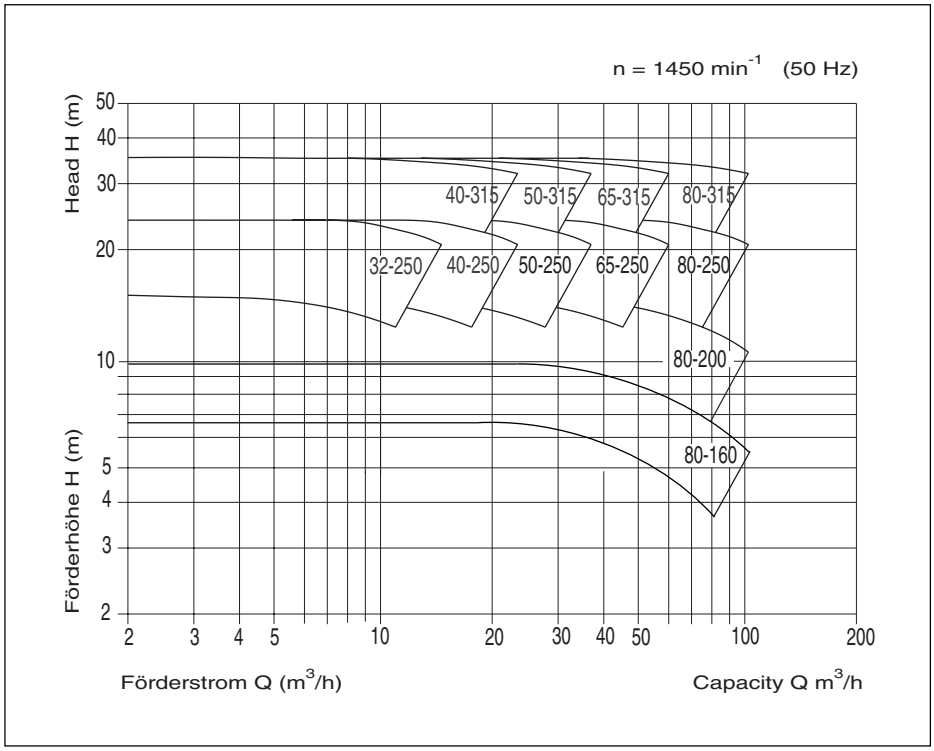
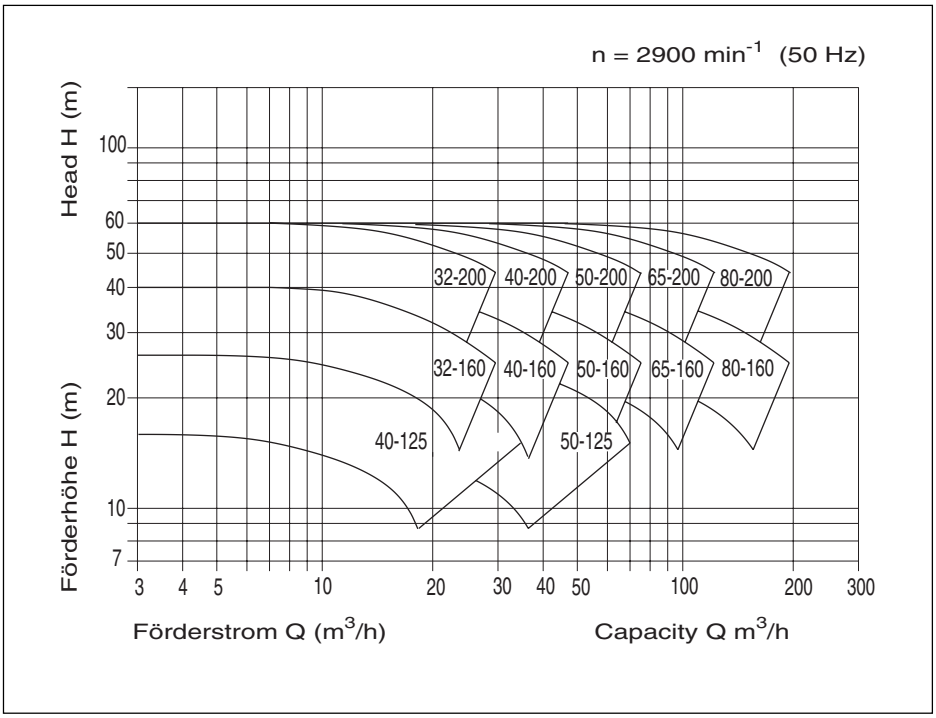
## Motor classification NMB-S

| type | motor size | 160M | |
|---|---|---|---|
| | kW 1450 rpm | 11+15 | |
| NMB-S | kW 2900 rpm | 11+15 | k approx. |
| | 11 | 2900 | 473 |
| 32-160 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 32-200 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 32-250 | 11 | 1450 | 473 |
| | 11 | 2900 | 473 |
| 40-125 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 40-160 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 40-200 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 40-250 | 11 + 15 | 1450 | 473 |
| | - | - | - |
| 40-315 | 11 + 15 | 1450 | 473 |
| | 11 + 15 | 2900 | 473 |
| 50-125 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 50-160 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 50-200 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 50-250 | 11 + 15 | 1450 | 473 |
| | - | - | - |
| 50-315 | 11 + 15 | 1450 | 473 |
| | 11 + 15 | 2900 | 473 |
| 65-160 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 65-200 | - | - | - |
| | 11 + 15 | 2900 | 473 |
| 65-250 | 11 + 15 | 1450 | 473 |
| | - | - | - |
| 65-315 | 11 + 15 | 1450 | 473 |
| | 15 | 2900 | 473 |
| 80-160 | 11 | 1450 | 473 |
| | 15 | 2900 | 473 |
| 80-200 | 11 | 1450 | 473 |
| | 15 | 2900 | 473 |
| 80-250 | 11 + 15 | 1450 | 473 |
| | - | - | - |
| 80-315 | 11 + 15 | 1450 | 473 |

## Characteristic curve fields for rotational speeds n=1450 rpm and n=2900 rpm acc. to DIN 24256




Technical alterations excepted

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Notizen / notes

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