



Experts in water.

DAVEY

APPLICATIONS

Pumping of clean, non-aggressive liquids, free of fibres in suspension, suitable for applications such as:-

- Water supply - domestic, rural & industrial
- Pressure boosting
- Agriculture & farming
- Turf water & irrigation
- Commercial – high pressure washing & water treatment
- Boiler feed

WHY CHOOSE THE VM SERIES MULTISTAGE PUMPS?

Vertical multistage centrifugal pump with in line suction and discharge

- Minimum floor space required and easy to install

All hydraulic parts constructed in stainless steel

- Long service life
- Corrosion and abrasion resistance

High efficiency stainless steel impeller design

- Low operating costs
- Less stages required
- Low maintenance

Raised bottom bearing

- Longer bearing life through reduced risk of damage from sediment

Hard faced mechanical seal

- Longer seal life

Teflon neck rings

- Maintains high efficiency
- Reduces vibration and noise
- Reduces sensitivity to thermal expansion

Tungsten carbide intermediate bearing/s (selected models)

- Reduces possible damage from shaft misalignment or vibration

Stainless steel threaded companion flanges with gaskets, nuts, bolts & washers included with every pump

- Easier installation
- Guaranteed material quality



VM Series Vertical Multistage Pumps

Model Numbers:

VM1, VM3, VM5, VM10, VM16,
VM32, VM65, VM90

Vertical in-line multistage centrifugal pump with stainless steel hydraulic parts.



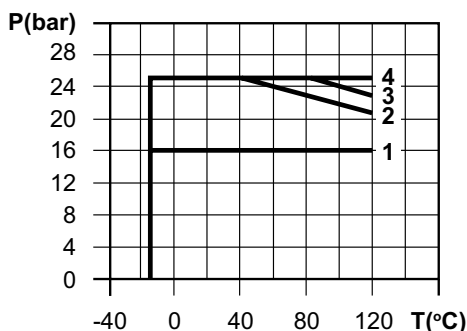
| OPERATING LIMITS | |
|---|----------------------------------|
| Capacities to | 1833 lpm (110m ³ /hr) |
| Pressure heads to | 230m |
| Maximum discharge pressure | PN25 255m |
| Maximum suction pressure | Refer to table below |
| Temperature range | -15° to +70°C |
| Hot water type available on request | +70° to +120°C |
| Motor - three phase* | 400V ± 10% |
| Motor - single phase* | up to 2.2kW 230V ± 10% |
| | 3.0 to 4.0kW 240/480V ± 10% |
| Single phase up to 1.5kw 240V motor supplied with Aust. standard plug | |
| Rotation | Anti-clockwise (top view) |

*Other voltages on request

| ELECTRICAL DATA | |
|-----------------------------|---------|
| Maximum ambient temperature | 45°C |
| Single phase | |
| Three Phase | 40°C |
| Minimum IP rating | IP55 |
| Insulation class | Class F |

| MAXIMUM WORKING PRESSURE | |
|--------------------------|--------------|
| Model | Curve Number |
| VM1, 3 & 5 ranges | 2 |
| VM10 & 16 ranges | 3 |
| VM32-2A to VM32-6 | 1 |
| VM32-8 to VM32-12 | 4 |
| VM65-2A to VM65-5A | 1 |
| VM65-6B | 4 |
| VM90-2 to VM90-4 | 1 |
| VM90-5 to VM90-6 | 4 |

The following figure shows the limitation of pressure and temperature, which shall be kept within the region as shown in the figure.



| MATERIALS OF CONSTRUCTION | |
|----------------------------|-----------------------------|
| Part | Material |
| Pump attachment base | Cast iron |
| Suction & discharge casing | 304 stainless steel |
| Motor support lantern | Cast iron |
| Impellers | 304 stainless steel |
| Stages (casing) | 304 stainless steel |
| Outside sleeve | 304 stainless steel |
| Pump shaft | 316L stainless steel |
| Intermediate bearing | Tungsten carbide |
| Mechanical seal | Silicon carbide/carbon/EPDM |
| Orings (casing) | EPDM |
| Plugs (drainage & priming) | 316L stainless steel |
| Impeller neck rings | Teflon |

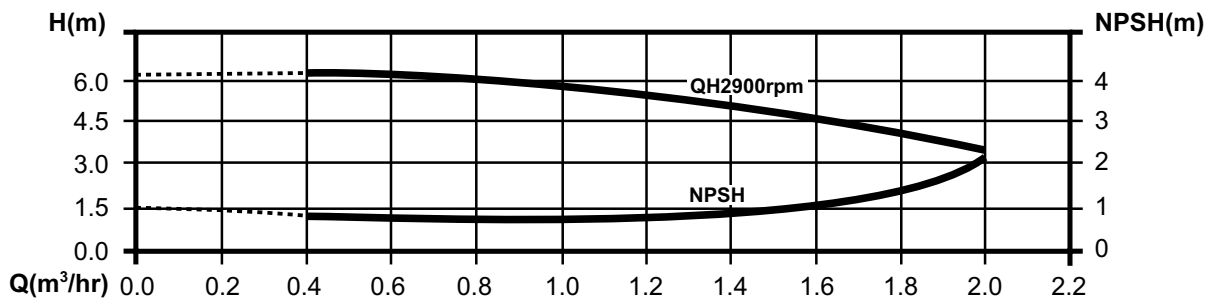
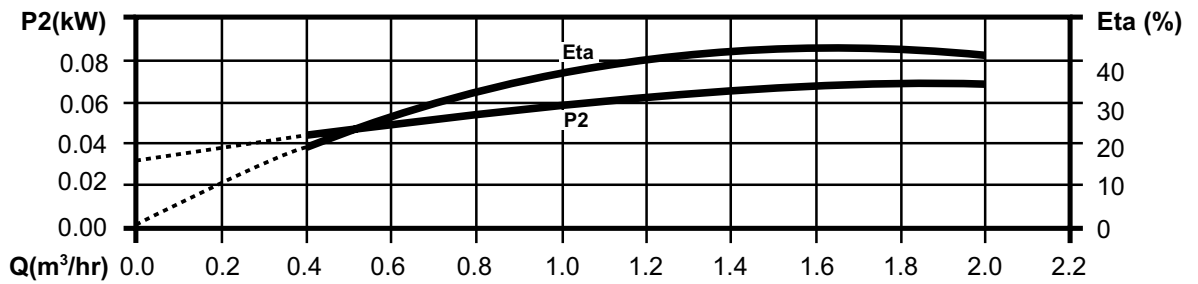
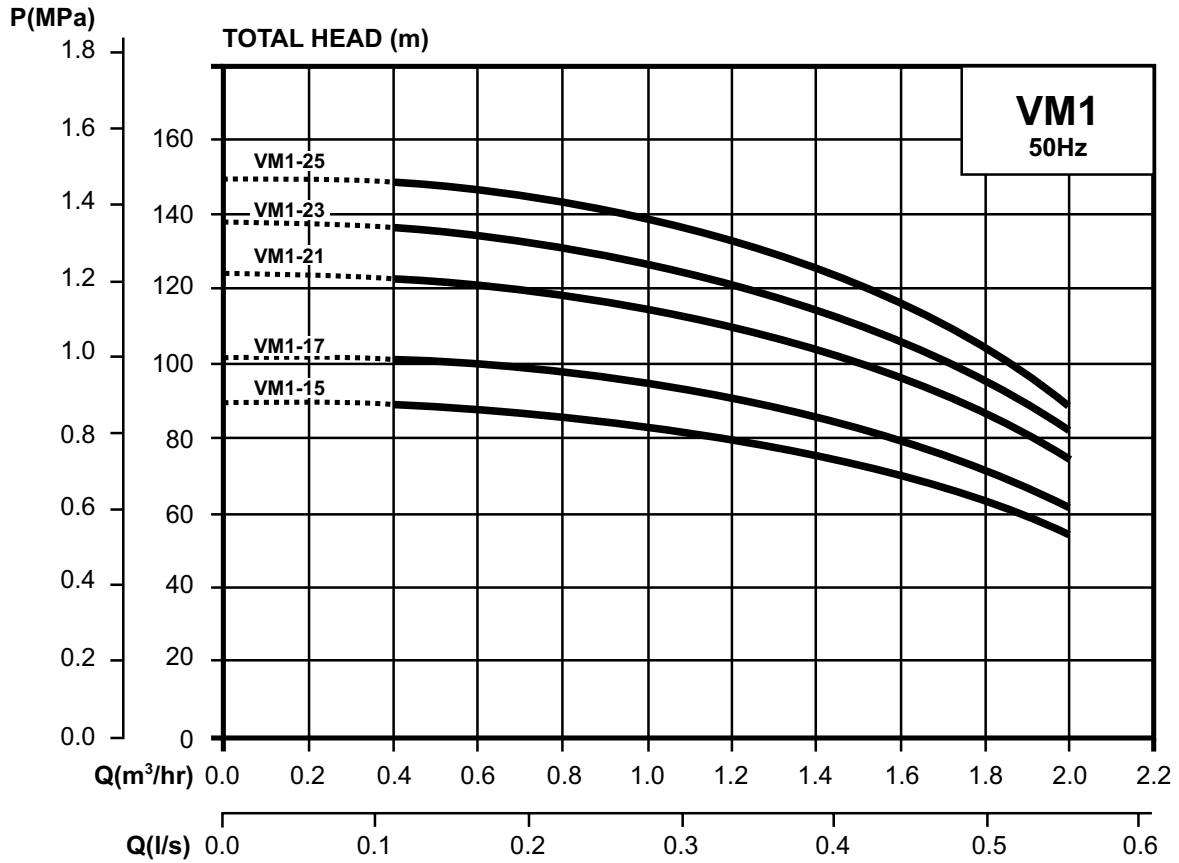
*Special version with 316L stainless steel & viton orings on request

NOTE: 304 stainless steel, (Z6 CN 18.9) and **316L stainless steel** (Z2 CND 17.12) are recommended materials that are highly resistant to corrosion. Suitable for pumping clean, clear non-viscous liquids, containing no fibres or solids. Maximum sand/silica concentration 40 g/m³.

| IDENTIFICATION OF THE PUMP | |
|--|----------------------|
| VM 32 - 2A/3 | |
| Motor fitted | Blank = Single phase |
| | /3 = Three phase |
| | /L = Liquid end |
| Impeller variation | (A = turndown) |
| Number of stages | |
| Nominal capacity at BEP in m ³ /hr | |
| VM Series Vertical Multistage Stainless Steel Pump | |

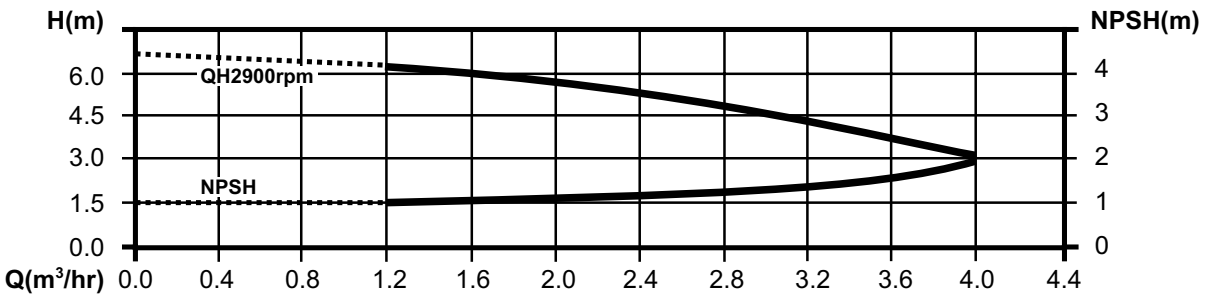
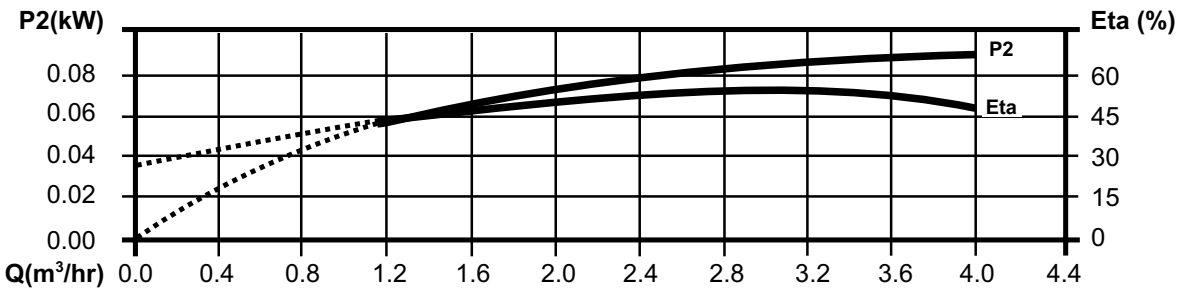
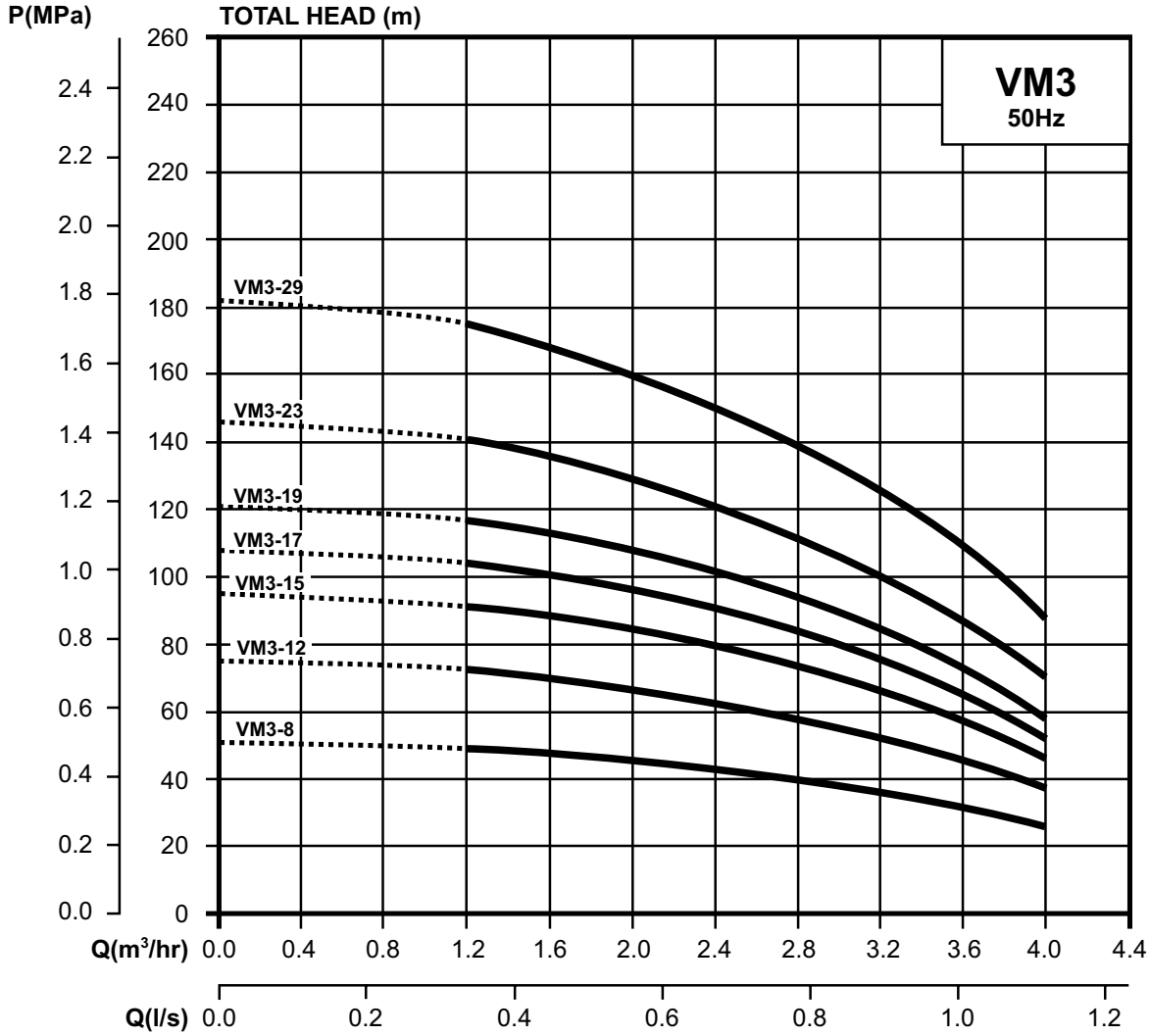
| ALTITUDE & TEMPERATURE VS LOSS OF HEAD | | | |
|---|--------------|-------------|--------------|
| Guide only - altitude and temperature losses are added. | | | |
| Altitude | Loss of head | Temperature | Loss of head |
| 0m | 0m | 20°C | 0.20m |
| 500m | 0.60m | 30°C | 0.40m |
| 1000m | 1.15m | 40°C | 0.70m |
| 1500m | 1.70m | 50°C | 1.20m |
| 2000m | 2.20m | 60°C | 1.90m |
| 2500m | 2.65m | 70°C | 3.10m |
| 3000m | 3.20m | 80°C | 4.70m |
| | | 90°C | 7.10m |
| | | 100°C | 10.30m |

VM1 HYDRAULIC PERFORMANCE



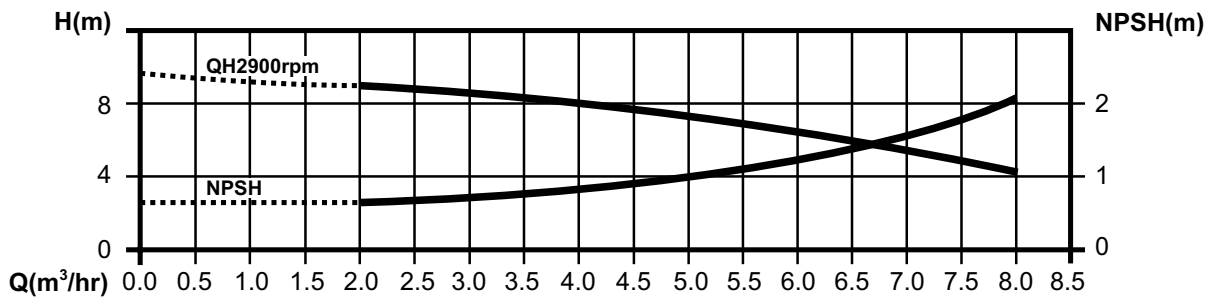
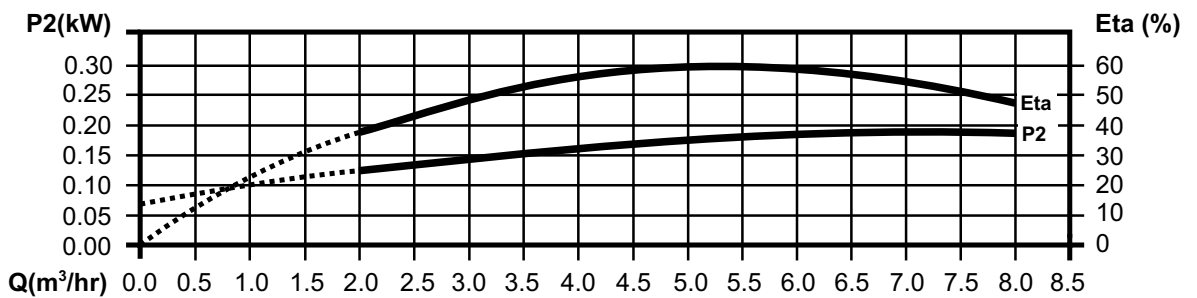
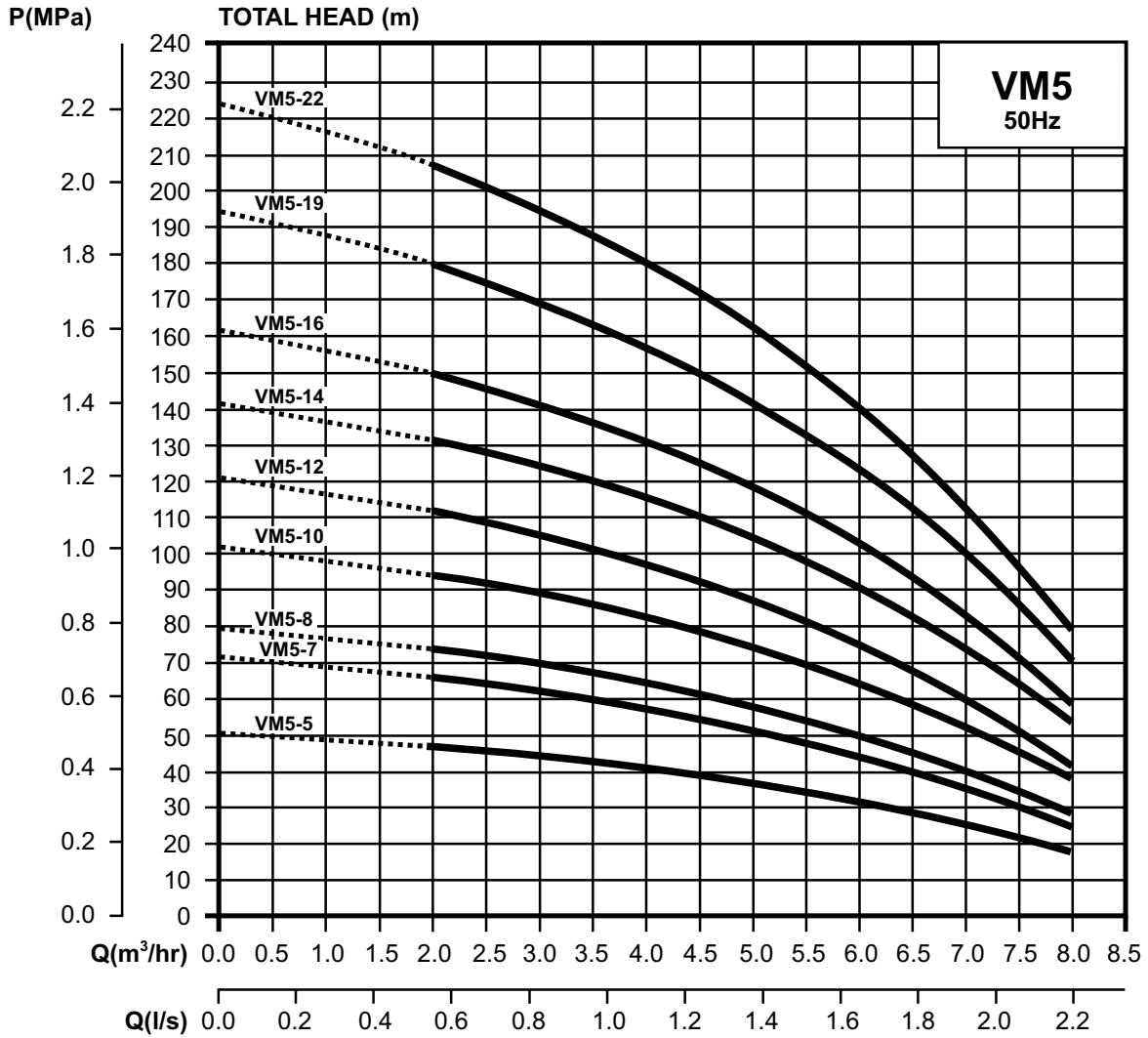
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM3 HYDRAULIC PERFORMANCE



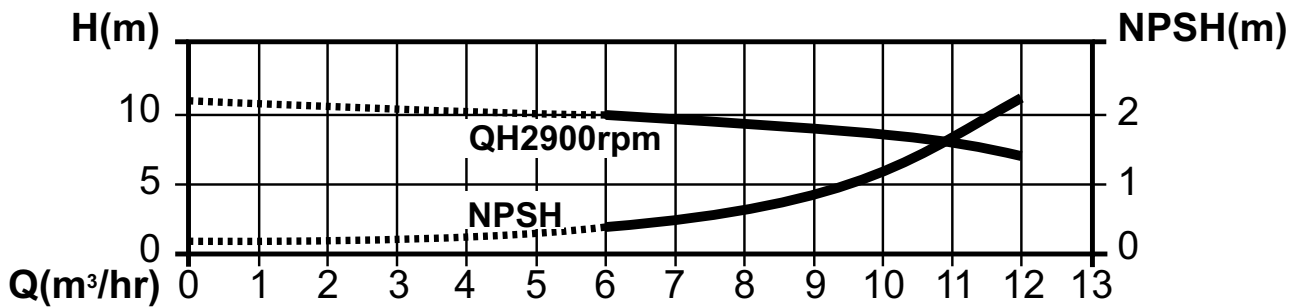
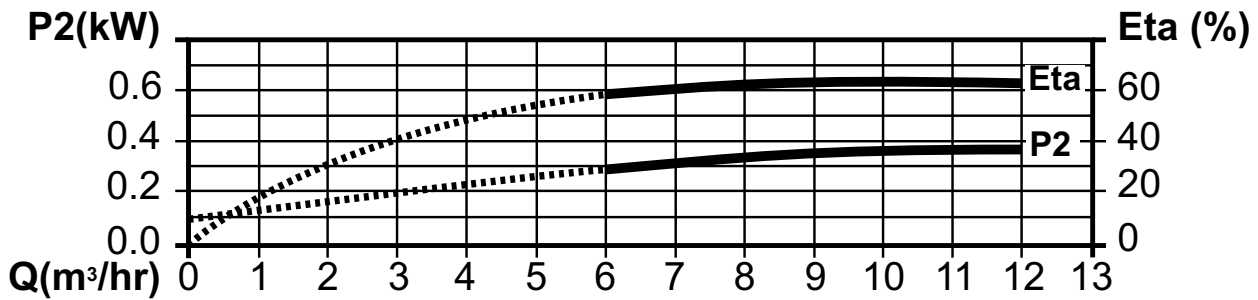
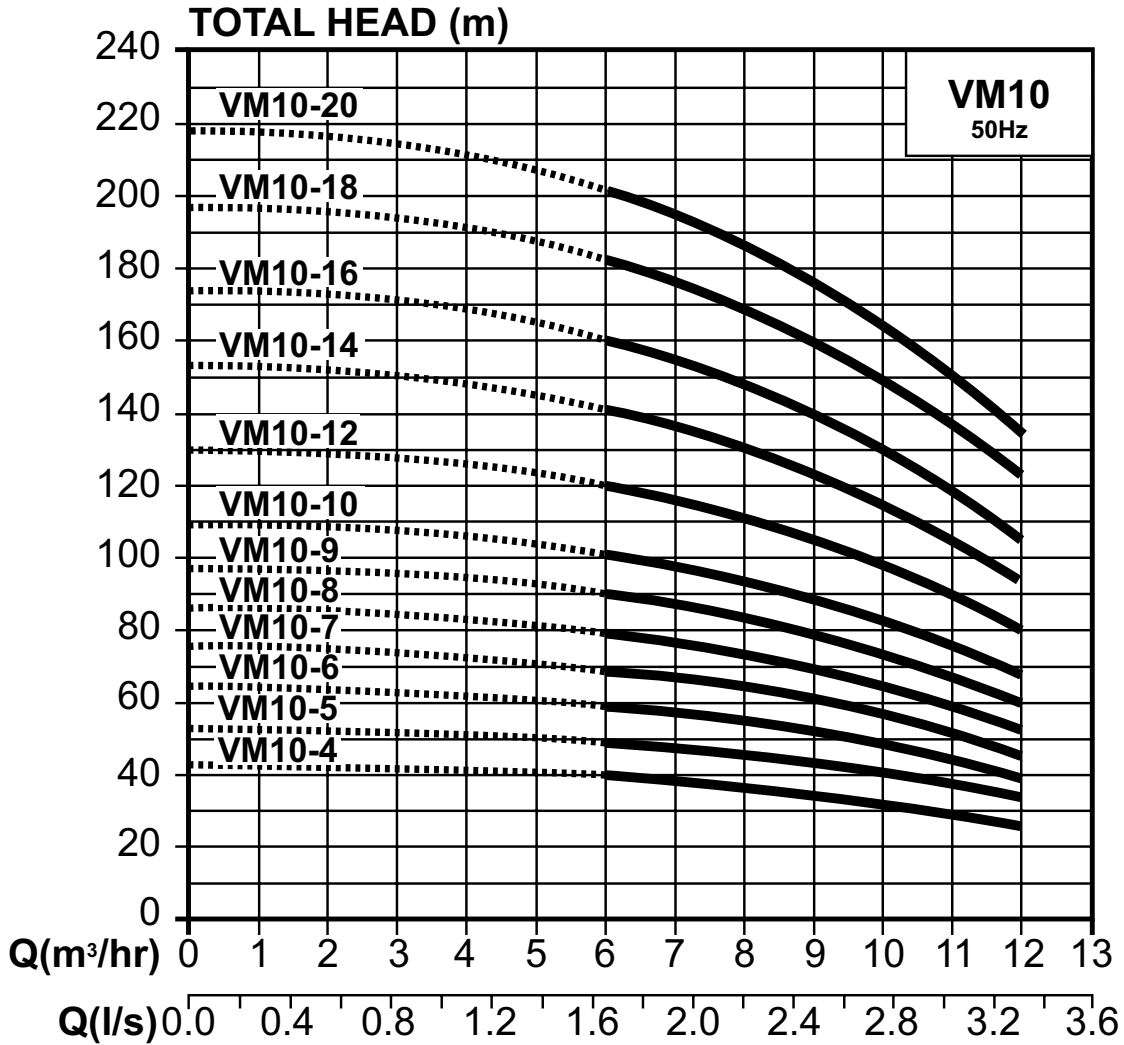
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM5 HYDRAULIC PERFORMANCE



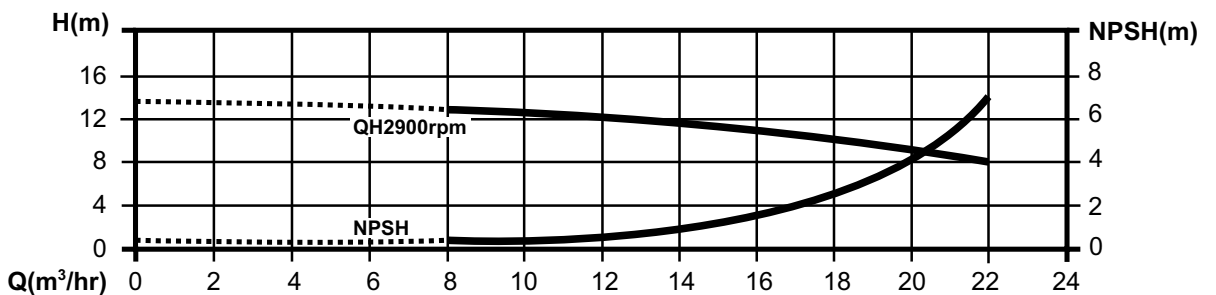
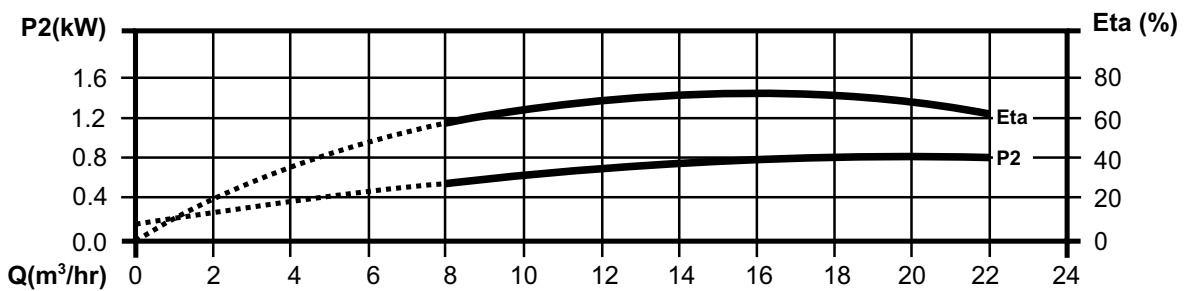
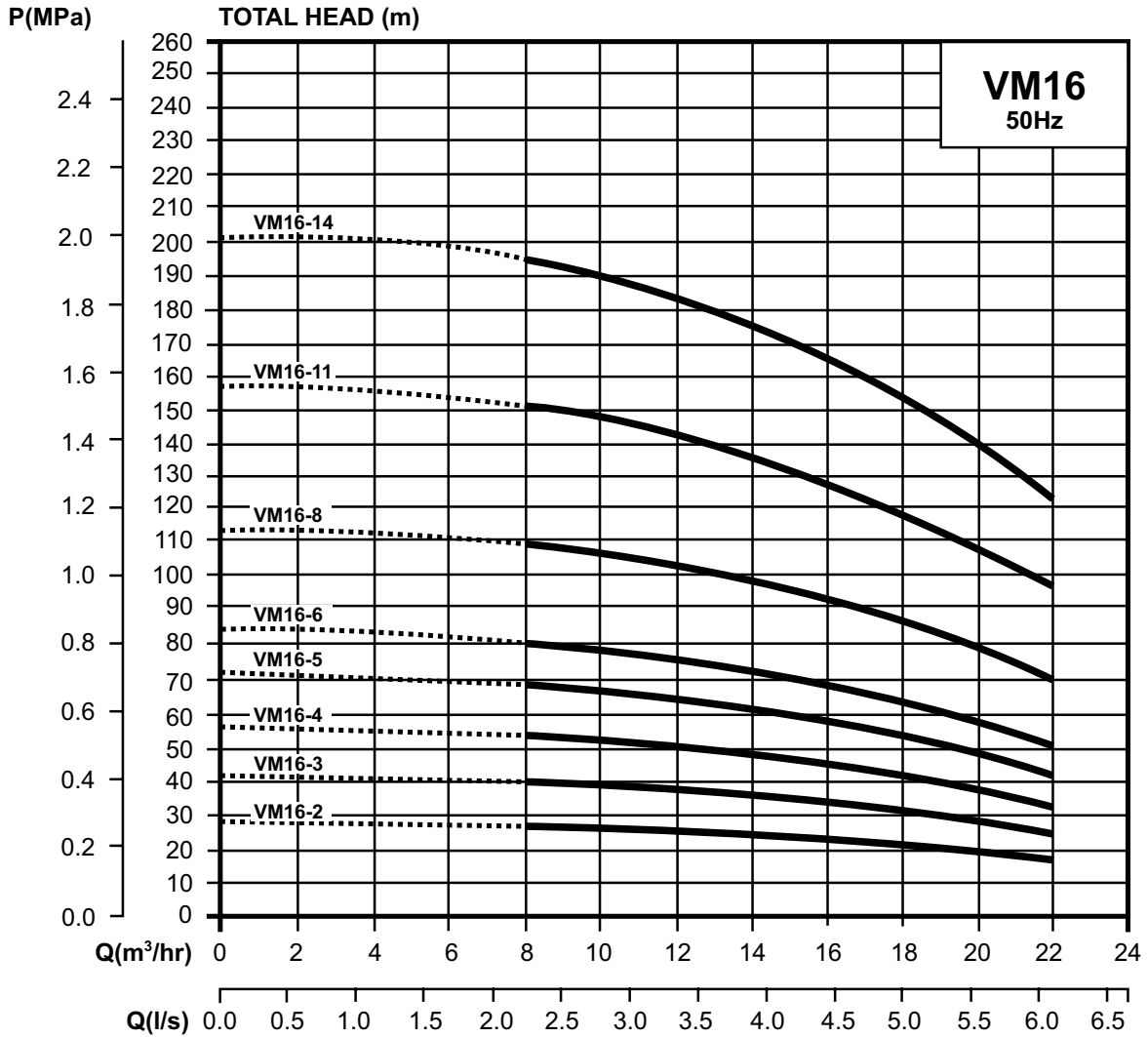
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM10 HYDRAULIC PERFORMANCE



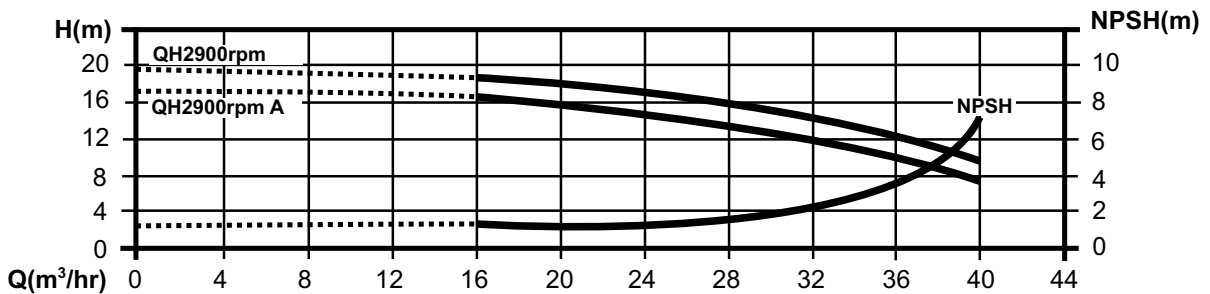
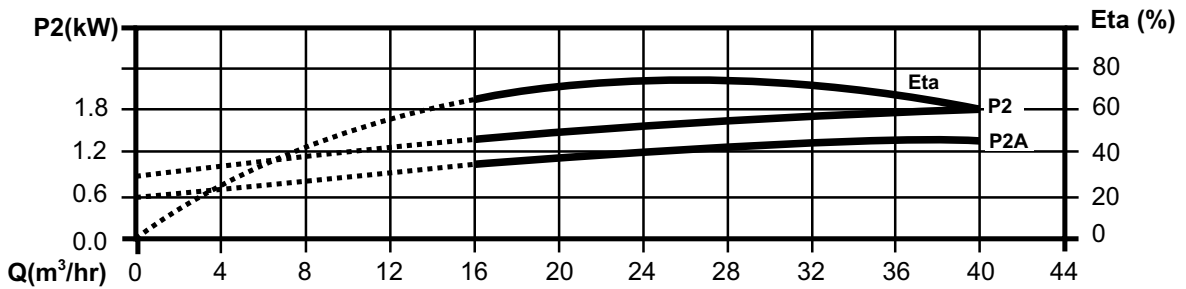
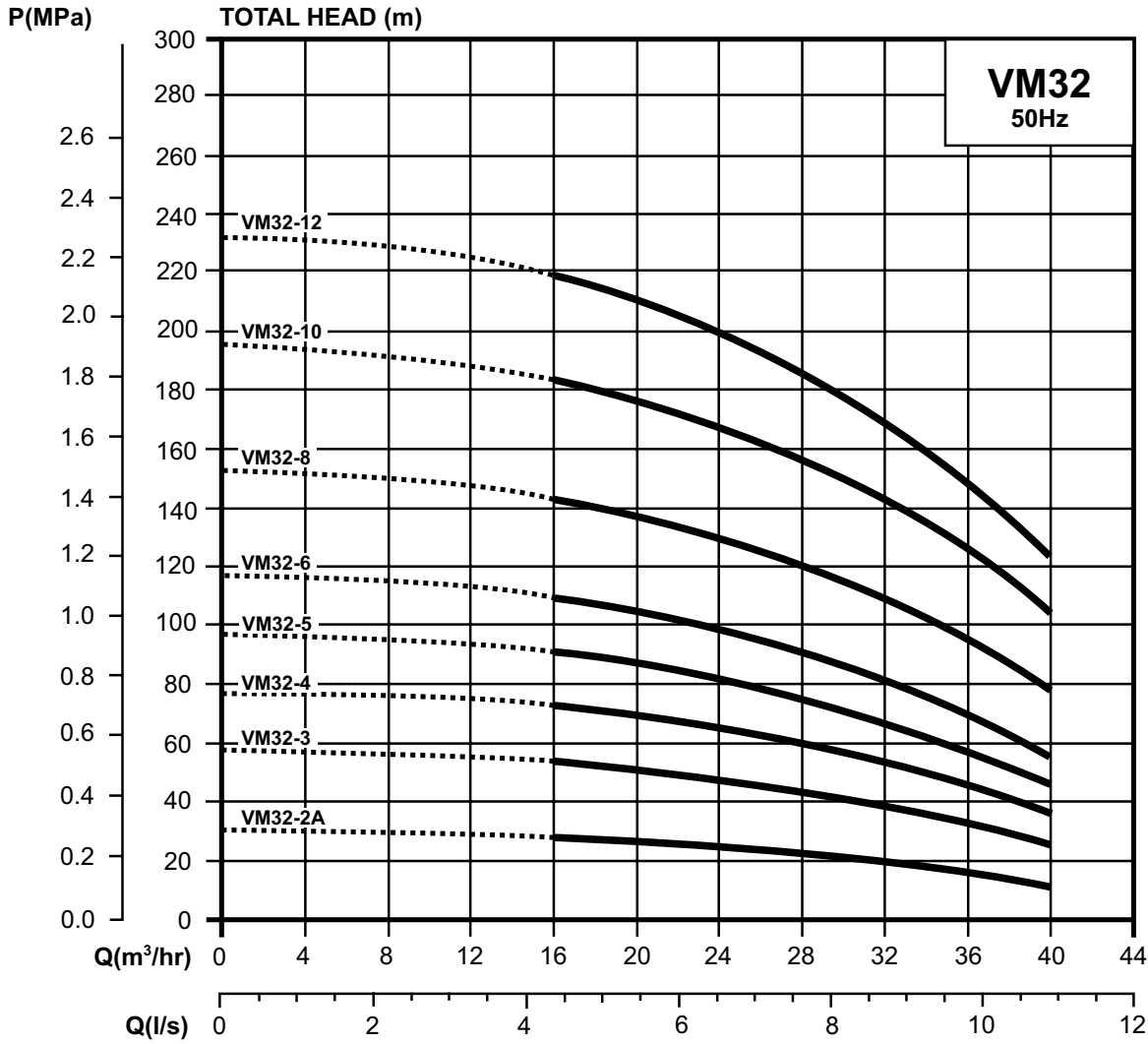
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM16 HYDRAULIC PERFORMANCE



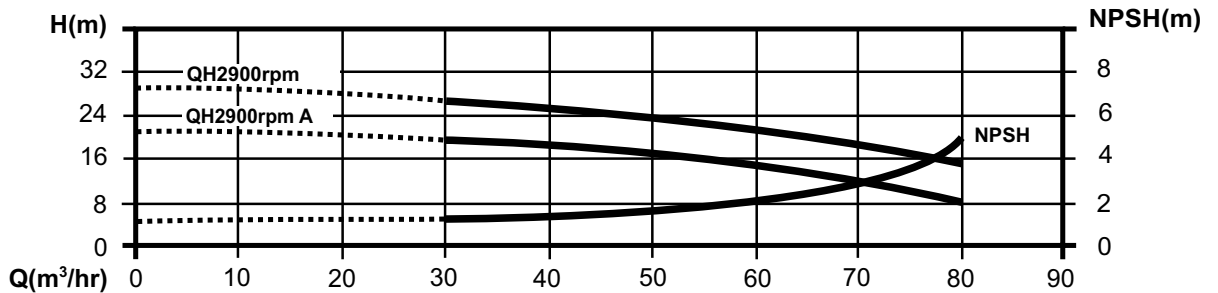
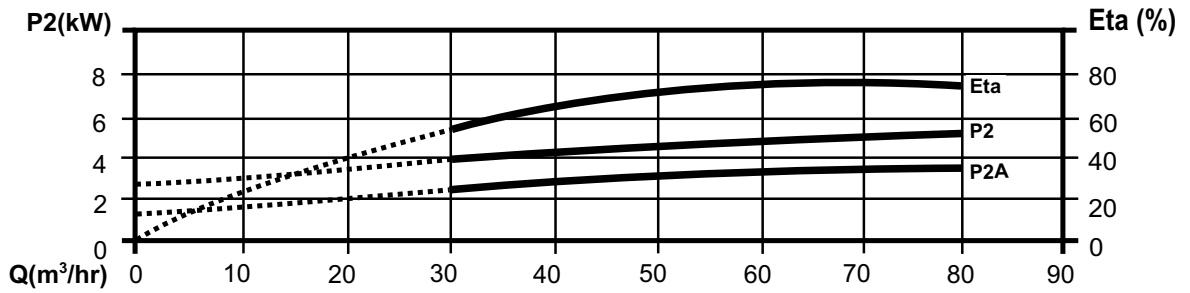
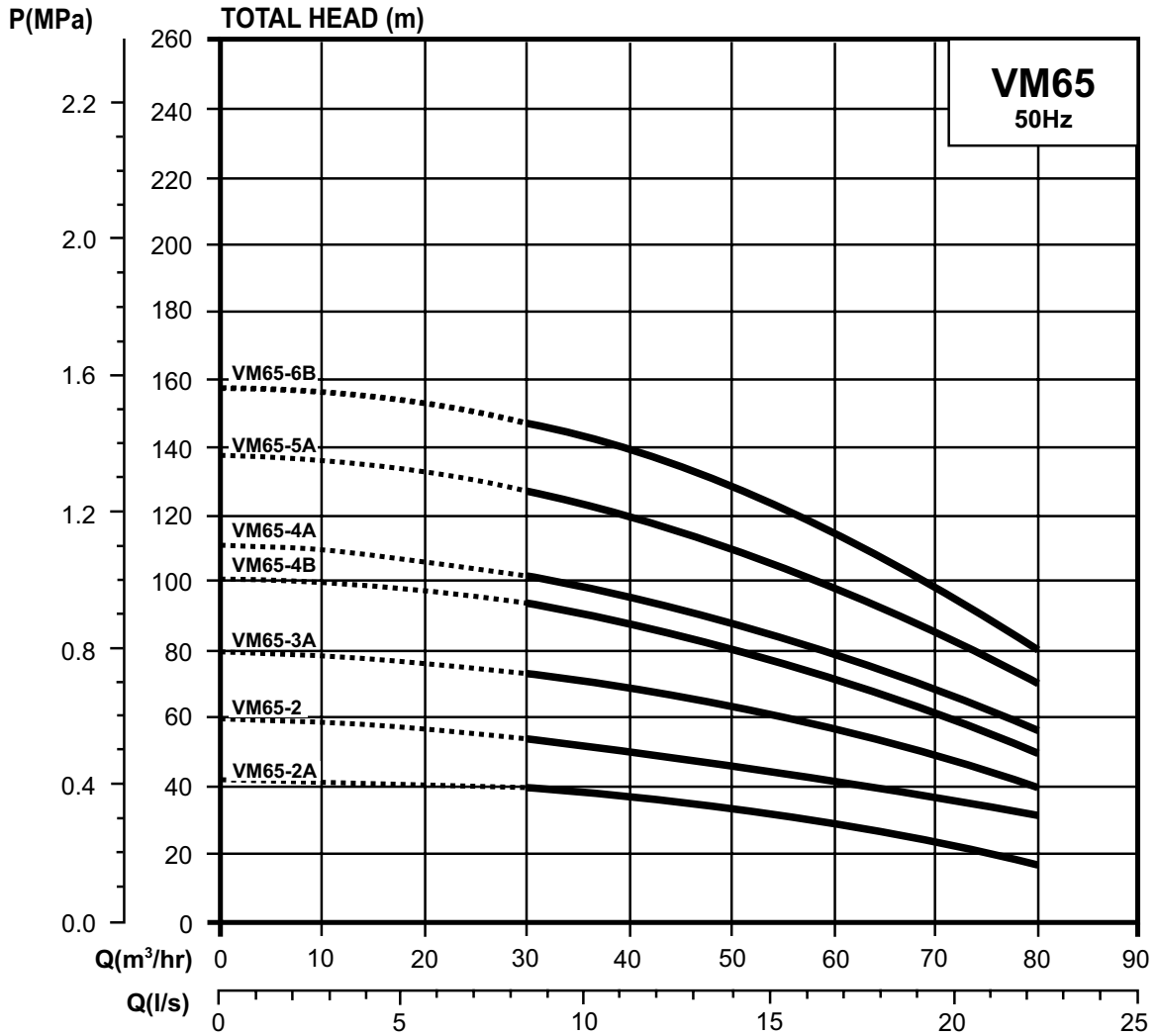
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM32 HYDRAULIC PERFORMANCE



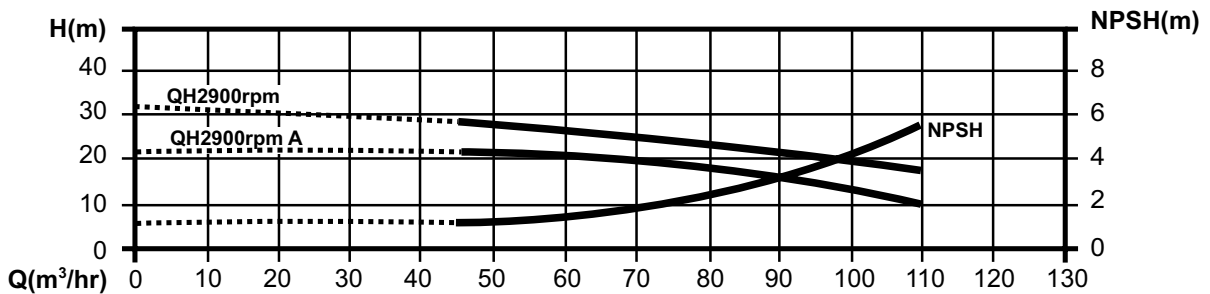
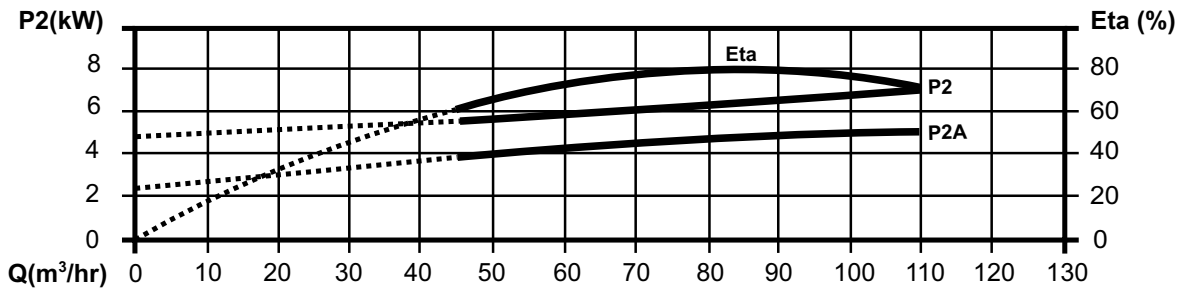
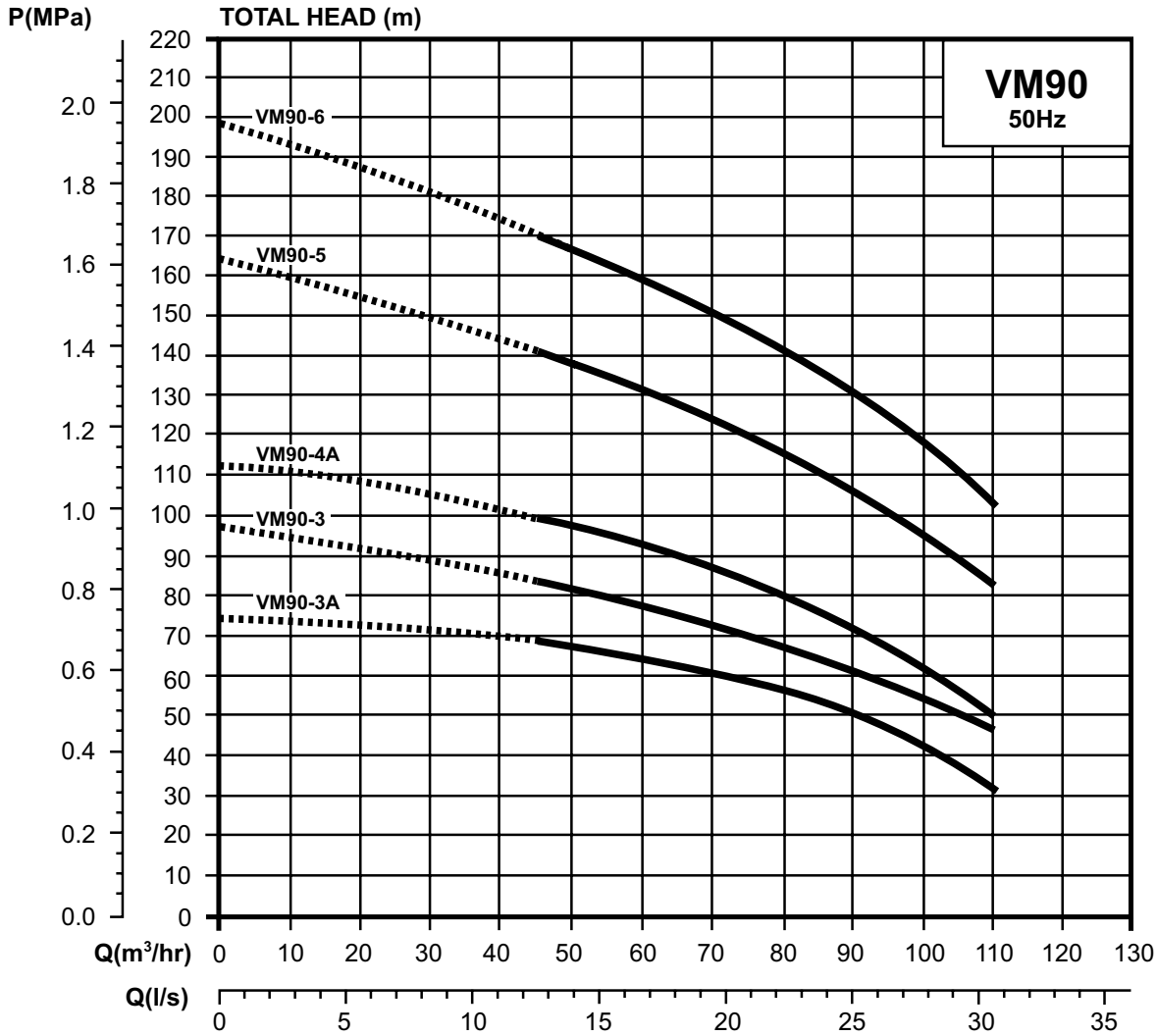
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM65 HYDRAULIC PERFORMANCE



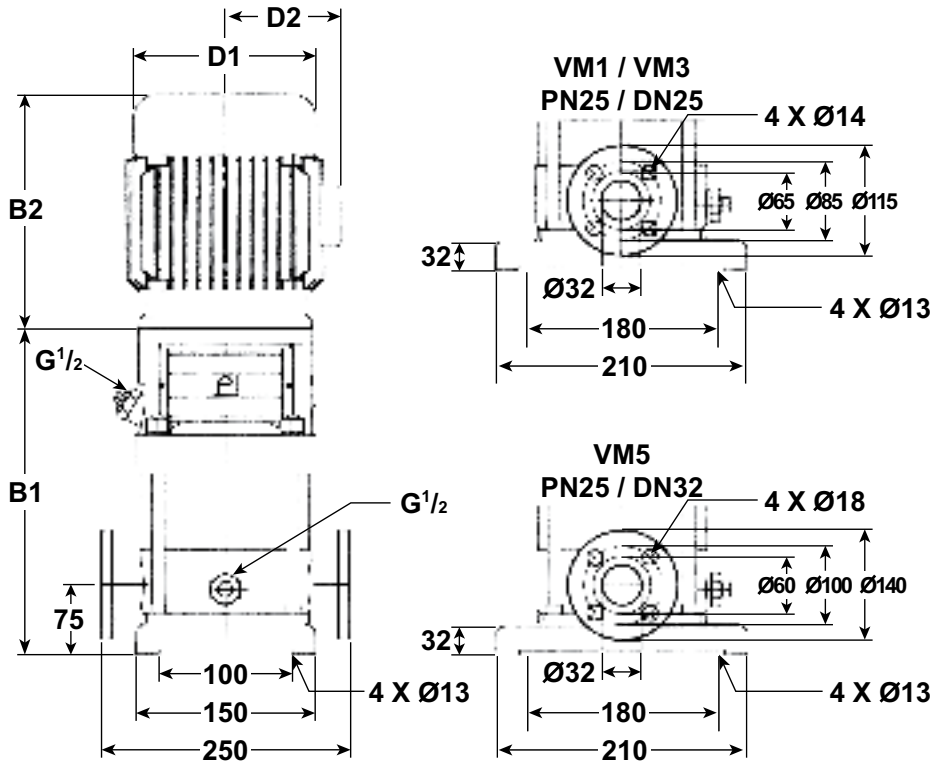
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM90 HYDRAULIC PERFORMANCE

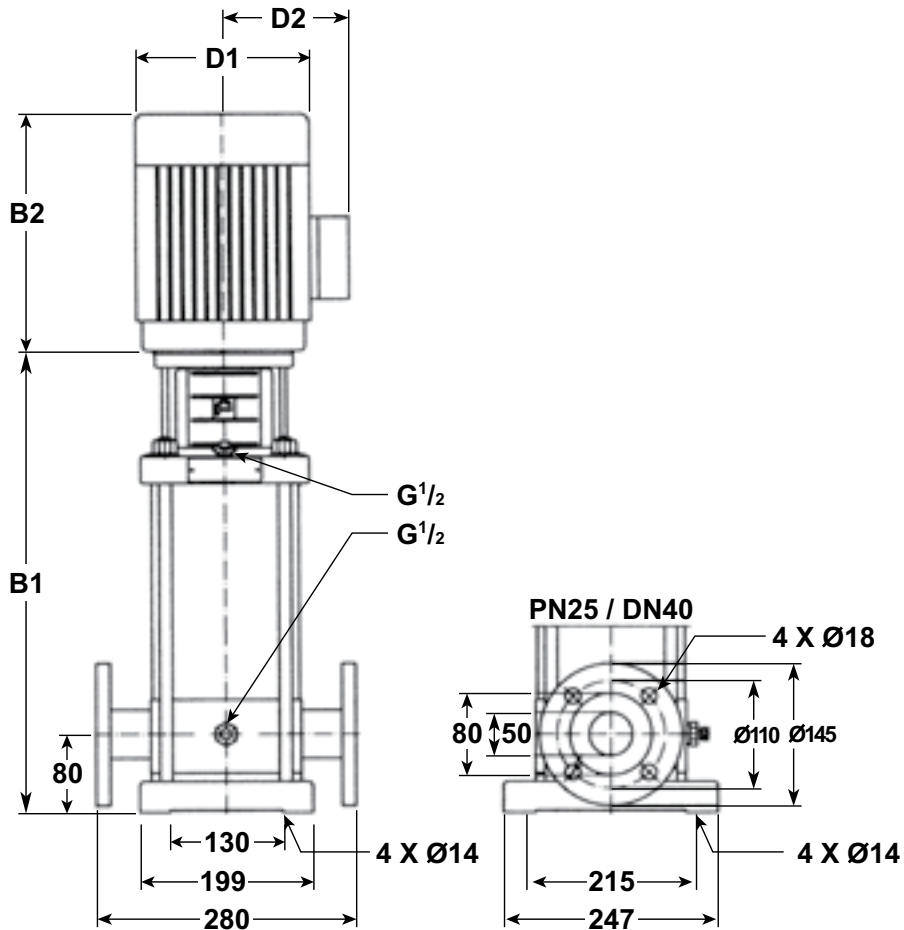


NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

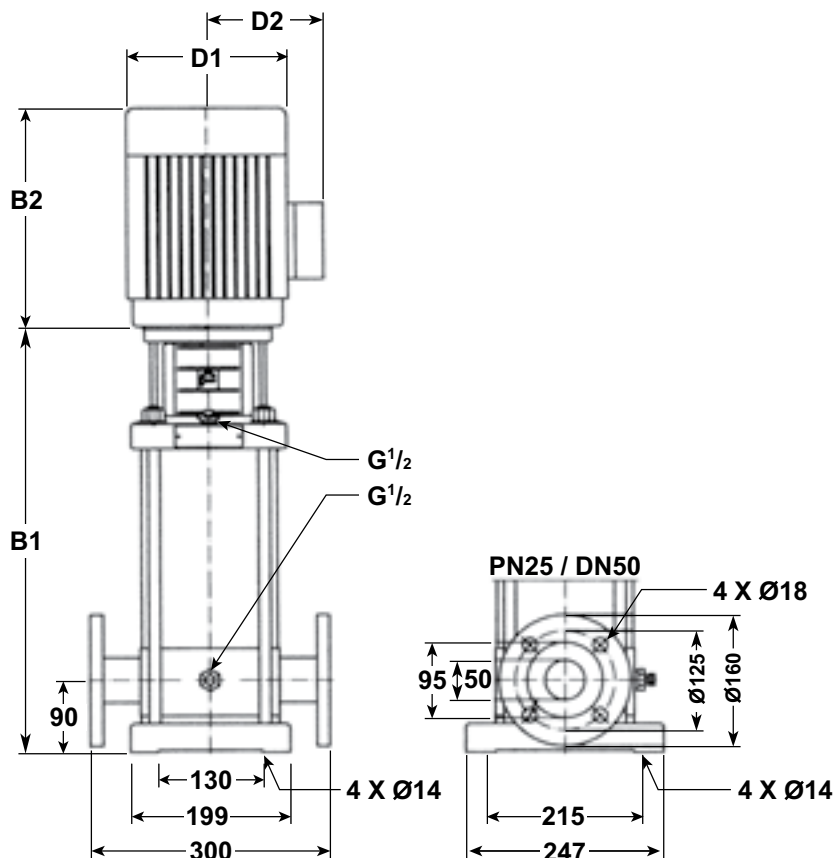
VM1 / VM3 / VM5 – PN25



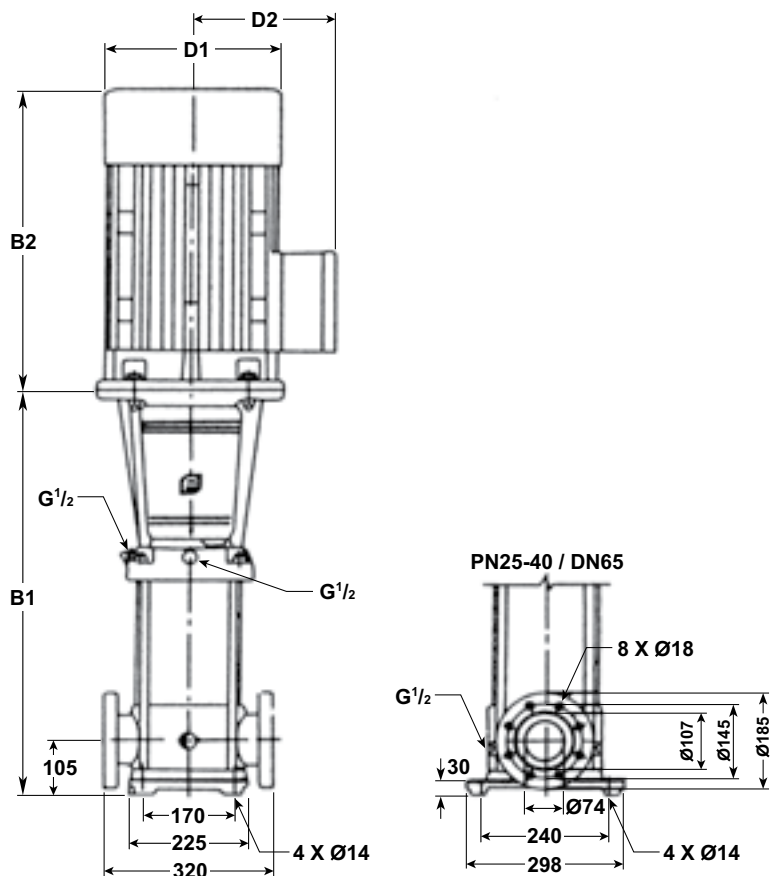
VM10 – PN25

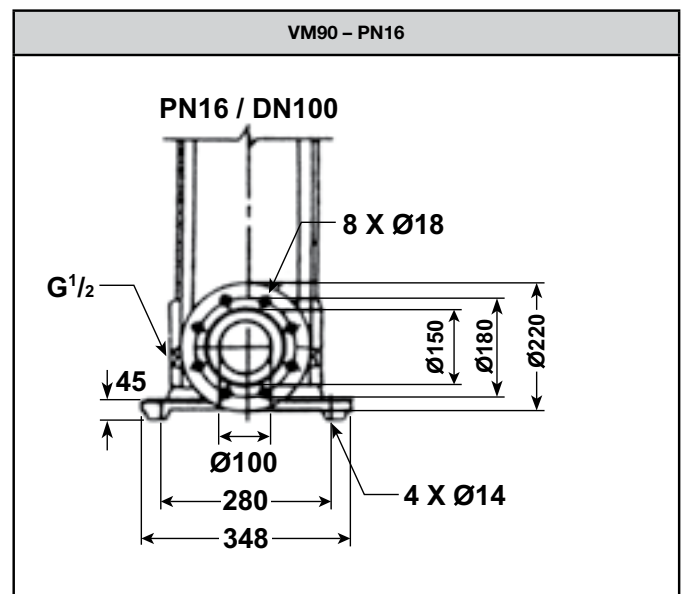
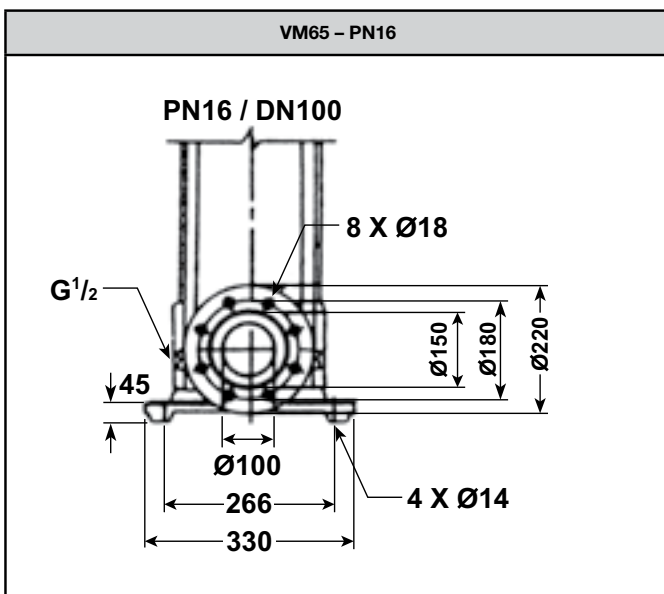
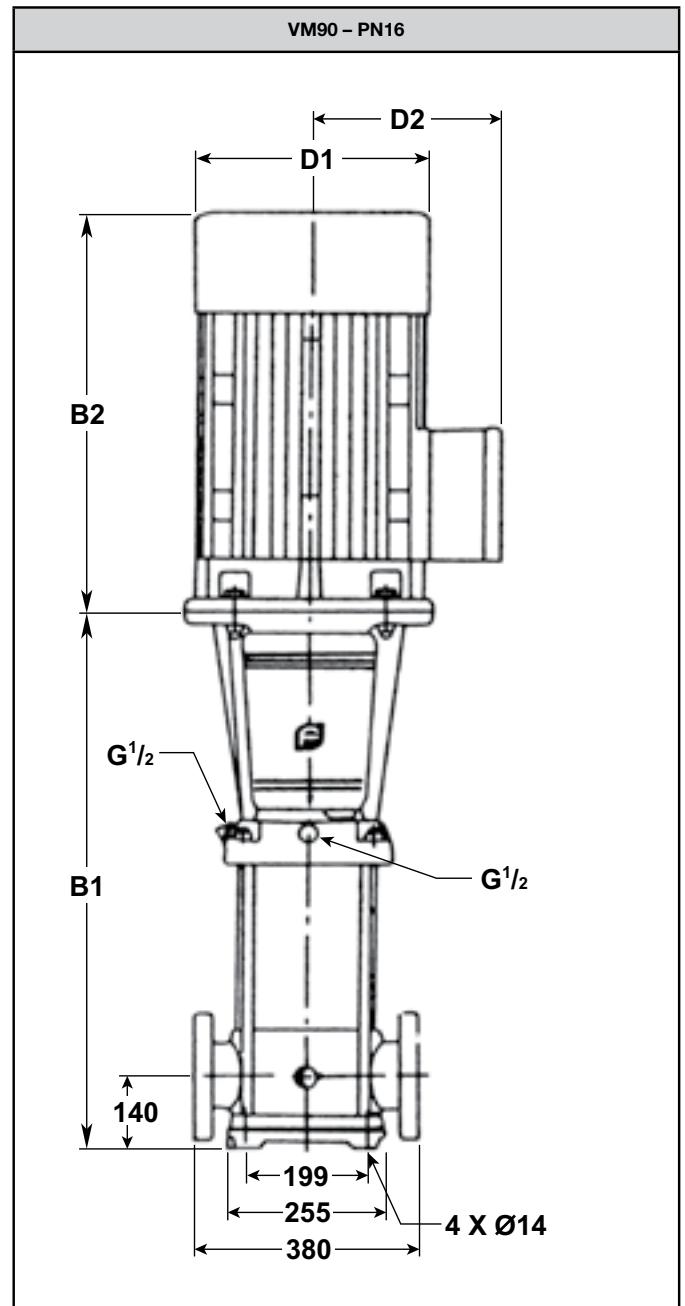
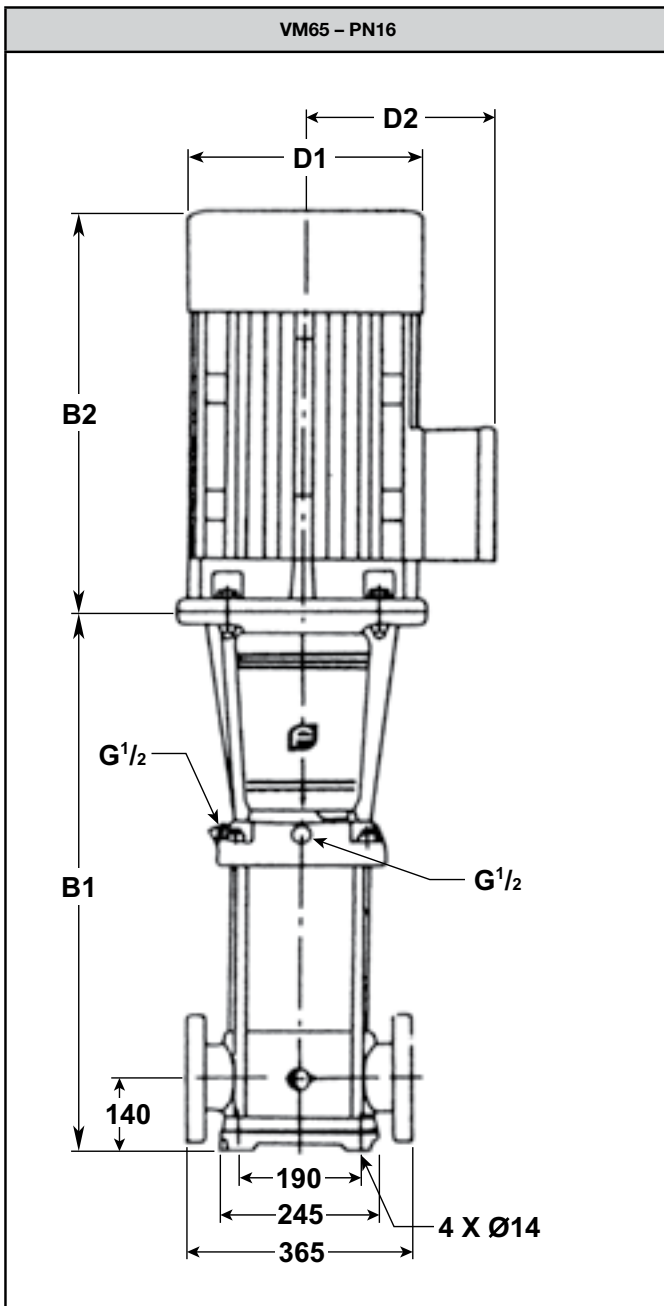


VM16 – PN25



VM32 – PN25 / 40





| DIMENSIONS | | | | | | | | |
|--------------------|--------------------------------------|--------------------------------|-----|---------|-----|-----|-------------|--|
| Model | Motor (P ₂) (kW / HP) | Dimensions (mm) & weights (kg) | | | | | Weight (kg) | |
| | | B1 | B2 | B1 + B2 | D1 | D2 | | |
| VM1 SERIES | | | | | | | | |
| VM1-11 | 0.55 | 420 | 210 | 630 | 148 | 117 | 22 | |
| VM1-15 | 0.75 | 502 | 245 | 747 | 170 | 142 | 25 | |
| VM1-17 | 1.1 | 538 | 245 | 783 | 170 | 142 | 28 | |
| VM1-21 | 1.5 | 610 | 245 | 855 | 170 | 142 | 30 | |
| VM1-23 | 1.5 | 646 | 245 | 891 | 170 | 142 | 33 | |
| VM1-25 | 1.5 | 692 | 290 | 982 | 170 | 155 | 40 | |
| VM3 SERIES | | | | | | | | |
| VM3-8 | 0.75 | 333 | 245 | 578 | 170 | 142 | 22 | |
| VM3-12 | 1.1 | 405 | 245 | 650 | 170 | 142 | 25 | |
| VM3-15 | 1.5 | 459 | 290 | 749 | 190 | 155 | 25 | |
| VM3-17 | 1.5 | 512 | 290 | 802 | 190 | 155 | 30 | |
| VM3-19 | 2.2 | 548 | 290 | 838 | 190 | 155 | 35 | |
| VM3-23 | 2.2 | 620 | 290 | 910 | 190 | 155 | 40 | |
| VM3-29 | 3.0 | 728 | 315 | 1043 | 197 | 165 | 40 | |
| VM5 SERIES | | | | | | | | |
| VM5-5 | 1.1 | 324 | 245 | 569 | 170 | 142 | 25 | |
| VM5-7 | 1.5 | 395 | 290 | 685 | 190 | 155 | 30 | |
| VM5-8 | 1.5 | 422 | 290 | 712 | 190 | 155 | 30 | |
| VM5-10 | 2.2 | 476 | 290 | 766 | 190 | 155 | 30 | |
| VM5-12 | 3.0 | 530 | 315 | 845 | 197 | 165 | 35 | |
| VM5-14 | 3.0 | 592 | 315 | 907 | 197 | 165 | 35 | |
| VM5-16 | 3.0 | 646 | 315 | 961 | 197 | 165 | 40 | |
| VM5-19 | 4.0 | 727 | 335 | 1062 | 230 | 188 | 45 | |
| VM5-22 | 5.5 | 808 | 430 | 1238 | 260 | 208 | 50 | |
| VM10 SERIES | | | | | | | | |
| VM10-4 | 1.5 | 420 | 290 | 710 | 190 | 155 | 30 | |
| VM10-5 | 2.2 | 450 | 290 | 740 | 190 | 155 | 40 | |
| VM10-6 | 2.2 | 480 | 290 | 770 | 190 | 155 | 40 | |
| VM10-7 | 3.0 | 510 | 315 | 825 | 197 | 165 | 45 | |
| VM10-8 | 3.0 | 550 | 315 | 865 | 197 | 165 | 45 | |
| VM10-9 | 4.0 | 580 | 315 | 895 | 197 | 165 | 50 | |
| VM10-10 | 4.0 | 610 | 335 | 945 | 230 | 188 | 55 | |
| VM10-12 | 5.5 | 670 | 430 | 1100 | 260 | 208 | 57 | |
| VM10-14 | 5.5 | 750 | 430 | 1180 | 260 | 208 | 80 | |
| VM10-16 | 7.5 | 810 | 430 | 1240 | 260 | 208 | 85 | |
| VM10-18 | 7.5 | 870 | 430 | 1300 | 260 | 208 | 90 | |
| VM16 SERIES | | | | | | | | |
| VM16-2 | 2.2 | 400 | 290 | 690 | 190 | 155 | 40 | |
| VM16-3 | 3.0 | 455 | 315 | 770 | 197 | 165 | 50 | |
| VM16-4 | 4.0 | 500 | 335 | 835 | 230 | 188 | 55 | |
| VM16-5 | 5.5 | 565 | 430 | 995 | 260 | 208 | 70 | |
| VM16-6 | 5.5 | 610 | 430 | 1040 | 260 | 208 | 75 | |
| VM16-8 | 7.5 | 700 | 430 | 1130 | 260 | 208 | 80 | |
| VM16-11 | 11.0 | 865 | 490 | 1355 | 330 | 255 | 142 | |
| VM16-14 | 15.0 | 1000 | 490 | 1490 | 330 | 255 | 160 | |
| VM32 SERIES | | | | | | | | |
| VM32-2A | 3.0 | 455 | 315 | 770 | 197 | 165 | 75 | |
| VM32-3 | 5.5 | 645 | 430 | 1075 | 260 | 208 | 93 | |
| VM32-4 | 7.5 | 715 | 430 | 1145 | 260 | 208 | 102 | |
| VM32-5 | 11 | 890 | 490 | 1380 | 330 | 255 | 172 | |
| VM32-6 | 11 | 960 | 490 | 1450 | 330 | 255 | 176 | |
| VM32-8 | 15 | 1100 | 490 | 1590 | 330 | 255 | 192 | |
| VM32-10 | 18.5 | 1240 | 550 | 1790 | 330 | 255 | 222 | |
| VM32-12 | 22 | 1380 | 590 | 1970 | 360 | 285 | 263 | |
| VM65 SERIES | | | | | | | | |
| VM65-2A | 7.5 | 644 | 430 | 1074 | 260 | 208 | 120 | |
| VM65-2 | 11 | 754 | 490 | 1244 | 330 | 255 | 155 | |
| VM65-3A | 15 | 836 | 490 | 1326 | 330 | 255 | 195 | |
| VM65-4A | 22 | 919 | 590 | 1509 | 360 | 285 | 260 | |
| VM65-4B | 18.5 | 919 | 550 | 1469 | 330 | 255 | 208 | |
| VM65-5A | 30 | 1001 | 660 | 1661 | 400 | 310 | 345 | |
| VM65-6B | 30 | 1084 | 660 | 1744 | 400 | 310 | 350 | |

| DIMENSIONS (Continued from previous page) | | | | | | | |
|---|--------------------------------------|--------------------------------|-----|---------|-----|-----|-------------|
| Model | Motor (P ₂) (kW / HP) | Dimensions (mm) & weights (kg) | | | | | Weight (kg) |
| | | B1 | B2 | B1 + B2 | D1 | D2 | |
| VM90 SERIES | | | | | | | |
| VM90-3A | 18.5 | 865 | 550 | 1415 | 330 | 255 | 212 |
| VM90-3 | 22 | 865 | 590 | 1455 | 360 | 285 | 265 |
| VM90-4A | 30 | 957 | 660 | 1617 | 400 | 310 | 348 |
| VM90-5 | 37 | 1049 | 660 | 1709 | 400 | 310 | 375 |
| VM90-6 | 45 | 1141 | 700 | 1841 | 460 | 340 | 438 |

| MOTOR TECHNICAL SPECIFICATIONS – SINGLE PHASE | | | | | | | | |
|---|---------|-----------|-------------|--------------------|------|-------|-----------|-----------|
| Motor 1Ø | Frame | IP Rating | FLC 240V | Start/LRC Ratio | RPM | Eff % | Bearings | |
| | | | | | | | Drive End | Non-D/End |
| 0.55 | 71 V18 | IP55 | 3.25 | 5.62 | 2828 | 70 | 6202-ZZ | 6202-ZZ |
| 0.75 | 80 V18 | IP55 | 4.38 | 5.83 | 2815 | 72 | 6204-ZZ | 6204-ZZ |
| 1.1 | 80 V18 | IP55 | 6.38 | 5.65 | 2830 | 75 | 6204-ZZ | 6204-ZZ |
| 1.5 | 90 V18 | IP55 | 8.08 | 5.57 | 2850 | 76 | 6205-ZZ | 6205-ZZ |
| 2.2 | 90 V18 | IP55 | 12.0 | 4.59 | 2830 | 77 | 6205-ZZ | 6205-ZZ |
| 3.0 | 100 V18 | IP55 | 18.0* | 5.0 | 2870 | 81 | 6206-ZZ | 6205-ZZ |
| 4.0 | 112 V18 | IP55 | 22.0* | 6.4 | 2910 | 84 | 6207-ZZ | 6206-ZZ |

*For 480V single phase operation multiply by 0.5.

| MOTOR TECHNICAL SPECIFICATIONS – THREE PHASE | | | | | | | | |
|--|----------|-----------|-------------|--------------------|------|-------|-----------|-----------|
| Motor 3Ø | Frame | IP Rating | FLC 415V | Start/LRC Ratio | RPM | Eff % | Bearings | |
| | | | | | | | Drive End | Non-D/End |
| 0.75 | 80 V18 | IP55 | 1.52 | 7.0 | 2842 | 80.8 | 6204-ZZ | 6204-ZZ |
| 1.1 | 80 V18 | IP55 | 2.2 | 6.2 | 2828 | 82.4 | 6204-ZZ | 6204-ZZ |
| 1.5 | 90 V18 | IP55 | 3.1 | 5.3 | 2800 | 78.0 | 6205-ZZC3 | 6205-ZZC3 |
| 2.2 | 90 V18 | IP55 | 4.2 | 6.7 | 2800 | 85.0 | 6205-ZZC3 | 6205-ZZC3 |
| 3 | 100 V18 | IP55 | 5.7 | 6.8 | 2853 | 86.2 | 6206-ZZC3 | 6206-ZZC3 |
| 4 | 112 V18• | IP55 | 7.3 | 6.7 | 2902 | 86.8 | 6306-S | 6306-S |
| 5.5 | 132 V18• | IP55 | 9.8 | 7.4 | 2916 | 89.9 | 7308B | 6308ZZC3 |
| 7.5 | 132 V18• | IP55 | 13.3 | 7.4 | 2892 | 87.0 | 7308B | 6308ZZC3 |
| 11.0 | 160 V1• | IP55 | 19.4 | 7.9 | 2925 | 88.3 | 7309B | 6309ZZC3 |
| 15.0 | 160 V1• | IP55 | 25.5 | 8.4 | 2931 | 89.3 | 7309B | 6309ZZC3 |
| 18.5 | 160 V1• | IP55 | 31.3 | 8.3 | 2938 | 91.4 | 7309B | 6309ZZC3 |
| 22.0 | 180 V1• | IP55 | 36.8 | 7.7 | 2951 | 90.4 | 6311 | 7311 |
| 30.0 | 200 V1• | IP55 | 49.4 | 7.9 | 2950 | 91.4 | 6312 | 7312 |
| 37.0 | 200 V1• | IP55 | 60.9 | 7.6 | 2950 | 92.1 | 6312ZZC3 | 7312B |
| 45.0 | 225 V1• | IP55 | 74.8 | 7.8 | 2962 | 92.6 | 6313C3 | 7313B |

• Special motor bearings fitted for thrust management.

