



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.



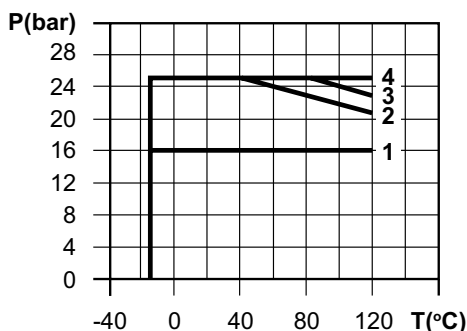
OPERATING LIMITS	
Capacities to	1833 lpm (110m <sup>3</sup> /hr)
Pressure heads to	230m
Maximum discharge pressure	PN25 255m
Maximum suction pressure	Refer to table below
Temperature range	-15° to +70°C
Hot water type available on request	+70° to +120°C
Motor - three phase*	400V ± 10%
Motor - single 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 40°C
Single phase Three Phase	
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

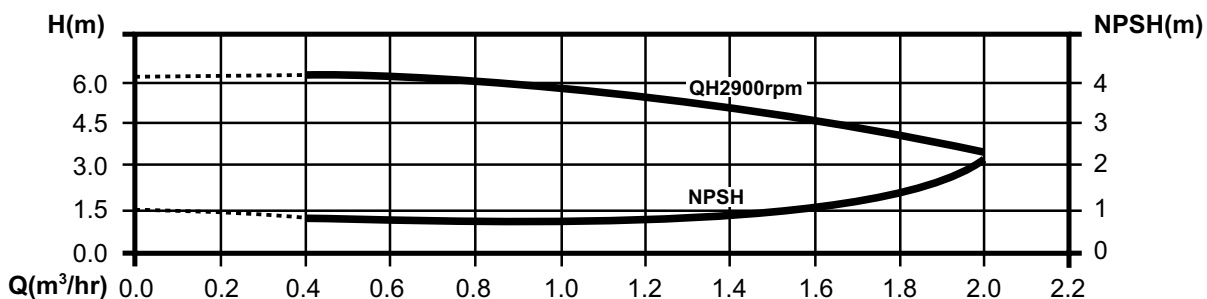
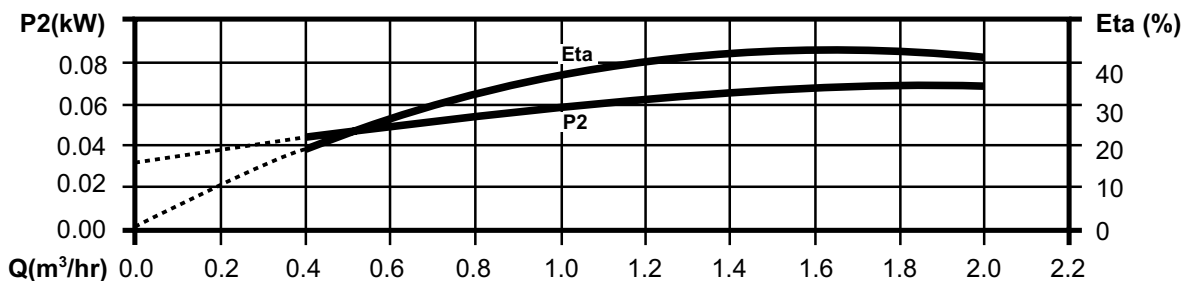
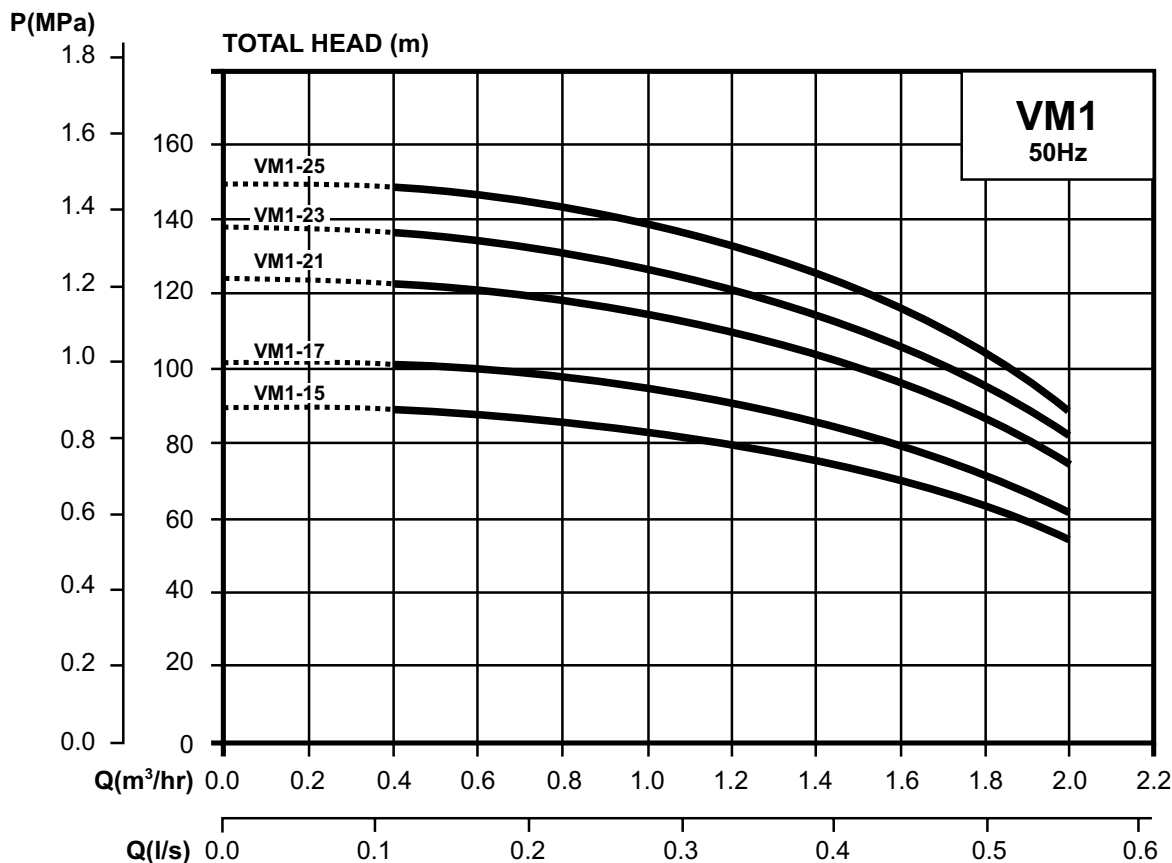
\*Special version with 316L stainless steel & viton orings on request

**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/m<sup>3</sup>.

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

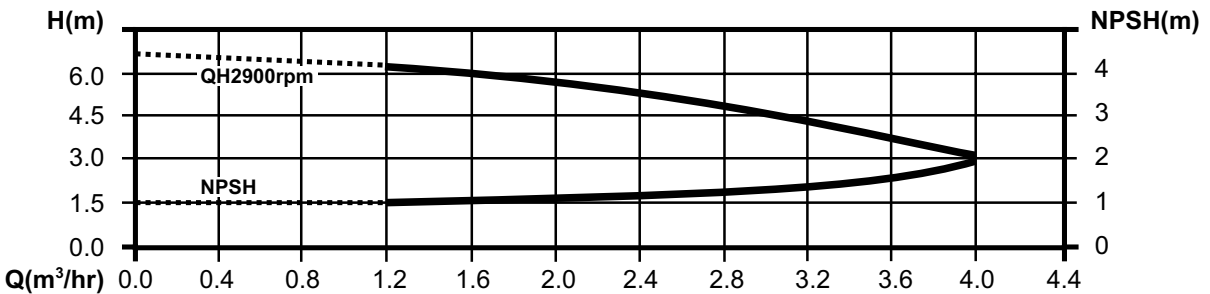
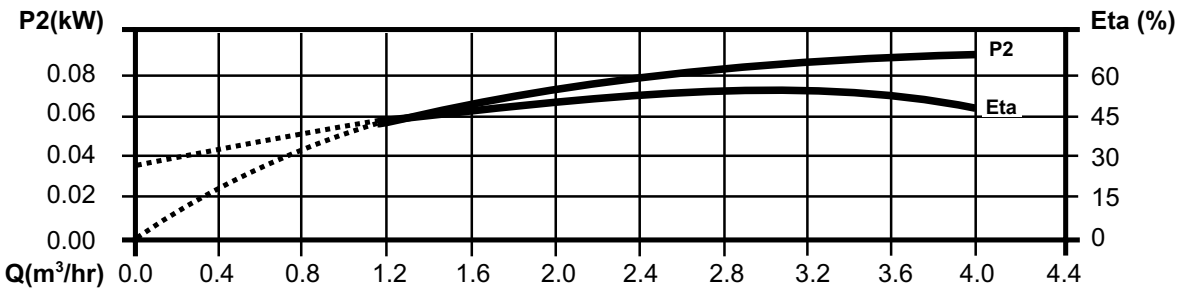
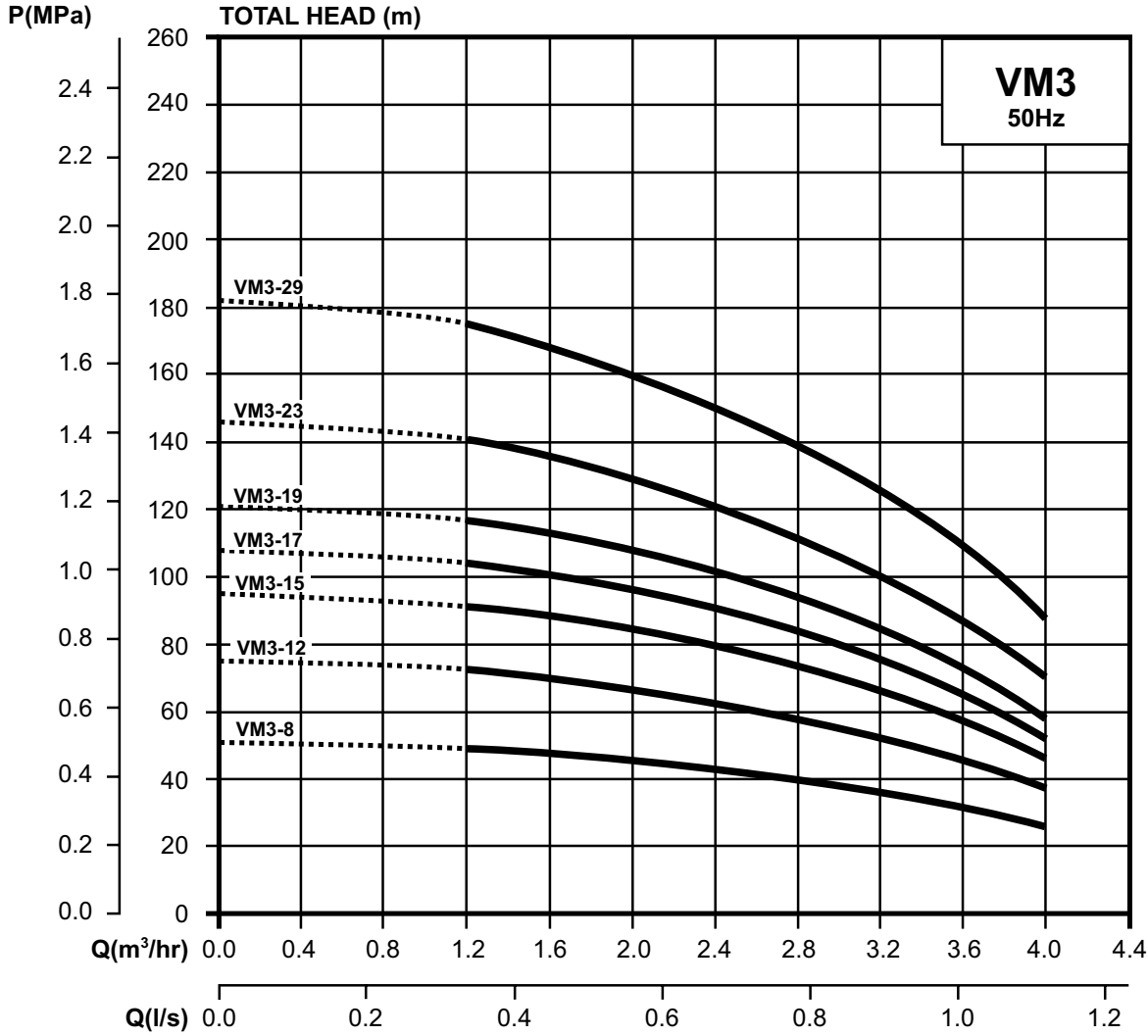
ALTITUDE & TEMPERATURE VS LOSS OF HEAD			
Guide only - altitude and temperature losses are added.			
Altitude	Loss of head	Temperature	Loss of head
0m	0m	20°C	0.20m
500m	0.60m	30°C	0.40m
1000m	1.15m	40°C	0.70m
1500m	1.70m	50°C	1.20m
2000m	2.20m	60°C	1.90m
2500m	2.65m	70°C	3.10m
3000m	3.20m	80°C	4.70m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

## VM1 HYDRAULIC PERFORMANCE



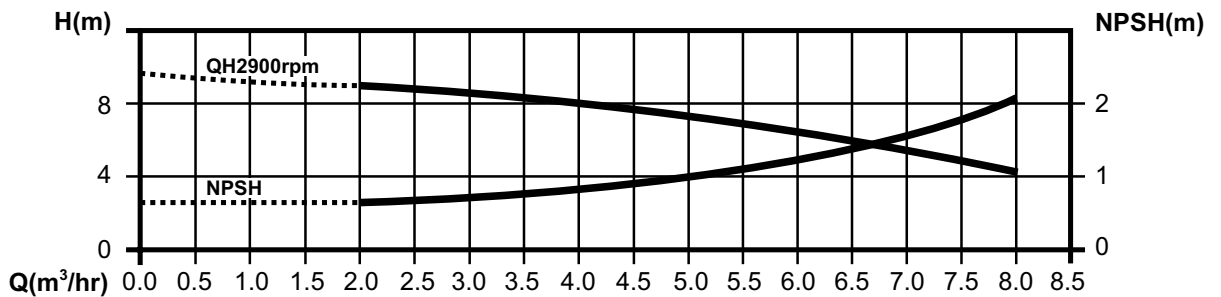
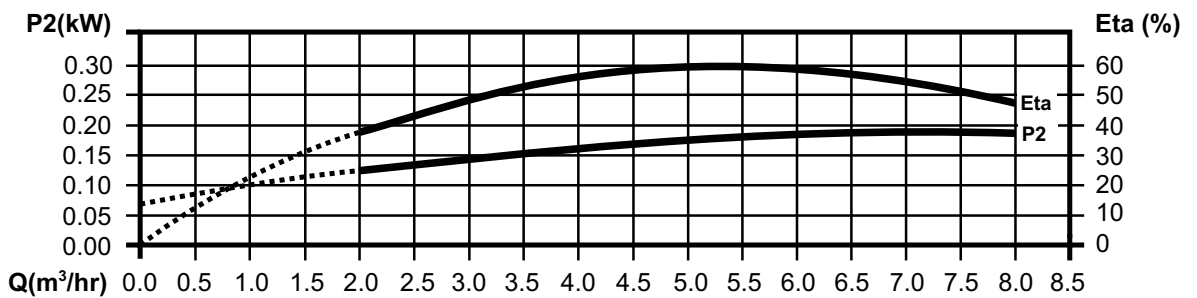
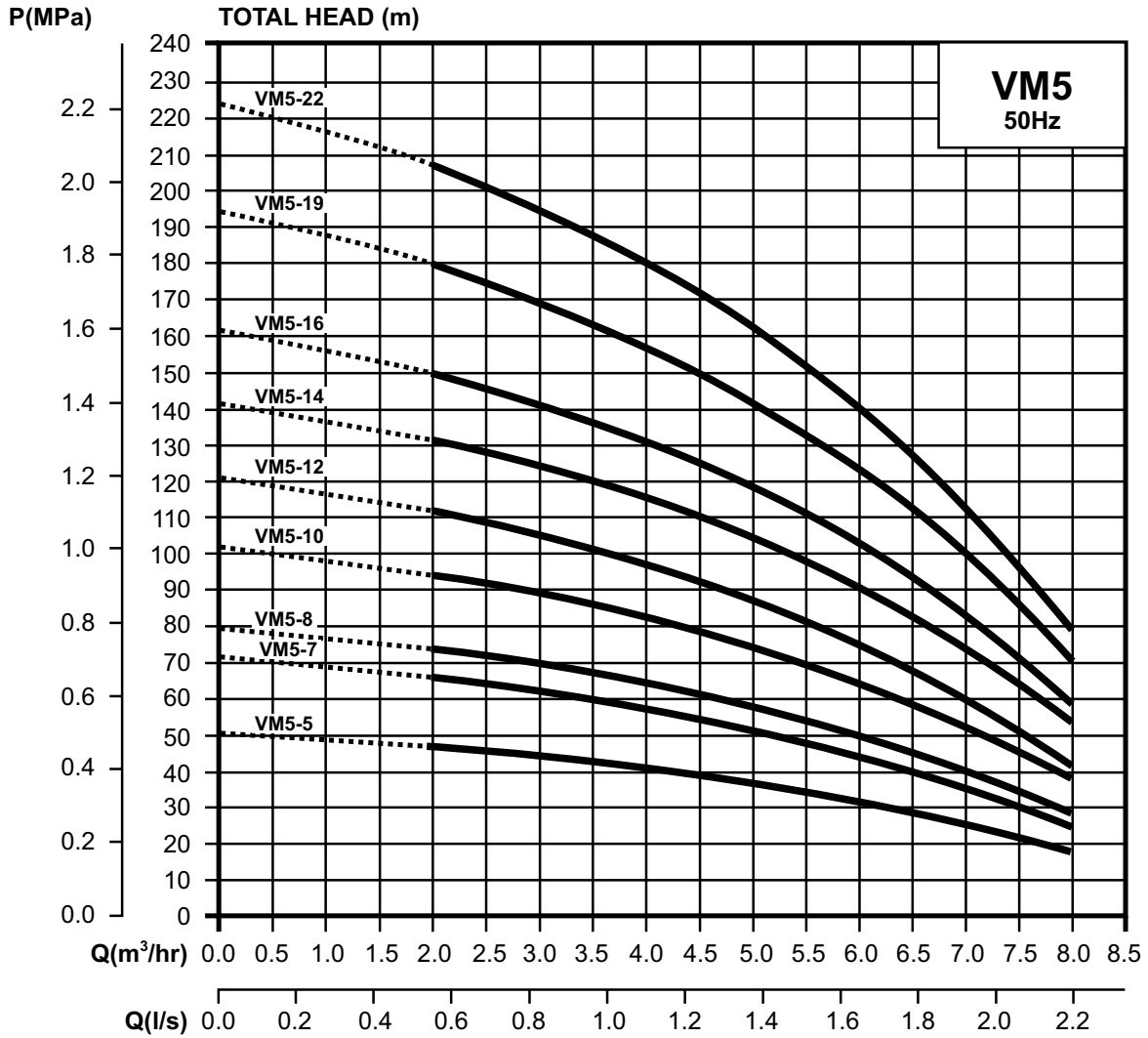
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM3 HYDRAULIC PERFORMANCE



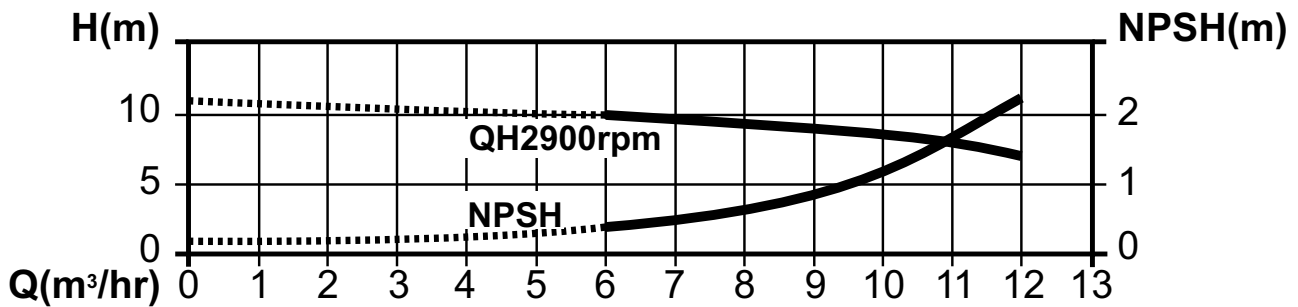
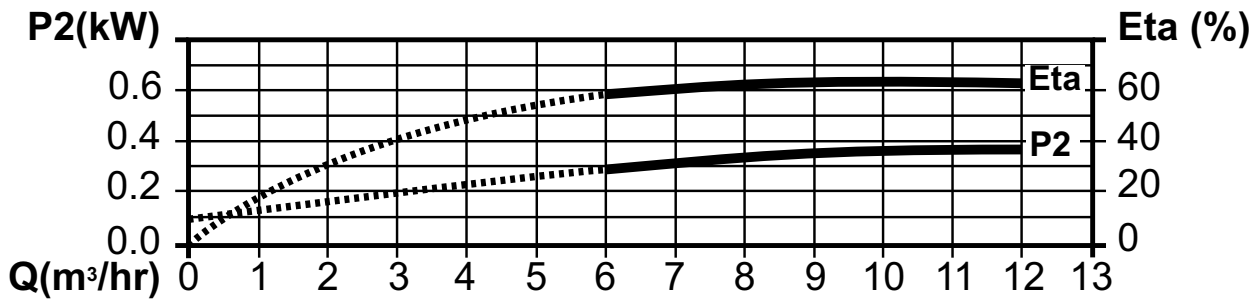
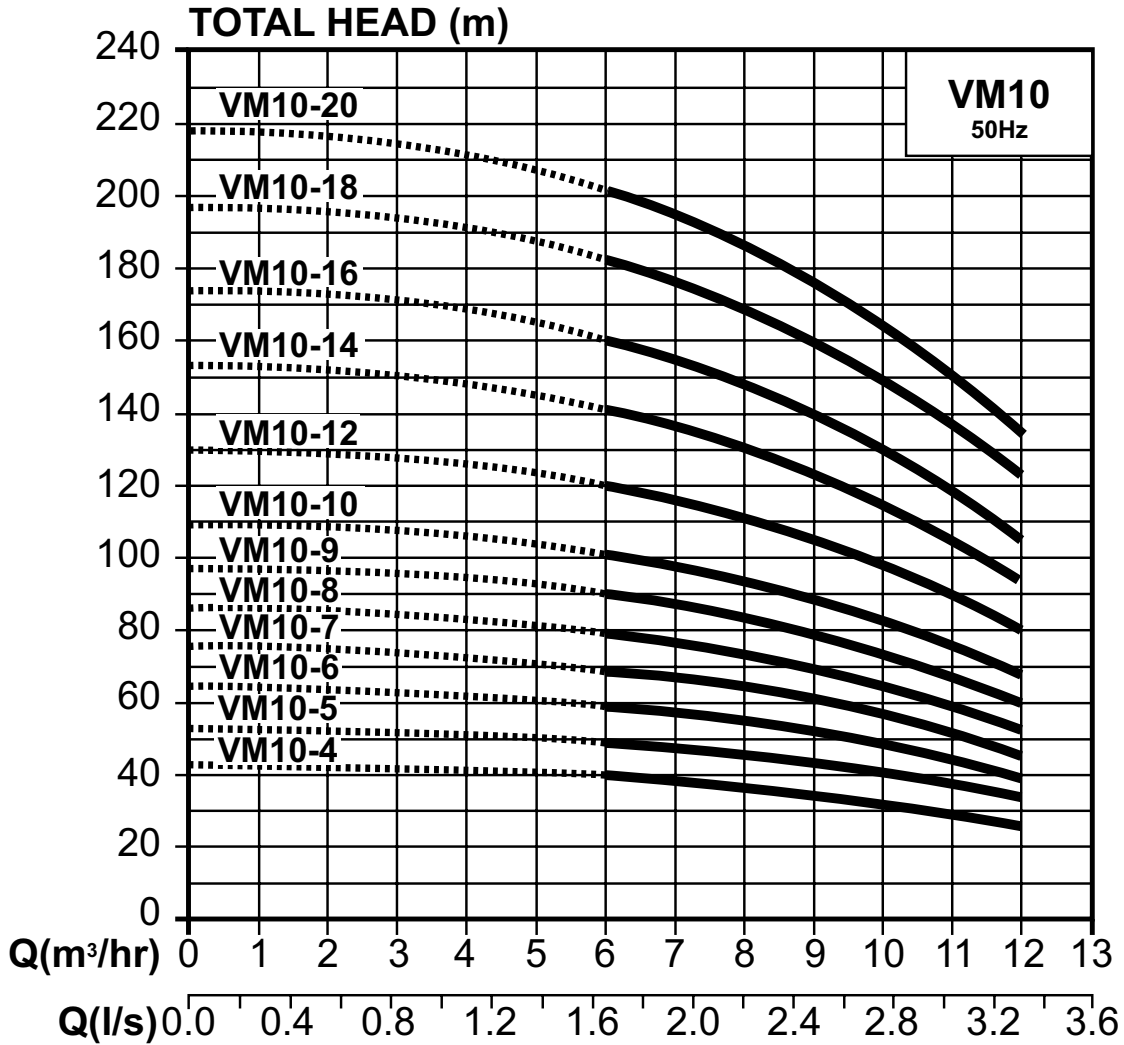
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM5 HYDRAULIC PERFORMANCE



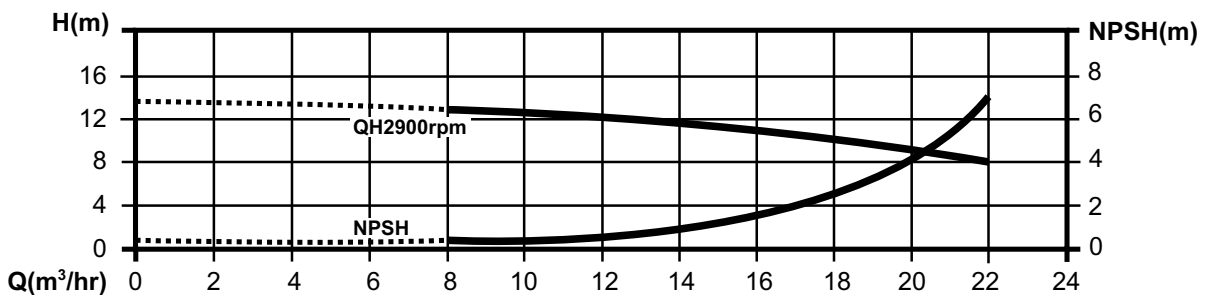
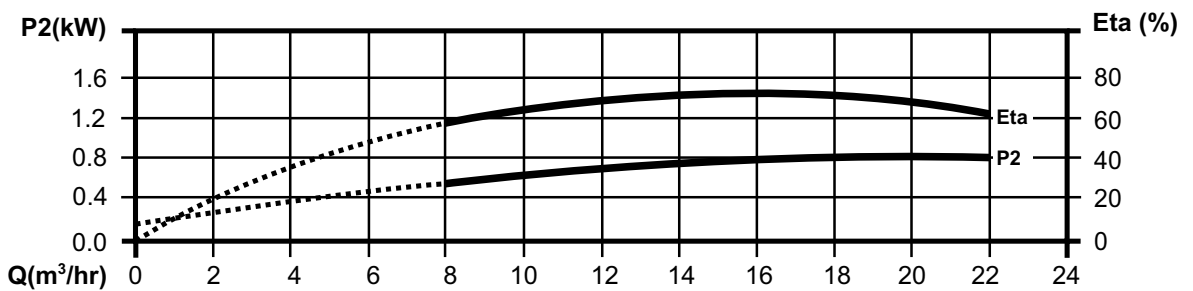
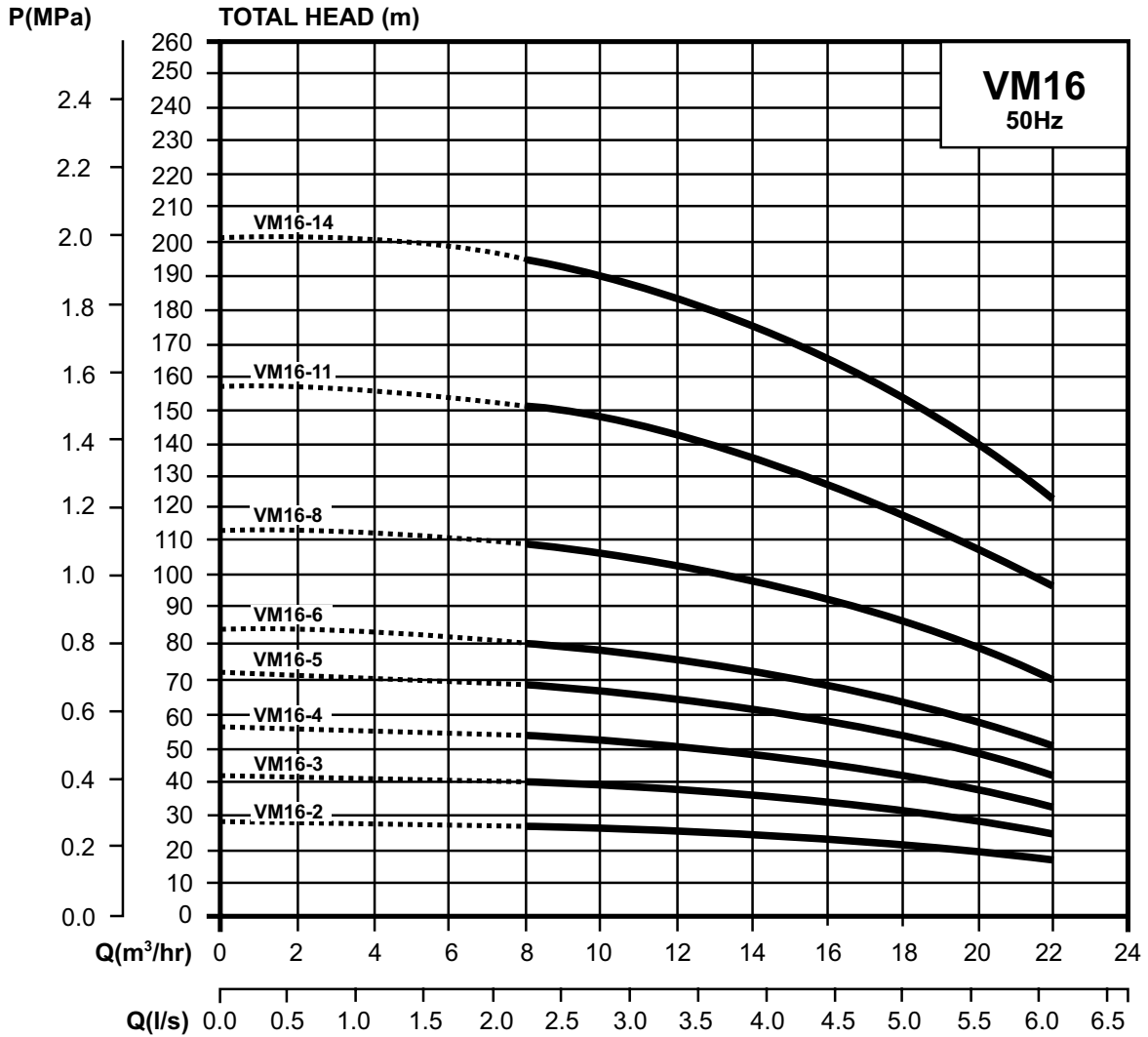
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM10 HYDRAULIC PERFORMANCE



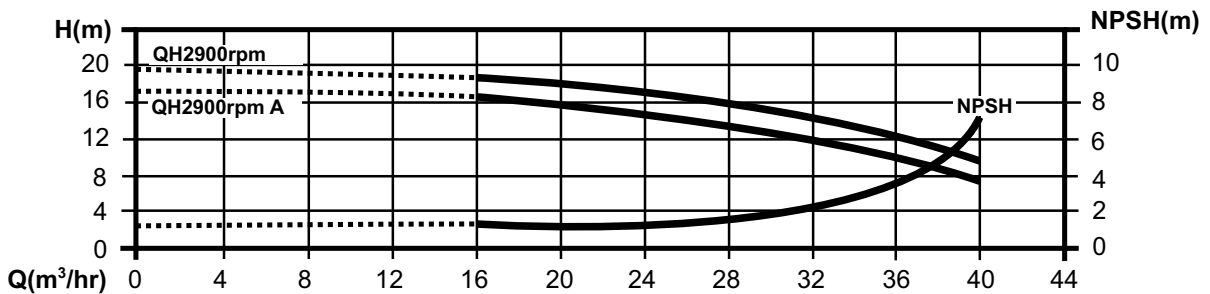
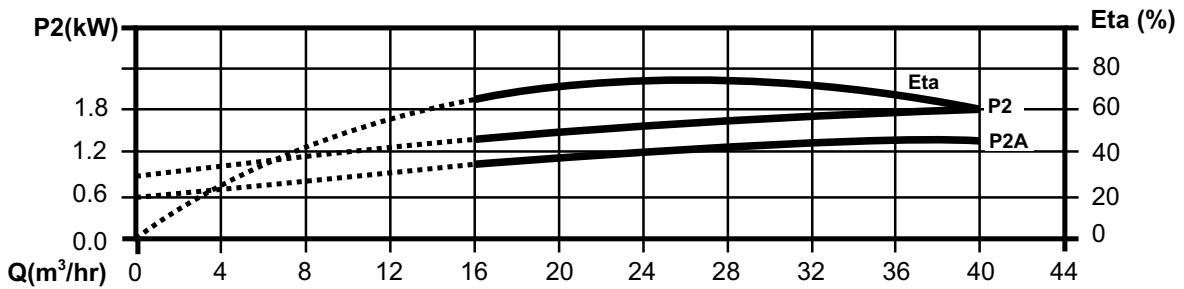
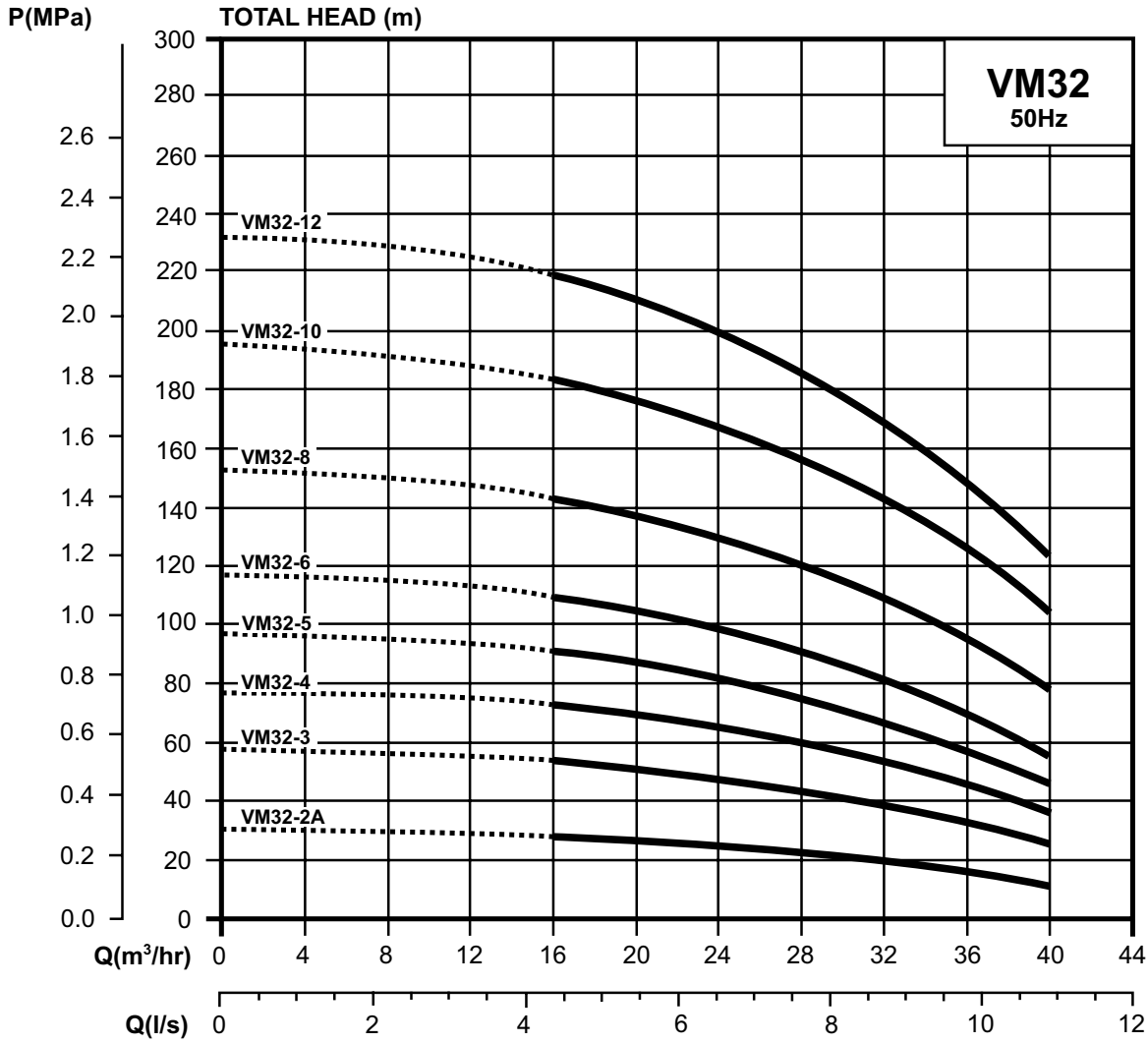
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

## VM16 HYDRAULIC PERFORMANCE



NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

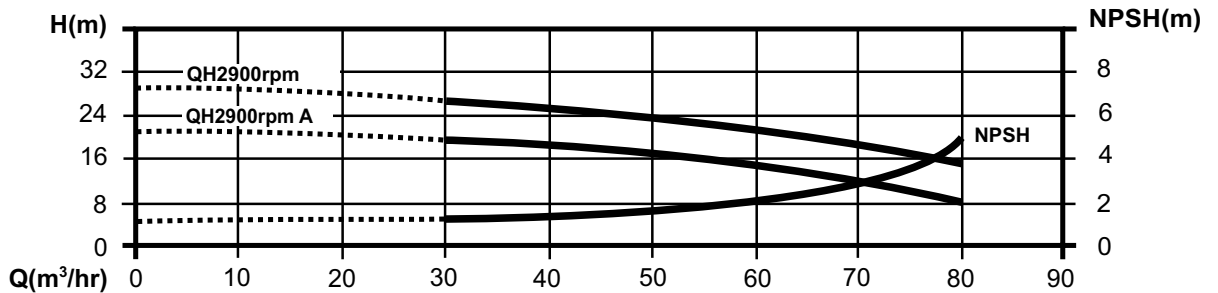
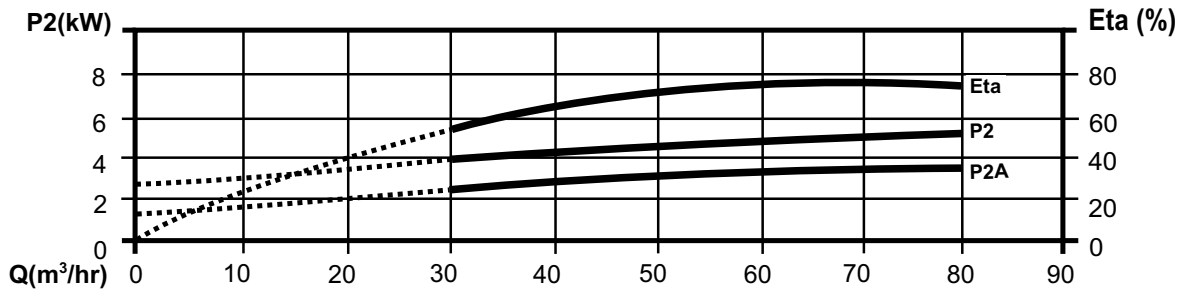
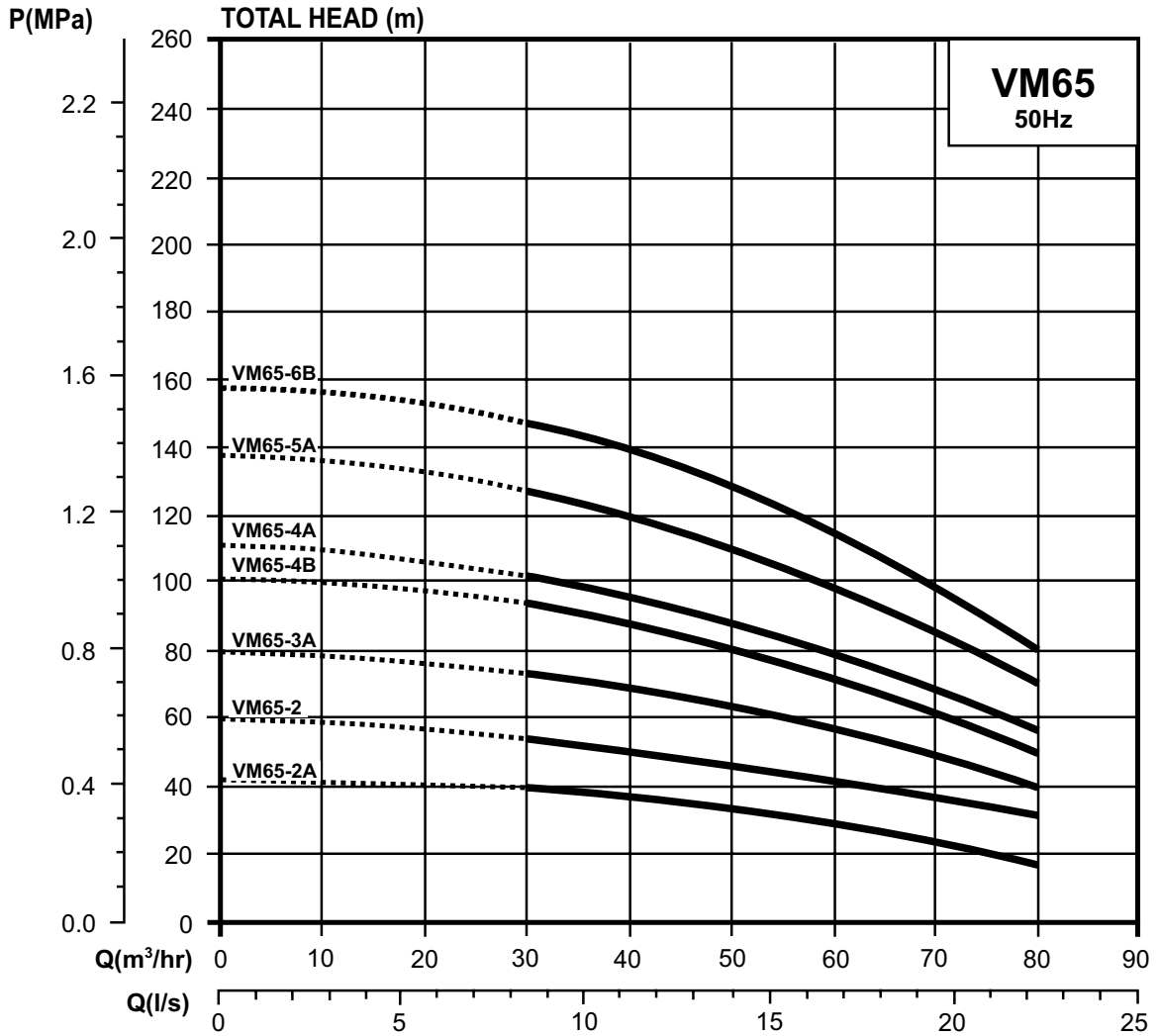
VM32 HYDRAULIC PERFORMANCE



NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

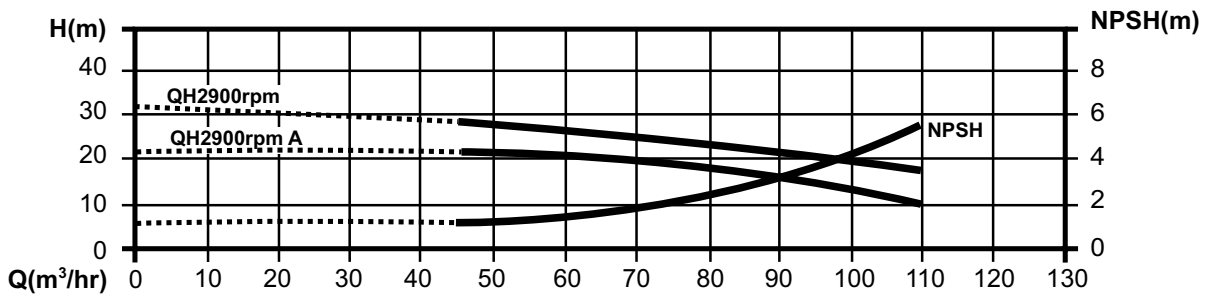
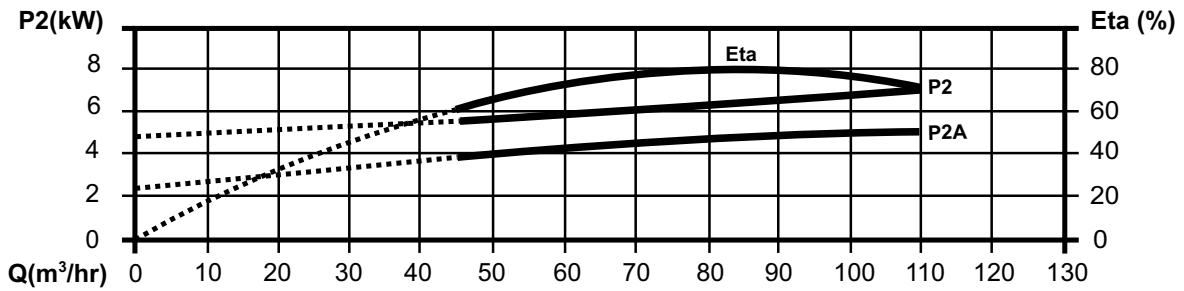
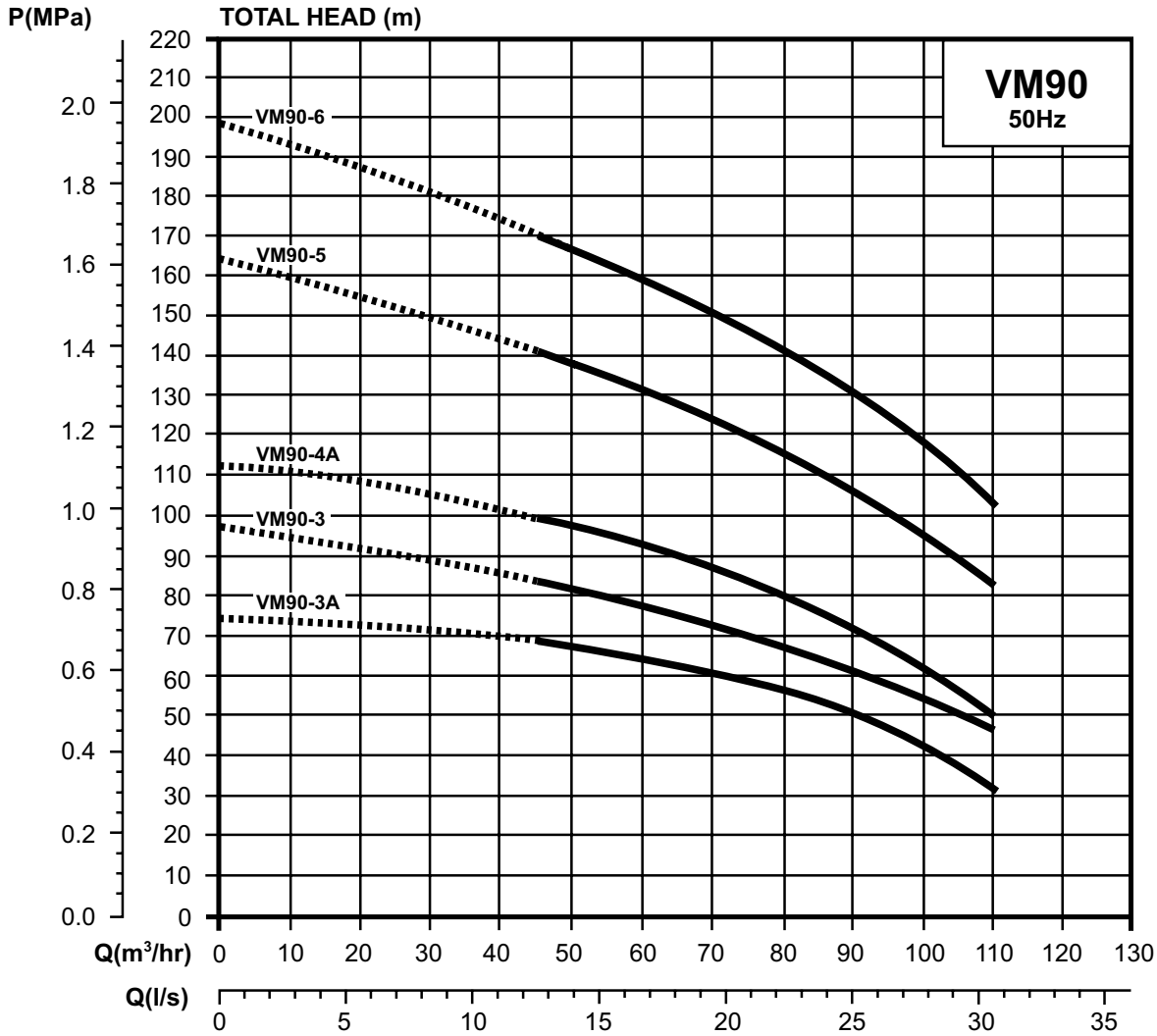


VM65 HYDRAULIC PERFORMANCE



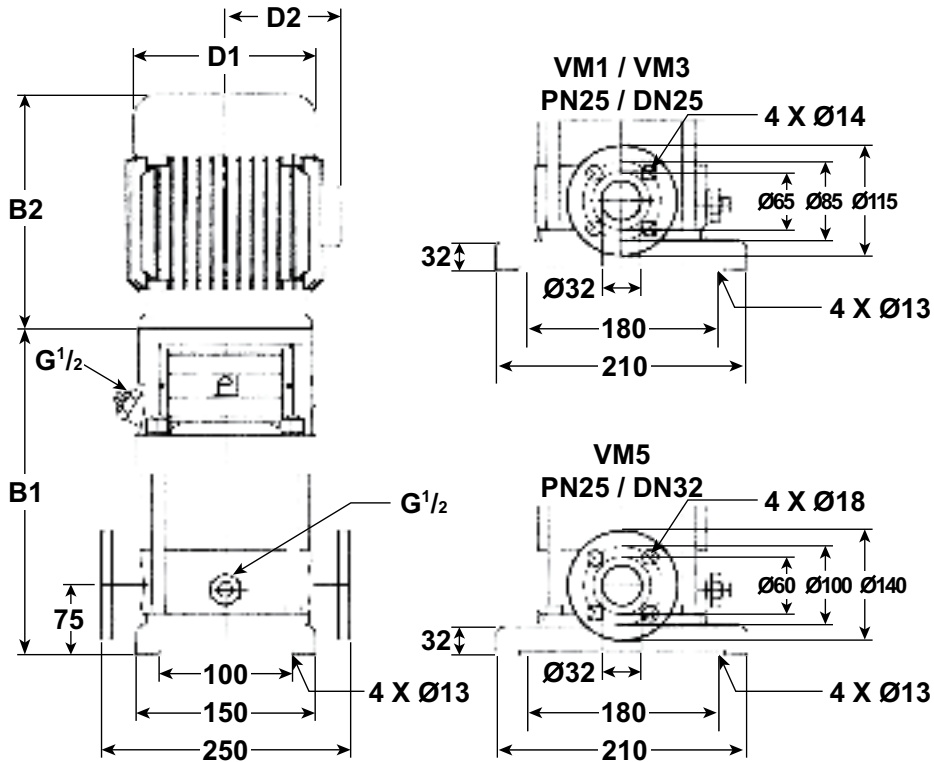
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM90 HYDRAULIC PERFORMANCE

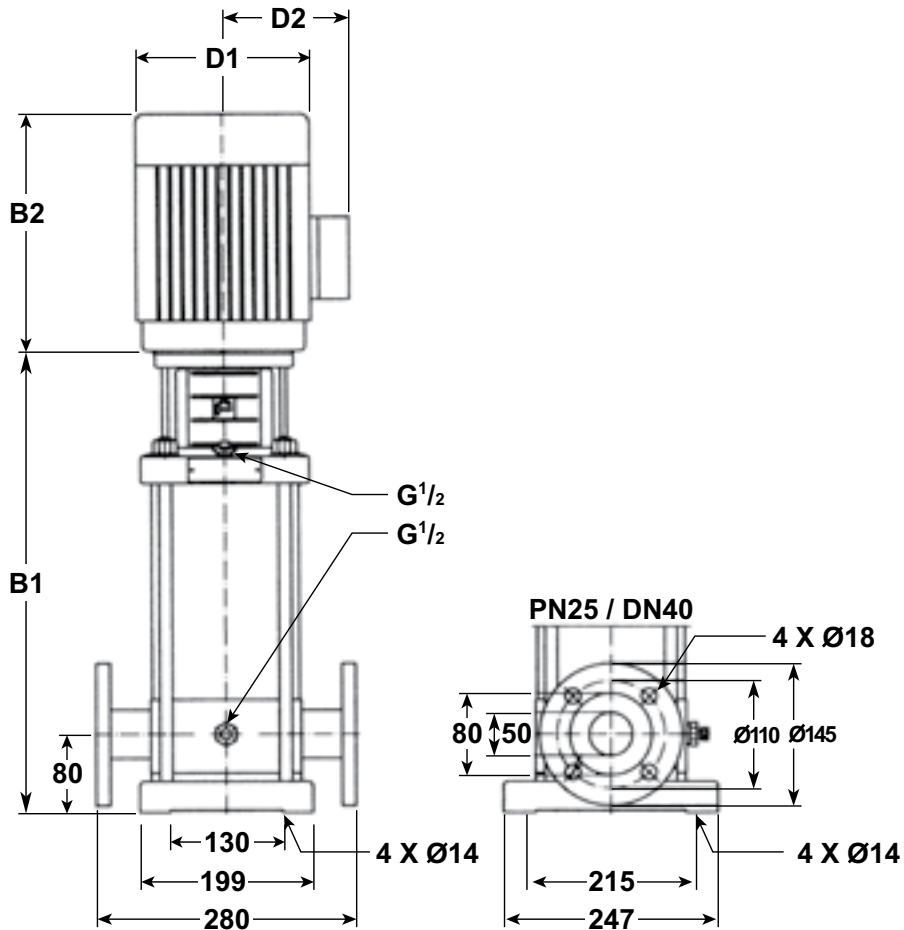


NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

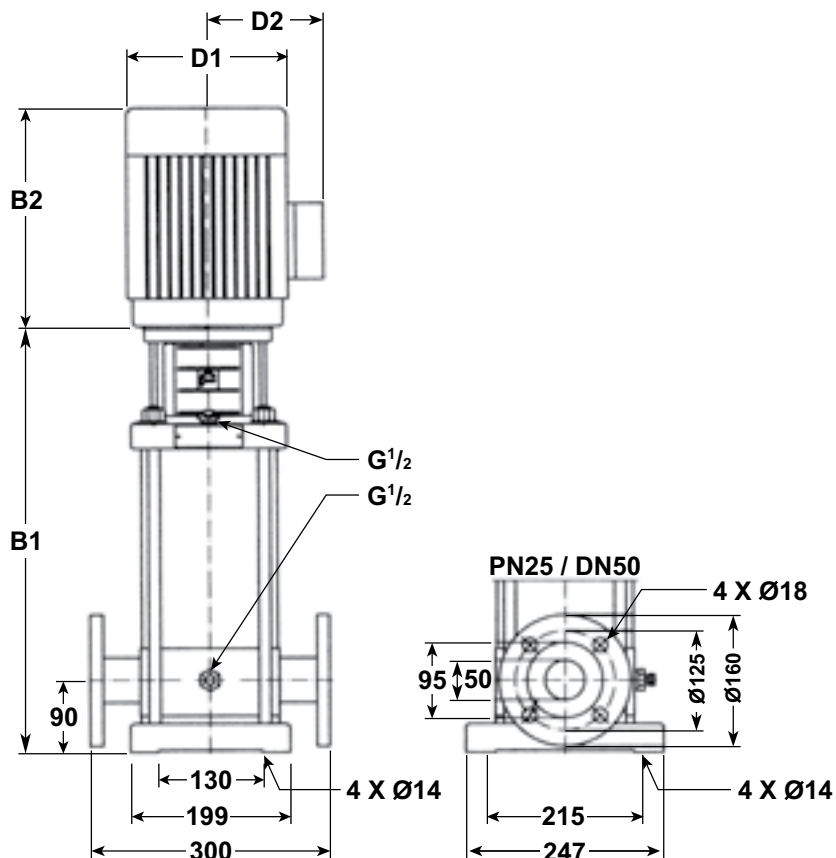
VM1 / VM3 / VM5 – PN25



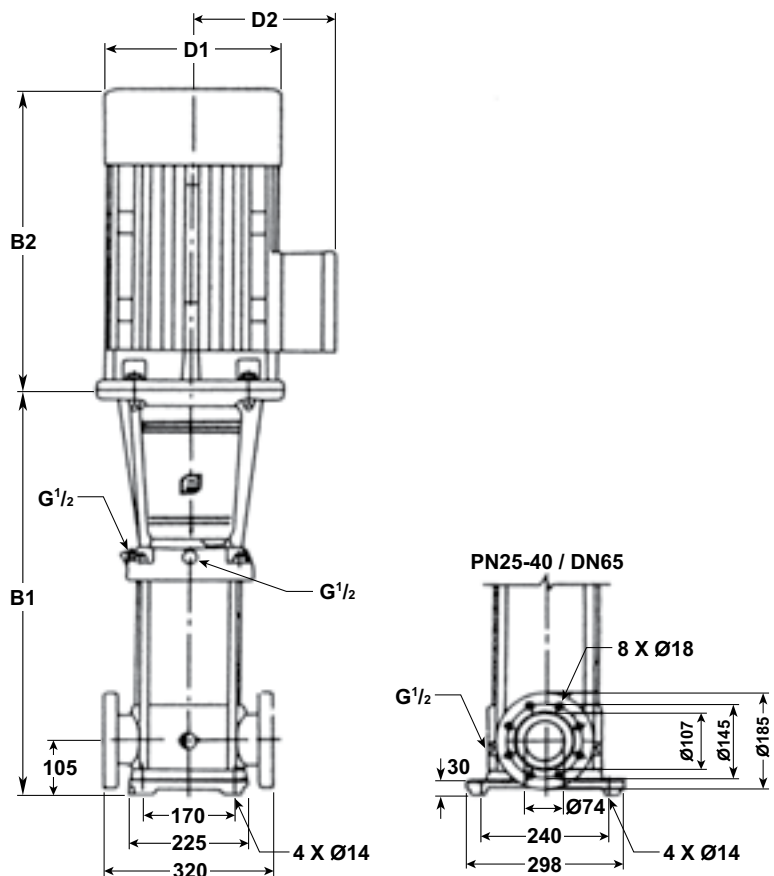
VM10 – PN25

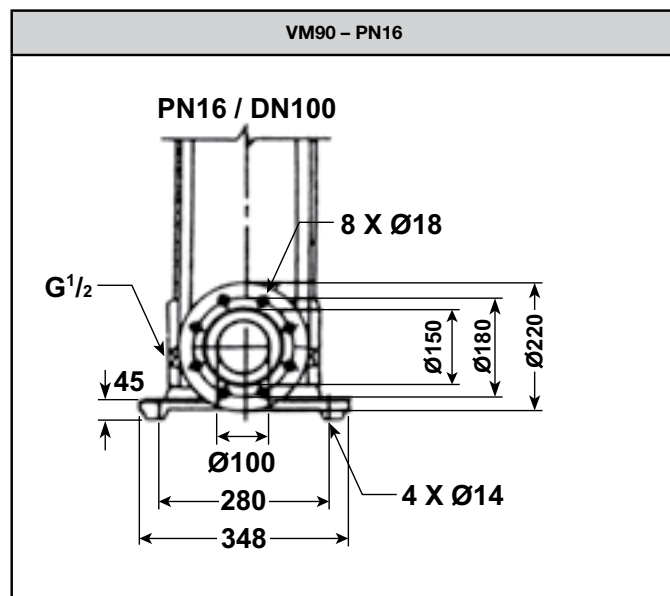
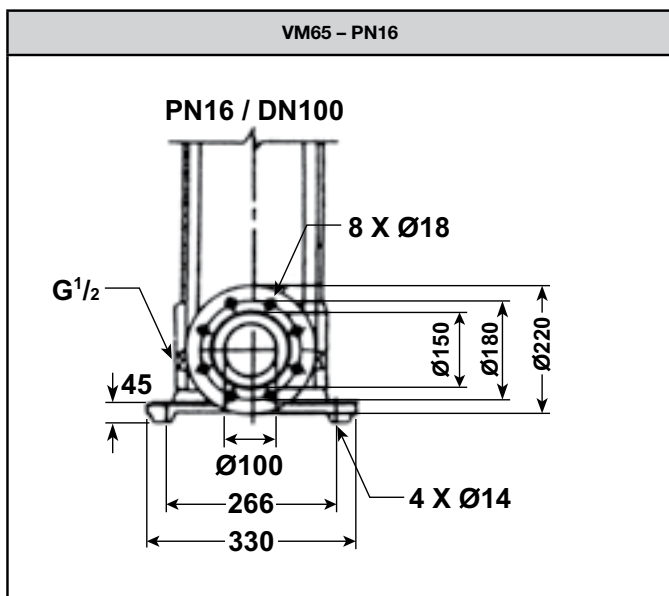
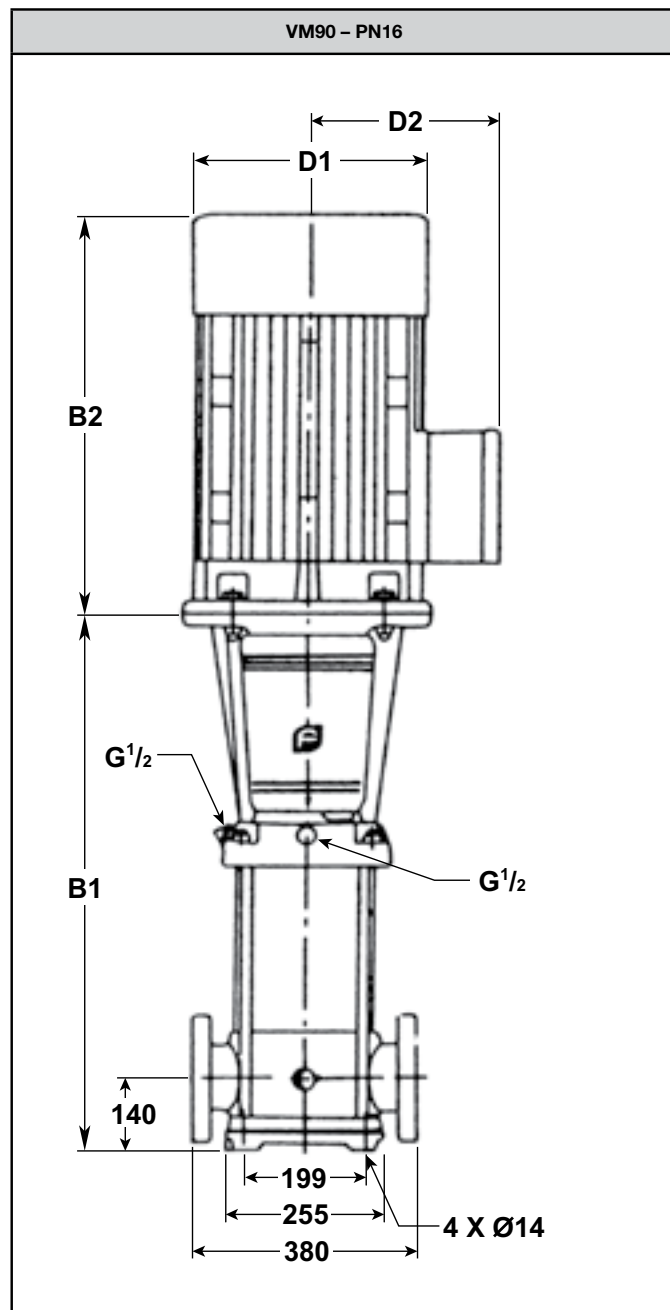
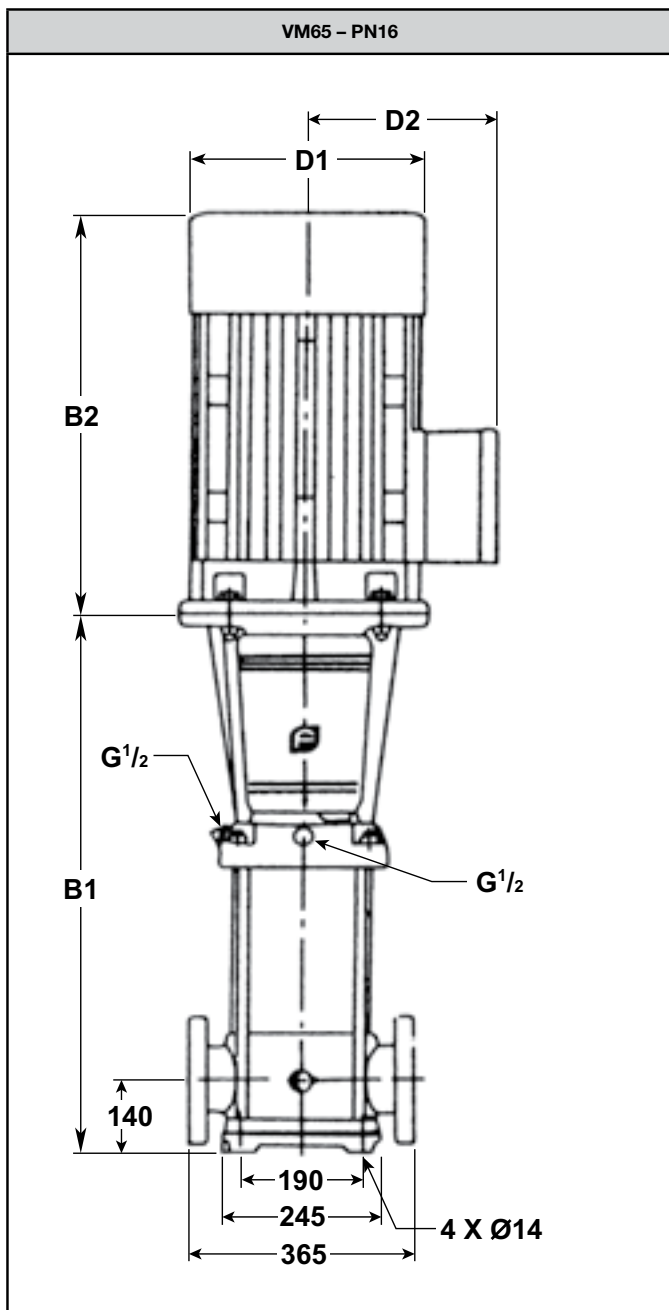


VM16 – PN25



VM32 – PN25 / 40





DIMENSIONS								
Model	Motor (P <sub>2</sub> ) (kW / HP)	Dimensions (mm) & weights (kg)					Weight (kg)	
		B1	B2	B1 + B2	D1	D2		
<b>VM1 SERIES</b>								
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	
<b>VM3 SERIES</b>								
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	
<b>VM5 SERIES</b>								
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	
<b>VM10 SERIES</b>								
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	
<b>VM16 SERIES</b>								
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	
<b>VM32 SERIES</b>								
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	
<b>VM65 SERIES</b>								
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 <sub>2</sub> ) (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.

