



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



VM Series Vertical Multistage Pumps

Model Numbers:

VM1, VM3, VM5, VM10, VM16, VM20,
VM32, VM42, VM65, VM90

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

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

Vertical Multistage Pumps

DAVEY

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

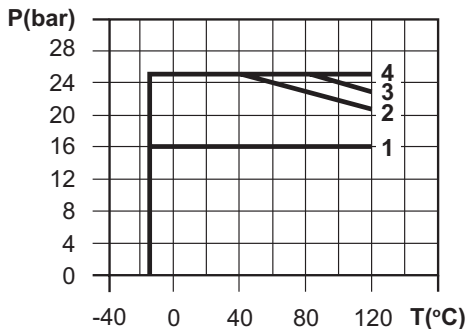
ELECTRICAL DATA

Maximum ambient temperature	
Single phase	45°C
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

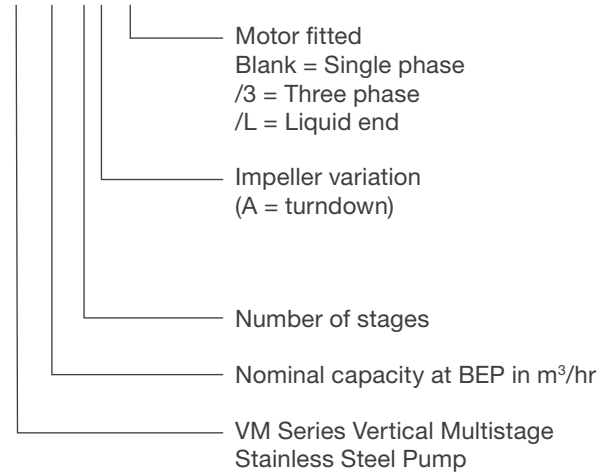
PART	MATERIAL
Pump attachment base	Cast iron
Suction & discharge casing	304 stainless steel
Motor support lantern	Cast iron
Impellers	304 stainless steel
Stages (casing)	304 stainless steel
Outside sleeve	304 stainless steel
Pump shaft	316L stainless steel
Intermediate bearing	Tungsten carbide
Mechanical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

*Special version with 316L stainless steel & viton o-rings 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

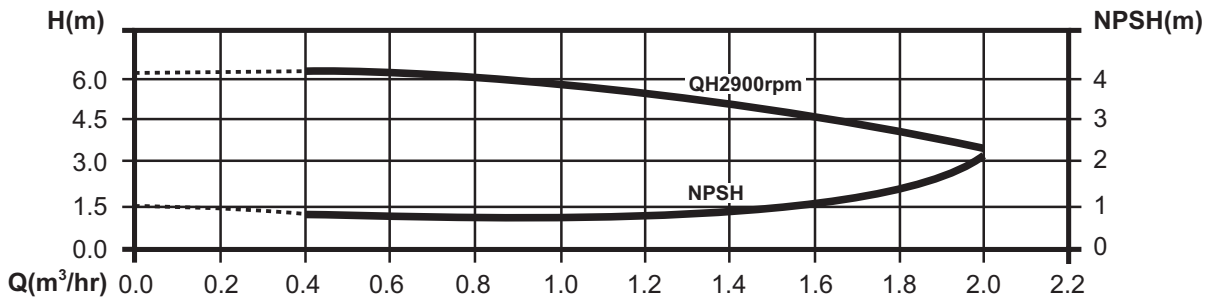
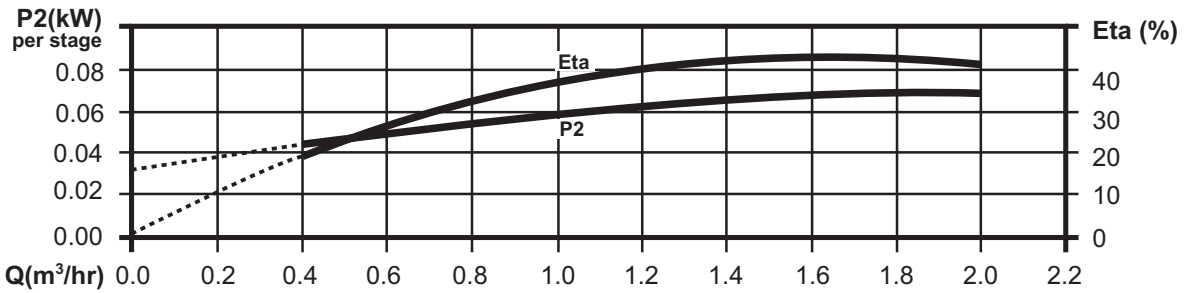
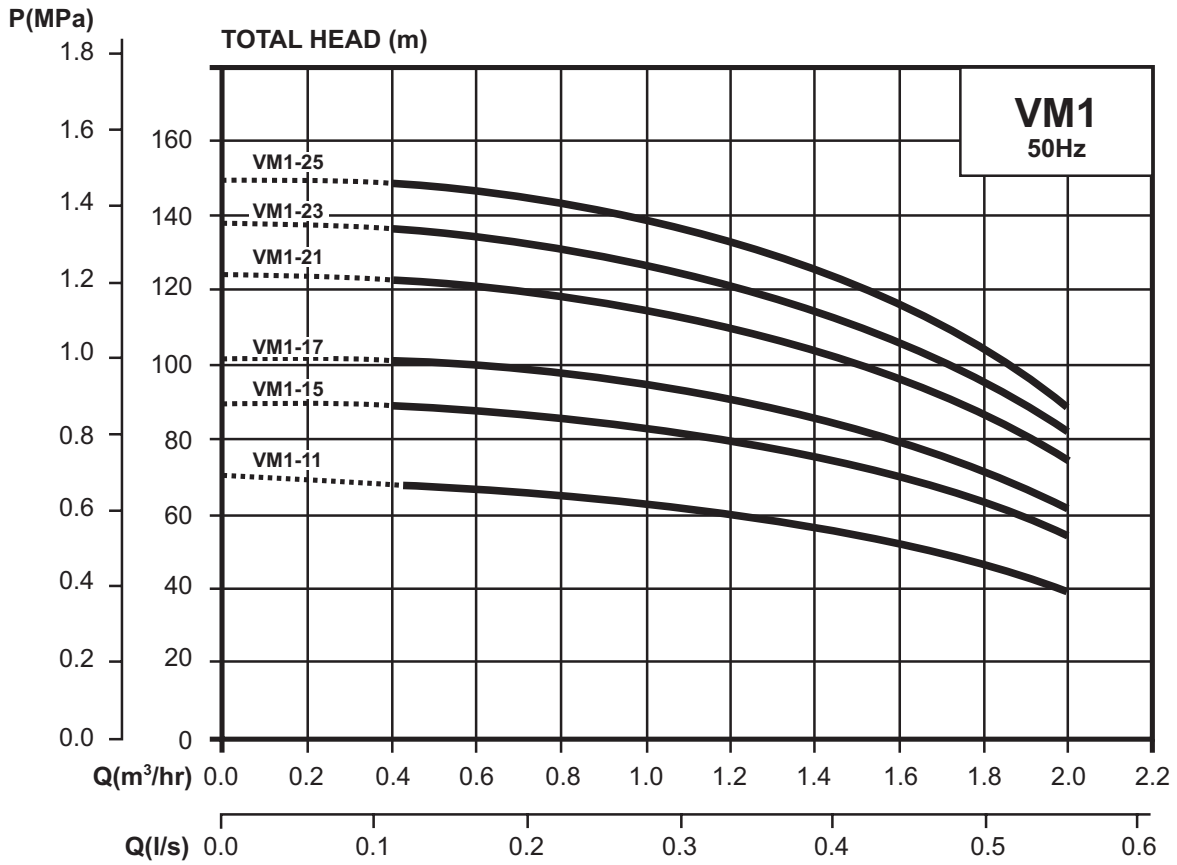


ALTITUDE & TEMPERATURE VS LOSS OF HEAD

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

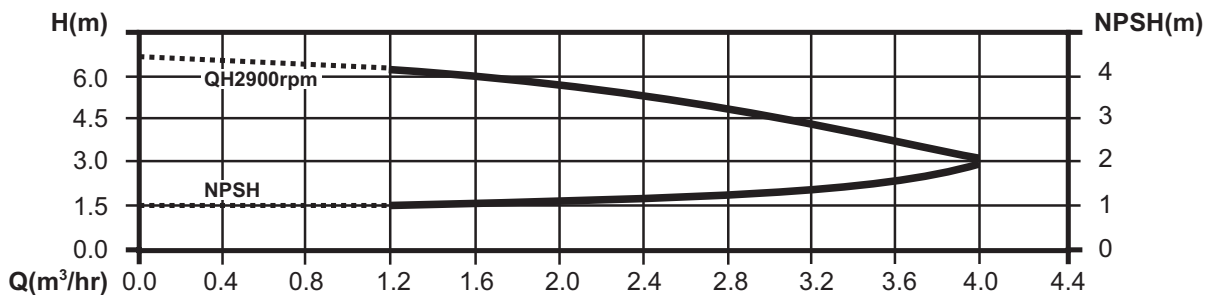
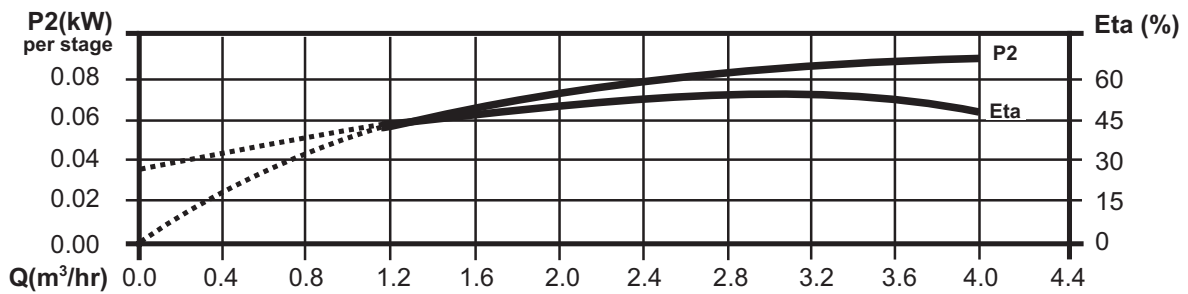
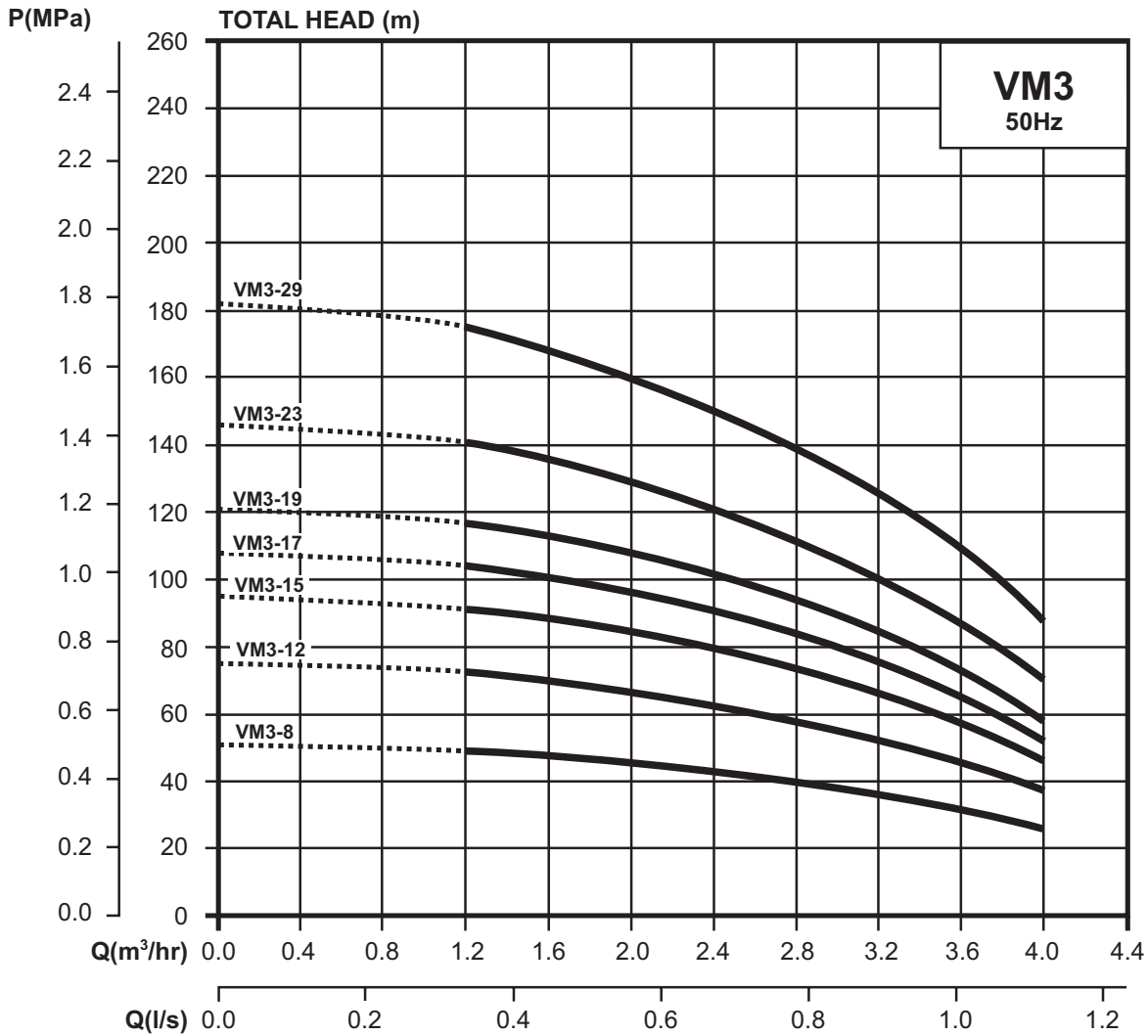
VM1 HYDRAULIC PERFORMANCE



NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

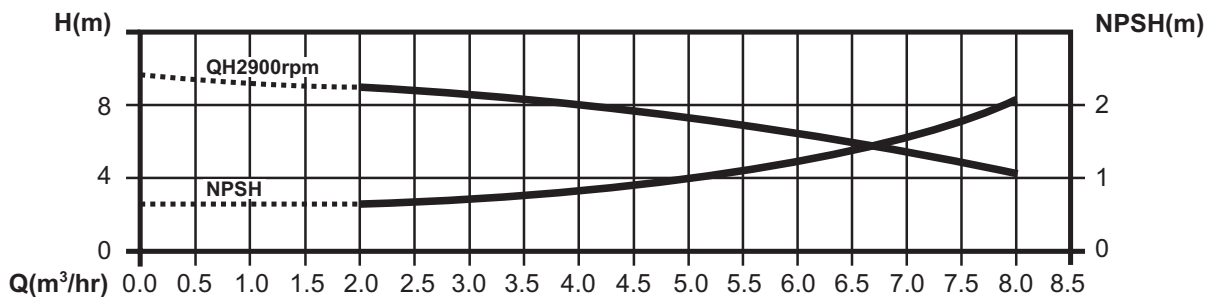
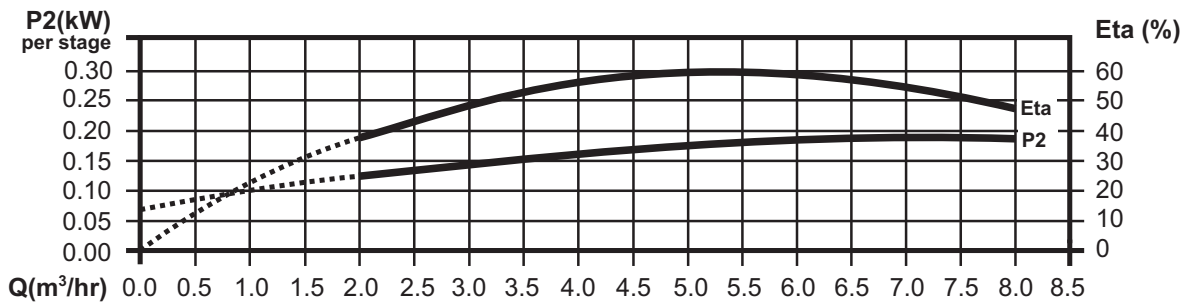
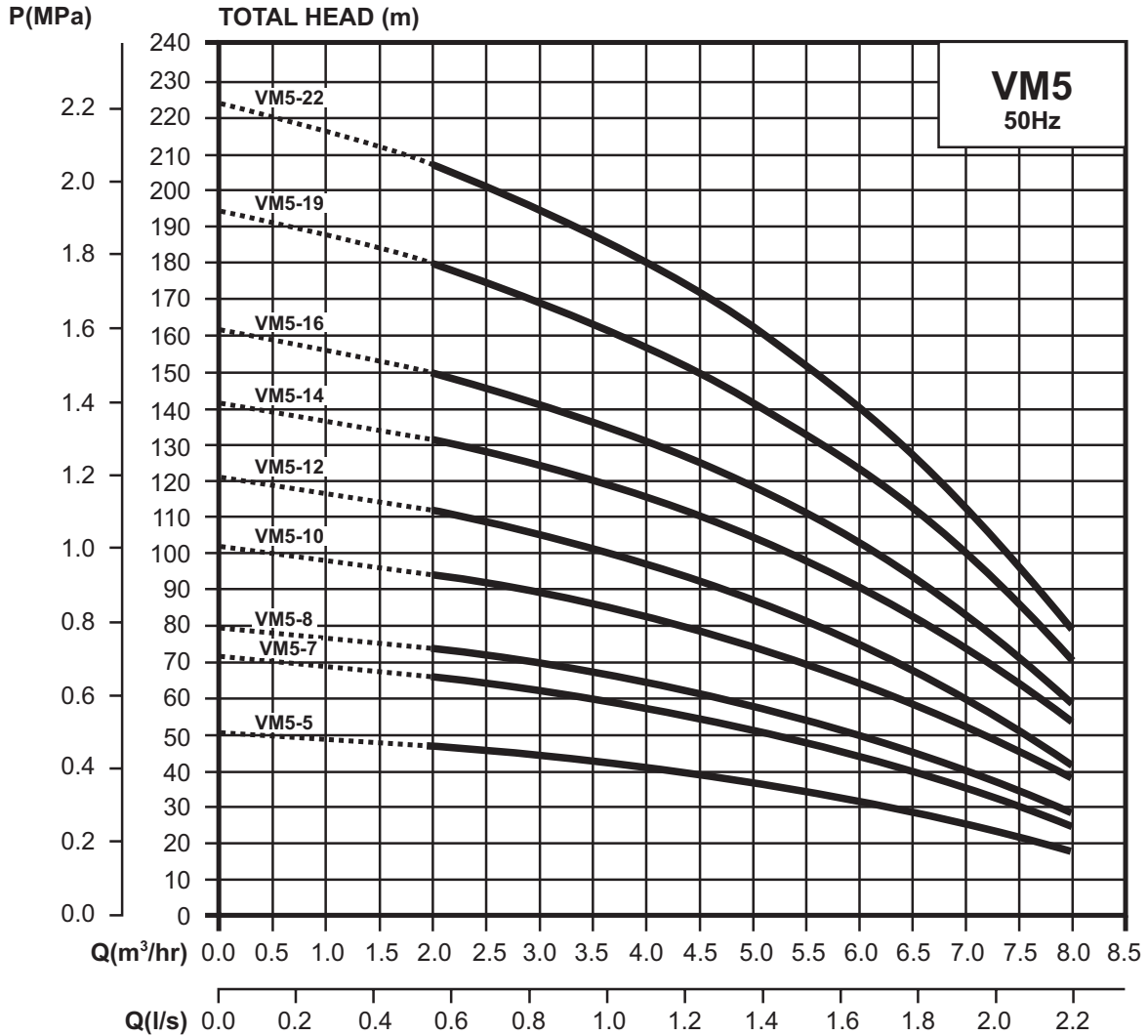


VM3 HYDRAULIC PERFORMANCE



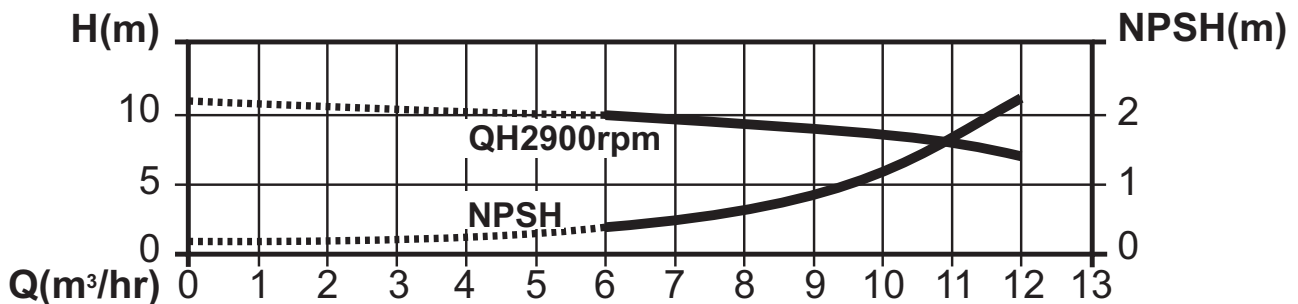
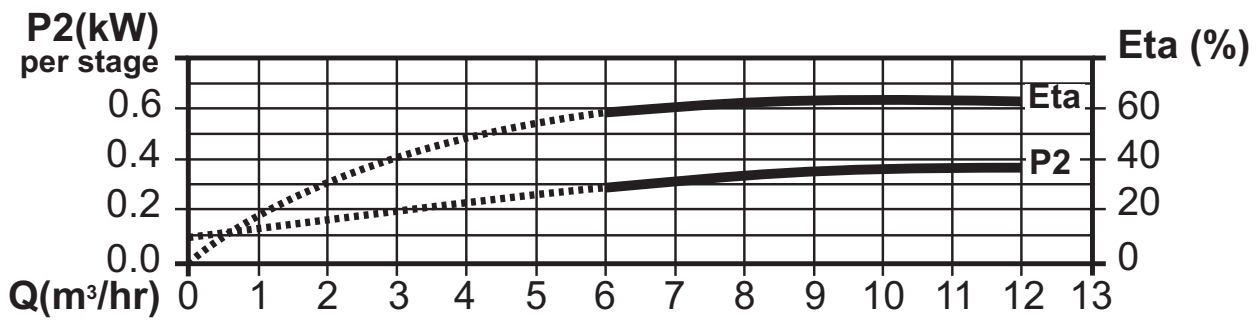
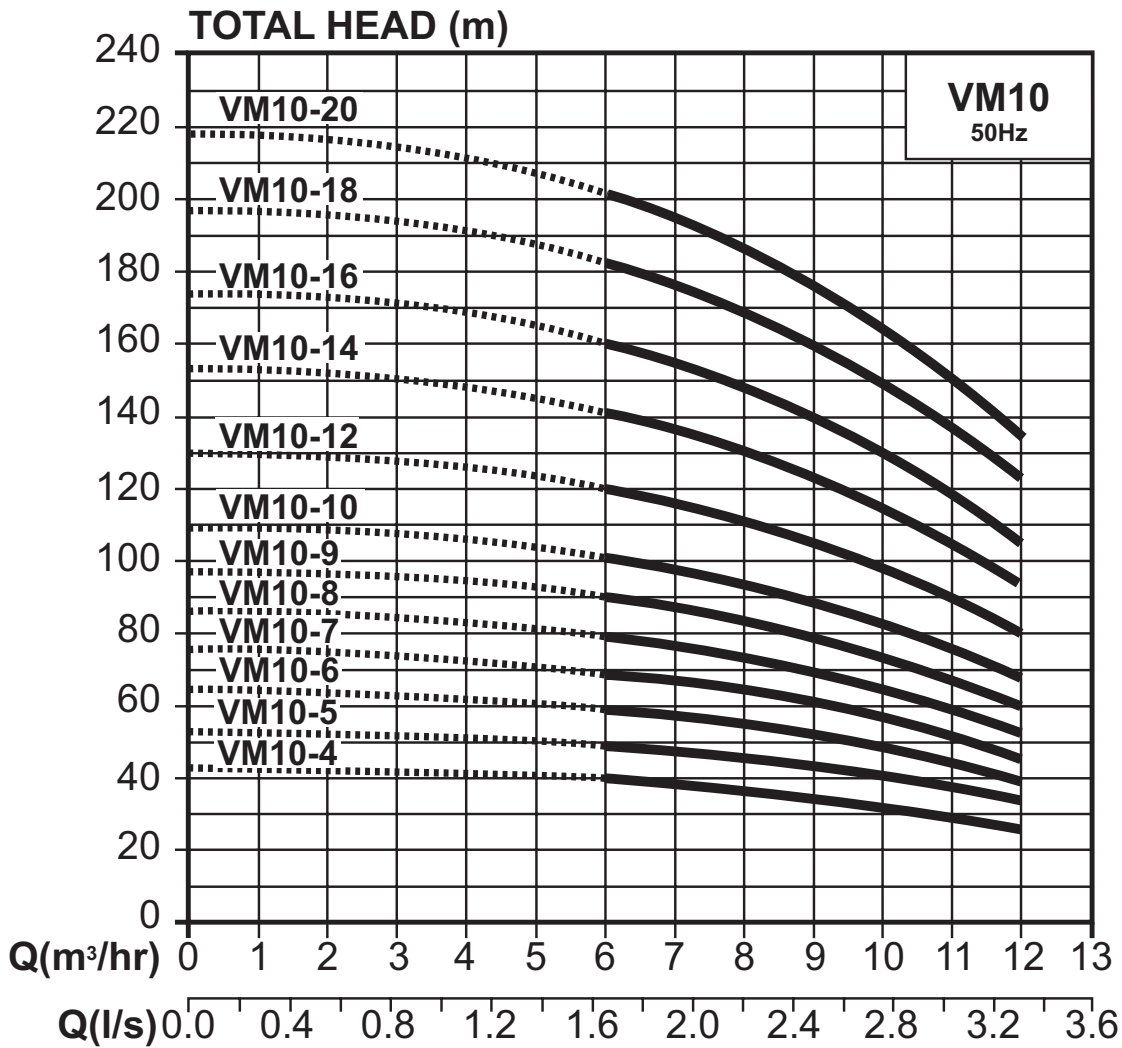
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM5 HYDRAULIC PERFORMANCE



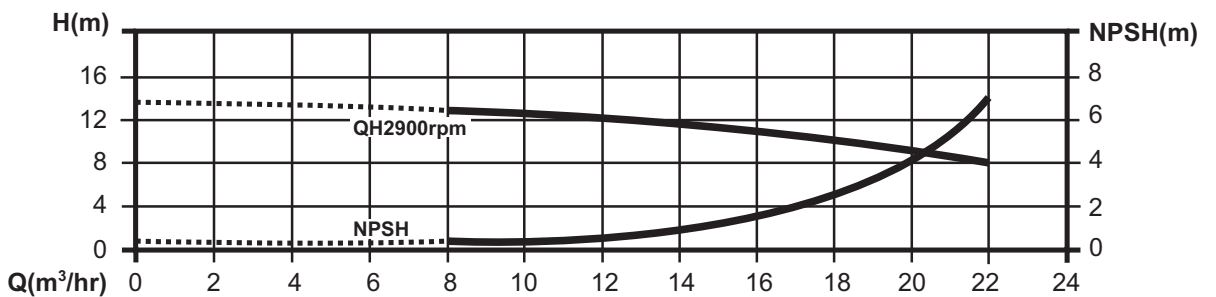
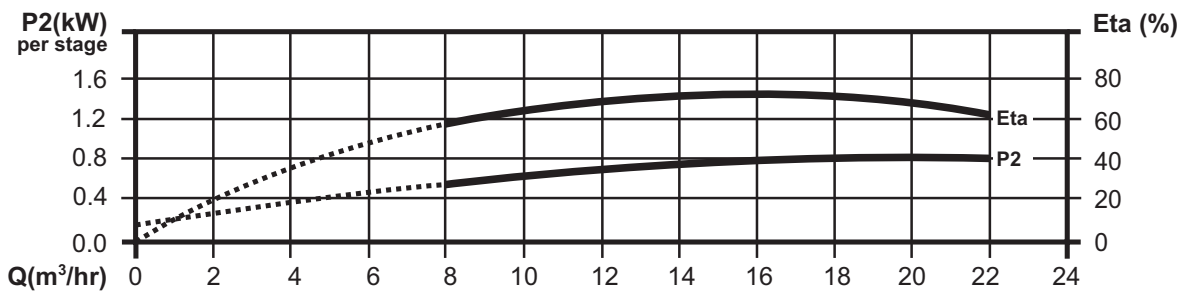
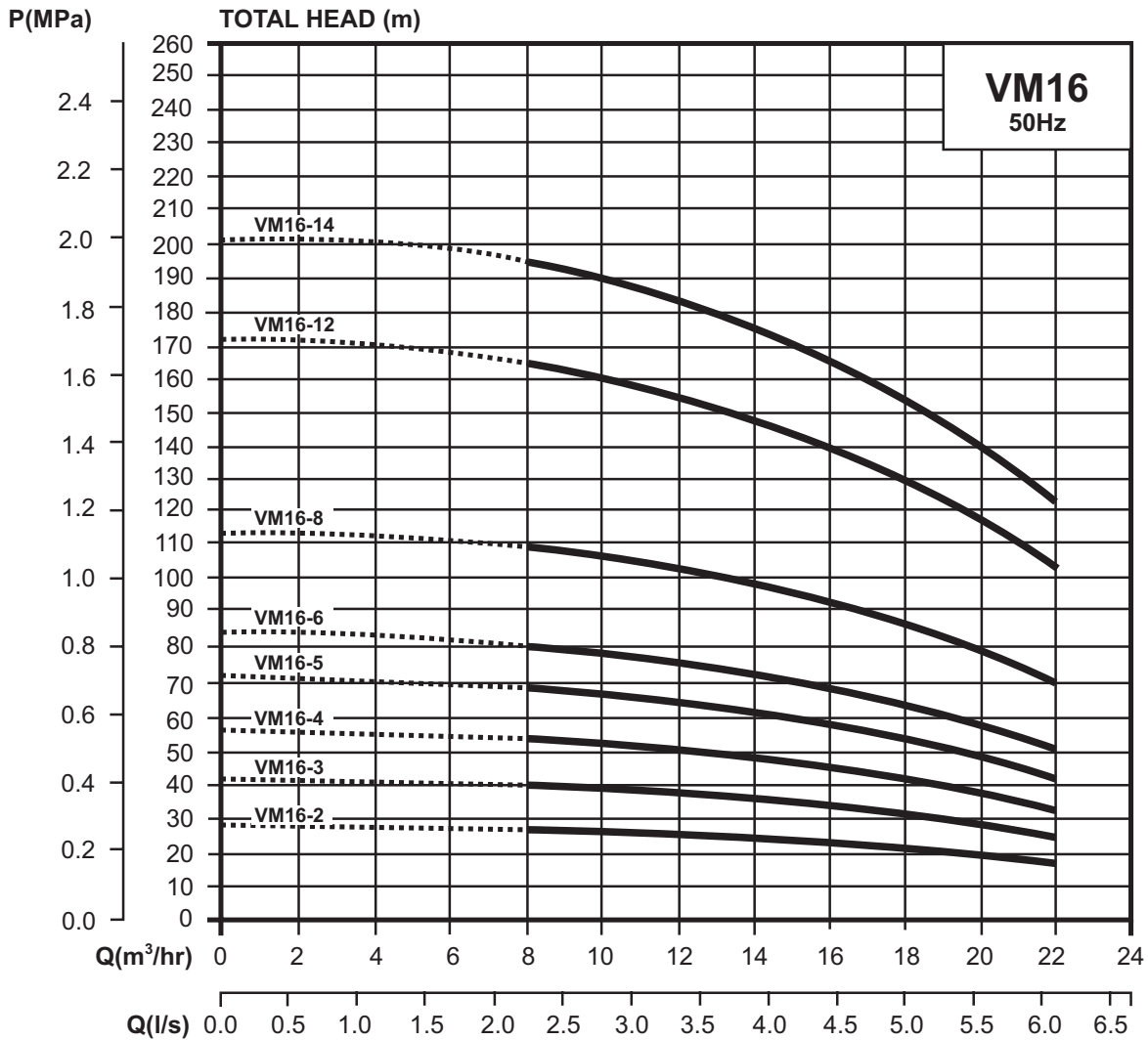
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM10 HYDRAULIC PERFORMANCE



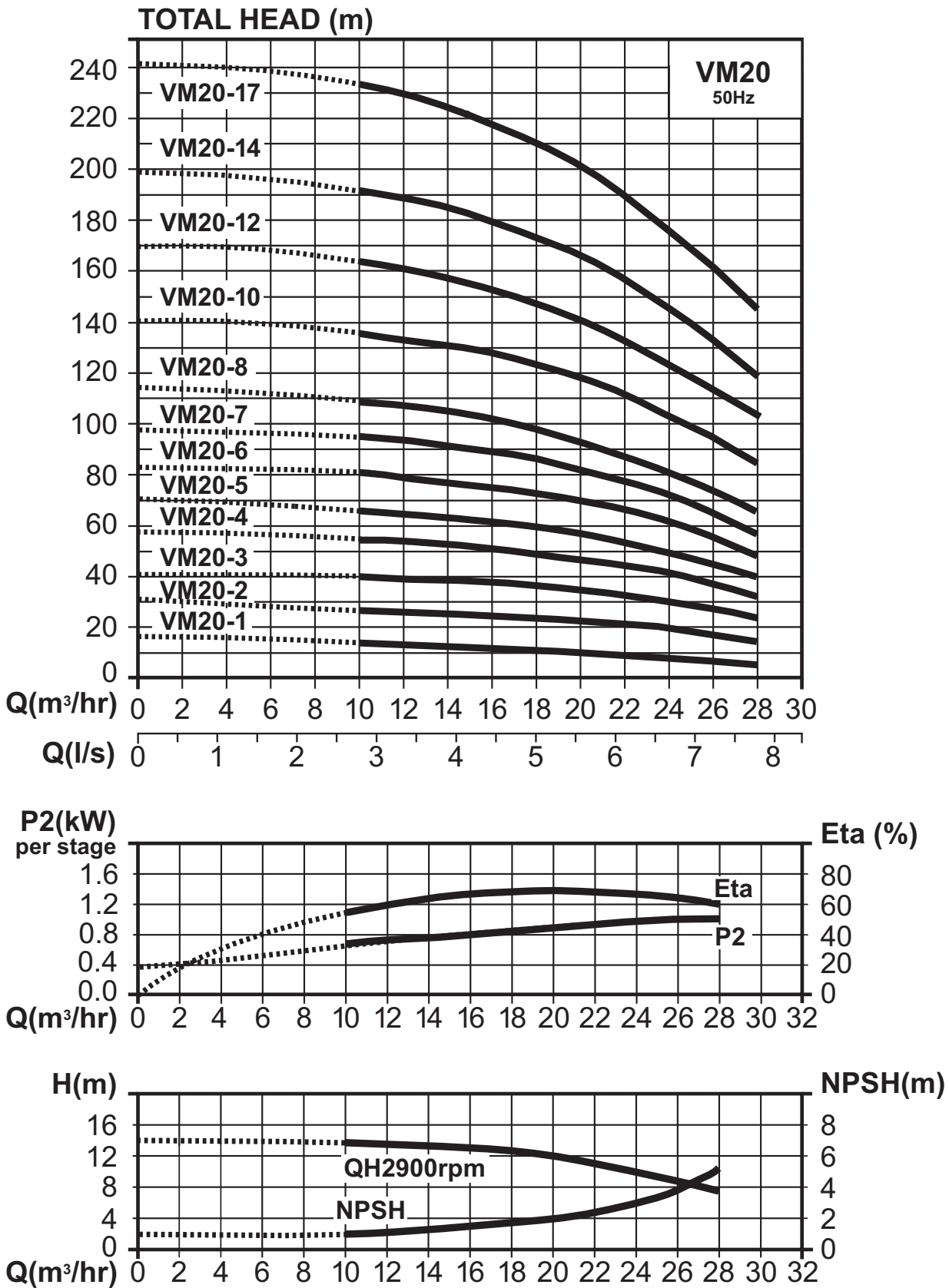
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM16 HYDRAULIC PERFORMANCE



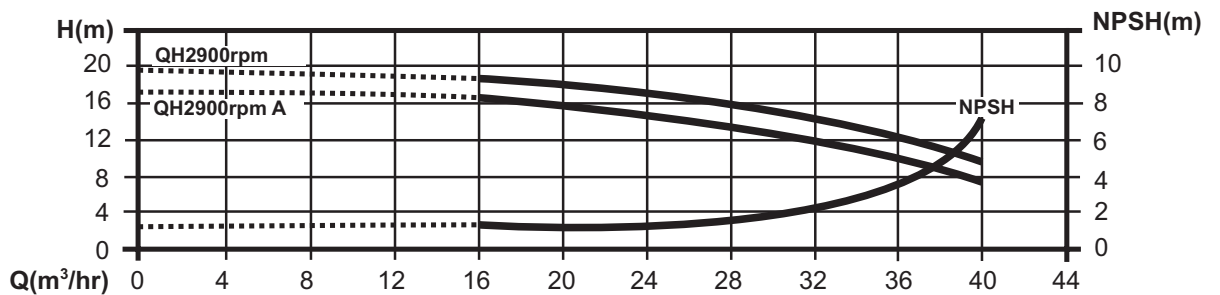
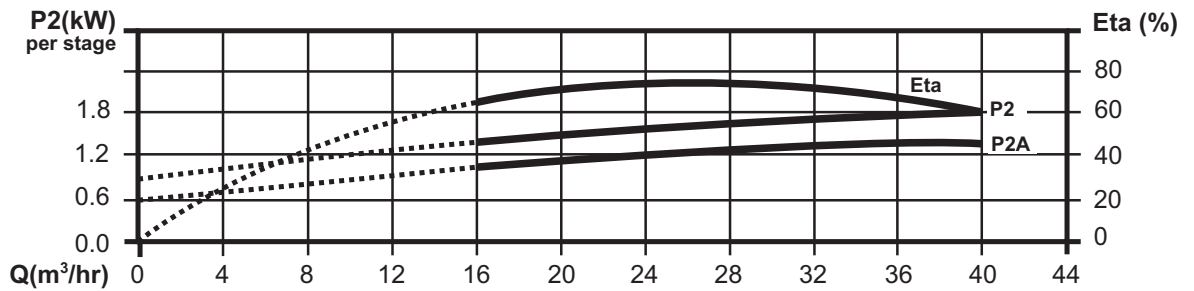
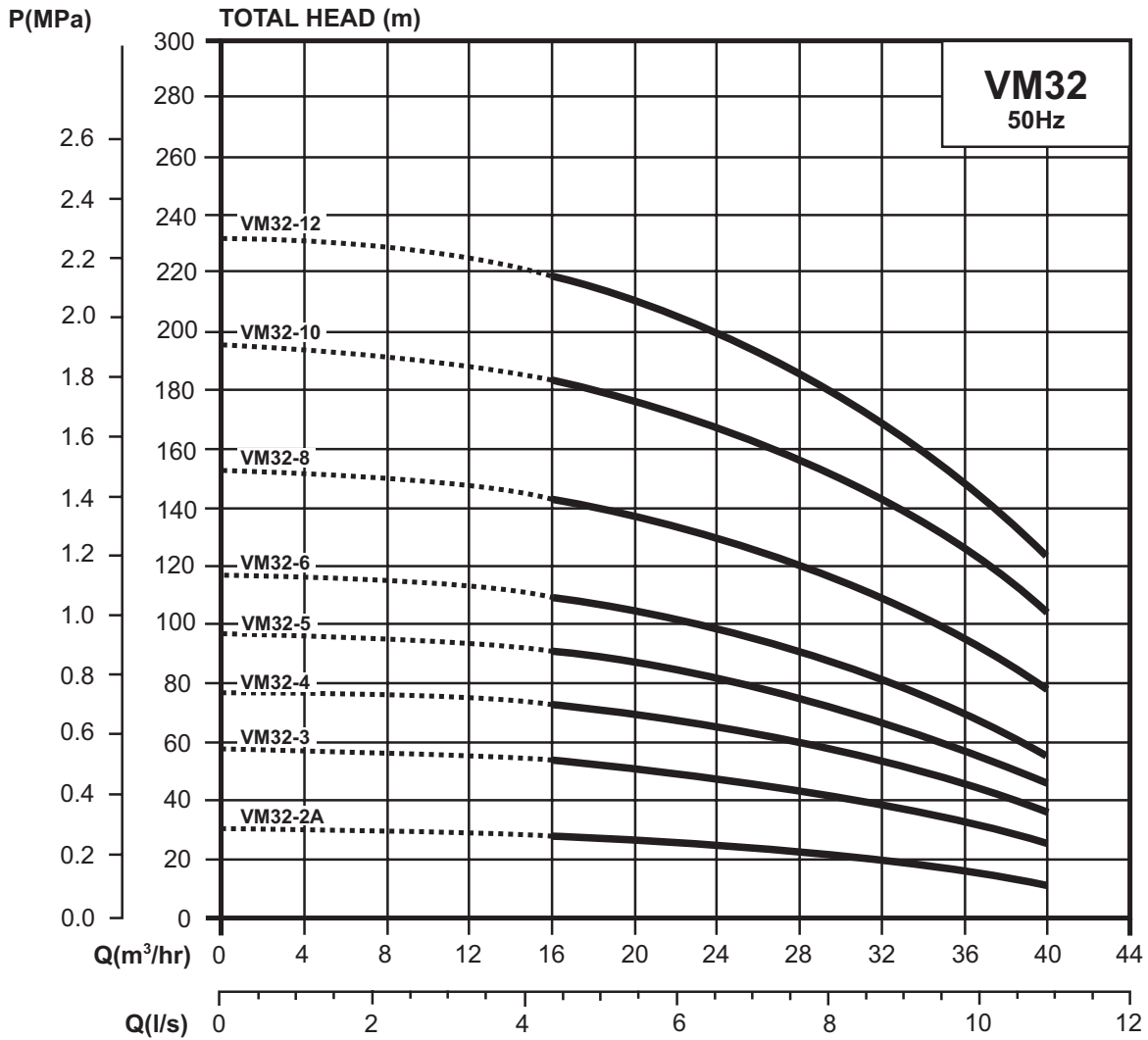
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM20 HYDRAULIC PERFORMANCE



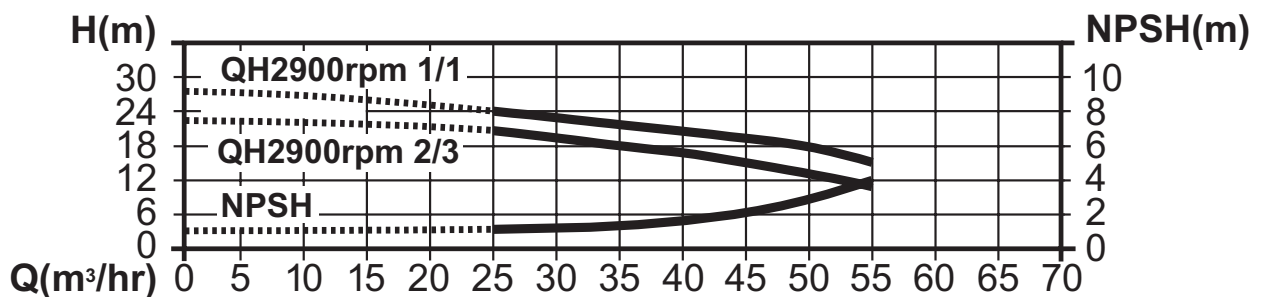
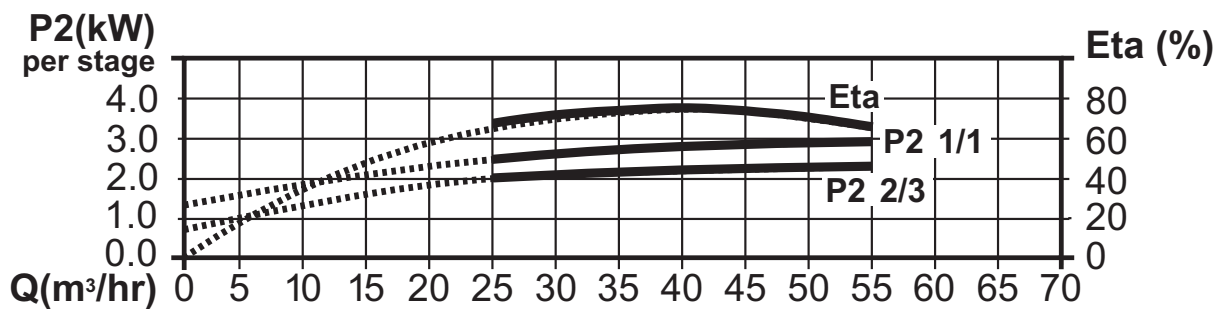
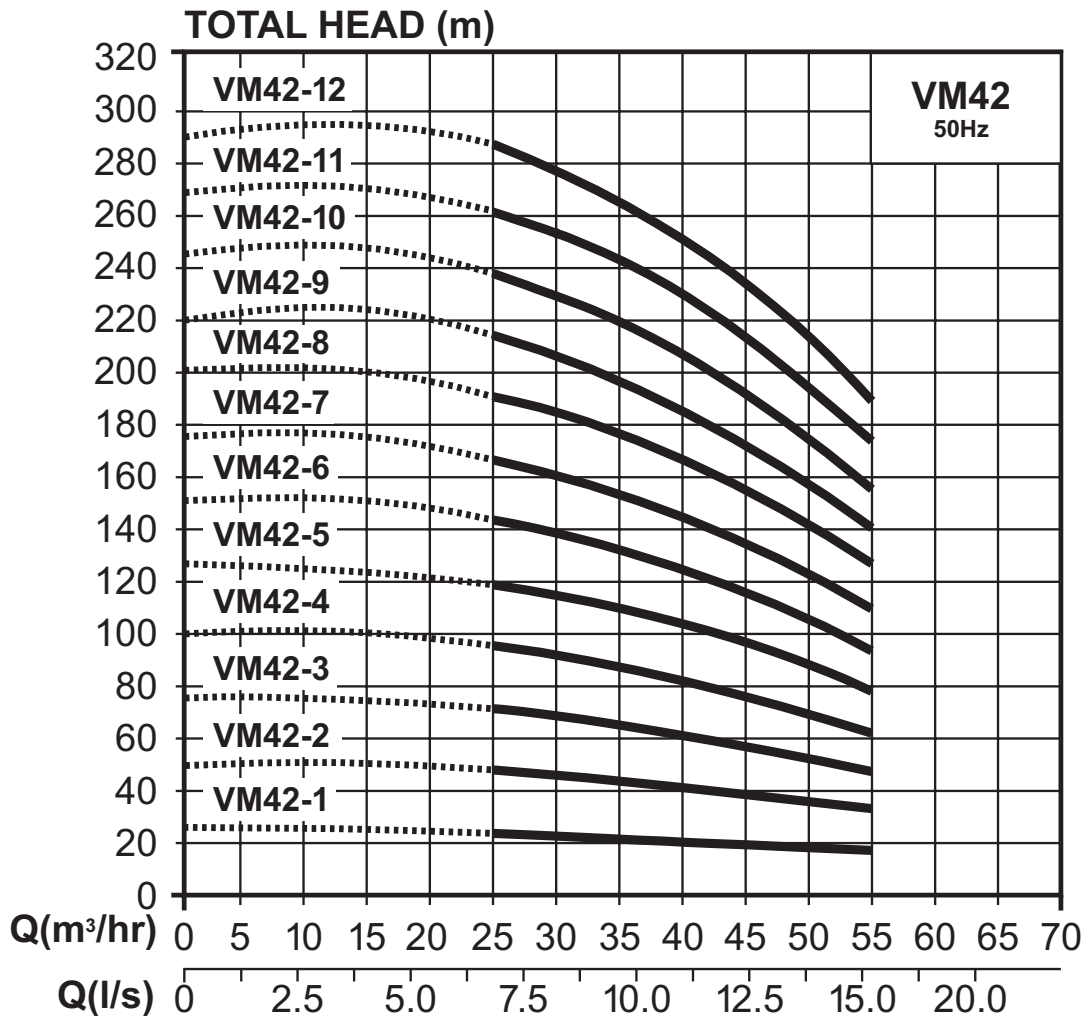
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM32 HYDRAULIC PERFORMANCE



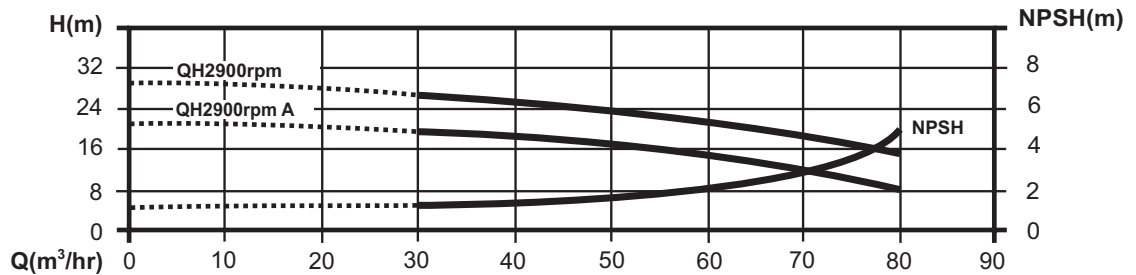
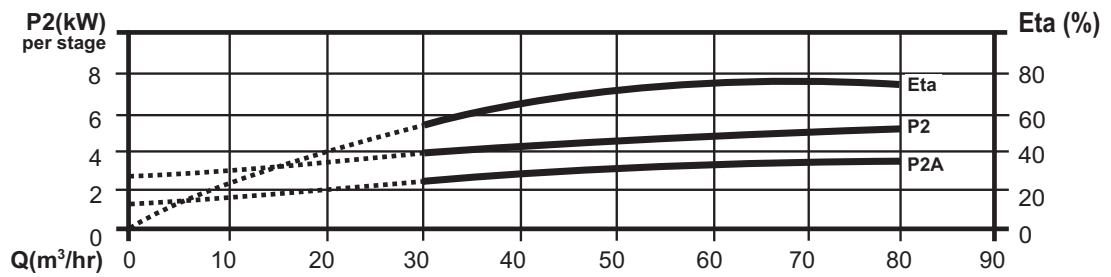
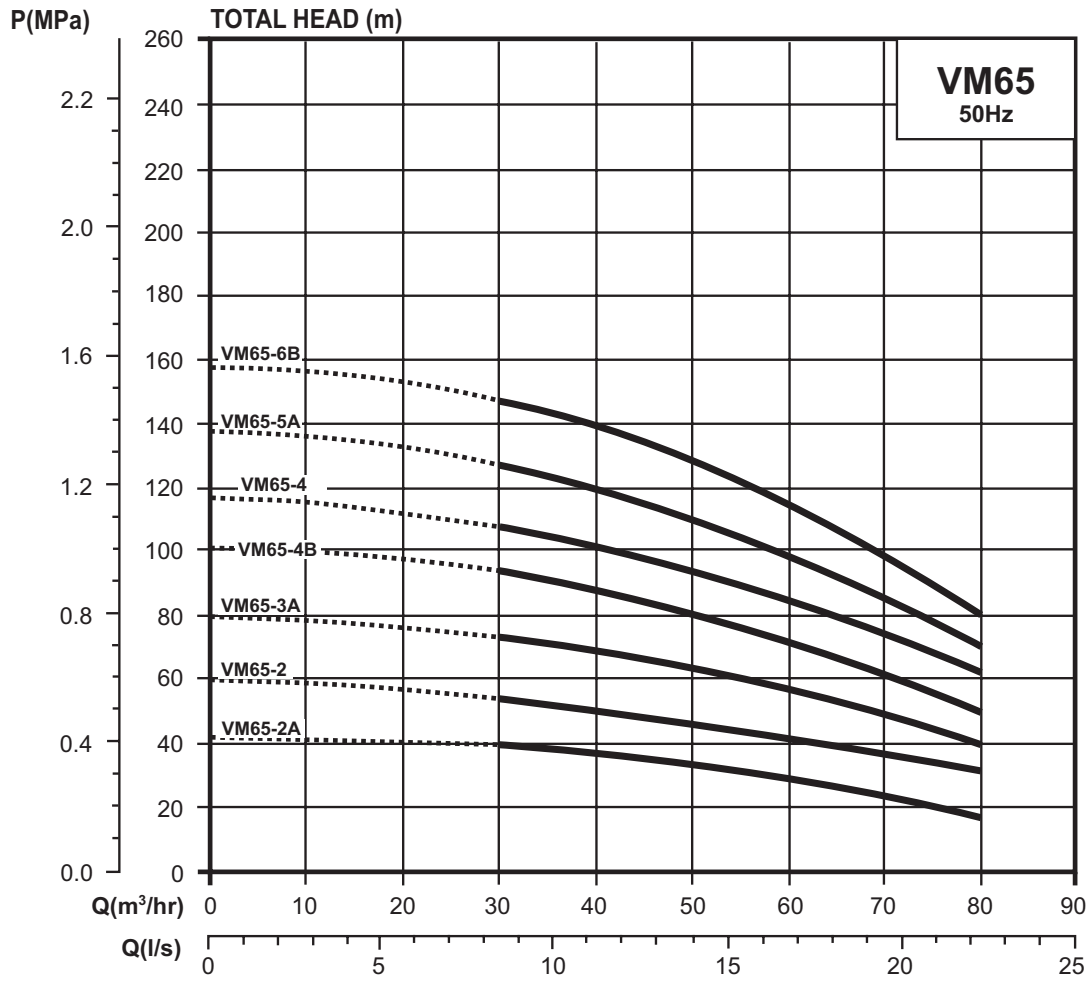
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM42 HYDRAULIC PERFORMANCE



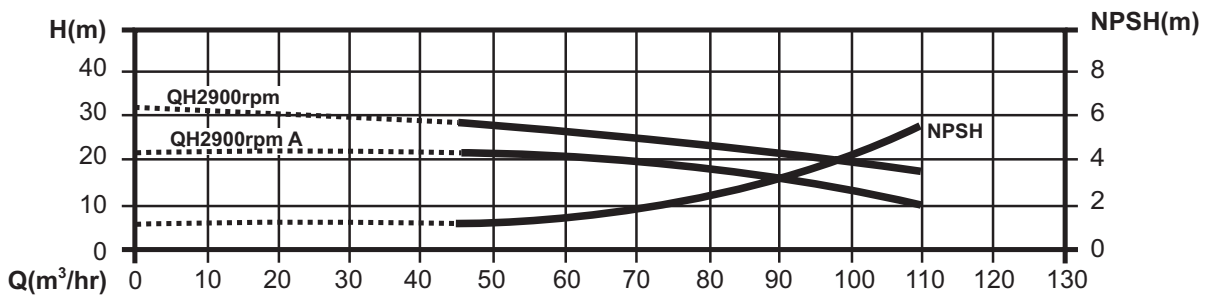
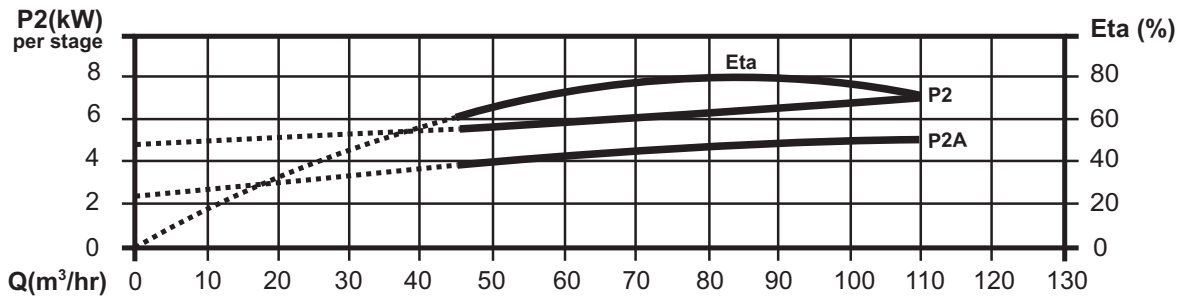
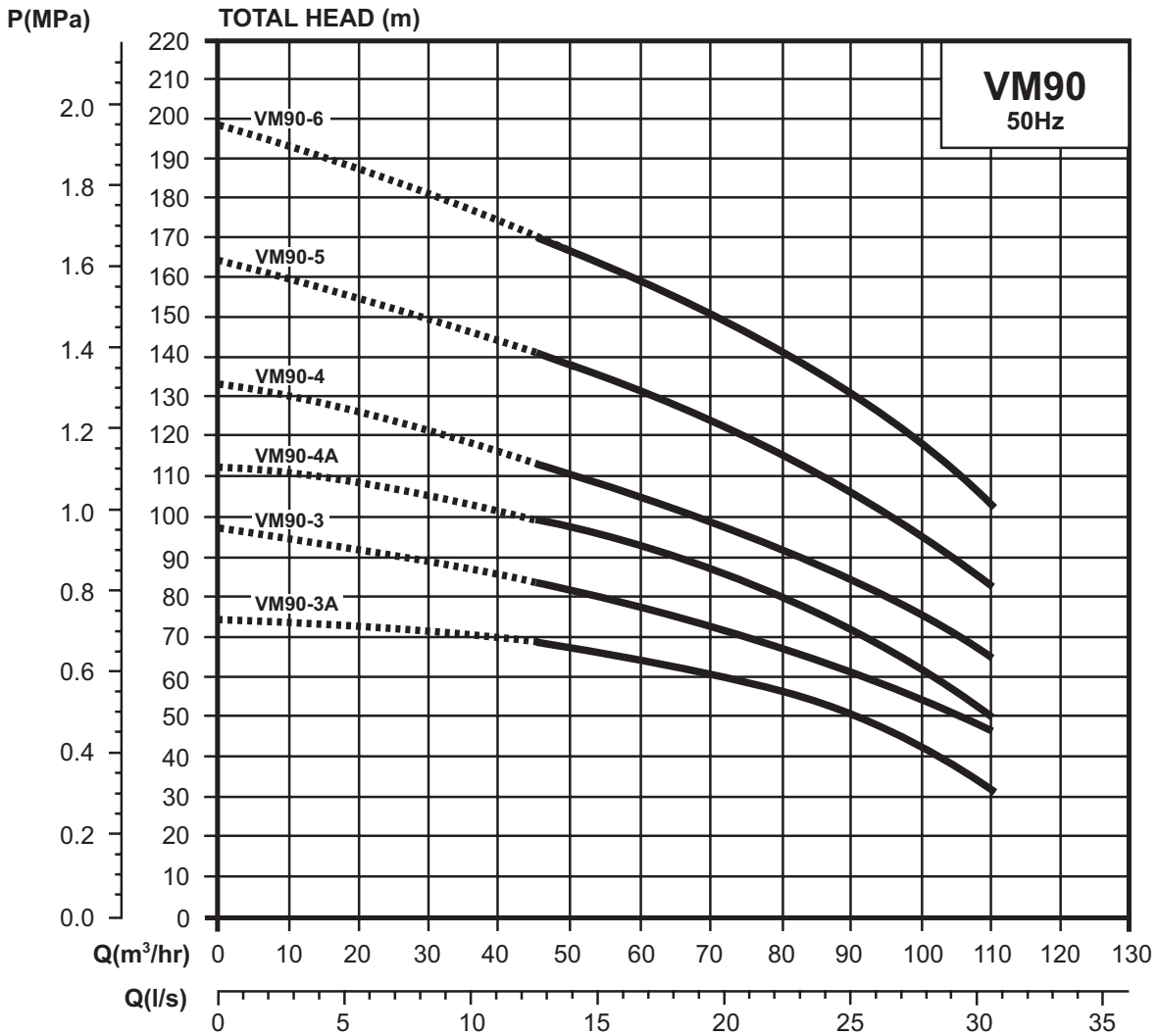
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM65 HYDRAULIC PERFORMANCE



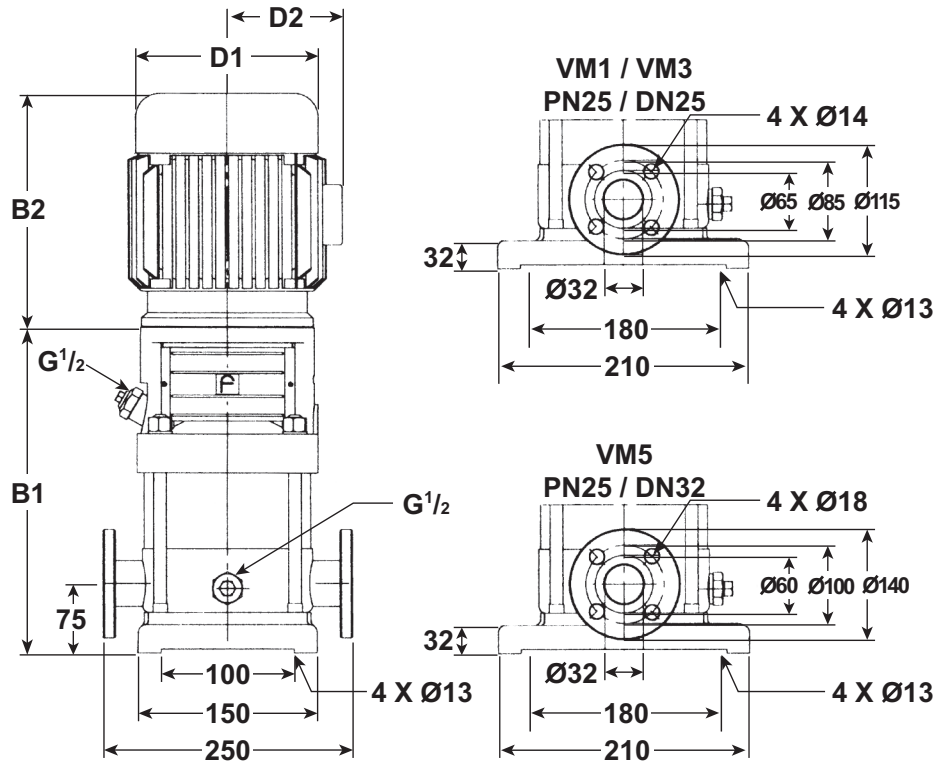
NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

VM90 HYDRAULIC PERFORMANCE

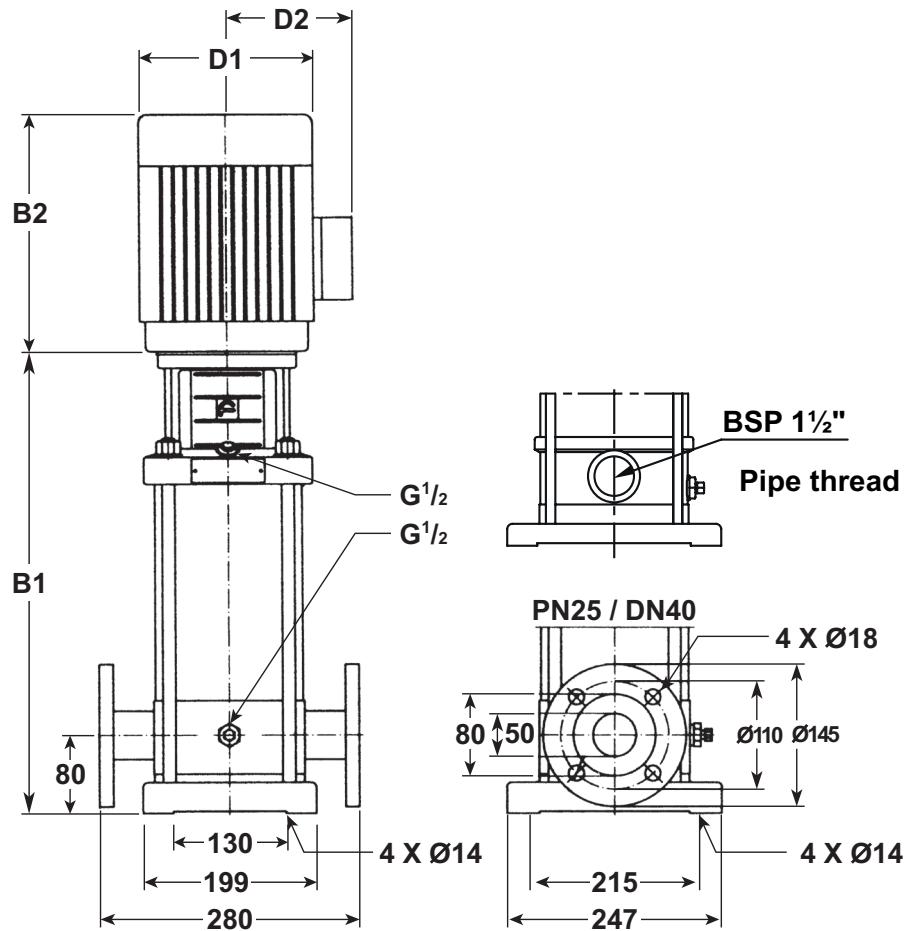


NOTE: Curve tolerance in conformity with ISO9906 Appendix A.

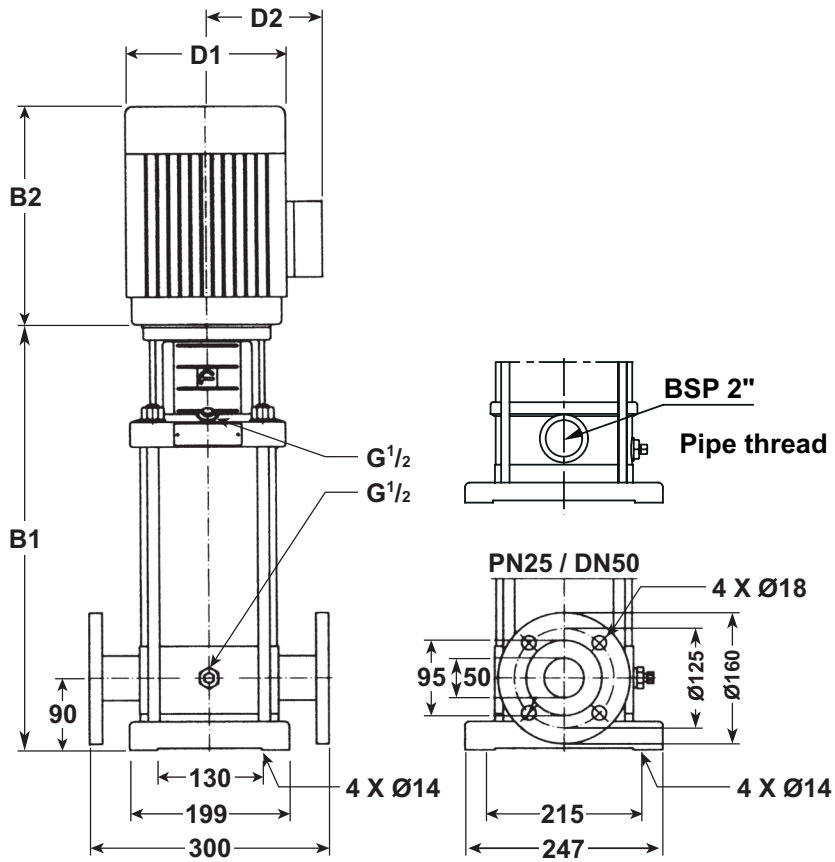
VM1 / VM3 / VM5 – PN25



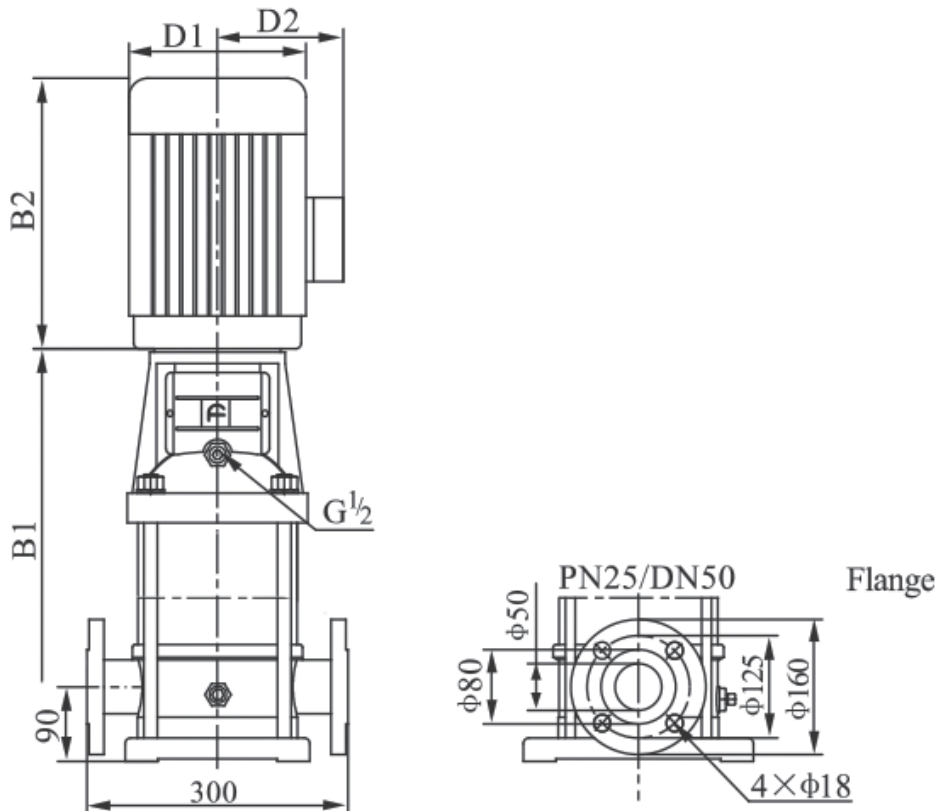
VM10 – PN25



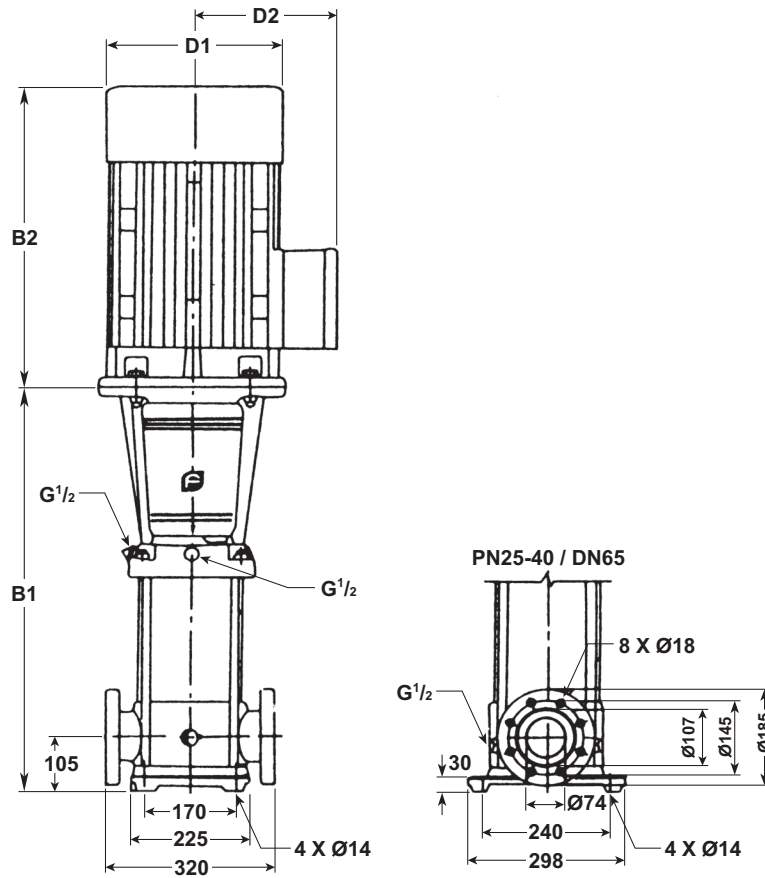
VM16 – PN25



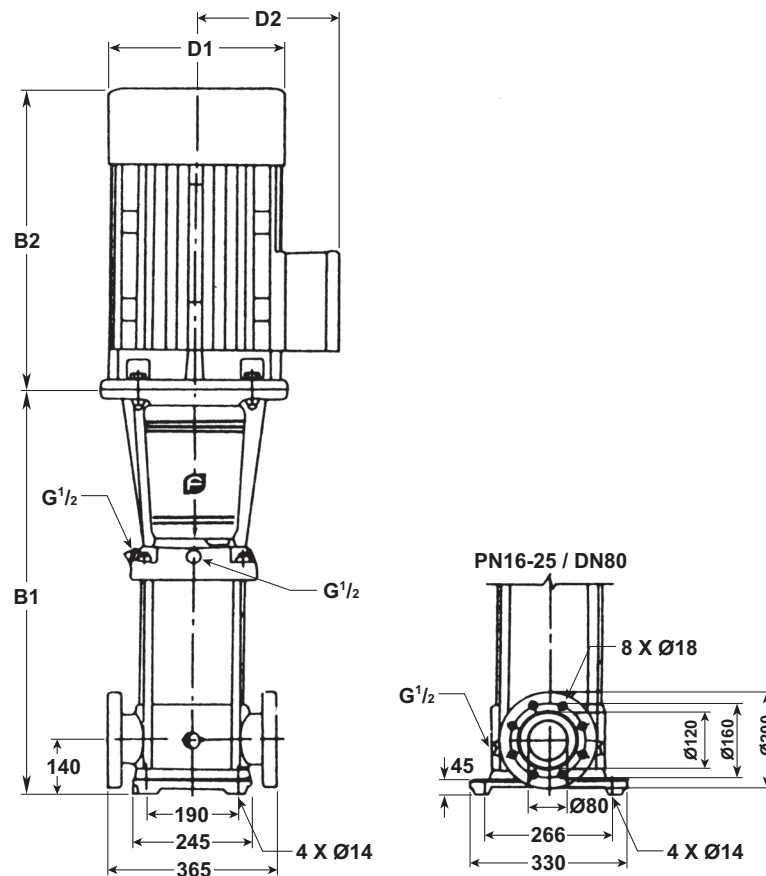
VM20



VM32

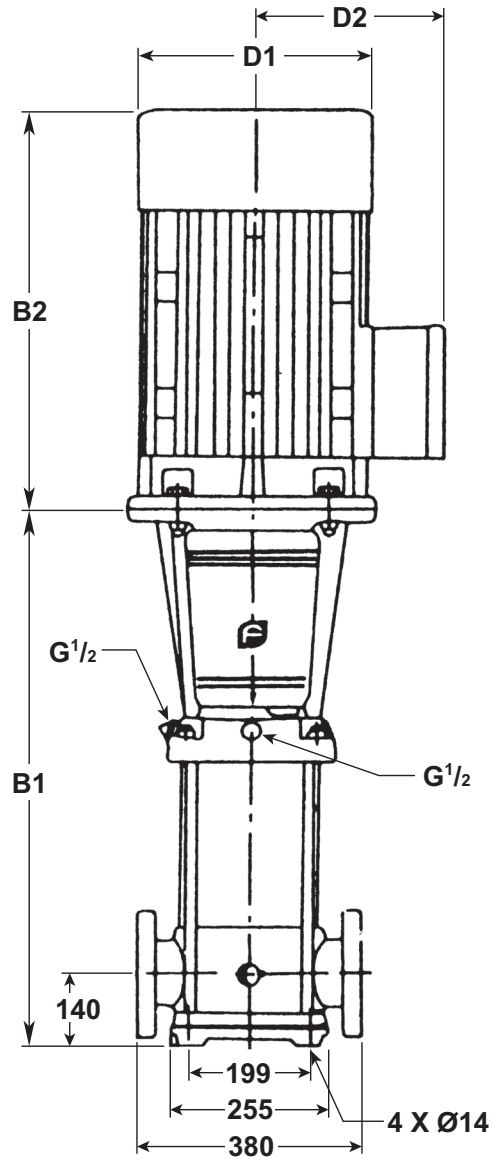
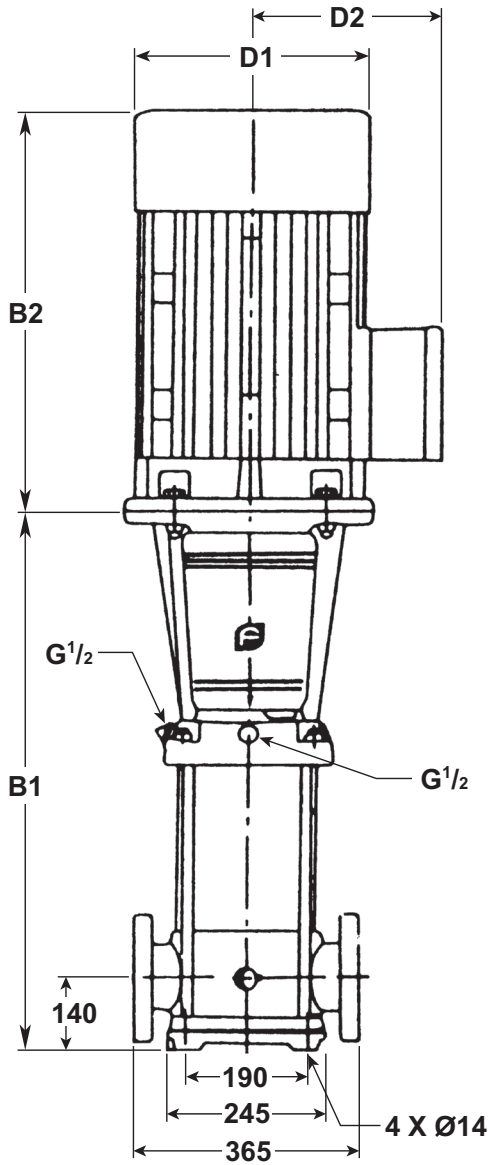


VM42



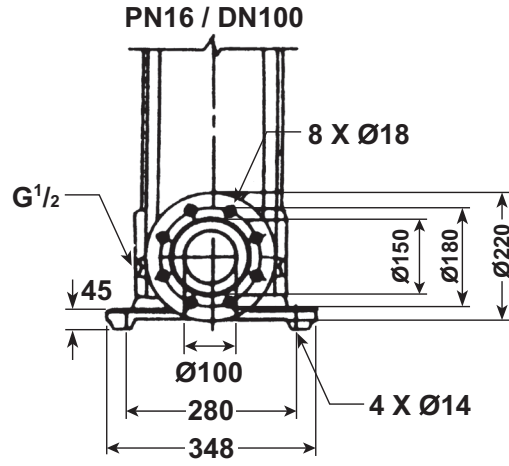
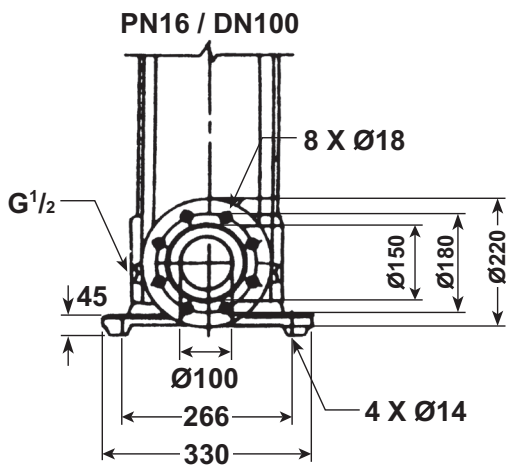
VM65 – PN16

VM90 – PN16



VM65 – PN16

VM90 – PN16



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

DIMENSIONS (Continued from previous page)

Model	Motor (P ₂) (kW)	Dimensions (mm) & weights (kg)					Weight (kg)
		B1	B2	B1 + B2	D1	D2	
VM20 SERIES							
VM20-1	1.1	387	245	632	170	142	32
VM20-2	2.2	397	290	687	190	155	43
VM20-3	4	452	335	787	230	188	57
VM20-4	5.5	517	430	947	260	208	72
VM20-5	5.5	562	430	992	260	208	74
VM20-6	7.5	607	430	1037	260	208	82
VM20-7	7.5	652	430	1082	260	208	84
VM20-8	11	785	490	1275	330	255	140
VM20-10	11	875	490	1365	330	255	145
VM20-12	15	965	490	1455	330	255	160
VM20-14	15	1055	490	1545	330	255	165
VM20-17	18.5	1190	550	1740	330	255	190
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
VM42 SERIES							
VM42-1	4	561	335	896	230	188	92
VM42-2	7.5	641	430	1071	260	208	107
VM42-3	11	826	490	1316	330	255	175
VM42-4	15	906	490	1396	330	255	187
VM42-5	18.5	986	550	1536	330	255	208
VM42-6	22	1066	590	1656	360	285	251
VM42-7	30	1146	660	1806	400	310	315
VM42-8	30	1226	660	1886	400	310	319
VM42-9	37	1306	660	1966	400	310	343
VM42-10	37	1386	660	2046	400	310	347
VM42-11	45	1466	700	2166	450	345	413
VM42-12	45	1546	700	2246	450	345	417
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
VM65-4	22	919	575	1494	360	285	258
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
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
VM90-4	30	957	650	1607	400	310	312
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 1Ø	Frame	IP Rating	FLC 240V	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.

