



VM SERIES

**Vertical Multistage
Centrifugal pump**



DURAFLO PUMP®

PERFORMANCE

VM is a kind of multifunctional pumps. It can be used to convey various medium from tap water to industrial liquid at different temperature and with different flow rate and pressure. VM type is applicable to conveying non-corrosive liquid, while VMS is suitable for slightly corrosive liquid.

- Water supply : Water filter and transport in Waterworks, boosting of main pipeline, boosting in high-rise buildings.
- Industrial boosting : Process flow water system, cleaning system, high-pressure washing system, fire fighting system
- Industrial liquid conveying : Cooling and air-conditioning system, boiler water supply and condensing system, machine-associated purpose, acids and alkali
- Water treatment : Ultrafiltration system, reverse osmosis system, distillation system, separator, swimming pool
- Irrigation : Farmland irrigation, spray irrigation, dripping irrigation

OPERATION CONDITIONS

- Thin, clean, non-flammable and non-explosive liquid containing no solid granules and fibers.
- Liquid temperature :
Normal temperature type : -15 °C ~ +70 °C ,
Hot water type : +70 °C ~ +120 °C
- Ambient temperature : up to + 40 °C
- Altitude : up to 1000 m

PUMP

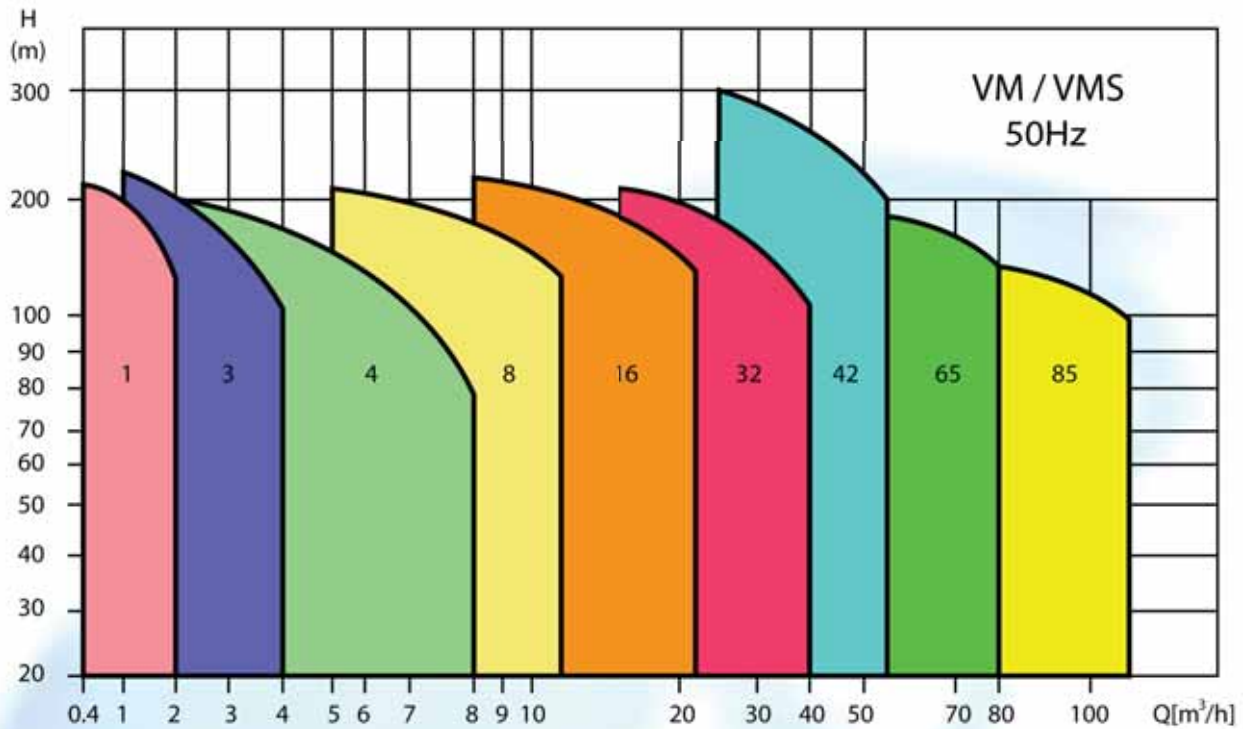
VM/VMS is a kind of vertical non-self priming multistage centrifugal pump, which is driven by a standard electric motor. The motor output shaft directly connects with the pump shaft through a coupling. The pressure-resistant cylinder and flow passage components are fixed between pump head and in-and outlet section with tie-bar bolts. The inlet and outlet are located at the pump bottom as inlined. This kind of pump can be equipped with an intelligent protector to effectively prevented from dry-running, out-of-phase and overloaded.

ELECTRIC MOTOR

- Full- enclosed air-cooled two-pole standard motor
- Protection class : IP55
- Insulation class : F
- Standard voltage, 50 Hz :
1x220-230/240V
3x200-220/346-380V
3x220-240/380-415V
3x380-660V



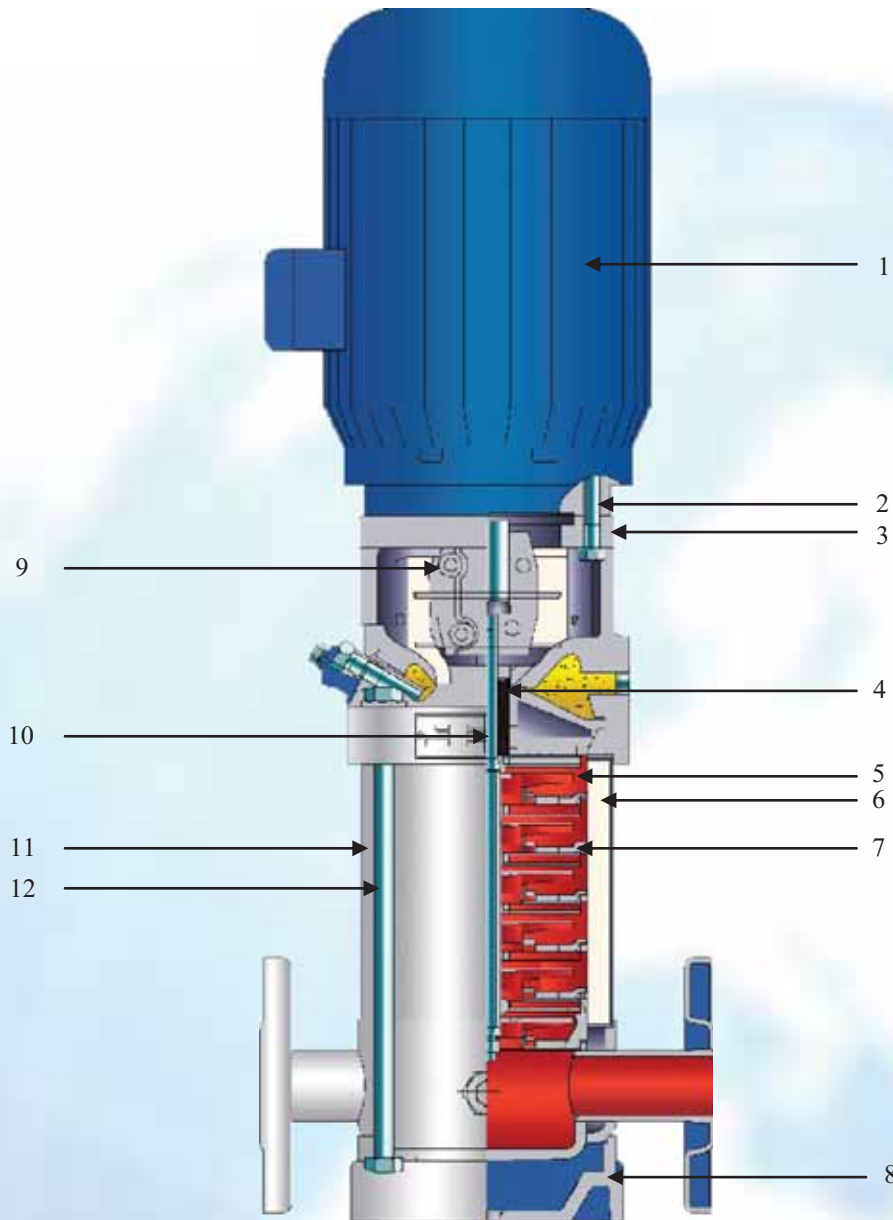
SELECTION CHART



Product range

Description	VM1	VM3	VM4	VM8	VM16	VM32	VM42	VM65	VM85
Rateed flow [m ³ /h]	1	3	4	8	16	32	42	65	85
Rateed flow [l/s]	0.28	0.83	1.1	2.2	4.4	8.9	11.7	18	24
Flow range [m ³ /h]	0.4 ~ 2	1.2~ 4	1.5~ 8	5~ 12	8~ 22	16~ 40	25~ 55	30~ 80	50~ 110
Flow range [l/s]	0.11~ 0.56	0.33~ 1.1	0.42~ 2.2	1.4~ 3.3	2.2~ 6.1	4.4~ 11.1	6.9~ 15.3	8.3~ 22.2	13.8~ 30.5
Max. pressure [bar]	21	22	21	21	22	26	30	22	27
Motor power [kW]	0.37~ 2.2	0.37~ 3	0.37~ 4	0.75~ 7.5	2.2~ 15	1.5~ 30	3.0~ 45	4.0~ 45	5.5~ 45
Temperature range	-15 ~ +120								
Max. efficiency [%]	44	54	59	64	70	76	78	80	81
Type									
VM	o	o	o	o	o	o	o	o	o
VMS	o	o	o	o	o	o	o	o	o
VM Pipe connection									
DIN Flange	DN25	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN100
Oval Flange	G1	G1	G1 1/4	G1 1/2					
VMS Pipe connection									
DIN Flange	DN25	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN100
Cutting ferrule joint	o	o	o	o	o				
Pipe thread	o	o	o	o	o				

STRUCTURE DRAWING -GENERAL



1. Motor

2. Bracket

3. Pump Head

4. Mechanical Seal

5. Impeller

6. Medium Cavity

7. Guide Vane

8. Pedestal

9. Coupling

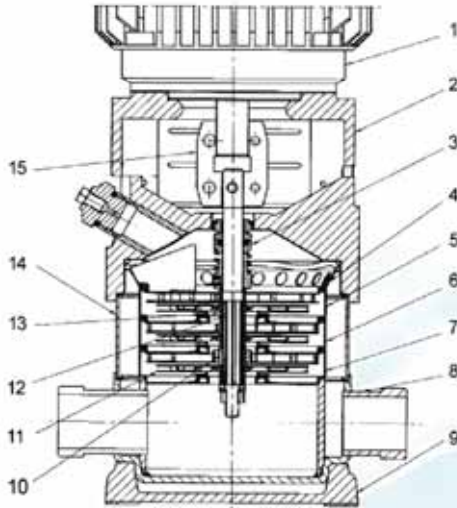
10. Shaft

11. External Cylinder

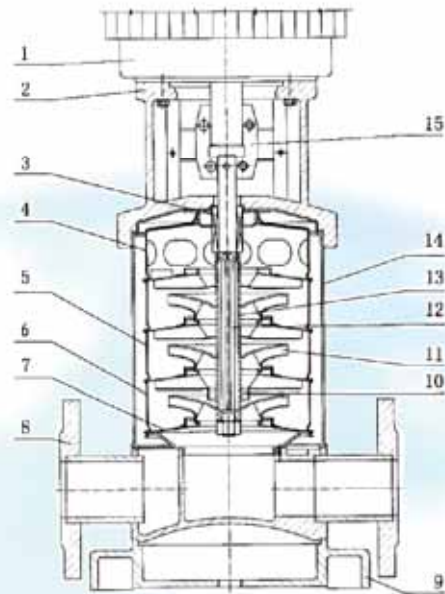
12. Tie Rods

Notice: Special Heavy Duty Bearings can be supplied upon requested.

STRUCTURE DRAWING -TYPICAL



VM, VMS 1,3,4

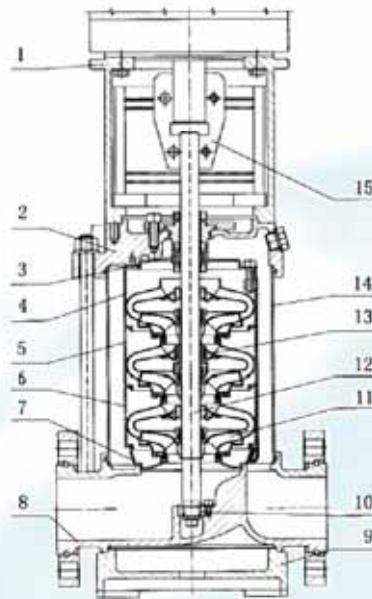


VM, VMS 8,16

No.	Name	Material	AISI / ASTM
1	Electric motor		
2	Pump head	Cast iron	ASTM25B
3	Mechanical seal		
4	Water- out guide vane	Stainless steel	AISI304
5	Support guide vane	Stainless steel	AISI304
6	Guide vane	Stainless steel	AISI304
7	Inducer	Stainless steel	AISI304
9	Base frame	Cast iron	ASTM25B
10	Bearing	Tungsten carbide	
11	Impeller	Stainless steel	AISI304
12	Shaft	Stainless steel	AISI316
13	Impeller separating sleeve	Stainless steel	AISI304
14	Pressure-resistant cylinder	Stainless steel	AISI304
15	Coupling	Carbon steel	
	Rubber parts	FPM	
VM			
8	Inlet and outlet section	Cast iron	ASTM25B
VMS			
8	Inlet and outlet section	Stainless steel	AISI304

Notice: AISI316 Material can be supplied upon requested.

STRUCTURE DRAWING -TYPICAL



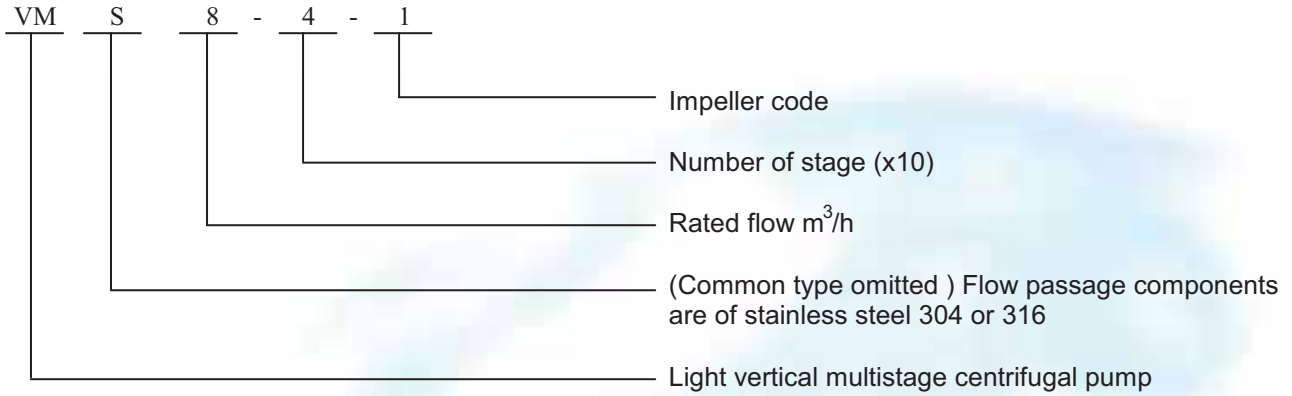
VM, VMS 32,42,65,85

No.	Name	Material	AISI / ASTM
1	Bracket	Cast iron	ASTM285B
3	Mechanical seal		
4	Water- out guide vane	Stainless steel	AISI304
5	Support guide vane	Stainless steel	AISI304
6	Guide vane	Stainless steel	AISI304
7	Inducer	Stainless steel	AISI304
9	Base frame	Cast iron	ASTM25B
10	Bottom bearing	Tungsten carbide	
11	Impeller	Stainless steel	AISI304
12	Shaft	Stainless steel	AISI316
13	Impeller separating sleeve	Tungsten carbide	
14	Pressure-resistant cylinder	Stainless steel	AISI304
15	Coupling	Carbon steel	
	Rubber parts	FPM / EPDM	
VM			
2	Pump head	Cast iron	ASTM25B
8	Inlet and outlet section	Cast iron	ASTM25B
VMS			
2	Pump head	Stainless steel	AISI303
8	Inlet and outlet section	Stainless steel	AISI304

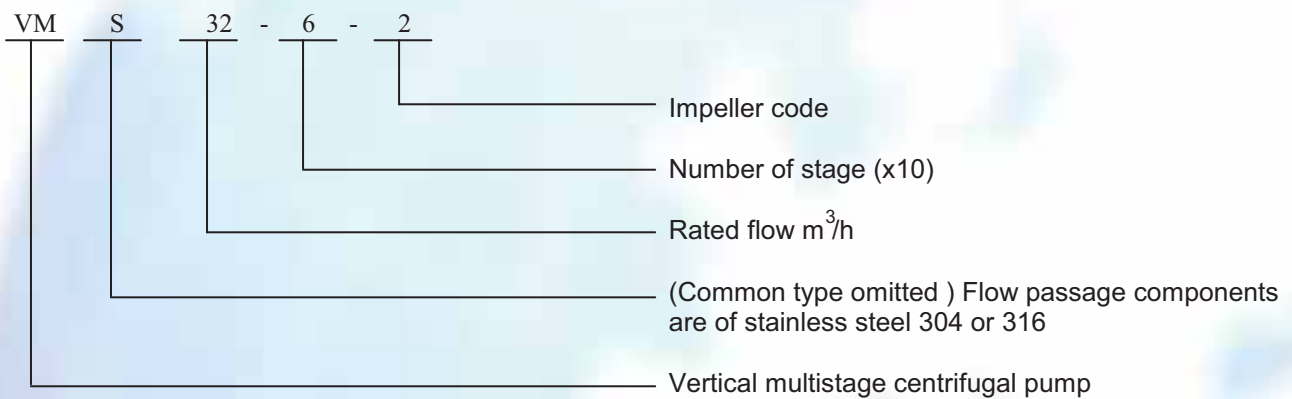
Notice: AISI316 Material can be supplied upon requested.

DEFINITION OF MODEL

VM, VMS 1, 3, 4, and 8



VM, VMS 16, 32, 42, 65 and 85

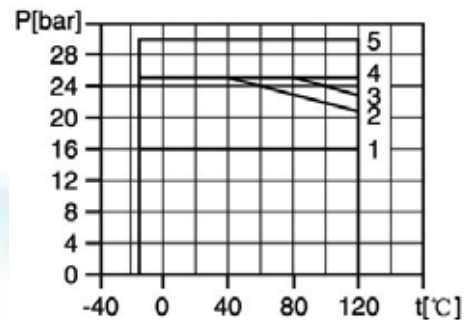


MAX INLET PRESSURE

The maximum inlet pressure is shown in the table below. But the actual inlet pressure plus the valve close pressure of the pump shall be lower than the max. allowable working pressure.

MODEL	MAX INLET PRESSURE
VM1,VMS1	
VM1,VMS1-20 ~ 1-80	6 [Bar]
VM1,VMS1-90 ~ 1-360	10 [Bar]
VM3,VMS3	
VM3,VMS3-20 ~ 3-50	6 [Bar]
VM3,VMS3-60 ~ 3-290	10 [Bar]
VM3,VMS3-310 ~ 3-360	15 [Bar]
VM4,VMS4	
VM4,VMS4-20	6 [Bar]
VM4,VMS4-30 ~ 4-100	10 [Bar]
VM4,VMS4-120 ~ 4-220	15 [Bar]
VM8,VMS8	
VM8,VMS8-20 / 1 ~ 8-60	6 [Bar]
VM8,VMS8-80 ~ 8-200	10 [Bar]
VM16,VMS16	
VM16,VMS16-20 ~ 16-30	6 [Bar]
VM16,VMS16-40 ~ 16-160	10 [Bar]
VM32,VMS32	
VM32,VMS32-10-1 ~ 32-20-2	3 [Bar]
VM32,VMS32-20 ~ 32-40	4 [Bar]
VM32,VMS32-50-2 ~ 32-100	10 [Bar]
VM32,VMS32-110-2 ~ 32-140	15 [Bar]
VM42,VMS42	
VM42,VMS42-10-1	3 [Bar]
VM42,VMS42-10 ~ 42-20	4 [Bar]
VM42,VMS42-30-2 ~ 42-50	10 [Bar]
VM42,VMS42-60-2 ~ 42-130-2	15 [Bar]
VM65,VMS65	
VM65,VMS65-10-1 ~ 65-20-2	4 [Bar]
VM65,VMS65-20-1 ~ 65-30	10 [Bar]
VM65,VMS65-40-2 ~ 65-80-1	15 [Bar]
VM85,VMS85	
VM85,VMS85-10-1 ~ 85-10	4 [Bar]
VM85,VMS85-20-2 ~ 85-30-2	10 [Bar]
VM85,VMS85-30-1 ~ 85-60	15 [Bar]

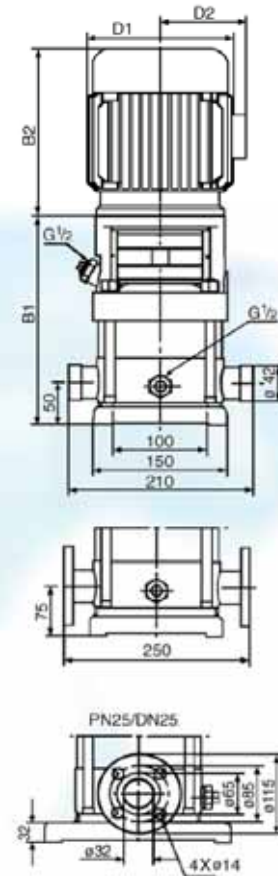
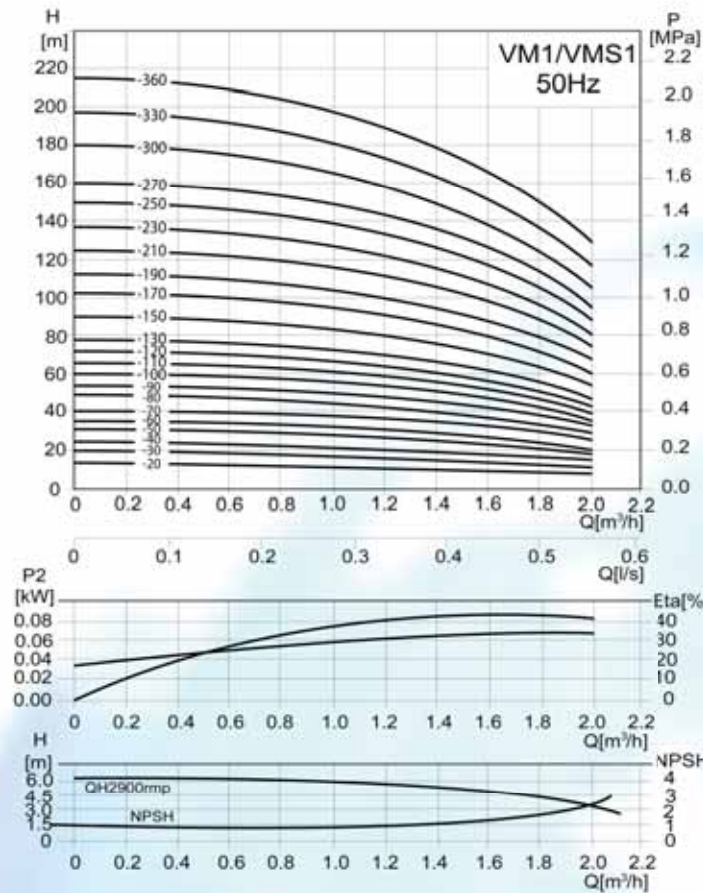
MAX WORKING PRESSURE



MODEL	CURVE NUMBER
VM1,VMS1	
VM1,VMS1-20 ~ 1-230	1
VM1,VMS1-250 ~ 1-360	2
VM3,VMS3	
VM3,VMS3-20 ~ 3-230	1
VM3,VMS3-250 ~ 3-360	2
VM4,VMS4	
VM4,VMS4-20 ~ 4-160	1
VM4,VMS4-190 ~ 4-220	2
VM8,VMS8	
VM8,VMS8-20 / 1 ~ 8-120	1
VM8,VMS8-140 ~ 8-200	3
VM16,VMS16	
VM16,VMS16-20 ~ 16-80	1
VM16,VMS16-100 ~ 16-160	3
VM32,VMS32	
VM32,VMS32-10-1 ~ 32-70	1
VM32,VMS32-80-2 ~ 32-120	4
VM32,VMS32-130 ~ 32-140	5
VM42,VMS42	
VM42,VMS42-10-1 ~ 42-60	1
VM42,VMS42-70-2 ~ 42-90	4
VM42,VMS42-100-2 ~ 42-130-2	5
VM65,VMS65	
VM65,VMS65-10-1 ~ 65-50	1
VM65,VMS65-60-2 ~ 65-80-1	4
VM85,VMS85	
VM85,VMS85-10-1 ~ 85-50-2	1
VM85,VMS85-50 ~ 85-60	4

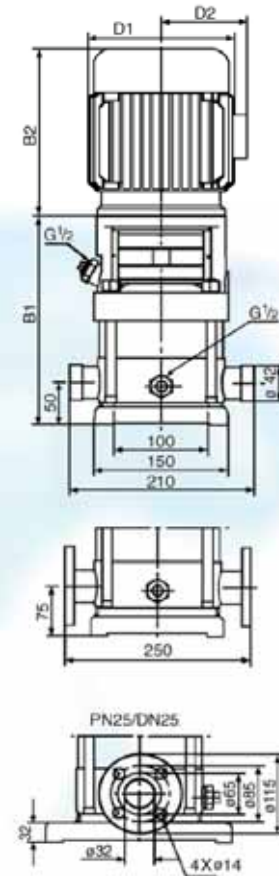
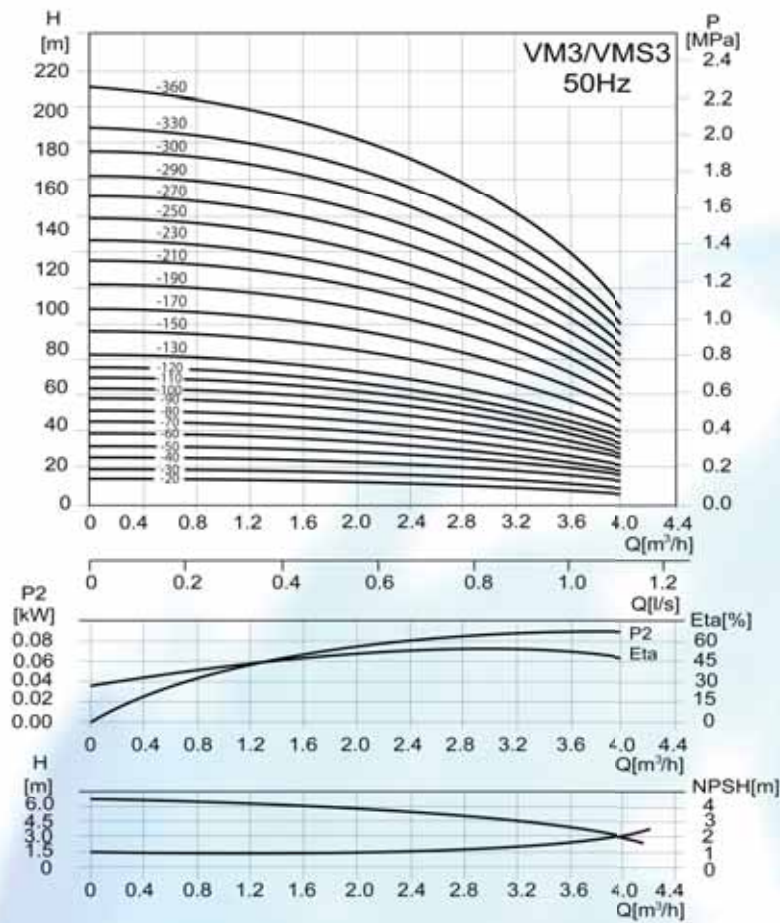
The following figure shows the limitation of pressure and temperature, which shall be kept within the region as shown in the figure

VM1,VMS1



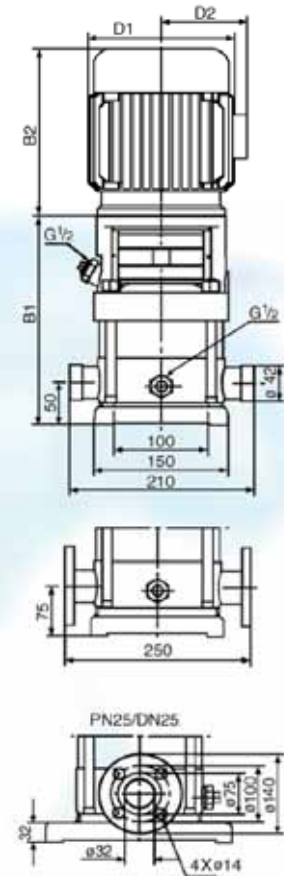
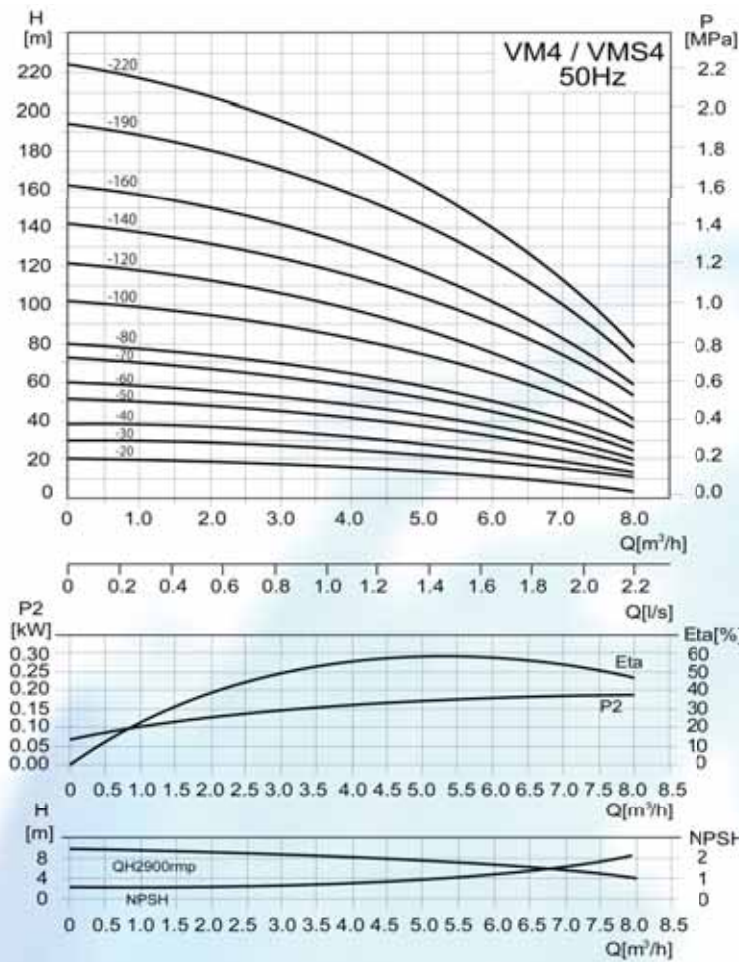
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM1-20	238	210	448	148	117	20	0.37
VM1-30	238	210	448	148	117	20	0.37
VM1-40	256	210	466	148	117	20	0.37
VM1-50	274	210	484	148	117	20	0.37
VM1-60	292	210	502	148	117	20	0.37
VM1-70	310	210	520	148	117	20	0.37
VM1-80	328	210	538	148	117	22	0.55
VM1-90	346	210	556	148	117	22	0.55
VM1-100	364	210	574	148	117	22	0.55
VM1-110	382	210	592	148	117	22	0.55
VM1-120	405	245	650	170	142	25	0.75
VM1-130	423	245	668	170	142	25	0.75
VM1-150	459	245	704	170	142	25	0.75
VM1-170	495	245	740	170	142	28	1.1
VM1-190	531	245	776	170	142	28	1.1
VM1-210	567	245	812	170	142	30	1.1
VM1-230	603	245	848	170	142	33	1.1
VM1-250	656	290	946	190	155	40	1.5
VM1-270	692	290	982	190	155	40	1.5
VM1-300	746	290	1036	190	155	40	1.5
VM1-330	800	290	1090	190	155	45	2.2
VM1-360	854	290	1144	190	155	45	2.2

VM3,VMS3



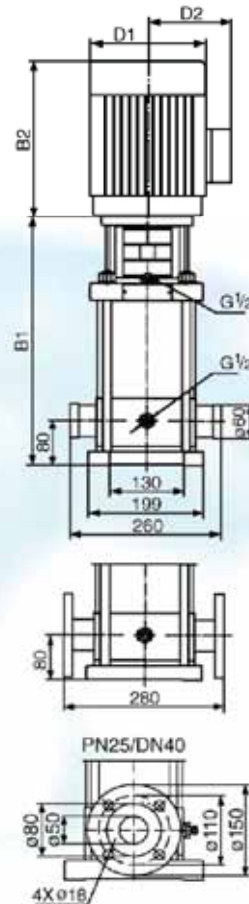
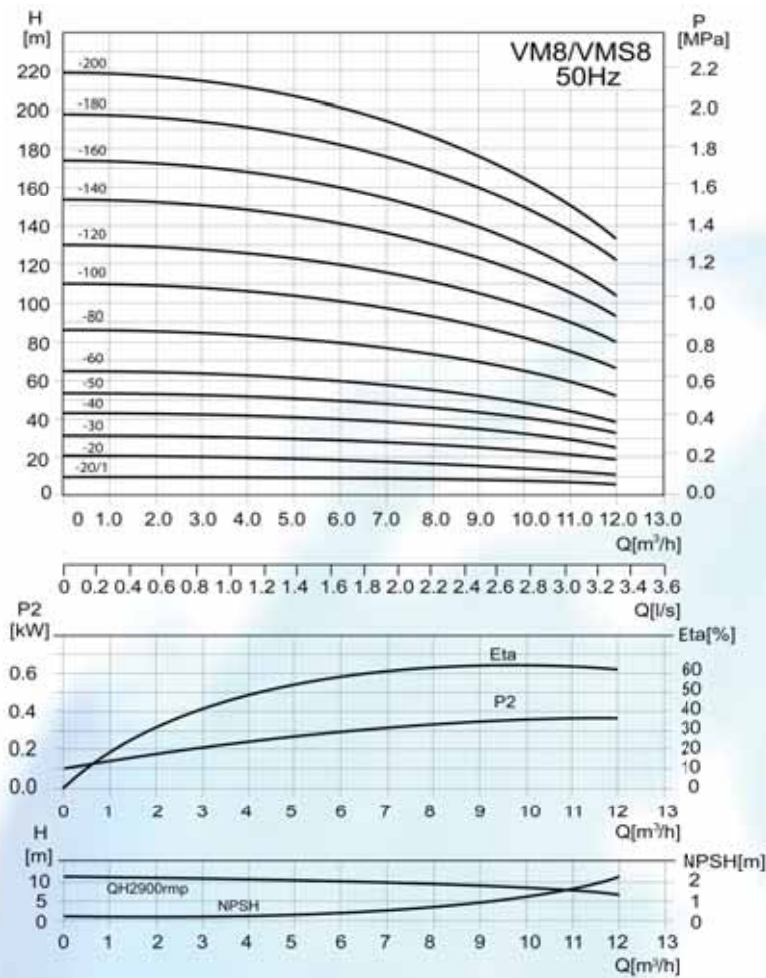
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM3-20	238	210	448	148	117	20	0.37
VM3-30	238	210	448	148	117	20	0.37
VM3-40	256	210	466	148	117	20	0.37
VM3-50	274	210	484	148	117	20	0.37
VM3-60	292	210	502	148	117	22	0.55
VM3-70	310	210	520	148	117	22	0.55
VM3-80	333	245	578	170	142	22	0.75
VM3-90	351	245	596	170	142	22	0.75
VM3-100	369	245	614	170	142	22	0.75
VM3-110	387	245	632	170	142	25	1.1
VM3-120	405	245	650	170	142	25	1.1
VM3-130	423	245	668	170	142	25	1.1
VM3-150	459	245	704	170	142	25	1.1
VM3-170	512	290	802	190	155	30	1.5
VM3-190	548	290	838	190	155	35	1.5
VM3-210	584	290	874	190	155	35	2.2
VM3-230	620	290	910	190	155	40	2.2
VM3-250	656	290	946	190	155	40	2.2
VM3-270	692	290	982	190	155	40	2.2
VM3-290	728	290	1018	190	155	40	2.2
VM3-310	772	315	1087	197	165	45	3.0
VM3-330	808	315	1123	197	165	50	3.0
VM3-360	862	315	1177	197	165	50	3.0

VM4, VMS4



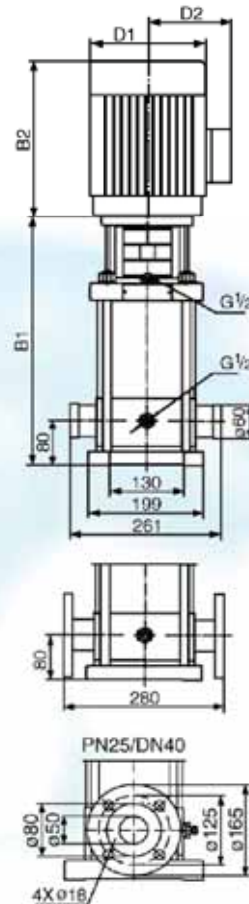
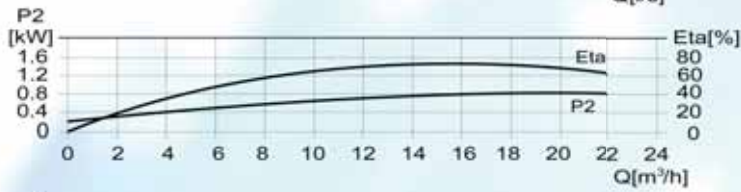
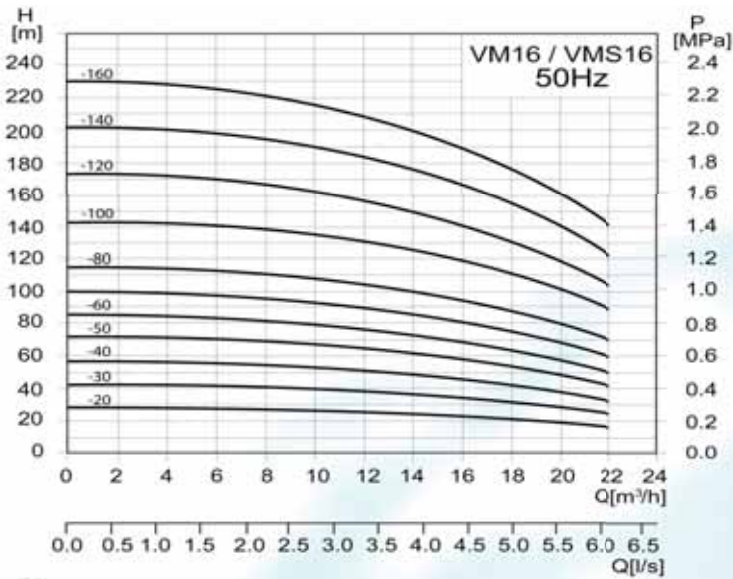
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM4-20	238	210	448	148	117	20	0.37
VM4-30	265	210	475	148	117	20	0.55
VM4-40	297	245	542	170	142	20	0.75
VM4-50	324	245	569	170	142	25	1.1
VM4-60	351	245	596	170	142	25	1.1
VM4-70	395	290	685	190	155	30	1.5
VM4-80	422	290	712	190	155	30	1.5
VM4-100	476	290	766	190	155	30	2.2
VM4-120	530	290	820	190	155	35	2.2
VM4-140	592	315	907	197	165	35	3.0
VM4-160	646	315	961	197	165	40	3.0
VM4-190	727	335	1062	230	188	45	4.0
VM4-220	808	335	1143	230	188	50	4.0

VM8, VMS8



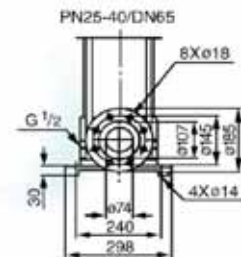
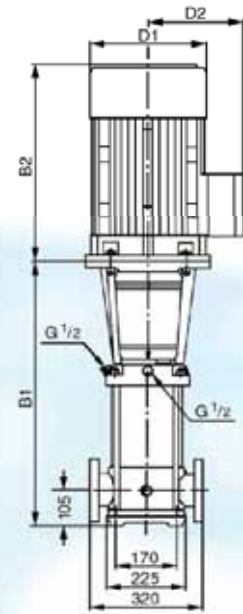
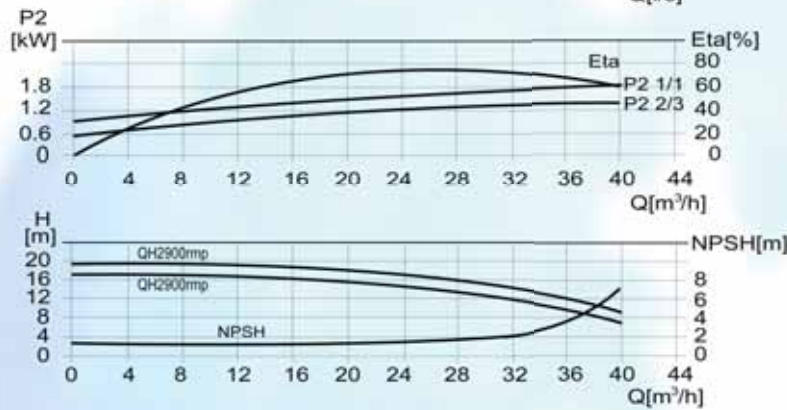
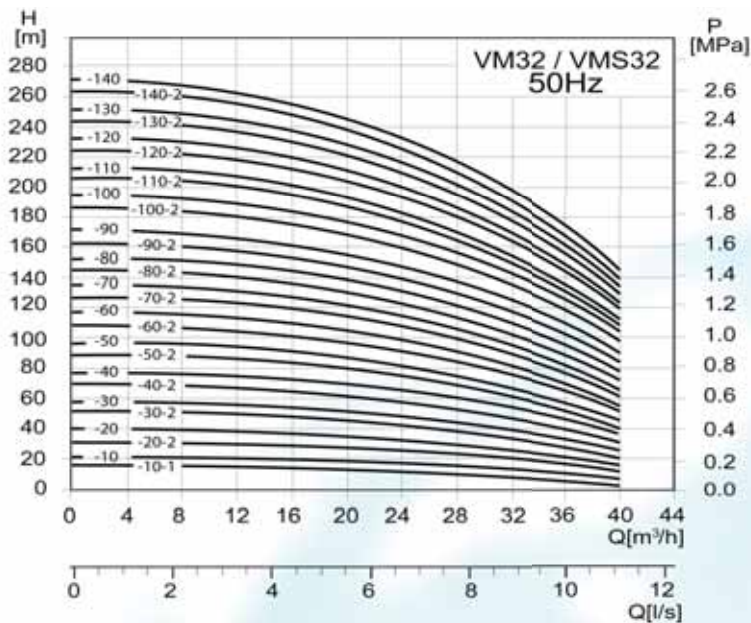
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM8-20/1	350	245	595	170	142	25	0.75
VM8-20	350	245	595	170	142	25	0.75
VM8-30	380	245	625	170	142	30	1.1
VM8-40	420	290	710	190	155	30	1.5
VM8-50	450	290	740	190	155	40	2.2
VM8-60	480	290	770	190	155	40	2.2
VM8-80	550	315	865	197	165	45	3.0
VM8-100	610	335	945	230	188	55	4.0
VM8-120	670	335	1005	230	188	55	4.0
VM8-140	750	430	1180	260	208	80	5.5
VM8-160	810	430	1240	260	208	80	5.5
VM8-180	870	430	1300	260	208	90	7.5
VM8-200	930	430	1360	260	208	90	7.5

VM16, VMS16



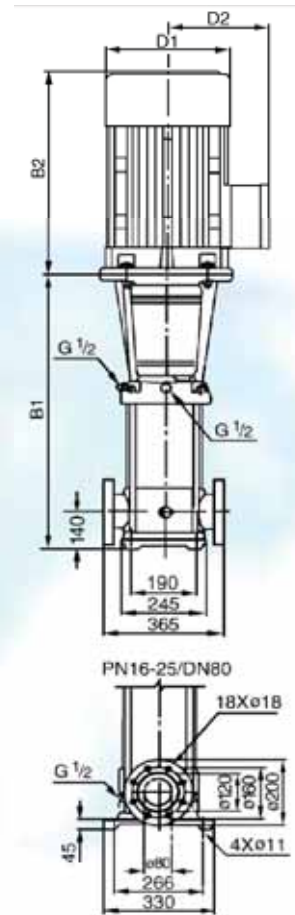
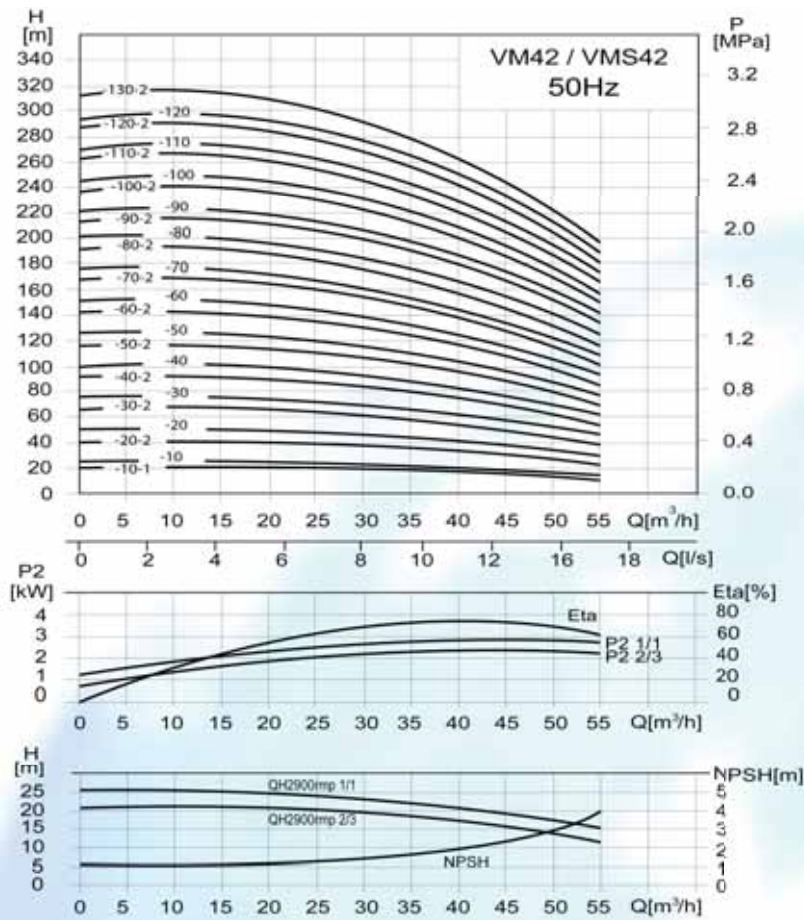
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM16-20	400	290	690	190	155	40	2.2
VM16-30	455	315	770	197	165	50	3.0
VM16-40	500	335	835	230	188	55	4.0
VM16-50	565	430	995	260	208	70	5.5
VM16-60	610	430	1040	260	208	75	5.5
VM16-70	655	430	1085	260	208	80	7.5
VM16-80	700	430	1130	260	208	80	7.5
VM16-100	820	490	1310	330	255	140	11
VM16-120	910	490	1400	330	255	145	11
VM16-140	1000	490	1490	330	255	160	15
VM16-160	1090	490	1580	330	255	165	15

VM32, VMS32



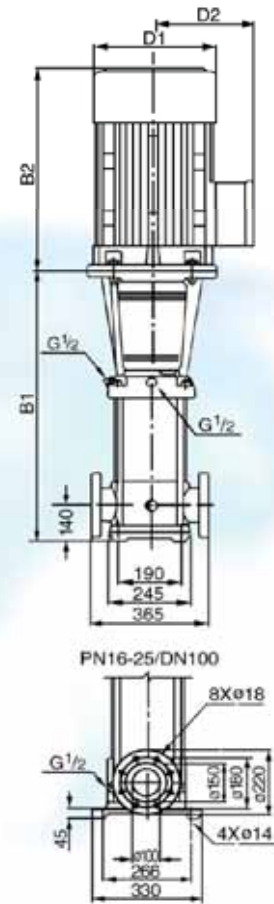
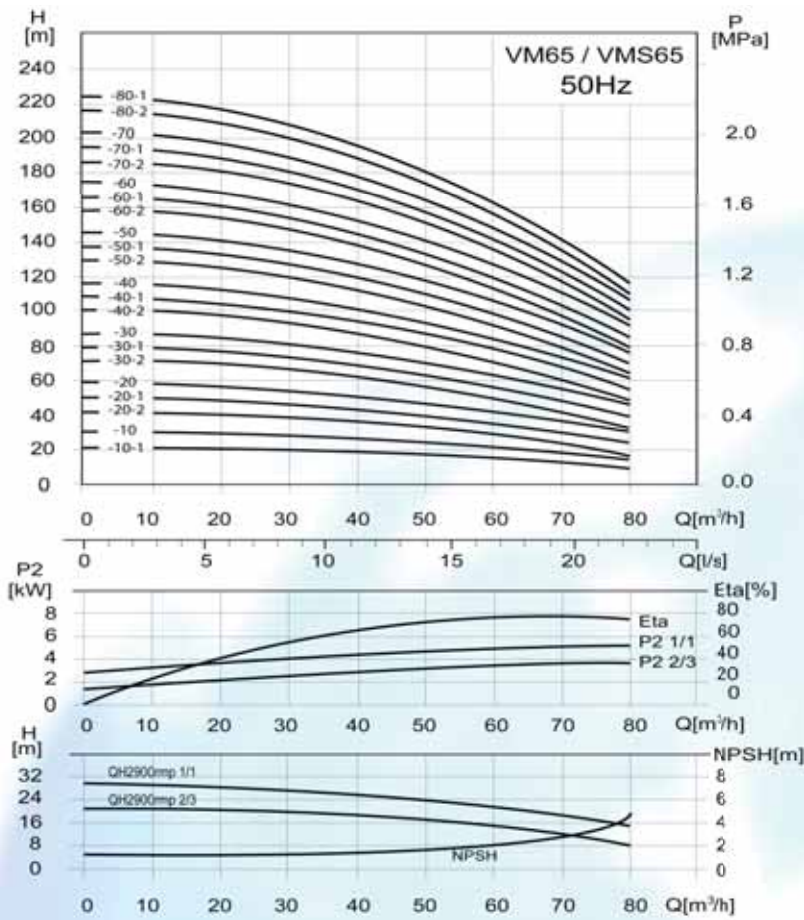
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM32-10-1/VM32-10	505	290	795	190	155	68/71	1.5/2.2
VM32-20-2/VM32-20	575	315/335	890/910	197/230	165/188	78/84	3.0/4.0
VM32-30-2/VM32-30	645	430	1075	260	208	93	5.5
VM32-40-2/VM32-40	715	430	1145	260	208	102	7.5
VM32-50-2/VM32-50	890	490	1380	330	255	172	11
VM32-60-2/VM32-60	960	490	1450	330	255	176	11
VM32-70-2/VM32-70	1030	490	1520	330	255	188	15
VM32-80-2/VM32-80	1100	490	1590	330	255	192	15
VM32-90-2/VM32-90	1170	550	1720	330	255	218	18.5
VM32-100-2/VM32-100	1240	550	1790	330	255	222	18.5
VM32-110-2/VM32-110	1310	590	1900	360	285	259	22
VM32-120-2/VM32-120	1380	590	1970	360	285	263	22
VM32-130-2/VM32-130	1450	660	2110	400	310	327	30
VM32-140-2/VM32-140	1520	660	2180	400	310	331	30

VM42, VMS42



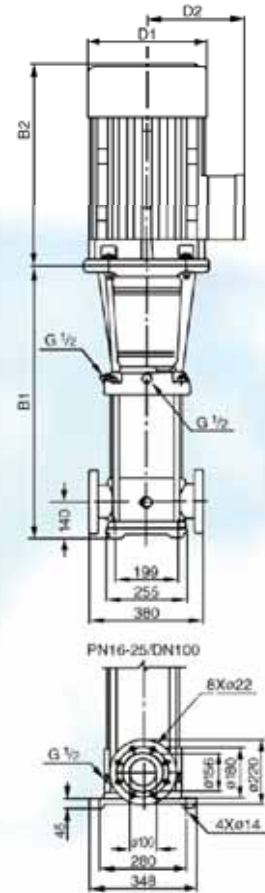
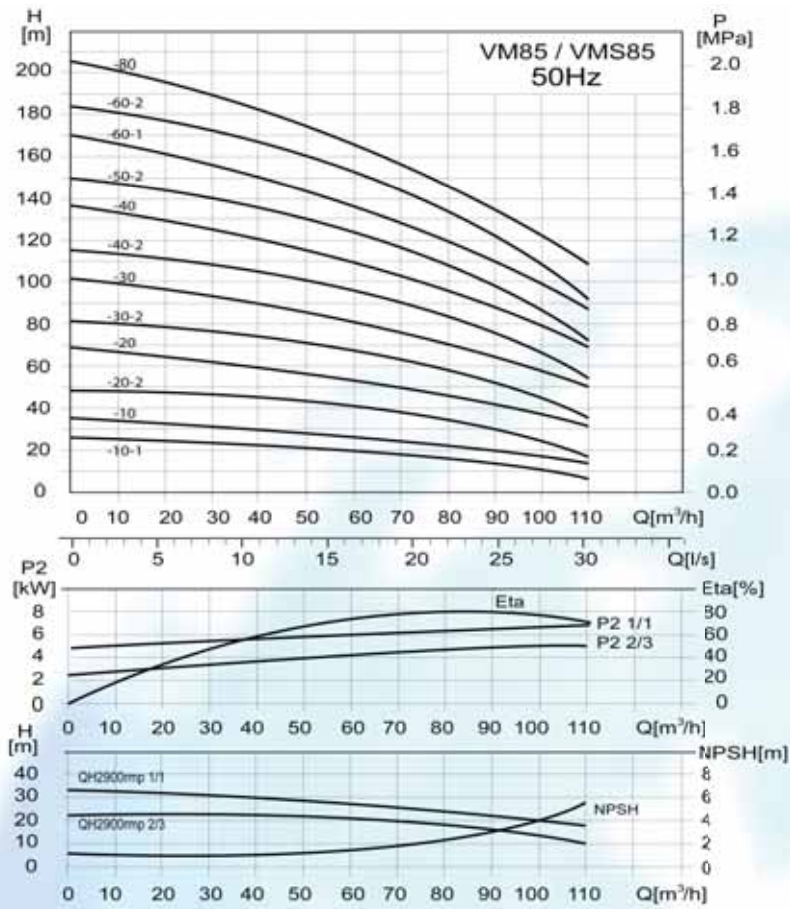
Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM42-10-1	561	315/335	876/896	197/230	165/188	86/92	3.0/4.0
VM42-10							
VM42-20-2	641	430	1071	260	208	102/107	5.5/7.5
VM42-20							
VM42-30-2	826	490	1316	330	255	175	11
VM42-30							
VM42-40-2	906	490	1396	330	255	187	15
VM42-40							
VM42-50-2	986	550	1536	330	255	208	18.5
VM42-50							
VM42-60-2	1066	590	1656	360	285	251	22
VM42-60							
VM42-70-2	1146	660	1806	400	310	315	30
VM42-70							
VM42-80-2	1226	660	1886	400	310	319	30
VM42-80							
VM42-90-2	1306	660	1966	400	310	323/343	30/37
VM42-90							
VM42-100-2	1386	660	2046	400	310	347	37
VM42-100							
VM42-110-2	1466	700	2166	450	345	413	45
VM42-110							
VM42-120-2	1546	700	2246	450	345	417	45
VM42-120							
VM42-130-2/VM42-130	1626	700	2326	450	345	421	45

VM65, VMS65



Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM65-10-1	561	335	896	230	188	105	4
VM65-10	561	430	991	260	208	110	5.5
VM65-20-2	644	430	1074	260	208	120	7.5
VM65-20-1	754	490	1244	330	255	155	11
VM65-20	754	490	1244	330	255	155	11
VM65-30-2	836	490	1326	330	255	195	15
VM65-30-1	836	490	1326	330	255	195	15
VM65-30	836	550	1386	330	255	205	18.5
VM65-40-2	919	550	1469	330	255	208	18.5
VM65-40-1	919	590	1509	360	285	260	22
VM65-40	919	590	1509	360	285	260	22
VM65-50-2	1001	660	1661	400	310	345	30
VM65-50-1	1001	660	1661	400	310	345	30
VM65-50	1001	660	1661	400	310	345	30
VM65-60-2	1084	660	1744	400	310	350	30
VM65-60-1	1084	660	1744	400	310	370	37
VM65-60	1084	660	1744	400	310	370	37
VM65-70-2	1166	660	1826	400	310	375	37
VM65-70-1	1166	660	1826	400	310	375	37
VM65-70	1166	700	1826	400	310	435	45
VM65-80-2	1248	700	1948	460	340	440	45
VM65-80-1	1248	700	1948	460	340	440	45

VM85, VMS85



Motor (kW)	Size (mm)					Weight (kg)	Driving motor (kW)
	B1	B2	B1+B2	D1	D2		
VM85-10-1	571	430	1001	260	208	120	5.5
VM85-10	571	430	1001	260	208	122	7.5
VM85-20-2	773	490	1263	330	255	165	11
VM85-20	773	490	1263	330	255	198	15
VM85-30-2	865	550	1415	330	255	212	18.5
VM85-30	865	590	1455	360	285	265	22
VM85-40-2	957	660	1617	400	310	348	30
VM85-40	957	660	1617	400	310	348	30
VM85-50-2	1049	660	1709	400	310	375	37
VM85-50	1049	660	1709	400	310	375	37
VM85-60-2	1141	700	1841	460	340	438	45
VM85-60	1141	700	1841	460	340	438	45

Distributor



Distributor