

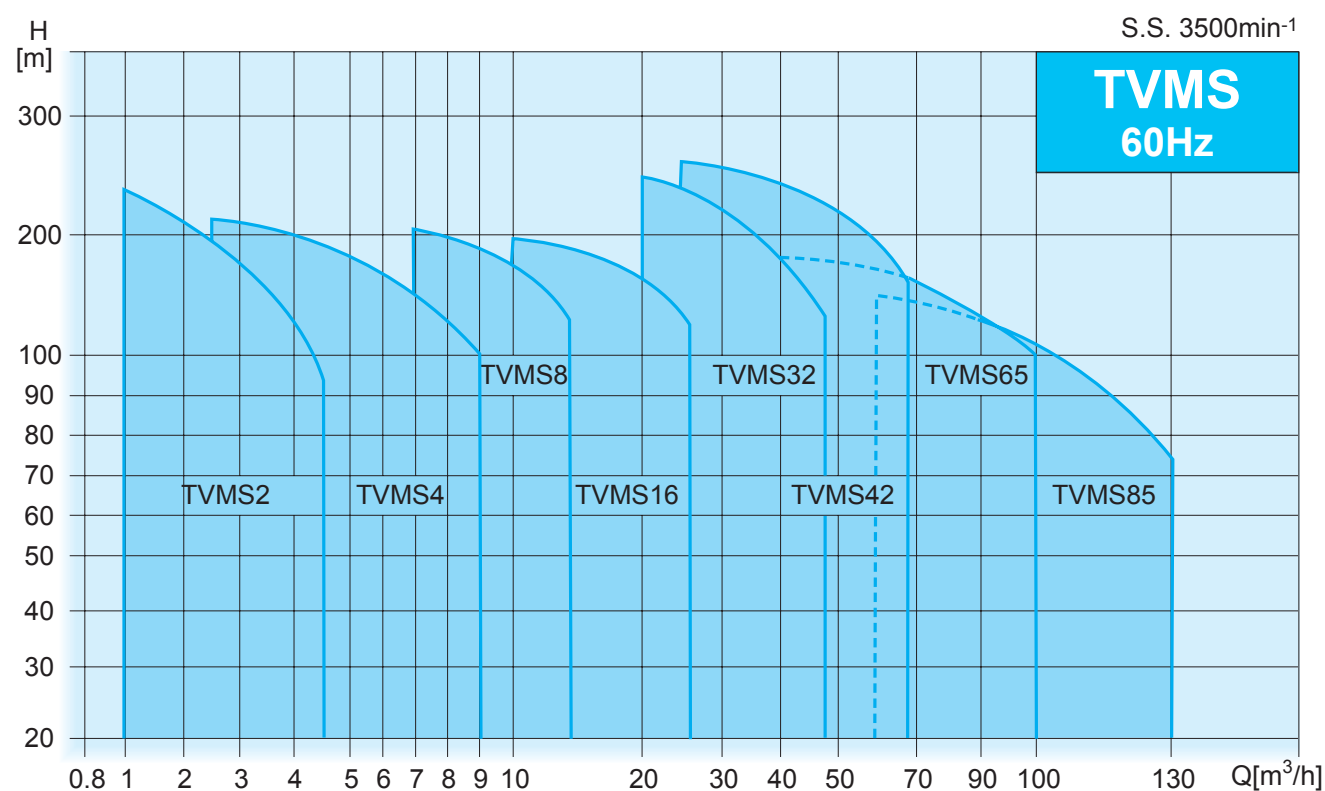
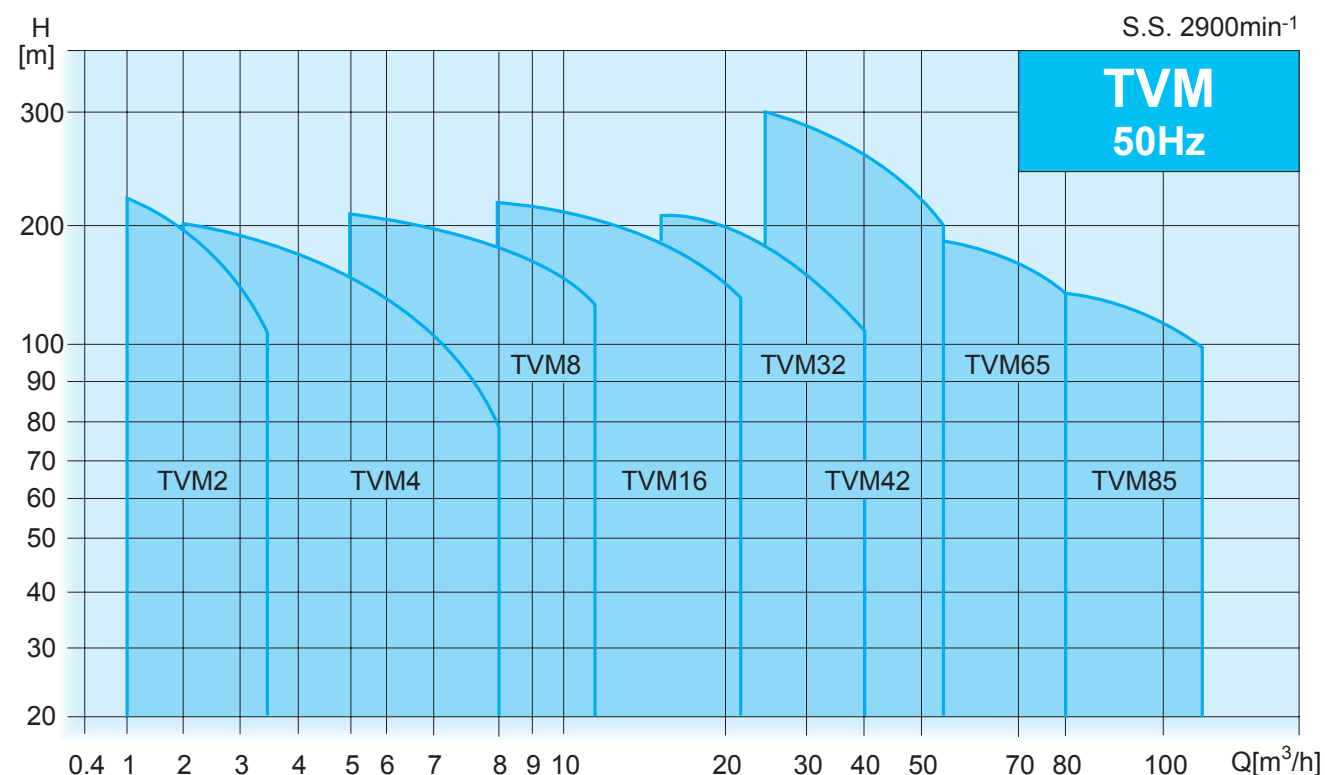


*Vertical Stainless Steel
Multistage In-line Pumps*

TVM/TVMS



Selection Charts



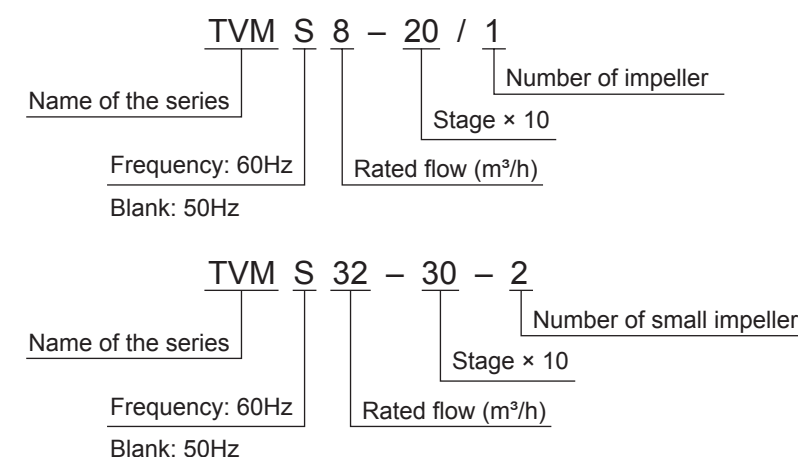
Features

- The most appropriate model can be selected for the service condition from the wide variations of output. 50Hz) 0.37 ~ 45kW 60Hz) 0.55 ~ 45kW
- Standard specification : Corresponding to the temperatures of 0 to 70°C.
- High temperature specification : Corresponding to the temperatures of 70 to 120°C with option.
- The major wetted part is made of 304 stainless steel (optional 316 stainless steel also available) that prevents rusty water from occurring in pump materials.
- Mechanical seals are employed for the shaft seal part to reduce the running and maintenance cost.
- The TVM/TVMS are vertical in-line pumps that can be installed between pipes, which require a smaller footprint.

Applications

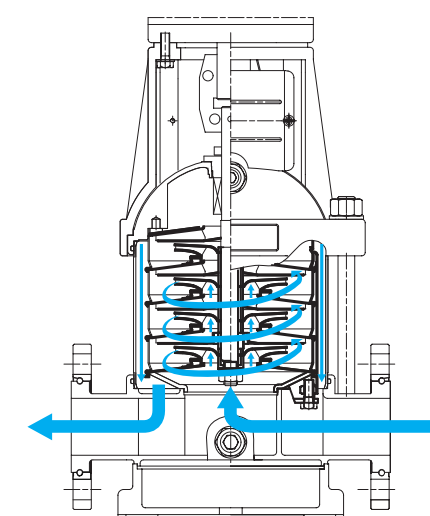
- Irrigating agricultural farm
- Supplying and distributing industrial water
- Circulating cold and warm water

Model Number Designation



Major Standard Specifications

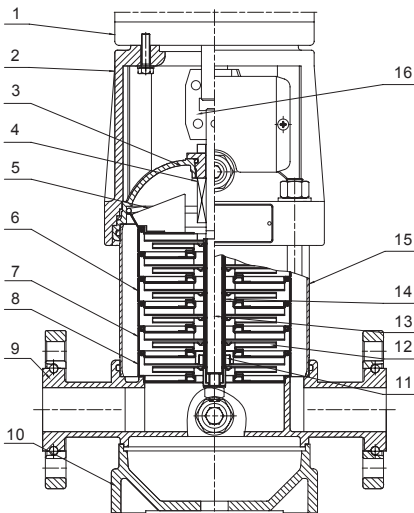
Suction × Discharge Bore			mm	25 × 25	32 × 32	40 × 40	50 × 50	65 × 65	80 × 80	100 × 100
Pumping Liquid	Type of Liquid			Industrial water, Agricultural water						
	Liquid Temperature			0 to 70°C						
Pump	Structure	Impeller	Closed							
		Shaft Seal	Mechanical seal							
		Bearing	Ball bearing (11kW and below) Roller bearing (15kW and above)							
	Materials	Impeller	304 stainless steel							
		Casing	304 stainless steel							
		Shaft Seal	Tungsten carbide + Graphite							
Motor	Type, Pole		Full-enclosed air-blast standard motor, 2-pole							
	Motor Enclosure		IP55							
	Insulation		Class F							
	Phase		Single-phase (Up to 2.2kW) Three-phase							
	Materials	Frame	Aluminum alloy die-casting (7.5kW and below) Gray cast iron (11kW and above)							
		Shaft	316 stainless steel							
Starting Method			D.O.L. (7.5kW and below) Star-Delta (11kW and above)							
Discharge Connection			DIN flange (optional Victaulic connection also available up to DN50)							



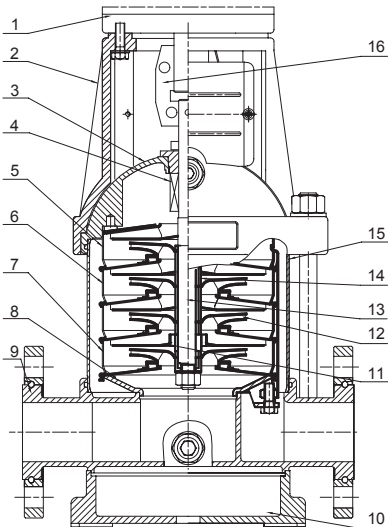
Water flow in the main unit

Cross-sectional Drawing

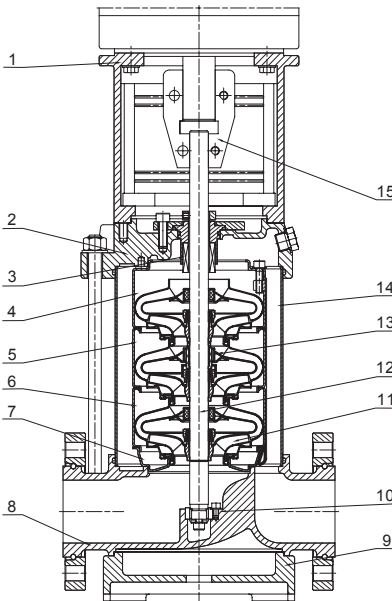
TVM/TVMS 2-4



TVM/TVMS 8-16



TVM/TVMS 32-42-65-85



TVM/TVMS 2-4-8-16

Item No.	Name	Material
1	Electric motor	
2	Pump head	Gray cast iron
3	Seal base	304 stainless steel
4	Mechanical seal	Tungsten carbide/Graphite
5	Water-out guide vane	304 stainless steel
6	Guide vane	304 stainless steel
7	Support guide vane	304 stainless steel
8	Inducer	304 stainless steel
9	Inlet & outlet section	304 stainless steel
10	Base frame	Gray cast iron
11	Bearing	Tungsten carbide
12	Impeller	304 stainless steel
13	Shaft	316 stainless steel
14	Spacer	304 stainless steel
15	Pressure-resistant cylinder	304 stainless steel
16	Coupling	Carbon steel

TVM/TVMS 32-42-65-85

Item No.	Name	Material
1	Bracket	Gray cast iron
2	Pump head	Gray cast iron
3	Mechanical seal	Tungsten carbide/Graphite
4	Water-out guide vane	304 stainless steel
5	Support guide vane	304 stainless steel
6	Guide vane	304 stainless steel
7	Inducer	304 stainless steel
8	Inlet & outlet section	304 stainless steel
9	Base frame	Gray cast iron
10	Bottom bearing	Tungsten carbide
11	Impeller	304 stainless steel
12	Shaft	316 stainless steel
13	Intermediate-shaft sleeve	Tungsten carbide
14	Pressure-resistant cylinder	304 stainless steel
15	Coupling	Carbon steel
	Rubber parts	EPDM

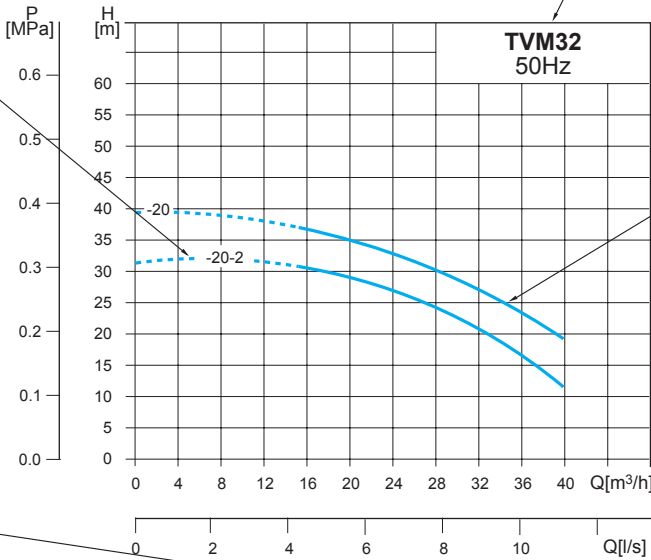
How to Read the Curves

Curves on this page are for guidance only. Refer to the performance curves on each model.

Model and frequency of pump

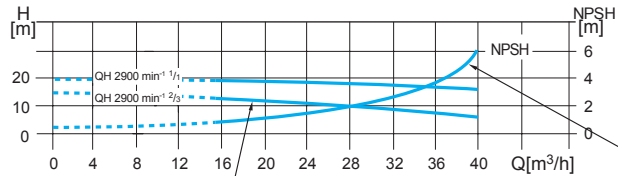
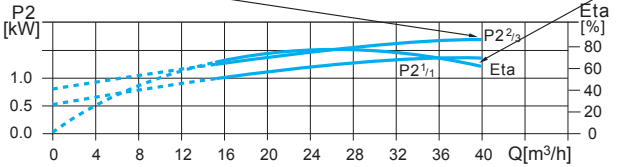
Stage
First number:
Stage × 10
Second number:
Number of small
impeller

The power curve
presents the input
power of each stage,
which is divided into
integrate impeller
type (1/1) and the
type with small
impeller (2/3)



Pump Q-H curve, the thickened line presents recommended performance region

Eta curve presents efficiency of the pump. For the pump equipped with small impeller, its efficiency will be 2% lower than that shown by the curve.



NPSH curve expresses the average value of all curves of this series. A safety margin of 0.5m shall be taken into consideration when making selection.

The Q-H curve of each stage, presenting integrate impeller type (1/1) and the type equipped with small impeller (2/3).

Performance curve

Following conditions are applied to the performance curves shown in this catalogue:

- 1. All the performance curves are based on the measured values of a motor at a constant speed of 2900 min⁻¹ for 50Hz and 3500 min⁻¹ for 60Hz.
- 2. Curve tolerance in conformity with ISO9906, appendix A.

3. Measurement is done with 20°C air-free water, kinematic viscosity of 1mm²/sec.

4. The operation of pump shall refer to the performance region indicated by the solid line to prevent overheating due to too small flow rate or overload of motor due to too large flow rate.

Max inlet pressure (50Hz)

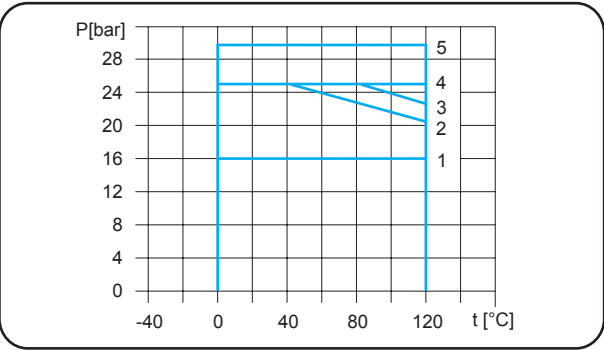
The maximum inlet pressure is shown in the table below. But the actual inlet pressure plus the valve close pressure of the pump shall be lower than the maximum allowable working pressure.

Model	Max inlet pressure
TVM2	
2-20	6[bar]
2-30 ~ 2-110	10[bar]
2-130 ~ 2-260	15[bar]
TVM4	
4-20	6[bar]
4-30 ~ 4-100	10[bar]
4-120 ~ 4-220	15[bar]
TVM8	
8-20/1 ~ 8-60	6[bar]
8-80 ~ 8-200	10[bar]
TVM16	
16-20 ~ 16-30	6[bar]
16-40 ~ 16-160	10[bar]
TVM32	
32-10-1 ~ 32-20-2	3[bar]
32-20 ~ 32-40	4[bar]
32-50-2 ~ 32-100	10[bar]
32-110-2 ~ 32-140	15[bar]
TVM42	
42-10-1	3[bar]
42-10 ~ 42-20	4[bar]
42-30-2 ~ 42-50	10[bar]
42-60-2 ~ 42-130-2	15[bar]
TVM65	
65-10-1 ~ 65-20-2	4[bar]
65-20-1 ~ 65-30	10[bar]
65-40-2 ~ 65-80-1	15[bar]
TVM85	
85-10-1 ~ 85-10	4[bar]
85-20-2 ~ 85-30-2	10[bar]
85-30-1 ~ 85-60	15[bar]

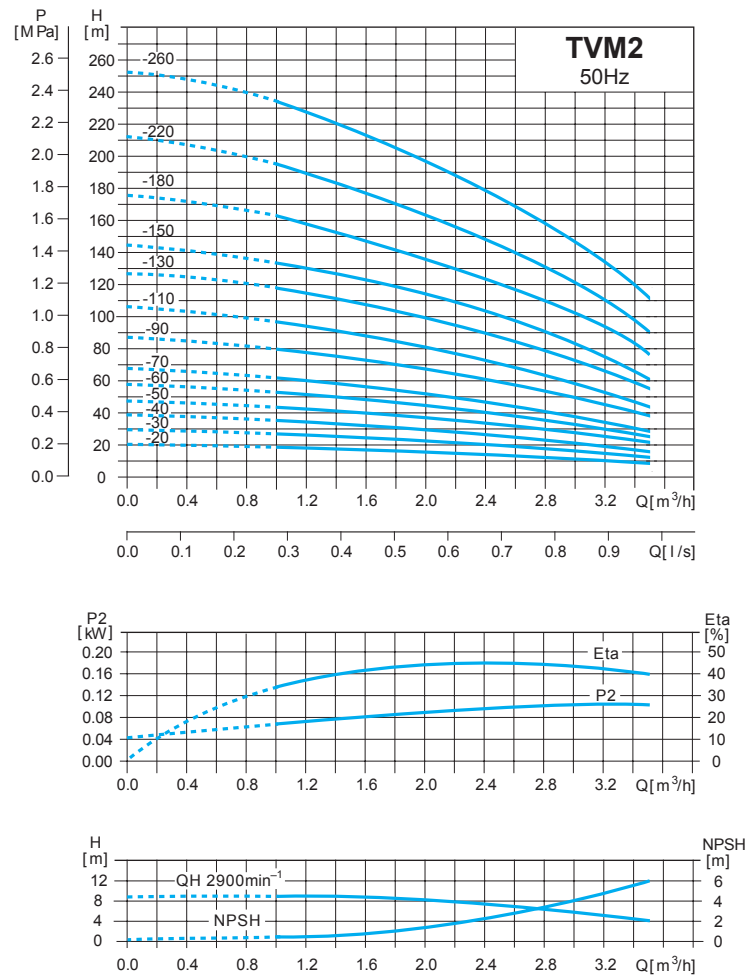
Max working pressure (50Hz)

Model	Curve number
TVM2	
2-20 ~ 2-150	1
2-180 ~ 2-260	2
TVM4	
4-20 ~ 4-160	1
4-190 ~ 4-220	2
TVM8	
8-20/1 ~ 8-120	1
8-140 ~ 8-200	3
TVM16	
16-20 ~ 16-80	1
16-100 ~ 16-160	3
TVM32	
32-10-1 ~ 32-70	1
32-80-2 ~ 32-120	4
32-130 ~ 32-140	5
TVM42	
42-10-1 ~ 42-60	1
42-70-2 ~ 42-90	4
42-100-2 ~ 42-130-2	5
TVM65	
65-10-1 ~ 65-50	1
65-60-2 ~ 65-80-1	4
TVM85	
85-10-1 ~ 85-50-2	1
85-50 ~ 85-60	4

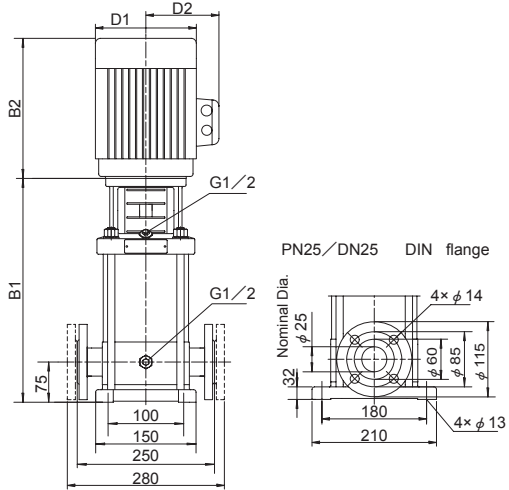
The following figure shows the limitation of pressure and temperature, which shall be kept within the region as shown in the figure.



Performance Curves



Dimensions



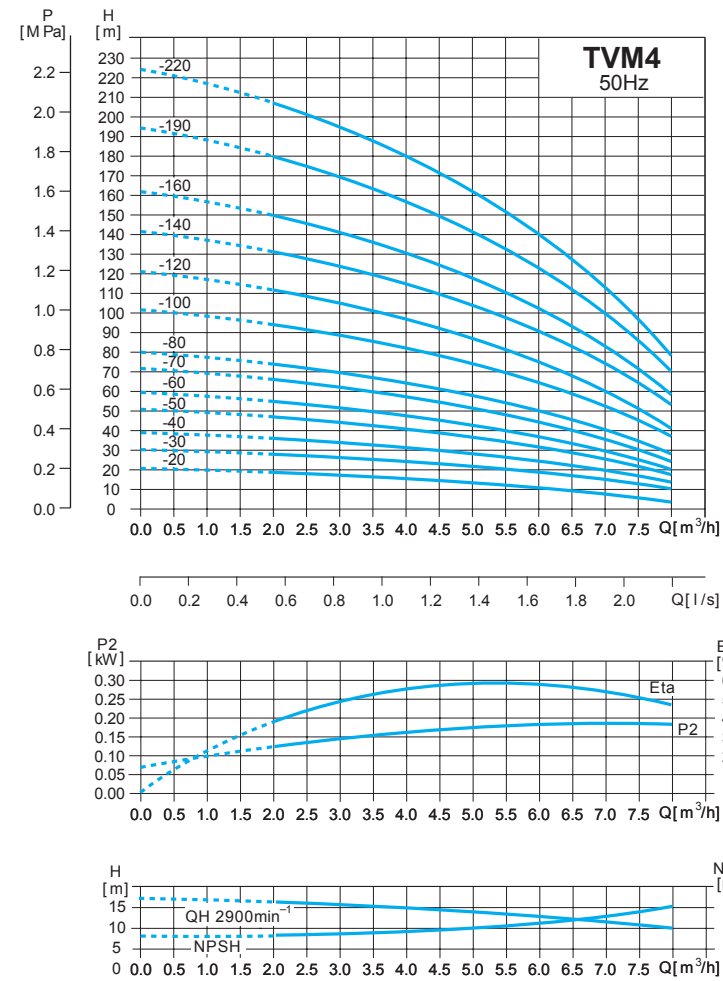
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM2-20	233	210	443	148	117	20
TVM2-30	251	210	461	148	117	20
TVM2-40	269	210	479	148	117	20
TVM2-50	287	210	497	148	117	20
TVM2-60	315	245	560	170	142	25
TVM2-70	333	245	578	170	142	25
TVM2-90	369	245	614	170	142	30
TVM2-110	405	245	650	170	142	30
TVM2-130	451	290	741	190	155	35
TVM2-150	487	290	777	190	155	35
TVM2-180	541	290	831	190	155	40
TVM2-220	613	290	903	190	155	45
TVM2-260	695	315	1010	197	165	50

Performance Table

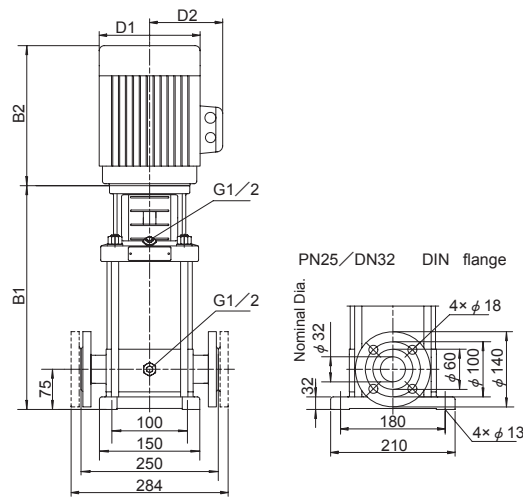
Model	Output (kW)	Q (m³/h)	1	1.2	1.6	2.0	2.4	2.8	3.2	3.5
TVM2-20	0.37	H (m)	18	17	16	15	13	12	10	8
TVM2-30	0.37		27	26	24	22	20	18	15	12
TVM2-40	0.55		36	35	33	30	26	24	20	16
TVM2-50	0.55		45	43	40	37	33	30	24	20
TVM2-60	0.75		53	52	50	45	40	36	30	24
TVM2-70	0.75		63	61	57	52	47	41	35	28
TVM2-90	1.1		80	78	73	67	61	54	45	37
TVM2-110	1.1		98	95	89	82	73	64	54	44
TVM2-130	1.5		116	114	106	98	89	78	65	52
TVM2-150	1.5		134	130	123	112	100	90	73	60
TVM2-180	2.2		161	157	148	136	121	108	91	76
TVM2-220	2.2		197	192	180	165	148	130	110	90
TVM2-260	3.0		232	228	214	198	179	158	130	110

Technical Data
TVM4

■ Performance Curves



■ Dimensions



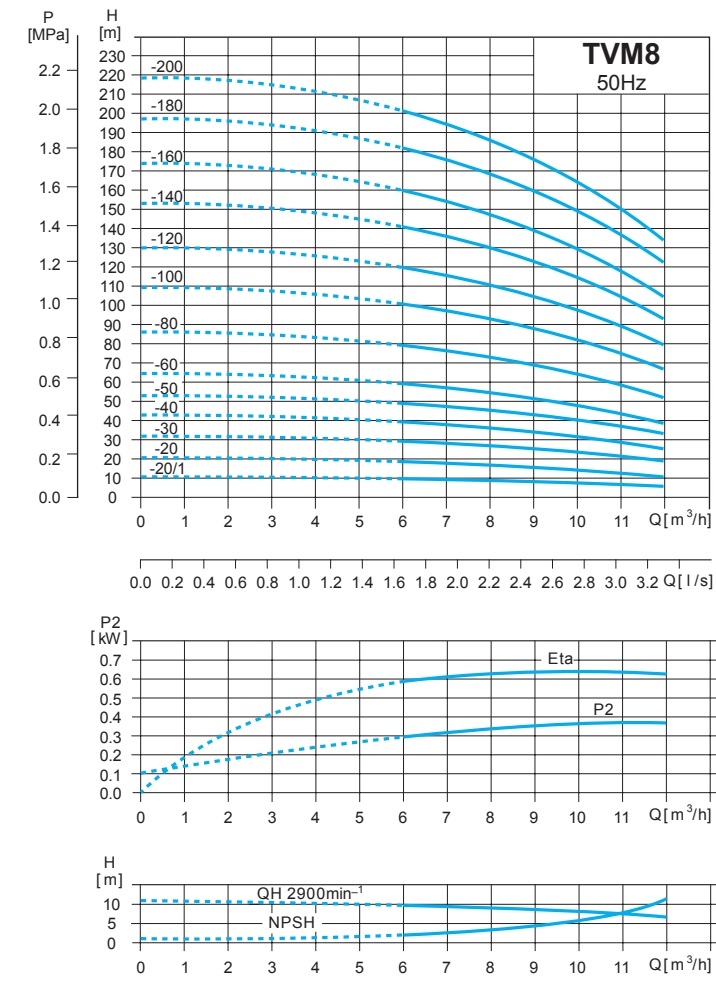
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM4-20	251	210	461	148	117	20
TVM4-30	278	210	488	148	117	20
TVM4-40	315	245	560	170	142	20
TVM4-50	342	245	587	170	142	25
TVM4-60	369	245	614	170	142	25
TVM4-70	406	290	696	190	155	30
TVM4-80	433	290	723	190	155	30
TVM4-100	487	290	777	190	155	30
TVM4-120	541	290	831	190	155	35
TVM4-140	605	315	920	197	165	35
TVM4-160	659	315	974	197	165	40
TVM4-190	740	335	1075	230	188	45
TVM4-220	821	335	1156	230	188	50

■ Performance Table

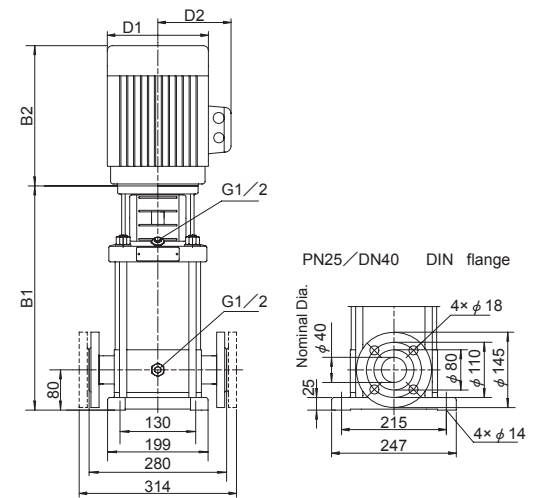
Model	Output (kW)	Q (m³/h)	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0
TVM4-20	0.37	H (m)	19	18	17	15	13	10	8	6
TVM4-30	0.55		28	27	26	24	20	18	13	10
TVM4-40	0.75		38	36	34	32	27	24	19	13
TVM4-50	1.1		47	45	43	40	34	31	23	17
TVM4-60	1.1		56	54	52	48	41	37	28	20
TVM4-70	1.5		66	63	61	56	48	43	33	24
TVM4-80	1.5		74	72	70	64	55	50	38	27
TVM4-100	2.2		96	90	87	81	71	62	48	34
TVM4-120	2.2		114	108	104	95	85	75	58	41
TVM4-140	3.0		136	126	122	112	101	89	68	48
TVM4-160	3.0		152	144	140	129	115	101	78	55
TVM4-190	4.0		183	171	168	153	137	122	93	67
TVM4-220	4.0		211	200	192	178	160	138	108	79

Technical Data
TVM8

■ Performance Curves



■ Dimensions



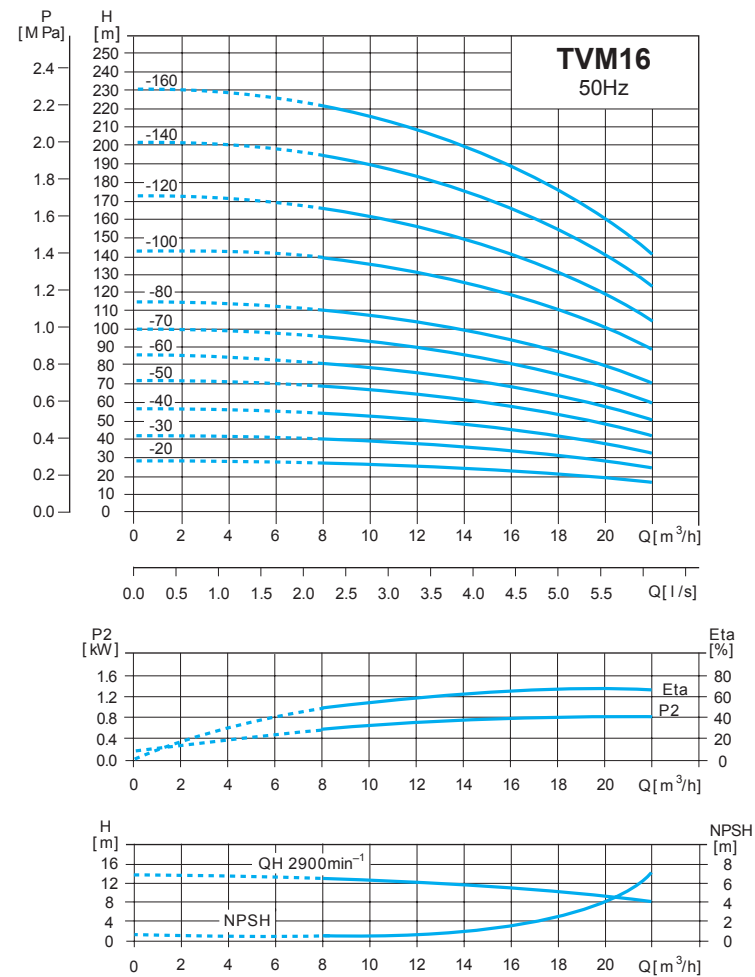
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM8-20/1	347	245	592	170	142	22
TVM8-20	347	245	592	170	142	22
TVM8-30	377	245	622	170	142	32
TVM8-40	417	290	707	190	155	32
TVM8-50	447	290	737	190	155	42
TVM8-60	477	290	767	190	155	42
TVM8-80	547	315	862	197	165	47
TVM8-100	607	335	942	230	188	57
TVM8-120	667	335	1002	230	188	57
TVM8-140	747	430	1177	260	208	82
TVM8-160	807	430	1237	260	208	82
TVM8-180	867	430	1297	260	208	92
TVM8-200	927	430	1357	260	208	92

■ Performance Table

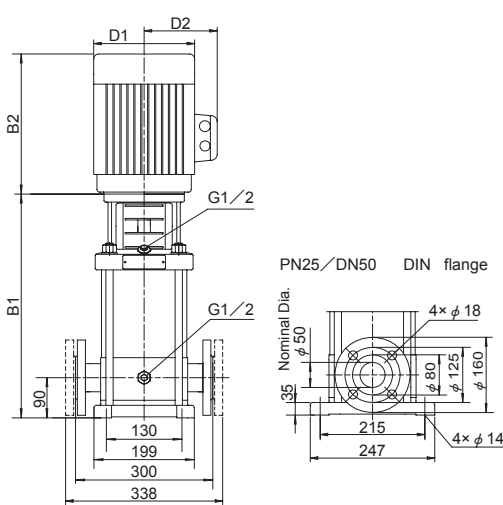
Model	Output (kW)	Q (m³/h)	5	6	7	8	9	10	11	12
TVM8-20/1	0.75	H (m)	10	9.5	9.3	9	8.5	8	7	6
TVM8-20	0.75		20	19.5	19	18	17	16	14	13
TVM8-30	1.1		30	29.5	28.5	27	25	24	21	19
TVM8-40	1.5		41	39.5	38	36	34	32	28	26
TVM8-50	2.2		52	50	48	45	42	40	36	32
TVM8-60	2.2		62	60	57	54	51	48	43	39
TVM8-80	3.0		83	80	77	73	69	65	58	52
TVM8-100	4.0		104	100	97	92	87	81	73	65
TVM8-120	4.0		124	120	116	111	104	92	87	78
TVM8-140	5.5		145	141	136	130	122	113	102	92
TVM8-160	5.5		166	161	156	148	139	130	118	106
TVM8-180	7.5		187	182	175	167	157	146	134	120
TVM8-200	7.5		208	202	195	186	175	163	150	135

Technical Data
TVM16

■ Performance Curves



■ Dimensions



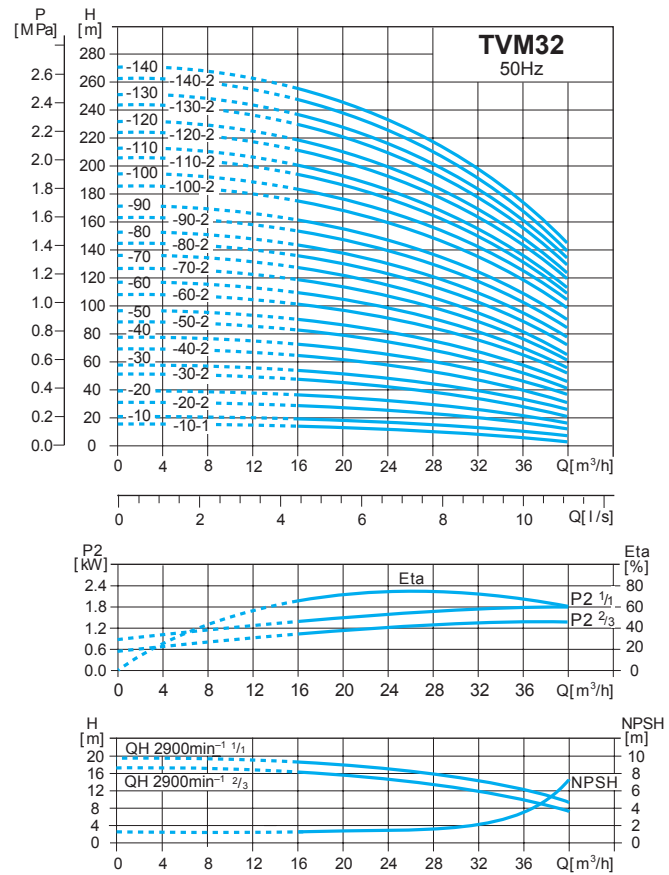
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM16-20	397	290	687	190	155	42
TVM16-30	452	315	767	197	165	52
TVM16-40	497	335	832	230	188	57
TVM16-50	562	430	992	260	208	72
TVM16-60	607	430	1037	260	208	77
TVM16-70	652	430	1082	260	208	82
TVM16-80	697	430	1127	260	208	82
TVM16-100	875	490	1365	330	255	142
TVM16-120	965	490	1455	330	255	147
TVM16-140	1055	490	1545	330	255	162
TVM16-160	1145	490	1635	330	255	167

■ Performance Table

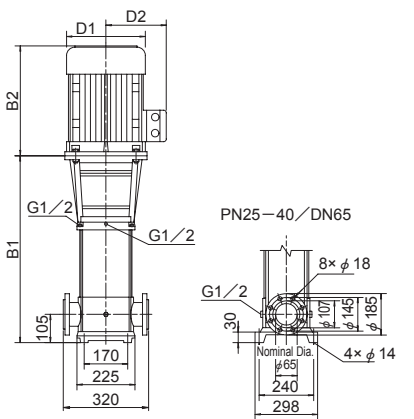
Model	Output (kW)	Q (m³/h)	8	10	12	14	16	18	20	22
TVM16-20	2.2	H (m)	27	26	25	24	22	21	19	16
TVM16-30	3.0		41	40	38	37	34	32	26	25
TVM16-40	4.0		54	53	52	49	46	43	38	34
TVM16-50	5.5		68	67	65	62	58	54	48	43
TVM16-60	5.5		82	80	78	74	70	64	58	52
TVM16-70	7.5		96	95	91	87	82	76	68	61
TVM16-80	7.5		110	108	104	99	94	86	77	70
TVM16-100	11		138	136	131	125	118	109	97	87
TVM16-120	11		166	162	157	150	141	130	116	105
TVM16-140	15		194	190	184	175	166	152	136	122
TVM16-160	15		222	217	210	200	189	174	156	140

Technical Data
TVM32

■ Performance Curves



■ Dimensions



Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM32-10-1 / TVM32-10	505	290	795	190	155	68 / 71
TVM32-20-2 / TVM32-20	575	315 / 335	890 / 910	197 / 230	165 / 180	78 / 84
TVM32-30-2 / TVM32-30	645	430	1075	260	208	93
TVM32-40-2 / TVM32-40	715	430	1145	260	208	102
TVM32-50-2 / TVM32-50	890	490	1380	330	255	172
TVM32-60-2 / TVM32-60	960	490	1450	330	255	176
TVM32-70-2 / TVM32-70	1030	490	1520	330	255	188
TVM32-80-2 / TVM32-80	1100	490	1590	330	255	192
TVM32-90-2 / TVM32-90	1170	550	1720	330	255	218
TVM32-100-2 / TVM32-100	1240	550	1790	330	255	222
TVM32-110-2 / TVM32-110	1310	590	1900	360	285	259
TVM32-120-2 / TVM32-120	1380	590	1970	360	285	263
TVM32-130-2 / TVM32-130	1450	660	2110	400	310	327
TVM32-140-2 / TVM32-140	1520	660	2180	400	310	331

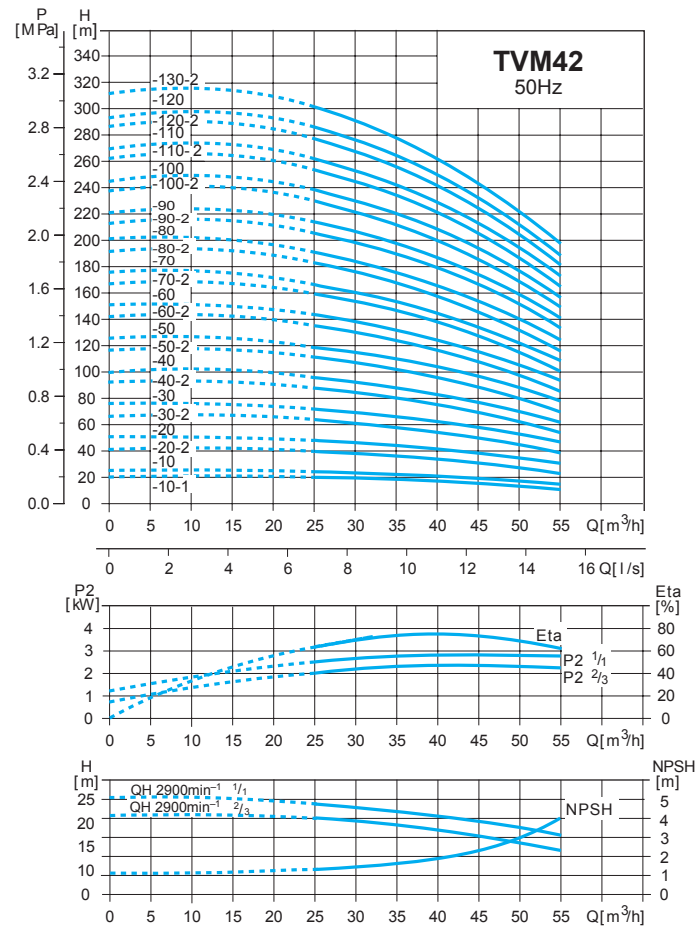
■ Performance Table

Model	Output (kW)	Q (m³/h)	16	20	24	28	32	36	40
TVM32-10-1	1.5	H (m)	14	13	12	11	9	7	4
TVM32-10	2.2		18	17	15	14	13	11	8
TVM32-20-2	3.0		29	28	26	23	20	16	11
TVM32-20	4.0		36	34	32	29	27	23	18
TVM32-30-2	5.5		47	44	41	38	33	28	21
TVM32-30	5.5		54	51	48	44	40	35	27
TVM32-40-2	7.5		65	62	58	53	46	40	30
TVM32-40	7.5		72	69	65	59	53	47	37
TVM32-50-2	11		83	79	74	68	60	52	41
TVM32-50	11		90	86	81	74	67	59	47
TVM32-60-2	11		101	97	90	83	74	65	51
TVM32-60	11		108	104	97	90	81	72	57
TVM32-70-2	15		119	114	107	98	88	78	60
TVM32-70	15		126	121	113	105	95	85	67
TVM32-80-2	15		136	131	123	114	102	90	71
TVM32-80	15		144	138	130	120	109	97	77
TVM32-90-2	18.5		154	148	140	129	117	102	82
TVM32-90	18.5		162	156	147	136	124	109	88
TVM32-100-2	18.5		175	166	157	146	131	115	91
TVM32-100	18.5		182	173	164	152	138	122	98
TVM32-110-2	22		193	184	173	162	146	128	102
TVM32-110	22		200	191	180	168	153	135	109
TVM32-120-2	22		211	201	189	178	160	140	113
TVM32-120	22		218	208	196	184	167	147	120
TVM32-130-2	30		230	218	206	193	174	153	124
TVM32-130	30		237	225	213	200	181	160	131
TVM32-140-2	30		247	235	222	210	189	165	135
TVM32-140	30		255	242	229	216	196	172	142

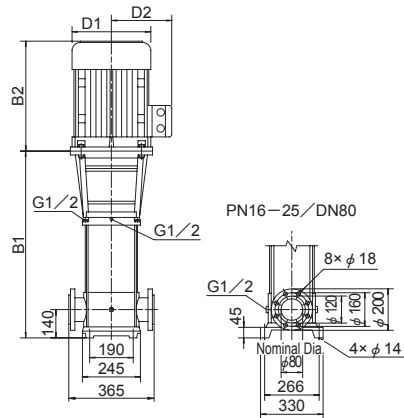
Technical Data

TVM42

Performance Curves



Dimensions



Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM42-10-1 / TVM42-10	561	315 / 335	876 / 896	197 / 230	165 / 188	86 / 92
TVM42-20-2 / TVM42-20	641	430	1071	260	208	102 / 107
TVM42-30-2 / TVM42-30	826	490	1316	330	255	175
TVM42-40-2 / TVM42-40	906	490	1396	330	255	187
TVM42-50-2 / TVM42-50	986	550	1536	330	255	208
TVM42-60-2 / TVM42-60	1066	590	1656	360	285	251
TVM42-70-2 / TVM42-70	1146	660	1806	400	310	315
TVM42-80-2 / TVM42-80	1226	660	1886	400	310	319
TVM42-90-2 / TVM42-90	1306	660	1966	400	310	323 / 343
TVM42-100-2 / TVM42-100	1386	660	2046	400	310	347
TVM42-110-2 / TVM42-110	1466	700	2166	450	345	413
TVM42-120-2 / TVM42-120	1546	700	2246	450	345	417
TVM42-130-2	1626	700	2326	450	345	421

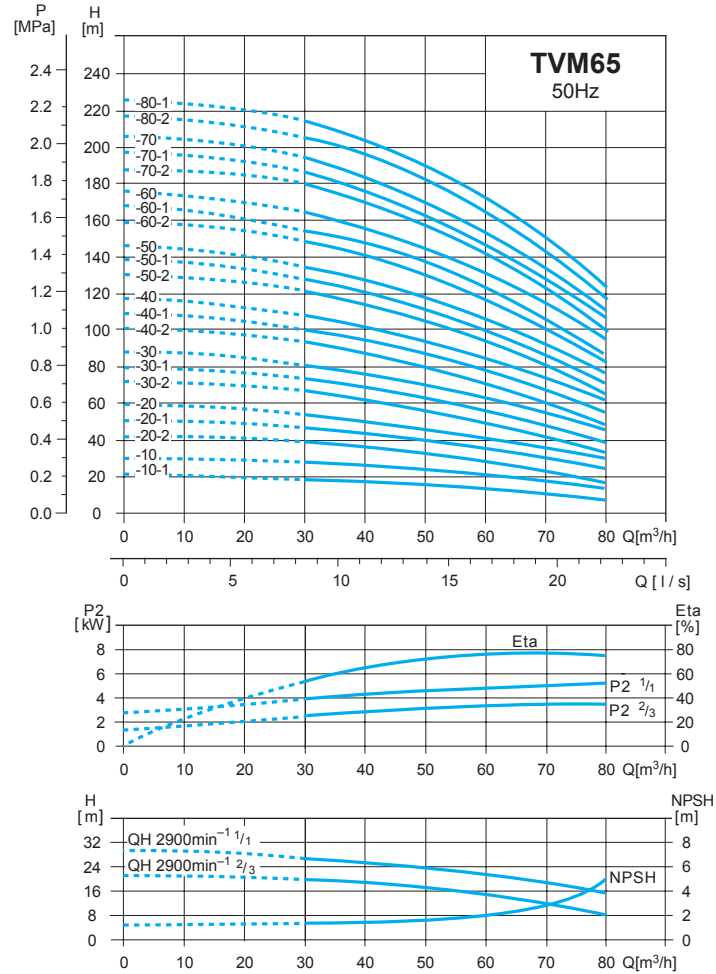
Performance Table

Model	Output (kW)	Q (m³/h)	25	30	35	40	42	45	50	55
TVM42-10-1	3.0	H (m)	20	19	18	17	16	15	13	11
TVM42-10	4.0		24	23	22	21	20	19	18	16
TVM42-20-2	5.5		40	38	36	33	32	30	27	23
TVM42-20	7.5		48	46	44	42	41	39	35	31
TVM42-30-2	11		63	61	58	54	52	50	44	38
TVM42-30	11		71	69	66	63	61	58	53	47
TVM42-40-2	15		87	84	80	75	73	69	62	54
TVM42-40	15		95	92	88	84	81	78	71	62
TVM42-50-2	18.5		111	107	102	96	93	88	80	69
TVM42-50	18.5		119	115	110	105	101	97	88	78
TVM42-60-2	22		135	130	124	117	113	108	97	85
TVM42-60	22		143	138	132	125	122	116	106	93
TVM42-70-2	30		158	152	146	138	134	127	115	100
TVM42-70	30		166	161	154	146	142	135	124	109
TVM42-80-2	30		182	175	168	159	154	146	133	116
TVM42-80	30		190	184	176	167	162	154	141	124
TVM42-90-2	30		205	198	190	180	174	166	150	132
TVM42-90	37		214	207	198	188	183	174	159	140
TVM42-100-2	37		230	221	212	200	194	185	168	147
TVM42-100	37		238	230	220	209	203	193	177	155
TVM42-110-2	45		255	246	236	223	217	206	188	165
TVM42-110	45		263	255	244	232	225	214	196	173
TVM42-120-2	45		280	270	259	245	238	226	206	181
TVM42-120	45		289	280	268	255	247	236	216	190
TVM42-130-2	45		305	294	282	267	259	247	225	198

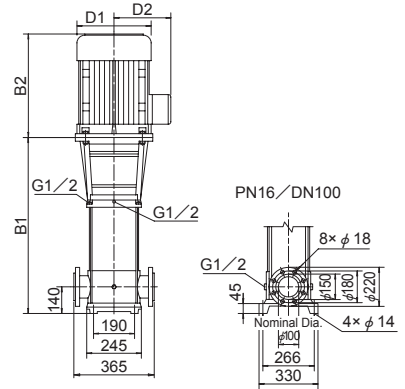
Technical Data

TVM65

Performance Curves



Dimensions



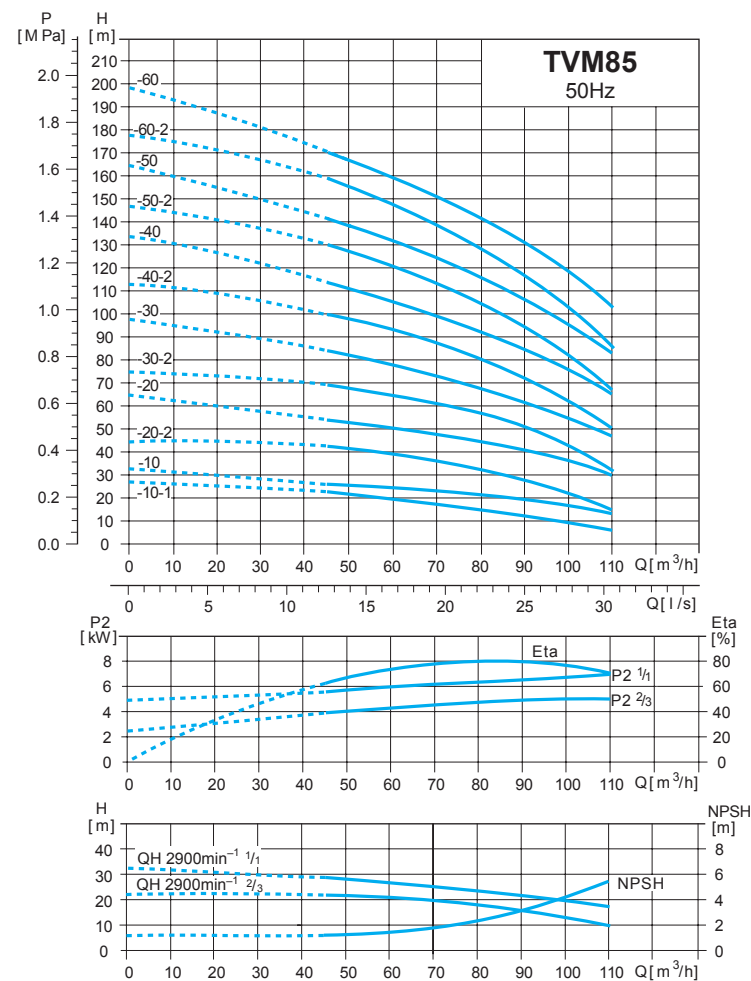
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM65-10-1	561	335	896	230	188	105
TVM65-10	561	430	911	260	208	110
TVM65-20-2	644	430	1074	260	208	120
TVM65-20-1	754	490	1244	330	255	155
TVM65-20	754	490	1244	330	255	155
TVM65-30-2	836	490	1326	330	255	195
TVM65-30-1	836	490	1326	330	255	195
TVM65-30	836	550	1386	330	255	205
TVM65-40-2	919	550	1469	330	255	208
TVM65-40-1	919	590	1509	360	285	260
TVM65-40	919	590	1509	360	285	260
TVM65-50-2	1001	660	1661	400	310	345
TVM65-50-1	1001	660	1661	400	310	345
TVM65-50	1001	660	1661	400	310	345
TVM65-60-2	1084	660	1744	400	310	350
TVM65-60-1	1084	660	1744	400	310	370
TVM65-60	1084	660	1744	400	310	370
TVM65-70-2	1166	660	1826	400	310	375
TVM65-70-1	1166	660	1826	400	310	375
TVM65-70	1166	700	1866	400	310	435
TVM65-80-2	1248	700	1948	460	340	440
TVM65-80-1	1248	700	1948	460	340	440

Performance Table

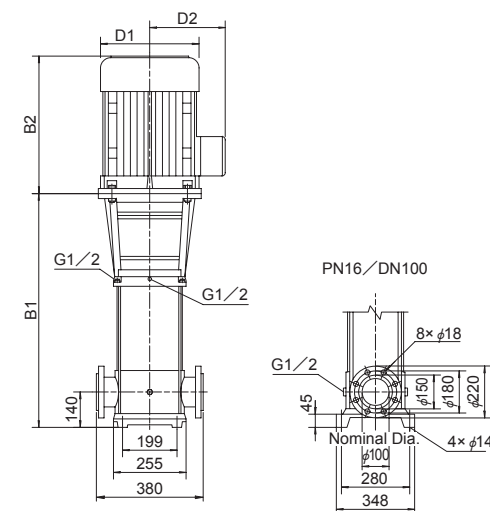
Model	Output (kW)	Q (m³/h)	30	40	50	60	65	70	80
TVM65-10-1	4.0	H (m)	19	18	16	14	13	11	8
TVM65-10	5.5		27	25	23	21	20	18	15
TVM65-20-2	7.5		39	36	33	29	26	23	17
TVM65-20-1	11		46	44	40	36	33	30	24
TVM65-20	11		53	51	47	43	40	37	30
TVM65-30-2	15		66	62	56	50	46	41	32
TVM65-30-1	15		73	69	63	57	53	48	39
TVM65-30	18.5		80	76	70	64	60	55	46
TVM65-40-2	18.5		92	87	80	71	66	60	47
TVM65-40-1	22		100	94	87	78	73	67	54
TVM65-40	22		107	101	94	85	80	74	61
TVM65-50-2	30		121	114	105	95	88	80	64
TVM65-50-1	30		128	121	112	102	95	87	71
TVM65-50	30		136	129	119	109	102	94	78
TVM65-60-2	30		150	142	131	118	110	101	81
TVM65-60-1	37		157	149	138	125	117	108	88
TVM65-60	37		164	156	145	132	124	115	95
TVM65-70-2	37		179	169	156	141	132	121	99
TVM65-70-1	37		186	176	163	148	139	128	106
TVM65-70	45		193	183	170	155	146	135	112
TVM65-80-2	45		207	196	182	164	154	142	116
TVM65-80-1	45		215	203	189	171	161	149	123

Technical Data TVM85

Performance Curves



Dimensions



Model	Size (mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVM85-10-1	571	430	1001	260	208	120
TVM85-10	571	430	1001	260	208	122
TVM85-20-2	773	490	1263	330	255	165
TVM85-20	773	490	1263	330	255	198
TVM85-30-2	865	550	1415	330	255	212
TVM85-30	865	590	1455	360	285	265
TVM85-40-2	957	660	1617	400	310	348
TVM85-40	957	660	1617	400	310	348
TVM85-50-2	1049	660	1709	400	310	375
TVM85-50	1049	660	1709	400	310	375
TVM85-60-2	1141	700	1841	460	340	438
TVM85-60	1141	700	1841	460	340	438

Performance Table

Model	Output (kW)	Q (m³/h)	50	60	70	80	85	90	100	110
TVM85-10-1	5.5	H (m)	22	19	17	16	14	13	10	6
TVM85-10	7.5		25	24	22	21	20	19	16	12
TVM85-20-2	11		41	39	36	32	30	28	22	15
TVM85-20	15		53	50	47	44	41	40	36	30
TVM85-30-2	18.5		68	65	60	55	52	49	41	32
TVM85-30	22		81	77	72	67	64	62	55	48
TVM85-40-2	30		98	93	87	80	75	72	62	50
TVM85-40	30		110	105	100	92	86	84	76	66
TVM85-50-2	37		126	120	113	104	98	93	81	68
TVM85-50	37		139	131	124	115	110	106	94	83
TVM85-60-2	45		155	148	139	129	122	117	102	86
TVM85-60	45		168	160	150	141	134	130	117	103

Max inlet pressure (60Hz)

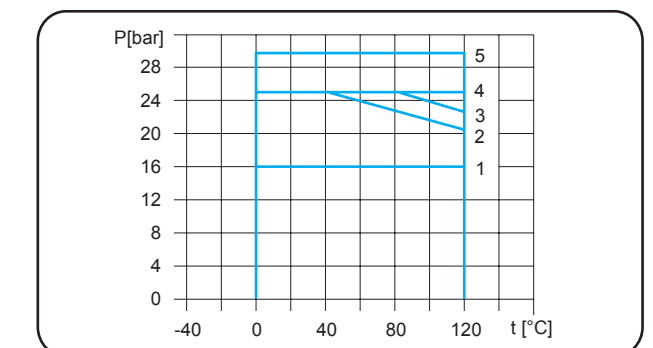
The maximum inlet pressure is shown in the table below. But the actual inlet pressure plus the valve close pressure of the pump shall be lower than the maximum allowable working pressure.

Model	Max inlet pressure
TVMS2	
2-20	6[bar]
2-30 ~ 2-70	10[bar]
2-90 ~ 2-180	15[bar]
TVMS4	
4-20	6[bar]
4-30 ~ 4-80	10[bar]
4-100 ~ 4-160	15[bar]
TVMS8	
8-20/1 ~ 8-50	6[bar]
8-60 ~ 8-140	10[bar]
TVMS16	
16-20/1 ~ 16-20	6[bar]
16-30 ~ 16-100	10[bar]
TVMS32	
32-10-1 ~ 32-30-2	4[bar]
32-30 ~ 32-70	10[bar]
32-80-2 ~ 32-100-2	15[bar]
TVMS42	
42-10-1 ~ 42-20-2	4[bar]
42-20 ~ 42-40-2	10[bar]
42-40 ~ 42-70	15[bar]
TVMS65	
65-10-1 ~ 65-20-2	4[bar]
65-20 ~ 65-30-2	10[bar]
65-30 ~ 65-50-2	15[bar]
TVMS85	
85-10-1 ~ 85-10	4[bar]
85-20-2 ~ 85-20	10[bar]
85-30-2 ~ 85-40-2	15[bar]

Max working pressure (60Hz)

Model	Curve number
TVMS2	
2-20 ~ 2-110	1
2-130 ~ 2-180	2
TVMS4	
4-20 ~ 4-100	1
4-120 ~ 4-160	2
TVMS8	
8-20/1 ~ 8-80	1
8-100 ~ 8-140	3
TVMS16	
16-20 ~ 16-60	1
16-70 ~ 16-100	3
TVMS32	
32-10-1 ~ 32-50-2	1
32-50 ~ 32-90-2	4
32-90 ~ 32-100-2	5
TVMS42	
42-10-1 ~ 42-30	1
42-40-2 ~ 42-60	4
42-70-2 ~ 42-70	5
TVMS65	
65-10-1 ~ 65-30	1
65-40-2 ~ 65-50-2	4
TVMS85	
85-10-1 ~ 85-30	1
85-40-2	4

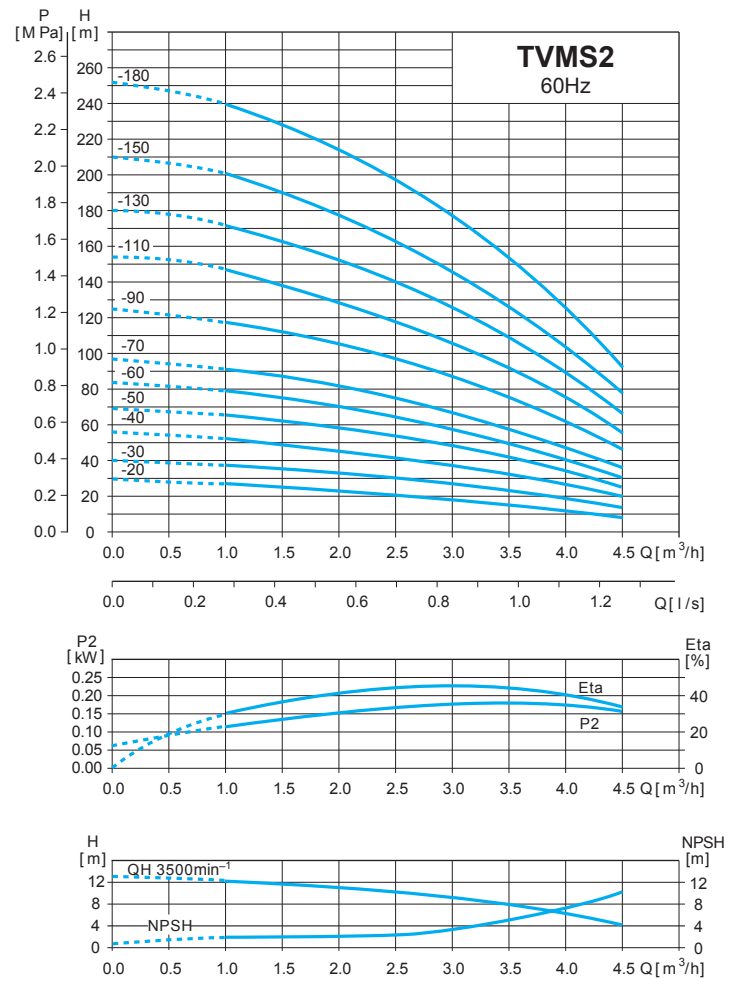
The following figure shows the limitation of pressure and temperature, which shall be kept within the region as shown in the figure.



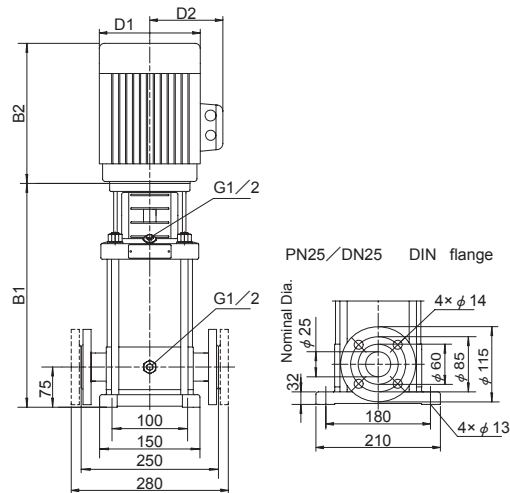
Technical Data

TVMS2

Performance Curves



Dimensions



Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVMS2-20	233	210	443	148	117	20
TVMS2-30	261	245	506	170	142	20
TVMS2-40	279	245	524	170	142	25
TVMS2-50	297	245	542	170	142	25
TVMS2-60	315	245	560	170	142	25
TVMS2-70	343	290	633	170	155	30
TVMS2-90	379	290	669	190	155	35
TVMS2-110	415	290	705	190	155	35
TVMS2-130	461	315	776	197	165	40
TVMS2-150	497	315	812	197	165	40
TVMS2-180	551	335	886	230	185	45

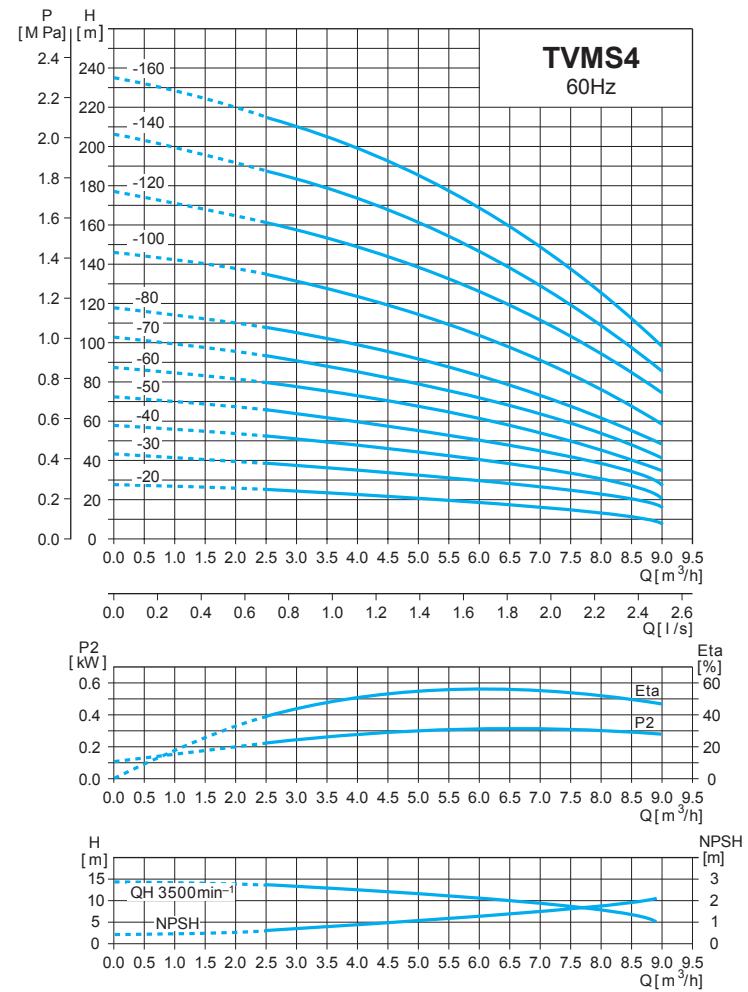
Performance Table

Model	Output (kW)	Q (m³/h)	1	1.5	2	2.5	3	3.5	4	4.5
TVMS2-20	0.55	H (m)	26	24	22	21	19	16	12	9
TVMS2-30	0.75		39	36	34	31	27	24	19	15
TVMS2-40	1.1		52	48	45	42	36	32	26	20
TVMS2-50	1.1		65	61	57	52	46	41	33	25
TVMS2-60	1.1		78	74	69	63	56	49	40	30
TVMS2-70	1.5		92	86	81	74	66	57	47	35
TVMS2-90	2.2		118	111	104	95	86	76	61	45
TVMS2-110	2.2		144	137	128	117	106	91	75	55
TVMS2-130	3		271	163	152	139	126	108	90	66
TVMS2-150	3		198	188	176	161	146	125	104	77
TVMS2-180	4		238	228	212	195	175	151	126	94

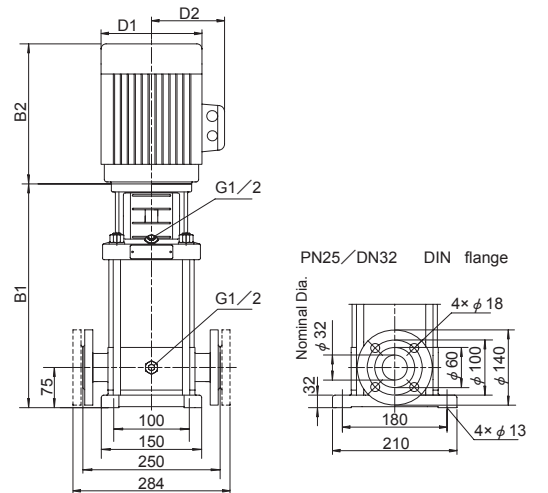
Technical Data

TVMS4

Performance Curves



Dimensions



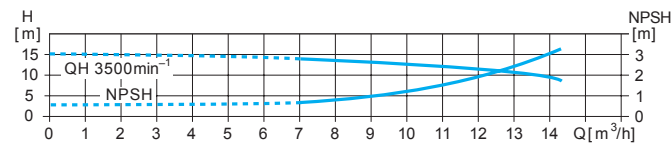
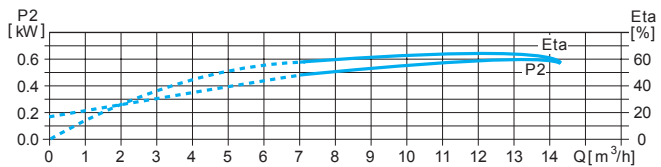
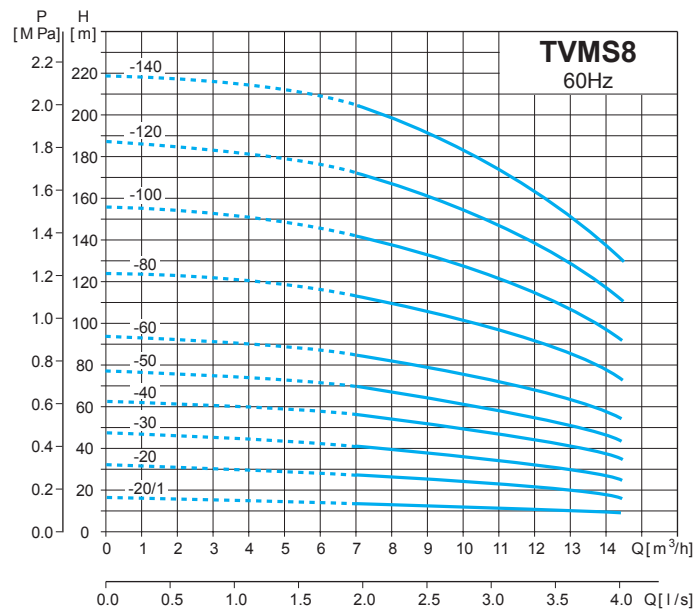
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVMS4-20	261	245	506	170	142	20
TVMS4-30	288	245	533	170	142	20
TVMS4-40	325	290	615	190	155	25
TVMS4-50	352	290	642	190	155	30
TVMS4-60	379	290	669	190	155	35
TVMS4-70	416	315	731	197	165	40
TVMS4-80	443	315	758	197	165	40
TVMS4-100	497	335	832	230	188	45
TVMS4-120	551	335	886	230	188	45
TVMS4-140	625	430	1055	260	208	70
TVMS4-160	679	430	1109	260	208	70

Performance Table

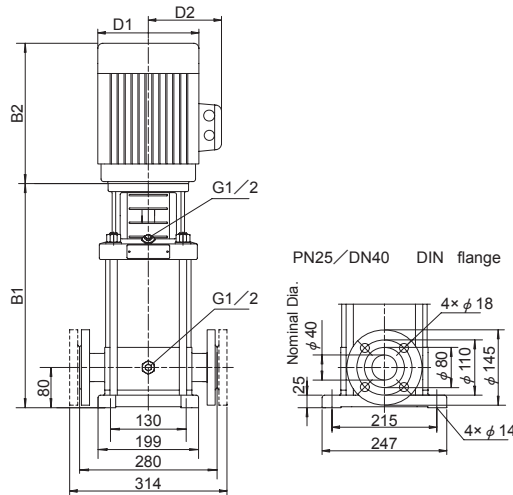
Model	Output (kW)	Q (m³/h)	2.5	3	4	5	6	7	8	9
TVMS4-20	0.75	H (m)	26	25	23	21	19	16	14	11
TVMS4-30	1.1		40	39	36	32	30	26	22	18
TVMS4-40	1.5		53	52	48	44	41	35	31	24
TVMS4-50	2.2		66	65	60	55	51	44	39	30
TVMS4-60	2.2		80	78	73	67	61	54	47	36
TVMS4-70	3		93	91	85	78	71	63	55	42
TVMS4-80	3		107	104	97	90	82	73	63	49
TVMS4-100	4		134	130	121	113	103	92	80	61
TVMS4-120	4		161	156	145	136	125	111	96	74
TVMS4-140	5.5		188	183	170	159	146	130	112	86
TVMS4-160	5.5		215	210	196	183	168	149	128	99

Technical Data
TVMS8

■ Performance Curves



■ Dimensions



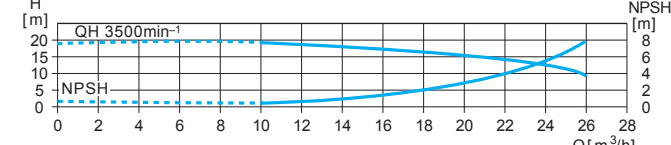
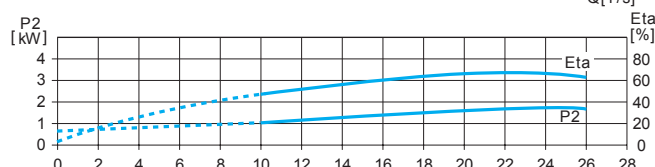
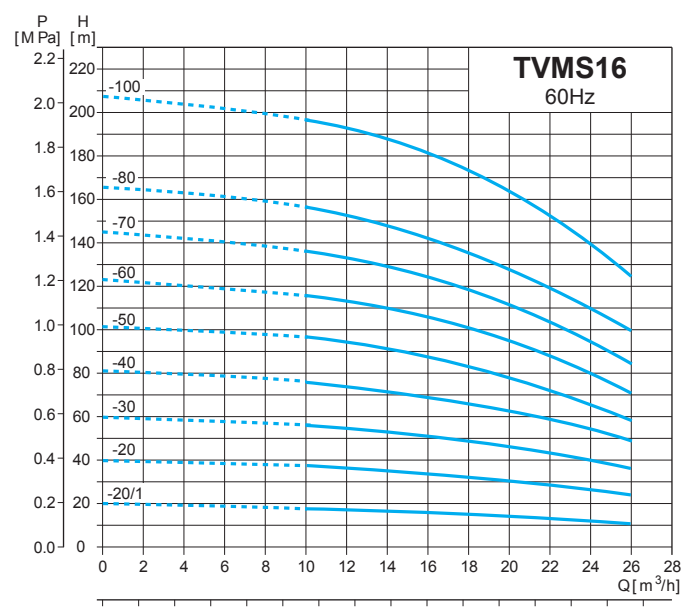
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVMS8-20/1	347	245	592	170	142	27
TVMS8-20	357	290	647	190	155	32
TVMS8-30	387	290	677	192	155	37
TVMS8-40	427	315	742	197	165	42
TVMS8-50	457	315	772	197	165	47
TVMS8-60	487	335	822	230	188	52
TVMS8-80	567	430	997	230	188	77
TVMS8-100	627	430	1057	260	208	87
TVMS8-120	687	430	1117	260	208	87
TVMS8-140	835	490	1325	330	255	132

■ Performance Table

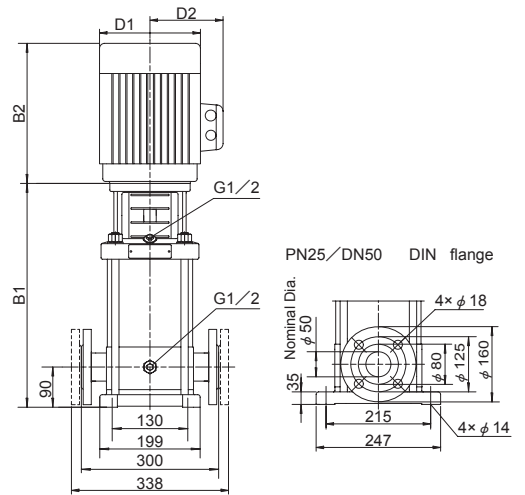
Model	Output (kW)	Q (m³/h)	7	8	9	10	11	12	13	14
TVMS8-20/1	0.75	H (m)	13	12	11.5	11	10.5	10	9.5	9
TVMS8-20	1.5		27	26	25	24	23	22	20	18
TVMS8-30	2.2		41	40	38	37	35	33	31	28
TVMS8-40	3		55	54	52	50	47	45	42	38
TVMS8-50	3		70	68	65	63	59	56	52	48
TVMS8-60	4		85	82	78	76	72	68	63	58
TVMS8-80	5.5		115	111	105	101	97	91	85	78
TVMS8-100	7.5		145	140	132	126	122	115	107	98
TVMS8-120	7.5		175	169	160	152	148	139	129	118
TVMS8-140	11		205	198	188	179	174	163	152	139

Technical Data
TVMS16

■ Performance Curves



■ Dimensions



Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVMS16-20/1	397	290	687	190	155	42
TVMS16-20	407	335	742	230	188	52
TVMS16-30	472	430	902	260	208	72
TVMS16-40	517	430	947	260	208	82
TVMS16-50	650	490	1140	330	255	142
TVMS16-60	695	490	1185	330	255	147
TVMS16-70	740	490	1230	330	255	162
TVMS16-80	785	490	1275	330	255	162
TVMS16-100	875	550	1425	330	255	192

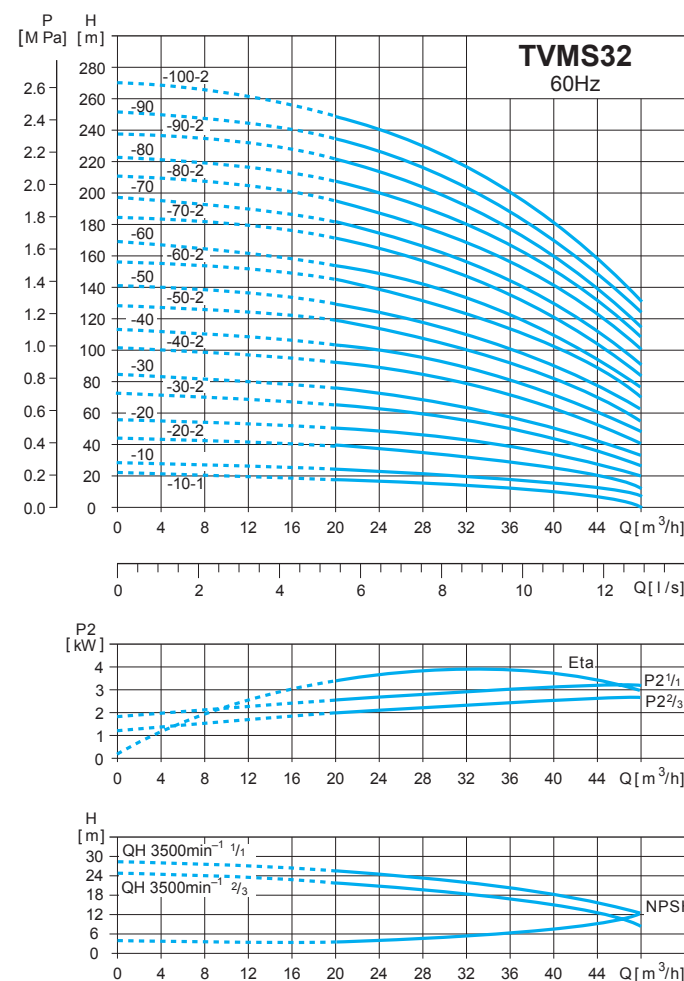
■ Performance Table

Model	Output (kW)	Q (m³/h)	10	12	14	16	18	20	22	24	26
TVMS16-20/1	2.2	H (m)	19	18.5	18	17	16	15	14	13	11
TVMS16-20	4		38	37.5	37	36	34	32	30	27	24
TVMS16-30	5.5		57	56	55	54	51	48	45	40	36
TVMS16-40	7.5		76	75	73	72	68	64	60	54	49
TVMS16-50	11		96	94	92	90	85	80	75	68	62
TVMS16-60	11		115	113	111	108	102	96	91	82	75
TVMS16-70	15		135	132	129	126	119	113	106	96	88
TVMS16-80	15		155	152	148	144	137	130	122	111	101
TVMS16-100	18.5		197	192	187	181	174	165	153	141	127

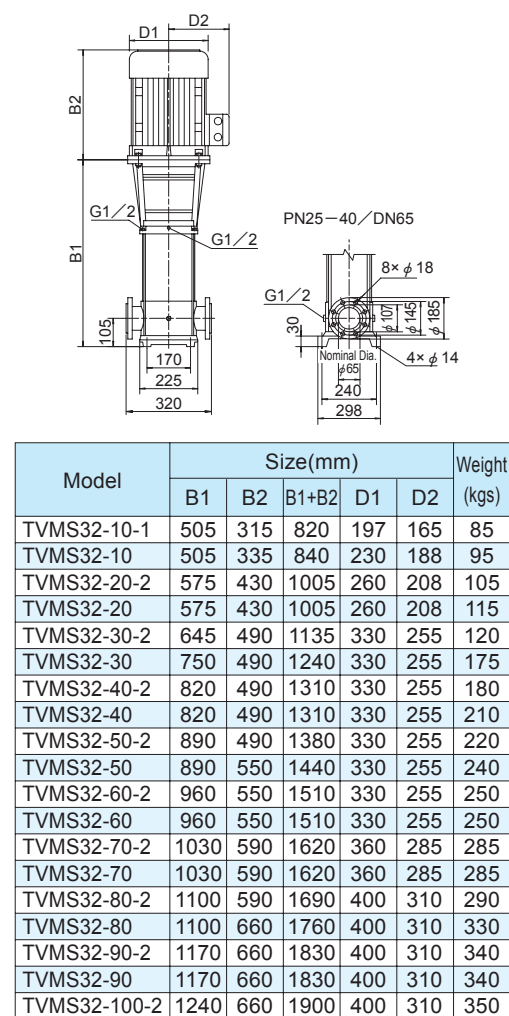
Technical Data

TVMS32

Performance Curves



Dimensions



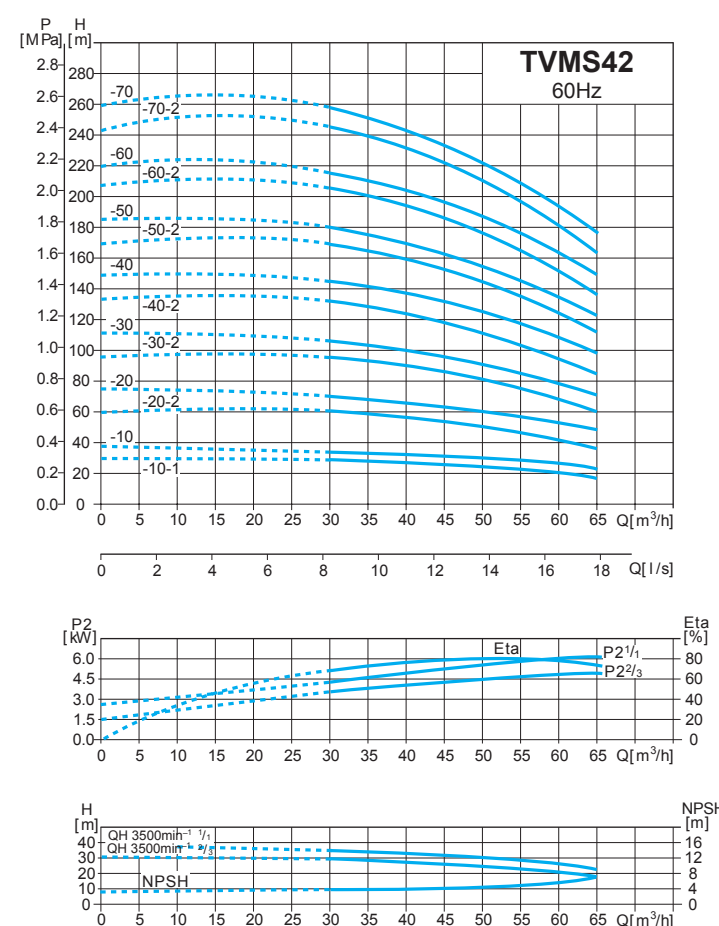
Performance Table

Model	Output (kW)	Q (m³/h)	20	24	28	32	36	40	44	48
TVMS32-10-1	3.0	H (m)	20	19	18	17	15	13	10	7
TVMS32-10	4.0		26	25	24	23	21	19	17	14
TVMS32-20-2	5.5		41	40	38	35	31	27	22	17
TVMS32-20	7.5		52	50	48	45	41	37	33	27
TVMS32-30-2	7.5		67	64	61	57	52	46	39	31
TVMS32-30	11		78	75	71	67	62	56	50	40
TVMS32-40-2	11		94	91	87	81	73	65	56	45
TVMS32-40	15		104	101	96	91	83	75	66	55
TVMS32-50-2	15		119	115	109	102	94	84	73	59
TVMS32-50	18.5		130	125	119	112	104	94	83	69
TVMS32-60-2	18.5		105	140	134	126	116	104	90	74
TVMS32-60	18.5		155	150	144	136	126	114	100	81
TVMS32-70-2	22		172	166	158	149	137	123	106	86
TVMS32-70	22		182	176	168	159	148	133	118	97
TVMS32-80-2	22		196	190	182	172	159	143	124	102
TVMS32-80	30		208	201	192	181	167	152	132	111
TVMS32-90-2	30		223	216	206	194	179	162	142	117
TVMS32-90	30		234	226	216	204	189	172	152	127
TVMS32-100-2	30		248	241	231	217	201	181	159	133

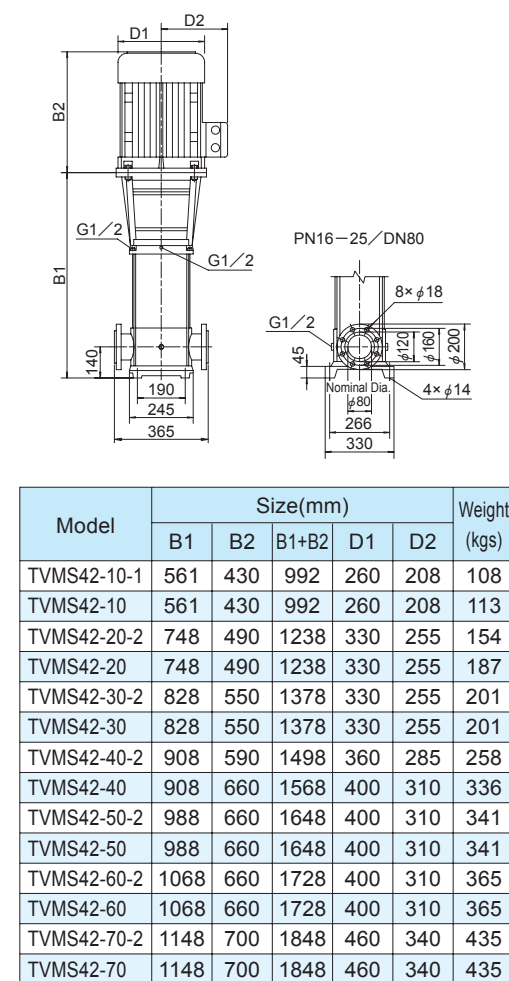
Technical Data

TVMS42

Performance Curves



Dimensions

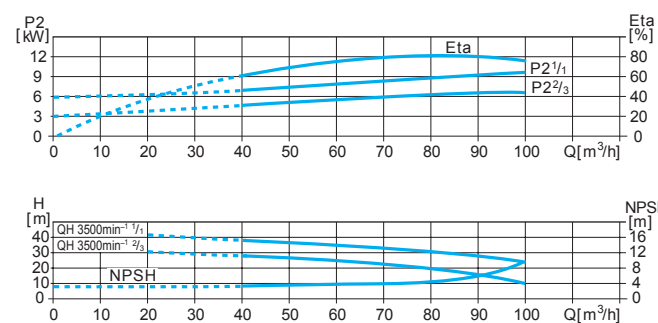
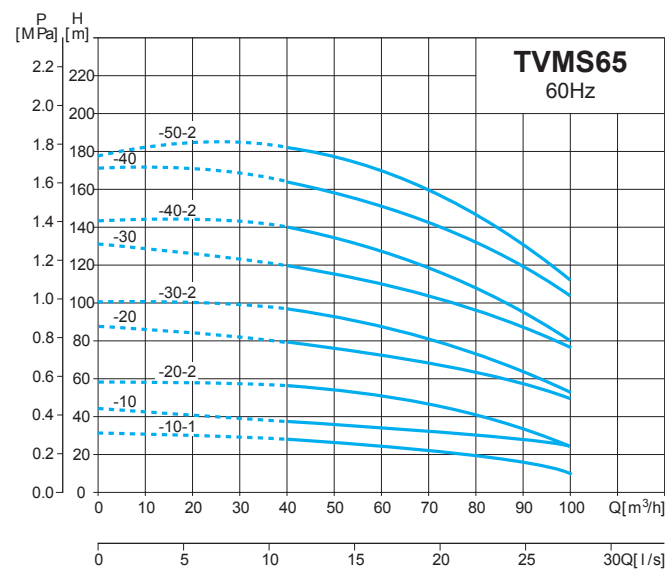


Performance Table

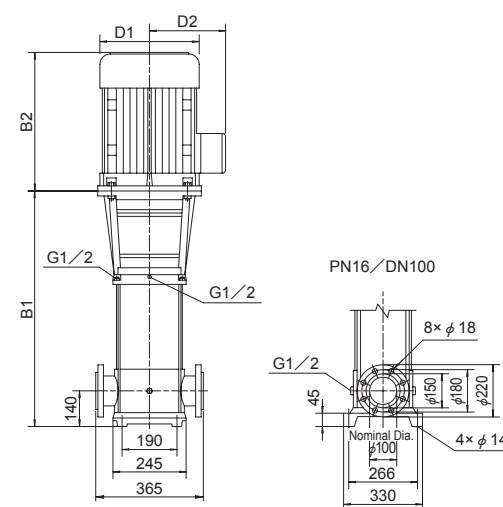
Model	Output (kW)	Q (m³/h)	30	35	40	45	50	55	60	65
TVMS42-10-1	5.5	H (m)	29	28	27	26	24	21	19	16
TVMS42-10	7.5		34	33	32	31	29	27	25	22
TVMS42-20-2	11		60	58	56	53	50	45	40	35
TVMS42-20	15		70	68	66	63	60	56	52	47
TVMS42-30-2	18.5		95	93	89	85	80	74	67	59
TVMS42-30	18.5		106	104	100	96	90	84	78	70
TVMS42-40-2	22		131	128	123	117	110	102	93	83
TVMS42-40	30		144	141	136	130	124	116	107	97
TVMS42-50-2	30		169	164	159	152	143	133	122	110
TVMS42-50	30		180	175	169	162	154	144	134	121
TVMS42-60-2	37		205	200	193	184	174	163	149	134
TVMS42-60	37		215	210	203	195	185	174	161	147
TVMS42-70-2	45		245	239	231	221	209	195	180	162
TVMS42-70	45		257	250	242	232	220	207	191	174

Technical Data TVMS65

Performance Curves



Dimensions



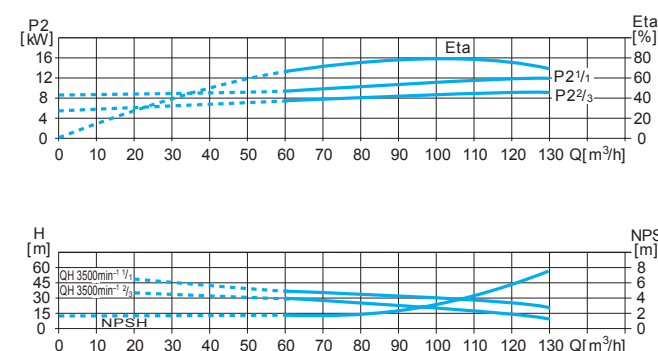
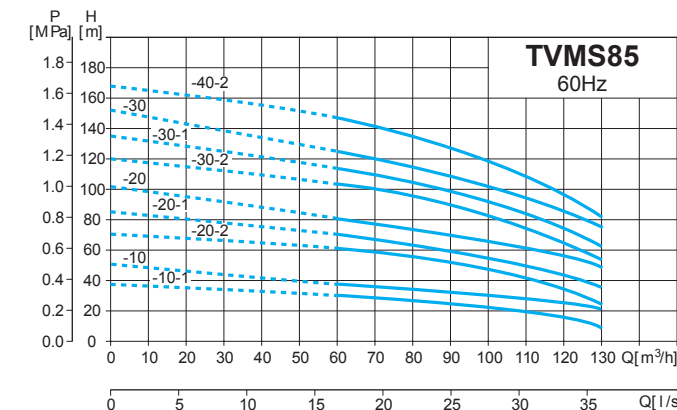
Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVMS65-10-1	561	430	991	260	208	115
TVMS65-10	671	490	1161	330	255	152
TVMS65-20-2	754	490	1244	330	255	190
TVMS65-20	754	590	1344	360	285	252
TVMS65-30-2	836	590	1426	360	285	257
TVMS65-30	836	660	1496	400	310	335
TVMS65-40-2	919	660	1579	400	310	360
TVMS65-40	919	700	1619	460	340	425
TVMS65-50-2	1001	700	1701	460	340	430

Performance Table

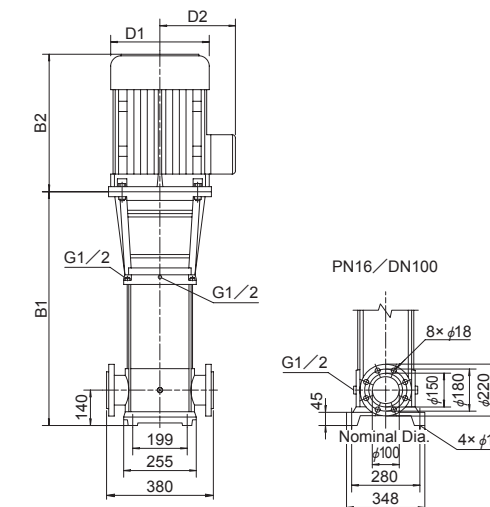
Model	Output (kW)	Q (m³/h)	40	50	60	65	70	80	90	100
TVMS65-10-1	7.5	H (m)	28	27	25	24	23	19	15	10
TVMS65-10	11		38	37	35	34	33	30	27	24
TVMS65-20-2	15		57	55	52	50	47	41	33	25
TVMS65-20	22		79	75	72	70	68	63	57	50
TVMS65-30-2	22		97	93	88	85	81	73	64	53
TVMS65-30	30		120	115	110	107	104	96	87	77
TVMS65-40-2	37		139	134	127	123	118	108	96	81
TVMS65-40	45		164	158	151	147	142	131	119	104
TVMS65-50-2	45		182	177	169	164	159	146	130	112

Technical Data TVMS85

Performance Curves



Dimensions



Model	Size(mm)					Weight (kgs)
	B1	B2	B1+B2	D1	D2	
TVMS85-10-1	571	490	1061	330	255	184
TVMS85-10	571	490	1061	330	255	184
TVMS85-20-2	773	550	1323	330	255	264
TVMS85-20-1	773	590	1363	360	285	264
TVMS85-20	773	660	1433	400	310	329
TVMS85-30-2	865	660	1525	400	310	363
TVMS85-30-1	865	660	1525	400	310	363
TVMS85-30	865	700	1565	460	340	363
TVMS85-40-2	957	700	1657	460	340	430

Performance Table

Model	Output (kW)	Q (m³/h)	60	70	80	85	90	100	110	120	130
TVMS85-10-1	11	H (m)	31	29	28	27	26	23	20	16	10
TVMS85-10	15		38	36	35	34	33	31	29	26	22
TVMS85-20-2	18.5		62	60	56	54	52	48	41	35	26
TVMS85-20-1	22		71	68	65	63	61	56	50	44	37
TVMS85-20	30		81	77	74	72	70	66	62	56	50
TVMS85-30-2	37		104	100	95	92	89	83	75	65	55
TVMS85-30-1	37		114	110	104	101	98	91	83	75	64
TVMS85-30	45		125	120	115	112	109	102	94	86	76
TVMS85-40-2	45		147	142	135	131	127	118	108	96	83

Submersible Pumps for Wastewater and Sewage

Tsurumi provides you with an extensive lineup of models to suit your specific needs.

B

■ **Features** : B-series pump is the basic sewage pump with channel impeller. The durable and high quality products can be used for various kinds of field.

■ **Applications** : Transferring raw water in a sewage treatment plant, pumping storm water at a flood control facility, and draining wastewater from a residential, commercial, or industrial drainage sump.



Discharge Bore : 50~800 mm
Motor Output : 0.4~110kW

C

■ **Features** : C-series pump incorporates a cutter mechanism consisting of a tungsten carbide tipped channel impeller and a saw-tooth suction cover surface hardened. The cutter mechanism cuts fibrous materials to small pieces.

■ **Applications** : Transferring raw water in a sewage treatment plant, transferring wastewater containing fibrous matters, and draining wastewater from a residential, commercial, or industrial drainage sump.



Discharge Bore : 50~100 mm
Motor Output : 0.75~15kW

U

■ **Features** : U-series pump features a vortex impeller recessed in the widely opened pump casing interior. The large passage facilitates pump operation to readily dispose of liquids containing various kinds of foreign matters.

■ **Applications** : Transferring raw water in sewage treatment plants, and draining wastewater at shops, restaurant, and factories, etc.



Discharge Bore : 32~80 mm
Motor Output : 0.15~3.7kW

UZ

■ **Features** : UZ-series pump features a 4-pole motor and a vortex impeller recessed in the widely opened pump casing interior. The pump can pass the solid up to the same diameter as the discharge bore size.

■ **Applications** : Transferring raw water and extracting or returning sludge in sewage treatment plants, and draining wastewater that contains large quantities of solid particles.



Discharge Bore : 50~100 mm
Motor Output : 1.5~11kW

PU

■ **Features** : PU-series pump is made of stainless steel and special resin, having features of lightweight and rust free. The vortex impeller handles long stringy materials and large diameter solids.

■ **Applications** : Transferring raw water in small-scale sewage treatment plants, and draining wastewater at shops, restaurants, and factories, etc.



Discharge Bore : 40~80 mm
Motor Output : 0.15~3.7kW

PN

■ **Features** : PN-series pump is made of stainless steel and special resin, having features of lightweight and rust free. The pump can provide an efficient performance for versatile applications.

■ **Applications** : Draining treated water in small-scale sewage treatment plants, and draining surface water and storm water from basement, elevator shaft sump, and underground car park, etc.



Discharge Bore : 40~50 mm
Motor Output : 0.25~1.5kW

We reserve the right to change the specifications and designs for improvement without prior notice.

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