

# kds PUMPS

- the heart of Industry



 **One Stop  
Pumping Solution...**





Vertical Inline Multistage High Pressure Pumps

## FEATURE

Tremendously improved performance and enhance product life due to adoption of excellent water.

Applied to slightly corrosive medium due to flow passage parts made of stainless steel after process of pressing and welding.

Compact structure, small size, light in weight, low noise, remarkable energy saving, easy for overhaul and maintenance.

Can be directly installed to main pipe because the inlet and outlet of pump are on the same horizontal line.

Easy for users to choose motors because of the adoption of standards motors.

To avoid damages from dry rotation, lack of electric phase, over-load etc because aptitude protector can be equipped on user's request.

## APPLICATION

Water supply: water filter and transport in waterworks, boosting of main pipeline, boosting in high-rise buildings and etc.

Industrial boosting: process flow water system. Cleaning system, high-pressure washing system and fire-fighting system.

Industrial liquid conveying: cooling and air-conditioning system, boiler water supply and condensing system, machine tool working purpose, slight acid alkali liquid.

Irrigation: farmland irrigation, spray irrigation and dripping irrigation.

## WORKING CONDITION

Medium temperature: normal type: 0°C~+68°C, hot water type: 0°C~+103°C.

Max ambient temperature: +40°C.Max.

ambient pressure: 10bar.

Advisable to use motor of higher power in case that the density or viscosity of medium is above that of water.

## MEDIUM

Thin, Clean, non-flammable, non-explosive medium containing no granule or fibre.

Such as mineral water, softened water, pure water, clean oil and other light chemical medium.

Slight corrosive medium.

## MOTOR

Full-enclosed and ventilating two-pole standard motor

Protection class: IP55

Insulation class: F

Standard voltage (50Hz): single phase 220V

Standard voltage (60Hz): single phase 220-240V

Three- phase 220V/380V

Three -phase 220-240V/380V

**selection of pumps**

- selection of pumps should be based on:
- the duty point of the pump(see page14).
- dimensional data such as pressure loss as a
- result of height differences,friction loss in the pipework, pump efficiency etc.(see page15).
- pump materials(see page7,8,97)
- pump connections(see page16)
- shaft seal(see page16)

**1. Duty point of the pump**

From a duty point it is possible to select a pump on the basis of the curve charts shown in "performance curves/technical" data.

Fig.5 example of curve chart

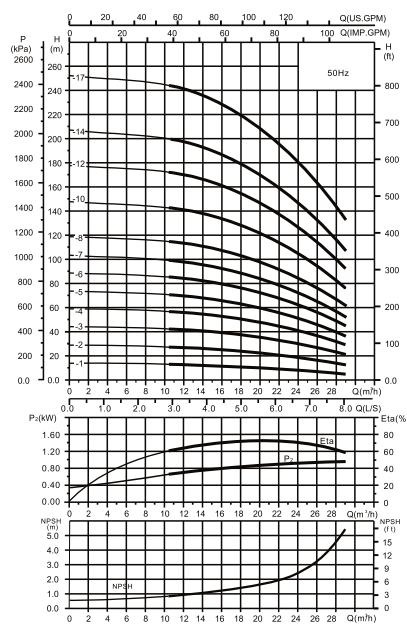
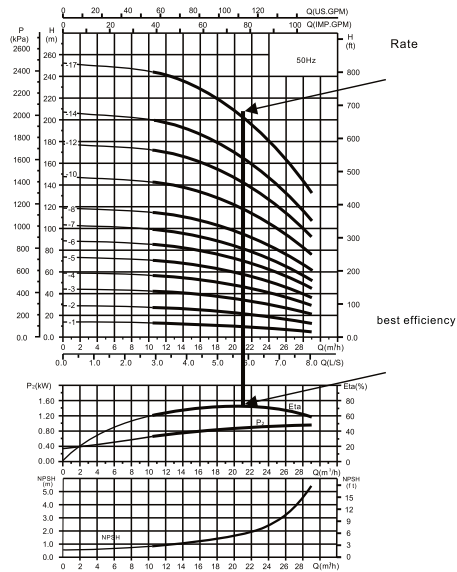
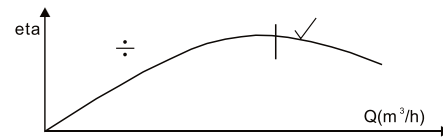


Fig.6 example of duty point



As the pump is sized on the basis of the highest possible flow, it is important always to have the duty point to the right on the efficiency curve(eta) in order to keep efficiency high when the flow drops.

Fig.7 best efficiency



**2. dimensional data**

When sizing a pump the following must be taken into accounting:

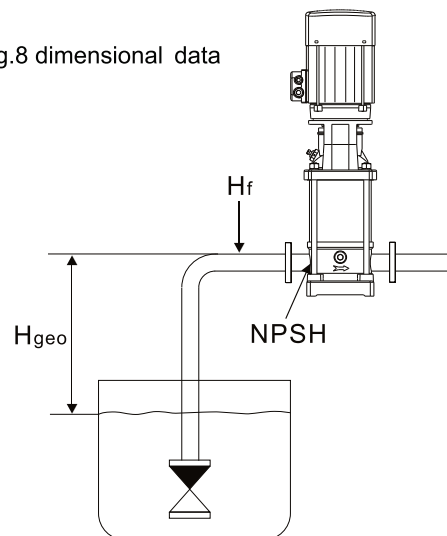
- Required flow and pressure at the draw-off point.
- Pressure loss as a result of height differences( $H_{geo}$ )
- It may be necessary to account for pressure
- Loss in connection with long pipes,bends or valves,etc.
- Best efficiency at the estimated duty point.
- NPSH value.

For calculation of the NPSH value, see corresponding curves chart.

**Pump efficiency**

Before determining the best efficiency point, the operation pattern of the pump needs to be identified. If the pump expected to operate as the same duty point,then select a kv pump which is operating at a duty point corresponding with the best efficiency of the pump.

Fig.8 dimensional data



**3. pump material**

The material variant(kV/kVF)should be selected based of the liquid to be pump.  
 kVF wetted parts are made of AISI304.  
 KV pump body is made of cast-iron and .  
 Wetted parts are made of AISI304.

Pump connections

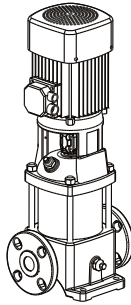
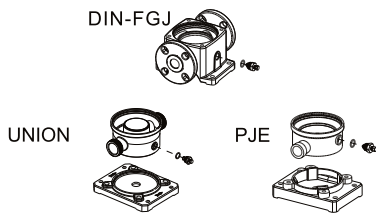


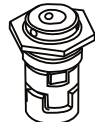
Fig. 10 pump connections



4. selection of pump connection depend on the rated pressure and pipework. To meet any requirement the kv, kvf pump offer a wide range of flexible connection such as:

- DIN frange.
- PJE coupling.
- union connection.
- Other connections on request.

Fig.11 pump connections

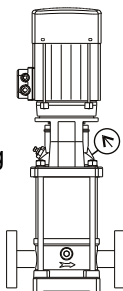


5. shaft seal

As standard, the CV AND CVFrange is fitted with a cartridge type suitable for the most common applications. the following key parameters must be taken in to account , when selecting the shaft seal:

- type of pumped liquid.
- liquid temperature and
- maximum pressure.

Fig.12 Inlet pressure and operating pressure



Inlet pressure and operating pressure

The limit values stated on page 12 and page 13 must not be exceeded as regards

- maximum inlet pressure and
- maximum operating pressure.

Mimumum inlet pressure-NPSH

Calculation of the inlet pressure "H" is recommended when:

- the liquid temperature is high.
- the flow is significantly higher than the rated flow.
- water is drawn from depths.
- water is drawn through long pipes.

inlet conditions are poor. to avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump.

The maximum suction lift "H" in metres head can be calculated as follows:

$$H = P_b * 10.2 - NPSH - H_f - H_v - H_s$$

$P_b$  = Barometric pressure in bar.

(Barometric pressure can be set to 1 bar).

in closed systems,  $P_b$  indicates the system pressure in bar.

NPSH = Net positive suction Head in metres head.

(To be read from the NPSH curve at the highest flow the pump will be delivering).

$H_f$  = Friction loss in suction pipe (unit:m).

(At the highest flow the pump will be delivering.)

$H_v$  = Vapour pressure (unit:m).

(To be read from the vapour pressure scale).

$H_s$  = safety margin = minimum 0.5 metres head.

If the "H" calculated is positive, the pump can operate at a suction lift of maximum "H" metres head. If the "H" calculated is negative, an inlet pressure of minimum "H" metres head is required.

Example:

$P_b = 1 \text{ bar}$

pump model: CVF10,50Hz

flow:  $10 \text{ m}^3/\text{h}$

NPSH (P39 reference): 2.1 metres head.

liquid temperature:  $+50^\circ\text{C}$

$H_v$  (reference picture 4): 1.3 metres head.

$H = P_b * 10.2 - NPSH - H_f - H_v - H_s$

$H = 1 * 10.2 - 2.1 - 3.0 - 1.3 - 0.5 = 3.3 \text{ (metres)}$

It means the pump can operate at a suction lift of maximum 3.3 metres head.

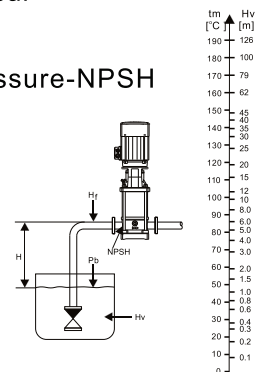
exchanged meter head to bar:

1 metre head =  $1 * 0.0981 = 0.0981 \text{ bar}$

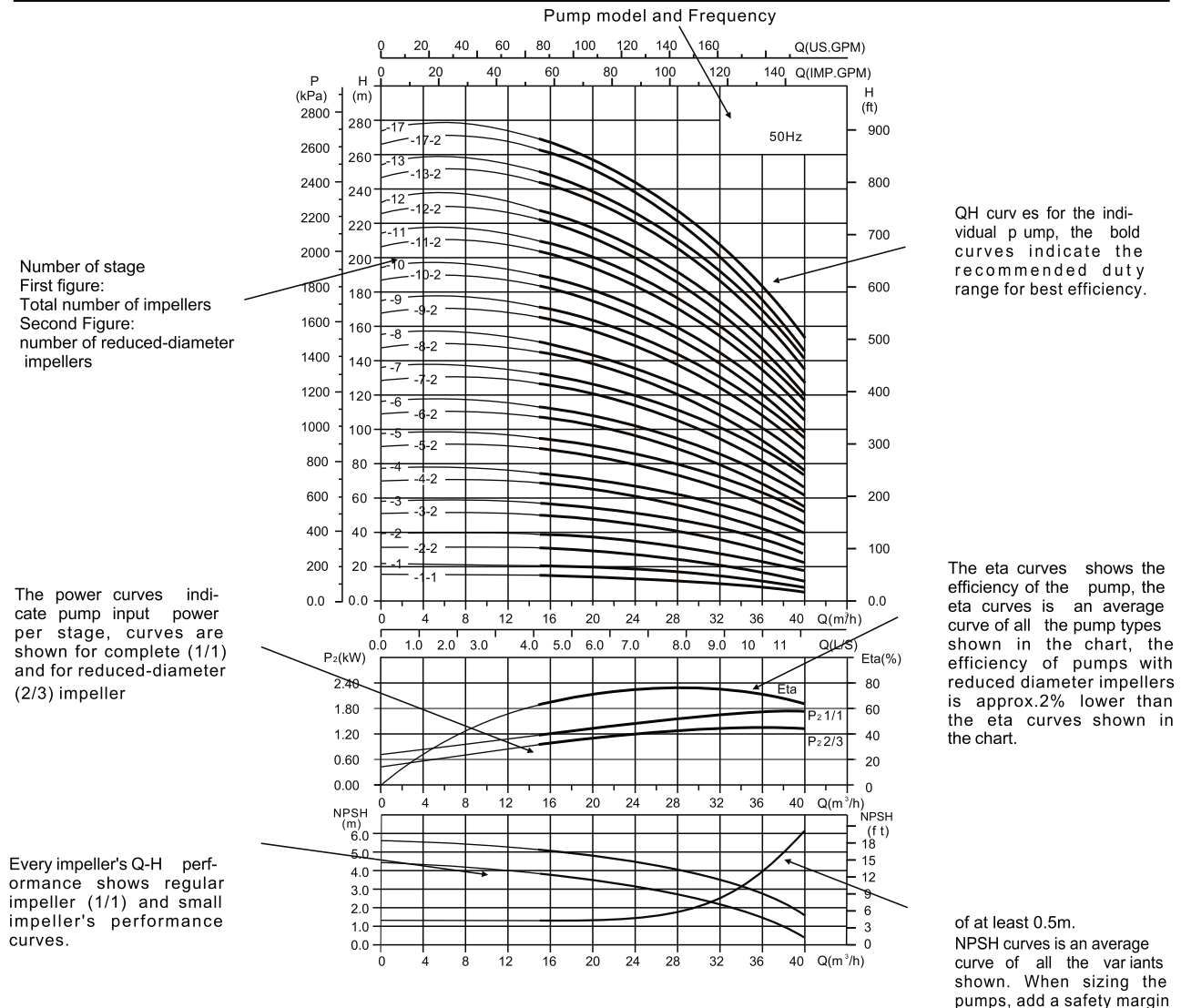
exchanged metre head to kpa:

1 metre head =  $1 * 9.81 = 9.81 \text{ kpa}$ .

Fig.13 Mimumum inlet pressure-NPSH



How to read the curves chart

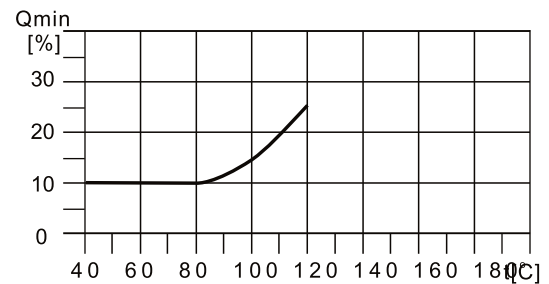


Explanation of Performance Curves

Guidelines to performance curves the guidelines below apply to the curves shown on the following pages:

1. Tolerance to ISO9906, Annex A.
2. Measurements have been made with airless water at a temperature of 20°C
3. The curves apply to kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$  (1 cst)
4. Due to the risk of overheating, the pumps should not be used at a flow below the minimum flow rate.
5. The QH curves apply to a rated motor speed of  $2900 \text{ min}^{-1}$ , all curves are based on current motor speeds.

The curve below shows the minimum flow rate as a percentage of the nominal flow rate in relation to the liquid temperature.



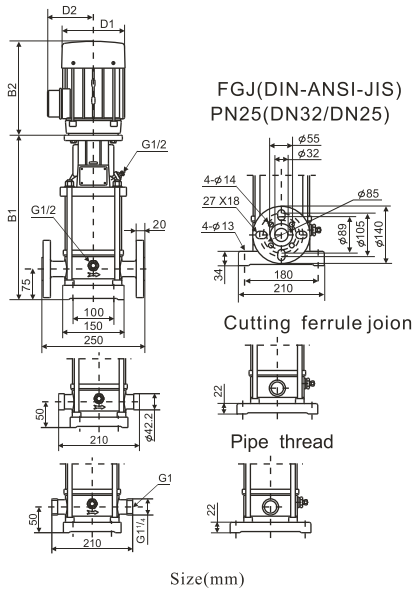
Note: Water valve must be open during operation.

Performance Table

Model	Power P2(KW)	Q (m <sup>3</sup> /h)	1	1.2	1.6	2	2.4	2.8	3.2	3.5
KVM 2-2	0.37	H (m)	16	15.5	14.5	13.5	12.5	11	9.5	8
KVM 2-3	0.37		23	22.5	21	20	18.5	16	14	12
KVM 2-4	0.55		32	31	30	28	26	23	20	16
KVM 2-5	0.55		42.5	42	40	37	34.5	30	25	20
KVM 2-6	0.75		51	50	47	44	41	36	30	24
KVM 2-7	0.75		59	57	55	52	47	41	35	28
KVM 2-9	1.1		72	71	67	63	58	51	44	36
KVM 2-11	1.1		87	85	80	74	67	59	50	42
KVM 2-13	1.5		106	104	99	90	81	71	60	51
KVM 2-15	1.5		121	119	112	105	96	85	72	61
KVM 2-18	2.2		143	139	133	125	116	105	91	78
KVM 2-22	2.2		173	169	162	152	140	126	110	95
KVM 2-26	3		206	201	191	180	170	155	133	118

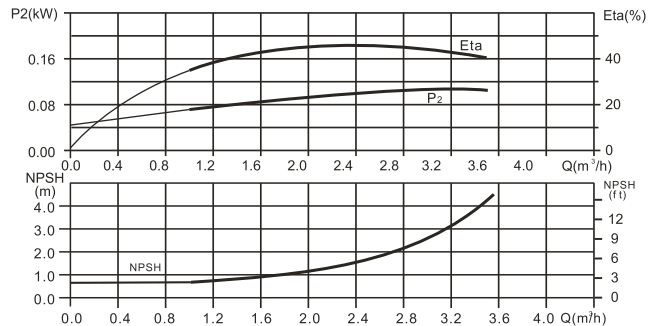
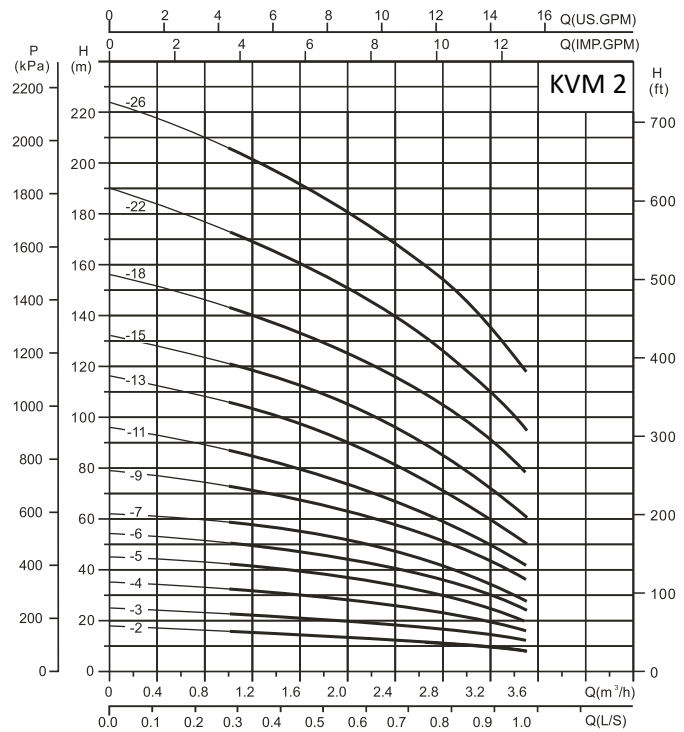
Installation Sketch

Size and Weight



Size(mm)

Performance Curve

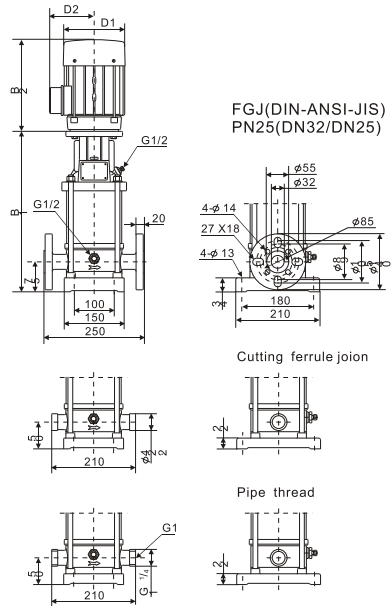


Model	Size (mm)					
	B1	B2	B1+B2	D1	D2	WEIGHT
KVM 2-2	259	205	464	133	102/124	21
KVM 2-3	277	205	482	133	102/124	21
KVM 2-4	295	205	500	133	102/124	23
KVM 2-5	313	205	518	133	102/124	23
KVM 2-6	331	205	518	133	102/124	25
KVM 2-7	349	205	554	133	102/124	25
KVM 2-9	391	241	632	154	111/133	27
KVM 2-11	427	241	668	154	111/133	27
KVM 2-13	463	241/293	704/756	154/177	111/144.5	29
KVM 2-15	499	241/293	740/792	154/177	111/144.5	29
KVM 2-18	565	275/293	840/858	177	116/144.5	35
KVM 2-22	637	275/293	912	177	116/144.5	38
KVM 2-26	709	293	1002	177	116	45

Performance table

KVM	Power	Q (m <sup>3</sup> /h)	H (m)											
			1.2	1.6	2.0	2.4	2.8	3.0	3.2	3.4	3.6	4.0		
3-2	0.37	12	11.3	10.5	10	9	8.5	8	7.5	7	6			
3-3	0.37	18	17	16	15	14	13	12	11	10	8			
3-4	0.37	24	23	21.5	20	18.5	17.5	16.5	15	13.5	11			
3-5	0.37	30	28.5	27	25	23	22	20.5	19	17.5	14			
3-6	0.55	36	34	32	30	28	26	24	22	20	16.5			
3-7	0.55	42	40.5	39	36	33	30.5	28.5	26	24	19.5			
3-8	0.75	48	46	44	41	37	35	32.5	30	27	22.5			
3-9	0.75	53	51	49	46	41.5	39	37	34	32	26			
3-10	0.75	59	57	55	51	46	43	41	37	34	28			
3-11	1.1	65	62.5	60	56	51	48	45	42	38	30.5			
3-12	1.1	71	68	66	61	55	52	49	45.5	42	34			
3-13	1.1	77	74	71	66	60	57	53	50	46	37			
3-15	1.1	88	85	82	77	72	68.5	64	60	55	44			
3-17	1.5	100	97	93	88	83	79	74	69	64	52			
3-19	1.5	112	108	104	98	92	88	83	77	71	58			
3-21	2.2	123	119	115	108	102	97	92	86	79	65			
3-23	2.2	134	130	125	119	110	105	100	94	86	72			
3-25	2.2	146	141	135	128	118	113	108	102	94	79			
3-27	2.2	158	152	146	138	129	123	117	110	103	86			
3-29	2.2	169	163	156	147	137	132	125	118	111	93			
3-31	3.0	180	174	167	157	147	141	134	126	118	100			
3-33	3.0	191	186	178	168	157	150	143	135	127	108			
3-36	3.0	209	203	194	184	173	166	159	151	143	122			

Installation Sketch

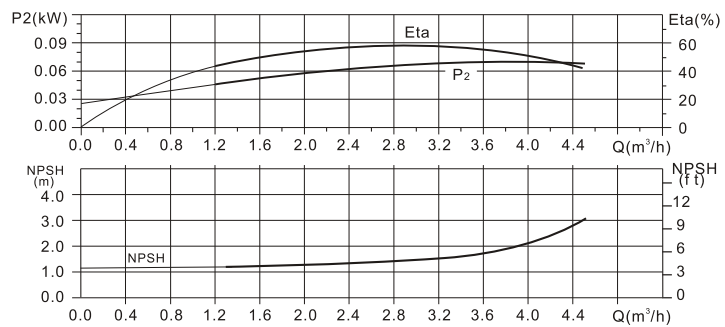
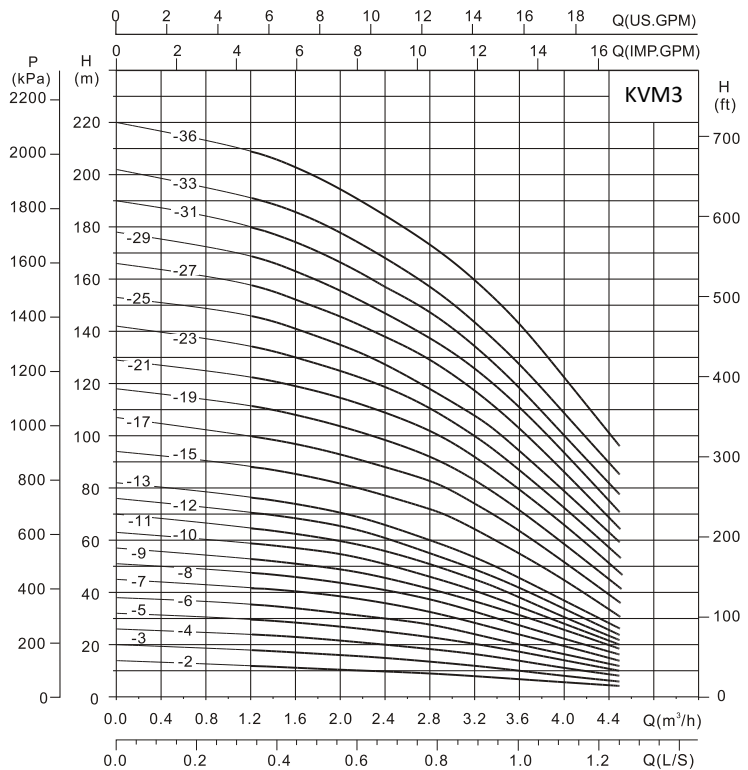


KVM	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
3-2	259	205	464	133	102	20
3-3	277	205	482	133	102	20
3-4	295	205	500	133	102	21
3-5	313	205	518	133	102	21
3-6	331	205	536	133	102	22
3-7	349	205	554	133	102	22
3-8	367	205	572	133	102	23
3-9	385	205	590	133	102	24
3-10	403	205	608	133	102	25
3-11	427	241	668	154	111	27
3-12	445	241	686	154	111	27
3-13	463	241	704	154	111	28
3-15	499	241	740	154	111	29
3-17	535	241/293	776/828	154	111	34
3-19	571	241/293	812/864	154	111	35
3-21	615	275/293	890/908	177	116	38
3-23	651	275/293	926/944	177	116	39
3-25	687	275/293	962/980	177	116	40
3-27	723	275/293	998/1016	177	116	41
3-29	759	275/293	1034/1052	177	116	42
3-31	795	275/293	1070/1088	177	116	47
3-33	831	275/293	1106/1124	177	116	48
3-36	885	275/293	1160/1178	177	116	50

Size and Weight

Performance Curve

3 - 50Hz





# TECHNICAL DATA

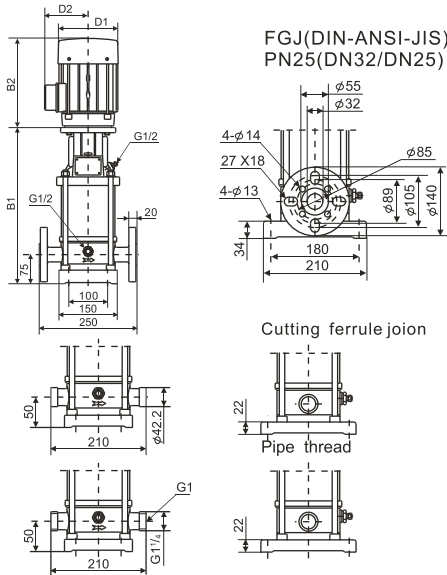
4-50Hz

Performance Table

Model	Power P2(KW)	Q								
		Q (m <sup>3</sup> /h)	1	2	3	4	4.5	5	5.5	6
KVM 4-2	0.37	H (m)	22	21	19.5	18	17	16	14	13
KVM 4-3	0.55		31	29.5	28	24	22	21	19	18
KVM 4-4	0.75		40	38	35	31	29	27	24	22
KVM 4-5	1.1		50	48	44	40	38	34	30	26
KVM 4-6	1.1		59	57	53	49	45	41	36	30
KVM 4-7	1.5		71	69	65	59	55	50	43	36
KVM 4-8	1.5		83	80	78	71	65	59	51	42
KVM 4-10	2.2		103	100	95	87	80	79	73	54
KVM 4-12	2.2		122	119	113	103	96	88	78	68
KVM 4-14	3		139	134	128	118	111	102	90	79
KVM 4-16	3		158	153	145	134	126	116	103	89
KVM 4-19	4		186	180	170	155	145	133	117	98
KVM 4-22	4		216	208	197	182	172	159	143	126

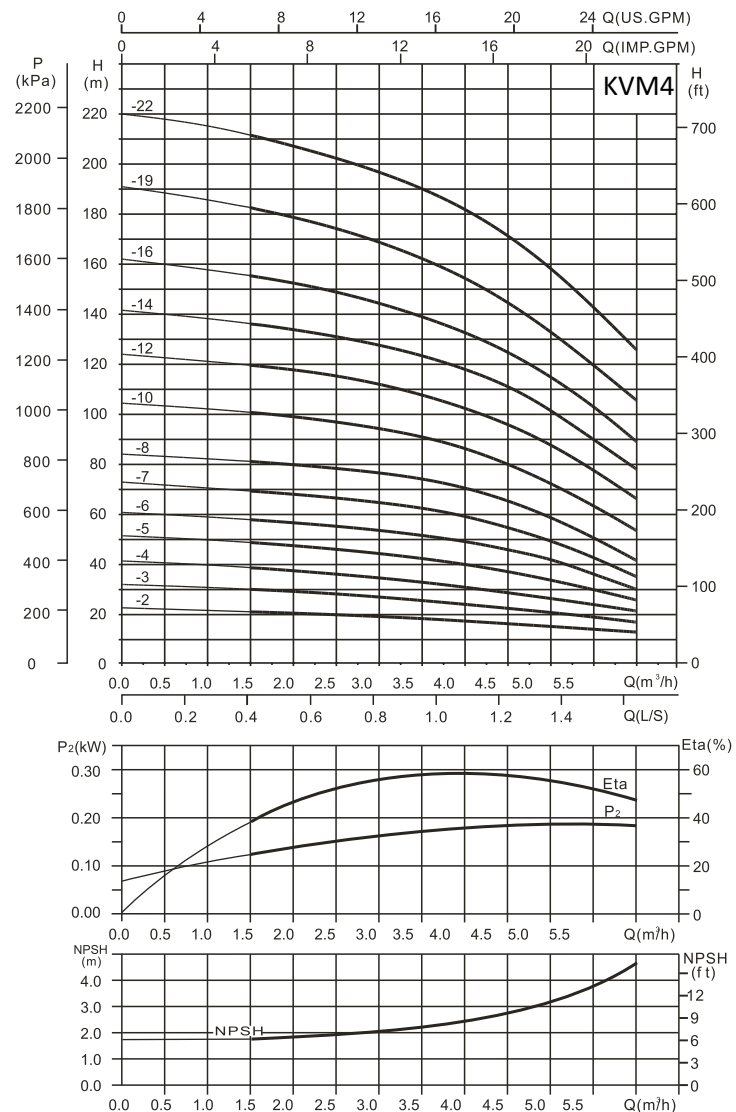
Installation Sketch

Size and Weight



Model	Size (mm)					
	B1	B2	B1+B2	D1	D2	WEIGHT
KVM 4-2	259	205	464	133	102	22
KVM 4-3	277	205	482	133	102	22
KVM 4-4	295	205	500	133	102	23
KVM 4-5	319	241	560	154	111	23
KVM 4-6	337	241	578	154	111	25
KVM 4-7	355	241/293	596/648	154	111	30
KVM 4-8	373	241/293	614/666	154	111	30
KVM 4-10	417	275/293	692/710	177	116	32
KVM 4-12	453	275/293	728/746	177	116	32
KVM 4-14	489	275/293	764/782	177	116	35
KVM 4-16	525	275/293	800/818	197	116	39
KVM 4-19	599	305	904	197	148	45
KVM 4-22	653	305	958	197	148	49

Performance Curve

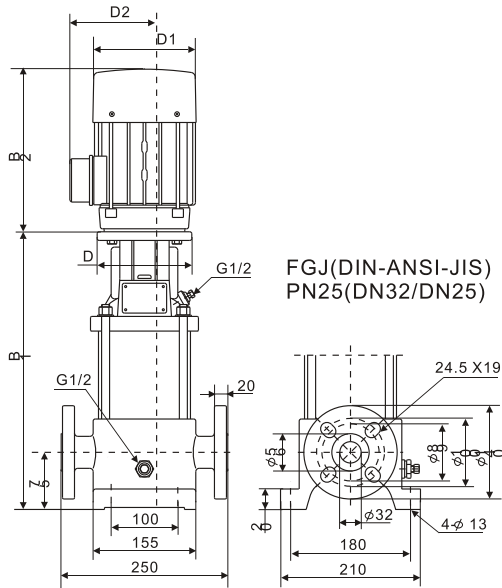


Performance table

KVM	Power P <sub>2</sub> (kW)	Q (m <sup>3</sup> /h)	2.0	3.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
5-2	0.37	H (m)	14	13	12	11.5	11	10	9	8	7.5	6.5	6
5-3	0.55		19	18	16.5	15.5	15	14	13	12	11	9	8
5-4	0.55		24.5	23	22.5	21	20	18.5	17	15.5	14	12.5	11
5-5	0.75		30.5	29	27	26	24.5	23	21.5	20	17.5	16	14
5-6	1.1		37	35	33	31.5	30	28	26	24	22	20	18
5-7	1.1		43	41	39	37	35	33	31	28	26	24	21
5-8	1.1		49	47	44	42	40	38	36	32	30	27	24
5-9	1.5		56	53	50	47.5	45	42.5	40	37	33.5	30.5	27
5-10	1.5		62	59	55	53	50	47	44	41	37	34	30
5-11	2.2		68.5	65.5	61.5	59	56	52	49	45	41	37	33
5-12	2.2		75	72.5	68	65	62	58	54	49	45	40.5	36
5-13	2.2		81.5	79	74	71	68	64	59.5	54	49	44	39
5-14	2.2		89	85	81	77	74	69	65	59	54	48	42
5-15	2.2		96	93	88	84	80	75	70	64	59	52	45
5-16	2.2		103	100	94	90	85	80	75	69	63	56	48
5-18	3.0		115	110	104	100	96	90	85	78	71	63	54
5-20	3.0		129	122	115	109	105	99	94	86	78	70	60
5-22	4.0		139	134	126	121	116	110	103	95	87	77	66
5-24	4.0		152	146	138	133	127	120	113	105	96	84	72
5-26	4.0		164	158	150	144	138	131	122	114	104	91	78
5-29	4.0		185	177	168	164	157	150	141	132	119	103	87
5-32	5.5		205	197	189	183	176	166	158	147	134	114	96
5-36	5.5		230	222	212	205	198	188	177	166	154	133	108

Installation Sketch

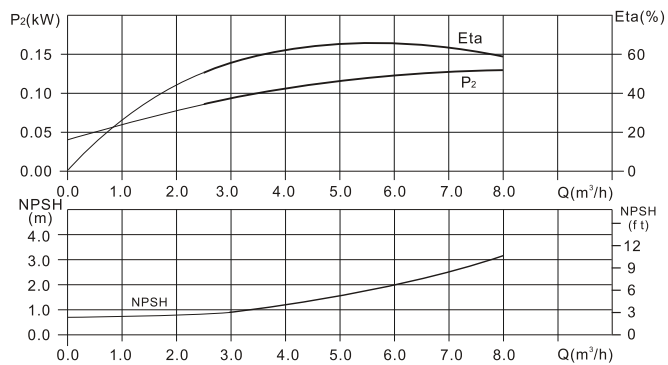
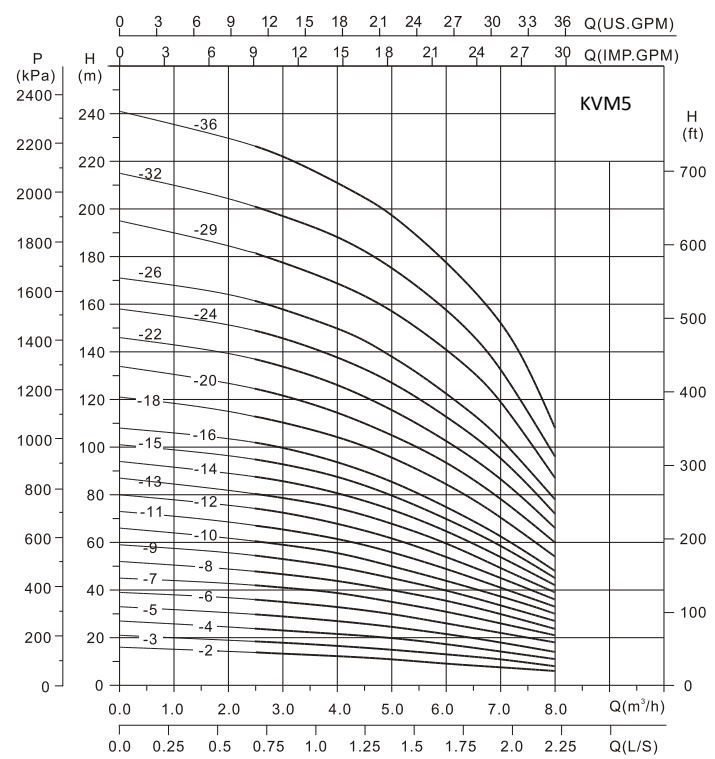
Size and Weight



KVM	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
5-2	280	205	485	-	133	102	23
5-3	307	205	512	-	133	102	23
5-4	334	205	539	-	133	102	25
5-5	361	205	566	-	133	102	25
5-6	394	241	635	-	154	111	29
5-7	421	241	662	-	154	111	31
5-8	448	241	689	-	154	111	32
5-9	475/485	241/293	716/776	-	154/177	111/144	35/38
5-10	502/512	241/293	743/803	-	154/177	111/144	35/39
5-11	537	275/293	812/830	-	177	116/144	54/40
5-12	564	275/293	839/857	-	177	116/144	54/41
5-13	591	275/293	866/884	-	177	116/144	54/42
5-14	618	275/293	893/911	-	177	116/144	54/43
5-15	645	275/293	920/938	-	177	116/144	54/44
5-16	672	275/293	947/965	-	177	116/144	54/45
5-18	726	293	1019	-	177	116	48
5-20	780	293	1073	-	177	116	49
5-22	854	305	1155	-	197	148	61
5-24	908	305	1213	-	197	148	62
5-26	962	305	1267	-	197	148	64
5-29	1043	305	1348	-	197	148	67
5-32	1145	390	1535	300	275	210	82
5-36	1253	390	1643	300	275	210	85

Performance Curve

5-50Hz



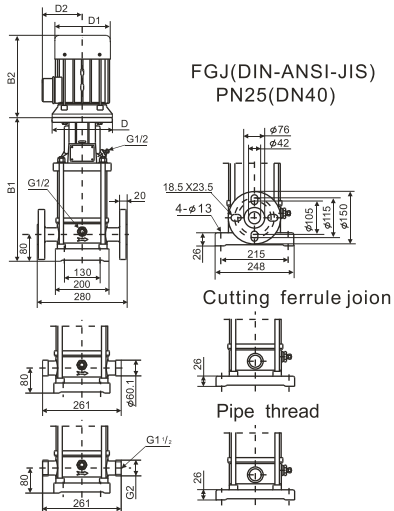
# TECHNICAL DATA

10-50Hz

Performance Table

Model	Power P <sub>2</sub> (KW)	Q (m <sup>3</sup> /h)	2	4	6	8	10	12	14
KVM 10-1	0.37	H (m)	13	12	11	9.5	8.5	7	6
KVM 10-2	0.75		23	22	20	18	16	13	10
KVM 10-3	1.1		33	32	31	28	25	21	16
KVM 10-4	1.5		43	42	40	37	32	27	20
KVM 10-5	2.2		53	51	48	44	39	32	24
KVM 10-6	2.2		62	61	58	53	46	38	28
KVM 10-7	3		73	72	67	61	54	43	32
KVM 10-8	3		83	81	78	71	62	51	37
KVM 10-9	3		93	91	87	81	71	59	42
KVM 10-10	4		104	101	98	91	81	67	47
KVM 10-12	4		123	121	117	108	95	78	55
KVM 10-14	5.5		143	141	136	124	110	90	63
KVM 10-16	5.5		163	161	154	143	125	102	71
KVM 10-18	7.5		183	179	173	161	144	118	82
KVM 10-20	7.5		202	198	191	180	160	133	93
KVM 10-22	7.5		222	217	209	198	178	149	106

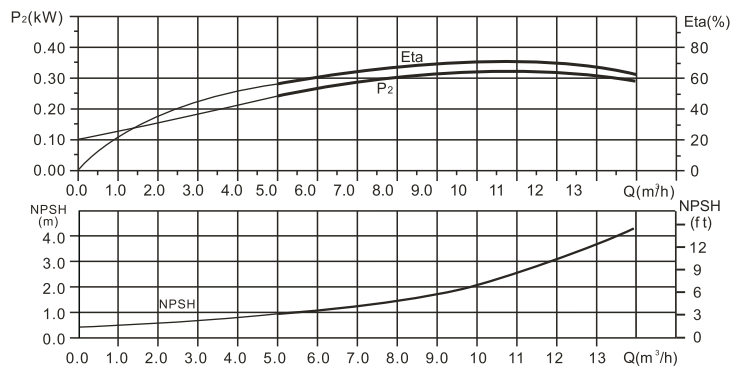
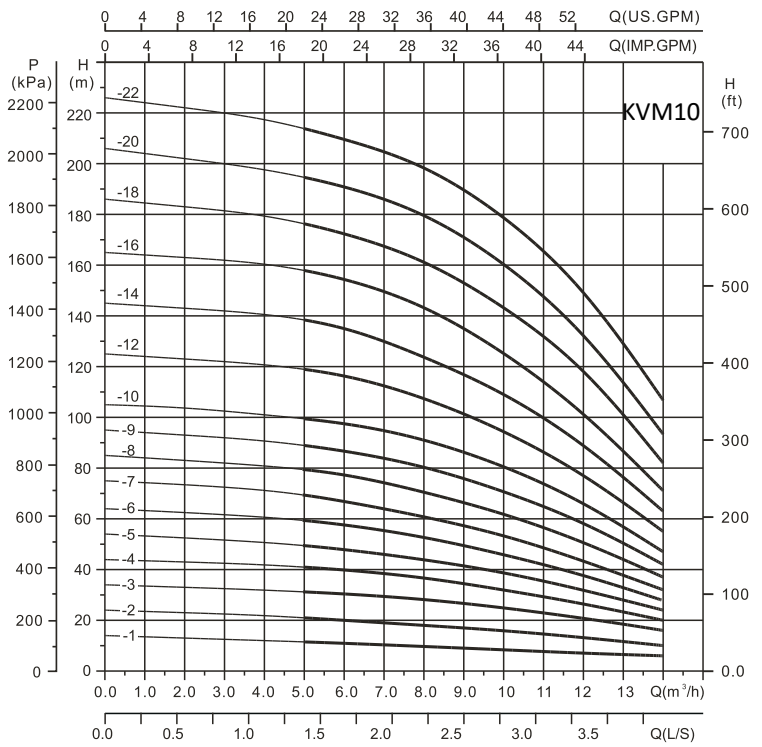
Installation Sketch



Size and Weight

Model	Size (mm)						
	B1	B2	B1+B2	D	D1	D2	WEIGHT
KVM 10-1	319	205	524	-	133	102/124	33
KVM 10-2	349	205	554	-	133	102/124	35
KVM 10-3	385	241	626	-	154	111/133	38
KVM 10-4	415	241/293	656/708	-	154/177	111/144.5	45
KVM 10-5	453	275/293	728/746	-	177	116/144.5	48
KVM 10-6	483	275/293	758/776	-	177	116/144.5	50
KVM 10-7	513	293	788	-	177	116	55
KVM 10-8	543	293	815	-	177	116	56
KVM 10-9	573	293	845	-	177	116	57
KVM 10-10	623	305	928	-	197	116	60
KVM 10-12	683	305	988	-	197	148	63
KVM 10-14	764	390	1154	300	275	148	93
KVM 10-16	824	390	1214	300	275	210	95
KVM 10-18	884	390	1274	300	275	210	120
KVM 10-20	944	390	1334	300	275	210	123
KVM 10-22	1004	390	1364	300	275	210	125

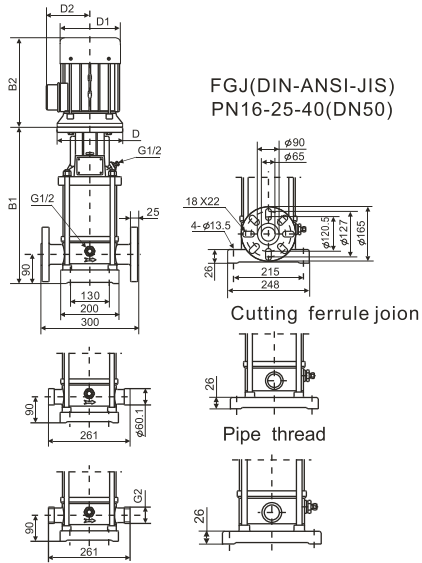
Performance Curve



Performance Table

Model	Power P2(KW)	Q (m <sup>3</sup> /h)	Q									
			8	10	12	14	15	16	18	20	22	24
KVM 15-1	1.1	H (m)	14	13	12	11.5	11	10.5	10	9	8	7
KVM 15-2	2.2		26	25	24	23	22	21	20	18	16	14
KVM 15-3	3		39	38	37	34	33	31	29	27	24	20
KVM 15-4	4		52	50	48	46	44	43	40	36	31	26
KVM 15-5	4		66	64	61	58	56	54	50	45	39	33
KVM 15-6	5.5		80	78	75	70	67	65	60	54	47	41
KVM 15-7	5.5		94	92	88	83	80	78	71	64	56	50
KVM 15-8	7.5		108	105	101	96	93	90	73	75	66	57
KVM 15-9	7.5		122	119	115	109	106	103	95	87	77	66
KVM 15-10	11		136	133	128	123	120	116	107	98	86	76
KVM 15-12	11		158	155	150	144	140	135	126	116	102	89
KVM 15-14	11		183	178	172	165	162	156	145	133	118	103
KVM 15-16	15		210	204	197	190	185	179	168	153	137	118
KVM 15-17	15		224	218	212	203	198	193	181	166	151	129

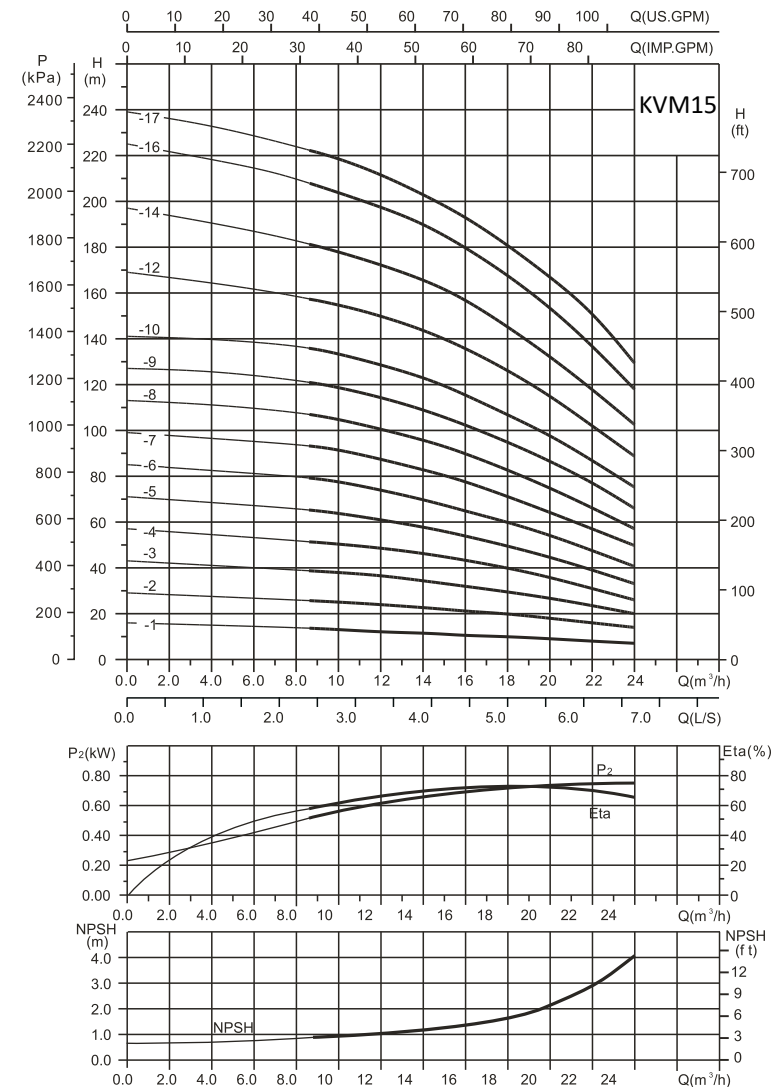
Installation Sketch



Size and Weight

Model	Size (mm)						WEIGHT
	B1	B2	B1+B2	D	D1	D2	
KVM 15-1	350	241	591	-	154	111	40
KVM 15-2	403	275/293	678/696	-	177	116	45
KVM 15-3	448	293	723	-	177	116	50
KVM 15-4	513	305	768	-	197	148	55
KVM 15-5	558	305	863	-	197	148	58
KVM 15-6	624	390	1014	300	275	210	90
KVM 15-7	669	390	1059	300	275	210	93
KVM 15-8	714	390	1104	300	275	210	97
KVM 15-9	759	390	1149	300	275	210	98
KVM 15-10	824	505	1325	350	330	255	140
KVM 15-12	914	505	1415	350	330	255	144
KVM 15-14	1004	505	1505	350	330	255	147
KVM 15-16	1094	505	1595	350	330	255	148
KVM 15-17	1139	505	1640	350	330	255	160

Performance Curve



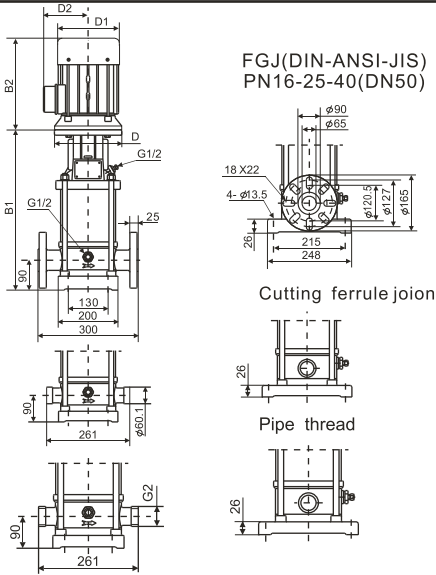
# TECHNICAL DATA

20-50Hz

Performance Table

Model	Power P2(KW)	Q (m <sup>3</sup> /h)	H (m)									
			8	10	12	14	16	18	20	24	26	28
KVM 20-1	1.1		14	13.5	13	12.5	12	11.5	10.5	9	8	7
KVM 20-2	2.2		28	27	26	25	24	22.5	21	18	16	14
KVM 20-3	4		41	40	39	38	36	34	32	27	24	21
KVM 20-4	5.5		54	53	52	51	50	46	43	36	32	27
KVM 20-5	5.5		68	67	65	63	61	58	55	45	40	33
KVM 20-6	7.5		82	80	78	77	73	70	66	55	48	40
KVM 20-7	7.5		96	94	92	89	86	82	77	65	58	47
KVM 20-8	11		110	107	104	102	99	95	89	76	67	56
KVM 20-10	11		137	135	132	127	124	118	112	98	86	73
KVM 20-12	15		164	162	158	154	149	142	136	118	106	90
KVM 20-14	15		191	189	186	181	176	169	161	140	126	110
KVM 20-16	18.5		219	217	214	208	203	198	186	164	147	129
KVM 20-17	18.5		234	231	228	223	217	210	202	178	162	142

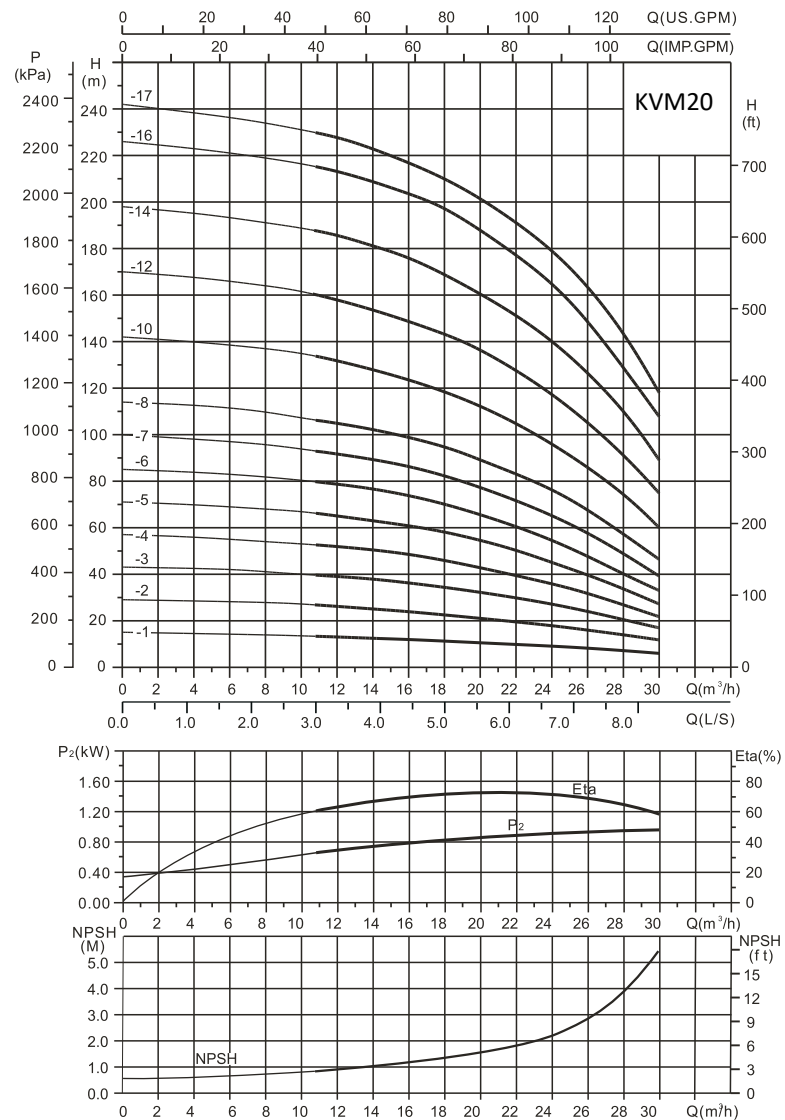
Installation Sketch



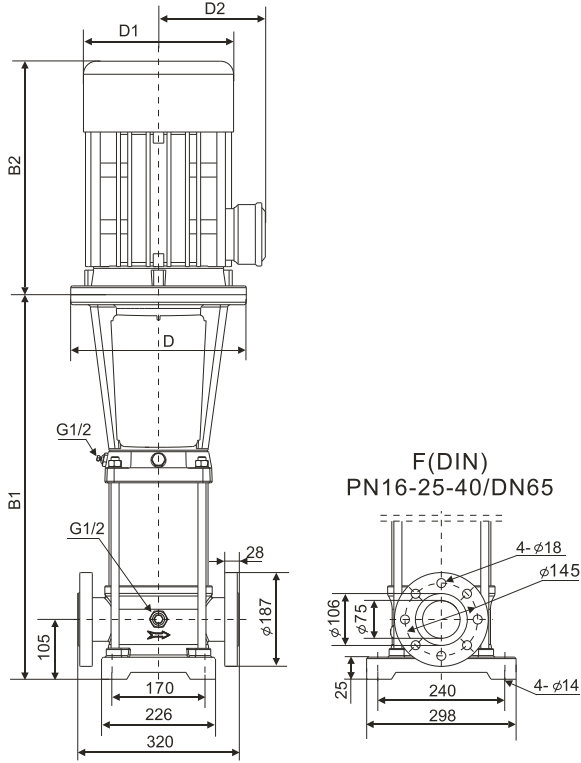
Size and Weight

Model	Size (mm)						
	B1	B2	B1+B2	D	D1	D2	WEIGHT
KVM 20-1	35	241	591	-	154	111	40
KVM 20-2	403	275/293	678/696	-	177	116	45
KVM 20-3	468	305	773	300	197	148	55
KVM 20-4	534	305	839	300	197	148	80
KVM 20-5	579	390	969	300	275	210	83
KVM 20-6	624	390	1014	300	275	210	87
KVM 20-7	669	390	1059	300	275	210	90
KVM 20-8	734	505	1239	350	330	255	130
KVM 20-10	824	505	1329	350	330	255	136
KVM 20-12	914	505	1419	350	330	255	145
KVM 20-14	1004	505	1509	350	330	255	148
KVM 20-16	1094	560	1654	350	330	255	168
KVM 20-17	1139	560	1699	350	330	255	170

Performance Curve

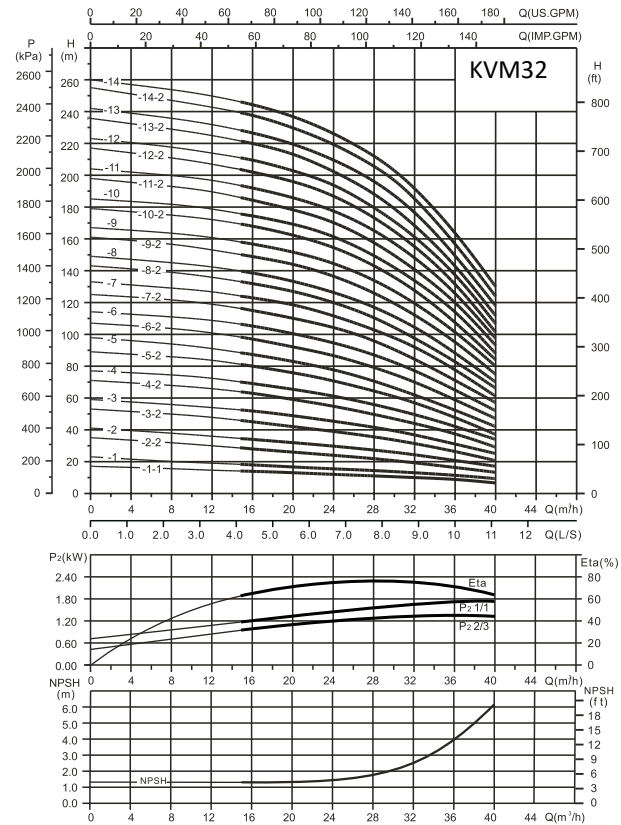


Installation Sketch



Size and Weight

Performance Curve



Model	Size (mm)						Weight (kg)
	B1	B2	B1-B2	D	D1	D2	
KVM 32-1-1	455	241/293	696/748	-	154	111	60
KVM 32-1	455	275/293	730/748	-	177	116	61
KVM 32-2-2	525	293	800	-	177	116	75
KVM 32-2	525	305	830	-	197	148	86
KVM 32-3-2	595	305	900	-	197	148	105
KVM 32-3	620	390	1010	300	275	210	105
KVM 32-4-2	690	390	1080	300	275	210	116
KVM 32-4	690	390	1080	300	275	210	117
KVM 32-5-2	915	505	1420	350	330	255	170
KVM 32-5	915	505	1420	350	330	255	171
KVM 32-6-2	985	505	1490	350	330	255	176
KVM 32-6	985	505	1490	350	330	255	176
KVM 32-7-2	1055	505	1560	350	330	255	206
KVM 32-7	1055	505	1560	350	330	255	207
KVM 32-8-2	1125	505	1630	350	330	255	208
KVM 32-8	1125	505	1630	350	330	255	209
KVM 32-9-2	1195	560	1750	350	330	255	225
KVM 32-9	1195	560	1750	350	330	255	226
KVM 32-10-2	1265	560	1820	350	330	255	230
KVM 32-10	1265	560	1820	350	330	255	231
KVM 32-11-2	1335	590	1925	350	380	280	270
KVM 32-11	1335	590	1925	350	380	280	271
KVM 32-12-2	1405	590	1995	350	380	280	275
KVM 32-12	1405	590	1995	350	380	280	276
KVM 32-13-2	1475	660	2135	400	420	305	395
KVM 32-13	1475	660	2135	400	420	305	395
KVM 32-14-2	1525	660	2185	400	420	305	400
KVM 32-14	1525	660	2185	400	420	305	400

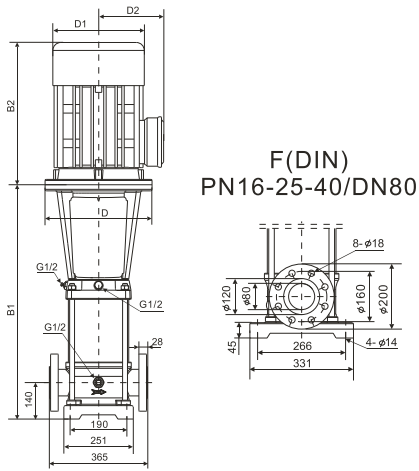
Performance Table

Model	Power P2(KW)	Q (m <sup>3</sup> /h)	12	16	20	24	28	30	32	36	40
KVM 32-1-1	1.5	H (m)	14.5	14	13	12	11	10.5	10	9	7
KVM 32-1	2.2		19	18	16.5	15.5	14.5	14	13	11.5	9.5
KVM 32-2-2	3		30	28	26	24	22	21	19	16	14
KVM 32-2	4		36	34	32	30	27	26	24	21	17
KVM 32-3-2	4		48	45	42	39	36	34	32	27	21
KVM 32-3	5.5		54	52	49	46	42	39	37	31	25
KVM 32-4-2	7.5		66	63	59	55	50	47	44	38	29
KVM 32-4	7.5		72	69	66	62	56	53	50	42	34
KVM 32-5-2	11		84	80	76	71	64	61	57	48	37
KVM 32-5	11		91	87	83	78	71	66	62	53	42
KVM 32-6-2	11		101	97	92	87	79	75	70	59	47
KVM 32-6	11		109	105	101	95	87	83	77	65	52
KVM 32-7-2	15		119	115	110	105	96	90	84	71	57
KVM 32-7	15		127	123	118	112	103	97	91	78	61
KVM 32-8-2	15		136	132	127	120	110	104	97	82	66
KVM 32-8	15		143	139	134	126	117	111	104	88	70
KVM 32-9-2	18.5		153	149	144	137	126	119	112	95	75
KVM 32-9	18.5		161	157	152	145	134	126	119	102	80
KVM 32-10-2	18.5		172	168	162	154	143	135	127	108	84
KVM 32-10	18.5		179	174	169	162	149	142	134	114	88
KVM 32-11-2	22	189	184	178	170	158	149	141	120	93	
KVM 32-11	22	197	192	186	178	165	157	148	126	97	
KVM 32-12-2	22	207	202	196	187	174	165	155	132	102	
KVM 32-12	22	214	210	203	194	180	171	161	137	107	
KVM 32-13-2	30	225	220	213	203	188	179	169	143	112	
KVM 32-13	30	232	227	220	210	197	187	177	150	118	
KVM 32-14-2	30	243	238	230	220	206	197	185	156	124	
KVM 32-14	30	250	245	237	227	212	203	192	163	130	

Performance Table

Model	Power P2(KW)	Q (m <sup>3</sup> /h)	25	30	35	40	45	50	55
KVM 45-1-1	3	H (m)	20	19	18	17	15	13	11
KVM 45-1	4		24	23	22	21	19	18	16
KVM 45-2-2	5.5		40	38	36	33	30	27	23
KVM 45-2	7.5		48	46	44	42	39	35	31
KVM 45-3-2	11		63	61	58	54	50	44	38
KVM 45-3	11		72	70	67	63	58	53	45
KVM 45-4-2	15		87	84	80	75	69	62	54
KVM 45-4	15		98	94	87	84	77	70	61
KVM 45-5-2	18.5		113	108	102	96	88	80	69
KVM 45-5	18.5		123	118	112	105	97	88	77
KVM 45-6-2	22		137	132	125	118	109	98	86
KVM 45-6	22		147	141	135	127	118	107	94
KVM 45-7-2	30		160	154	147	139	128	116	101
KVM 45-7	30		169	164	156	147	136	124	109
KVM 45-8-2	30		184	178	169	160	147	132	116
KVM 45-8	30		194	189	180	168	155	141	124
KVM 45-9-2	30		209	202	193	182	169	152	133
KVM 45-9	37		219	212	203	191	177	161	141
KVM 45-10-2	37		233	225	215	203	188	170	148
KVM 45-10	37		245	236	225	212	196	179	156
KVM 45-11-2	45	259	250	239	226	209	191	166	
KVM 45-11	45	267	259	248	235	217	198	174	
KVM 45-12-2	45	284	274	263	248	230	209	183	
KVM 45-12	45	295	286	273	259	239	219	192	
KVM 45-13-2	45	309	300	286	270	250	227	199	

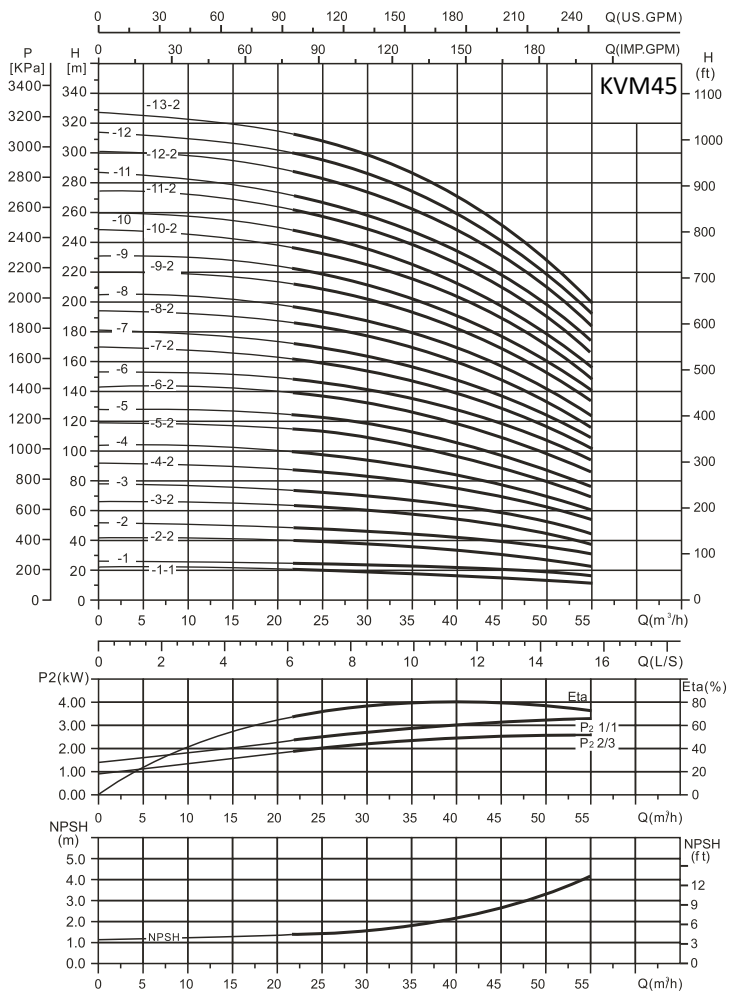
Installation Sketch



Size and Weight

Model	SIZE						WEIGHT
	B1	B2	B1+B2	D	D1	D2	
KVM 45-1-1	561	293	876	-	197	165	86
KVM 45-1	561	315	876	-	260	165	86
KVM 45-2-2	641	430	1071	300	260	208	102
KVM 45-2	641	430	1071	300	330	208	102
KVM 45-3-2	826	490	1316	350	330	255	175
KVM 45-3	826	490	1316	350	330	255	175
KVM 45-4-2	906	490	1396	350	330	255	187
KVM 45-4	906	490	1396	350	330	255	187
KVM 45-5-2	986	550	1536	350	330	255	208
KVM 45-5	986	550	1536	350	330	255	208
KVM 45-6-2	1066	590	1656	350	360	285	251
KVM 45-6	1066	590	1656	350	360	285	251
KVM 45-7-2	1146	660	1806	400	420	310	315
KVM 45-7	1146	660	1806	400	420	310	315
KVM 45-8-2	1226	660	1886	400	420	310	319
KVM 45-8	1226	660	1886	400	420	310	319
KVM 45-9-2	1306	660	1966	400	420	310	323
KVM 45-9	1306	660	1966	400	420	310	323
KVM 45-10-2	1386	660	2046	400	420	310	347
KVM 45-10	1386	660	2046	400	420	310	347
KVM 45-11-2	1466	700	2166	450	470	345	413
KVM 45-11	1466	700	2166	450	470	345	413
KVM 45-12-2	1546	700	2246	450	470	345	417
KVM 45-12	1546	700	2246	450	470	345	417
KVM 45-13-2	1626	700	2326	450	470	345	421

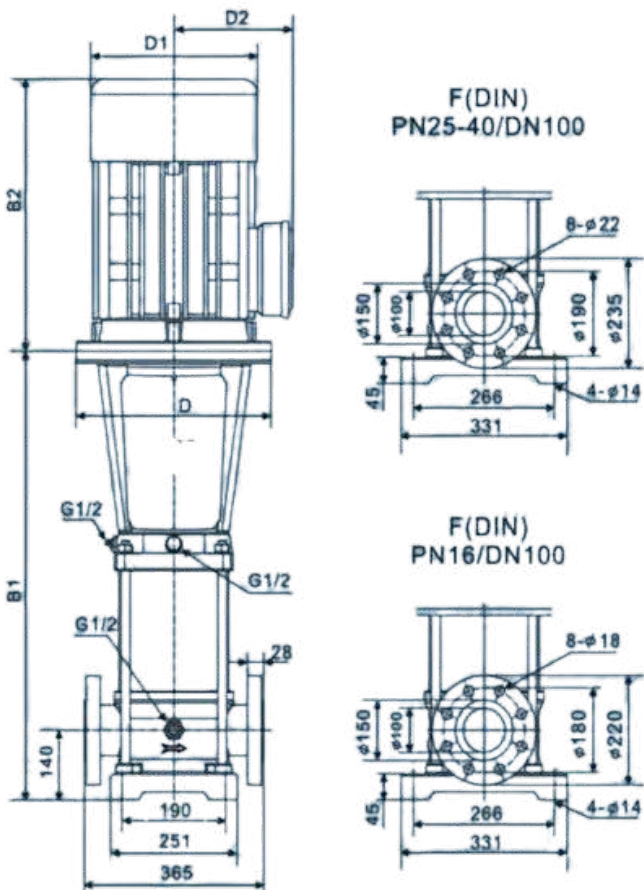
Performance Curve





Performance Table

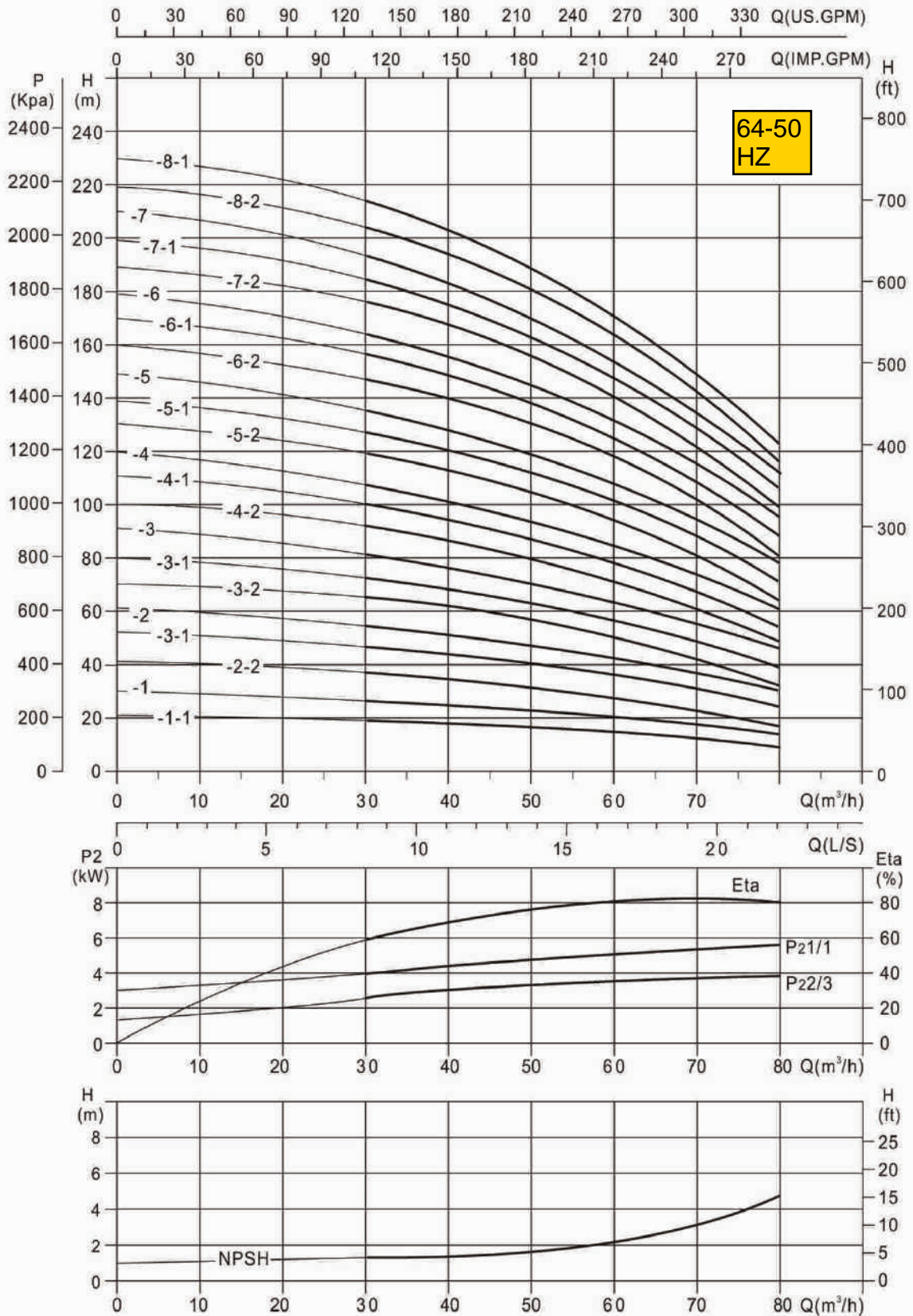
Model	Power P2(KW)	Q (m <sup>3</sup> /h)	30	40	50	60	64	70	80
KVM 64-1-1	4	H (m)	19	18	16	14	13	11.5	9
KVM 64-1	5.5		27	25	23	20	19	17	14
KVM 64-2-2	7.5		37	35	32	28	26	23	17
KVM 64-2-1	11		47	44	40	36	34	30	24
KVM 64-2	11		55	51	47	42	40	37	30
KVM 64-3-2	15		66	62	56	50	46	41	32
KVM 64-3-1	15		73	69	63	56	53	48	39
KVM 64-3	18.5		81	76	70	64	60	55	46
KVM 64-4-2	18.5		92	87	80	71	66	60	49
KVM 64-4-1	22		100	94	87	78	73	67	54
KVM 64-4	22		107	101	94	85	80	74	61
KVM 64-5-2	30		119	113	105	95	89	80	64
KVM 64-5-1	30		128	121	112	102	96	87	71
KVM 64-5	30		136	129	119	109	103	94	78
KVM 64-6-2	30		147	140	130	118	112	101	81
KVM 64-6-1	37		157	149	138	125	118	108	88
KVM 64-6	37		164	156	145	132	125	115	95
KVM 64-7-2	37		176	167	156	140	133	121	99
KVM 64-7-1	37		185	176	163	147	140	128	106
KVM 64-7	45		193	183	170	155	147	135	112
KVM 64-8-2	45	204	194	181	164	155	142	116	
KVM 64-8-1	45	214	203	189	170	162	149	123	



Model	Size						Weight
	B1	B2	B1+B2	D	D1	D2	
KVM 64-1-1	561	335	896	-	230	188	105
KVM 64-1	561	430	991	300	260	208	110
KVM 64-2-2	644	430	1074	300	260	208	120
KVM 64-2-1	754	490	1244	350	330	255	155
KVM 64-2	754	490	1244	350	330	255	155
KVM 64-3-2	836	490	1326	350	330	255	195
KVM 64-3-1	836	490	1326	350	330	255	195
KVM 64-3	836	550	1386	350	330	255	205
KVM 64-4-2	919	550	1469	350	330	255	208
KVM 64-4-1	919	590	1509	350	360	285	260
KVM 64-4	919	590	1509	350	360	285	260
KVM 64-5-2	1001	660	1661	400	420	310	345
KVM 64-5-1	1001	660	1661	400	420	310	345
KVM 64-5	1001	660	1661	400	420	310	345
KVM 64-6-2	1084	660	1744	400	420	310	350
KVM 64-6-1	1084	660	1744	400	420	310	370
KVM 64-6	1084	660	1744	400	420	310	370
KVM 64-7-2	1166	660	1826	400	420	310	375
KVM 64-7-1	1166	660	1826	400	420	310	375
KVM 64-7	1166	700	1866	450	420	310	435
KVM 64-8-2	1248	700	1948	450	470	345	440
KVM 64-8-1	1248	700	1948	450	470	345	440

Performance Curve

KVM64-50HZ

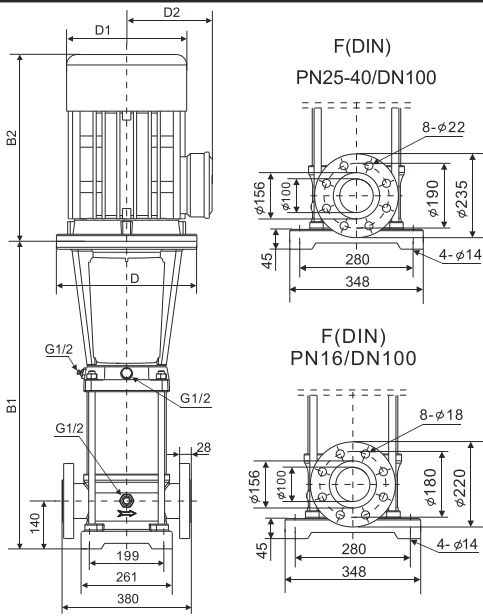


Performance Table

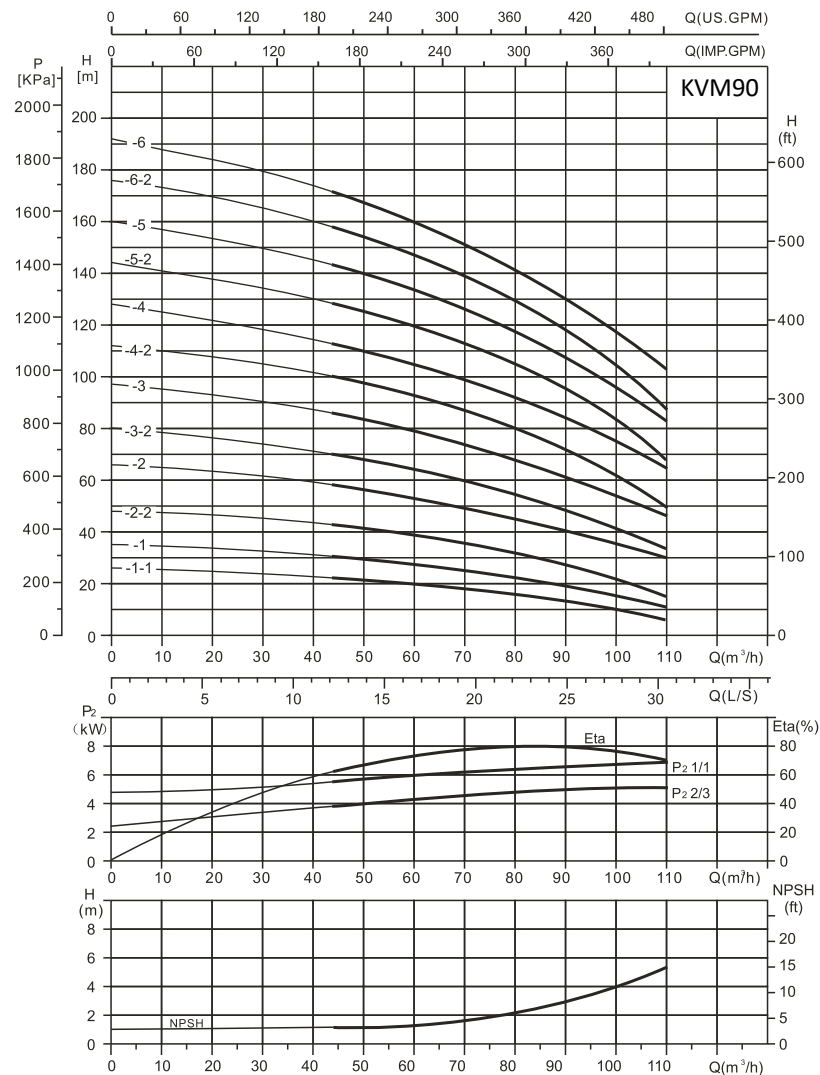
Model	Power P2(KW)	Q (m <sup>3</sup> /h)	50	60	70	80	85	90	100	110
KVM 90-1-1	5.5	H (m)	22	20	18	16	15	13	10	6
KVM 90-1	7.5		30	27	25	23	21	19	15	11
KVM 90-2-2	11		41	39	36	32	30	28	22	15
KVM 90-2	15		56	53	49	45	43	40	35	30
KVM 90-3-2	18.5		68	65	60	55	52	49	41	33
KVM 90-3	22		83	79	73	67	64	61	54	47
KVM 90-4-2	30		98	93	87	80	76	72	62	50
KVM 90-4	30		110	105	100	92	88	84	75	65
KVM 90-5-2	37		126	120	113	105	100	95	83	68
KVM 90-5	37		140	133	126	117	113	107	95	83
KVM 90-6-2	45		155	148	139	129	124	118	104	87
KVM 90-6	45		168	160	151	141	135	130	117	103

Installation Sketch

Size and Weight



Performance Curve



Model	SIZE						WEIGHT
	B1	B2	B1+B2	D	D1	D2	
KVM 90-1-1	571	430	1001	300	260	208	120
KVM 90-1	571	430	1001	300	260	208	122
KVM 90-2-2	773	490	1263	350	330	255	165
KVM 90-2	773	490	1263	350	330	255	198
KVM 90-3-2	865	550	1415	350	330	255	212
KVM 90-3	865	590	1455	350	360	285	265
KVM 90-4-2	957	660	1617	400	420	310	348
KVM 90-4	957	660	1617	400	420	310	348
KVM 90-5-2	1049	660	1709	400	420	310	375
KVM 90-5	1049	660	1709	400	420	310	375
KVM 90-6-2	1141	700	1841	450	470	345	438
KVM 90-6	1141	700	1841	450	470	345	438

## Other Products:

Gear and Lobe Pumps.

Centrifugal Monoblock and Coupled Pumps.

Self Priming Pumps.

Barrel pumps.

Self Priming Mud Pumps.

Sewage/Dewatering Submersible Pumps.

Multistage High Pressure Pumps.

Air And Electrically Operated Double Diaphragm Pumps.

Magnetic Sealless Pumps.

Dosing/Metering Pumps.

Hydro-Pneumatic Pressure Booster System.

Submersible Mixers and Aerators.

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