

• VERTICAL MULTISTAGE CENTRIFUGAL PUMP
50Hz





CVF and CV are kind of non-self priming Vertical Multistage Centrifugal Pumps. The pumps are available with standard motor, the inlet and outlet are located at the pump bottom at the same plane(inline type). All pump are equipped with a maintenance free mechanical seal set of the Cartridge Type.

FEATURE

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



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Applications

Application	CVF	CV
Water supply		
Filtration and transfer at waterworks	●	●
Distribution from waterworks	●	●
Pressure boosting in mains	●	●
Pressure boosting in high-rise buildings,hotels,etc.	●	●
Pressure boosting for industrial water supply	●	●
Industry		
Pressure boosting in ...		
Process water systems	●	●
Washing and cleaning systems	●	●
Vehicle washing tunnels	●	●
Fire fighting systems	●	●
Liquid transfer in ...		
Cooling and air-conditioning systems(refrigerants)	●	●
Boiler feed and condensate systems	●	●
Machine tools (cooling lubricants)	●	●
Aquafarming	●	●
Transfer of ...		
Oil and alcohol	●	●
Glycol and coolants	●	●
Water treatment		
Ultra-filtration systems	●	○
Reverse osmosis systems	●	○
Softening, ionising, demineralizing systems	●	○
Distillation systems	●	○
Separators	●	○
Swimming baths	●	●
Irrigation		
Field irrigation(flooding)	●	●
Sprinkler irrigation	●	●
Drip-feed irrigation	●	●

- Recommended pump model
- Option pump model

Product range

Scope	CV1 CVF1	CV2 CVF2	CV3 CVF3	CV4 CVF4	CV5 CVF5	CV10 CVF10	CV15 CVF15	CV20 CVF20	CV32 CVF32	CV45 CVF45	CV64 CVF64	CV90 CVF90
Nominal Flow [m ³ /h]	1	2	3	4	5	10	15	20	32	45	64	90
Temperature Scope [°C]	-20~+120								-20~+104			
Temperature Scope on request [°C]	-40~+180								-40~+180			
Max Efficiency [%]	44	45	56	58	65	66	68	69	77	78	80	81
CV pump												
Flow Scope [m ³ /h]	0.7-2.4	1-3.2	1.2-4.5	2-4.8	2.5-8	5-13	9-24	10-29	14-40	20-56	30-85	40-120
Max Pressure [bar]	22	25	24	25	24	22	23	25	28	26	20	20
Max Pressure on request [bar]	47	47	47	47	47	47	47	47	39	40	39	39
Motor power [kW]	0.37-2.2	0.37-3	0.37-3	0.37-4	0.37-5.5	0.37-7.5	1.1-15	1.1-18.5	1.5-30	3-45	4-45	5.5-45
Material type												
CV Cast iron, S.S EN1.4301/AISI 304	●	●	●	●	●	●	●	●	●	●	●	●
CVF S.S EN1.4301/AISI 304	●	●	●	●	●	●	●	●	●	●	●	●
CVN S.S EN1.4401/AISI 316	●	●	●	●	●	●	●	●	●	●	●	●
CV pump pipe connection												
Flange	DN25 DN32	DN25 DN32	DN25 DN32	DN25 DN32	DN25 DN32	DN40	DN50	DN50	DN65	DN80	DN100	DN100
Flange on request	—	—	—	—	—	DN50	DN65	DN65	DN80	DN100	DN125	DN125
CVF/CV pump pipe connection												
column pipe thread ★	G1 G1 ¹ / ₄	G1 G1 ¹ / ₄	G1 G1 ¹ / ₄	G1 G1 ¹ / ₄	G1 G1 ¹ / ₄	G1 ¹ / ₂ G2	G2 ¹ / ₂	G2 ¹ / ₂	—	—	—	—
column pipe thread on request★	G1 ¹ / ₂	G1 ¹ / ₂	G1 ¹ / ₂	G1 ¹ / ₂	G1 ¹ / ₂	—	G2	G2	—	—	—	—
Flange	DN25 DN32	DN25 DN32	DN25 DN32	DN25 DN32	DN25 DN32	DN40	DN50	DN50	DN65	DN80	DN100	DN100
Flange on request	—	—	—	—	—	DN50	DN65	DN65	DN80	DN100	DN125	DN125
Cutting ferrule joint [PJE] ★	G1 ¹ / ₄ DN32	G1 ¹ / ₄ DN32	G1 ¹ / ₄ DN32	G1 ¹ / ₄ DN32	G1 ¹ / ₄ DN32	G2 DN50	G2 DN50	G2 DN50	—	—	—	—

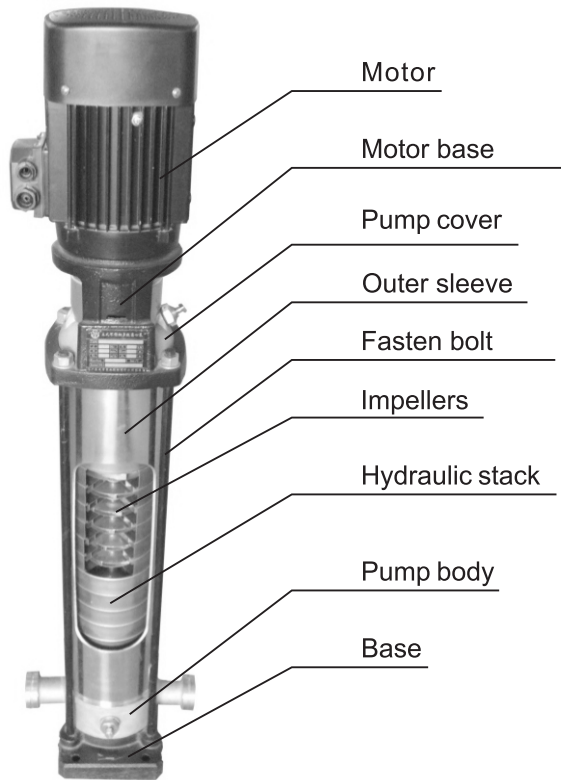
★Notice:NPT thread are on request



Pump

CVF and CV are a kind of non-self priming vertical multistage centrifugal pump. The pumps are available with standard motor. The inlet and outlet are located at the pump bottom at the same plane (inline type). All pumps are equipped with a maintenance-free mechanical seal set of the cartridge type.

Fig.1 CVF



Motor

CVF and CV are fitted with a totally enclosed, fan-cooled, 2-pole standard motor, From 0.37kW to 2.2kW, offers pumps fitted with single-phase motor. (1*220-230V/240V).

Motor Protection

Single-phase motor have a built-in thermal overload switch. Three-phase motors must be connected to a motor starter in accordance with local Regulations.

Ambient temperature

Ambient temperature: maximum +40°C, if the ambient temperature exceeds +40°C, or the motor is located more than 1000 meters above sea level, the motor output (P2) must be reduced due to the low cooling effect of the air, in such cases, it may be necessary to use a motor with a higher output.

Terminal box positions

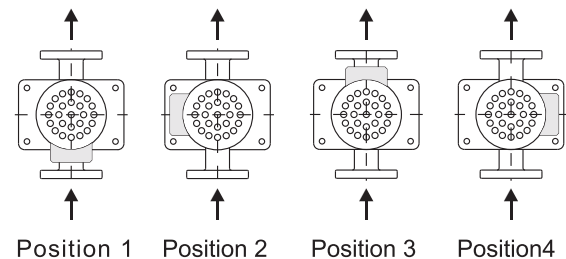
The terminal box is mounted on the suction side of the pump, meanwhile, 0°, 90°, 180°, 270° could be adjusted according to the following proceeding:

1. If necessary, disassembling the protective cover of the shaft connector, without disassembling the shaft connector.
2. Disassembling the motor fixation screws.
3. Turn the motor to the required direction.
4. Fasten the motor screws.
5. Install the shaft connector's protective cover.

The voltage and frequency are marked on the label, the correct power should be confirmed with the label before usage.

Ensure the electric connection is in conformity to the drawing marked on the label inside the terminal box.

Fig2. Terminal box positions

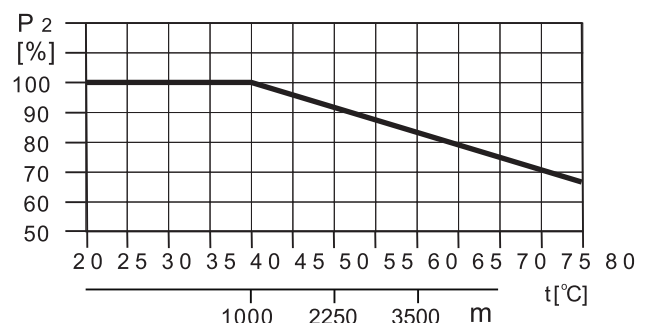


Viscosity

The pumping of liquids with densities or kinematic viscosities higher than those of water will cause a considerable pressure drop, a drop in the hydraulic performance and a rise in the power consumption.

In such situations the pump should be equipped with a larger motor, if in doubt, contact us.

Fig.3 Relationship between motor output (P2) and ambient temperature

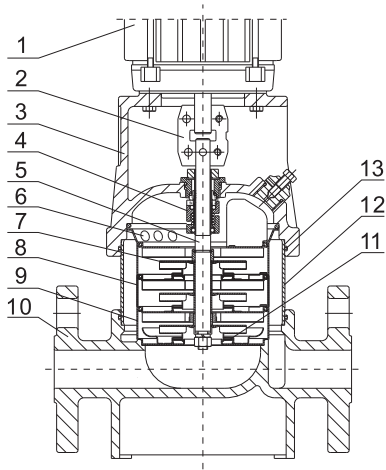


Example:

From the Fig.3, the pump is installed up to altitude 3500 meters, P2 will decrease to 88%, if the ambient temperature is up to 70°C, P2 will decrease to 78%.

CV1,2,3,4,5

Dissection Drawing

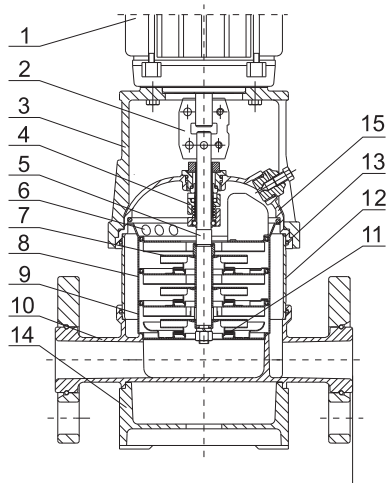


CV
Material CV

No.	Description	Material	EN/DIN	AISI/ASTM
1	Motor			
2	Shaft connector			
3	Pump head	Cast iron	EN-JL1030	ASTM25B
4	Mechanical seal	Tungsten Carbide v/s Silicon Carbide		
5	Shaft	S.S	1.4507	AISI431
6	Outlet	S.S	1.4301	AISI304
7	Impeller	S.S	1.4301	AISI304
8	Hydraulic stack	S.S	1.4301	AISI304
9	Inlet	S.S	1.4301	AISI304
10	Pump body	Cast iron	EN-JL1030	ASTM25B
11	Neck ring	PTFE		
12	Outer sleeve	S.S	1.4301	AISI304
13	O-ring	EPDM/FKM		

CVF1,2,3,4,5

Dissection Drawing

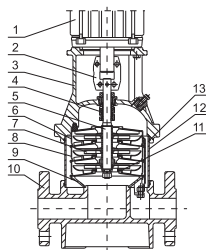


CVF
Material CVF

No.	Description	Material	EN/DIN	AISI/ASTM
1	Motor			
2	Shaft connector			
3	Pump head	Cast iron	EN-JL1030	ASTM25B
4	Mechanical seal	Tungsten Carbide v/s Silicon Carbide		
5	Shaft	S.S	1.4507	AISI431
6	Outlet	S.S	1.4301	AISI304
7	Impeller	S.S	1.4301	AISI304
8	Hydraulic stack	S.S	1.4301	AISI304
9	Inlet	S.S	1.4301	AISI304
10	Pump body	S.S	1.4301	AISI304
11	Neck ring	PTFE		
12	Outer sleeve	S.S	1.4301	AISI304
13	O-ring	EPDM/FKM		
14	Bottom base	Cast iron	EN-JL1030	ASTM25B
15	Pump cover	S.S	1.4301	AISI304

CV10,15,20

Dissection Drawing

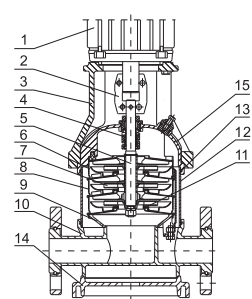


CV Material CV

No.	Description	Material	EN/DIN	AISI/ASTM
1	Motor			
2	Shaft connector			
3	Pump head	Cast iron	EN-JL1030	ASTM25B
4	Mechanical seal	Tungsten Carbide v/s Silicon Carbide		
5	Shaft	S.S	1.4507	AISI431
6	Outlet	S.S	1.4301	AISI304
7	Impeller	S.S	1.4301	AISI304
8	Hydraulic stack	S.S	1.4301	AISI304
9	Settled cover	S.S	1.4301	AISI304
10	Pump body	Cast iron	EN-JL1030	ASTM25B
11	Neck ring	PTFE		
12	Outer sleeve	S.S	1.4301	AISI304
13	O-ring	EPDM/FKM		

CVF10,15,20

Dissection Drawing

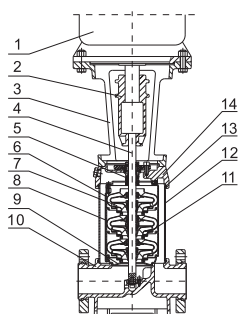


CVF Material CVF

No.	Description	Material	EN/DIN	AISI/ASTM
1	Motor			
2	Shaft connector			
3	Pump head	Cast iron	EN-JL1030	ASTM25B
4	Mechanical seal	Tungsten Carbide v/s Silicon Carbide		
5	Shaft	S.S	1.4507	AISI431
6	Outlet	S.S	1.4301	AISI304
7	Impeller	S.S	1.4301	AISI304
8	Hydraulic stack	S.S	1.4301	AISI304
9	Settled cover	S.S	1.4301	AISI304
10	Pump body	S.S	1.4301	AISI304
11	Neck ring	PTFE		
12	Outer sleeve	S.S	1.4301	AISI304
13	O-ring	EPDM/FKM		
14	Bottom base	Cast iron	EN-JL1030	ASTM25B
15	Pump cover	S.S	1.4301	AISI304

CV32,45,64,90

Dissection Drawing

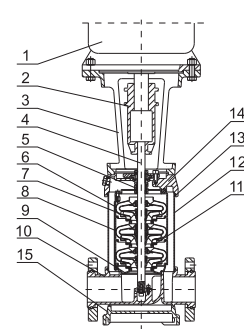


CV Material CV

No	Description	Material	EN/DIN	AISI/ASTM
1	Motor			
2	Shaft connector			
3	Pump head	Cast iron	EN-JL1030	ASTM25B
4	Shaft	S.S	1.4507	AISI431
5	Mechanical seal	Tungsten Carbide v/s Silicon Carbide		
6	Outlet	S.S	1.4301	AISI304
7	Impeller	S.S	1.4301	AISI304
8	Hydraulic	S.S	1.4301	AISI304
9	Inlet	S.S	1.4301	AISI304
10	Pump body	Cast iron	EN-JL1030	ASTM25B
11	Neck ring	PTFE		
12	Outer sleeve	S.S	1.4301	AISI304
13	O-ring	EPDM/FKM		
14	Pump cover	Cast iron	EN-JL1030	ASTM25B

CVF32,45,64,90

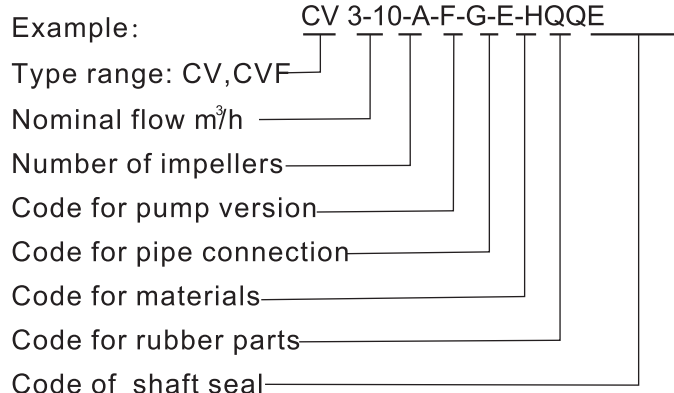
Dissection Drawing



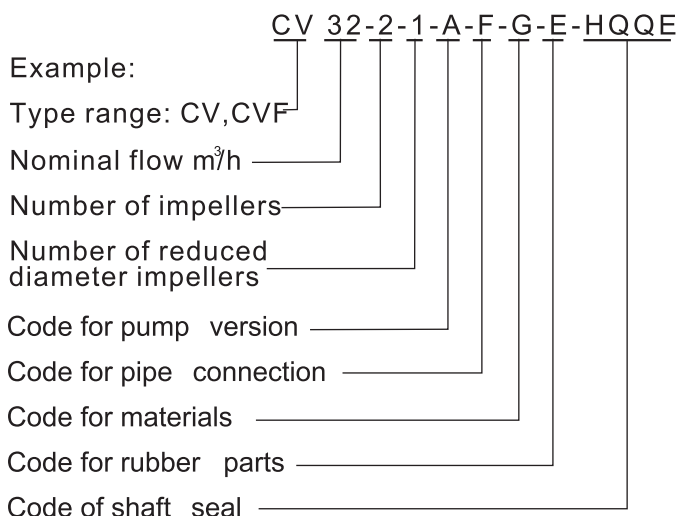
CVF Material CVF

No	Description	Material	EN/DIN	AISI/ASTM
1	Motor			
2	Shaft connector			
3	Pump head	Cast iron	EN-JL1030	ASTM25B
4	Shaft	S.S	1.4507	AISI431
5	Mechanical seal	Tungsten Carbide v/s Silicon Carbide		
6	Outlet	S.S	1.4301	AISI304
7	Impeller	S.S	1.4301	AISI304
8	Hydraulic	S.S	1.4301	AISI304
9	Inlet	S.S	1.4301	AISI304
10	body Pump	S.S	1.4301	AISI304
11	ring Neck	PTFE		
12	sleeve Outer	S.S	1.4301	AISI304
13	O-ring	EPDM/FKM		
14	cover Pump	S.S	1.4301	AISI304
15	base Bottom	Cast iron	EN-JL1030	ASTM25B

CV/CVF1,2,3,4,5,10,15 and 20



CV/CVF32

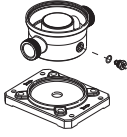
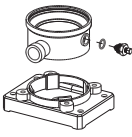


Codes

Codes:

	A	F	G	E	H	Q	Q	E
Pump version								
A: Basic version								
B: Oversize motor								
F: CV pump for high temperatures								
H: Horizontal version								
I: Different pressure rating								
J: Pump with different max speed								
K: Pump with Low NPSH								
P: Undersize motor								
R: Horizontal version with bearing bracket								
X: Special version								
Pipe connection								
A: Oval flange								
B: NPT thread								
S: Columned thread								
Z: Conical thread								
F: DIN flange								
G: ANSI flange								
J: JIS flange								
N: Changed diameter of ports								
P: PJE coupling(clamp)								
X: Special version								
Materials								
A: Basic version								
D: Carbon-graphite filled PTFE(bearings)								
G: Wetted parts AISI316								
GI: All parts AISI316								
I: Wetted parts AISI304								
II: All parts stainless steel, wetted parts AISI304								
X: Special version								
K: Bronze bearings								
W: WC bearing+PTFE neck rings								
Code for rubber parts								
E: EPDM								
N: NBR								
V: FKM								
Shaft seal								
H: Balanced cartridge seal(Cartridge version)								
B: Other version shaft seal(Fission version)								
Q: Silicon carbide								
U: Tungsten carbide								
C: Carbon								
E: EPDM								
V: FKM								

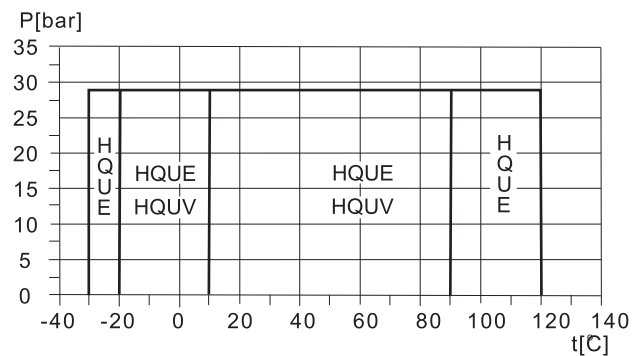
Maximum operating pressure and temperature range

	DIN-FGJ	UNION	PJE
			
	Max. Permissible operating pressure		Liquid temperature range
CV,CVF1	25bar		-20°Cto+120°C
CV,CVF2	25bar		-20°Cto+120°C
CV,CVF3	25bar		-20°Cto+120°C
CV,CVF4	25bar		-20°Cto+120°C
CV,CVF5	25bar		-20°Cto+120°C
CV,CVF10-1 → CV,CVF10-16	25bar		-20°Cto+120°C
CV15-1 → CV15-17	25bar		-20°Cto+120°C
CVF15-1 → CVF15-17	25bar		-20°Cto+120°C
CV,CVF20-1 → CV,CVF20-17	25bar		-20°Cto+120°C
CV,CVF32-1-1 → CV,CVF32-7	16bar		-30°Cto+120°C
CV,CVF32-8-2 → CV,CVF32-12	25bar		-30°Cto+120°C
CV,CVF32-13-2 → CV,CVF32-14	30bar		-30°Cto+120°C
CV,CVF45-1-1 → CV,CVF45-5	16bar		-30°Cto+120°C
CV,CVF45-6-2 → CV,CVF45-9	25bar		-30°Cto+120°C
CV,CVF45-10-2 → CV,CVF45-10	33bar		-30°Cto+120°C
CV,CVF64-1-1 → CV,CVF64-5	16bar		-30°Cto+120°C
CV,CVF64-6-2 → CV,CVF-64-7-1	25bar		-30°Cto+120°C
CV,CVF90-1-1 → CV,CVF90-4	16bar		-30°Cto+120°C
CV,CVF90-5-2 → CV,CVF90-6	25bar		-30°Cto+120°C

Operating range of the shaft seal

The operating range of the shaft seal depends on operating pressure, pump type, type of shaft seal and liquid temperature. The following curves apply to clean water and water containing glycol.

Fig.4 Operating range of standard shaft seals



The following table shows the maximum permissible inlet pressure. However, the current inlet pressure the pressure against a closed valve must always be lower than the maximum permissible operating pressure.

If the maximum permissible operating pressure is exceeded, the bearing in the motor may be damaged and the life of the shaft seal reduced.

CV,CVF 1 CV,CVF1-2 → CV,CVF1-36	10bar
CV,CVF 2 CV,CVF2-2 → CV,CVF2-26	10bar
CV,CVF 3 CV,CVF3-2 → CV,CVF3-29 CV,CVF3-31 → CV,CVF3-36	10bar 15bar
CV,CVF 4 CV,CVF4-2 → CV,CVF4-22	15bar
CV,CVF 5 CV,CVF5-2 → CV,CVF5-16 CV,CVF5-18 → CV,CVF5-36	10bar 15bar
CV,CVF 10 CV,CVF10-1 → CV,CVF10-6 CV,CVF10-7 → CV,CVF10-22	8bar 10bar
CV,CVF 15 CV,CVF15-1 → CV,CVF15-3 CV,CVF15-4 → CV,CVF15-17	8bar 10bar
CV,CVF20 CV,CVF20-1 → CV,CVF20-3 CV,CVF20-4 → CV,CVF20-17	8bar 10bar
CV,CVF 32 CV,CVF32-1-1 → CV,CVF32-4 CV,CVF32-5-2 → CV,CVF32-10 CV,CVF32-11-2 → CV,CVF32-14	4bar 10bar 15bar
CV,CVF 45 CV,CVF45-1-1 → CV,CVF45-2 CV,CVF45-3-2 → CV,CVF45-5 CV,CVF45-6-2 → CV,CVF45-13-2	4bar 10bar 15bar
CV,CVF 64 CV,CVF64-1-1 → CV,CVF64-2-2 CV,CVF64-2-1 → CV,CVF64-4-2 CV,CVF64-4-1 → CV,CVF64-8-1	4bar 10bar 15bar
CV,CVF 90 CV,CVF90-1-1 → CV,CVF90-1 CV,CVF90-2-2 → CV,CVF90-2-3 CV,CVF90-3 → CV,CVF90-6	4bar 10bar 15bar

Example of operating and inlet pressures :

The values for operating and inlet pressures shown in the table must not be considered individually but must always be compared, see the following examples.

Example 1:

pump model: CVF-5-20-A-FGJ-E-HQUE

Max. operating pressure: 25bar

Max. inlet pressure: 15bar

discharge pressure against a closed valve: 13.7bar, see page 35.

the pump is not allowed to start at an inlet pressure of 15 bar, but at an inlet pressure of $25 - 13.7 = 11.3\text{bar}$.

Example 2:

MODEL: CVF15-3-A-P-E-HQUE

Max. operating pressure: 16bar

Max. inlet pressure: 8bar

discharge pressure against a closed valve: 4.2bar, see page 43 curves chart.

This pump is allowed to start at an inlet pressure of 6bar, as the discharge pressure against a closed valve is only 4.2bar, which results in an operating pressure of $6 + 4.2 = 10.2\text{bar}$. On the contrary, the max. Operating pressure of this pump limited to 12.2bar, as a higher operating pressure bigger than 8bar will require on the Inlet.

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

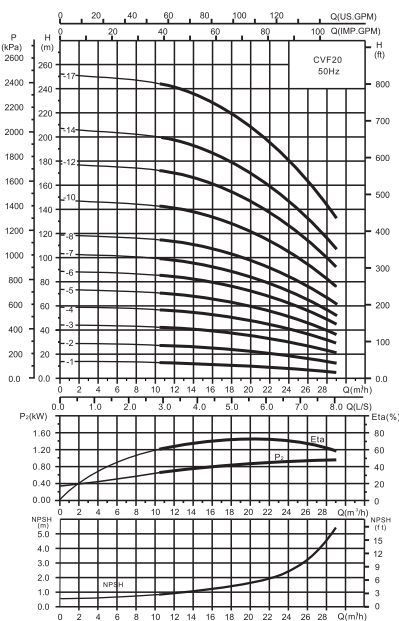
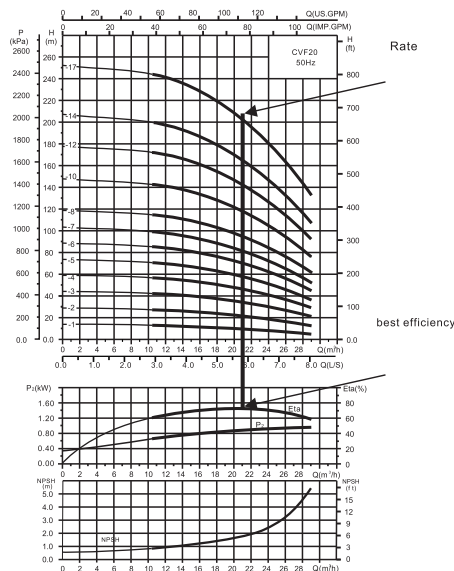
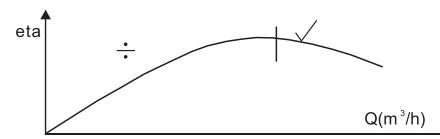


Fig.6 example of duty point



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:

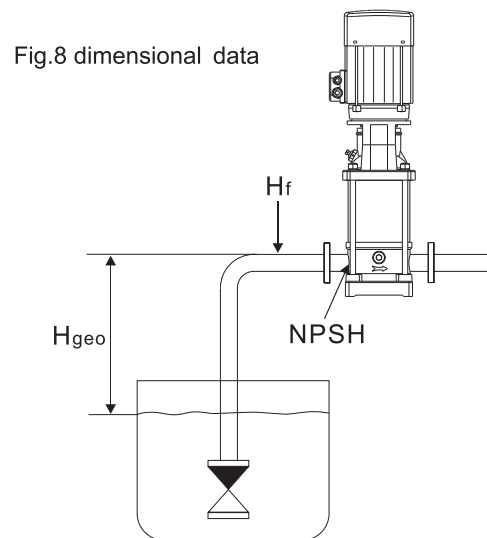
Required flow and pressure at the draw-off point.

- 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 CV pump which is operating at a duty point corresponding with the best efficiency of the pump.



3. pump material

The material variant(CV,CVF)should be selected based of the liquid to be pump.

CVF wetted parts are made of AISI304.

CV pump body is made of cast-iron and .

Wetted parts are made of AISI304.

Pump connections

Fig. 9 CV pump

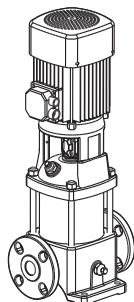
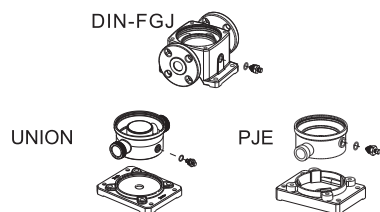


Fig. 10 pump connections



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

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

Fig.11 pump connections

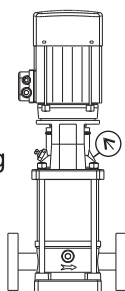
5. shaft seal

As standard, the CV AND CVF flange 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.

Minimum 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:

$$H = P_b \cdot 10.2 - NPSH - H_f - H_v - H_s$$

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.

$H = P_b \cdot 10.2 - NPSH - H_f - H_v - H_s$

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

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

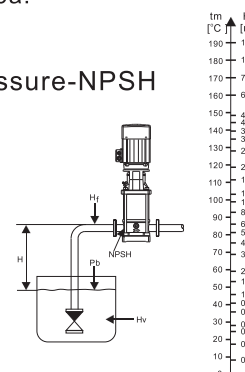
exchanged meter head to bar:

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

exchanged metre head to kpa:

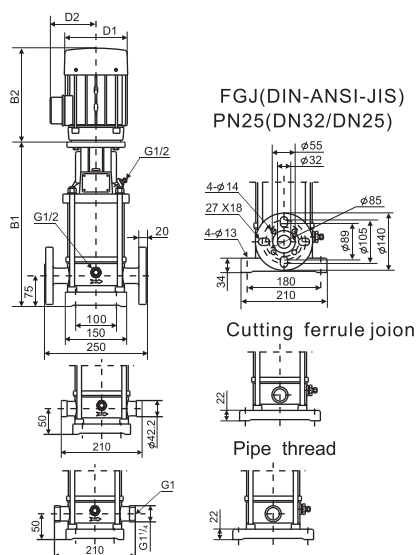
1 metre head = $1 \cdot 9.81 = 9.81 \text{ kpa}$.

Fig.13 Minimum inlet pressure-NPSH



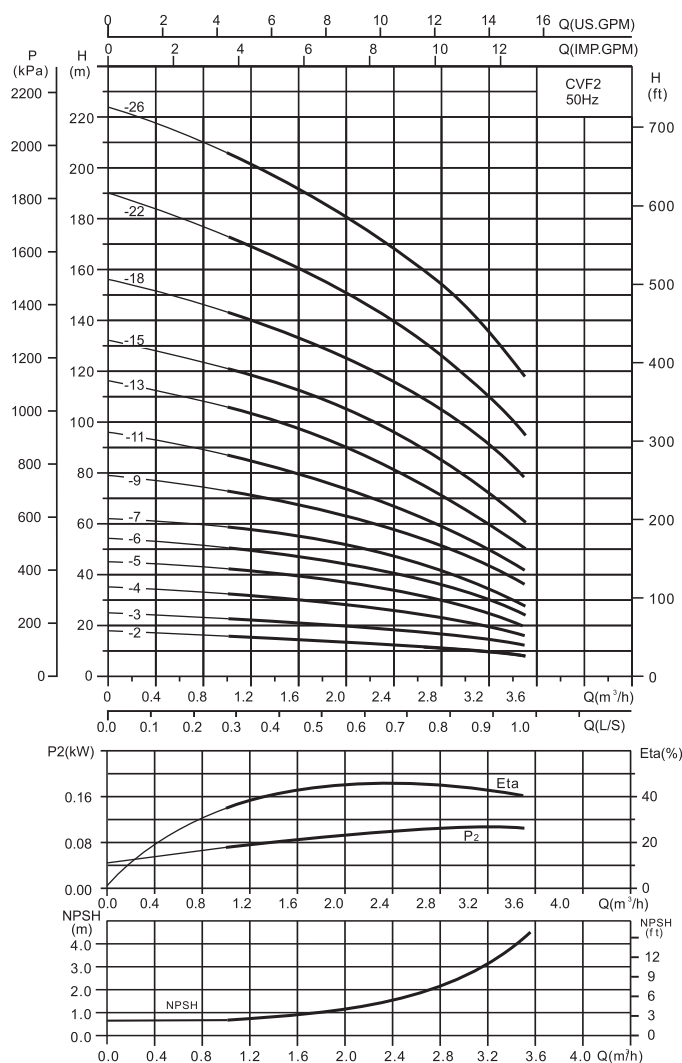
Model	Power P2(kW)	Q (m³/h)	1.0	1.2	1.6	2.0	2.4	2.8	3.2	3.5
CVF2-2	0.37	H (m)	16	15.5	14.5	13.5	12.5	11	9.5	8
CVF2-3	0.37		23	22.5	21	20	18.5	16	14	12
CVF2-4	0.55		32	31	30	28	26	23	20	16
CVF2-5	0.55		42.5	42	40	37	34.5	30	25	20
CVF2-6	0.75		51	50	47	44	41	36	30	24
CVF2-7	0.75		59	57	55	52	47	41	35	28
CVF2-9	1.1		72	71	67	63	58	51	44	36
CVF2-11	1.1		87	85	80	74	67	59	50	42
CVF2-13	1.5		106	104	99	90	81	71	60	51
CVF2-15	1.5		121	119	112	105	96	85	72	61
CVF2-18	2.2		143	139	133	125	116	105	91	78
CVF2-22	2.2		173	169	162	152	140	126	110	95
CVF2-26	3.0		206	201	191	180	170	155	133	118

Size and Weight



Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CVF2-2	259	205	464	133	102/124	21
CVF2-3	277	205	482	133	102/124	21
CVF2-4	295	205	500	133	102/124	23
CVF2-5	313	205	518	133	102/124	23
CVF2-6	331	205	536	133	102/124	25
CVF2-7	349	205	554	133	102/124	25
CVF2-9	391	241	632	154	111/133	27
CVF2-11	427	241	668	154	111/133	27
CVF2-13	463	241/293	704/756	154/177	111/144.5	29
CVF2-15	499	241/293	740/792	154/177	111/144.5	29
CVF2-18	565	275/293	840/858	177	116/144.5	35
CVF2-22	637	275/293	912	177	116/144.5	38
CVF2-26	709	293	1002	177	116	45

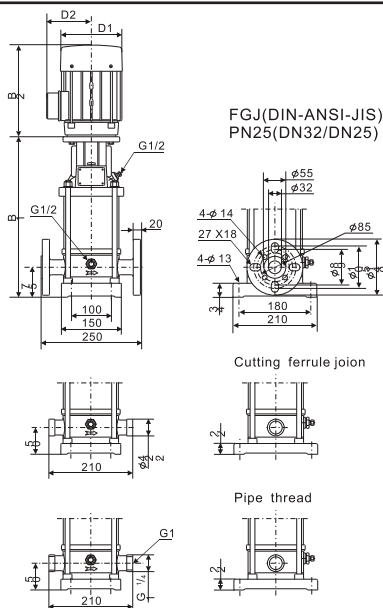
CVF2-50Hz



Performance table

	Power	Q (m ³ /h)	1.2	1.6	2.0	2.4	2.8	3.0	3.2	3.4	3.6	4.0
CVF3-2	0.37	H (m)	12	11.3	10.5	10	9	8.5	8	7.5	7	6
CVF3-3	0.37		18	17	16	15	14	13	12	11	10	8
CVF3-4	0.37		24	23	21.5	20	18.5	17.5	16.5	15	13.5	11
CVF3-5	0.37		30	28.5	27	25	23	22	20.5	19	17.5	14
CVF3-6	0.55		36	34	32	30	28	26	24	22	20	16.5
CVF3-7	0.55		42	40.5	39	36	33	30.5	28.5	26	24	19.5
CVF3-8	0.75		48	46	44	41	37	35	32.5	30	27	22.5
CVF3-9	0.75		53	51	49	46	41.5	39	37	34	32	26
CVF3-10	0.75		59	57	55	51	46	43	41	37	34	28
CVF3-11	1.1		65	62.5	60	56	51	48	45	42	38	30.5
CVF3-12	1.1		71	68	66	61	55	52	49	45.5	42	34
CVF3-13	1.1		77	74	71	66	60	57	53	50	46	37
CVF3-15	1.1		88	85	82	77	72	68.5	64	60	55	44
CVF3-17	1.5		100	97	93	88	83	79	74	69	64	52
CVF3-19	1.5		112	108	104	98	92	88	83	77	71	58
CVF3-21	2.2		123	119	115	108	102	97	92	86	79	65
CVF3-23	2.2		134	130	125	119	110	105	100	94	86	72
CVF3-25	2.2		146	141	135	128	118	113	108	102	94	79
CVF3-27	2.2		158	152	146	138	129	123	117	110	103	86
CVF3-29	2.2		169	163	156	147	137	132	125	118	111	93
CVF3-31	3.0		180	174	167	157	147	141	134	126	118	100
CVF3-33	3.0		191	186	178	168	157	150	143	135	127	108
CVF3-36	3.0		209	203	194	184	173	166	159	151	143	122

Installation Sketch

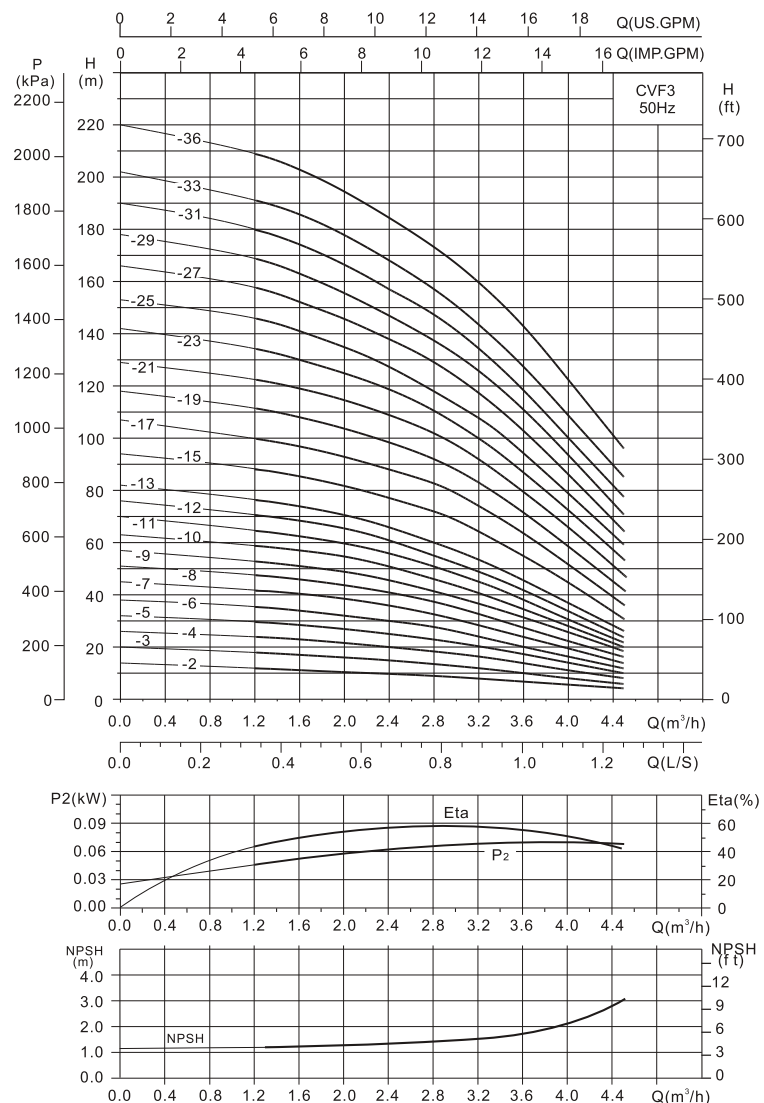


Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CVF3-2	259	205	464	133	102	20
CVF3-3	277	205	482	133	102	20
CVF3-4	295	205	500	133	102	21
CVF3-5	313	205	518	133	102	21
CVF3-6	331	205	536	133	102	22
CVF3-7	349	205	554	133	102	22
CVF3-8	367	205	572	133	102	23
CVF3-9	385	205	590	133	102	24
CVF3-10	403	205	608	133	102	25
CVF3-11	427	241	668	154	111	27
CVF3-12	445	241	686	154	111	27
CVF3-13	463	241	704	154	111	28
CVF3-15	499	241	740	154	111	29
CVF3-17	535	241/293	776/828	154	111	34
CVF3-19	571	241/293	812/864	154	111	35
CVF3-21	615	275/293	890/908	177	116	38
CVF3-23	651	275/293	926/944	177	116	39
CVF3-25	687	275/293	962/980	177	116	40
CVF3-27	723	275/293	998/1016	177	116	41
CVF3-29	759	275/293	1034/1052	177	116	42
CVF3-31	795	275/293	1070/1080	177	116	47
CVF3-33	831	275/293	1106/1124	177	116	48
CVF3-36	885	275/293	1160/1178	177	116	50

Size and Weight

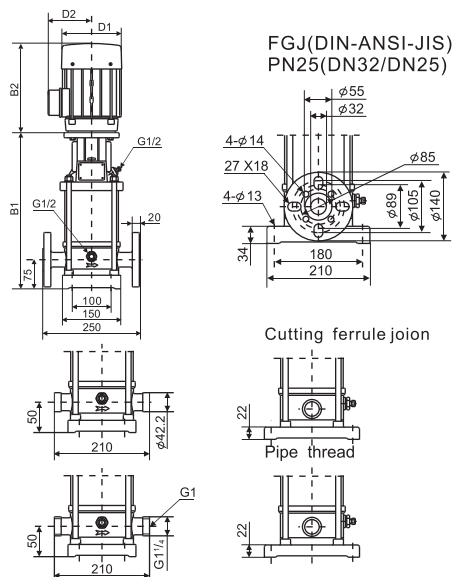
Performance Curve

CVF3-50Hz



Model	Power P2(kW)	Q (m ³ /h)	1.0	2.0	3.0	4.0	4.5	5.0	5.5	6.0
CVF4-2	0.37	H (m)	22	21	19.5	18	17	16	14	13
CVF4-3	0.55		31	29.5	28	24	22	21	19	18
CVF4-4	0.75		40	38	35	31	29	27	24	22
CVF4-5	1.1		50	48	44	40	38	34	30	26
CVF4-6	1.1		59	57	53	49	45	41	36	30
CVF4-7	1.5		71	69	65	59	55	50	43	36
CVF4-8	1.5		83	80	78	71	65	59	51	42
CVF4-10	2.2		103	100	95	87	80	79	73	54
CVF4-12	2.2		122	119	113	103	96	88	78	68
CVF4-14	3.0		139	134	128	118	111	102	90	79
CVF4-16	3.0		158	153	145	134	126	116	103	89
CVF4-19	4.0		186	180	170	155	145	133	117	98
CVF4-22	4.0		216	208	197	182	172	159	143	126

Size and Weight



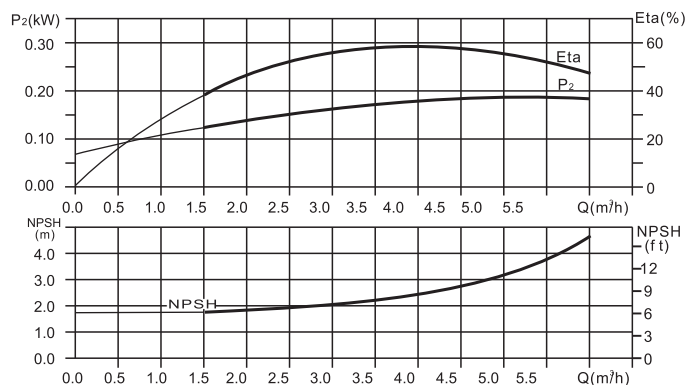
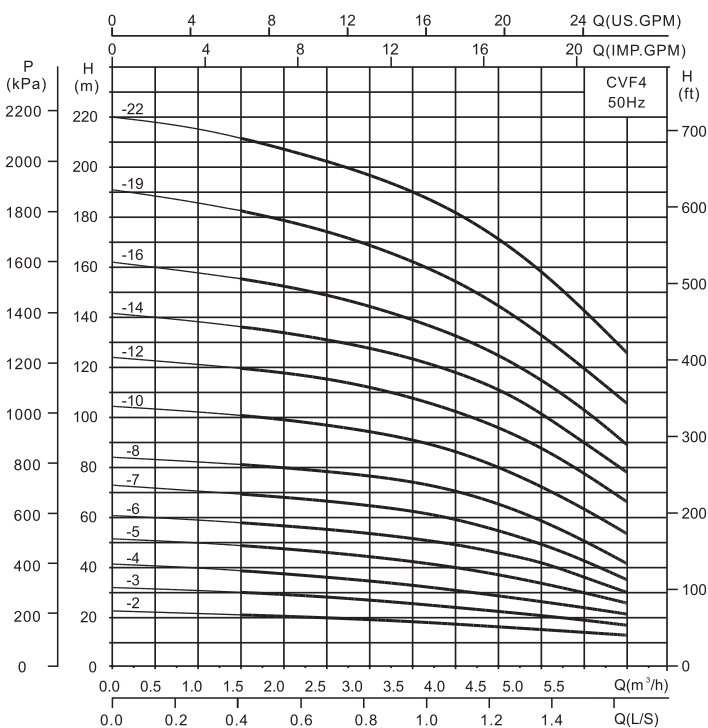
FGJ(DIN-ANSI-JIS)
PN25(DN32/DN25)

Cutting ferrule joion

Pipe thread

Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CVF4-2	259	205	464	133	102	22
CVF4-3	277	205	482	133	102	22
CVF4-4	295	205	500	133	102	23
CVF4-5	319	241	560	154	111	23
CVF4-6	337	241	578	154	111	25
CVF4-7	355	241/293	596/648	154	111	30
CVF4-8	373	241/293	614/666	154	111	30
CVF4-10	417	275/293	692/710	177	116	32
CVF4-12	453	275/293	728/746	177	116	32
CVF4-14	489	275/293	764/782	177	116	35
CVF4-16	525	275/293	800/818	197	116	39
CVF4-19	599	305	904	197	148	45
CVF4-22	653	305	958	197	148	49

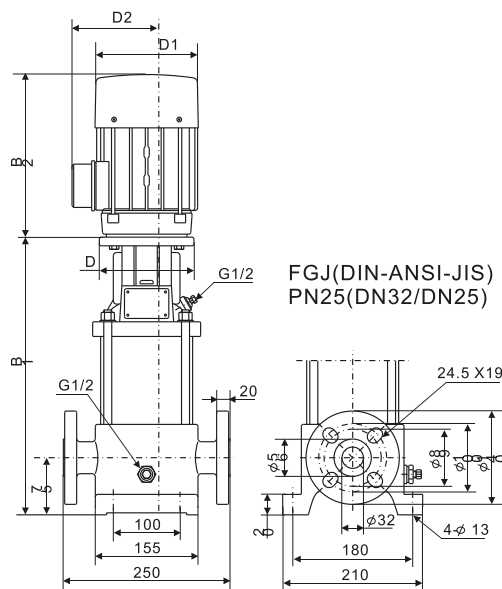
CVF4-50Hz



Performance table

Model	Power P ₂ (kW)	Q (m ³ /h)	2.0	3.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
CV5-2	0.37	H (m)	14	13	12	11.5	11	10	9	8	7.5	6.5	6
CV5-3	0.55		19	18	16.5	15.5	15	14	13	12	11	9	8
CV5-4	0.55		24.5	23	22.5	21	20	18.5	17	15.5	14	12.5	11
CV5-5	0.75		30.5	29	27	26	24.5	23	21.5	20	17.5	16	14
CV5-6	1.1		37	35	33	31.5	30	28	26	24	22	20	18
CV5-7	1.1		43	41	39	37	35	33	31	28	26	24	21
CV5-8	1.1		49	47	44	42	40	38	36	32	30	27	24
CV5-9	1.5		56	53	50	47.5	45	42.5	40	37	33.5	30.5	27
CV5-10	1.5		62	59	55	53	50	47	44	41	37	34	30
CV5-11	2.2		68.5	65.5	61.5	59	56	52	49	45	41	37	33
CV5-12	2.2		75	72.5	68	65	62	58	54	49	45	40.5	36
CV5-13	2.2		81.5	79	74	71	68	64	59.5	54	49	44	39
CV5-14	2.2		89	85	81	77	74	69	65	59	54	48	42
CV5-15	2.2		96	93	88	84	80	75	70	64	59	52	45
CV5-16	2.2		103	100	94	90	85	80	75	69	63	56	48
CV5-18	3.0		115	110	104	100	96	90	85	78	71	63	54
CV5-20	3.0		129	122	115	109	105	99	94	86	78	70	60
CV5-22	4.0		139	134	126	121	116	110	103	95	87	77	66
CV5-24	4.0		152	146	138	133	127	120	113	105	96	84	72
CV5-26	4.0		164	158	150	144	138	131	122	114	104	91	78
CV5-29	4.0		185	177	168	164	157	150	141	132	119	103	87
CV5-32	5.5		205	197	189	183	176	166	158	147	134	114	96
CV5-36	5.5		230	222	212	205	198	188	177	166	154	133	108

Installation Sketch

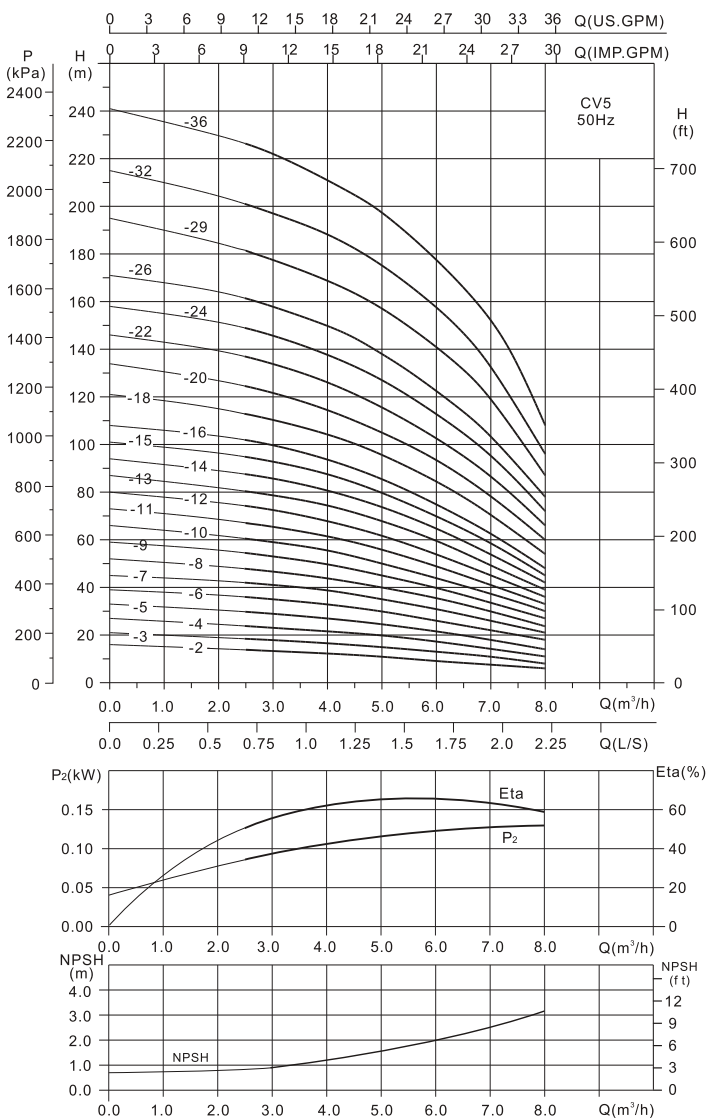


Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CV5-2	280	205	485	-	133	102	23
CV5-3	307	205	512	-	133	102	23
CV5-4	334	205	539	-	133	102	25
CV5-5	361	205	566	-	133	102	25
CV5-6	394	241	635	-	154	111	29
CV5-7	421	241	662	-	154	111	31
CV5-8	448	241	689	-	154	111	32
CV5-9	475/482	241/293	716/776	-	154/177	111/144	38
CV5-10	502/511	241/293	743/803	-	154/177	111/144	39
CV5-11	537	275/293	812/830	-	177	116/144	40
CV5-12	564	275/293	839/857	-	177	116/144	41
CV5-13	591	275/293	866/884	-	177	116/144	42
CV5-14	618	275/293	893/911	-	177	116/144	43
CV5-15	645	275/293	920/938	-	177	116/144	44
CV5-16	672	275/293	947/965	-	177	116/144	45
CV5-18	726	293	1019	-	177	116	48
CV5-20	780	293	1073	-	177	116	49
CV5-22	854	305	1155	-	197	148	61
CV5-24	908	305	1213	-	197	148	62
CV5-26	962	305	1267	-	197	148	64
CV5-29	1043	305	1348	-	197	148	67
CV5-32	1145	390	1535	300	275	210	82
CV5-36	1253	390	1643	300	275	210	85

Size and Weight

Performance Curve

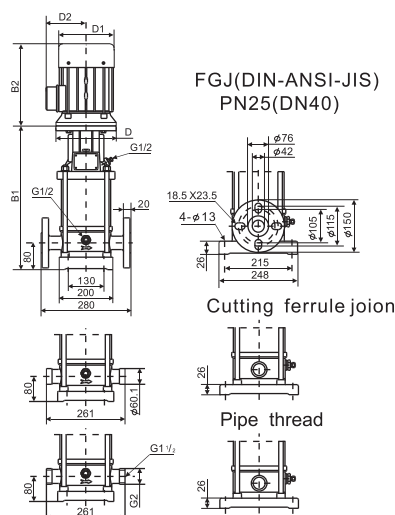
CVF5-50Hz



Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	2.0	4.0	6.0	8.0	10	12	14
CVF10-1	0.37	H (m)	13	12	11	9.5	8.5	7	6
CVF10-2	0.75		23	22	20	18	16	13	10
CVF10-3	1.1		33	32	31	28	25	21	16
CVF10-4	1.5		43	42	40	37	32	27	20
CVF10-5	2.2		53	51	48	44	39	32	24
CVF10-6	2.2		62	61	58	53	46	38	28
CVF10-7	3.0		73	72	67	61	54	43	32
CVF10-8	3.0		83	81	78	71	62	51	37
CVF10-9	3.0		93	91	87	81	71	59	42
CVF10-10	4.0		104	101	98	91	81	67	47
CVF10-12	4.0		123	121	117	108	95	78	55
CVF10-14	5.5		143	141	136	124	110	90	63
CVF10-16	5.5		163	161	154	143	125	102	71
CVF10-18	7.5		183	179	173	161	144	118	82
CVF10-20	7.5		202	198	191	180	160	133	93
CVF10-22	7.5		222	217	209	198	178	149	106

Installation Sketch



FGJ(DIN-ANSI-JIS)
PN25(DN40)

Cutting ferrule joion

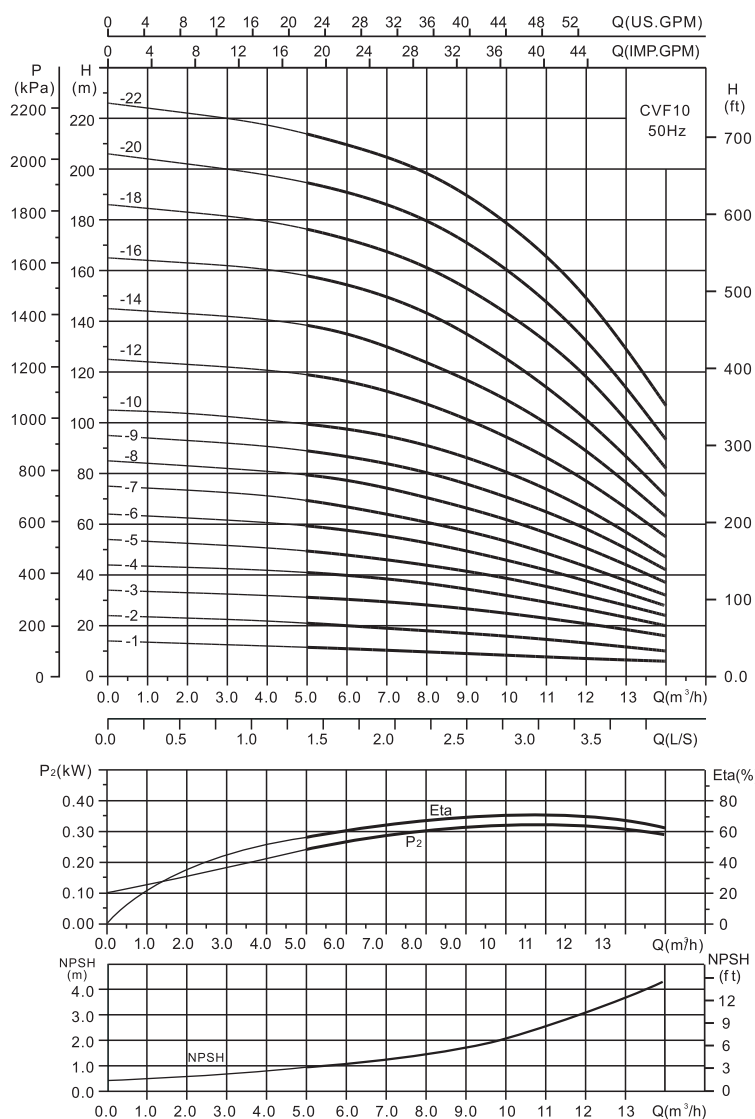
Pipe thread

Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF10-1	319	205	524	-	133	102/124	33
CVF10-2	349	205	554	-	133	102/124	35
CVF10-3	385	241	626	-	154	111/133	38
CVF10-4	415	241/293	656/708	-	154/177	111/144.5	45
CVF10-5	453	275/293	728/746	-	177	116/144.5	48
CVF10-6	483	275/293	758/776	-	177	116/144.5	50
CVF10-7	513	293	788	-	177	116	55
CVF10-8	543	293	815	-	177	116	56
CVF10-9	573	293	845	-	177	116	57
CVF10-10	623	305	928	-	197	148	60
CVF10-12	683	305	988	-	197	148	63
CVF10-14	764	390	1154	300	275	210	93
CVF10-16	824	390	1214	300	275	210	95
CVF10-18	884	390	1274	300	275	210	120
CVF10-20	944	390	1334	300	275	210	123
CVF10-22	1004	390	1364	300	275	210	125

Size and Weight

Performance Curve

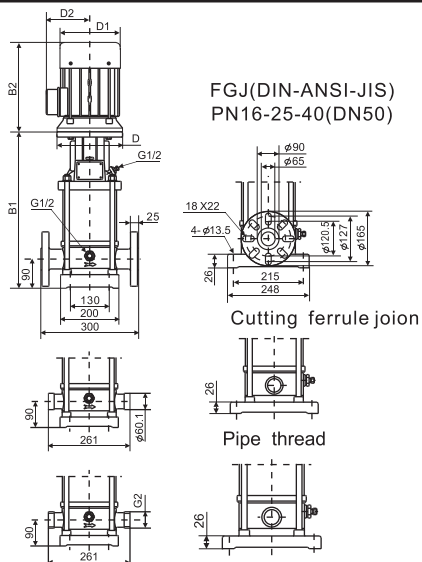
CVF10-50Hz



Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	8.0	10	12	14	15	16	18	20	22	24
CVF15-1	1.1	H (m)	14	13	12	11.5	11	10.5	10	9	8	7
CVF15-2	2.2		26	25	24	23	22	21	20	18	16	14
CVF15-3	3.0		39	38	37	34	33	31	29	27	24	20
CVF15-4	4.0		52	50	48	46	44	43	40	36	31	26
CVF15-5	4.0		66	64	61	58	56	54	50	45	39	33
CVF15-6	5.5		80	78	75	70	67	65	60	54	47	41
CVF15-7	5.5		94	92	88	83	80	78	71	64	56	50
CVF15-8	7.5		108	105	101	96	93	90	73	75	66	57
CVF15-9	7.5		122	119	115	109	106	103	95	87	77	66
CVF15-10	11		136	133	128	123	120	116	107	98	86	76
CVF15-12	11		158	155	150	144	140	135	126	116	102	89
CVF15-14	11		183	178	172	165	162	156	145	133	118	103
CVF15-16	15		210	204	197	190	185	179	168	153	137	118
CVF15-17	15		224	218	212	203	198	193	181	166	151	129

Installation Sketch

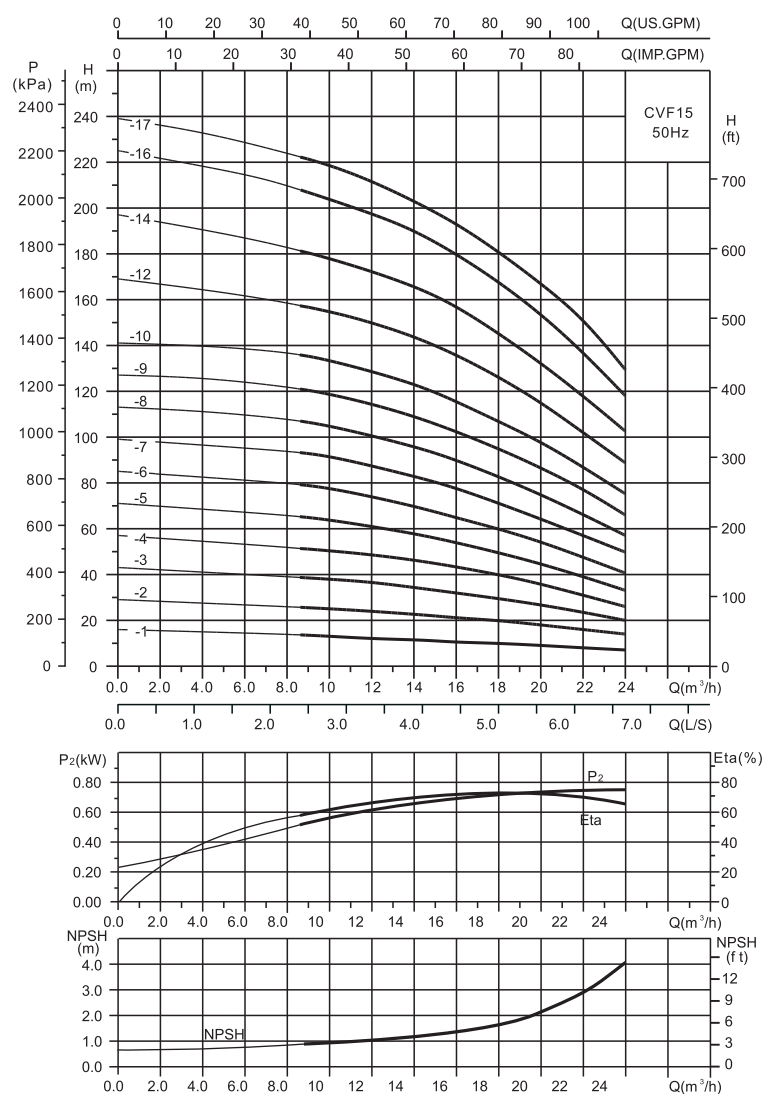


Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF15-1	350	241	591	-	154	111	40
CVF15-2	403	275/293	678/696	-	177	116	45
CVF15-3	448	293	723	-	177	116	50
CVF15-4	513	305	768	-	197	148	55
CVF15-5	558	305	863	-	197	148	58
CVF15-6	624	390	1014	300	275	210	90
CVF15-7	669	390	1059	300	275	210	93
CVF15-8	714	390	1104	300	275	210	97
CVF15-9	759	390	1149	300	275	210	98
CVF15-10	824	505	1325	350	330	255	140
CVF15-12	914	505	1415	350	330	255	144
CVF15-14	1004	505	1505	350	330	255	147
CVF15-16	1094	505	1595	350	330	255	148
CVF15-17	1139	505	1640	350	330	255	160

Size and Weight

Performance Curve

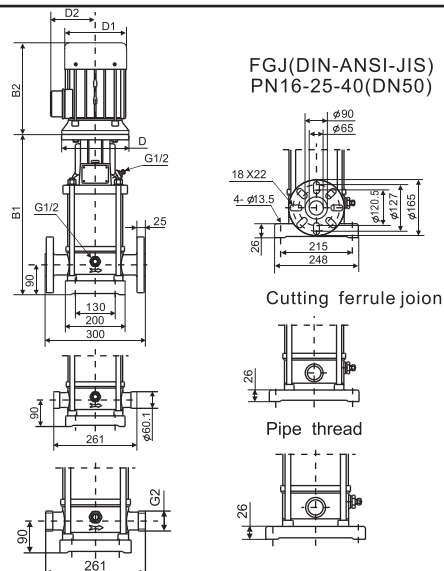
CVF15-50Hz



Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	8	10	12	14	16	18	20	24	26	28
CVF20-1	1.1	H (m)	14	13.5	13	12.5	12	11.5	10.5	9	8	7
CVF20-2	2.2		28	27	26	25	24	22.5	21	18	16	14
CVF20-3	4.0		41	40	39	38	36	34	32	27	24	21
CVF20-4	5.5		54	53	52	51	50	46	43	36	32	27
CVF20-5	5.5		68	67	65	63	61	58	55	45	40	33
CVF20-6	7.5		82	80	78	77	73	70	66	55	48	40
CVF20-7	7.5		96	94	92	89	86	82	77	65	58	47
CVF20-8	11		110	107	104	102	99	95	89	76	67	56
CVF20-10	11		137	135	132	127	124	118	112	98	86	73
CVF20-12	15		164	162	158	154	149	142	136	118	106	90
CVF20-14	15		191	189	186	181	176	169	161	140	126	110
CVF20-16	18.5		219	217	214	208	203	198	186	164	147	129
CVF20-17	18.5		234	231	228	223	217	210	202	178	162	142

Installation Sketch

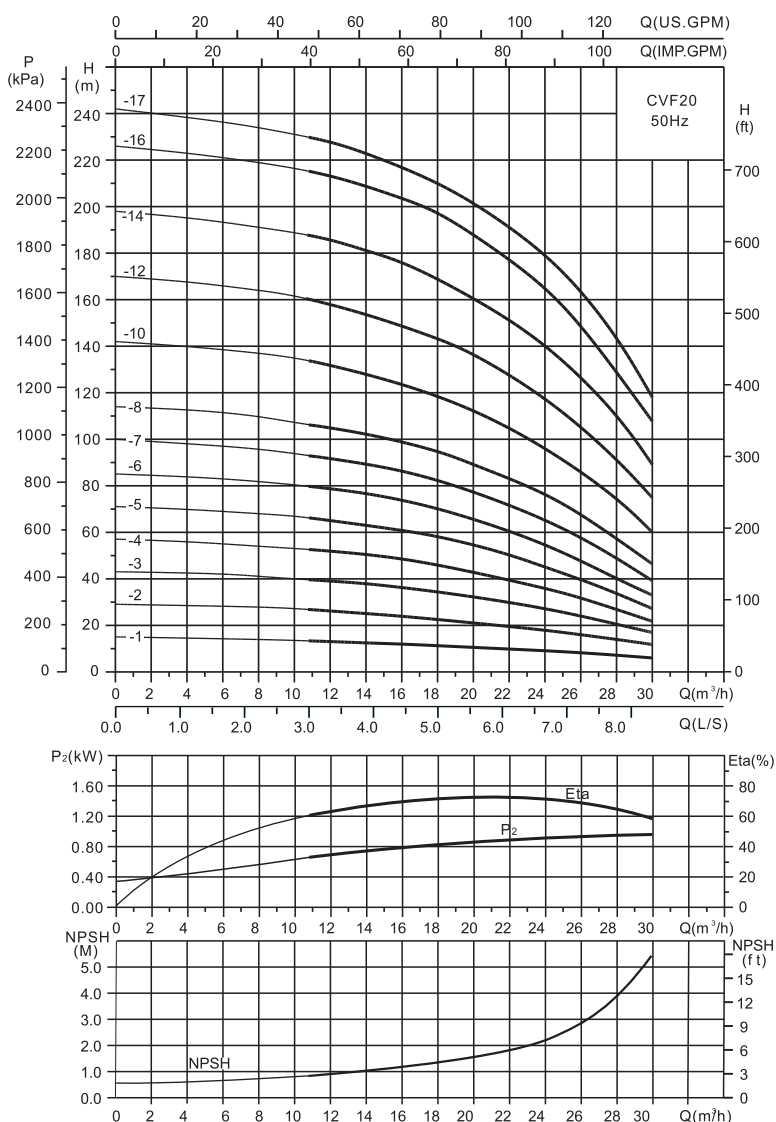


Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF20-1	350	241	591	-	154	111	40
CVF20-2	403	275/293	678/696	-	177	116	45
CVF20-3	468	305	773	300	197	148	55
CVF20-4	534	305	839	300	197	148	80
CVF20-5	579	390	969	300	275	210	83
CVF20-6	624	390	1014	300	275	210	87
CVF20-7	669	390	1059	300	275	210	90
CVF20-8	734	505	1239	350	330	255	130
CVF20-10	824	505	1329	350	330	255	136
CVF20-12	914	505	1419	350	330	255	145
CVF20-14	1004	505	1509	350	330	255	148
CVF20-16	1094	560	1654	350	330	255	168
CVF20-17	1139	560	1699	350	330	255	170

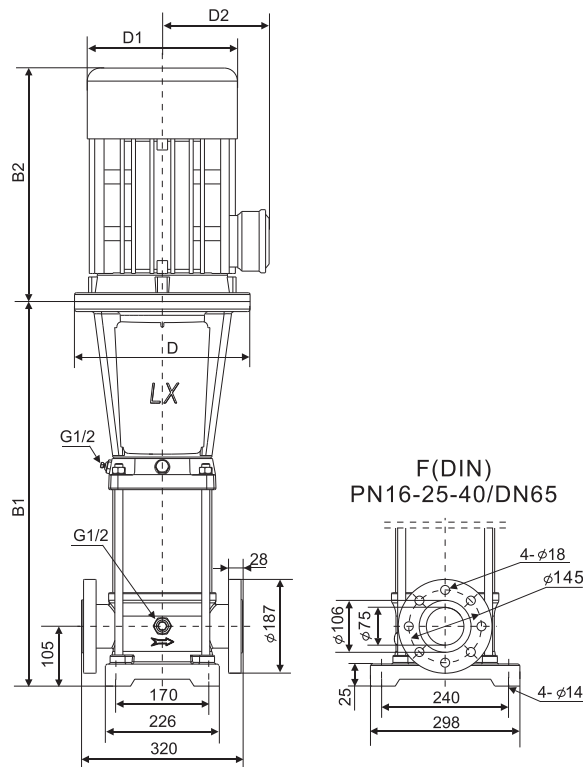
Size and Weight

Performance Curve

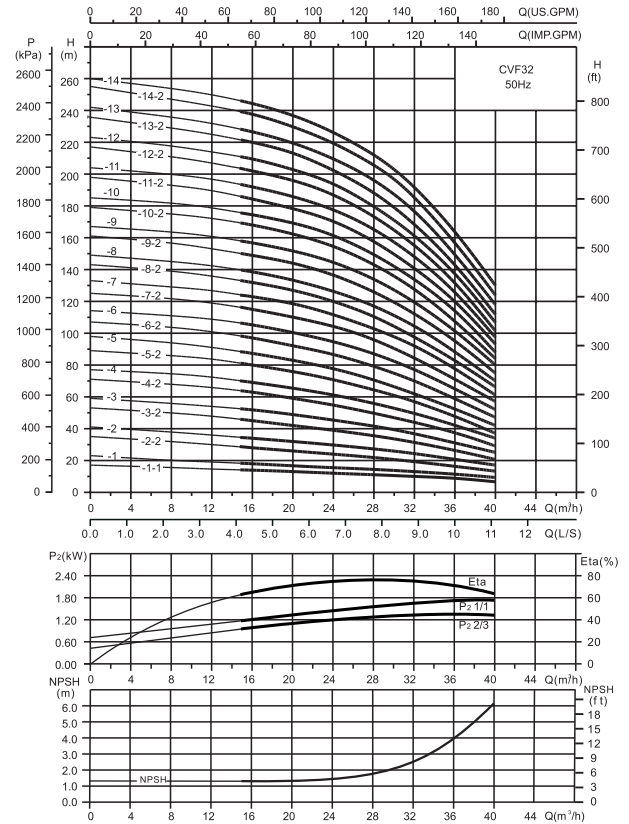
CVF20-50Hz



Installation Sketch



Performance Curve



Size and Weight

Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF32-1-1	455	241/293	696/748	-	154	111	60
CVF32-1	455	275/293	730/748	-	177	116	61
CVF32-2-2	525	293	800	-	177	116	75
CVF32-2	525	305	830	-	197	148	86
CVF32-3-2	595	305	900	-	197	148	105
CVF32-3	620	390	1010	300	275	210	105
CVF32-4-2	690	390	1080	300	275	210	116
CVF32-4	690	390	1080	300	275	210	117
CVF32-5-2	915	505	1420	350	330	255	170
CVF32-5	915	505	1420	350	330	255	171
CVF32-6-2	985	505	1490	350	330	255	176
CVF32-6	985	505	1490	350	330	255	176
CVF32-7-2	1055	505	1560	350	330	255	206
CVF32-7	1055	505	1560	350	330	255	207
CVF32-8-2	1125	505	1630	350	330	255	208
CVF32-8	1125	505	1630	350	330	255	209
CVF32-9-2	1195	560	1750	350	330	255	225
CVF32-9	1195	560	1750	350	330	255	226
CVF32-10-2	1265	560	1820	350	330	255	230
CVF32-10	1265	560	1820	350	330	255	231
CVF32-11-2	1335	590	1925	350	380	280	270
CVF32-11	1335	590	1925	350	380	280	271
CVF32-12-2	1405	590	1995	350	380	280	275
CVF32-12	1405	590	1995	350	380	280	276
CVF32-13-2	1475	660	2135	400	420	305	395
CVF32-13	1475	660	2135	400	420	305	395
CVF32-14-2	1525	660	2185	400	420	305	400
CVF32-14	1525	660	2185	400	420	305	400

Performance Table

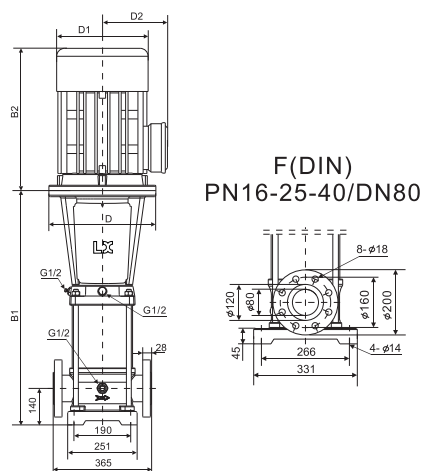
Model	Power P ₂ (kW)	Q (m ³ /h)	12	16	20	24	28	30	32	36	40
CVF32-1-1	1.5	H (m)	14.5	14	13	12	11	10.5	10	9	7
CVF32-1	2.2		19	18	16.5	15.5	14.5	14	13	11.5	9.5
CVF32-2-2	3.0		30	28	26	24	22	21	19	16	14
CVF32-2	4.0		36	34	32	30	27	26	24	21	17
CVF32-3-2	4.0		48	45	42	39	36	34	32	27	21
CVF32-3	5.5		54	52	49	46	42	39	37	31	25
CVF32-4-2	7.5		66	63	59	55	50	47	44	38	29
CVF32-4	7.5		72	69	66	62	56	53	50	42	34
CVF32-5-2	11		84	80	76	71	64	61	57	48	37
CVF32-5	11		91	87	83	78	71	66	62	53	42
CVF32-6-2	11		101	97	92	87	79	75	70	59	47
CVF32-6	11		109	105	101	95	87	83	77	65	52
CVF32-7-2	15		119	115	110	105	96	90	84	71	57
CVF32-7	15		127	123	118	112	103	97	91	78	61
CVF32-8-2	15		136	132	127	120	110	104	97	82	66
CVF32-8	15		143	139	134	126	117	111	104	88	70
CVF32-9-2	18.5		153	149	144	137	126	119	112	95	75
CVF32-9	18.5		161	157	152	145	134	126	119	102	80
CVF32-10-2	18.5		172	168	162	154	143	135	127	108	84
CVF32-10	18.5		179	174	169	162	149	142	134	114	88
CVF32-11-2	22		189	184	178	170	158	149	141	120	93
CVF32-11	22		197	192	186	178	165	157	148	126	97
CVF32-12-2	22		207	202	196	187	174	165	155	132	102
CVF32-12	22		214	210	203	194	180	171	161	137	107
CVF32-13-2	30		225	220	213	203	188	179	169	143	112
CVF32-13	30		232	227	220	210	197	187	177	150	118
CVF32-14-2	30		243	238	230	220	206	197	185	156	124
CVF32-14	30		250	245	237	227	212	203	192	163	130



Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	25	30	35	40	45	50	55
CVF45-1-1	3.0	H (m)	20	19	18	17	15	13	11
CVF45-1	4.0		24	23	22	21	19	18	16
CVF45-2-2	5.5		40	38	36	33	30	27	23
CVF45-2	7.5		48	46	44	42	39	35	31
CVF45-3-2	11		63	61	58	54	50	44	38
CVF45-3	11		72	70	67	63	58	53	45
CVF45-4-2	15		87	84	80	75	69	62	54
CVF45-4	15		98	94	87	84	77	70	61
CVF45-5-2	18.5		113	108	102	96	88	80	69
CVF45-5	18.5		123	118	112	105	97	88	77
CVF45-6-2	22		137	132	125	118	109	98	86
CVF45-6	22		147	141	135	127	118	107	94
CVF45-7-2	30		160	154	147	139	128	116	101
CVF45-7	30		169	164	156	147	136	124	109
CVF45-8-2	30		184	178	169	160	147	132	116
CVF45-8	30		194	189	180	168	155	141	124
CVF45-9-2	30		209	202	193	182	169	152	133
CVF45-9	37		219	212	203	191	177	161	141
CVF45-10-2	37		233	225	215	203	188	170	148
CVF45-10	37		245	236	225	212	196	179	156
CVF45-11-2	45		259	250	239	226	209	191	166
CVF45-11	45		267	259	248	235	217	198	174
CVF45-12-2	45		284	274	263	248	230	209	183
CVF45-12	45		295	286	273	259	239	219	192
CVF45-13-2	45		309	300	286	270	250	227	199

Installation Sketch

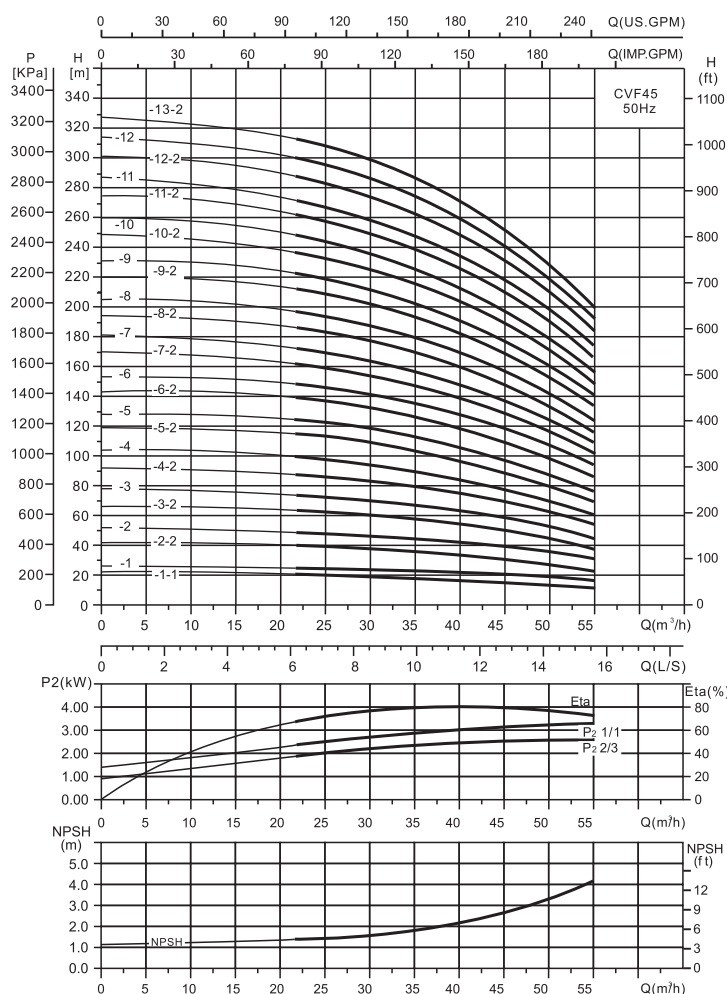


Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF45-1-1	561	293	876	-	197	165	86
CVF45-1	561	315	876	-	260	165	86
CVF45-2-2	641	430	1071	300	260	208	102
CVF45-2	641	430	1071	300	330	208	102
CVF45-3-2	826	490	1316	350	330	255	175
CVF45-3	826	490	1316	350	330	255	175
CVF45-4-2	906	490	1396	350	330	255	187
CVF45-4	906	490	1396	350	330	255	187
CVF45-5-2	986	550	1536	350	330	255	208
CVF45-5	986	550	1536	350	330	255	208
CVF45-6-2	1066	590	1656	350	360	285	251
CVF45-6	1066	590	1656	350	360	285	251
CVF45-7-2	1146	660	1806	400	420	310	315
CVF45-7	1146	660	1806	400	420	310	315
CVF45-8-2	1226	660	1886	400	420	310	319
CVF45-8	1226	660	1886	400	420	310	319
CVF45-9-2	1306	660	1966	400	420	310	323
CVF45-9	1306	660	1966	400	420	310	323
CVF45-10-2	1386	660	2046	400	420	310	347
CVF45-10	1386	660	2046	400	420	310	347
CVF45-11-2	1466	700	2166	450	470	345	413
CVF45-11	1466	700	2166	450	470	345	413
CVF45-12-2	1546	700	2246	450	470	345	417
CVF45-12	1546	700	2246	450	470	345	417
CVF45-13-2	1626	700	2326	450	470	345	421

Size and Weight

Performance Curve

CVF45-50Hz



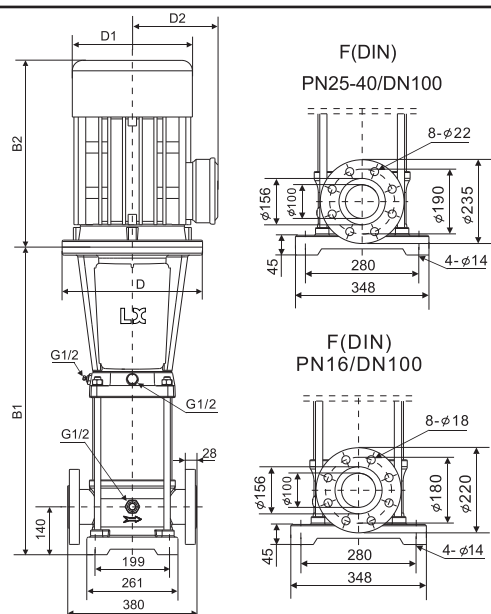


Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	50	60	70	80	85	90	100	110
CVF90-1-1	5.5	H (m)	22	20	18	16	15	13	10	6
CVF90-1	7.5		30	27	25	23	21	19	15	11
CVF90-2-2	11		41	39	36	32	30	28	22	15
CVF90-2	15		56	53	49	45	43	40	35	30
CVF90-3-2	18.5		68	65	60	55	52	49	41	33
CVF90-3	22		83	79	73	67	64	61	54	47
CVF90-4-2	30		98	93	87	80	76	72	62	50
CVF90-4	30		110	105	100	92	88	84	75	65
CVF90-5-2	37		126	120	113	105	100	95	83	68
CVF90-5	37		140	133	126	117	113	107	95	83
CVF90-6-2	45		155	148	139	129	124	118	104	87
CVF90-6	45		168	160	151	141	135	130	117	103

Installation Sketch

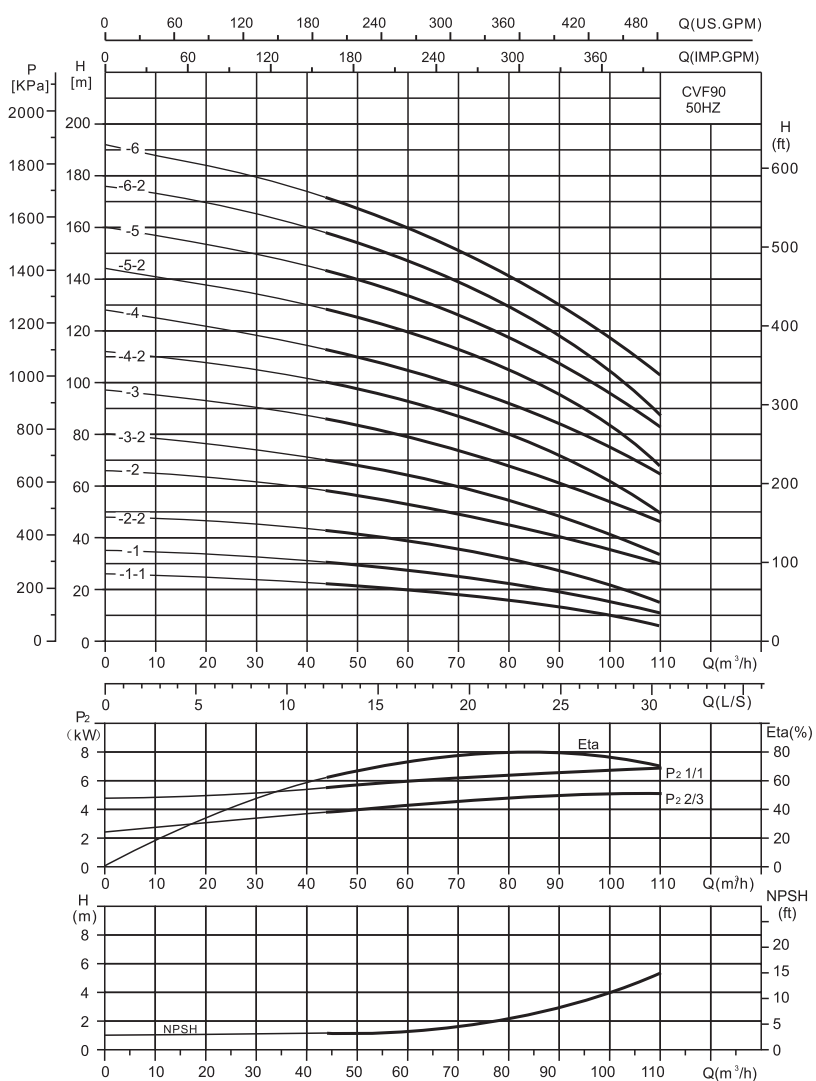
Size and Weight



Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF90-1-1	571	430	1001	300	260	208	120
CVF90-1	571	430	1001	300	260	208	122
CVF90-2-2	773	490	1263	350	330	255	165
CVF90-2	773	490	1263	350	330	255	198
CVF90-3-2	865	550	1415	350	330	255	212
CVF90-3	865	590	1455	350	360	285	265
CVF90-4-2	957	660	1617	400	420	310	348
CVF90-4	957	660	1617	400	420	310	348
CVF90-5-2	1049	660	1709	400	420	310	375
CVF90-5	1049	660	1709	400	420	310	375
CVF90-6-2	1141	700	1841	450	470	345	438
CVF90-6	1141	700	1841	450	470	345	438

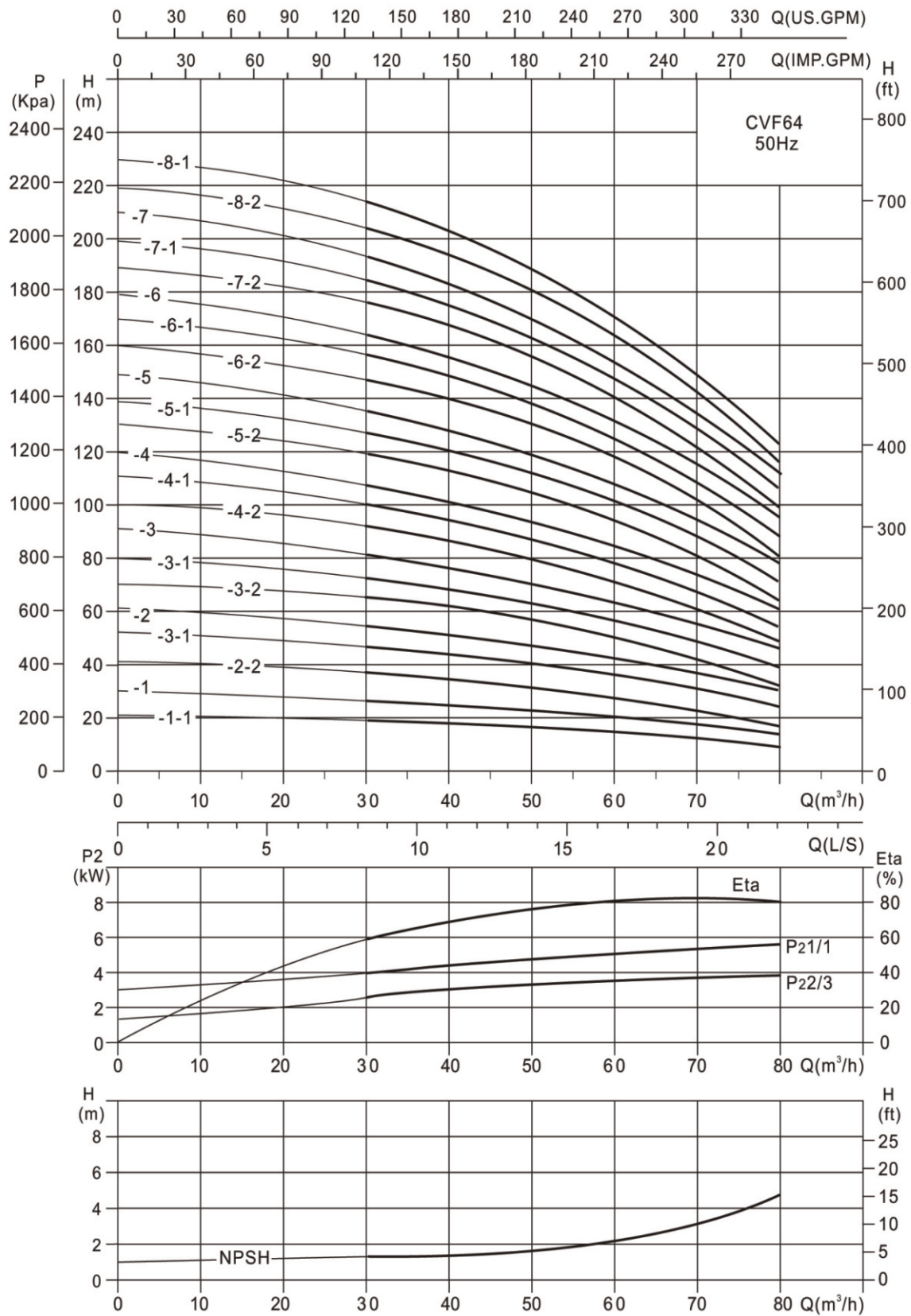
Performance Curve

CVF90-50Hz



Performance Curve

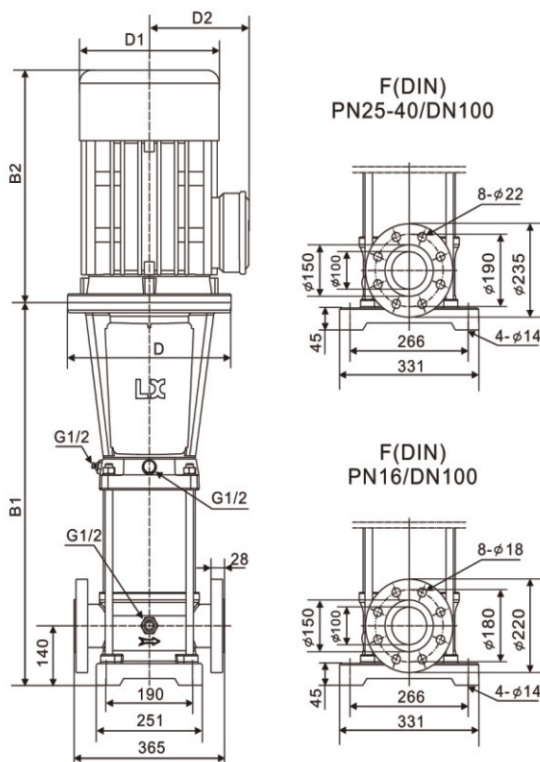
CVF64-50Hz



Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	30	40	50	60	64	70	80
CVF64-1-1	4.0	H (m)	19	18	16	14	13	11.5	9
CVF64-1	5.5		27	25	23	20	19	17	14
CVF64-2-2	7.5		37	35	32	28	26	23	17
CVF64-2-1	11		47	44	40	36	34	30	24
CVF64-2	11		55	51	47	42	40	37	30
CVF64-3-2	15		66	62	56	50	46	41	32
CVF64-3-1	15		73	69	63	56	53	48	39
CVF64-3	18.5		81	76	70	64	60	55	46
CVF64-4-2	18.5		92	87	80	71	66	60	49
CVF64-4-1	22		100	94	87	78	73	67	54
CVF64-4	22		107	101	94	85	80	74	61
CVF64-5-2	30		119	113	105	95	89	80	64
CVF64-5-1	30		128	121	112	102	96	87	71
CVF64-5	30		136	129	119	109	103	94	78
CVF64-6-2	30		147	140	130	118	112	101	81
CVF64-6-1	37		157	149	138	125	118	108	88
CVF64-6	37		164	156	145	132	125	115	95
CVF64-7-2	37		176	167	156	140	133	121	99
CVF64-7-1	37		185	176	163	147	140	128	106
CVF64-7	45		193	183	170	155	147	135	112
CVF64-8-2	45		204	194	181	164	155	142	116
CVF64-8-1	45		214	203	189	170	162	149	123

Installation Sketch

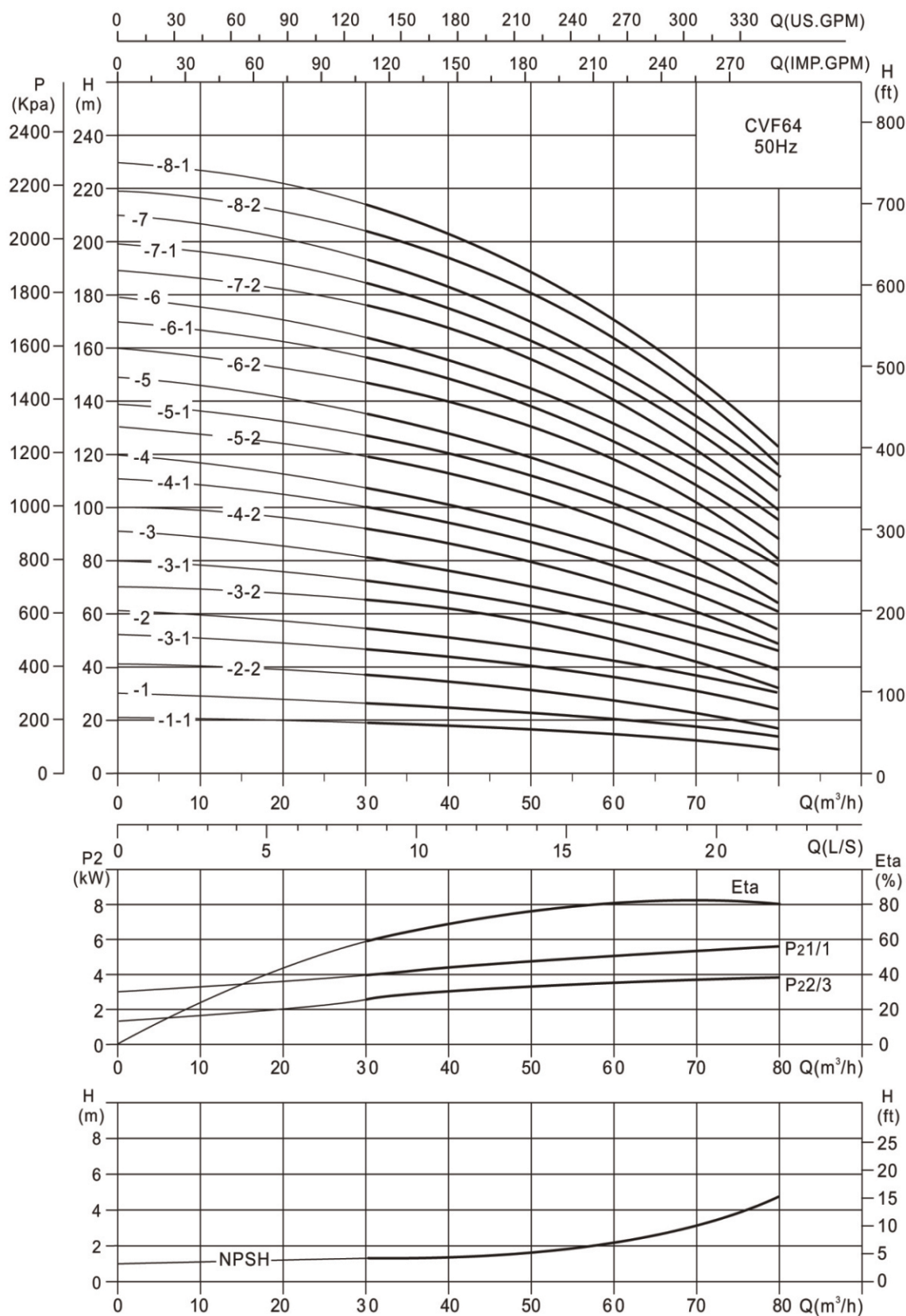


Size and Weight

Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF64-1-1	561	335	896	-	230	188	105
CVF64-1	561	430	991	300	260	208	110
CVF64-2-2	644	430	1074	300	260	208	120
CVF64-2-1	754	490	1244	350	330	255	155
CVF64-2	754	490	1244	350	330	255	155
CVF64-3-2	836	490	1326	350	330	255	195
CVF64-3-1	836	490	1326	350	330	255	195
CVF64-3	836	550	1386	350	330	255	205
CVF64-4-2	919	550	1469	350	330	255	208
CVF64-4-1	919	590	1509	350	360	285	260
CVF64-4	919	590	1509	350	360	285	260
CVF64-5-2	1001	660	1661	400	420	310	345
CVF64-5-1	1001	660	1661	400	420	310	345
CVF64-5	1001	660	1661	400	420	310	345
CVF64-6-2	1084	660	1744	400	420	310	350
CVF64-6-1	1084	660	1744	400	420	310	370
CVF64-6	1084	660	1744	400	420	310	370
CVF64-7-2	1166	660	1826	400	420	310	375
CVF64-7-1	1166	660	1826	400	420	310	375
CVF64-7	1166	700	1866	450	420	310	435
CVF64-8-2	1248	700	1948	450	470	345	440
CVF64-8-1	1248	700	1948	450	470	345	440

Performance Curve

CVF64-50Hz



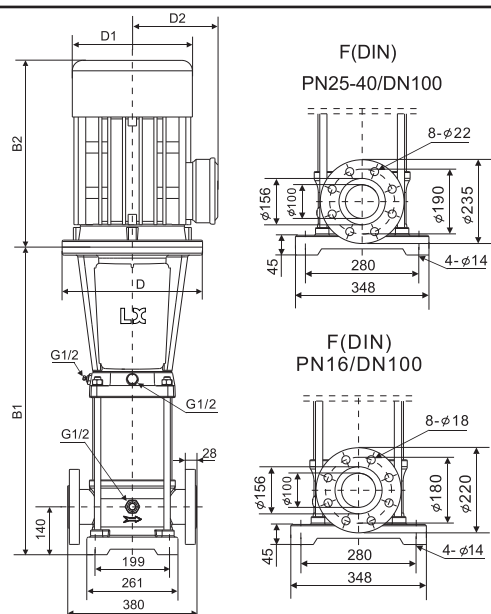


Performance Table

Model	Power P ₂ (kW)	Q (m ³ /h)	50	60	70	80	85	90	100	110
CVF90-1-1	5.5	H (m)	22	20	18	16	15	13	10	6
CVF90-1	7.5		30	27	25	23	21	19	15	11
CVF90-2-2	11		41	39	36	32	30	28	22	15
CVF90-2	15		56	53	49	45	43	40	35	30
CVF90-3-2	18.5		68	65	60	55	52	49	41	33
CVF90-3	22		83	79	73	67	64	61	54	47
CVF90-4-2	30		98	93	87	80	76	72	62	50
CVF90-4	30		110	105	100	92	88	84	75	65
CVF90-5-2	37		126	120	113	105	100	95	83	68
CVF90-5	37		140	133	126	117	113	107	95	83
CVF90-6-2	45		155	148	139	129	124	118	104	87
CVF90-6	45		168	160	151	141	135	130	117	103

Installation Sketch

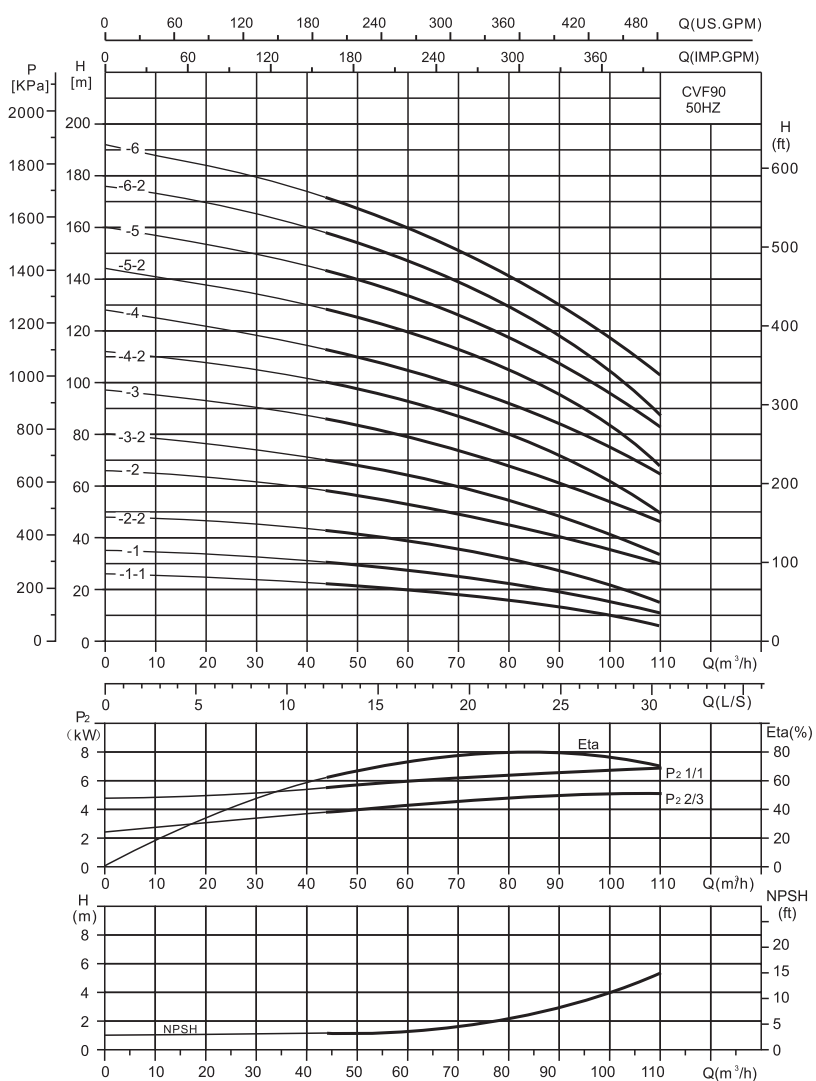
Size and Weight



Model	Size(mm)						Weight (kg)
	B1	B2	B1+B2	D	D1	D2	
CVF90-1-1	571	430	1001	300	260	208	120
CVF90-1	571	430	1001	300	260	208	122
CVF90-2-2	773	490	1263	350	330	255	165
CVF90-2	773	490	1263	350	330	255	198
CVF90-3-2	865	550	1415	350	330	255	212
CVF90-3	865	590	1455	350	360	285	265
CVF90-4-2	957	660	1617	400	420	310	348
CVF90-4	957	660	1617	400	420	310	348
CVF90-5-2	1049	660	1709	400	420	310	375
CVF90-5	1049	660	1709	400	420	310	375
CVF90-6-2	1141	700	1841	450	470	345	438
CVF90-6	1141	700	1841	450	470	345	438

Performance Curve

CVF90-50Hz







OFFICES :

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