



**EBARA**

Certified System  
Quality ISO 9001  
SAI GLOBAL  
Lic. No. QE C22090

UN10CT-R1

# **EBARA PRESSURE BOOSTER UNIT UN Type**



## APPLICATION

1. Domestic : High-rise buildings, Condominiums, Apartments etc.
2. Commercial : Office buildings, Hotels, Shopping centres etc.
3. Industrial : High-rise factories, Manufacturing & processing industries applications etc.
4. Social service : Schools, Hospitals etc.

## FEATURES

1. Featuring of variable speed control  
Variable speed drives are used since they can adjust the motor's power to fit specific need, resulting in reduced energy consumption and in increased saving
2. Constant estimated terminal pressure control  
The controller provides CETP (Constant Estimated Terminal Pressure) control that adjusts pump discharge pressure in relation to pressure loss caused by pipe resistance according to water flow. Thus, it can hold down electric power consumption compared to constant discharge pressure control with variable speed operation.
3. Stable water supply  
Pumps are in parallel operation for high demand and in the event of pump/inverter fault, the controller automatically activates another pump to assure water supply without stopping system operation.
4. Compact layout  
Layout is very compact. All components are integrated on a rugged steel base. It is ready for use by only connecting with supply piping and to the power source. It occupies lesser space and requires easier installation than conventional units.
5. Extend the life of pump  
Pumps are operation in automatic alternate parallel to extend the life of the pumps.
6. Simple and compact inner control panel  
Simple wiring by using RS485 digital communication can reduce control panel dimension to be a compact design.

## GENERAL SPECIFICATION

Description		Standard		Optional		
		Multi Inverter	Single Inverter	Multi Inverter	Single Inverter	
Liquid handled property		Fresh water, 0 – 40 °C				
Max. Working Pressure		10 bar (10.2 kgf/cm <sup>2</sup> )		16 bar (16.3 kgf/cm <sup>2</sup> )		
Allowable suction head		Minimum : -0.3 bar				
Pump model		CDX, 2CDX, 3S and FSA-2 pole		EVM, 3M, CNA, FSA-4 pole		
Pump Material	CDX, 2CDX, 3S	casing, impeller, casing cover and shaft are AISI 304				
	FSA	Casing (Cast iron), impeller (Bronze), shaft (SUS 403)				
Operating System	Pump speed	Variable speed				
	Pressure Control	Estimated Terminal Constant Pressure				
	Number of pump	2~3 pumps		up to 4 pumps	up to 6 pumps	
	Mode	Parallel alternate, Auto skip operation when the current pump trip, Auto restart after power recovery				
Pressure tank	Construction	Air pre-charged diaphragm type				
	Capacity	18 ~ 60 litres		Up to 1000 litres		
	Max. Pressure	10 bar (10.2 kgf/cm <sup>2</sup> )		16 bar (16.3 kgf/cm <sup>2</sup> )		
Pressure detection		Pressure transmitter 24VDC, 4 – 20mA				
Power source		AC, 3 phase, 50 Hz, 380/400/415 V				
Rated power		0.75 ~ 15 kW		up to 75 kW		
Control Panel	Controller	Ebara step 4 Controller		PLC type		
	Internal Communication	Digital		Analogue		
	Operation key	Touch panel key type		Touch screen type		
	Motor protection	Inverter (electro thermal)				
	Normal Indication	Through indicators: Power sources, Pump run, abnormal (batch) Display include: discharge pressure, Voltage, Operating current, Operating frequency, number of start time, Alarm log.				
	Failure display	Low water level, Low discharge pressure, Pressure transmitter abnormal, motor over load, Inverter trouble.				
	Starting method	Inverter drive	Inverter &		Inverter drive	Inverter &
			DOL for < 5.5kW			DOL for < 5.5kW
			Y-Δ for > 5.5kW			Y-Δ for > 5.5kW
Installation		Indoor		Outdoor		
Construction		Steel sheet, Double door, Dust proof type, Powder coating colour RAL 7032				

## ■ DETAIL SPECIFICATION

### 1. MODEL UN2S/M - CDX 2 CDX and 3S

Model	Suction size (mm)	Discharge size (mm)	Motor output (kW)	Phase & Voltage	Standard Duty		Discharge pressure selection range (m)	Pressure Tank Size (Litres)
					Flow rate (L/min)	Total Head (m)		
UN2-CDX120/12	G1¼"	50	0.9 x 2	3 Phase, 380V	320	19	19 ~ 30	18
UN2-CDX120/20			1.5 x 2		320	28	28 ~ 39	18
UN2-2CDX120/20			1.5 x 2		300	36	36 ~ 54	18
UN2-2CDX120/30			2.2 x 2		300	44	44 ~ 60	18
UN2-CDX200/20	G1½"	50	1.5 x 2	3 Phase, 380V	500	21	21 ~ 26	18
UN2-CDX200/25			1.85 x 2		500	26	26 ~ 33	18
UN2-2CDX200/30			2.2 x 2		420	38	38 ~ 44	18
UN2-2CDX200/40			3.0 x 2		420	48	48 ~ 65	18
UN2-2CDX200/50			3.7 x 2		420	55	55 ~ 72	18
UN2-3S32-160/2.2	50	50	2.2 x 2	3 Phase, 380V	670	22	22 ~ 32	18
UN2-3S32-200/3.0			3.0 x 2		670	26	26 ~ 36	18
UN2-3S32-200/4.0			4.0 x 2		670	38	38 ~ 50	18
UN2-3S32-200/5.5			5.5 x 2		670	54	54 ~ 69	18
UN2-3S40-160/3.0	65	65	3.0 x 2	3 Phase, 380V	1350	10	10 ~ 27	18
UN2-3S40-160/4.0			4.0 x 2		1400	14	14 ~ 34	18
UN2-3S40-200/7.5			7.5 x 2		1400	33	33 ~ 54	18
UN2-3S40-200/11			11.0 x 2		1400	46	46 ~ 71	18

### 2. MODEL UN2S/M - FSA

Model	Suction size (mm)	Discharge size (mm)	Motor output (kW)	Phase & Voltage	Standard Duty		Discharge pressure selection range (m)	Pressure Tank Size (Litres)
					Flow rate (L/min)	Total Head (m)		
UN2-50x40 FS2HA52.2	50	65	2.2 x 2	3 Phase, 380V	650	20	20 ~ 31	18
UN2-50x40 FS2HA53.7			3.7 x 2		750	30	30 ~ 44	18
UN2-50x40 FS2HA55.5			5.5 x 2		800	39	39 ~ 56	18
UN2-65X50 FS2HA53.7	65	80	3.7 x 2	3 Phase, 380V	1150	20	20 ~ 29	18
UN2-65X50 FS2HA55.5			5.5 x 2		1300	26	26 ~ 37	18
UN2-65X50 FS2HA57.5			7.5 x 2		1400	36	36 ~ 55	18
UN2-65X50 FS2JA511			11 x 2		1400	45	45 ~ 74	18
UN2-65x50 FS2JA515			15 x 2		1400	60	60 ~ 85	18
UN2-80x65 FS2GA55.5	80	100	5.5 x 2	3 Phase, 380V	2250	20	20 ~ 29	60
UN2-80X65 FS2GA57.5			7.5 x 2		2500	24	24 ~ 34	60
UN2-80x65 FS2HA511			11 x 2		2600	32	32 ~ 49	60
UN2-80X65 FS2HA515			15 x 2		2750	40	40 ~ 57	60

#### Note :

1. Capacity for Single Operation is 1/2 for parallel operation.

### 3. MODEL UN3S/M - CDX 2 CDX and 3S

Model	Suction size (mm)	Discharge size (mm)	Motor output (kW)	Phase & Voltage	Standard Duty		Discharge pressure selection range (m)	Pressure Tank Size (Litres)
					Flow rate (L/min)	Total Head (m)		
UN3-CDX120/12	G1¼"	65	0.9 x 3	3 Phase, 380V	480	19	19 ~ 31	18
UN3-CDX120/20			1.5 x 3		480	28	28 ~ 39	18
UN3-2CDX120/20			1.5 x 3		450	36	36 ~ 54	18
UN3-2CDX120/30			2.2 x 3		450	44	44 ~ 60	18
UN3-CDX200/20	G1½"	65	1.5 x 3	3 Phase, 380V	750	21	21 ~ 26	18
UN3-CDX200/25			1.85 x 3		750	26	26 ~ 33	18
UN3-2CDX200/30			2.2 x 3		630	38	38 ~ 44	18
UN3-2CDX200/40			3.0 x 3		630	48	48 ~ 65	18
UN3-2CDX200/50			3.7 x 3		630	55	55 ~ 70	18
UN3-3S32-160/2.2	50	65	2.2 x 3	3 Phase, 380V	1000	23	22 ~ 31	18
UN3-3S32-200/3.0			3.0 x 3		1000	26	26 ~ 36	18
UN3-3S32-200/4.0			4.0 x 3		1000	39	38 ~ 50	18
UN3-3S32-200/5.5			5.5 x 3		1000	55	54 ~ 68	18
UN3-3S40-160/3.0	65	80	3.0 x 3	3 Phase, 380V	2000	10	10 ~ 26	18
UN3-3S40-160/4.0			4.0 x 3		2100	14	14 ~ 33	18
UN3-3S40-200/7.5			7.5 x 3		2100	34	33 ~ 54	18
UN3-3S40-200/11			11.0 x 3		2100	46	46 ~ 70	18

### 4. MODEL UN3S/M - FSA

Model	Suction size (mm)	Discharge size (mm)	Motor output (kW)	Phase & Voltage	Standard Duty		Discharge pressure selection range (m)	Pressure Tank Size (Litres)
					Flow rate (L/min)	Total Head (m)		
UN3-50x40 FS2HA52.2	50	80	2.2 x 3	3 Phase, 380V	900	23	20 ~ 31	18
UN3-50x40 FS2HA53.7			3.7 x 3		1000	35	30 ~ 44	18
UN3-50x40 FS2HA55.5			5.5 x 3		1000	47	39 ~ 56	18
UN3-65X50 FS2HA53.7	65	80	3.7 x 3	3 Phase, 380V	1800	20	20 ~ 29	18
UN3-65X50 FS2HA55.5			5.5 x 3		1950	26	26 ~ 37	18
UN3-65X50 FS2HA57.5			7.5 x 3		1950	38	36 ~ 55	18
UN3-65X50 FS2JA511			11 x 3		1950	55	45 ~ 74	18
UN3-65x50 FS2JA515			15 x 3		1950	70	60 ~ 85	18
UN3-80x65 FS2GA55.5	80	100	5.5 x 3	3 Phase, 380V	3200	20	20 ~ 29	60
UN3-80X65 FS2GA57.5			7.5 x 3		3300	25	24 ~ 34	60
UN3-80x65 FS2HA511			11 x 3		3300	35	32 ~ 49	60
UN3-80X65 FS2HA515			15 x 3		3300	46	40 ~ 57	60

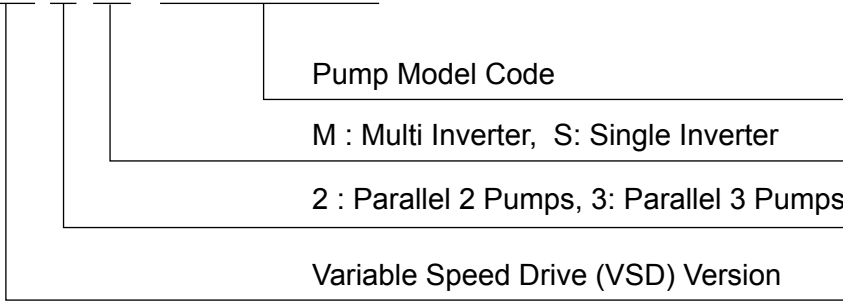
Note :

2. Capacity for Single Operation is 1/3 for parallel operation.

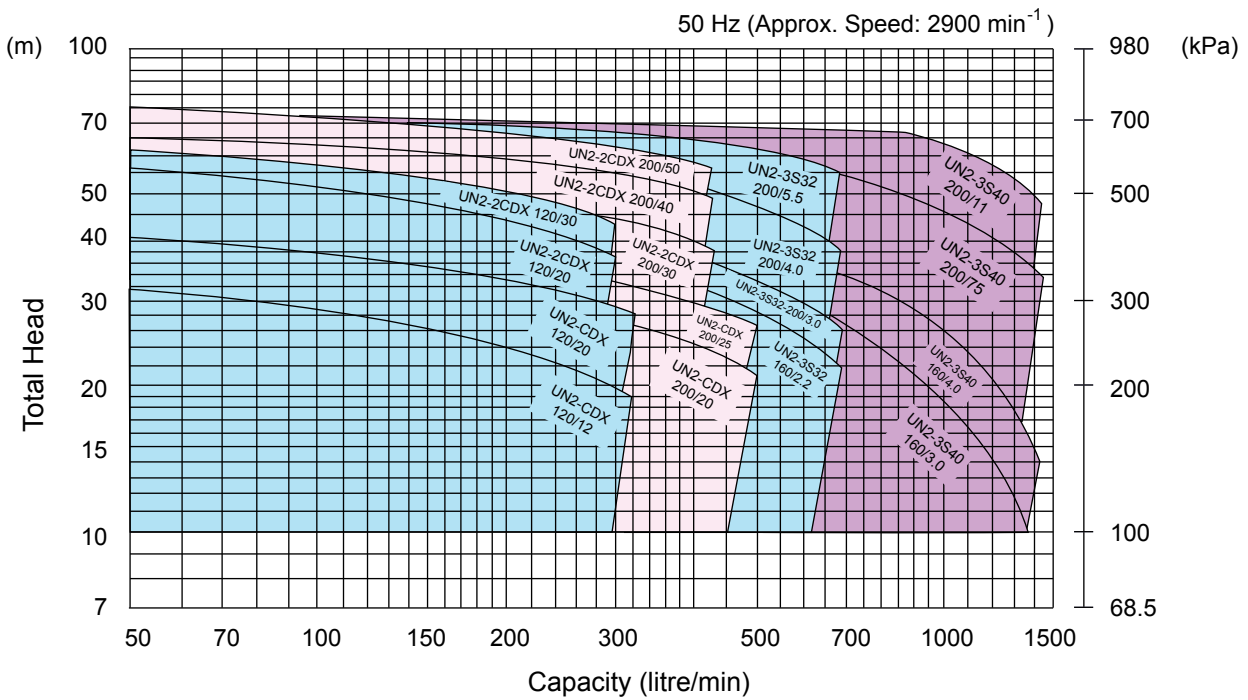
# MODEL CODE AND SELECTION CHART

## Model Code

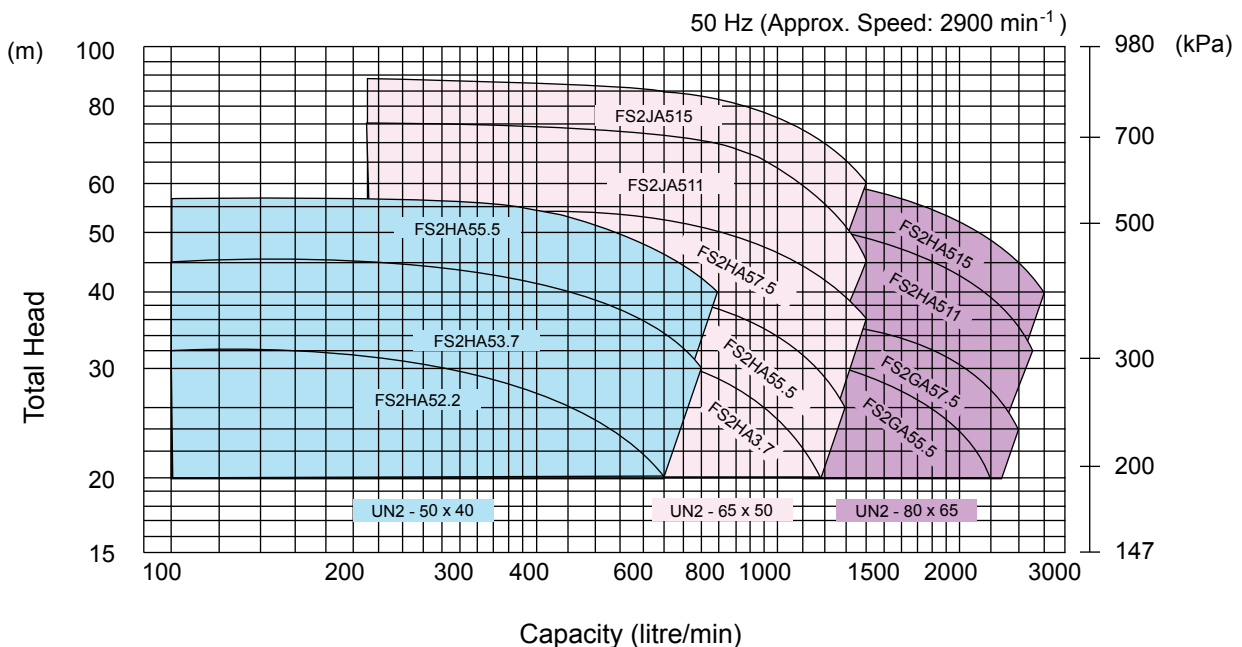
UN 2 M-2CDX 200/30



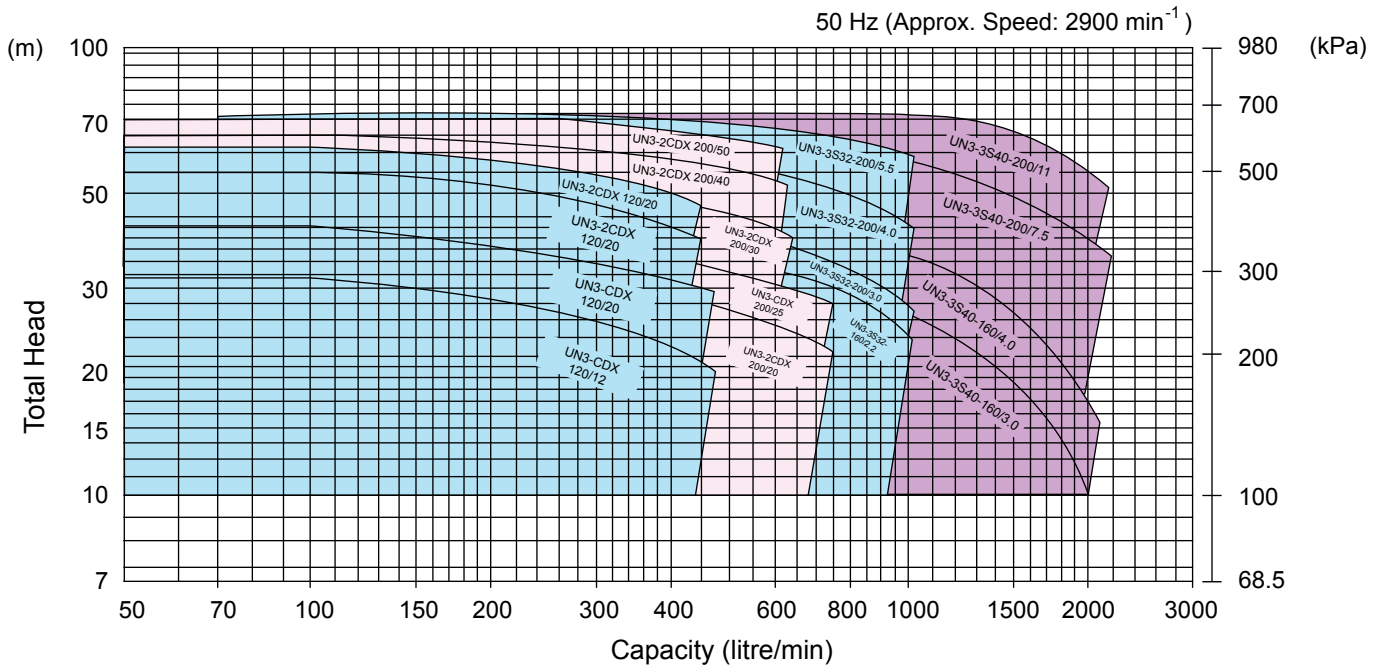
## Selection Chart Model UN2M/S - CDX, 2CDX and 3S Pump



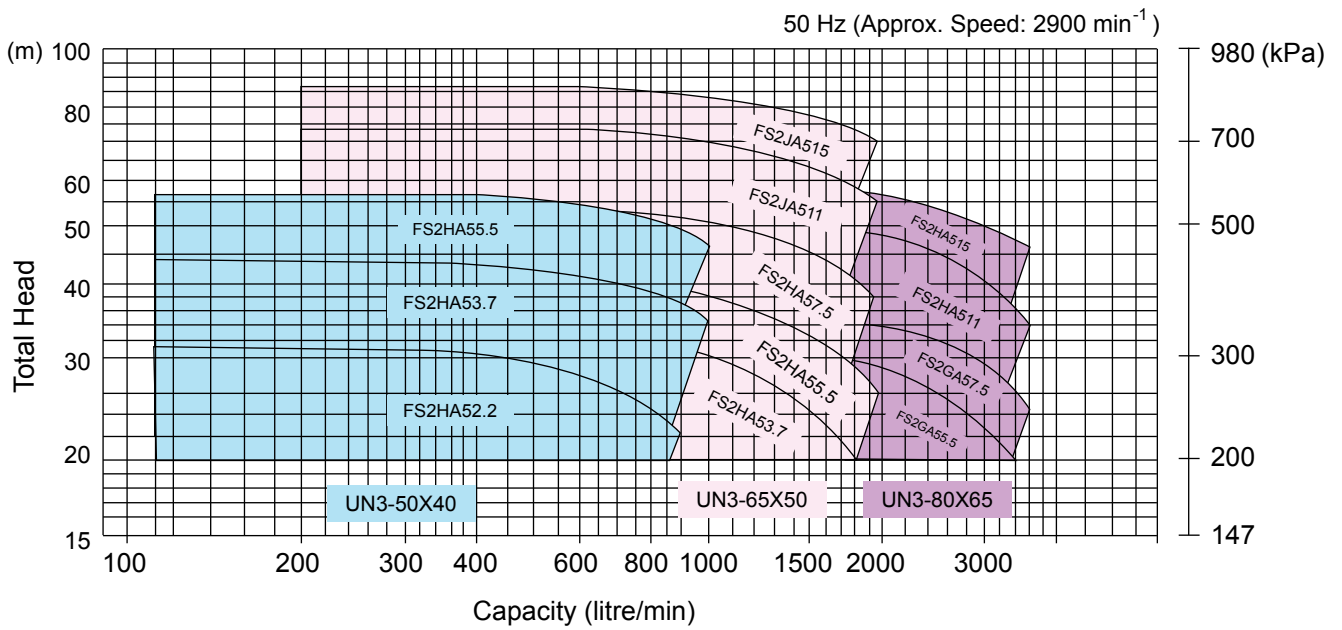
## Selection Chart Model UN2M/S - FSA Pump



● Selection Chart Model UN3M/S - CDX, 2CDX and 3S Pump



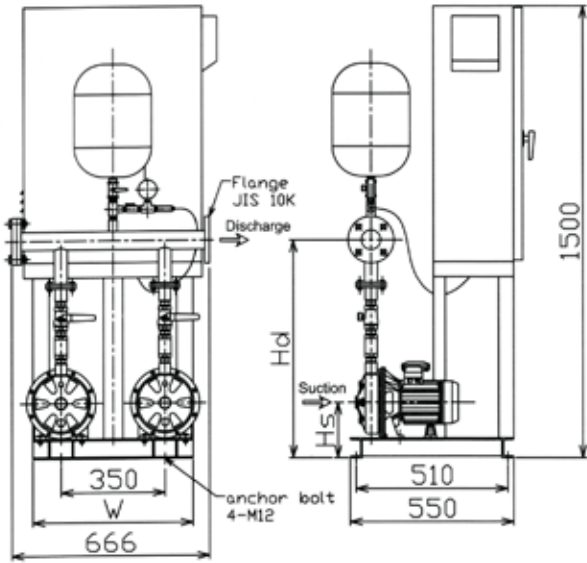
● Selection Chart Model UN3M/S - FSA Pump





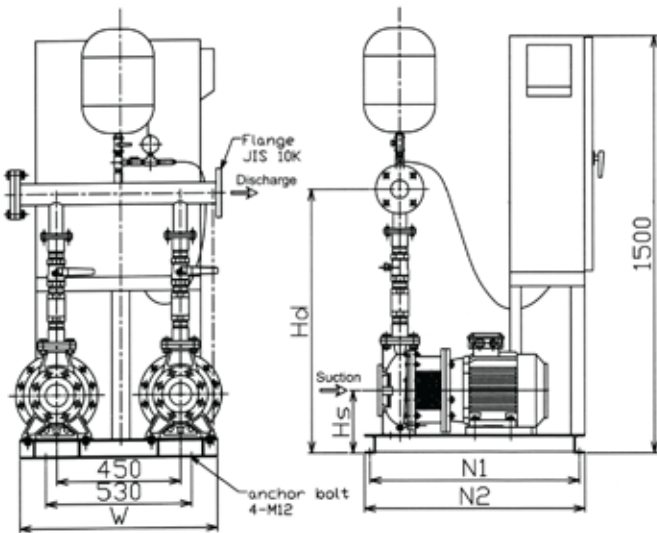
# ■ DIMENSION

## 1. MODEL UN2S/M - CDX 2CDX



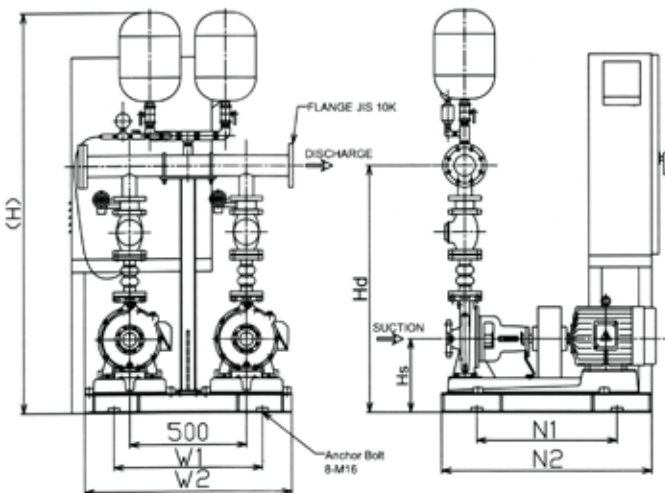
Model	Unit (mm)			Approx. weigh (kg)
	Hs	Hd	W	
UN2S/M-CDX120/12	171	702	540	85
UN2S/M-CDX120/20	183	723		93
UN2S/M-2CDX120/20	171	702	540	94
UN2S/M-2CDX120/30	183	723		107
UN2S/M-CDX200/20	171	702	540	89
UN2S/M-CDX200/25	183	723		99
UN2S/M-2CDX200/30	171	702	540	110
UN2S/M-2CDX200/40	183	723		110
UN2S/M-2CDX200/50	183	723	570	126

## 2. MODEL UN2S/M - 3S

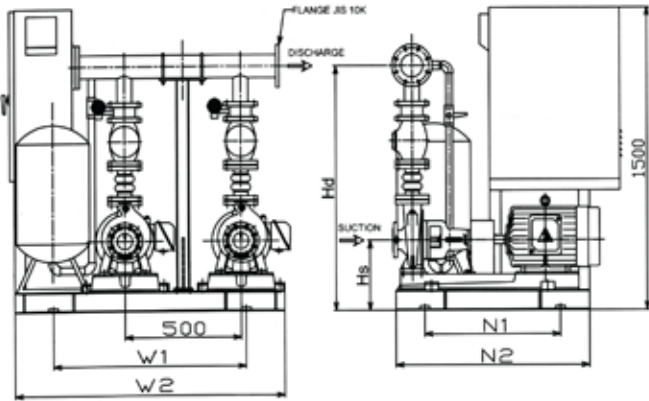


Model	Unit (mm)					Approx. weigh (kg)
	Hs	Hd	W	N1	N2	
UN2S-3S32-160/2.2	197	897	680	760	800	132
UN2S-3S32-200/3.0	225	945	680	760	800	144
UN2S-3S32-200/4.0	225	945	680	760	800	153
UN2S-3S32-200/5.5	225	945	680	760	800	179
UN2S-3S40-160/3.0	197	897	680	760	800	152
UN2S-3S40-160/4.0	197	897	680	760	800	161
UN2S-3S40-200/7.5	225	945	720	760	800	191
UN2S-3S40-200/11	267	987	770	800	1000	226

## 3. MODEL UN2S/M - FSA

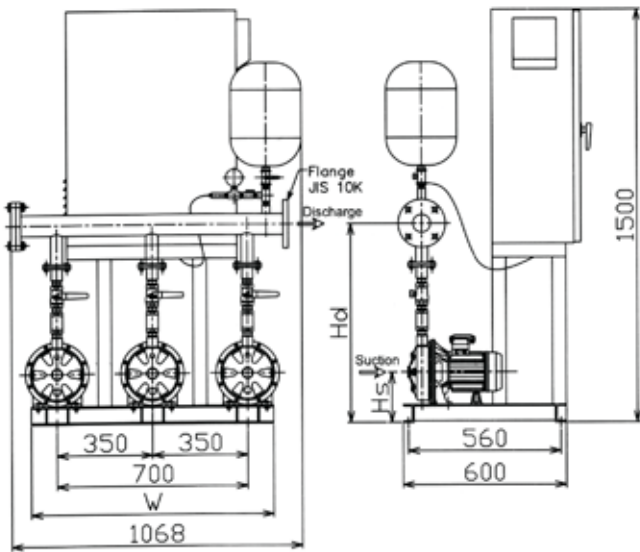


Model	Unit (mm)						Approx. weigh (kg)
	Hs	Hd	W1	W2	N1	N2	
UN2S-50x40 FS2HA52.2	295	1025	635	885	600	850	313
UN2S-50x40 FS2HA53.7	295	1025	635	885	600	850	343
UN2S-50x40 FS2HA55.5	310	1040	635	885	700	950	405
UN2S-65x50 FS2HA53.7	295	1040	645	895	600	850	353
UN2S-65x50 FS2HA55.5	310	1065	645	895	700	950	425
UN2S-65x50 FS2HA57.5	310	1065	645	895	700	950	435
UN2S-65x50 FS2JA511	350	1150	690	940	800	1100	622
UN2S-65x50 FS2JA515	350	1150	690	940	800	1100	650



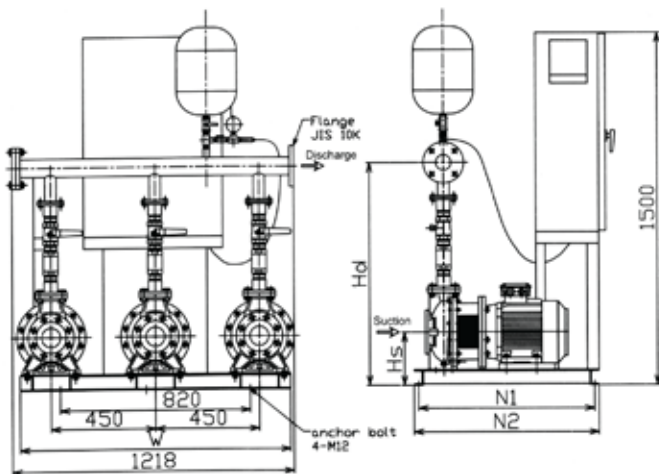
Model	Unit (mm)						Approx. weigh (kg)
	Hs	Hd	W1	W2	N1	N2	
UN2S-80x65 FS2GA55.5	330	1135	1150	1450	600	900	436
UN2S-80x65 FS2GA57.5	330	1135	1150	1450	600	900	443
UN2S-80x65 FS2HA511	350	1175	1150	1450	700	1000	632
UN2S-80x65 FS2HA515	350	1175	1150	1450	600	1000	662

#### 4. MODEL UN3S/M - CDX 2CDX



Model	Unit (mm)			Approx. weigh (kg)
	Hs	Hd	W	
UN3S-CDX120/12	171	702	890	106
UN3S-CDX120/20	183	723		116
UN3S-2CDX120/20	171	702	890	118
UN3S-2CDX120/30	183	723		133
UN3S-CDX200/20	171	702	890	111
UN3S-CDX200/25	183	723		118
UN3S-2CDX200/30	171	702	890	138
UN3S-2CDX200/40	183	723		138
UN3S-2CDX200/50	183	723	920	157

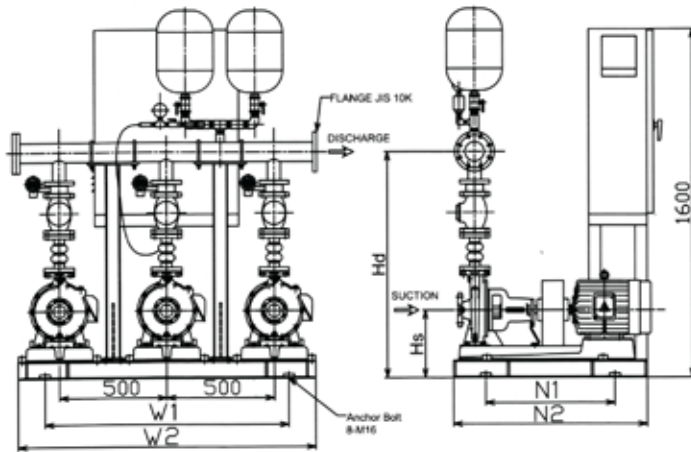
#### 5. MODEL UN2S/M - FSA



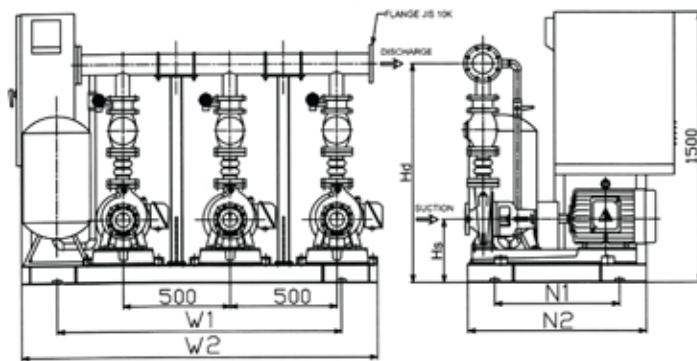
Model	Unit (mm)					Approx. weigh (kg)
	Hs	Hd	W	N1	N2	
UN3S-3S32-160/2.2	197	897	1130	760	800	164
UN3S-3S32-200/3.0	225	945	1130	760	800	179
UN3S-3S32-200/4.0	225	945	1130	760	800	191
UN3S-3S32-200/5.5	225	945	1130	760	800	224
UN3S-3S40-160/3.0	197	897	1130	760	800	190
UN3S-3S40-160/4.0	197	897	1130	760	800	201
UN3S-3S40-200/7.5	225	945	1170	760	800	239
UN3S-3S40-200/11	267	987	1220	800	1000	282



## 6. MODEL UN3S/M - FSA



Model	Unit (mm)						Approx. weigh (kg)
	Hs	Hd	W1	W2	N1	N2	
UN3S-50x40 FS2HA52.2	295	1025	635	1385	600	850	391
UN3S-50x40 FS2HA53.7	295	1025	635	1385	600	850	179
UN3S-50x40 FS2HA55.5	310	1040	635	1385	700	950	506
UN3S-65x50 FS2HA53.7	295	1040	645	895	600	850	441
UN3S-65x50 FS2HA55.5	310	1065	645	895	700	950	531
UN3S-65x50 FS2HA57.5	310	1065	645	895	700	950	544
UN3S-65x50 FS2JA511	350	1150	690	940	800	1100	778
UN3S-65x50 FS2JA515	350	1150	690	940	800	1100	813



Model	Unit (mm)						Approx. weigh (kg)
	Hs	Hd	W1	W2	N1	N2	
UN2S-80x65 FS2GA55.5	330	1135	1645	1995	600	900	545
UN2S-80x65 FS2GA57.5	330	1135	1645	1995	600	900	554
UN2S-80x65 FS2HA511	350	1175	1645	1995	700	1000	790
UN2S-80x65 FS2HA515	350	1175	1645	1995	600	1000	828



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