



EBARA

EBARA CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL UD3



CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL : UD3

APPLICATIONS

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

FEATURES

1. *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.
2. Layout is *very compact* and *much lighter* than conventional units, It occupies *lesser space* and requires *easier installation* than conventional units.
3. The flow control system which *prevents frequent start and stop* of pumps, requires only small hydro-pneumatic pressure tank and ensures *constant fresh water supply*.
4. Pumps are in parallel operation for high demand and alternating in low demand, suitable for *energy-saving*.
5. *Various options are available* on request.

Pressure tank

Air pre-charged diaphragm construction.
High reliability and suitable for portable water.

Control panel

Controls pumps operation from pressure sensor (or pressure switch) and flow switches.

Shut-off valve

Easy operation and high reliability type.
Useful for unit maintenance.

Pump

Stainless steel construction.
High reliability and long life.

Base plate

Robust construction and performs long stable unit operation.

Pressure sensor (or pressure switch)

Detects the supply pressure and feeds back to the control panel.
Weather proof, trouble free from moisture and condensation.

Discharge header

Integrated manifold type.
Compact, robust & high reliability.
High grade surface finish treatment for long life.
Available to change water discharge side.

Pressure gauge

Indicator of water pressure.
(Only for UD3-S & UD3-T)

Check valve

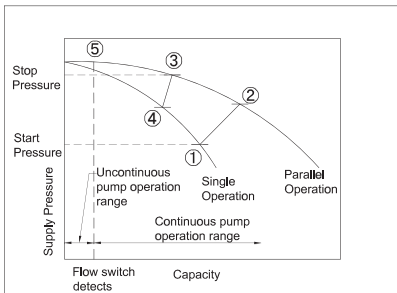
Spring loaded type.
Reduces water surge at pump stop.
Prolongs the unit life and performs. Quiet operation.

Flow switch

Detects very low flow to cut off operating pump thus reducing frequency of on / off pump at low flow.



CONTROL SYSTEM



- Step 1) Both pumps are stopped when water tank is fully charged. In this condition water is supplied from the pressure tank, and water pressure in tank gradually decreases.
- Step 2) When water pressure decreases, first pump starts at pressure point ① and water is supplied from pump.
- Step 3) When more water is required and water pressure decreases to lower point ① again, second pump also starts, operation point shifts to point ② and system shifts to parallel operation.
- Step 4) When second pump starts, the timer starts to count. After that when water consumption decreases, the water pressure increases to point ③, and 60 seconds pass after second pump starts. First pump is stopped and operation point shifts to point ④.
- Step 5) When water consumption further decreases, and the flow switch detects small flow rate, Second pump stops (point ⑤). Flow switch detecting point is at small capacity point, therefore pump continuous operation range is much wider, accordingly pump start frequency is greatly decreased.

CONSTANT SPEED PRESSURE BOOSTER UNIT

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SPECIFICATIONS STANDARD

Model		UD3 - S	UD3 - D	UD3 - T
Pump operation No.		1	2	3
Pump model		CDX, 2CDX & 3M	CMA, CDX, 2CDX & 3M	CMA, CDX, 2CDX & 3M
Handled liquid property		Fresh water, 0-60 degree C (Except CMA1.00 : 0-40 degree C)		
Installation		Outdoor design		
Operation system	Pump speed	Constant		
	Control	Pressure switch & flow switch*	Pressure sensor & flow switch*	Pressure switch & flow switch*
Power source		AC, Three phase, 50Hz, 380V		
Max. working pressure		6 to 10 bar G (6.1 to 10.2 kg/cm ² G) ; Refer to model		
Allowable suction pressure		Min. : -0.3 bar G (-0.3 kg/cm ² G), Max. : Refer to model		
Control panel	Starting method	DOL (Up to 5.5kW) or Star-Delta (7.5 to 11kW)		
	Construction	Weather & dust proof type		
	Operation key	Push button & selector switch type	Push button & slide switch type	Push button & selector switch type
Pressure tank	Construction	Air pre-charged diaphragm type		
	Capacity	24 liters (Standard)		
	Quantity	Refer to model		
Accessories		Control panel & support, Flow switch*, Pressure gauge ^{*1} Common base, Pressure tank, Piping & valves, Electrical wiring		

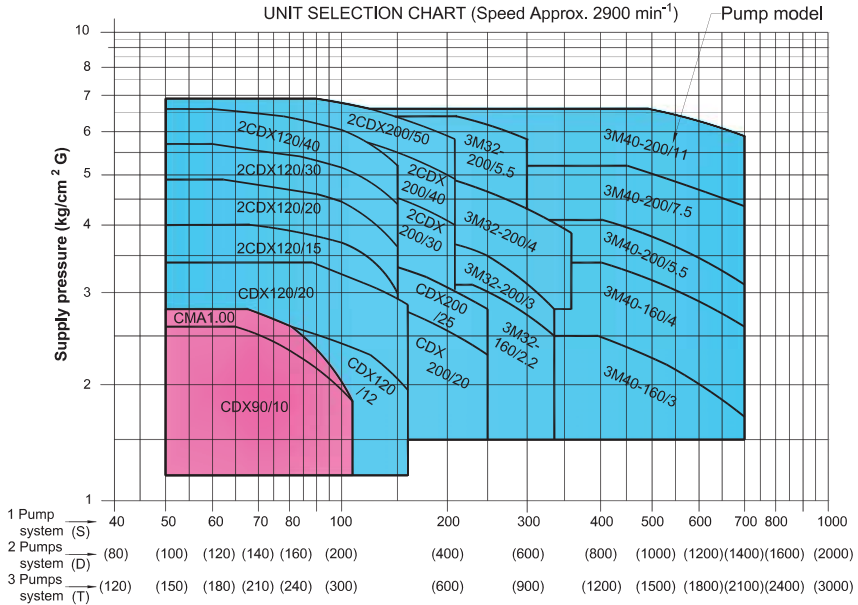
OPTION

Pump model	Other models upon request
Pressure tank	Large capacity upon request
Others	On request

Note) * In case of pump model CDX90/10 & CMA1.00, flow switch is not provided.

*1 In UD3-S, UD3-T, pressure gauge is provided.

SELECTION CHART AND MODEL CODE



Pressure Booster Unit Model Code

UD3 - S CDX 90/10

Pump model

S : 1 Pump operation system

Operation system D : 2 Pumps operation system

T : 3 Pumps operation system

Constant speed pressure booster

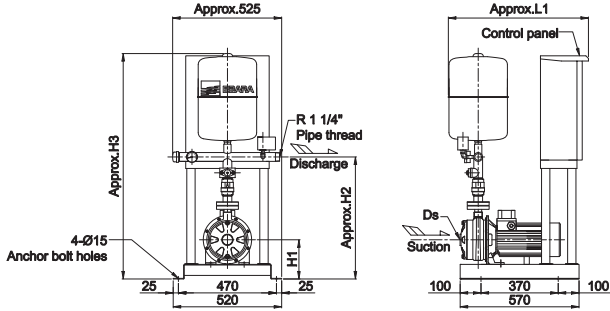
Note : Models for pump CMA1.00 & CDX90/10 are UD3-D and UD3-T (2 pumps and 3 pumps operation system) only.

CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL : UD3

■ DIMENSIONS

MODEL UD3 - S CDX & 2CDX

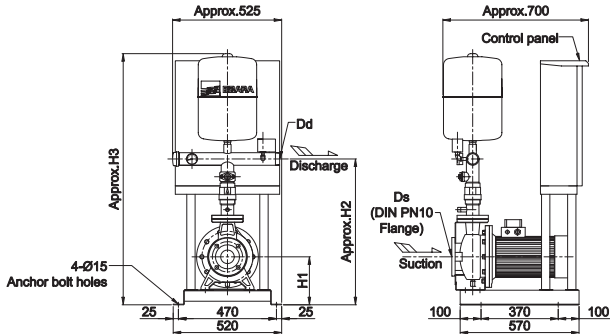


Unit : H1 to L1 (mm.)
: Weight (kg.)

DIMENSIONS TABLE

MODEL	kW	Ds	H1	H2	H3	L1	Approx. weight
UD3 - S CDX 120/12	0.9	G 1 1/4"	176	565	1070	660	80
UD3 - S CDX 120/20	1.5	G 1 1/4"	188	585	1080	660	85
UD3 - S 2CDX 120/15	1.1	G 1 1/4"	176	565	1070	660	83
UD3 - S 2CDX 120/20	1.5	G 1 1/4"	176	565	1070	660	85
UD3 - S 2CDX 120/30	2.2	G 1 1/4"	188	585	1080	675	93
UD3 - S 2CDX 120/40	3.0	G 1 1/4"	188	585	1080	675	95
UD3 - S CDX 200/20	1.5	G 1 1/2"	176	565	1070	660	83
UD3 - S CDX 200/25	1.8	G 1 1/2"	188	585	1080	660	83
UD3 - S 2CDX 200/30	2.2	G 1 1/2"	176	565	1070	675	93
UD3 - S 2CDX 200/40	3.0	G 1 1/2"	188	585	1080	675	95
UD3 - S 2CDX 200/50	3.7	G 1 1/2"	188	585	1080	675	103

MODEL UD3 - S 3M



Unit : H1 to H3 (mm.)
: Weight (kg.)

DIMENSIONS TABLE

MODEL	kW	Ds	Dd	H1	H2	H3	Approx. weight
UD3 - S 3M32-160/2.2	2.2	DN50	R 1 1/2"	202	635	1135	100
UD3 - S 3M32-200/3.0	3.0	DN50	R 1 1/2"	230	685	1185	108
UD3 - S 3M32-200/4.0	4.0	DN50	R 1 1/2"	230	685	1185	110
UD3 - S 3M32-200/5.5	5.5	DN50	R 1 1/2"	230	685	1185	125
UD3 - S 3M40-160/3.0	3.0	DN65	R 2"	202	650	1160	99
UD3 - S 3M40-160/4.0	4.0	DN65	R 2"	202	650	1160	113
UD3 - S 3M40-200/5.5	5.5	DN65	R 2"	230	700	1205	125
UD3 - S 3M40-200/7.5	7.5	DN65	R 2"	230	700	1205	128
UD3 - S 3M40-200/11	11	DN65	R 2"	230	700	1205	140

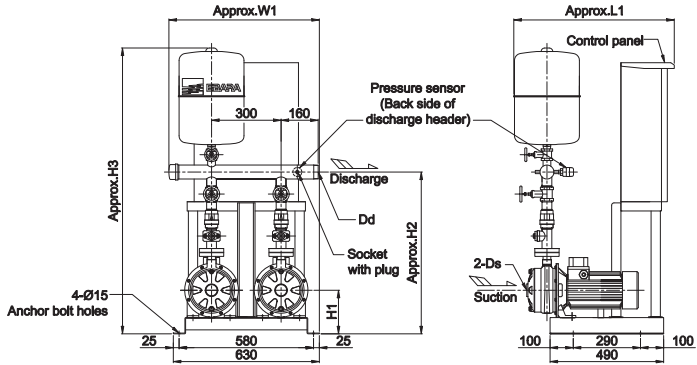
Note : 1) All specifications subject to change without prior notice.

CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL : UD3

■ DIMENSIONS

MODEL UD3 - D CMA, CDX & 2CDX



DIMENSIONS TABLE

Unit : W1 to L1 (mm.)
: Weight (kg.)

MODEL	kW	De	Dd	W1	H1	H2	H3	L1	Approx. weight
UD3 - D CMA 1.00	0.75	G 1"	R 1 1/4"	640	167	625	1170	680	97
UD3 - D CDX 90/10	0.75	G 1 1/4"	R 1 1/4"	640	176	625	1170	680	97
UD3 - D CDX 120/12	0.9	G 1 1/4"	R 1 1/2"	640	176	675	1200	680	99
UD3 - D CDX 120/20	1.5	G 1 1/4"	R 1 1/2"	640	188	695	1225	680	109
UD3 - D 2CDX 120/15	1.1	G 1 1/4"	R 1 1/2"	640	176	675	1200	680	106
UD3 - D 2CDX 120/20	1.5	G 1 1/4"	R 1 1/2"	640	176	675	1200	680	109
UD3 - D 2CDX 120/30	2.2	G 1 1/4"	R 1 1/2"	640	188	695	1225	695	125
UD3 - D 2CDX 120/40	3.0	G 1 1/4"	R 1 1/2"	640	188	695	1225	695	130
UD3 - D CDX 200/20	1.5	G 1 1/2"	R 2"	650	176	680	1215	680	107
UD3 - D CDX 200/25	1.8	G 1 1/2"	R 2"	650	188	700	1235	680	107
UD3 - D 2CDX 200/30	2.2	G 1 1/2"	R 2"	650	176	680	1215	695	127
UD3 - D 2CDX 200/40	3.0	G 1 1/2"	R 2"	650	188	700	1235	695	130
UD3 - D 2CDX 200/50	3.7	G 1 1/2"	R 2"	650	188	700	1235	695	146

Note : 1) kW shown output per 1 pump.

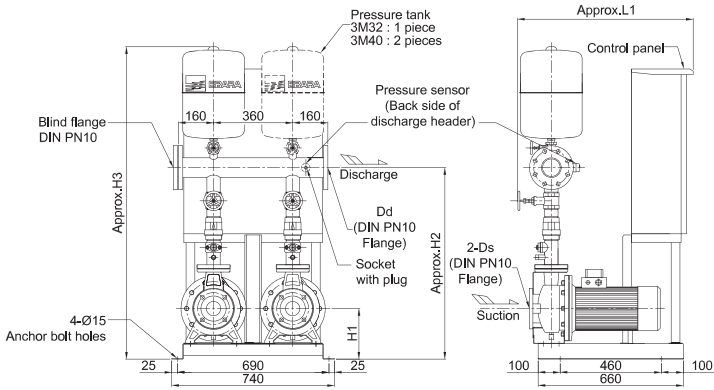
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CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL : UD3

■ DIMENSIONS

MODEL UD3 - D 3M



DIMENSIONS TABLE

Unit : H1 to L1 (mm.)
: Weight (kg.)

MODEL	kW	Ds	Dd	H1	H2	H3	L1	Approx. weight
UD3 - D 3M32-160/2,2	2,2	DN50	DN65	202	800	1340	790	165
UD3 - D 3M32-200/3,0	3,0	DN50	DN65	230	845	1390	790	180
UD3 - D 3M32-200/4,0	4,0	DN50	DN65	230	845	1390	790	186
UD3 - D 3M32-200/5,5	5,5	DN50	DN65	230	845	1390	790	214
UD3 - D 3M40-160/3,0	3,0	DN65	DN80	202	825	1375	800	170
UD3 - D 3M40-160/4,0	4,0	DN65	DN80	202	825	1375	800	199
UD3 - D 3M40-200/5,5	5,5	DN65	DN80	230	875	1425	800	222
UD3 - D 3M40-200/7,5	7,5	DN65	DN80	230	875	1425	800	230
UD3 - D 3M40-200/11	11	DN65	DN80	230	875	1425	800	251

Note : 1) kW shown output per 1 pump.

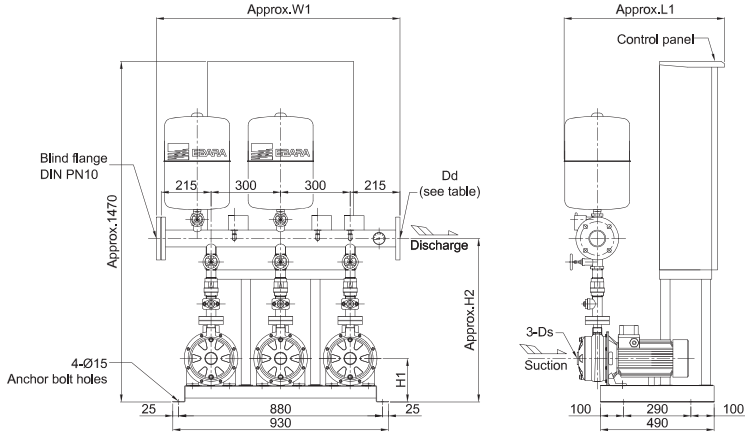
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CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL : UD3

■ DIMENSIONS

MODEL UD3 - T CMA, CDX & 2CDX



Unit : W1 to L1 (mm.)
: Weight (kg.)

DIMENSIONS TABLE

MODEL	kW	Ds	Dd	W1	H1	H2	L1	Approx. weight
UD3 - T CMA 1.00	0.75	G 1"	R 1 1/2"	1045	167	630	680	144
UD3 - T CDX 90/10	0.75	G 1 1/4"	R 1 1/2"	1045	176	630	680	142
UD3 - T CDX 120/12	0.9	G 1 1/4"	R 2"	1045	176	680	680	147
UD3 - T CDX 120/20	1.5	G 1 1/4"	R 2"	1045	188	700	680	161
UD3 - T 2CDX 120/15	1.1	G 1 1/4"	R 2"	1045	176	680	680	156
UD3 - T 2CDX 120/20	1.5	G 1 1/4"	R 2"	1045	176	680	680	162
UD3 - T 2CDX 120/30	2.2	G 1 1/4"	R 2"	1045	188	700	695	185
UD3 - T 2CDX 120/40	3.0	G 1 1/4"	R 2"	1045	188	700	695	193
UD3 - T CDX 200/20	1.5	G 1 1/2"	DN65	1055	176	685	680	158
UD3 - T CDX 200/25	1.8	G 1 1/2"	DN65	1055	188	705	680	157
UD3 - T 2CDX 200/30	2.2	G 1 1/2"	DN65	1055	176	685	695	187
UD3 - T 2CDX 200/40	3.0	G 1 1/2"	DN65	1055	188	705	695	192
UD3 - T 2CDX 200/50	3.7	G 1 1/2"	DN65	1055	188	705	695	216

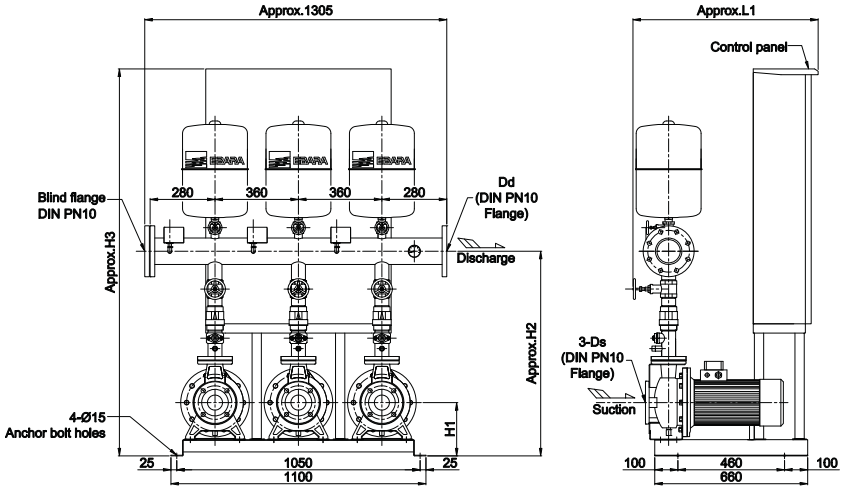
- Note : 1) kW shown output per 1 pump.
 2) All specifications subject to change without prior notice.
 3) Flange pressure rating, PN10 is provided as standard.

CONSTANT SPEED PRESSURE BOOSTER UNIT

MODEL : UD3

■ DIMENSIONS

MODEL UD3 - T 3M



DIMENSIONS TABLE

Unit : H1 to L1 (mm.)
: Weight (kg.)

MODEL	KW	Ds	Dd	H1	H2	H3	L1	Approx. weight
UD3 - T 3M32-160/2.2	2.2	DN50	DN80	202	805	1470	790	289
UD3 - T 3M32-200/3.0	3.0	DN50	DN80	230	850	1470	790	291
UD3 - T 3M32-200/4.0	4.0	DN50	DN80	230	850	1470	790	300
UD3 - T 3M32-200/5.5	5.5	DN50	DN80	230	850	1470	790	342
UD3 - T 3M40-160/3.0	3.0	DN65	DN100	202	835	1470	800	280
UD3 - T 3M40-160/4.0	4.0	DN65	DN100	202	835	1470	800	323
UD3 - T 3M40-200/5.5	5.5	DN65	DN100	230	885	1470	800	358
UD3 - T 3M40-200/7.5	7.5	DN65	DN100	230	885	1670	800	369
UD3 - T 3M40-200/11	11	DN65	DN100	230	885	1670	800	402

- Note : 1) kW shown output per 1 pump.
2) All specifications subject to change without prior notice.



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