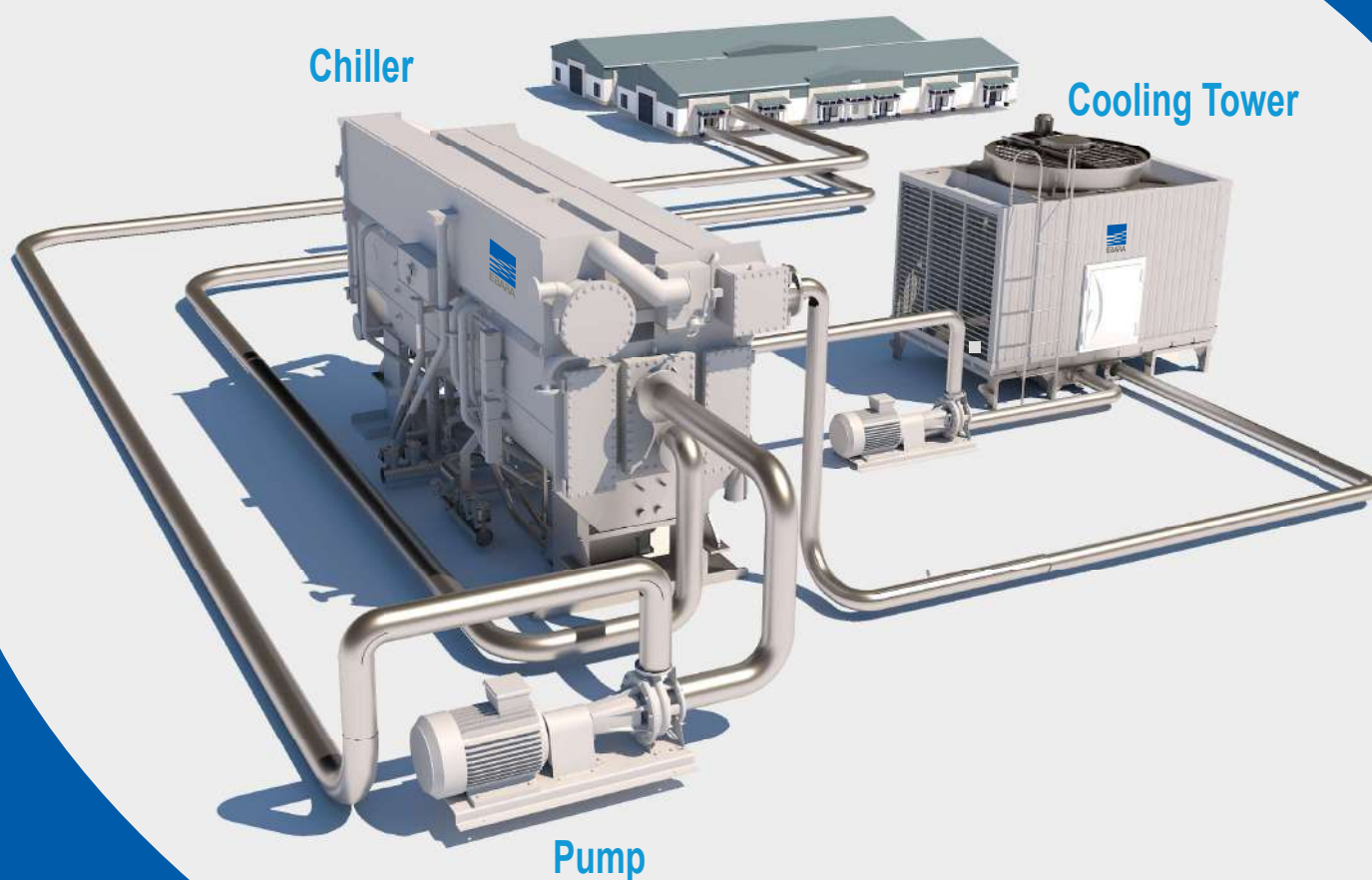


EBARA PRODUCT GENERAL CATALOGUE

Complete Solution
for Industrial Service



SURFACE PUMPS

Stainless Steel

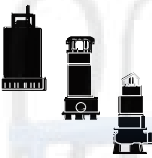
Model	Shape	Driving Method	Liquid	Max. Working Pressure	Construction			Material			Page
					Impeller	Sealing	Bearing	Casing	Impeller	Shaft	
CDX		Direct	Pure Water	0.8 MPa	Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 303	6
2CDX		Direct	Pure Water	0.8 MPa	Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 303	6
3M		Direct	Pure Water	1 MPa	Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 304	7
EVMS		Direct	Pure Water	2.5 MPa	Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 304	7
JESX		Direct	Pure Water	0.6 MPa	Enclosed	M.Seal	Ball	AISI 304	PPO. mod	AISI 303	8
DWO		Direct	Pure Water	0.8 MPa	Semi-open	M.Seal	Ball	AISI 304	AISI 304	AISI 304	8
MATRIX		Direct	Pure Water	1 MPa	Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 304	9
FSSC		Motor Direct	Pure Water	1 MPa	Enclosed	Packing	Ball	SCS 14	SCS 14	AISI 316	9
GSO		Motor Direct	Industrial Water	1.6 MPa	Reversed Semi-open	M.Seal	Ball	SCS 13	SCS 13	SUS 304	10

Cast Iron

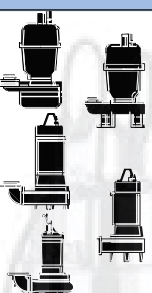
Model	Shape	Driving Method	Liquid	Max. Working Pressure	Construction			Material			Page
					Impeller	Sealing	Bearing	Casing	Impeller	Shaft	
FSA		Motor Direct	Pure Water	1 MPa	Enclosed	M.Seal	Ball	Cast Iron	Bronze	AISI 403	11
CSA/CNA		Motor Direct	Pure Water	1.6 MPa	Enclosed	M.Seal	Ball	Cast Iron	Bronze	AISI 316	11
GS		Motor Direct	Pure Water	1.6 MPa	Enclosed	M.Seal	Ball	Cast Iron	Bronze	Duplex SUS	12
SQPB		Motor Direct	Pure Water	0.25 MPa	Semi-open	Packing	Ball	Cast Iron	Cast Iron	Carbon Steel	12
3E		Direct	Pure Water	1 ~ 1.6 MPa	Enclosed	M.Seal	Ball	Cast Iron	AISI 304, AISI 316L	AISI 304, AISI 316L	13
3D		Direct	Pure Water	1 MPa	Enclosed	M.Seal	Ball	Cast Iron	AISI 304	AISI 304	14
CDA		Direct	Pure Water	1 MPa	Twin closed	M.Seal	Ball	Cast Iron	PPO. mod	AISI 303, AISI 304	14
CM		Direct	Pure Water	0.8 MPa	Enclosed	M.Seal	Ball	Cast Iron	PPO. mod	AISI 416, AISI 420	15

SUBMERSIBLE PUMPS

Stainless Steel

Model	Shape	Driving Method	Liquid	Maximum Submergence	Construction			Material			Page
					Impeller	Sealing	Bearing	Casing	Impeller	Shaft	
OPTIMA		Direct	Waste Water	5 m	Semi-open(strainer)	M.Seal	Ball	AISI 304	PPE+PS reinforced with fiberglass	AISI 303	16
BEST		Direct	Dirty Water	10 m	Semi-open(strainer)	D.M.Seal	Ball	AISI 304	AISI 304	AISI 303	16
RIGHT		Direct	Dirty Water	10 m	Semi-open(vortex)	D.M.Seal	Ball	AISI 304	AISI 304	AISI 303	17
DW		Direct	Sewage Water	10 m	Single channel, Vortex	D.M.Seal	Ball	AISI 304	AISI 304	AISI 303	17

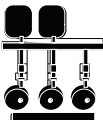
Cast Iron

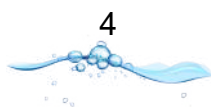
Model	Shape	Driving Method	Liquid	Maximum Submergence	Construction			Material			Page
					Impeller	Sealing	Bearing	Casing	Impeller	Shaft	
DS		Direct	Dirty Water	8 m	Semi-open(strainer)	Double M.Seal	Ball	Cast Iron	Cast Iron	AISI 403	18
DVS		Direct	Dirty Water	8 m	Semi-vortex	Double M.Seal	Ball	Cast Iron	Cast Iron	AISI 403	18
DL		Direct	Sewage Water	8 m	Non - clog	Double M.Seal	Ball	Cast Iron	Cast Iron	AISI 403	19
DF		Direct	Sewage Water	8 m	Non-clog semi-open	Double M.Seal	Ball	Cast Iron	Cast Iron	AISI 403	19
DML		Direct	Sewage Water	8 m	Non-clog, single chanel	Double M.Seal	Ball	Cast Iron	Cast Iron	AISI 403	20

PRESSURE BOOSTER PUMPS

Series	Shape	Driving Method	Liquid	Max. Working Pressure	Construction			Material			Page
					Impeller	Sealing	Bearing	Casing	Impeller	Shaft	
UD3		Direct	Pure Water	1 MPa	Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 304	21
UN3		Direct	Pure Water		Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 304	23
DBU		Direct	Pure Water		Enclosed	M.Seal	Ball	AISI 304	AISI 304	AISI 304	26

FIRE FIGHTING PUMPS

Series	Shape	Driving Method	Liquid	Max. Working Pressure	Construction			Material			Page
					Impeller	Sealing	Bearing	Casing	Impeller	Shaft	
FFS-FFB		Motor Engine	Pure Water	12 bar	-	-	-	-	-	-	27
CNPA		Motor Engine	Pure Water	367 psi	Enclosed	Packing	Ball	FC250	CAC406	SUS316	28



COOLING TOWER

■ Open circuit type

Model	Type	Standard	Page
SDC-U Series	Crossflow Type	JCI Standard	29
SNC-U Series	Crossflow Type	JCI Standard	30
CDW Series	Crossflow Type	CTI Standard	31

■ Closed circuit type

Model	Type	Standard	Page
MXC-U Series	Crossflow Type	JCI Standard	32

CHILLER

■ Absorption type

Model	Heat Source	Design Pressure (barG) / Temperature (oC)	Cooling Capacity (USRT)	Refrigerant	A bsorbent	Page
REWA	Saturated Steam	2 - 8 barG	150 - 500	Pure Water	LiBr Solution	33
RGWA	Saturated Steam	2 - 8 barG	150 - 2500	Pure Water	LiBr Solution	33
RGQ-J	Exhaust Gas	500 - 170 oC	150 - 2500	Pure Water	LiBr Solution	33
RFHA	Hot Water	99 - 88 oC	150 - 2500	Pure Water	LiBr Solution	34
RCH	Hot Water	88 - 83 oC	45 - 540	Pure Water	LiBr Solution	34

■ Electric type

Model	Compressor Type	Cooling Capacity (USRT)	Refrigerant	Starting Mode	Power Supply (V)	Page
RTBF-A	Centrifugal	150 - 2500	R245fa / R1233ZD	Direct/ Star-Delta/ Inverter	380 / 3300 / 6600	35
RTGC-A	Centrifugal	150 - 2500	R134a / R1234ze(E)	Direct / Inverter	380 / 3300 / 6600	35
RHSDW	Screw	50 - 800	R407C	Inverter	380 / 440	36
RHSCW-JC	Screw	100 - 500	R134a	Star-Delta / Inverter	380 / 440	36



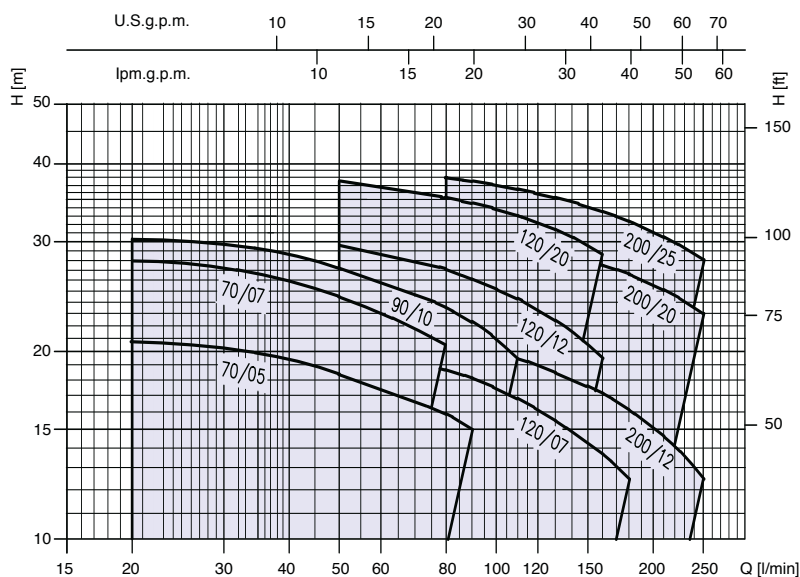
MODEL CDX CENTRIFUGAL PUMPS

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Data book CDX



■ Features

1. Hydraulic robust construction.
2. High performances and efficiency.
3. Integrated volute obtained from hydro-forming process.
4. Low noise.
5. Compact dimensions.



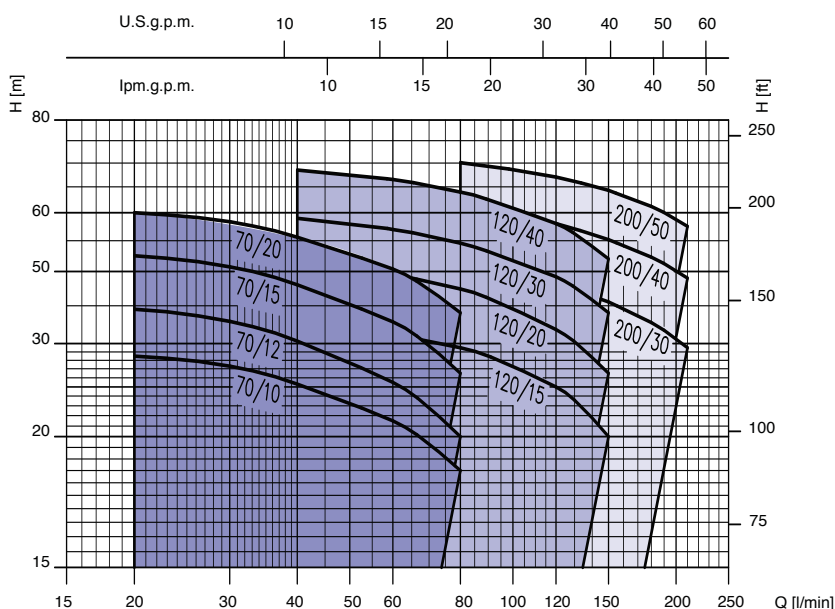
MODEL 2CDX TWIN IMPELLER CENTRIFUGAL PUMPS

Download
Data book 2CDX



■ Features

1. Hydraulic robust construction.
2. High performances and efficiency.
3. Integrated volute obtained from hydro-forming process.
4. Silent.
5. Compact dimensions.



MODEL 3M Series CENTRIFUGAL PUMPS

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Data book 3 Series
2 poles

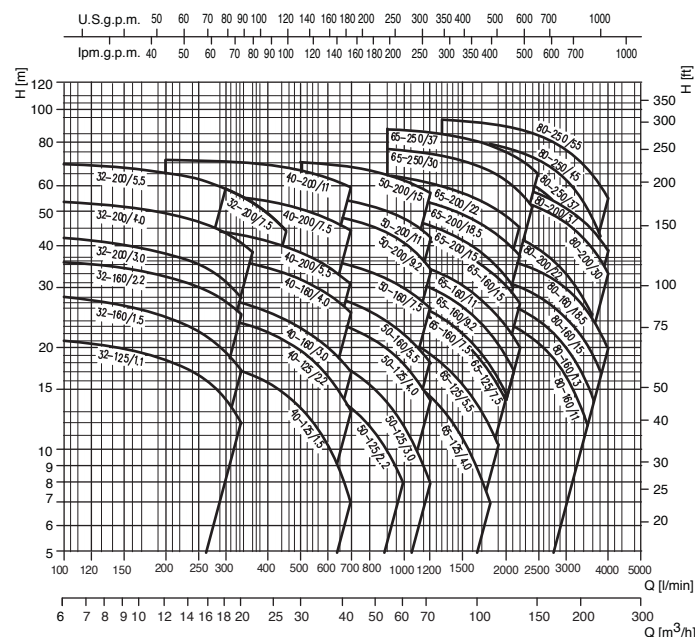


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Data book 3 Series
4 poles



■ Features

1. Robust hydraulic construction.
2. Versatile, it is possible to handle a wide range of fluid (304 or 316 version).
3. Volute casing for high efficiency.
4. With AISI 304 pump pump foot at standard.
5. All pump casing fixed screw in AISI 304.
6. Compact design.
7. Wide range of performances with 2-4 poles motor .
8. Standard dimension as ISO EN 733.
9. Back pull out design – easy to dismantle, pump casing remain to the pipe.
10. Standard mechanical seal DIN 24960.

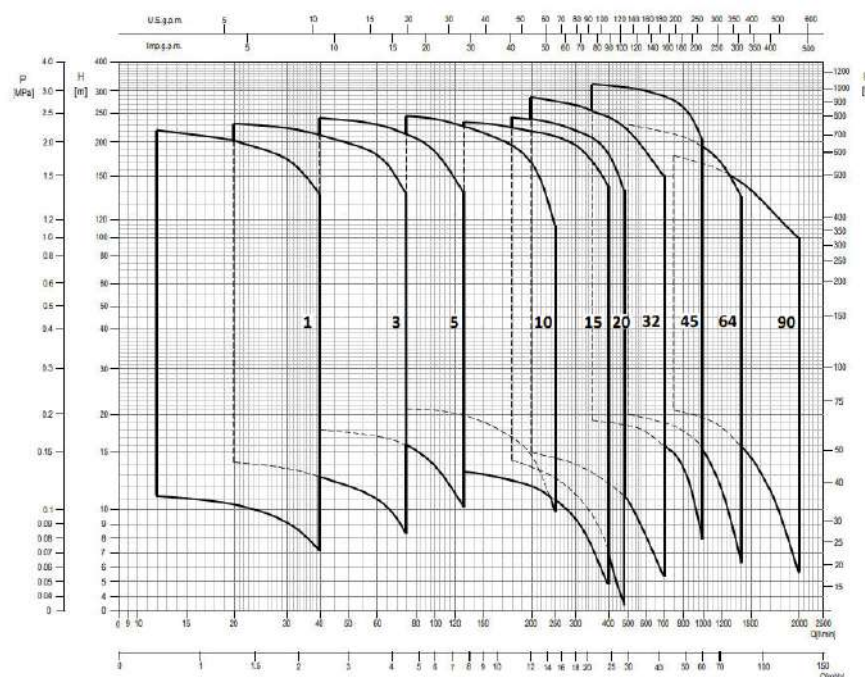


MODEL EVMS VERTICAL MULTISTAGE CENTRIFUGAL PUMPS

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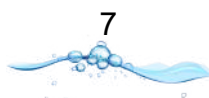


eDYNAMiQ
Eco, Dynamic and Integrated Quality



■ Features

1. Maximum operating range at 16 bar ~ 35 bar /-30 to +140°C depend on model
2. Available for various operating range, EVMS 1 - 90 m³/h flow sizes
3. Material version in Cast iron, AISI 304 and AISI 316L
4. Pipe connections : Round flange/Loose flange/Oval flange/Victaulic connection/Clamp connection for EVMS 1 - 20 and Loose flange for EVMS 32 - 90
5. Motor IE3 can be provided above 0.75 kw



MODEL JEX / JESX CENTRIFUGAL PUMPS

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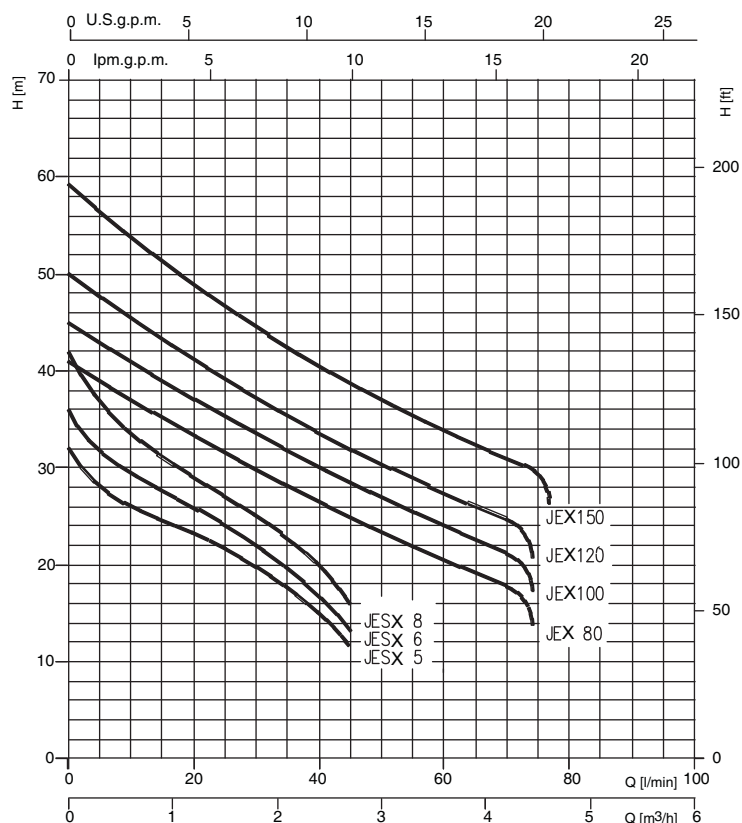


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Data book JESX](#)



Materials

1. Pump body and seal housing disc in AISI 304.
2. AISI 303 shaft (part in contact with the liquid).
3. Impeller in AISI 304 for JEX, in PRO reinforced with fiberglass for JESX.
4. Mechanical seal in Carbon/Ceramic/NBR.
5. Support and motor casing in aluminium.



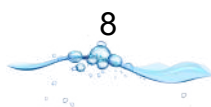
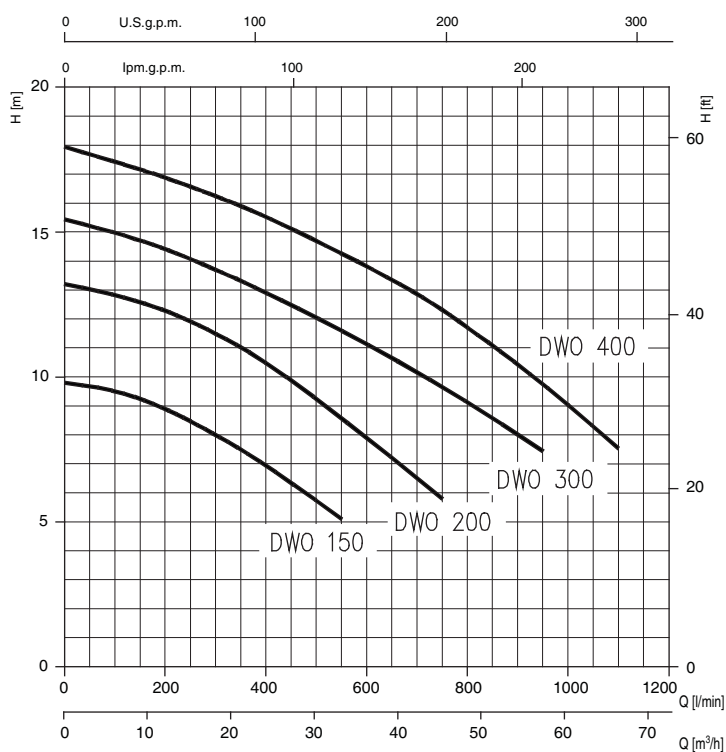
MODEL DWO CENTRIFUGAL PUMPS

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Features

1. Hydraulic robust construction.
2. High performances and efficiency.
3. The Hydro-forming process to obtain the integrated volute is patented.
4. Low noise.
5. Compact dimensions.
6. Passage of solids: maximum diameter of 19 mm.



MODEL MATRIX

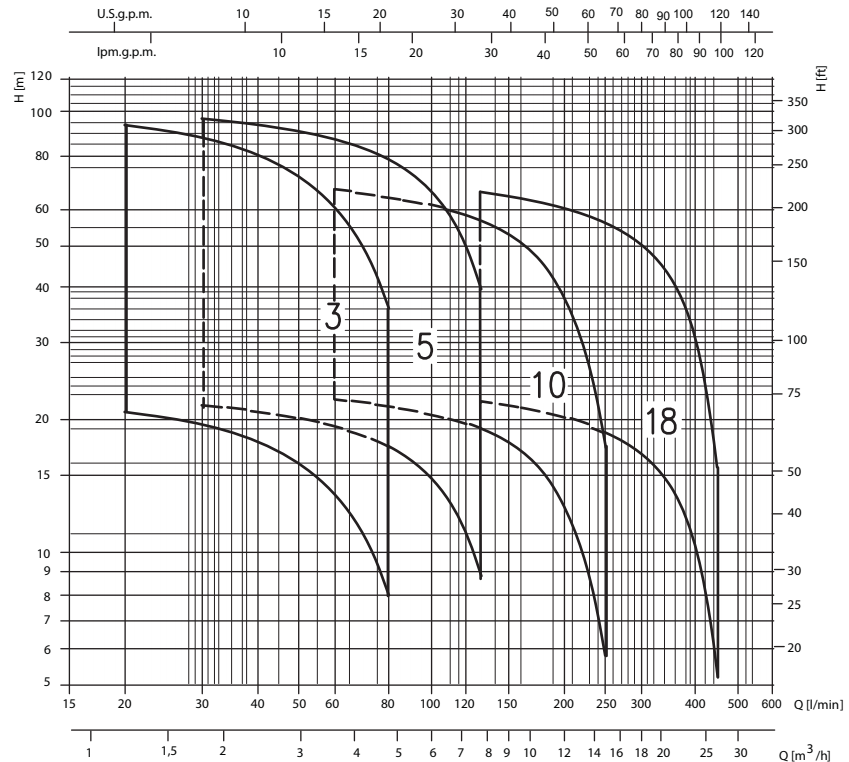
HORIZONTAL MULTISTAGE
CENTRIFUGAL PUMPS

Download
Data book MATRIX



■ Features

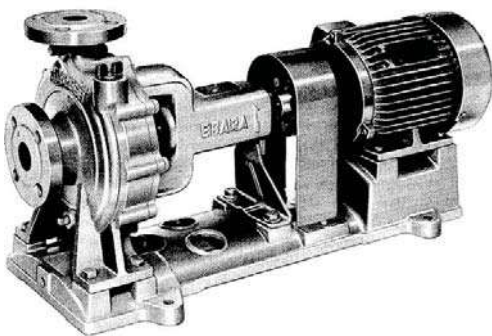
1. All metal components in contact with the liquid in the pump are made of stainless steel.
2. Tungsten carbide and ceramic are used for sleeve type bearing in contact with the liquid.
3. Floating liner ring in AISI 304 and PTFE.



MODEL FSSC

STAINLESS STEEL END SUCTION VOLUTE PUMPS

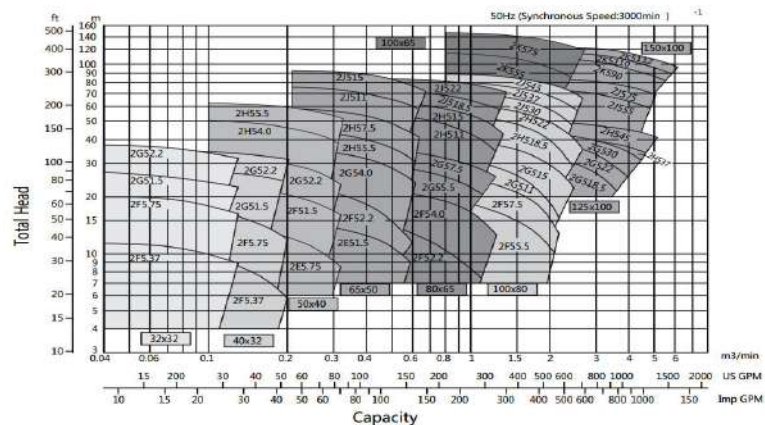
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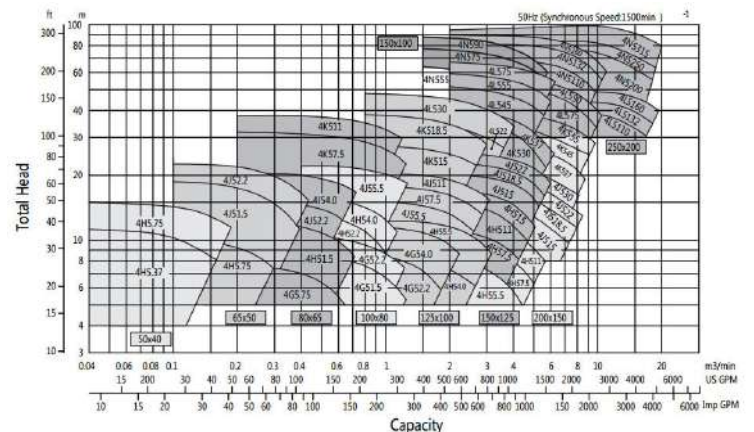
■ Features

1. Pump portion contacting liquid is made of high grade stainless steel.
2. Easy maintenance BPO (Back Pull Out) feature allows all rotating element to be removed without disconnecting the suction and discharge pipework.
3. Top centerline discharge, foot support under casing for maximum resistance to misalignment and distortion from pipe loads.
4. Higher operating efficiency over a wider range of capacities, lowers operational cost.
5. Flange connection with JIS standard.

Selection Chart - 2P



Selection Chart - 4P



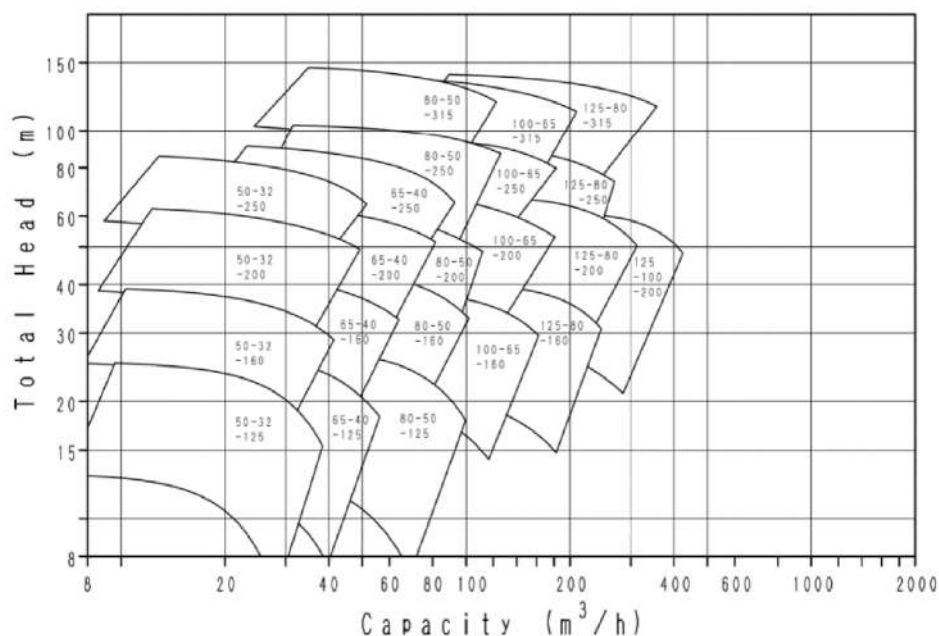


eDYNAMiQ

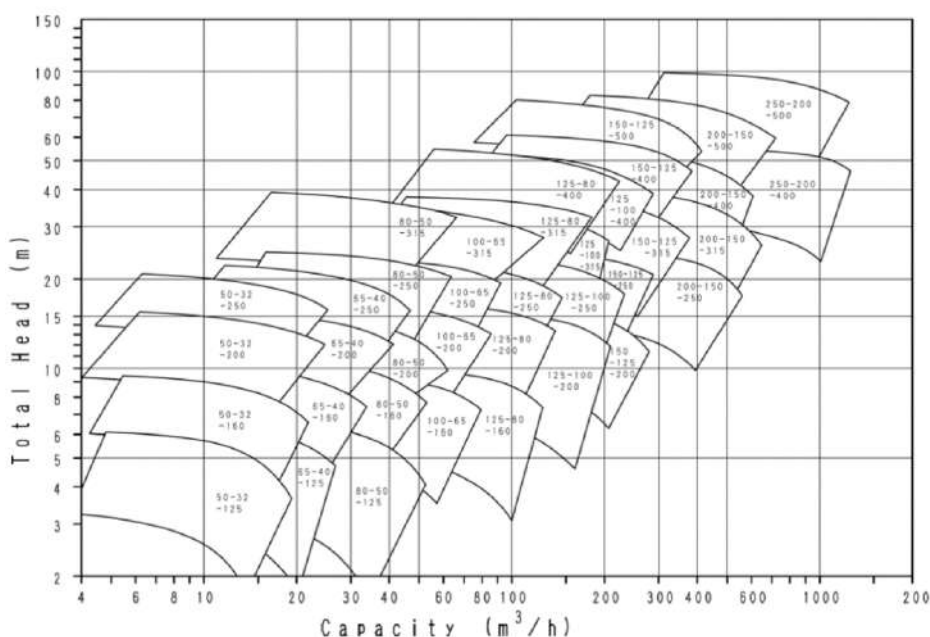
Eco. Dynamic and Integrated Quality

■ Features

1. Comply with international standards
Outline dimension : ISO 2858 / Pump design : ISO 5199.
2. Easy maintenance BPO (Back Pull Out) feature allows all rotating element to be removed without disconnecting the suction and discharge pipework.
3. Impeller design with reversed semi-open and suitable for both clean liquid and light slurry liquid.
4. Minimized maintenance cost and stock parts by high interchangeability of parts.
5. Less axial thrust load and low seal box pressure by unique shape impeller. Heavy duty design to reduce vibration and shaft deflection.
6. Flange connection available with DIN and JIS standard.



50 Hz - 2950 min⁻¹



50 Hz - 1450 min⁻¹

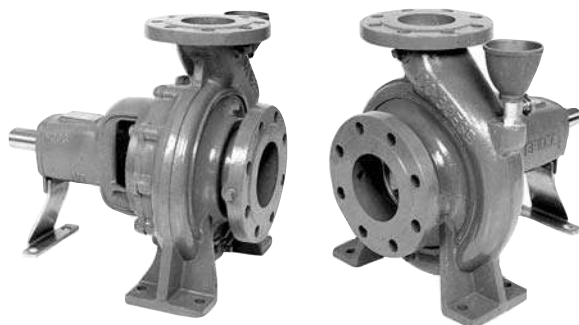


SURFACE PUMPS

CAST IRON

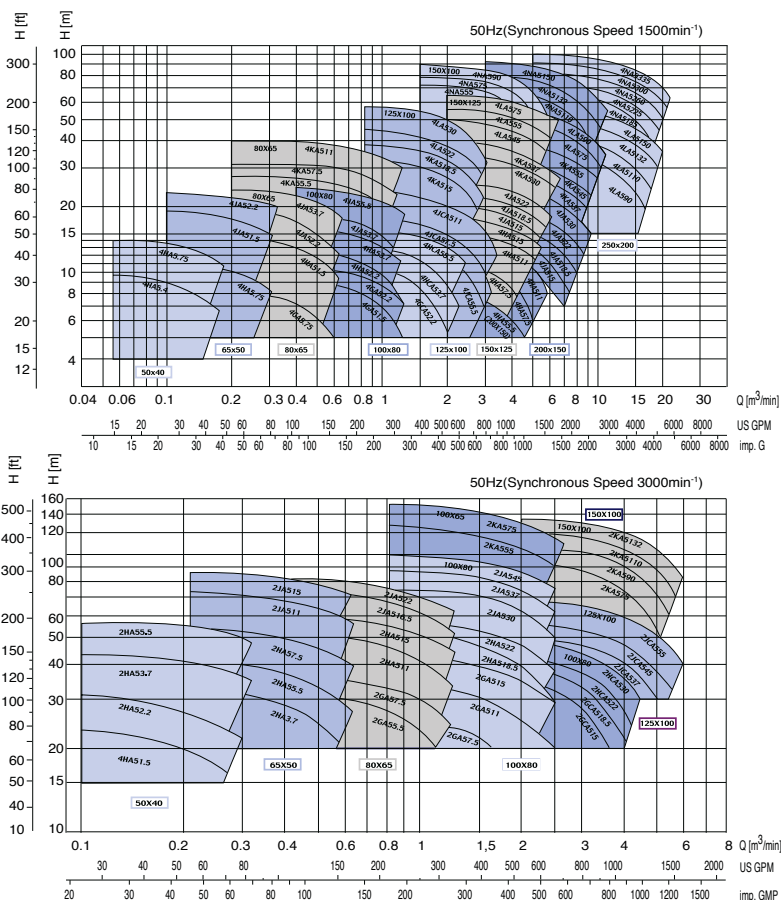
MODEL FSA CAST IRON END SUCTION VOLUTE PUMPS

Download
Data book FSA



Features

1. Easy maintenance BPO (Back Pull Out) feature allows all rotating element to be removed without disconnecting the suction and discharge pipework.
2. Top centerline discharge, foot support under casing for maximum resistance to misalignment and distortion from pipe loads.
3. Higher operating efficiency over a wider range of capacities, lowers operational cost.
4. Flange connection with JIS standard.



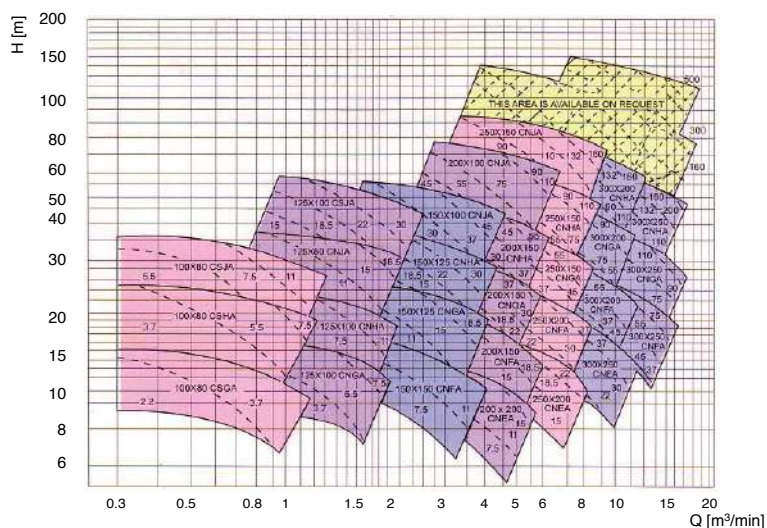
MODEL CSA/CNA HORIZONTAL SPLIT CASING PUMPS

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Data book CSA/CNA



Features

1. Very Compact design for ease of installation and permits minimum maintenance.
2. Axially split casing allows the easy removal of the top casing for inspection and service.
3. A wider range of performance with head up to 150m.
4. High speed drives and vertical mount available.
5. Anti-corrosion materials used on the rotating parts.
6. High quality sealed and cartridge type bearing units provide high durability.
7. High allowable working pressure can ensure stable running.
8. Mechanical seal for easy maintenance.
9. Flange connection with JIS standard.



SURFACE PUMPS

CAST IRON

MODEL **GS**

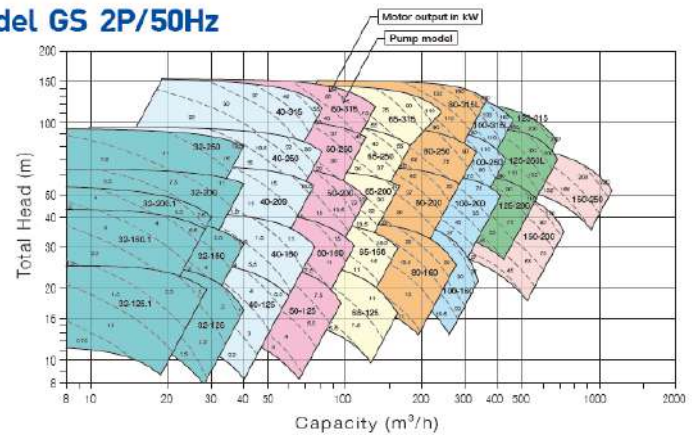
CAST IRON END SUCTION
VOLUTE PUMPS

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Data book GS

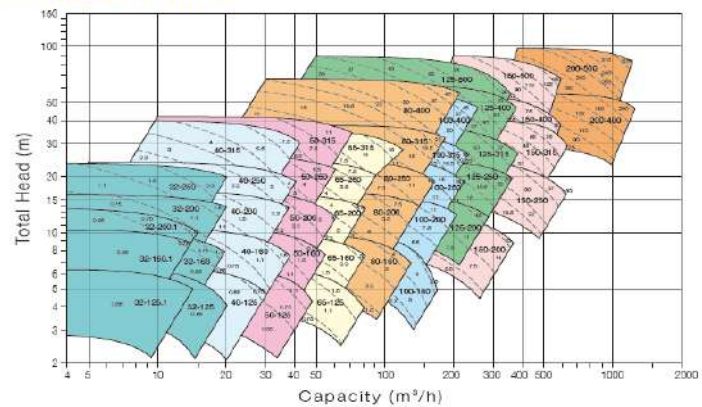


eDYNAMiQ
Eco, Dynamic and Integrated Quality

Model GS 2P/50Hz



Model GS 4P/50Hz



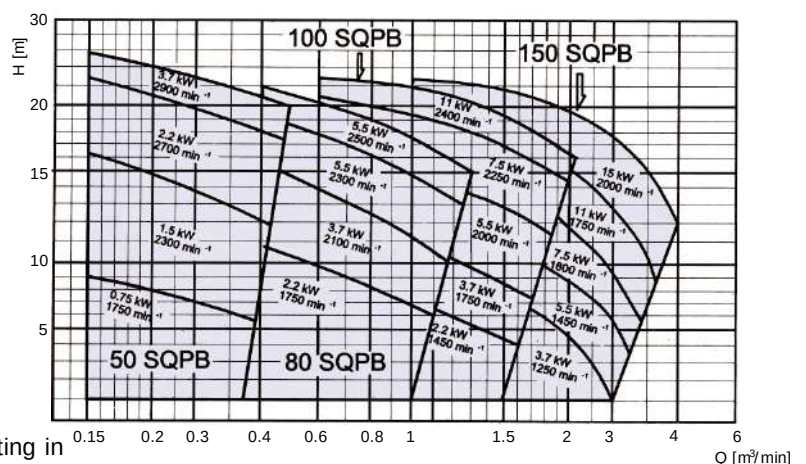
Features

1. Easy maintenance BPO (Back Pull Out) feature allows all rotating element to be removed without disconnecting the suction and discharge pipework.
2. Top centerline discharge, foot support under casing for maximum resistance to misalignment and distortion from pipe loads.
3. Higher operating efficiency over a wider range of capacities, lowers operational cost.
4. Flange connection with DIN standard.

MODEL **SQPB**

SELF PRIMING PUMPS

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Data book SQPB



Features

1. Priming requirements are automatically, provided resulting in simplified operations.
2. Maintenance is simplified by use of gland packing.



MODEL 3E Series

IN-LINE CENTRIFUGAL ELECTRIC PUMPS

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Data book 3E Series



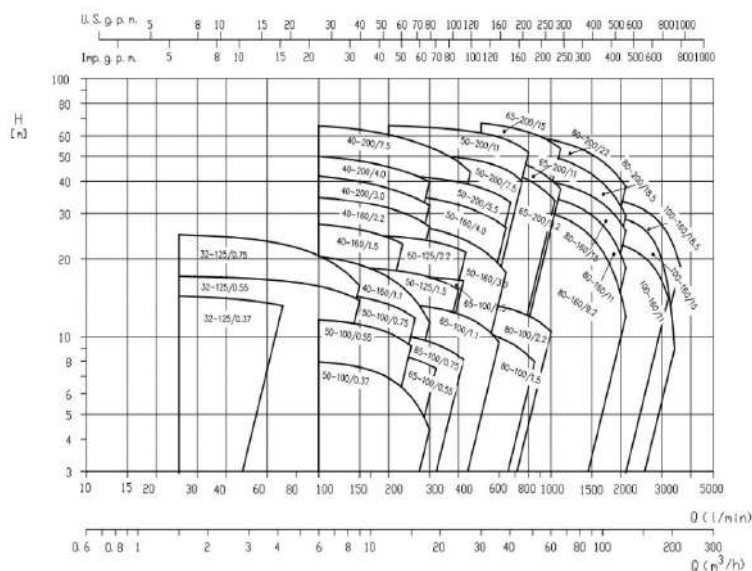
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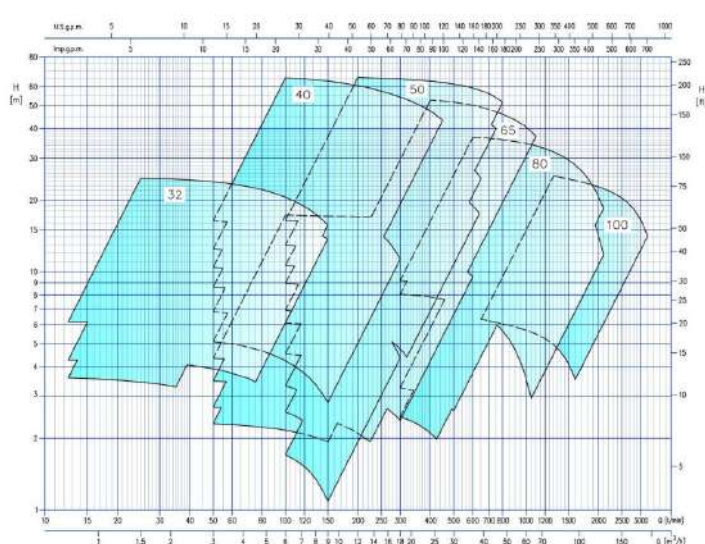
■ Features

1. Pump casing in cast iron and impeller in AISI304 for 32, 40, 50, 65 series, in AISI316L for 80, 100 series
2. Flow rate up to 216 m³/hr for model 3E and up to 192 m³/hr for model 3E-K
3. Total head up to 70 m and liquid handled temperature -10 ~ +120 oC
4. Complete with integrated E-SPD+ frequency converter for model 3E-K and available up to 11 kW
5. Robust design and Easy maintenance

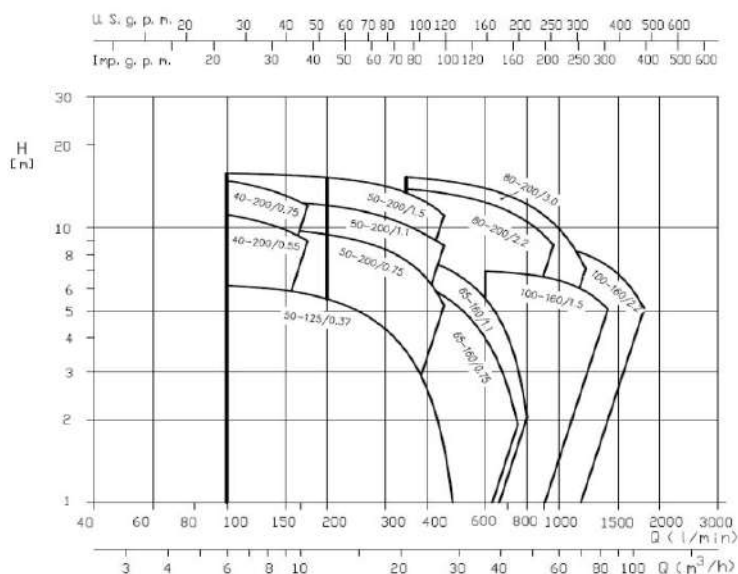
3E/3ES (50 Hz - 2 poles)



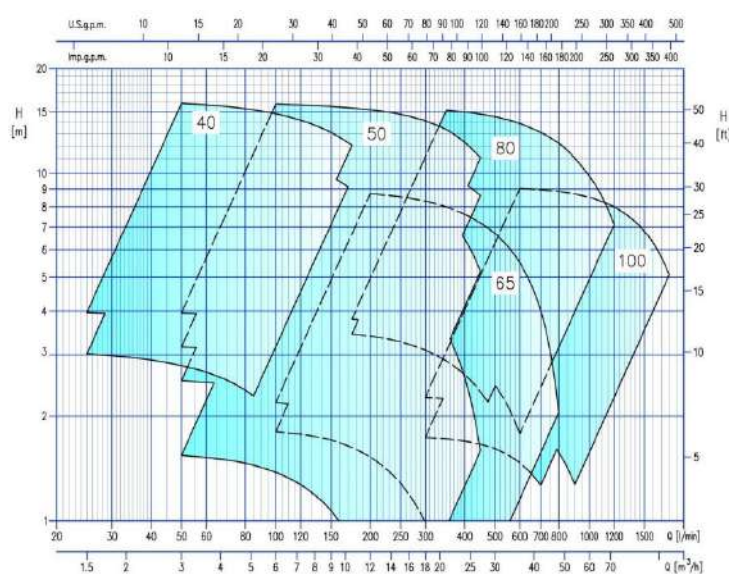
3E-K (50 Hz - 2 poles)



3E/3ES (50 Hz - 4 poles)



3E-K (50 Hz - 4 poles)



MODEL 3D CENTRIFUGAL PUMPS

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Data book 3D Series
2 poles

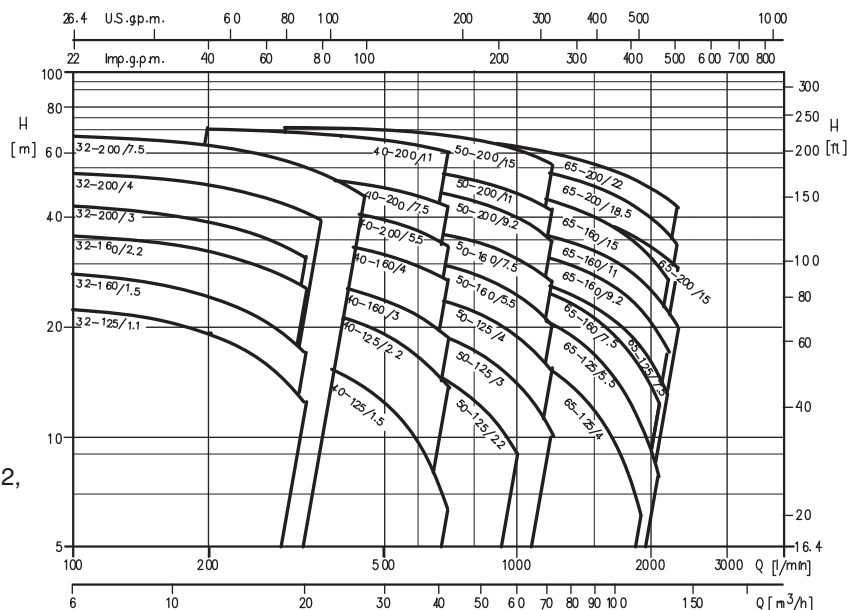


Download
Data book 3D Series
4 poles



Materials

1. Cast iron pump body EN-GJL-250-EN 1561
2. Stamped AISI 304 stainless steel impeller for sizes 32, 40 and 50
Maximum pressure. : 10 bar
Microcast steel impeller for size 65
3. AISI 304 seal holding disc
4. AISI 304 shaft
5. Standard mechanical seal Ceramic/Carbon/NBR



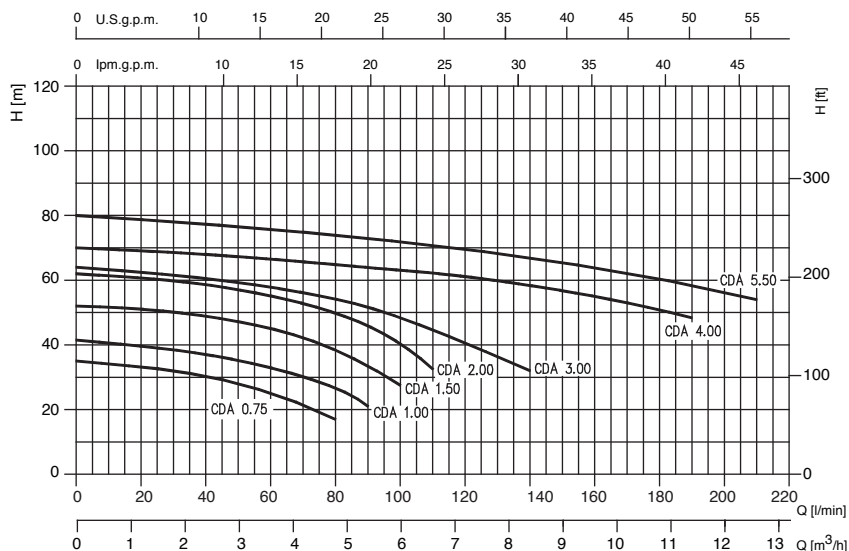
MODEL CDA TWIN IMPELLER CENTRIFUGAL ELECTRIC PUMPS

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Data book CDA



Materials

1. Cast iron pump body.
2. Mechanical seal in Carbon/Ceramic/NBR.
3. Impeller : PPE+PS glass fibre reinforced (CDA 0.75-1.00) Brass (CDA 1.50 - 5.50)
4. Shaft in AISI 303 for CDA 1.50 - 2.00 - 3.00, in AISI 304 for CDA 4.00 - 5.50, in AISI 420 for CDA 0.75 - 1.00.
5. Support in aluminium for CDA 0.75 - 1.00, in cast iron for the rest of the range.
6. Seal housing disc in AISI 304 for CDA 0.75 - 1.00, in cast iron for the rest of the range.



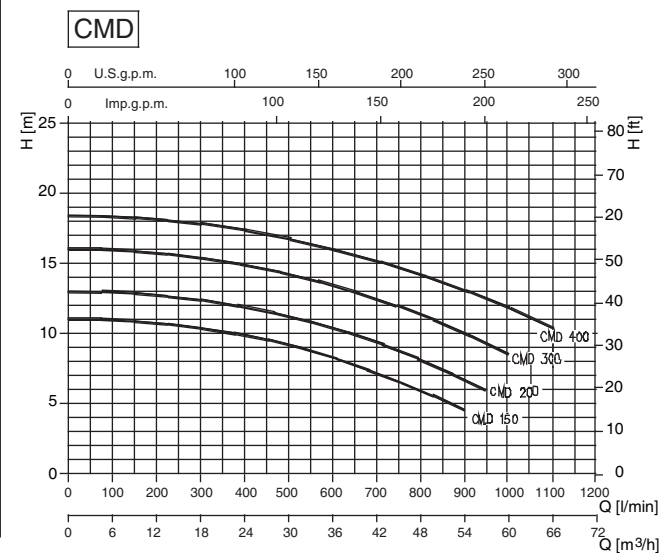
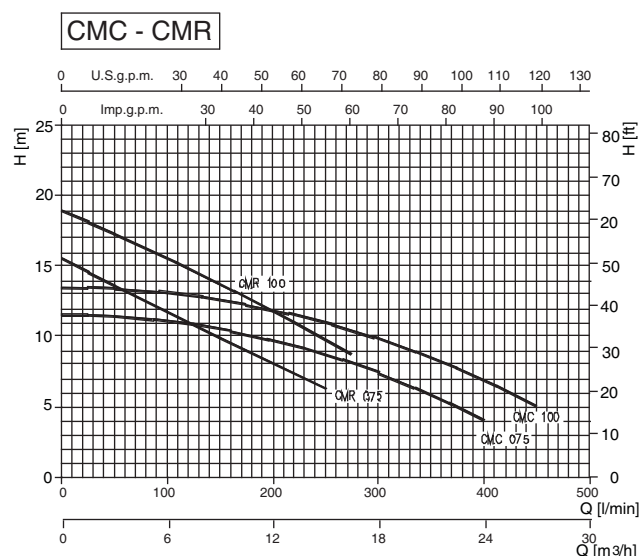
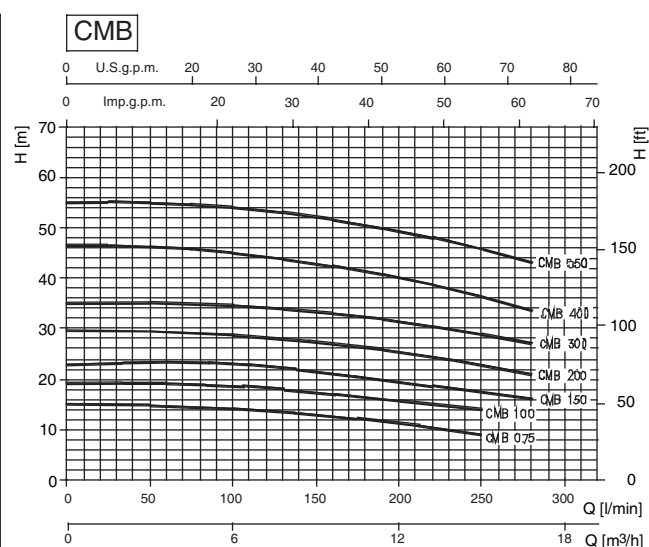
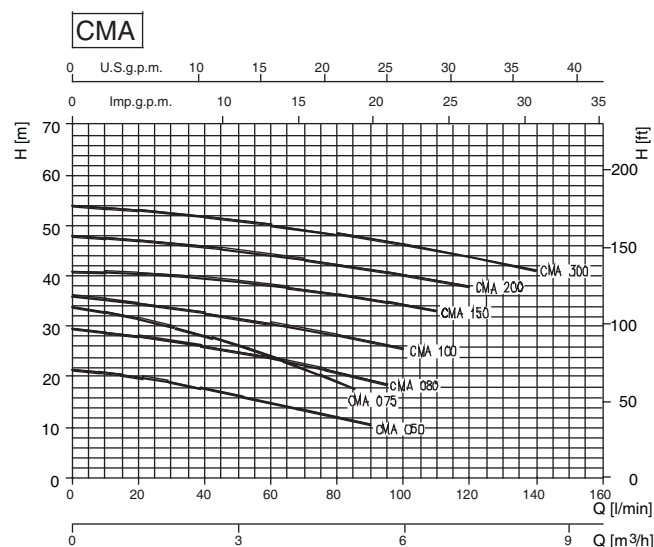
MODEL CMA-B-C-D CENTRIFUGAL PUMPS

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Data book CM Series



Materials

1. Cast iron pump body.
2. Mechanical seal in Carbon/Ceramic/NBR.
3. Impeller:
 - In PRO reinforced with fiberglass for CMA 0.50 - 0.75 - 1.00.
 - In brass for CMA 1.50 - 2.00 - 3.00, CMB 2.00 - 3.00 - 4.00 - 5.50, CMR 0.75 - 1.00.
 - In cast iron for CMB 0.75 - 1.00 - 1.50, CMC, CMD.
4. Shaft:
 - In AISI 303 for CMA 1.50 - 2.00 - 3.00, CMB 1.50 - 2.00 - 3.00, CMD 1.50 - 2.00 - 3.00.
 - In AISI 304 for CMB 4.00 - 5.50, CMD 4.00.
 - In AISI 416 for CMA 0.50, CMR 0.75 - 1.00.
 - In AISI 420 for CMA 0.75 - 1.00, CMB 0.75 - 1.00, CMC 0.75 - 1.00.

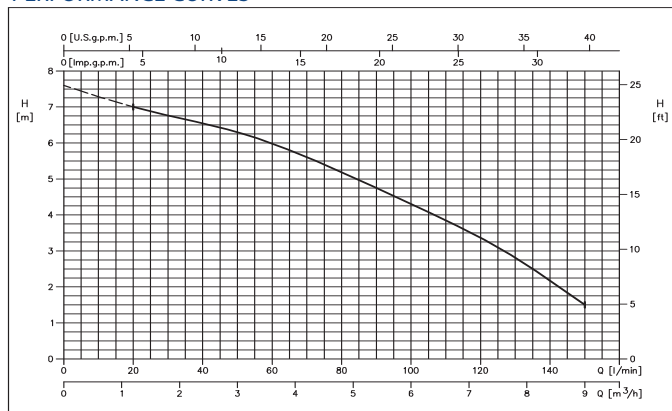


MODEL OPTIMA SUBMERSIBLE ELECTRIC PUMPS

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Data book OPTIMA



PERFORMANCE CURVES



■ Features

1. Draining wells, garages, cellars or places subject to flooding.
2. Irrigation of gardens and vegetable patches.
3. Movement of seepage water or draining of unfoul waste water

■ Special Versions

1. MS version with small MS (Magnetic Switch) vertical magnetic float for clean waters.
2. MA version with float.

■ Materials

1. Pump body, suction grill, seal housing disc and motor pump body in AISI 304.
2. Impeller in PPE+PS reinforced with fibreglass.
3. Shaft in AISI 303
4. Standard mechanical seal (Carbon/Ceramic/NBR)

MODEL BEST SUBMERSIBLE SUMP PUMPS

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Data book BEST ONE



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Data book BEST 2-5



BEST ONE



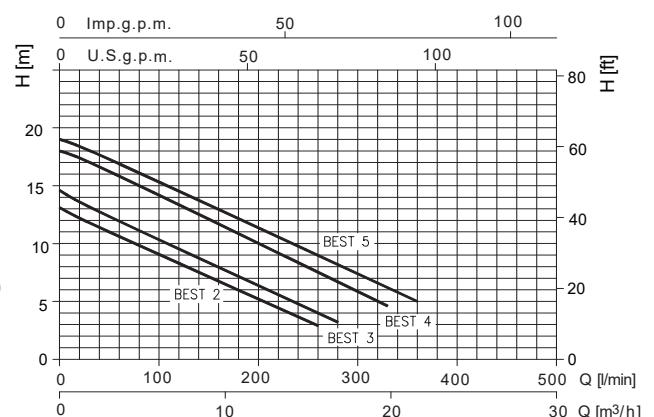
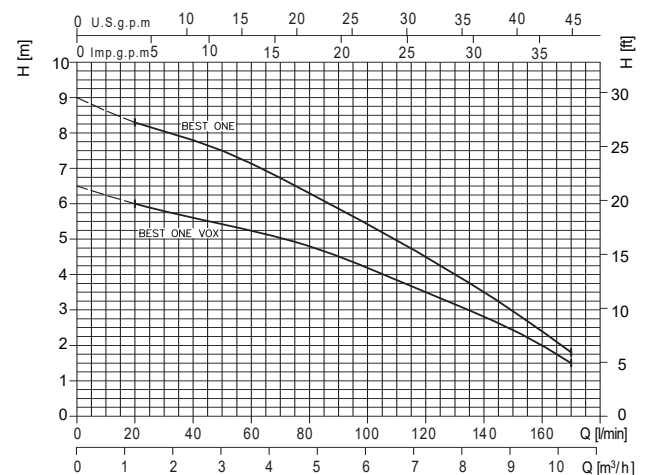
BEST 2 ~ 5

■ Features

1. Major parts are stainless steel.
2. Mechanical seal in oil chamber.
3. Light weight and compact design.
4. In build motor protection for single phase.
5. All single phase models are available as automatic operation with float switch.

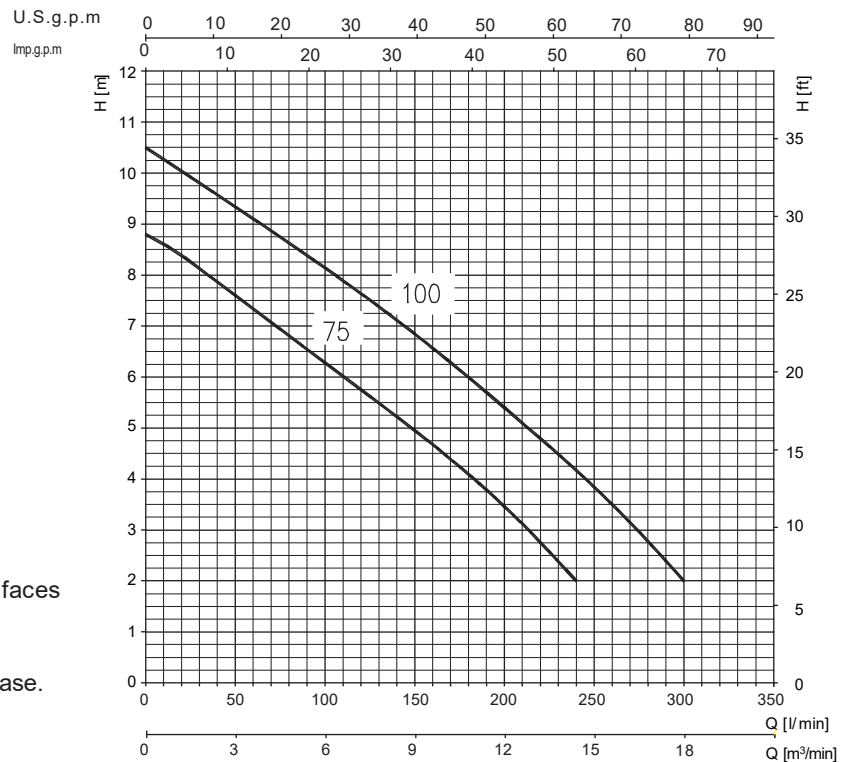
■ Materials

1. Pump casing, impeller, strainer, cover, casing cover and motor casing in AISI 304
2. Shaft in AISI 303.
3. BEST ONE: Mechanical seal (pump side)+Lip seal (motor side)
—Mechanical seal : Carbon/Ceramic/NBR and Lip seal : NBR
BEST 2-5: Double mechanical seal with oil chamber:
—Motor side in Carbon/Ceramic/NBR and Pump side in SiC/SiC/NBR.



MODEL RIGHT SUBMERSIBLE WASTE WATER PUMPS

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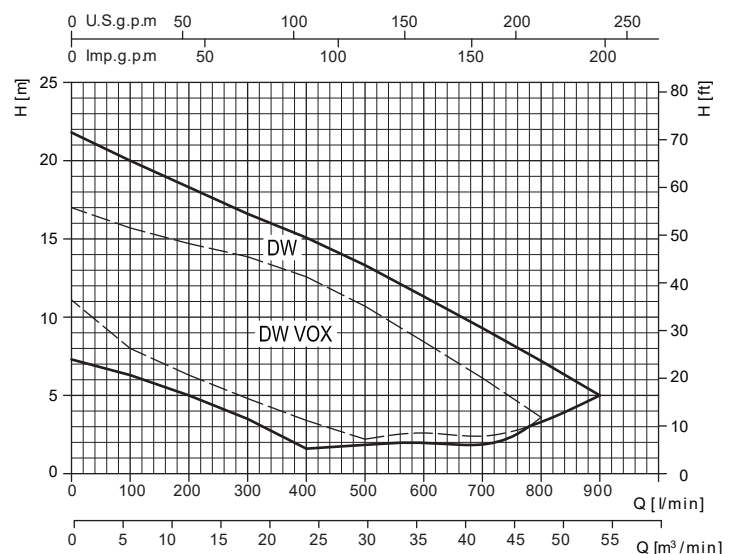


Features

1. Stainless steel construction.
 - All wetted parts are stainless steel.
2. Double mechanical seal in oil chamber.
 - An oil lubricated double mechanical seal with lower faces provides strong and reliable shaft sealing.
3. In built motor protection.
 - Quick action response overload or lock of single phase.
4. Vortex impeller.
 - Vortex impeller offer non-clog operation.
5. Automatic operation.
 - All single phase models are available as automatic operation with float switch.

MODEL DW-DW VOX SUBMERSIBLE SEWAGE PUMPS

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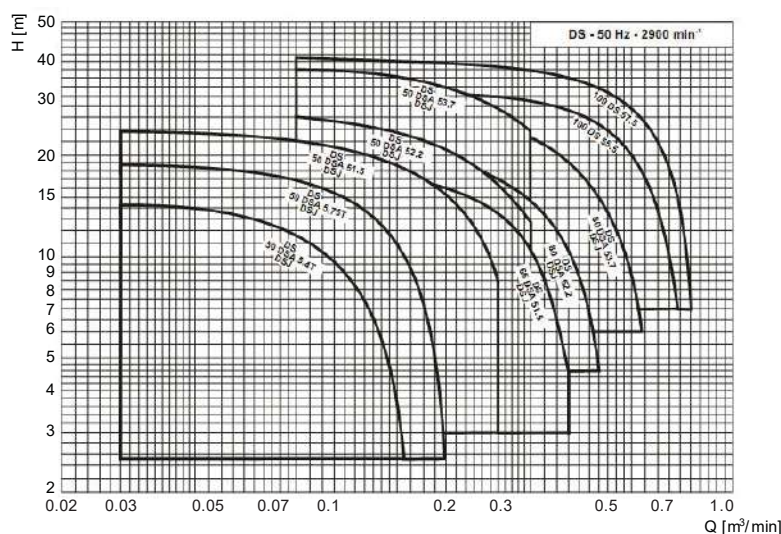
Features

1. Double mechanical seal with interposed oil chamber.
2. Reliability.
3. Vortex or single channel impeller.
4. Easy installation.
5. Completely AISI 304.
6. 10m power cable length.
7. With or without float switch.
8. Versatile with treated or flanged connection.
9. Customizable for various applications.



MODEL DS SUBMERSIBLE SUMP PUMPS

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■ Features

1. Compact size and light weight for easy portability and minimal installation space.
2. Special dry type motor allows waste water to be handled at temperatures up to 40°C (up to 32°C with automatic alternating type).
3. Built-in motor protector precludes chance of burning due to overload, blockage or open phase.
4. Double mechanical seals for shaft sealing.
5. Both automatic and automatic alternating types available.

MODEL DVS SUBMERSIBLE SEMI-VORTEX PUMPS

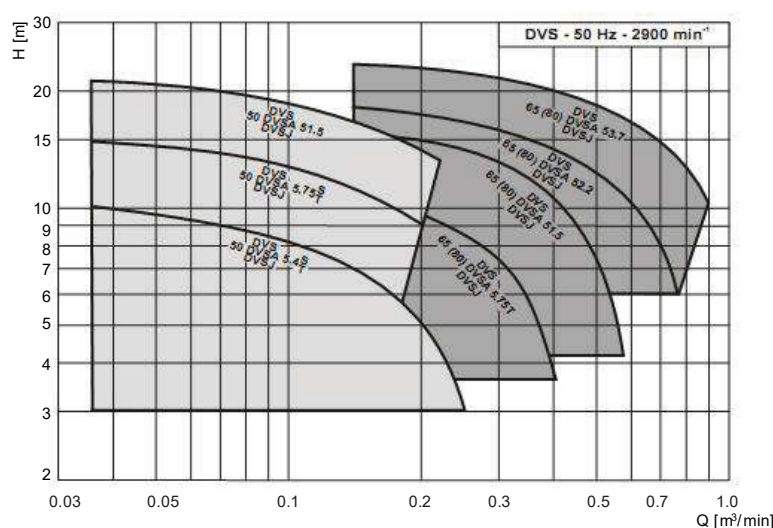
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DVS

D VSA

DVSJ



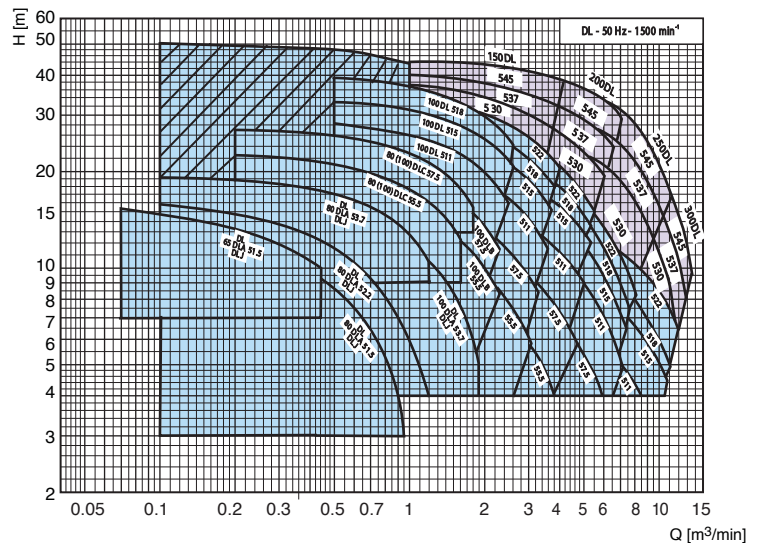
■ Features

1. The semi-vortex impeller offers non-clog operation and high pumping efficiency
2. Due to semi-vortex design with no strainer or close tolerance suction cover, only 3 or 4 bolts need to be removed for quick and easy maintenance.



MODEL DL SUBMERSIBLE SEWAGE PUMPS

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Data book DL

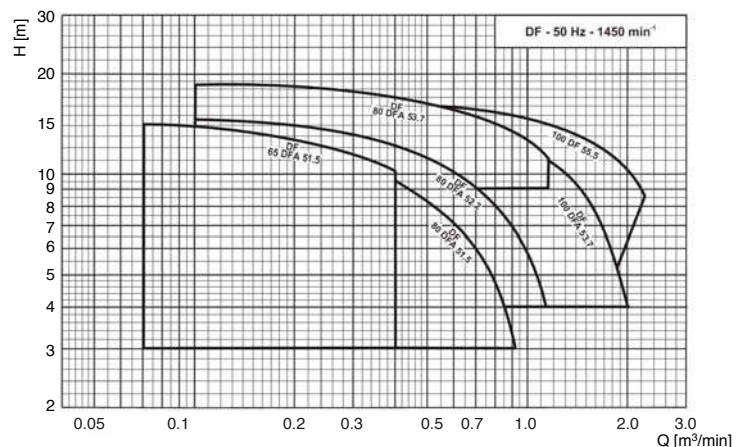


■ Features

1. Unique impeller design prevents overload under severe operation conditions. Semi-open Nonclog impeller prevents pump clog by foreign matter.
2. Minimal change in flow with variations in lift.
3. Built-in motor protector.
4. 4-pole motor with more than sufficient torque.
5. Special design with **motor IE3 (pump model DL3)**, please contact sale for more information.

MODEL DF SUBMERSIBLE SEWAGE PUMPS

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Data book DF



■ Features

1. Non-clog operation with “cutting” action.
 - Non-clog semi-open impeller and “cutting” action prevents clogging by fibrous matter. Models up to 3.7 kW have a chrysalis shaped suction port, while larger models have a radially grooved suction cover.
2. Robust construction.
 - Rugged cast iron construction, all fasteners of stainless steel and a 4 pole motor.
3. Double mechanical seal in oil chamber.
 - An oil lubricated double mechanical seal with lower faces of hard silicon carbide provides strong and reliable shaft sealing.
4. In built motor protection.
 - Quick acting dual response overloads provides protection against overload, lock or open phase.
5. Automatic operation.
 - All models up to 3.7 kW are available as automatic (A' type) pumps with inbuilt controls and float switches. No need for separate control panels, simply connect to power source.

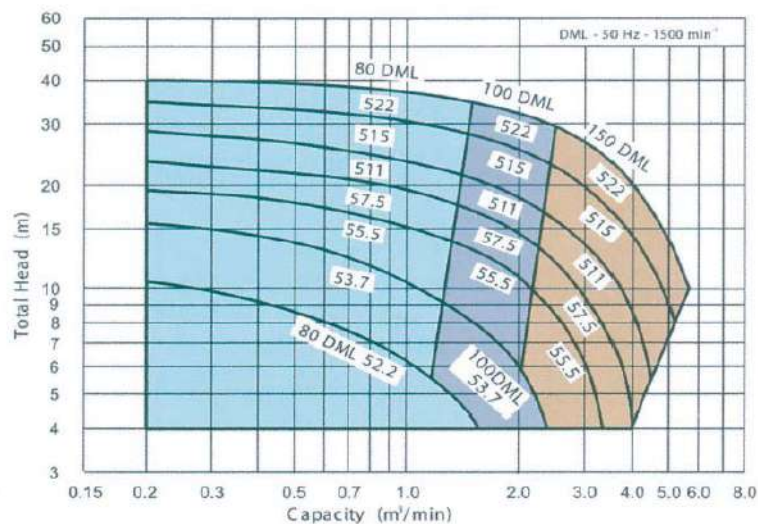


MODEL DML SUBMERSIBLE SEWAGE PUMPS

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PERFORMANCE CHART



■ Features

1. Non-clog single channel impeller.
 - Non-clog single channel impeller 3" spherical passage and prevents clogging.
2. Robust construction.
 - Large diameter and short overhang shaft, rugged castiron construction, all fasteners of stainless steel and 4 pole motor drive.
3. Double mechanical seal in oil chamber.
 - An oil lubricated double mechanical seal with lower faces of hard silicon carbide provides strong and reliable shaft sealing.
4. High efficiency, Energy saving.
 - Hydraulic well designed single channel impeller gives high efficiency and saves energy.
5. Long life.
 - Short overhanged shaft, big bearings and high grade mechanical seal give longer life.
6. In built motor protection.
 - Quick acting dual response overloads provides protection against overload, lock or open phase for model 2.2 kW. Models 3.7 kW and above have miniature thermal protectors.
7. Special design with **motor IE3 (pump model DML3)**, please contact sale for more information.



PRESSURE BOOSTER PUMPS

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)

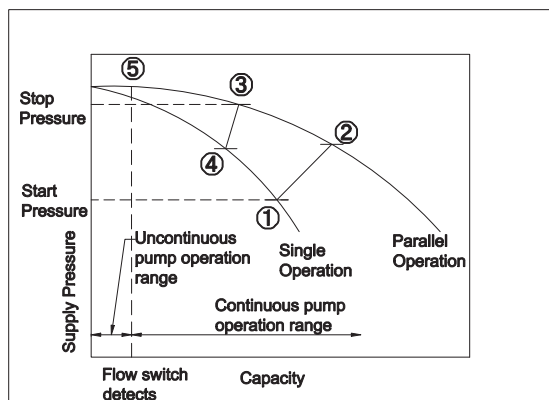
Check valve

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.



PRESSURE BOOSTER PUMPS

MODEL UD3 CONSTANT SPEED PRESSURE BOOSTER UNIT

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SPECIFICATIONS STANDARD

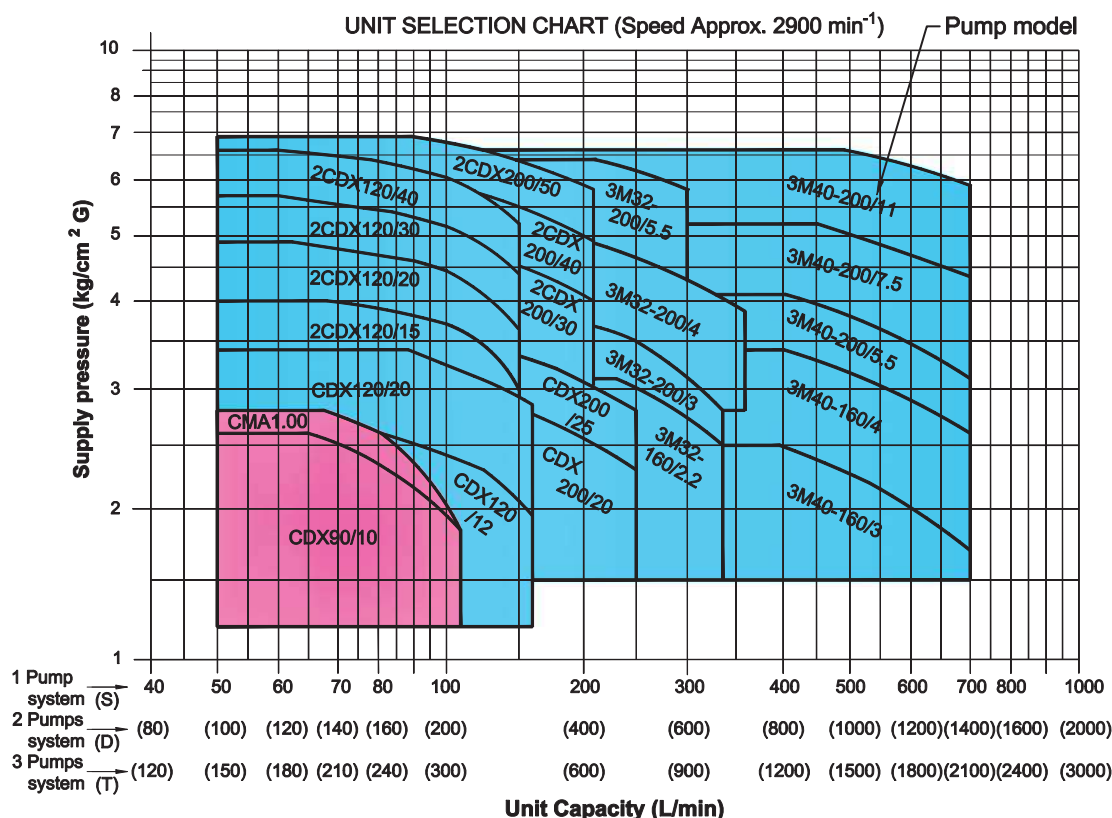
Model	UD3 - S	UD3 - D	UD3 - T
Pump operation No.	1	2	3
Pump model	CDX, 2CDX & 3M	CMA, CDX, 2CDX & 3M	CMA, CDX, 2CDX & 3M
Handled liquid property	Fresh water, 0-60 degree C (Except CMA1.00 : 0-40 degree C)		
Installation	Outdoor (under roof)		
Operation system	Constant		
Pump speed	Constant		
Control	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		
Starting method	DOL (Up to 5.5kW) or Star-Delta (7.5 to 11kW)		
Construction	Weather & dust proof type / IP55		
Operation key	Push button & selector switch type	Push button & slide switch type	Push button & selector switch type
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



VARIABLE SPEED PRESSURE BOOSTER UNIT MODEL UN3

FEATURES

Pressure tank

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

Shut-off valve

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

Check valve

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

Base plate*

Robust construction and performs long
stable unit operation.
(*Refer to model)

Control panel for VFD

Controls pumps with signal from pressure
sensor.
With LCD touch screen user friendly
display and operation panel.
Several operation systems and functions.

Pressure sensor

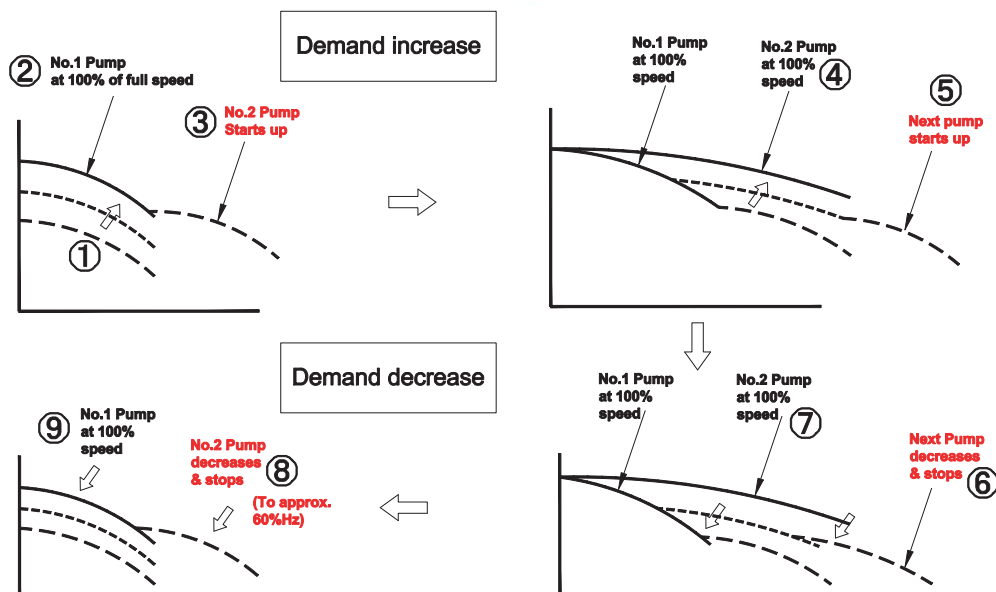
Detects the supply pressure and feeds
back to the control panel.
Weather proof, trouble free from
moisture and condensation.

Discharge header

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

Pump

Stainless steel construction.
High reliability and long life.



(Start ~ Water demand increase)

- ① When water is used, No.1 pump starts and increases the speed to maintain supply water pressure as water demand.
- ② No.1 pump speed becomes 100% speed (full speed).
- ③ No.2 pump starts and then increases the speed to maintain the water supply pressure.
- ④ No.2 pump speed reaches to 100% as water demand increase.
- ⑤ Next pump starts and continues the same process as like as above ③ ~ ⑤.

(Water demand decrease ~ Stop)

- ⑥ When water demand decreases, later started pump decreases the speed to maintain the supply water pressure and stops. And only No.1 & No.2 pump remain in operation.
- ⑦ Water demand decreases more, No.2 pump decreases speed.
- ⑧ Then No.2 pump stops and shifts to No.1 pump operation.
- ⑨ Water demand decreases furthermore, No.1 pump decreases speed and stops finally.



PRESSURE BOOSTER PUMPS

MODEL UN3A - D, -T & -F 2 TO 4 PUMPS OPERATION SYSTEM

Download
Data book UN3A



UN3A -D ~ F : From two to four pumps with one inverter operation system, supply pressure constant with pipe loss compensation control one pump(lead pump) is variable speed controlled by inverter, the other pump is constant speed drive.

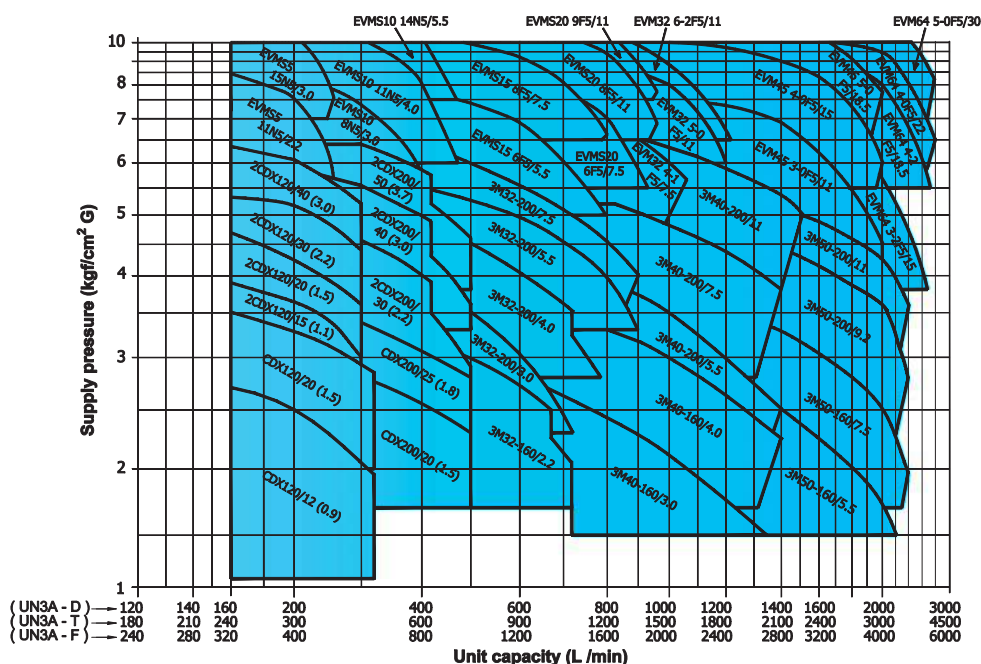
SPECIFICATIONS STANDARD

Model		UN3A - D	UN3A - T	UN3A - F
Pump operation No. / Inverter No.		2/1	3/1	4/1
Pump model		CDX, 2CDX, 3M & EVMS (Vertical Multistage)		
Handled liquid property		Fresh water, 0-60 degree C		
Installation		Outdoor (under roof)		
Operation system	Pump speed	Variable frequency control for lead pump		
	Control	Supply pressure constant with pipe loss compensation by VFD drive		
Power source		AC, Three phase, 50Hz, 380V		
Max. working pressure		8 to 10 bar G (8.2 to 10.2 kgf/cm ² G) ; Refer to model		
Allowable suction pressure		Min. : -0.3 bar G (-0.3 kgf/cm ² G), Max. : +0.3 bar G (+0.3 kgf/cm ² G)		
Control panel	Starting method	Lead pump : Soft start	Lead pump : Soft start	Lead pump : Soft start
		Lag pump : DOL or Star-Delta	Lag pumps : DOL or Star-Delta	Lag pumps : DOL or Star-Delta
	Construction	Weather & dust proof type / IP55		
	Operation key	Touch screen		
Pressure tank	Display	LCD		
	Construction	Air pre-charged diaphragm type		
	Capacity	24 liters (Standard)		
Accessories	Quantity	Refer to model		
		Control panel & support, Pressure sensor, Pressure tank		
		Common base, Piping & valves, Electrical wiring		

OPTION

Pump model / Operation No.	Other models / 5 & 6
Pressure tank	Large capacity upon request
Others	On request

SELECTION CHART AND MODEL CODE



OPERATING DUTY SELECTION RANGE

Unit model	Motor output (kW)	Operating pressure range (kgf/cm ² G)	Maximum Capacity (L/min)			Unit model	Motor output (kW)	Operating pressure range (kgf/cm ² G)	Maximum Capacity (L/min)			Unit model	Motor output (kW)	Operating pressure range (kgf/cm ² G)	Maximum Capacity (L/min)		
			UN3A - D	UN3A - T	UN3A - F				UN3A - D	UN3A - T	UN3A - F				UN3A - D	UN3A - T	UN3A - F
UN3A CDX120/12	0.9	1.2 - 2.8	320	480	640	UN3A 3M32-160/2.2	2.2	1.7 - 3.3/3.1	720	1080	1440	UN3A EVMS5 11N5/2.2*	2.2	5.5 - 9.8	260	390	520
UN3A CDX120/20	1.5	2.0 - 3.6	320	480	640	UN3A 3M32-200/3.0	3.0	2.3 - 4.0	720	1080	1440	UN3A EVMS5 15N5/3.0*	3.0	7.0 - 10.0	260	390	520
UN3A 2CDX120/15	1.1	3.0 - 4.1	300	450	600	UN3A 3M32-200/4.0	4.0	2.8 - 5.0/4.4	780	1170	1560	UN3A EVMS10 8N5/3.0	3.0	4.5 - 8.1	460	690	920
UN3A 2CDX120/20	1.5	3.0 - 5.0	300	450	600	UN3A 3M32-200/5.5	5.5	3.3 - 5.9	900	1350	1800	UN3A EVMS10 11N5/4.0*	4.0	6.0 - 10.0	480	720	960
UN3A 2CDX120/30	2.2	3.6 - 5.7	300	450	600	UN3A 3M32-200/7.5	7.5	3.6 - 6.3	900	1350	1800	UN3A EVMS10 14N5/5.5*	5.5	7.5 - 10.0	480	720	960
UN3A 2CDX120/40	3.0	4.4 - 6.5	300	450	600	UN3A 3M40-160/3.0	3.0	1.5 - 2.7	1340	2010	2680	UN3A EVMS15 6F5/5.5	5.5	5.0 - 8.3	800	1200	1600
UN3A CDX200/20	1.5	1.7 - 3.0	500	750	1000	UN3A 3M40-160/4.0	4.0	1.7 - 3.6	1400	2100	2800	UN3A EVMS15 8F5/7.5*	7.5	6.5 - 10.0	800	1200	1600
UN3A CDX200/25	1.8	2.3 - 3.7	500	750	1000	UN3A 3M40-200/5.5	5.5	2.3 - 4.2	1400	2100	2800	UN3A EVMS20 6F5/7.5*	7.5	5.5 - 9.5	930	1395	1860
UN3A 2CDX200/30	2.2	2.8 - 5.0/4.5	500	750	1000	UN3A 3M40-200/7.5	7.5	2.8 - 5.2	1400	2100	2800	UN3A EVMS20 8F5/11*	11	6.5 - 10.0	960	1440	1920
UN3A 2CDX200/40	3.0	3.3 - 5.9/5.5	500	750	1000	UN3A 3M40-200/11	11.0	3.8 - 6.5	1500	2250	3000	UN3A EVMS20 9F5/11*	11	7.5 - 10.0	960	1440	1920
UN3A 2CDX200/50	3.7	3.8 - 6.4/6.2	500	750	1000	UN3A 3M50-160/5.5	5.5	1.5 - 2.9	2200	3300	4400	UN3A EVMS32 4-1F5/7.5	7.5	4.9 - 8.3	1060	1590	2120
						UN3A 3M50-160/7.5	7.5	1.7 - 3.6	2400	3600	4800	UN3A EVMS32 5-0F5/11*	11.0	6.0 - 10.0	1200	1800	2400
						UN3A 3M50-200/9.2	9.2	2.3 - 4.8	2400	3600	4800	UN3A EVMS32 6-2F5/11*	11.0	6.5 - 10.0	1230	1845	2460
						UN3A 3M50-200/11	11.0	3.1 - 5.3	2400	3600	4800	UN3A EVMS32 8-2F5/11*	11.0	4.3 - 7.3	2000	3000	4000
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												UN3A EVMS32 108-2F5/11*	11.0	4.3 - 7.3	2000	3000	4000
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												UN3A EVMS32 114-2F5/11*	11.0	4.3 - 7.3	2000	3000	4000
												UN3A EVMS32 116-2F5/11*	11.0	4.3 - 7.3	2000	3000	4000
												UN3A EVMS32 118-2F5/11*	11.0	4.3 - 7.3	2000	3000	4000
												UN3A EVMS32 120-2F5/11*	11.0	4.3 - 7.3	2000	3000	4000

PRESSURE BOOSTER PUMPS

MODEL UN3C - D, -T & -F 2 TO 4 PUMPS OPERATION SYSTEM

Download
Data book UN3C



UN3C -D ~ F : From two to four pumps with multi-inverters operation system, supply pressure constant with pipe loss compensation
control each pump is variable speed controlled by inverter, a lot of requesting functions are provided.

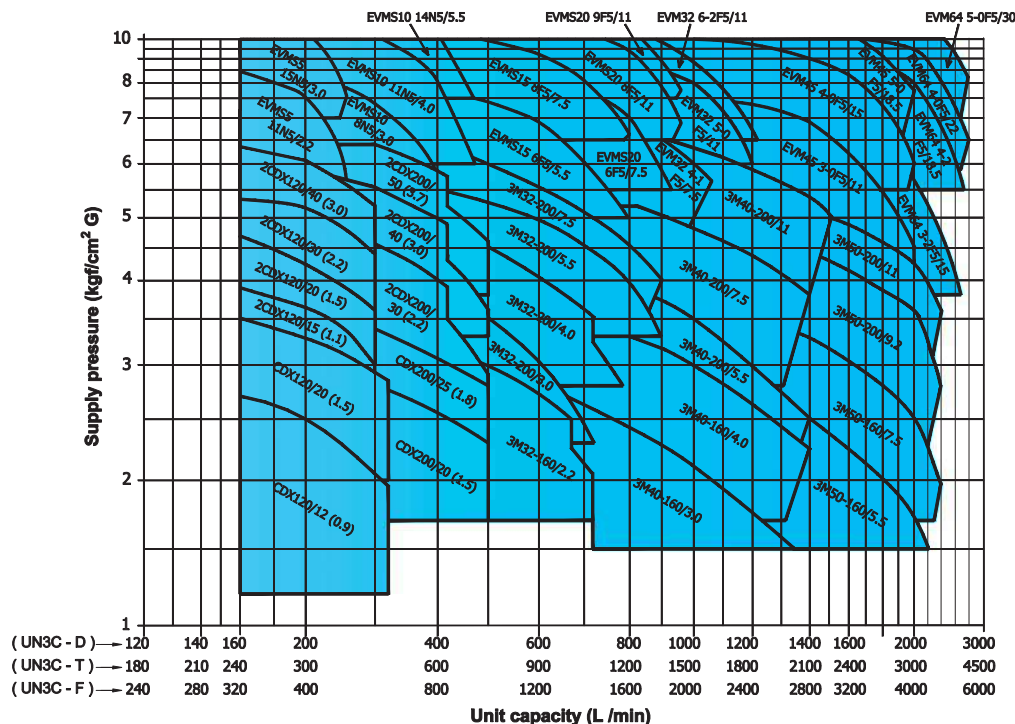
SPECIFICATIONS STANDARD

Model		UN3C - D	UN3C - T	UN3C - F
Pump operation No. / Inverter No.		2/2	3/3	4/4
Pump model		CDX, 2CDX, 3M & EVMS (Vertical Multistage)		
Handled liquid property		Fresh water, 0-60 degree C		
Installation		Outdoor (under roof)		
Operation system	Pump speed	Variable frequency control		
	Control	Supply pressure constant with pipe loss compensation by VFD drive		
Power source		AC, Three phase, 50Hz, 380V		
Max. working pressure		8 to 10 bar G (8.2 to 10.2 kgf/cm ² G) ; Refer to model		
Allowable suction pressure		Min. : -0.3 bar G (-0.3 kgf/cm ² G), Max. : +0.3 bar G (+0.3 kgf/cm ² G)		
Control panel	Starting method	Soft start		
	Construction	Weather & dust proof type / IP55		
	Operation key	Touch screen		
	Display	LCD		
Pressure tank	Construction	Air pre-charged diaphragm type		
	Capacity	24 liters (Standard)		
	Quantity	Refer to model		
Accessories		Control panel & support, Pressure sensor, Pressure tank Common base, Piping & valves, Electrical wiring		

OPTION

Pump model / Operation No.	Other models / 5 & 6
Pressure tank	Large capacity upon request
Others	On request

SELECTION CHART AND MODEL CODE



OPERATING DUTY SELECTION RANGE

Unit model	Motor output (kW)	Operating pressure range (kgf/cm ² G)	Maximum Capacity (L/min)			Unit model	Motor output (kW)	Operating pressure range (kgf/cm ² G)	Maximum Capacity (L/min)			Unit model	Motor output (kW)	Operating pressure range (kgf/cm ² G)	Maximum Capacity (L/min)		
			UN3C - D	UN3C - T	UN3C - F				UN3C - D	UN3C - T	UN3C - F				UN3C - D	UN3C - T	UN3C - F
UN3C CDX120/12	0.9	1.2 - 2.8	320	480	640	UN3C 3M32-160/2.2	2.2	1.7 - 3.3/3.1	720	1080	1440	UN3C EVMS5 11N5/2.2	2.2	5.5 - 9.8	260	390	520
UN3C CDX120/20	1.5	2.0 - 3.8	320	480	640	UN3C 3M32-200/3.0	3.0	2.3 - 4.0	720	1080	1440	UN3C EVMS5 15N5/3.0	3.0	7.0 - 10.0	260	390	520
UN3C 2CDX120/15	1.1	3.0 - 4.1	300	450	600	UN3C 3M32-200/4.0	4.0	2.8 - 5.0/4.4	780	1170	1560	UN3C EVMS10 8N5/3.0	3.0	4.5 - 8.1	460	690	920
UN3C 2CDX120/20	1.5	3.0 - 5.0	300	450	600	UN3C 3M32-200/5.5	5.5	3.3 - 5.9	900	1350	1800	UN3C EVMS10 11N5/4.0	4.0	6.0 - 10.0	480	720	960
UN3C 2CDX120/30	2.2	3.6 - 5.7	300	450	600	UN3C 3M32-200/7.5	7.5	3.6 - 6.3	900	1350	1800	UN3C EVMS10 14N5/5.5	5.5	7.5 - 10.0	480	720	960
UN3C 2CDX120/40	3.0	4.4 - 6.5	300	450	600	UN3C 3M40-160/3.0	3.0	1.5 - 2.7	1340	2010	2680	UN3C EVMS15 8F5/5.5	5.5	5.0 - 8.3	800	1200	1600
UN3C CDX200/20	1.5	1.7 - 3.0	500	750	1000	UN3C 3M40-160/4.0	4.0	1.7 - 3.6	1400	2100	2800	UN3C EVMS15 8F5/7.5	7.5	6.5 - 10.0	800	1200	1600
UN3C CDX200/25	1.8	2.3 - 3.7	500	750	1000	UN3C 3M40-200/5.5	5.5	2.3 - 4.2	1400	2100	2800	UN3C EVMS20 8F5/7.5	7.5	5.5 - 9.5	930	1395	1860
UN3C 2CDX200/30	2.2	2.8 - 5.0/4.5	500	750	1000	UN3C 3M40-200/7.5	7.5	2.8 - 5.2	1400	2100	2800	UN3C EVMS20 8F5/11	11	6.5 - 10.0	960	1440	1920
UN3C 2CDX200/40	3.0	3.3 - 5.9/5.5	500	750	1000	UN3C 3M40-200/11	11.0	3.8 - 6.5	1500	2250	3000	UN3C EVMS20 9F5/11	11	7.5 - 10.0	960	1440	1920
UN3C 2CDX200/50	3.7	3.8 - 6.4/6.2	500	750	1000	UN3C 3M50-160/5.5	5.5	1.5 - 2.9	2200	3300	4400	UN3C EVMS32 4-1F5/7.5	7.5	4.9 - 8.3	1080	1580	2120
						UN3C 3M50-160/7.5	7.5	1.7 - 3.8	2400	3600	4800	UN3C EVMS32 5-0F5/11	11.0	6.0 - 10.0	1200	1800	2400
						UN3C 3M50-200/9.2	9.2	2.3 - 4.8	2400	3600	4800	UN3C EVMS32 6-2F5/11	11.0	6.5 - 10.0	1230	1845	2460
						UN3C 3M50-200/11	11.0	3.1 - 5.3	2400	3600	4800	UN3C EVMS45 4-0F5/11	11.0	4.3 - 7.3	2000	3000	4000
												UN3C EVMS45 4-0F5/15	15.0	5.5 - 10.0	2000	3000	4000
												UN3C EVMS45 5-0F5/18.5	18.5	6.5 - 10.0	2000	3000	4000
												UN3C EVMS45 3-2F5/15	15.0	3.8 - 7.4	2850	3975	5300
												UN3C EVMS45 4-2F5/18.5	18.5	5.5 - 9.5	2700	4050	5400
												UN3C EVMS45 4-0F5/22	22.0	5.9 - 10.0	2800	4200	5600
												UN3C EVMS45 5-0F5/30	30.0	7.1 - 10.0	2800	4200	5600

PRESSURE BOOSTER PUMPS

MODEL DBU NORMAL PRESSURE BOOSTER UNIT

Download
Data book DBU1



Download
Data book DBU2



DBU1
Pump Model : MATRIX



DBU2
Pump Model : CMA



DBU2
Pump Model : CDXM

Applications

Water supply

Residence
Factory utility use, Wash-down etc.
Small office

Specifications

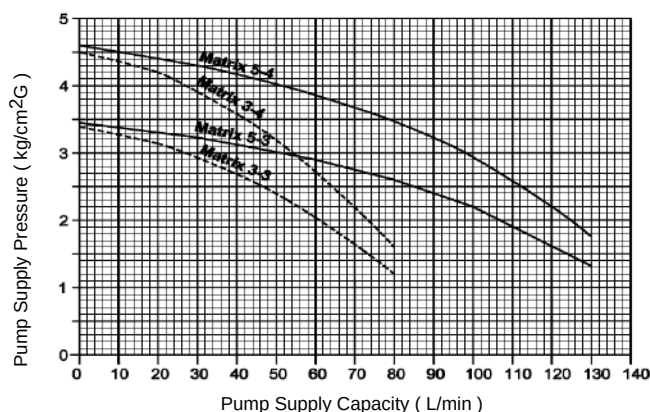
- Handling liquid: 0-40 °C
- Installation: Indoor
- Operation system: Integrated controller unit for DBU1
Pressure switch control for DBU2
- Supply water pressure: Refer to pump performance
- Power supply: Single phase 220V 50Hz
- Allowable suction pressure: -0.3- +0.3 bar G

Features

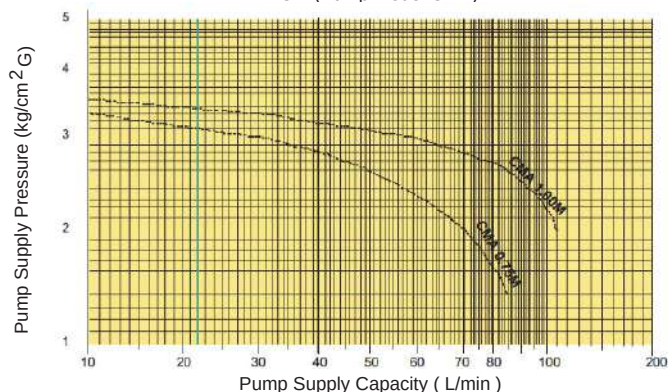
- Operated by integrated control unit and very easy for customer use
- Standard pump model in cast iron or alternative with stainless pump for clean water supply
- Compact size and easy for installation
- Complete with power plug for customer connect with electric power source

Performance Chart

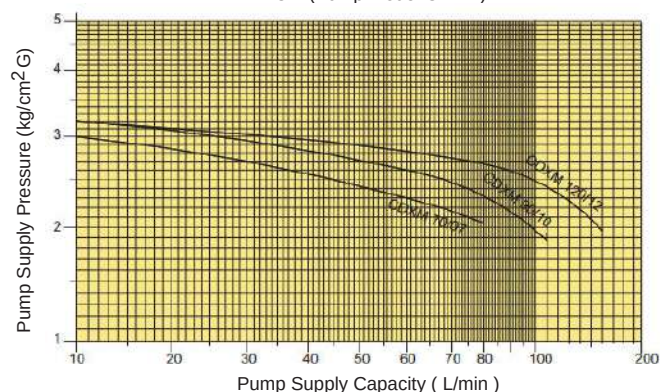
DBU 1 (Pump Model Matrix)



DBU 2 (Pump Model CMA)



DBU 2 (Pump Model CDXM)



Performance table

Model	kW	Pump Supply Capacity (L/min)						
		20	30	45	60	80	100	130
		Pump Supply Pressure (kg/cm²G)						
DBU1 MATRIX 3-3/0.65M	0.75	3.1	2.9	2.5	2.0	1.2	-	-
DBU1 MATRIX 3-4/0.65M	0.75	4.2	3.9	3.4	2.7	1.6	-	-
DBU1 MATRIX 5-3/0.65M	0.75	-	3.2	3.0	2.9	2.6	2.2	1.3
DBU1 MATRIX 5-4/0.9M	0.9	-	4.3	4.1	3.8	3.4	2.9	1.7

Model	Pressure Switch setting (kg/cm²G)		kW	Pump Supply Capacity (L/min)				
				20	40	60	80	95
	On	Off		Pump Supply Pressure (kg/cm²G)				
DBU2 CMA 0.75M	1.8	2.8	0.75	2.9	2.8	2.3	1.6	-
DBU2 CMA 1.00M	2.0	3.0	0.9	3.3	3.2	2.95	2.6	2.3

Model	Pressure Switch setting (kg/cm ² G)		kW	Pump Supply Capacity (L/min)							
	On	Off		20	50	80	90	110	130	160	
				Pump Supply Pressure (kg/cm ² G)							
DBU2 CDXM 70/07	1.6	2.6	0.75	2.8	2.5	2.2	-	-	-	-	
DBU2 CDXM 90/10	1.8	2.8	0.9	2.9	2.6	2.3	2.2	1.9	-	-	
DBU CDXM 120/12	1.8	2.8	1.1	-	2.9	2.7	2.6	2.5	2.3	2.1	



■ Standard and regulation

The FFS-FFB firefighting pressure boosting units are designed and built in compliance

- UNI EN 12845 standard ,extinguisher appliances ,water supplies for automatic system
- UNI EN 12845/10779 standard ,extinguisher systems - Hydrant networks
- 2006/42 EEC Machinery Directive
- 2006/95 CE Low Voltage Directive
- 2004/108 Electromagnetic Compatibility Directive
- European Standards :
EN60204-1 ; IEC EN60439-1 ; EN61000-6-4 ; EN61000-6-2

■ Condition for use

The FFS-FFB firefighting pressure boosting units can be used exclusively as envisioned in the UNI EN 12845 LH, OH, HH Standard, in the automatic activation water supplies for the automatic fire fighting units in civil and industrial activities. The water conveyed must not contain solid bodies and fibres in suspension or vegetation and without aggressive and corrosive chemical substances (UNI EN 12845 8.6).

- Minimum temperature of the water conveyed is 0°C, max temperature 40°C (25°C for submersed multistage pumps)
- Environment functioning temperature is 4°÷40°C at a height not exceeding 1000 m a.s.l.
- Max. relative humidity 50% at +40°C

NB: possibly the pumping unit must be installed underhead (UNI EN 12845)

NB: each pump must have its own independent suction pipe (UNI EN 12845).



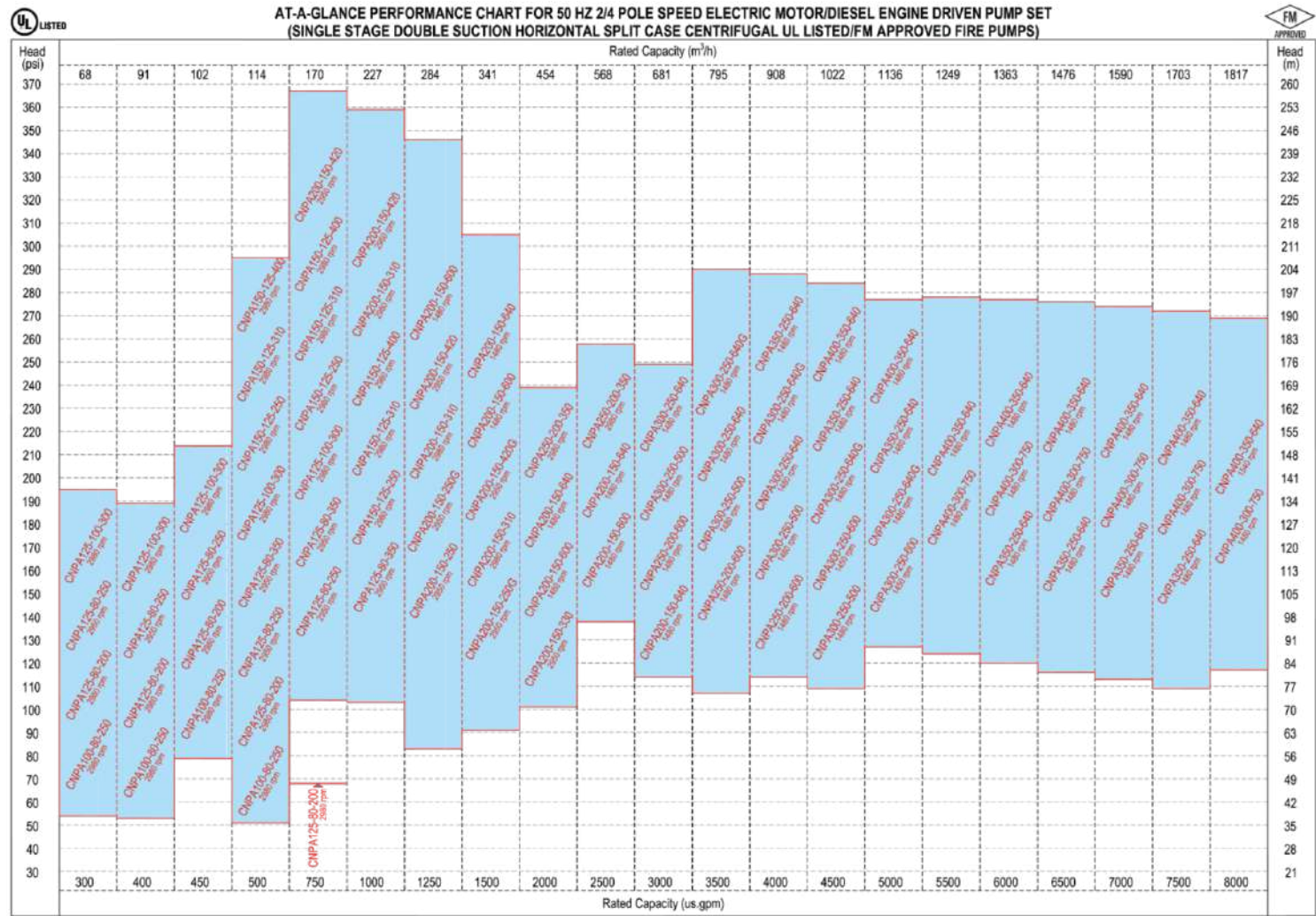
FIRE FIGHTING PUMPS

MODEL CNPA HORIZONTAL SPLIT CASE CENTRIFUGAL PUMPS



■ Features

- 1. Comply with international standard NFPA20, UL Listed and FM Approved
- 2. Available flow rate capacity 300 up to 8000 US.GPM
- 3. Supply total head from 40 psi up to maximum 367 psi
- 4. Axial split casing allows the easy removal the top casing for inspection and service
- 5. Efficiencies and NPSH is improved with the aid of CFD analysis and optimum design



COOLING TOWER

MODEL SNC-U series OPEN CIRCUIT TYPE

Download
Catalog SNC-U



JCI

■ Features

1. JCI certification
2. Enhance capacity from SDC-U series
3. Energy saving, Space saving, Compact, Light weight, Super low noise
4. Built in piping arrangement
5. Easier maintenance
6. Reduce installation time

Specification														Mass.(kg)		Motor for Fan 3Ph × 400V × 50Hz®							Noise Level [dB(A)]										
Inlet Temp. (°C)		37.8		35		Dimensions [mm]				Piping Size [A]													Shipping	Operation	Fan 45°			Louver side H=1.5m			Casing Panel Side H=1.5m		
Outlet Temp. (°C)		32.2		29.5																													
WB. Temp. (°C)		28.3		27																													
Model		Water Flow(l/min)		L	W	H	h	In	Out	Ov	Dr	Ba	Ma	Q'ty			Dia mm	kW	P	Drv	Amp [A]	Q'ty	Dm	2m	10m	16m	2m	10m	16m				
EXTERNAL PIPING TYPE	SNC-U280ASSY	2535	1778	3570	2150	3790	645	-	150	50	50	32	32	1	1280	3380	1800	7.5	4	BD	16.3	1	70	65	57.5	53	61	54	50.5				
	320ASSY	3244	2275	3870	2350	3790	715	-	150	50	50	32	32	1	1400	3750	2100	7.5	4	BD	16.3	1	71.5	66.5	59	65.5	62.5	55.5	52				
	350ASSY	3622	2540	3870	2350	3790	715	-	150	50	50	32	32	1	1440	3790	2100	11.0	4	BD	21.3	1	72.5	67.5	60	56.5	63.5	66.5	63				
	560ASSY	5070	3556	3570	4300	3790	645	-	150	50	50	32	32	2	2450	6650	1800	7.5	4	BD	16.3	2	72	67	59.5	56	63	56	52.5				
	640ASSY	6488	4550	3870	4700	3790	715	-	150	50	50	32	32	2	2690	7390	2100	7.5	4	BD	16.3	2	74	69	61.5	58	65	58	54.5				
	700ASSY	7244	5080	3870	4700	3790	715	-	150	50	50	32	32	2	2770	7470	2100	11.0	4	BD	21.3	2	75	70	62.5	59	66	59	55.5				
	840ASSY	7605	5334	3570	6450	3790	645	-	150	50	50	32	32	3	3620	9920	1800	7.5	4	BD	16.3	3	73	68	60.5	57	64	57	53.5				
	960ASSY	9732	6825	3870	7050	3790	715	-	150	50	50	32	32	3	3980	11030	2100	7.5	4	BD	16.3	3	74.5	70	62.5	59	66	59	55.5				
	1050ASSY	10866	7620	3870	7050	3790	715	-	150	50	50	32	32	3	4100	11150	2100	11.0	4	BD	21.3	3	75.5	71	63.5	60	67	60	56.5				
	1120ASSY	10140	7112	3570	8600	3790	645	-	150	50	50	32	32	4	4790	13190	1800	7.5	4	BD	16.3	4	73.5	69.5	62	58.5	65.5	58.5	55				
INTERNAL PIPING TYPE	1280ASSY	12976	9100	3870	9400	3790	715	-	150	50	50	32	32	4	5270	14670	2100	7.5	4	BD	16.3	4	75	71	63.5	60	67	60	56.5				
	1400ASSY	14488	10160	3870	9400	3790	715	-	150	50	50	32	32	4	5430	14830	2100	11.0	4	BD	21.3	4	76	72	64.5	61	68	61	57.5				
	SNC-U280ASSD	2535	1778	3570	2150	3790	645	150	150	50	50	32	32	1	1330	3430	1800	7.5	4	BD	16.3	1	70	65	57.5	53	61	54	50.5				
	320ASSD	3244	2275	3870	2350	3790	715	150	150	50	50	32	32	1	1450	3800	2100	7.5	4	BD	16.3	1	71.5	66.5	59	65.5	62.5	55.5	52				
	350ASSD	3622	2540	3870	2350	3790	715	150	150	50	50	32	32	1	1480	3830	2100	11.0	4	BD	21.3	1	72.5	67.5	60	56.5	63.5	66.5	63				
	560ASSD	5070	3556	3570	4300	3790	645	150	150	50	50	32	32	2	2540	6740	1800	7.5	4	BD	16.3	2	72	67	59.5	56	63	56	52.5				
	640ASSD	6488	4550	3870	4700	3790	715	150	150	50	50	32	32	2	2780	7480	2100	7.5	4	BD	16.3	2	74	69	61.5	58	65	58	54.5				
	700ASSD	7244	5080	3870	4700	3790	715	150	150	50	50	32	32	2	2850	7550	2100	11.0	4	BD	21.3	2	75	70	62.5	59	66	59	55.5				
	840ASSD	7605	5334	3570	6450	3790	645	150	150	50	50	32	32	3	3750	10050	1800	7.5	4	BD	16.3	3	73	68	60.5	57	64	57	53.5				
	960ASSD	9732	6825	3870	7050	3790	715	150	150	50	50	32	32	3	4110	11160	2100	7.5	4	BD	16.3	3	74.5	70	62.5	59	66	59	55.5				
	1050ASSD	10866	7620	3870	7050	3790	715	150	150	50	50	32	32	3	4220	11270	2100	11.0	4	BD	21.3	3	75.5	71	63.5	60	67	60	56.5				
	1120ASSD	10140	7112	3570	8600	3790	645	150	150	50	50	32	32	4	4960	13360	1800	7.5	4	BD	16.3	4	73.5	69.5	62	58.5	65.5	58.5	55				
	1280ASSD	12976	9100	3870	9400	3790	715	150	150	50	50	32	32	4	5440	14840	2100	7.5	4	BD	16.3	4	75	71	63.5	60	67	60	56.5				
	1400ASSD	14488	10160	3870	9400	3790	715	150	150	50	50	32	32	4	5590	14990	2100	11.0	4	BD	21.3	4	76	72	64.5	61	68	61	57.5				



COOLING TOWER

MODEL **CDW series**

OPEN CIRCUIT TYPE

Download
Catalog CDW



■ Features

1. CTI certification
2. Space saving, Compact, Light weight, High capacity, Energy saving
3. Built in piping arrangement
4. Easier maintenance
5. Reduce installation time
6. Maximum capacity per cell as 1200 TR
7. Enhanced efficiency of filling hanger type, filling with no chemical consisted in some model

CDW-ASY-C

Standard Condition

Water Temp : Inlet = 37°C, Outlet = 32°C, W.B. = 28°C



MODEL	VOLUME OF OUTLET COLD WATER (m³/h)		DIMENSION (mm)			FAN DIAMETER	HEAD LOSS	SHIPPING WEIGHT	OPERATION WEIGHT
	W.B.28°C	W.B.27°C	L (mm)	W (mm)	H (mm)	mm	m	kg	kg
CDW-100ASY-C	100	115	3770	1750	2770	1500	4	900	2510
CDW-125ASY-C	125	143	3770	1950	2770	1500	4	930	2540
CDW-135ASY-C	135	155	4070	2150	2770	1800	4	1010	2920
CDW-150ASY-C	150	172	4070	2150	2770	1800	4	1030	2940
CDW-175ASY-C	175	200	4370	2350	2770	2100	4	1160	3270
CDW-200ASY-C	200	230	4370	2450	2770	2100	4	1200	3350
CDW-250ASY-C	250	287	4370	2450	3925	2200	6	1440	3820

CDW-ASY-C

Standard Condition

Water Temp : Inlet = 37°C, Outlet = 32°C, W.B. = 28°C



MODEL	VOLUME OF OUTLET COLD WATER (m³/h)		DIMENSION (mm)			FAN DIAMETER	HEAD LOSS	SHIPPING WEIGHT	OPERATION WEIGHT
	W.B.28°C	W.B.27°C	L (mm)	W (mm)	H (mm)	mm	m	kg	kg
CDW-300ASY-C	300	344	5570	3100	3900	2600	6	2700	7675
CDW-350ASY-C	350	402	5870	3800	3950	3000	6	3700	9975
CDW-400ASY-C	400	459	5870	3800	3950	3000	6	3725	10000
CDW-450ASY-C	450	517	6470	4600	3875	3500	6	4240	12110
CDW-500ASY-C	500	574	6470	4600	3875	3500	6	4265	12135
CDW-550ASY-C	550	632	6470	4600	4520	3500	8	5060	13940
CDW-600ASY-C	600	689	6470	4600	4520	3500	8	5085	13965
CDW-650ASY-C	650	746	6870	5400	4520	4000	8	5765	16360
CDW-700ASY-C	700	804	6870	5400	4520	4000	8	5790	16385
CDW-750ASY-C	750	961	6870	5800	4520	4000	8	6250	17940
CDW-800ASY-C	800	918	6870	5800	4520	4000	8	6275	17965



COOLING TOWER

MODEL **MXC-U series**

CLOSED CIRCUIT TYPE

Download
Catalog MXC-U



JCI

■ Features

1. JCI certification
2. Improved maintenance performance by the optimum arrangement of new design copper coil and high performance infill
3. Special inclined heat exchanger
4. Saving on running and operating cost
5. Improved cooling performance by adopting new high efficiency fan (for super low noise)

Standard Condition

Water flow rate: 13 L / (min · 4.535kW), Water temp.: Inlet=37°C, Out=32°C, W.B.=27°C

Specification				Head Loss	Dimensions [mm]						Mass [kg]		Fan · Motor				Piping Size [A]						Sprinkler Pump				Noise Level [dB(A)]		
Inlet Temp [C]	37				Length	Width	Tower height	Fan casing height	Motor height	Shipping Operation		Fan dimensions	Rated output	Pole	Qty	Circulating water inlet	Circulating water outlet	Over flow	Drain	Auto-matics make up	Manual make up	Qty	Size	Rated output	Pole	Qty	Fan 45°	Louwer Side H=1.5m	Casing Panel Side H=1.5m
Out Temp [C]	32																												
W.B.Temp[C]	27	28																											
Model	Water flow rate [L/min]			[m]	L	W	H	h	h1														[A]	[kW]	[P]		(D)m	2m	2m
MCC- 5AS	65	55	2.0	1080	1270	1590	280	—	250	440	700	0.25	8	1	40	40	25	25	15	15	1	32	0.25	2	1	62.5	57.0	57.0	
8AS	104	89	2.0	1080	1270	1800	280	—	290	490	700	0.36	8	1	40	40	25	25	15	15	1	32	0.25	2	1	57.5	54.5	54.5	
10AS	130	112	3.5	1360	1270	1750	280	—	335	585	900	0.5	10/12	1	50	50	25	25	15	15	1	32	0.25	2	1	59.5	55.0	55.0	
15AS	195	169	3.0	1360	1270	2120	280	—	425	700	900	0.75	10/12	1	50	50	25	25	15	15	1	32	0.25	2	1	62.0	59.0	59.5	
20AS	260	225	8.5	1520	1770	2040	370	—	535	960	1200	1.0	10/12	1	65	65	25	25	15	15	1	50	0.4	2	1	64.0	60.0	60.0	
MXC-U30ASW	390	341	2.5	2240	1850	2140	460	90	780	1800	1200	1.5	12/14	1	65	65	40	40	15	15	1	50	0.4	2	1	68.0	65.0	59.5	
40ASW	520	454	0.9	2690	1550	2140	460	90	1000	2080	1200	1.5	12/14	1	80	80	40	40	15	15	1	50	0.4	2	1	68.5	65.0	60.5	
50ASW	650	568	2.8	2990	1850	2140	270	367	1150	2490	1500	2.2	4	1	80	80	40	40	15	15	1	65	1.5	2	1	71.0	66.5	65.5	
60ASW	780	682	2.5	2990	1850	2140	270	389	1160	2570	1500	3.7	4	1	80	80	40	40	15	15	1	65	1.5	2	1	73.0	68.0	67.5	
80ASW	1040	911	3.0	3270	1750	2770	615	389	1500	3470	1500	3.7	4	1	100	100	50	50	20	20	1	65	1.5	2	1	72.5	67.5	66.5	
90ASW	1170	1025	3.1	3270	1950	2770	615	389	1510	3590	1500	3.7	4	1	100	100	50	50	20	20	1	65	1.5	2	1	72.5	68.0	66.5	
100ASW	1300	1138	3.9	3270	1950	2770	615	439	1630	3790	1500	5.5	4	1	100	100	50	50	20	20	1	65	1.5	2	1	73.0	69.0	67.5	
110ASW	1469	1286	7.3	3570	2150	2770	645	439	1700	4140	1800	5.5	4	1	125	125	50	50	20	20	1	65	1.5	2	1	73.5	70.0	69.0	
125ASW	1625	1426	6.7	3570	2150	2770	645	439	1790	4310	1800	5.5	4	1	125	125	50	50	20	20	1	80	2.2	2	1	73.5	70.0	69.0	
135ASW	1787	1568	8.8	3870	2350	2770	715	449	1970	4740	2100	5.5	4	1	125	125	50	50	20	20	1	80	2.2	2	1	74.0	71.0	69.5	
150ASW	1955	1715	10.5	3870	2350	2770	715	497	2010	4780	2100	7.5	4	1	125	125	50	50	20	20	1	80	3.7	2	1	74.5	71.5	70.5	
175ASW	2340	2050	3.1	3270	3900	2770	615	389	2980	7140	1500	3.7	4	2	100x2	100x2	50x2	50x2	20x2	20x2	2	65	1.5	2	2	74.5	70.0	68.5	
200ASW	2600	2277	3.9	3270	3900	2770	615	439	3220	7540	1500	5.5	4	2	100x2	100x2	50x2	50x2	20x2	20x2	2	65	1.5	2	2	75.0	71.0	69.5	
225ASW	2938	2573	7.3	3570	4300	2770	645	439	3370	8250	1800	5.5	4	2	125x2	125x2	50x2	50x2	20x2	20x2	2	65	1.5	2	2	75.5	72.0	71.0	
250ASW	3250	2852	6.7	3570	4300	2770	645	439	3550	8590	1800	5.5	4	2	125x2	125x2	50x2	50x2	20x2	20x2	2	80	2.2	2	2	75.5	72.0	71.0	
275ASW	3575	3137	8.8	3870	4700	2770	715	449	3900	9440	2100	5.5	4	2	125x2	125x2	50x2	50x2	20x2	20x2	2	80	2.2	2	2	76.0	73.0	71.5	
300ASW	3910	3430	10.5	3870	4700	2770	715	497	3980	9520	2100	7.5	4	2	125x2	125x2	50x2	50x2	20x2	20x2	2	80	3.7	2	2	76.5	73.5	72.5	
330ASW	4407	3860	7.3	3570	6450	2770	645	439	5040	12360	1800	5.5	4	3	125x3	125x3	50x3	50x3	20x3	20x3	3	65	1.5	2	3	76.5	73.0	72.0	
350ASW	4875	4278	6.7	3570	6450	2770	645	439	5310	12870	1800	5.5	4	3	125x3	125x3	50x3	50x3	20x3	20x3	3	80	2.2	2	3	76.5	73.0	72.0	
400ASW	5362	4705	8.8	3870	7050	2770	715	449	5830	14140	2100	5.5	4	3	125x3	125x3	50x3	50x3	20x3	20x3	3	80	2.2	2	3	77.0	74.0	72.5	
450ASW	5865	5146	10.5	3870	7050	2770	715	497	5950	14260	2100	7.5	4	3	125x3	125x3	50x3	50x3	20x3	20x3	3	80	3.7	2	3	77.5	74.5	73.5	
500ASW	6500	5704	6.7	3570	8600	2770	645	439	7070	17150	1800	5.5	4	4	125x4	125x4	50x4	50x4	20x4	20x4	4	80	2.2	2	4	77.0	73.5	72.5	
550ASW	7150	6274	8.8	3870	9400	2770	715	449	7760	18840	2100	5.5	4	4	125x4	125x4	50x4	50x4	20x4	20x4	4	80	2.2	2	4	77.5	74.5	73.0	
600ASW	7820	6861	10.5	3870	9400	2770	715	497	7920	19000	2100	7.5	4	4	125x4	125x4	50x4	50x4	20x4	20x4	4	80	3.7	2	4	78.0	75.0	74.0	
625ASW	8125	7130	6.7	3570	10750	2770	645	439	8830	21430	1800	5.5	4	5	125x5	125x5	50x5	50x5	20x5	20x5	5	80	2.2	2	5	77.5	74.0	73.0	
675ASW	8937	7842	8.8	3870	11750	2770	715	449	9690	23540	2100	5.5	4	5	125x5	125x5	50x5	50x5	20x5	20x5	5	80	2.2	2	5	78.0	75.0	73.5	
750ASW	9775	8576	10.5	3870	11750	2770	715	497	9890	23740	2100	7.5	4	5	125x5	125x5	50x5	50x5	20x5	20x5	5	80	3.7	2	5	78.5	75.5	74.5	
810ASW	10725	9411	8.8	3870	14100	2770	715	449	11620	28240	2100	5.5	4	6	125x6	125x6	50x6	50x6	20x6	20x6	6	80	2.2	2	6	78.5	75.5	74.0	
900ASW	11730	10292	10.5	3870	14100	2770	715	497	11860	28480	2100	7.5	4	6	125x6	125x6	50x6	50x6	20x6	20x6	6	80	3.7	2	6	79.0	76.0	75.0	
1050ASW	13685	12007	10.5	3870	16450	2770	715	497	13830	33220	2100	7.5	4	7	125x7	125x7	50x7	50x7	20x7	20x7	7	80	3.7	2	7	79.5	76.5	75.5	



MODEL **REW&RGWA** DOUBLE EFFECT STEAM ABSORPTION TYPE

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Catalog **REW&RGWA**



■ Features

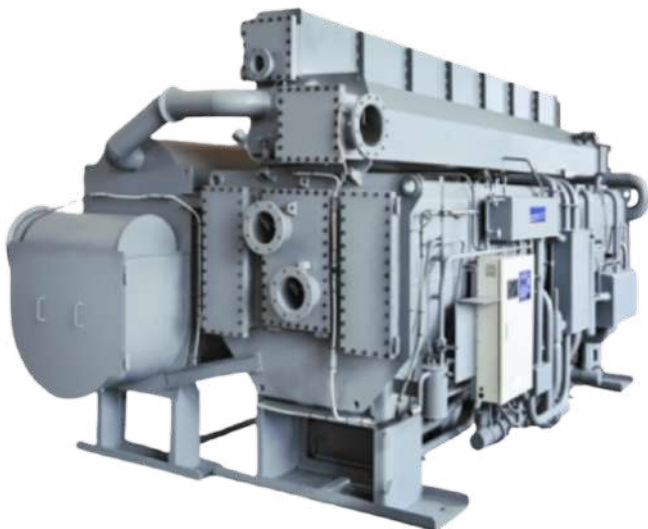
1. Steam supply pressure 2 barG to 8 barG
2. Controlled by high performance microprocessor and modbus
3. Marine type water boxes as standard
4. No manual purge is required by automatic purge unit
5. Cooling capacity 150 to 2500 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works

MODEL **RGQ-J** EXHAUST GAS ABSORPTION TYPE

Download
Catalog **RGQ - J**



■ Features

1. Exhaust gas temperature 500 oC - 170 oC
2. Controlled by high performance microprocessor and modbus
3. Dual evaporator / condenser
4. No manual purge is required by automatic purge unit
5. Cooling capacity 150 to 2500 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works



MODEL **RFHA** HOT WATER DRIVEN DUAL STAGE ABSORPTION TYPE

Download
Catalog **RFHA**



■ Features

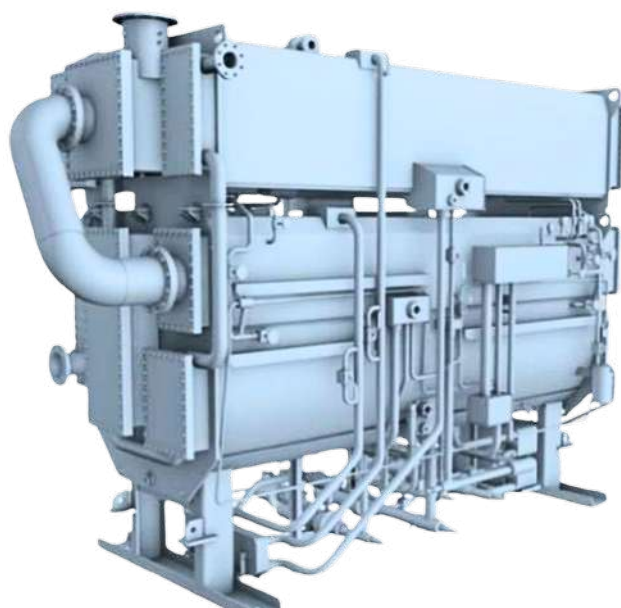
1. Hot water temperature 98 --> 88 oC
2. Controlled by high performance microprocessor and modbus
3. Marine-type water boxes as standard
4. No manual purge is required by automatic purge unit
5. Cooling capacity 150 to 2500 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works

MODEL **RCH** HOT WATER ABSORPTION TYPE

Download
Catalog **RCH**



■ Features

1. Hot water temperature 88 --> 83 oC
2. Compact design, Combined with the adoption of a spray type generator
3. No need of temperature control of cooling water even if it falls to 15 oC
4. Combination of hermetic purge and palladium cell provides automatic purge
5. Cooling capacity 45 to 540 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works



MODEL **RTBF-A** LOW PRESSURE CENTRIFUGAL TYPE

[Download
Catalog RTBF-A](#)



■ Features

1. Lower operation expense & CO2 emission
2. High efficiency compressor
3. Very compact design compare to the previous model
4. Using new refrigerant R1233zd low GWP 1.0
5. Cooling capacity 150 to 2500 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works

MODEL **RTGC-A** HIGH PRESSURE CENTRIFUGAL TYPE

[Download
Catalog RTGC-A](#)



■ Features

1. High efficiency semi hermetic type compressor
2. Chiller adopts economizer cycle for high efficiency and energy saving
3. Using new refrigerant R-1234ze(E) low GWP 1.0
4. Cooling capacity 500 to 2500 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works



MODEL RHSDW SCREW MODULES TYPE

[Download
Catalog RHSDW](#)



■ Features

1. Compact modules chiller is easy to install in the machine room
2. Controls up to 8 modules for large capacity
3. Using Zero ODP*refrigerant R-407C
4. Cooling capacity 50 to 800 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works

MODEL RHSCW-JC SCREW TYPE

[Download
Catalog RHSCW - JC](#)



■ Features

1. Use the high efficiency dual screw compressor
2. High efficient flooded type heat exchanger
3. Using Zero ODP * Refrigerant R-134a
4. Cooling capacity 100 to 500 USRT

■ Applicable industry

Hotels
Food & Beverage factory
Manufacturing plant
Construction works



AFTER SALE SERVICE

In order to provide complete on sale business, After Sale Service Department is established to support for maintenance and service job.

EBARA (Thailand) has set up service team to serve customers who need urgent solution due to machine out of order. The skill team will reach to customer immediately up on requested following Ebara's policy.

Pump and motor final alignment



Pump spare part overhaul



Pump start up and commissioning at site



Customer training during start up and commissioning



AFTER SALE SERVICE

Booster pump service



Pump installation at site



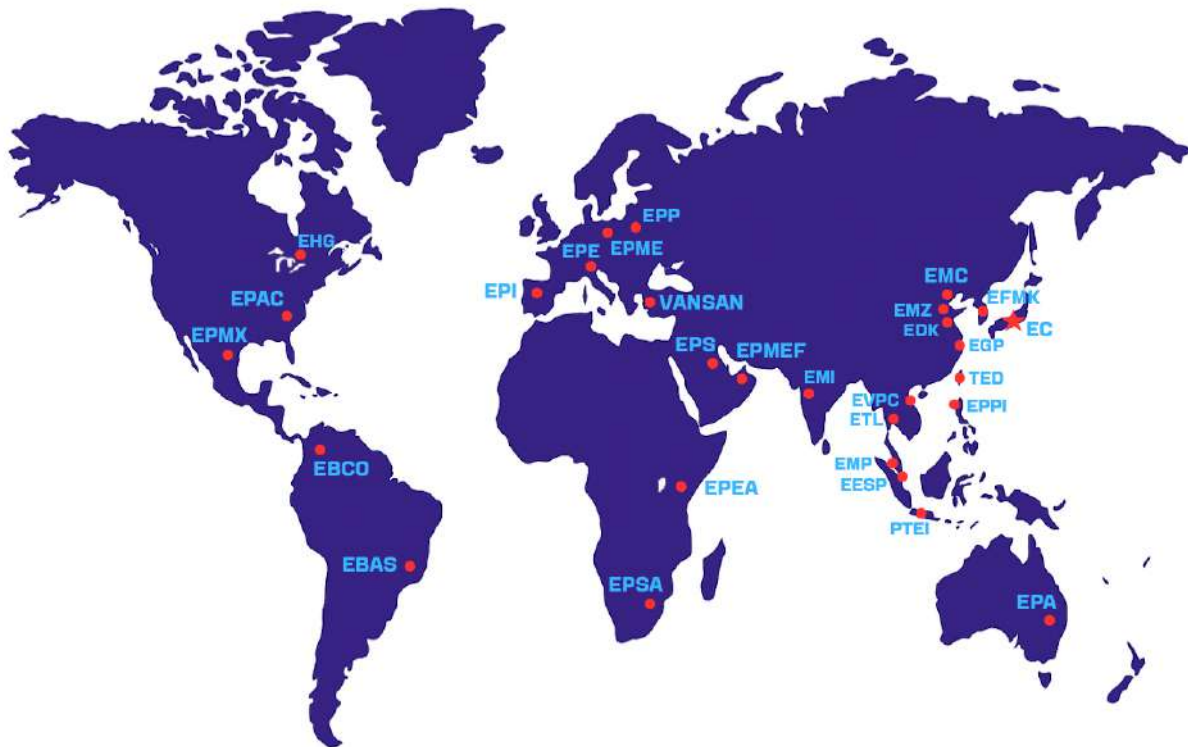
Chiller service and Spare parts overhaul



Cooling tower service and Spare parts overhaul



EBARA GROUP NETWORK



Americas

EBARA Pumps Americas Corporation - USA (EPAC)
EBARA Bombas America Do Sul LTDA. - Brazil (EBAS)
EBARA Bombas Colombia S.A.S. - Colombia (EBCO)
EBARA Pumps Mexico, S.A. de C.V. - Mexico (EPMX)
EBARA HG ULC - Canada (EHG)

Europe and Middle East

EBARA Pumps Europe S.p.A. - Italy (EPE)
EBARA Pompy Polska sp.z.o.o. - Poland (EPP)
EBARA Pumps Iberia, S.A. - Spain (EPI)
EBARA Precision Machinery Europe GmbH - Germany (EPME)
VANSAN Makina San. Tic. A.S. - Turkey (VANSAN)
EBARA Pumps Middle East FZE - U.A.E. (EPMEF)
EBARA Pumps Saudi Arabia LLC - Kingdom of Saudi Arabia (EPS)

Asia-Pacific

EBARA Corporation - Japan (EC)
EBARA Machinery (China) Co., Ltd. - China (EMC)
EBARA Machinery Zibo Co., Ltd. - China (EMZ)
EBARA Densan (Kunshan) Co., Ltd. - China (EDK)
EBARA Great Pump Co., Ltd. - China (EGP)
EBARA Densan Taiwan Manufacturing Co., Ltd. - Taiwan (TED)
EBARA Fluid Machinery Korea Co., Ltd. - Korea (EFMK)
EBARA (Thailand) Limited - Thailand (ETL)
PT. Ebara Indonesia - Indonesia (PTEI)
EBARA Engineering Singapore Pte. Ltd. - Singapore (EESP)
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EBARA Vietnam Pump Company Limited - Vietnam (EVPC)
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EBARA Machinery India Private Limited - India (EMI)
EBARA Pumps Australia Pty. Ltd. - Australia (EPA)

Africa

EBARA Pumps South Africa (PTY) Ltd. - South Africa (EPSA)
EBARA Pumps East Africa - Kenya (EPEA)



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Factory - BangPhriang



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