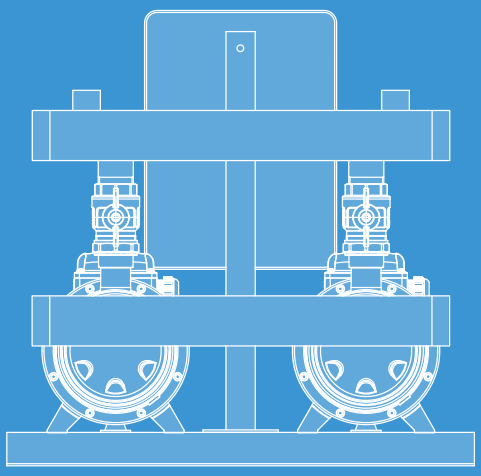
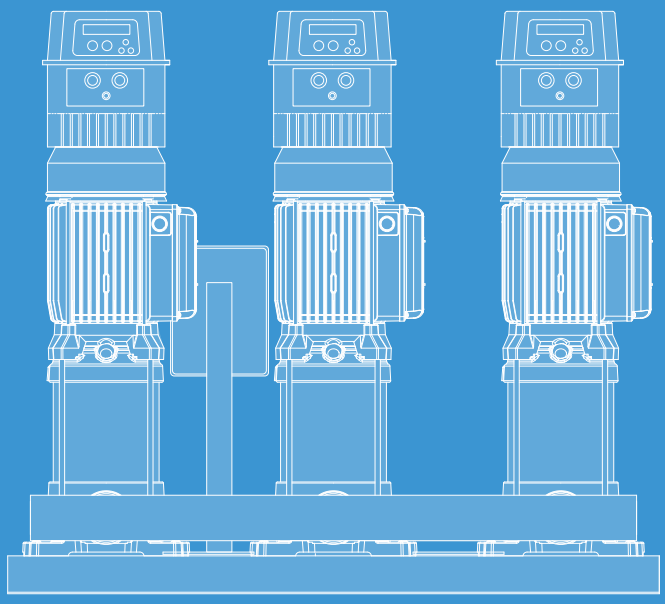
FORAS
WATER PUMPS

2-3 UNITS BOOSTER SETS

50Hz

Technical Catalogue





www.foras-pumps.it

VALUES

Reliability
Choosing Foras means choosing safety at every stage

Quality
Where there is control, there is reliability: the basis for success

Speed
Impeccable delivery time

Flexibility
Foras studies each case thoroughly, identifies the best solution and then takes action with security

Variety
The best service: a wide range of Foras products, one for every need

COMPANY WITH QUALITY, ENVIRONMENT, HEALTH AND SAFETY MANAGEMENT SYSTEMS
UNI EN ISO 9001: Certificate No. 50 100 3634
UNI EN ISO 14001: Certificate No. 50 100 12552
UNI ISO 45001: Certificate No. 50 100 14960

The energy of experience

30 years of made in Italy

INDEX

BOOSTING SYSTEMS

High performance pressure-boosting systems

Control panel or variable speed drives

All pumps are set and controlled by a control panel and pressure switches or by frequency drivers.

Suction and delivery manifolds

The pumps are connected in parallel through manifolds with shut-off-valves and check valves.

In the standard version, the manifolds are made of galvanized steel. They can be supplied in AISI 304 on request.

VERSION

- Fixed speed
- Variable speed

Pump specification	
Flow	up to 345 m³/h
Head	up to 240 m
Start up	direct, star/delta, inverter
Power supply voltage	1~ 230V 50Hz 3~ 400V 50Hz
Ambient temperature at nominal load	max 40° C
Type of pumped liquid	clean, free of solids and abrasive substances, non-viscous and non-aggressive
Temperature of pumped liquid	-15° C to +120° C (depends on the pump model)

Suitable for various application

Domestic, industrial systems

Irrigation, gardening, sprinklers

Water distribution, pressure boosting

Industrial cooling HVAC systems

Easy installation

All booster sets are hydraulically and electrically assembled, tested and pre-set ready to install for fast and easy commissioning.

In the standard version, check valves are mounted on the suction manifold. On request, they can be installed on the delivery manifold.

Common skid

The pumps are fixed on a galvanized steel base.

BOOSTER SETS

- Two or three identical electric pumps coupled in parallel by manifolds, shut-off valves, check valves and fixed on a single base
- The pumps are controlled by an electronic or electromechanical panel which automatically starts and stops the electric pumps based on the pressures set on the pressure switches

BOOSTER SETS + VSD

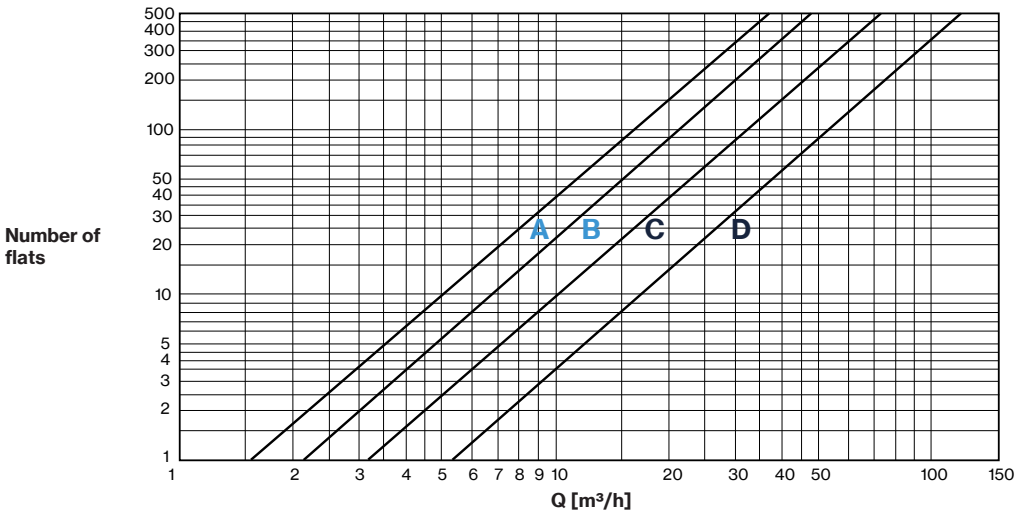
- Two or three identical electric pumps coupled in parallel by manifold, shut-off valves, check valves and fixed on a single base
- The pumps are controlled by variable speed drives EPIC, EPIC-A or IPFC
- The variable speed drives, one installed on each pump, modulate the operating frequency in order to maintain the set pressure constant

Basics

Booster systems may be designed in several different ways depending on local legislation, traditional practices, requirements, etc. For example, for a high-rise building a "zone-divided booster system" would be more efficient than other systems.
See the most common booster *System layout* in the appendix of this catalogue.
Our fixed speed BOOSTER SET and variable speed BOOSTER SET+VSD are the ideal solution to ensure automatic pressure boosting in many applications, in particular for residential and commercial installations where the mains water pressure is not sufficient to cover top floors. The normal specifications are that the pressure on each floor does not fall below 1.5 bar and does not exceed 4.5 bar. To equilize pressure on all floors, pressure reduction valves are often used in the lower part of the systems in multistory buildings. In some countries, it is not permitted to install booster sets directly on the public water supply: a storage tank must be placed upstream the booster set to ensure a regular supply to the pumps and to prevent water from being pressed back to the water main.
When sizing a booster set the following basic hydraulic elements and fundamental calculations need to be taken into consideration.

The flow rate Q required in the system

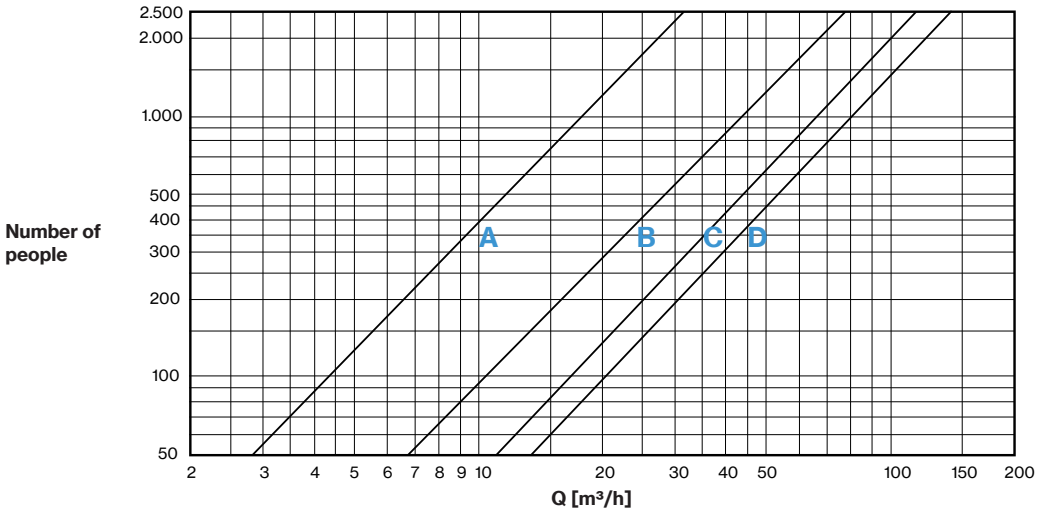
For residential buildings the flow rate can be estimated by the number of flats and outlets.



Outlets per flat

A	Up to 7 outlets including a flush wc
B	Up to 10 outlets including a flush wc
C	Up to 7 outlets including a fast-feed wc
D	Up to 10 outlets including a fast-feed wc

For other buildings the flow rate is based on the average number of people and the intended function of the building.



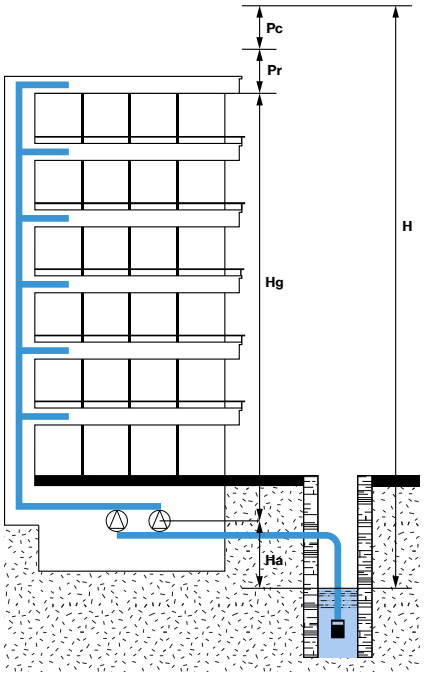
Function of the building

A	Offices
B	Shopping malls
C	Hospitals
D	Hotels

The pressure required H (head) in the system

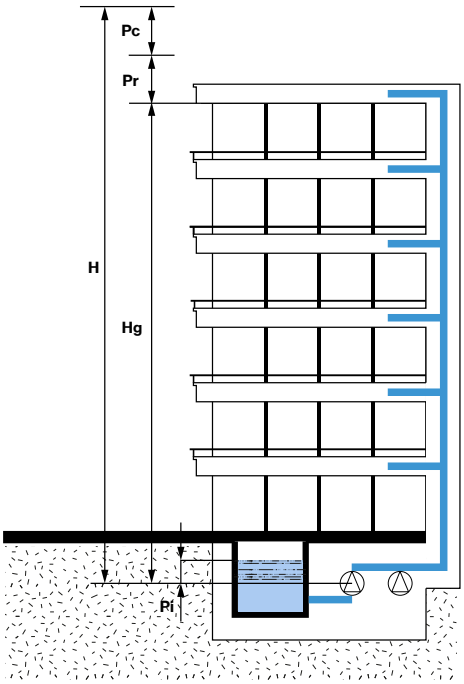
The are a few factors that go into the determination of the pressure required from a booster set and the formula to calculate it depends on whether we have suction lift or flooded suction.

Suction lift



H = Hg+Ha+Pr+Pc

Flooded suction



H = Hg-Pi+Pr+Pc

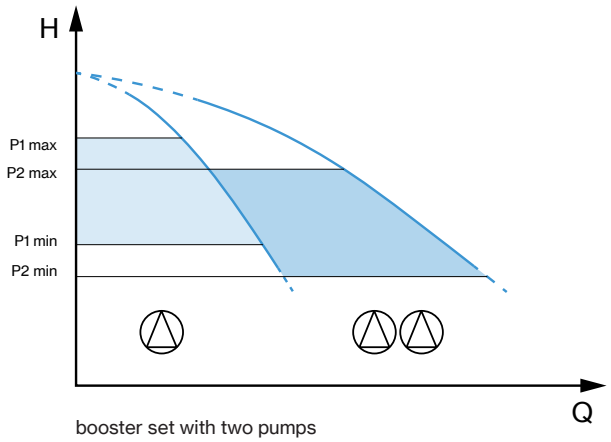
- [H] total head (m)
- [Hg] geodetic head to the highest outlet (m)
- [Ha] suction lift (m)
- [Pi] initial pressure (m)
- [Pr] residual pressure at the highest outlet (not less than 15m)
- [Pc] head loss (can be assumed 20% of Hg, or 0.5 m per floor for new systems and 1.5 m per floor for old systems)

Number of pumps required

An opportunity to achieve an energy cost saving is by splitting the flow rate between two or more pumps instead of installing a single pump. For example, this is recommended for residential buildings with demand spikes in the morning and evening: when services are used the most, all the pumps in the booster set will turn on. During quiet period only one pump is activated instead. A backup pump can be added to ensure continuity of water service either for maintence or failure of the duty pumps.

Type of control required

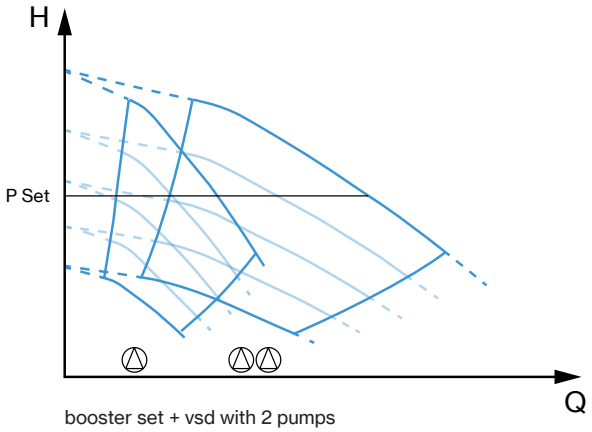
The fixed speed booster set is available for specific applications such as filling a water tank at a consistant rate. The recommendation is to select a pump model where the maximum pressure required is slightly left-hand side in the pump curve.



booster set with two pumps

The variable speed booster set has been designed as a cost effective solution for residential properties and commercial applications in order to keep the pressure constant and to minimize the power consumption during periods of reduced demands. The pressure is detected by the sensors and continuously transmitted to the variable speed drives (VSD).

When selecting a BOOSTER SET+VSD a pump should be chosen such that the flow rate required is slightly to the right-hand side of the pump curve.



booster set + vsd with 2 pumps

For operation principal of fixed and variable speed control mode check the technical appendix at page 148

Pressure tank

In water systems the function of the pressure tank is to compensate for small water consumption or leakages and maintain pressure when the pump is stopped, thus avoiding excessively frequent start/stop cycles. It is of fundamental importance to correctly choose the volume and the pre-charge pressure of the pressure tank, as they are different between constant-speed and variable-speed booster sets.

For volume and pre-charge pressurecheck the technical appendix at page 149

Control panels and variable speed drives

EQ2SM(T)-EQ3SM(T) Fixed speed 2-3 pumps DOL

Electronic control panel for two pumps DOL
(1~ up to 2.2kW or 3~ up to 15kW).

TYPE		VERSION	A	POWER	
2 pumps	3 pumps			HP	kW
EQ2SM	**EQ3SM**	1~	0-18	0,5-3	0,37-2,2
EQ2SMT 10	**EQ3SMT 10**	3~	0-18	0,75-10	0,55-7,5
EQ2SMT 15	**EQ3SMT 15**	3~	16-25	10-15	7,5-11
EQ2SMT 20	**EQ3SMT 20**	3~	16-32	15-20	11-15

FEATURES

- Single-phase version 100-240Vac 50/60Hz
- Three-phase version 310-450Vac 50/60Hz
- LCD display for voltage, current, power factor, hours of operation, number of starts, motor status, alarms, analogue signal and thresholds
- AUTOMATIC - 0 - MANUAL operation buttons
- Voltage and current minimum and maximum electronic control, failure or incorrect phase sequence control on power supply input
- Programmable anti-seize autotest
- Dry running protection through level probes/ floats/ pressure switches and minimum current
- Up to 6 control inputs: floats/pressure switches
- Input for 4-20 mA or 0-10V analogue signal
- Analogue signal cm - m - bar
- Emergency start and stop inputs with analogue signal
- Clickson thermal pad inputs with automatic reset
- Inversion of inputs (from normally open to normally closed)
- Activation delay from mains return
- Manual button operation (fixed or pulse)
- Programmable alarms for voltage, levels, motor overload, minimum motor current, clicson, output contacts, starts/hour
- Automatic reset for minimum current alarm with 4 programmable times
- Auxiliary and motor protection fuses, isolator protection, duty standby protection
- ABS box IP55. Metallic box IP55 for EQ3SMT
- Duty-standby and motor changeover in the case of a fault for two-pump and three-pump control panels
- Capacitors included for single-phase version

Q2ST-Q3ST

Fixed speed 2-3 pumps S/D

Electronicmechanical control panel for star-delta start-up of two or three pumps (3~ from 2.2kW to 220kW).

TYPE		A	POWER	
2 pumps	3 pumps		HP	kW
Q2ST 3	**Q3ST 3**	8,5	3	2,2
Q2ST 5	**Q3ST 5**	13	5,5	4
Q2ST 7	**Q3ST 7**	15	7,5	5,5
Q2ST 10	**Q3ST 10**	17	10	7,5
Q2ST 15	**Q3ST 15**	24	15	11
Q2ST 20	**Q3ST 20**	31	20	15
Q2ST 25	**Q3ST 25**	38	25	18,5
Q2ST 30	**Q3ST 30**	50	30	22
Q2ST 40	**Q3ST 40**	60	40	30
Q2ST 50	**Q3ST 50**	75	50	37
Q2ST 60	**Q3ST 60**	100	60	45
Q2ST 75	**Q3ST 75**	124	75	55
Q2ST 100	**Q3ST 100**	135	100	75
Q2ST 125	**Q3ST 125**	155	125	92
Q2ST 150	**Q3ST 150**	200	150	110
Q2ST 180	**Q3ST 180**	241	180	132
Q2ST 220	**Q3ST 220**	300	220	162
Q2ST 300	**Q3ST 300**	410	300	220

FEATURES

- Power supply 3×400V - 50/60Hz
- 24V transformer for auxiliary circuit
- Low voltage inputs and circuits
- Blue mains supply LED
- Green motor running LED
- Red motor overload alarm LED
- Star/delta line contactors in AC3
- Auxiliary and motor protective devices with fuses
- Main door interlock switch disconnector
- Metal box (whole range)

Q2ST VERSION

- 2 Normally open contacts for start
- 2 Normally open contacts for minimum level/pressure contact
- 2 Selectors for Auto-Off-Manual (stable) operation:
  - Manual: direct operation without controls
  - Automatic: operation controlled by min input and start input
- 2 Green led indicating motor running
- 2 Red led indicating motor overload
- 2 Line, star and delta contactors in AC3
- 2 Overload thermal relays internally restorable
- 2 Adjustable star/delta timers

Q3ST VERSION

- 3 Normally open contacts for start
- 3 Normally open contacts for minimum level/pressure contact
- 3 Selectors for Auto-Off-Manual (stable) operation:
  - Manual: direct operation without controls
  - Automatic: operation controlled by min input and start input
- 3 Green led indicating motor running
- 3 Red led indicating motor overload
- 3 Line, star and delta contactors in AC3
- 3 Overload thermal relays internally restorable
- 3 Adjustable star/delta timers

EPIC

Variable speed drive
Control type /E

EPIC is a single-phase variable speed drive for horizontal and vertical three-phase pumps, designed to maintain the set pressure and protect a pumping system against dry running, over/under voltage and overcurrent.
It is possible to realize a booster set up to 2 pumps in parallel, using 2 EPIC connected together.

FEATURES

- Constant pressure control
- Easy initial configuration
- Installed directly on motor terminal box of horizontal or vertical pumps
- Soft start and soft stop
- Alternance for uniform pump wearing when connected to another EPIC
- Protection against dry running (adjustable power factor cosφ), overload, overcurrent
- Automatic restart in case of stop for dry running
- Fuse for input protection of the device
- Led indicator for standby, run and alarm conditions
- Compatibility for residential environment thanks to an integrated electronic power factor corrector in compliance to EN61000-3-2
- 2 digital inputs (N.O. or N.C.) for motor run/stop
- 2 analog inputs: 4-20 mA and 0-10 VDC
- 1 digital output (N.O. or N.C.) for alarm signal

Input rated voltage	Output rated voltage	Output rated current	Max electric pump current	Weight
1 × 230 V	3 × 230 V	7,5 A	6,8 A	2,5 Kg

EPIC-A

EPIC-A (Advanced) is a three-phase variable speed drive for horizontal and vertical three-phase pumps designed to maintain the set pressure and protect a pumping system against dry running, over/under voltage and overcurrent.
It is possible to realize a booster set up to 8 pumps in parallel.

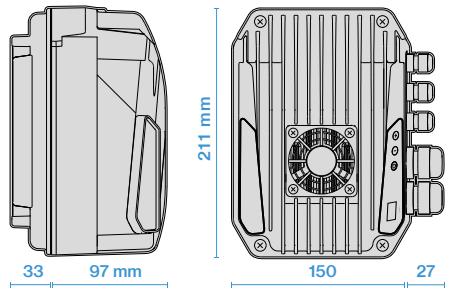
FEATURES

- Constant pressure control
- Easy initial configuration
- Simplified installation on motor terminal box of horizontal or vertical pumps
- Soft start and soft stop
- Alternance for uniform pump wearing when connected to others EPIC-A
- Built-in protections against overvoltage and undervoltage, overcurrent and no load, dry running, overtemperature
- Led indicator for standby, run and alarm conditions
- Compatibility for residential environment thanks to an integrated electronic power factor corrector in compliance to EN61000-3-2
- Integrated input filter for category C2 (EN61800-3), class A (EN55011)
- 4 digital inputs (N.O. or N.C.) for motor run/stop
- 4 analog inputs: two 4-20 mA and two 0-10 VDC
- 2 digital outputs (N.O. or N.C.) for alarm signal

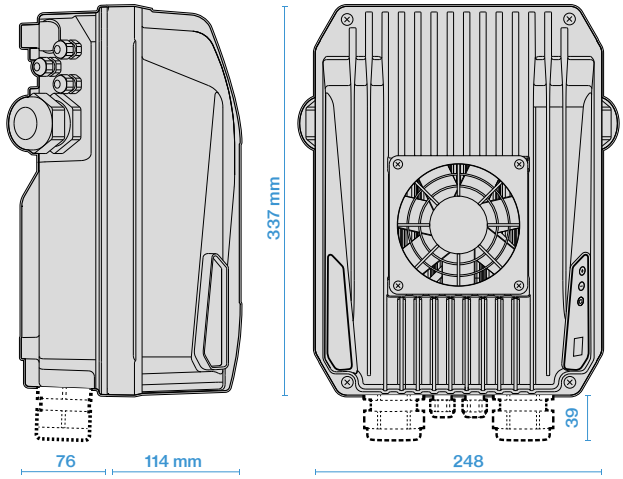
TECHNICAL SPECIFICATIONS

EPIC-A	304	306	309	314	318	325	330	338	344
Input rated voltage	3 × 400 V ± 15%								
Output rated voltage	3 × 400 V								
Output rated current	4 A	6 A	9 A	14 A	18 A	25 A	30 A	38 A	44 A
Max electric pump current	3,6 A	5,4 A	8,1 A	12,6 A	16,2 A	22,5 A	27 A	34,2 A	39,6 A

DIMENSIONS AND WEIGHT



EPIC-A 304 - 306 - 309
max weight 2,5 kg



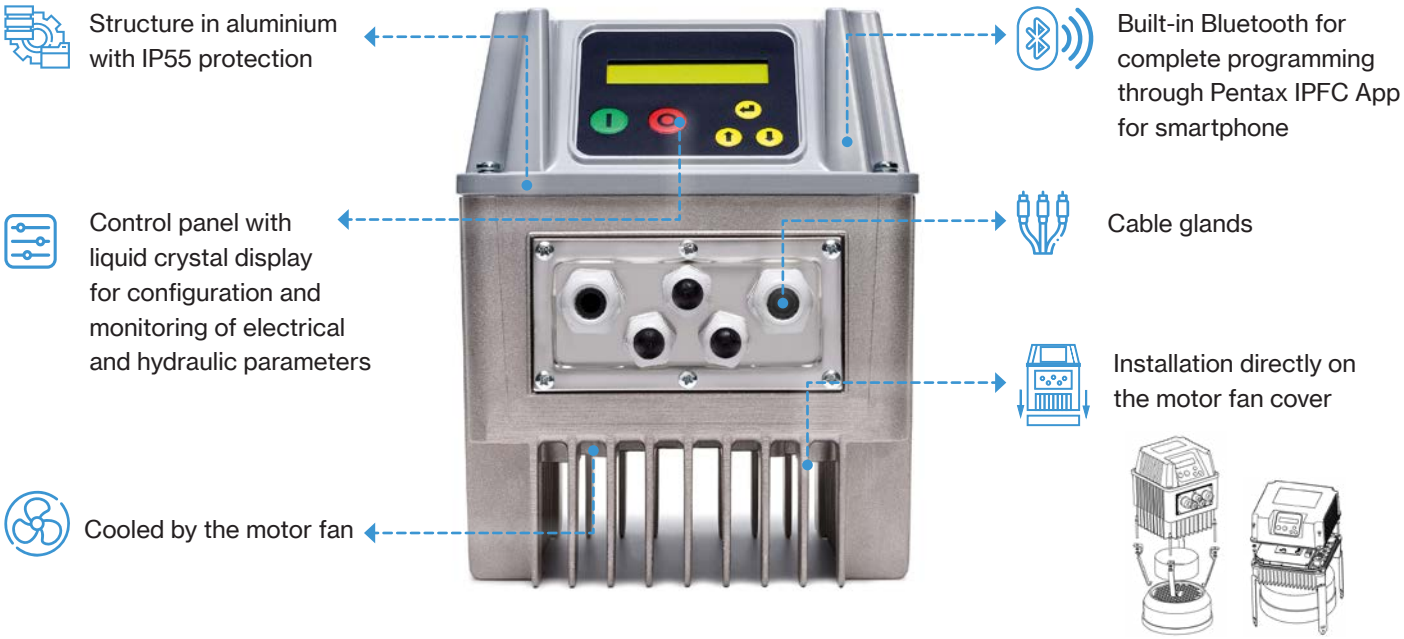
EPIC-A 314 - 318 - 325 - 330 - 338 - 344
max weight 10 kg

IPFC

IPFC is a variable speed drive for vertical pumps designed to control and protect pumping systems up to 8 pumps connected in parallel.
IPFC maintains the set pressure ensuring energy savings and extended lifespan of the system.

FEATURES

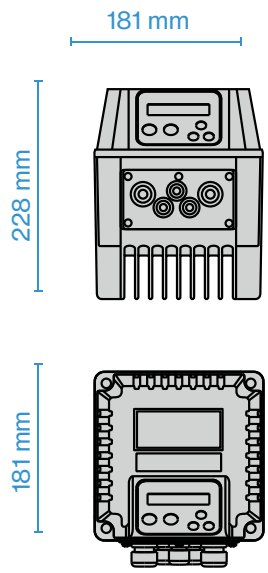
- Constant pressure control
- Energy and cost saving
- Protection against overload and dry running
- Greater reliability and longevity of pumping system
- Installed directly on the motor fan cover of vertical pumps
- Indication of input current and supply voltage
- Soft start and soft stop
- Recording running hours and loggings errors and alarms reported by the system
- Connect to other devices to get combined operation with cascade control and pump alteration
- Illuminated liquid crystal display
- Settable digital outputs, N.O. or N.C.
- Protection and analog/digital inputs



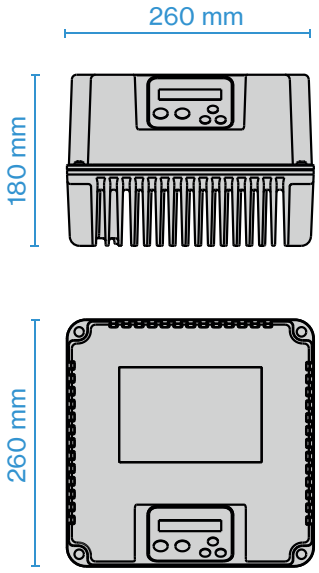
TECHNICAL SPECIFICATIONS

IPFC	109	114	306	309	311	314	318	325	330
Input rated voltage	1 × 230 V ± 15%		3 × 400 V ± 15%						
Output rated voltage	3 × 230 V		3 × 400 V						
Output rated current	9 A 1~ 7 A 3~	9 A 3~ 11 A 3~	6 A	9 A	11 A	14 A	18 A	25 A	30 A
Max electric pump current	7,2 A 1~ 6,3 A 3~	7,2 A 1~ 9,9 A 3~	5,4 A	8,1 A	9,9 A	12,6 A	16,2 A	22,5 A	27 A

DIMENSIONS AND WEIGHT



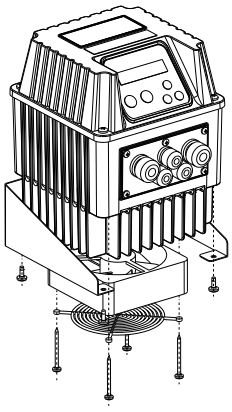
IPFC 109 - 114 - 306 - 309 - 311
max weight 5 kg

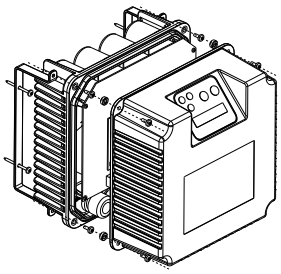


IPFC 314 - 318 - 325 - 330
max weight 9 kg

OPTIONAL INSTALLATION

Variable speed drives IPFC for horizontal pumps will be installed to the skid rod of the booster set. An external cooling fan connected to the radiator of the IPFC will provide the necessary cooling.





IPFC additional models

IPFC additional models available for bracket installation only.

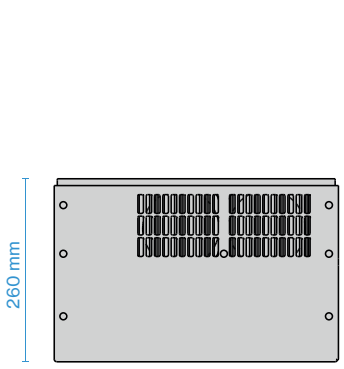
FEATURES

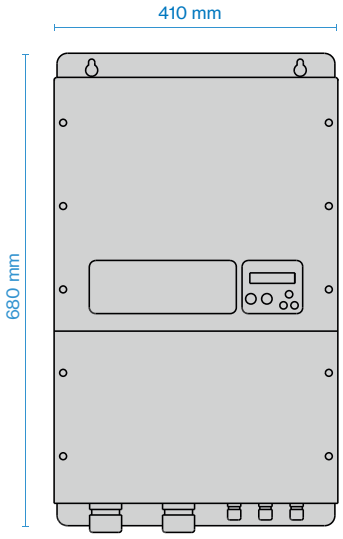
- Constant pressure control
- Energy and cost saving
- Protection against overload and dry running
- Greater reliability and longevity of pumping system
- Installed directly on the motor fan cover of vertical pumps
- Indication of input current and supply voltage
- Soft start and soft stop
- Recording running hours and loggings errors and alarms reported by the system
- Connect to other devices to get combined operation with cascade control and pump alteration
- Illuminated liquid crystal display
- Settable digital outputs, N.O. or N.C.
- Protection and analog/digital inputs

TECHNICAL SPECIFICATIONS

IPFC	338	348	365	375	385
Input rated voltage	3 × 400 V ± 15%				
Output rated voltage	3 × 400 V				
Output rated current	38 A	48 A	65 A	75 A	85 A
Max electric pump current	34,2 A	43,2 A	58,5 A	67,5 A	76,5 A

DIMENSIONS AND WEIGHT





IPFC 338 - 385
max weight 34 kg

PENTAX APP

Dedicated APP for control and programming of EPIC-A and IPFC variable speed drives:

Pentax IPFC

APP FUNCTIONALITY

- **Monitor**: monitoring several operative parameters. Obtaining energy consumption statistics and check alarm history

- **Program**: create programs, save them in the archive, copy them to other devices and share them among multiple users

- **Archive**: create reports with the ability to insert notes, images and send them by e-mail or keep them in the digital archive

- **Remote**: remotely control the EPIC-A and IPFC via wi-fi or GSM by using a nearby smartphone as a modem

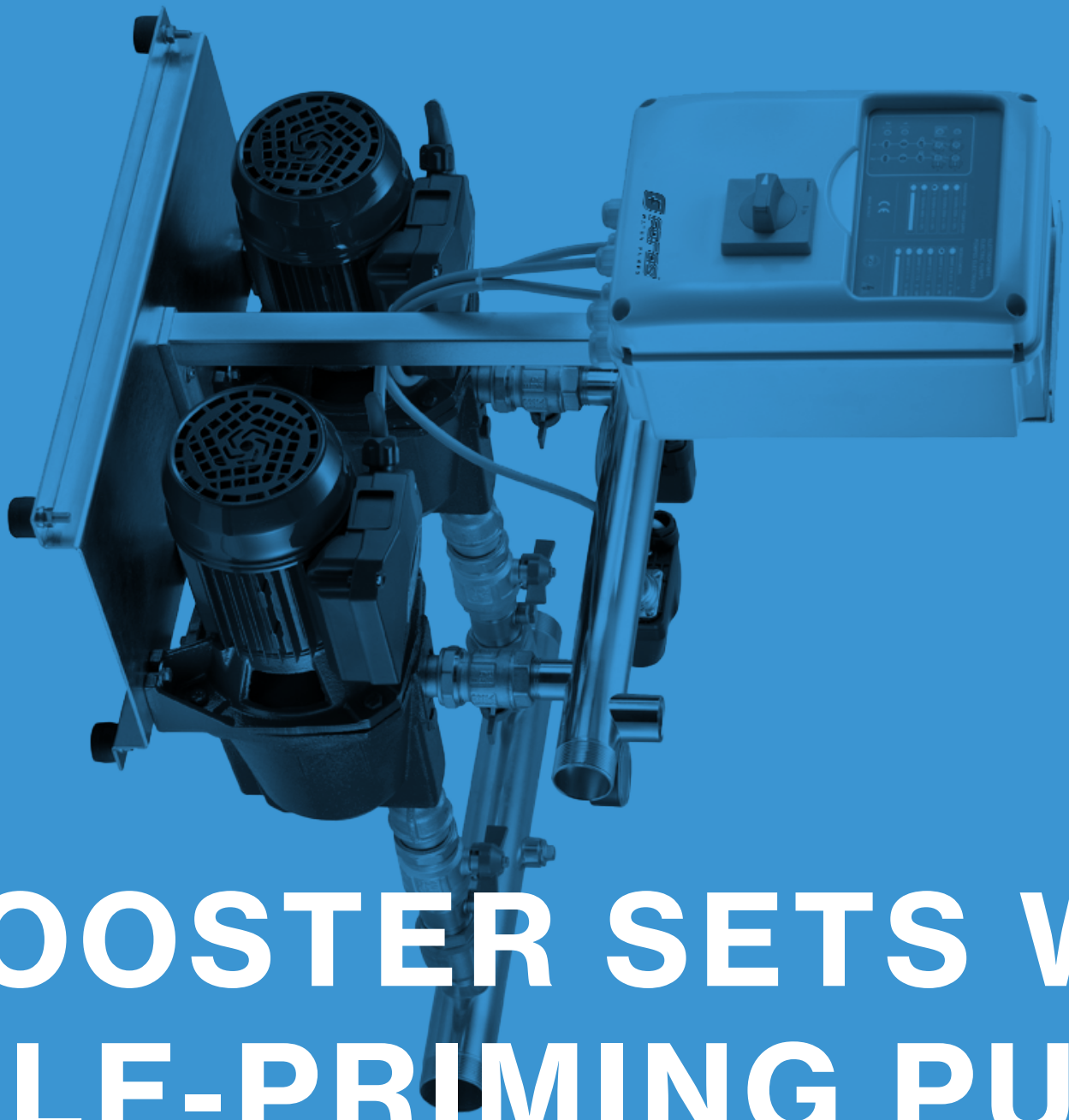
- **Manuals**: access manuals and supllementary technical documentation

- **Guide**: receive online assitance on parameters and alarms

Available on the Google Play

Download on the App Store


foras
WATER PUMPS



BOOSTER SETS WITH SELF-PRIMING PUMPS

SELF-PRIMING BOOSTER SETS

Fixed speed and variable speed booster sets with two self-priming pumps

DESCRIPTION

Pressurisation units with 2 self-priming horizontal axis pumps fitted on a single skid and connected in parallel by suction and delivery manifolds. These systems are specifically designed for domestic use as well as small civil or industrial applications. They can be equipped with EPIC inverters, which ensures that they can meet the constant pressure demands for modern systems. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. To ensure proper operation of the booster set, pressure tanks of adequate capacity are required depending on constant or variable speed, pumps type, and applications.

FEATURES

- Two self-priming horizontal axis pumps
- Cast iron pump body for JA/JAM and JA 150-300 pumps series
- Stainless steel pump body for JXF, PLUS A, PLUS SA series
- Suction manifold in galvanized steel with non-return and isolation valves
- Delivery manifold in galvanized steel with pressure gauge and isolation valves
- Base frame in galvanized steel
- Electronic control panel EQ2SM(T) and two pressure switches for fixed speed version
- Inverter EPIC on each pump and two pressure sensors for the variable speed version
- Pressure tanks available on request, as accessory

FUNCTIONING

In the fixed speed version as soon as pressure drops below the minimum set value on the pressure switch the first pump starts automatically. If water demand further increases, the second pump will run until the pressure rises above the maximum set value. When demand ends, the last pump turns off. All the pumps follow cycling changeover for equal work distribution. In case of one pump failure, the other pumps would continue to operate.

In the variable speed version when the system pressure drops below the desired level, the sensors detect it giving an input to the inverter to start the first pump at controlled speed. If the flow rate is not sufficient, the pressure continues to drop causing the second pump to start. As soon as the flow demand decreases, the pressure rises again and the second pump stop. The first pump continues to modulate its speed in order to regulate and maintain the set pressure until it turns off when the flow demand ends. Based on working hours, the inverters will alternate the starting order of pumps to ensure better wear distribution. Continuity of operation is ensured in the event of one pump or one inverter failure.

Self-priming pumps

PLUS A/PLUS SA

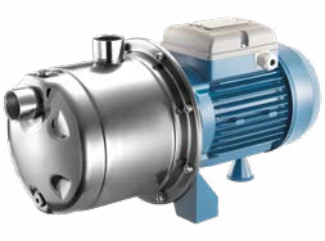
P2	0,9÷1,5 [HP]
Q max	7,8 [m³/h]
H max	53 [m]

Self-priming horizontal multistage stainless steel pumps suitable for domestic use, also in combination with autoclave tank. Suitable for drinking water or glycol, for water treatment, heating, air conditioning and washing systems.

JA/JAM

P2	1÷3 [HP]
Q max	7,2 [m³/h]
H max	59,5 [m]

Self-priming centrifugal pumps for water supply (even if mixed with air) connected to autoclave tanks. Suitable for domestic installations, liquid transfer and tank emptying; also used for garden irrigation.



JXF

P2	1÷1,5 [HP]
Q max	3,8 [m³/h]
H max	53,6 [m]

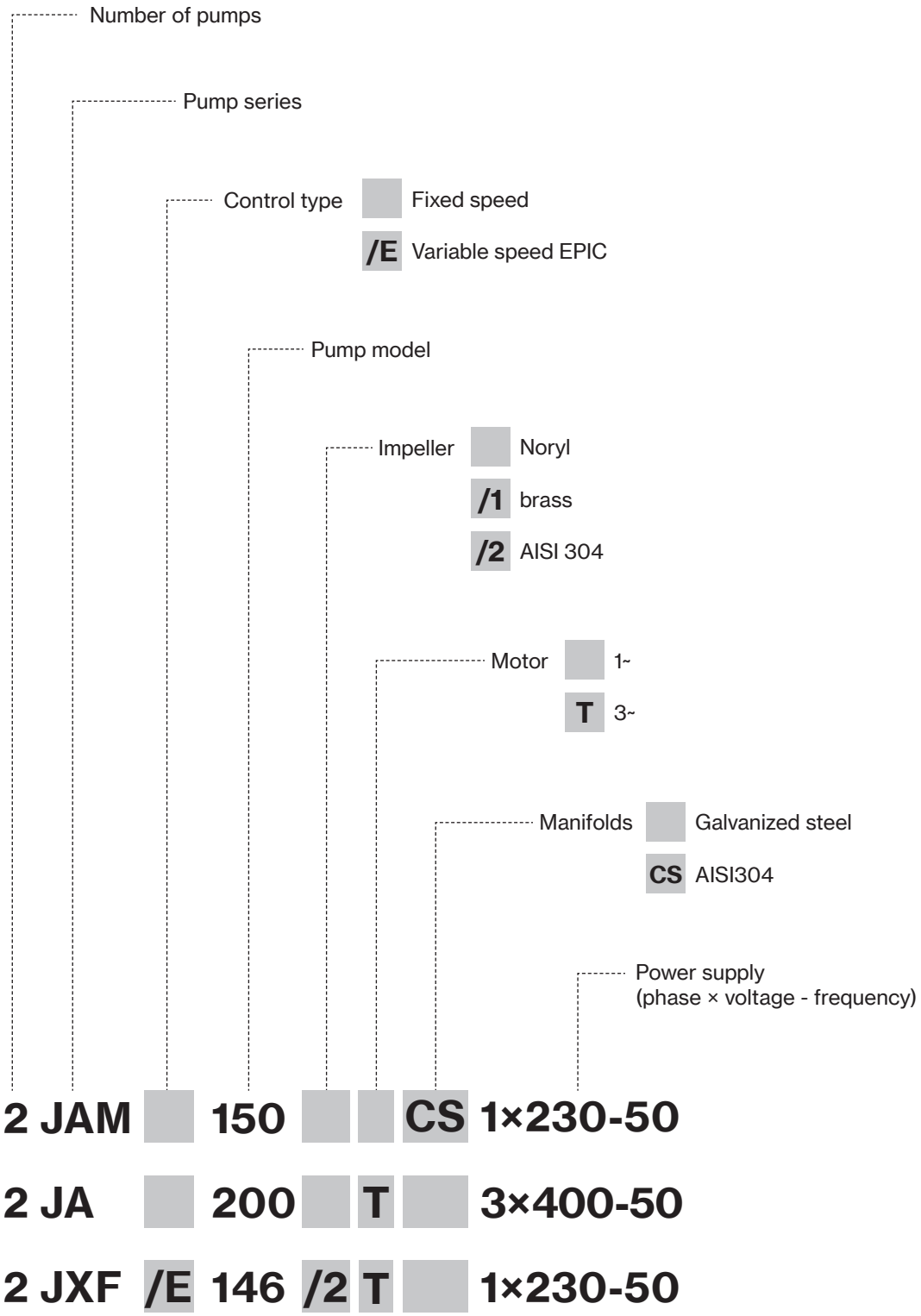
Self-priming centrifugal pumps for domestic applications such as domestic systems where air is mixed with water. Recommended in combination with pressure set for water transfer, rainwater harvesting and garden irrigation systems.

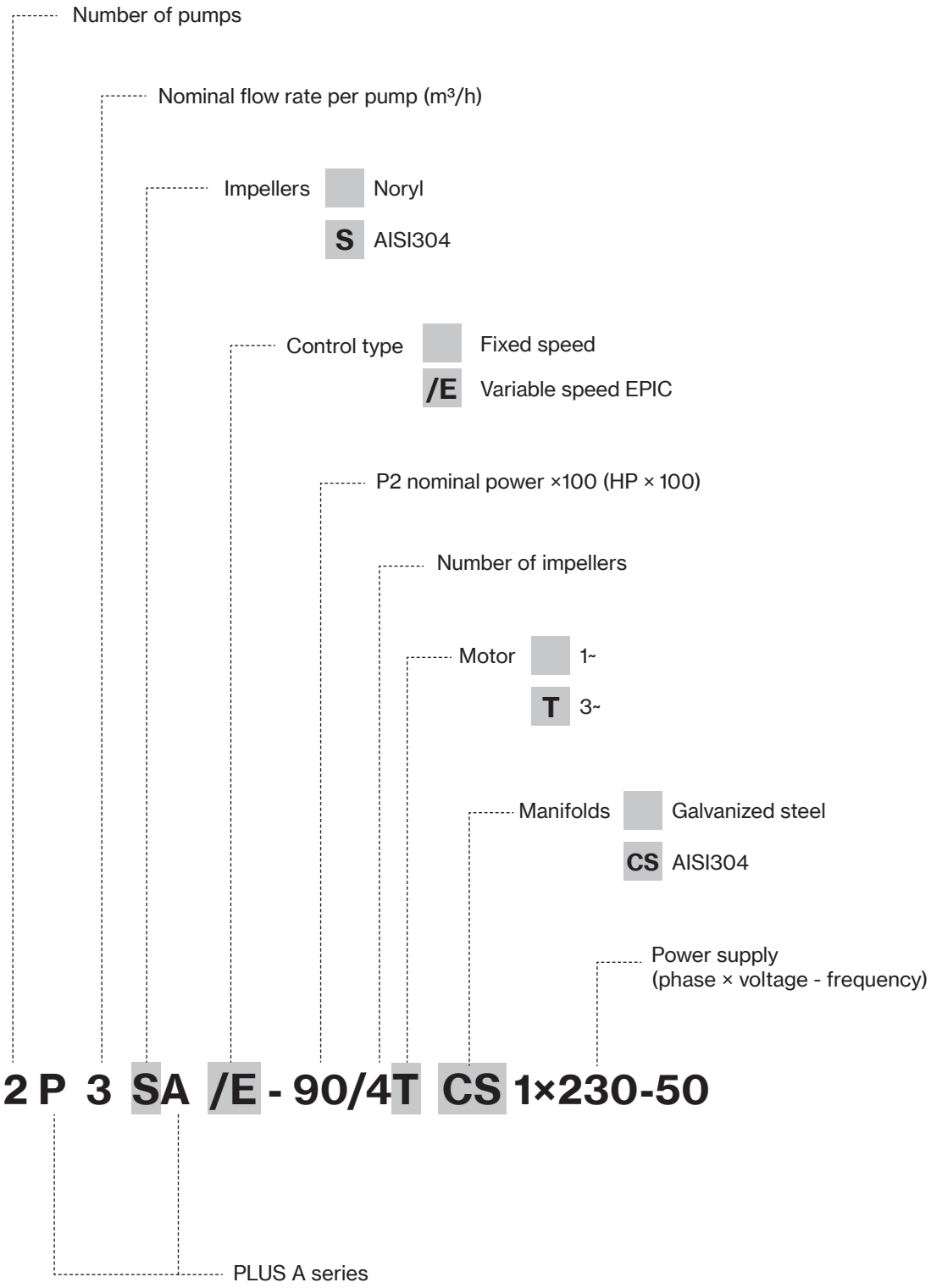
JA 150-300

P2	1,5÷3 [HP]
Q max	8,4 [m³/h]
H max	62 [m]

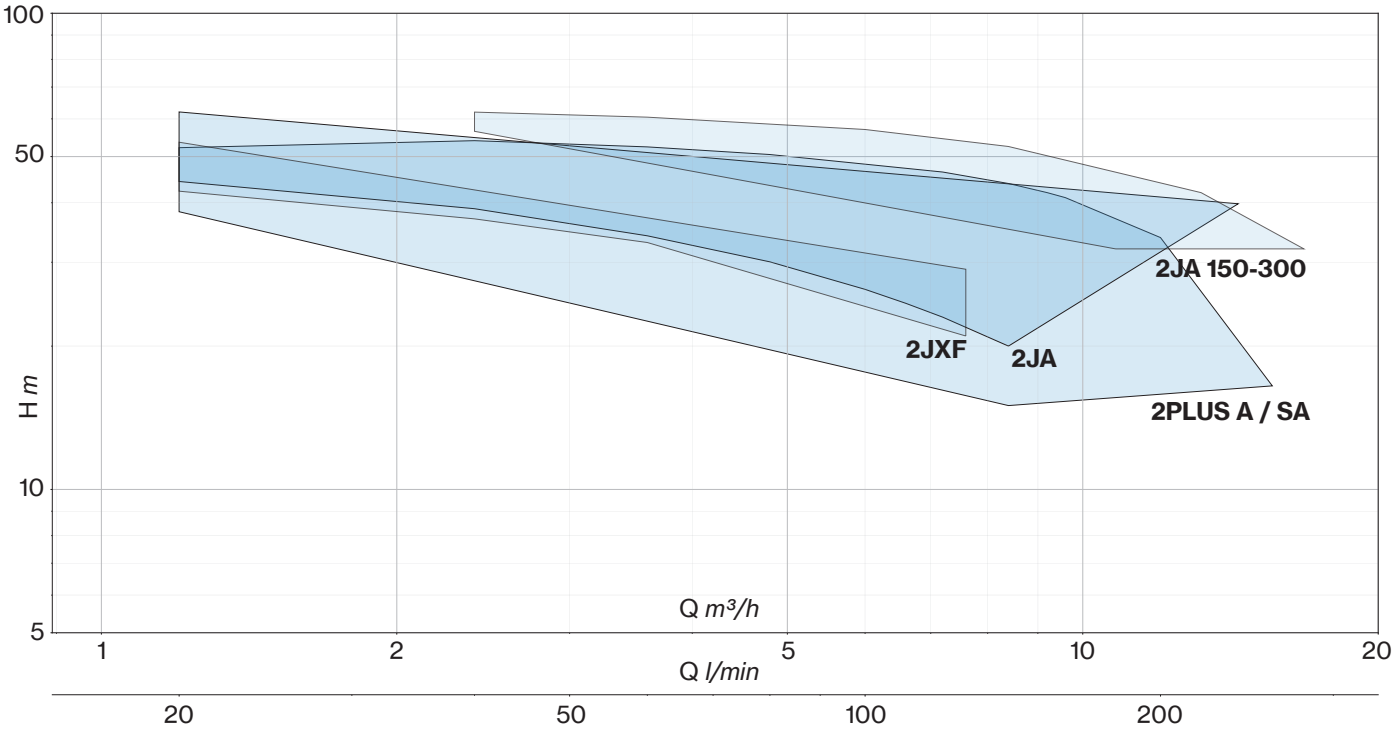
Self-priming centrifugal pumps for water supply (also mixed with air) of small and medium domestic and civil installations, that can be connected to an autoclave tank.

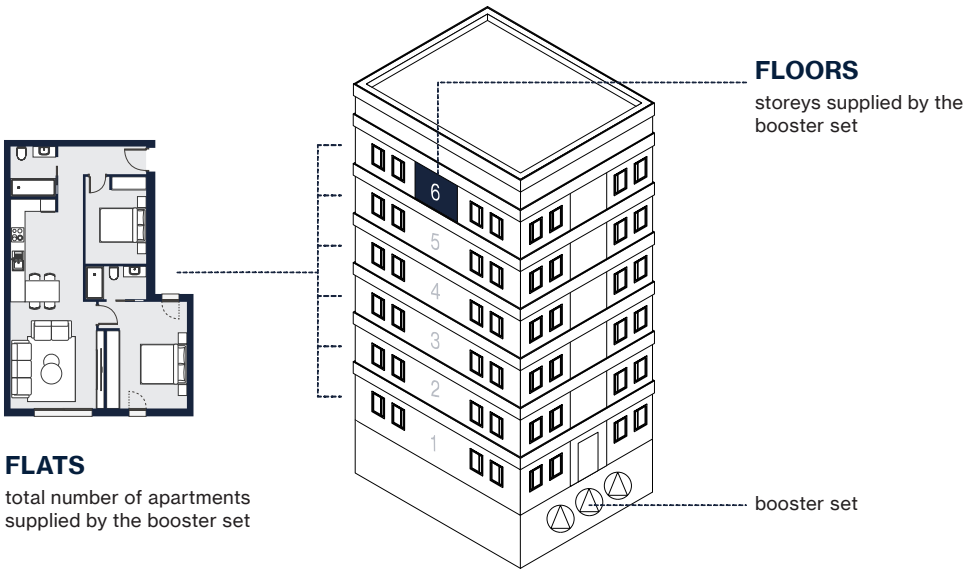
Name key


Number of pumps
Pump series
Control type
Fixed speed
/E Variable speed EPIC
Pump model
Impeller
Noryl
/1 brass
/2 AISI 304
Motor
1~
T 3~
Manifolds
Galvanized steel
CS AISI304
Power supply
(phase × voltage - frequency)
2 JAM 150 CS 1×230-50
2 JA 200 T 3×400-50
2 JXF /E 146 /2 T 1×230-50


Number of pumps
Nominal flow rate per pump (m³/h)
Impellers
Noryl
S AISI304
Control type
Fixed speed
/E Variable speed EPIC
P2 nominal power ×100 (HP × 100)
Number of impellers
Motor
1~
T 3~
Manifolds
Galvanized steel
CS AISI304
Power supply
(phase × voltage - frequency)
2 P 3 SA /E - 90/4T CS 1×230-50
PLUS A series

Performance data and curves





FLATS		FLOORS	PLUS A series	PLUS SA series	JA/JAM series	JXM series	JA 150-300 series
1 duty and 1 standby pumps	2 duty pumps						
1	1-2	1-2	**2P3A__-90/4__**	**2P3SA__-90/4__**	**2JA__106N__**	**2JXF__106N__**	**-**
		3	**-**	**2P3SA__-90/4__**	**2JA__106N__**	**-**	**-**
2	3-4	1-2	**2P3A__-100/5__**	**2P3SA__-90/4__**	**2JA__126__**	**2JXF__126__**	**-**
		3	**2P3A__-100/5__**	**2P3SA__-100/5__**	**2JA__146__**	**2JXF__146__**	**-**
		4	**-**	**2P3SA__-100/5__**	**2JA__146__**	**-**	**-**
		5	**-**	**-**	**-**	**-**	**2JA__150__**
3-4	5-8	1-2	**2P5A__-120/4__**	**2P5SA__-120/4__**	**2JA__146__**	**2JXF__146__**	**-**
		3	**2P5A__-120/4__**	**2P5SA__-120/4__**	**2JAM__150__**	**-**	**-**
		4	**2P5A__-150/5__**	**2P5SA__-150/5__**	**2JAM__200**	**-**	**2JA__150__**
		5	**2P5A__-150/5__**	**2P5SA__-150/5__**	**2JAM__200**	**-**	**2JA__150__**
		6	**2P5A__-150/5__**	**2P5SA__-150/5__**	**2JAM__300**	**-**	**2JA__200__**
		7	**-**	**-**	**2JAM__300**	**-**	**2JA__200__**
		8	**-**	**-**	**-**	**-**	**2JA__300__**

2PLUS A / SA

Pressurisation units with 2 self-priming pumps of PLUS A or PLUS SA series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features

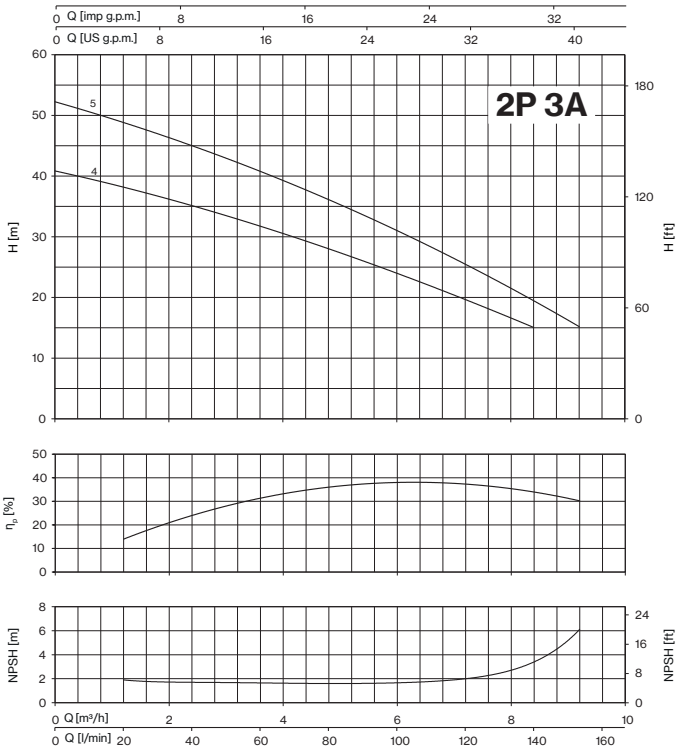
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC on each pump and two pressure sensors
Pressure tanks	available on request as accessories

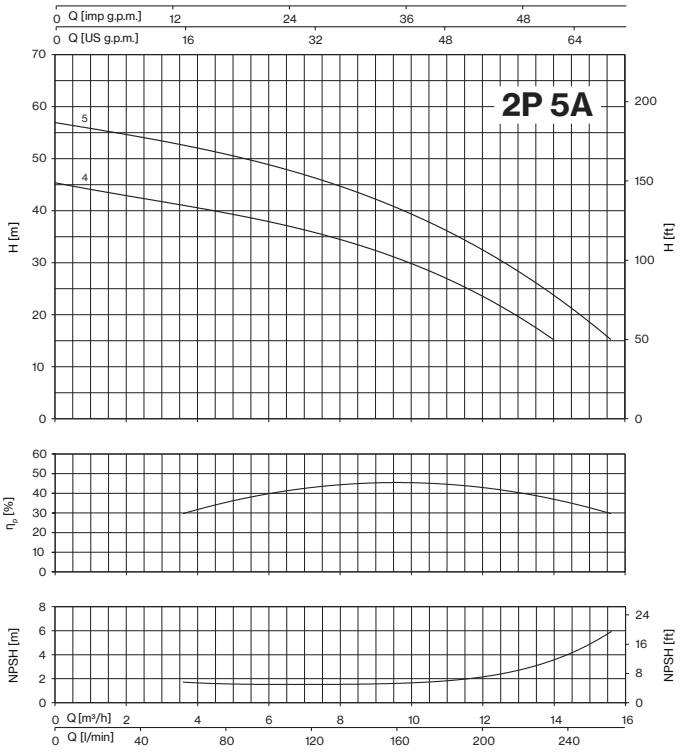
Pump features

Pump body, mechanical seal housing	stainless steel AISI 304
Motor bracket	aluminum
Impellers, diffusers	Noryl®
Mechanical seal	ceramic-graphite-EPDM
Motor shaft	stainless steel AISI 303
Liquid temperature	-5 ÷ +35 °C
Operating pressure	max 7 bar
2 poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4

PERFORMANCE

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)											
		FIXED SPEED		VARIABLE SPEED			0	1,2	2,4	3,6	4,8	7,2	8,4	9,2	9,6	12,0	14	15,6
		1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out			0	20	40	60	80	120	140	153,4	160	200	233	260
l/min	bar				HP (×2)	kW (×2)	H (m)											
80	3	**2P3A-90/4**	**2P3A-90/4T**	**2P3A/E-90/4T**	0,9	0,66	40,8	38,3	35,1	31,8	29,9	19,8	15,0					
		2P3SA-90/4	**2P3SA-90/4T**	**2P3SA/E-90/4T**			43,0	41,0	38,3	35,0	31,3	22,3	17,2	13,5				
100		**2P3A-100/5**	**2P3A-100/5T**	**2P3A/E-100/5T**	1	0,75	52,2	48,9	45,1	40,8	36,0	25,4	19,8	15,0				
		2P3SA-100/5	**2P3SA-100/5T**	**2P3SA/E-100/5T**			54,0	52,1	48,8	44,9	40,2	29,0	22,0	16,8				
160		**2P5A-120/4**	**2P5A-120/4T**	**2P5A/E-120/4T**	1,2	0,9	45,3	44,2	42,8	41,3	39,6	35,6	33,4	31,7	30,8	24,0	15,0	
		2P5SA-120/4	**2P5SA-120/4T**	**2P5SA/E-120/4T**			44,5	43,3	42,1	41,0	40,0	36,4	34,3	32,8	32,0	26,2	18,5	13,5
200		**2P5A-150/5**	**2P5A-150/5T**	**2P5A/E-150/5T**	1,5	1,1	56,8	55,9	54,6	53,0	51,0	46,1	43,2	41,2	40,1	33,0	24,0	15,0
		2P5SA-150/5	**2P5SA-150/5T**	**2P5SA/E-150/5T**			56,0	52,2	54,0	52,4	50,5	46,4	43,9	42,0	41,0	33,8	23,8	16,5


2P 3A
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
5
4
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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4
η_p [%]
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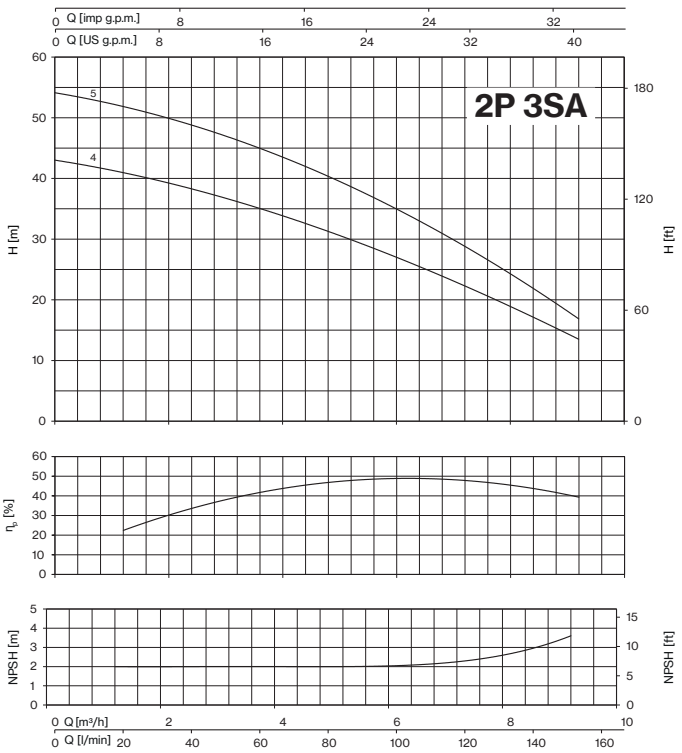
NPSH [ft]
Q [m³/h]
Q [l/min]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Q [US g.p.m.]
H [m]
H [ft]
5
4
η_p [%]
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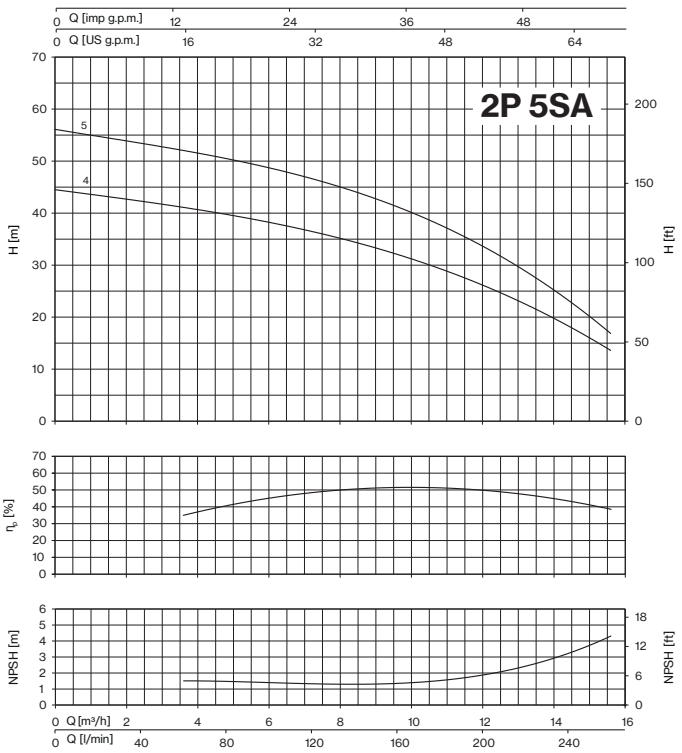
NPSH [ft]
Q [m³/h]
Q [l/min]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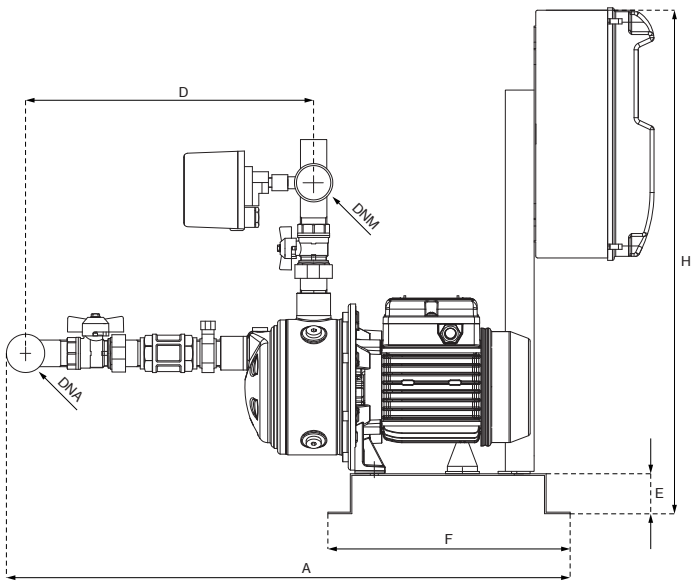
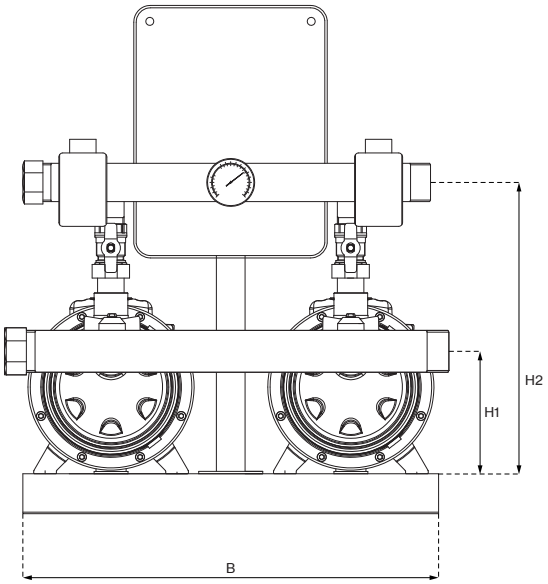
Q [US g.p.m.]
H [m]
H [ft]
5
4
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

2P A / SA





MODEL			P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																		
1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
			kW (×2)		A (×2)			Lt	mm										Kg	
2P3A-90/4	**2P3A-90/4T**	**2P3A/E-90/4T**	0,9	0,88	4	1,8	3,1	2× 8	829	560	453	40	350	545	128	333	2" G	1" ½ G	41	46
2P3SA-90/4	**2P3SA-90/4T**	**2P3SA/E-90/4T**	0,83	0,8	3,6	1,7	2,9													
2P3A-100/5	**2P3A-100/5T**	**2P3A/E-100/5T**	1,06	1,01	4,8	1,9	3,3	2× 8	853	560	477	40	350	545	128	333			46	51
2P3SA-100/5	**2P3SA-100/5T**	**2P3SA/E-100/5T**	0,99	0,92	4,4	1,7	2,9													
2P5A-120/4	**2P5A-120/4T**	**2P5A/E-120/4T**	1,13	1,13	5,2	2,5	4,3	2× 20	829	560	453	40	350	545	128	333			46	51
2P5SA-120/4	**2P5SA-120/4T**	**2P5SA/E-120/4T**	1,09	1,08	4,9	2,4	4,2													
2P5A-150/5	**2P5A-150/5T**	**2P5A/E-150/5T**	1,47	1,39	6,8	2,8	4,9	2× 20	853	560	477	40	350	545	134	339			52	57
2P5SA-150/5	**2P5SA-150/5T**	**2P5SA/E-150/5T**	1,39	1,31	6,5	2,7	4,7													

f.s. : fixed speed
v.s. : variable speed

Dimensions and weights may differ slightly and therefore should be considered as indicative

2JA/JAM

Pressurisation units with 2 self-priming pumps of JA/JAM series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features

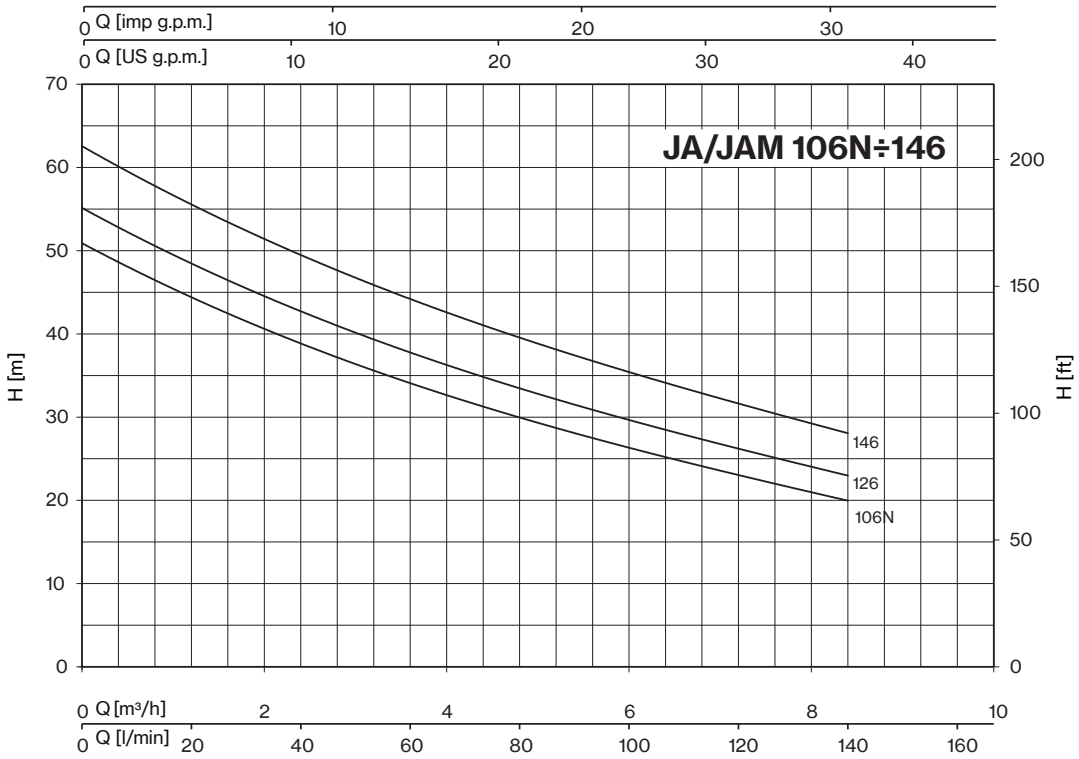
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC on each pump and two pressure sensors
Pressure tanks	available on request as accessories

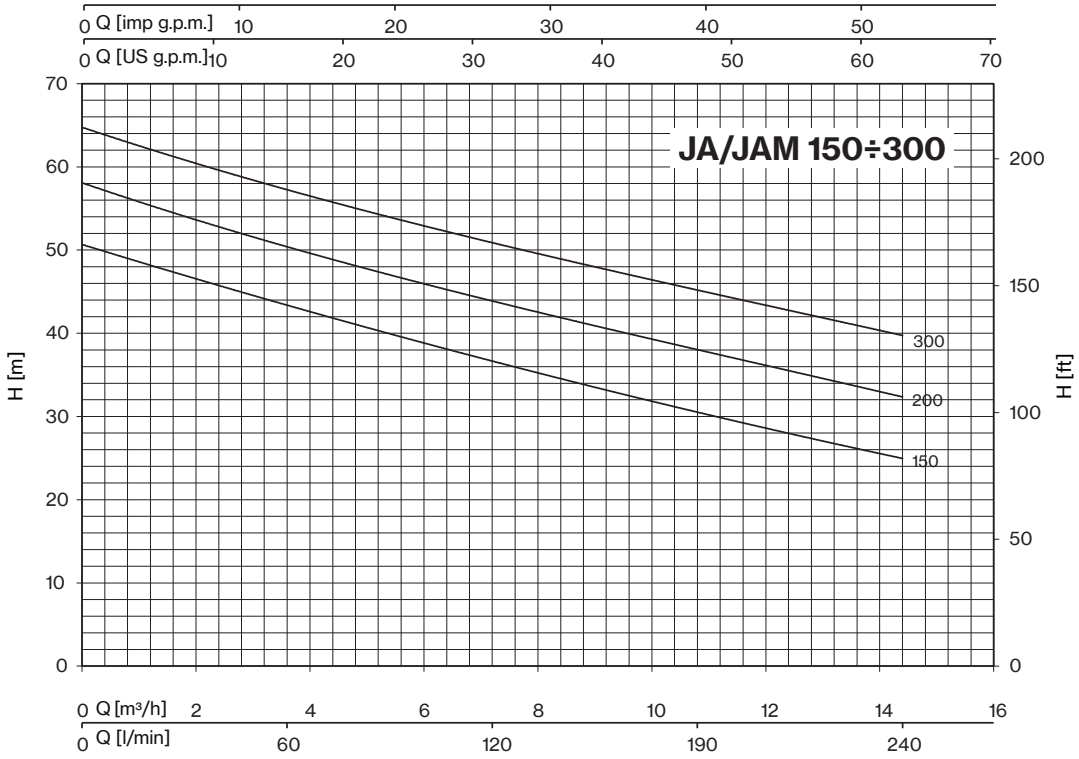
Pump features

Pump body, mechanical seal housing	cast iron
Motor bracket	aluminum (106N÷146) cast iron (150÷300)
Impellers, diffusers	Noryl®, brass, inox for 106N÷146
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 416
Liquid temperature	0 - 50 °C
Operating pressure	max 7 bar (106N÷146) max 8 bar (150÷300)
2 poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4

PERFORMANCE

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)											
		FIXED SPEED		VARIABLE SPEED			0	1,2	2,4	3,6	4,8	6	6,6	7,2	8,4	9,6	12	14,4
		1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out			0	20	40	60	80	100	110	120	140	160	200	240
l/min	bar				HP (×2)	kW (×2)	H (m)											
80	3	**2JA106N**	**2JA106NT**	**2JA/E106NT**	1	0,74	50,9	44,3	38,9	34,1	30,1	26,3	24,6	23,0	20,0			
100	3	**2JA126**	**2JA126T**	**2JA/E126T**	1,2	0,88	55,1	48,5	42,6	37,8	33,5	29,7	27,9	26,2	23,0			
120	3	**2JA146**	**2JA146T**	**2JA/E146T**	1,5	1,1	62,5	55,7	49,4	44,2	39,5	35,5	33,5	31,6	28,1			
140	3,5	**2JAM150**	**2JAM150T**	**2JAM/E150T**	1,5	1,1	50,7	48,2	45,7	43,3	41,0	38,9	37,8	36,8	34,6	32,5	28,5	25,0
160	4	**2JAM200**	**2JAM200T**	**2JAM/E200T**	2	1,5	58,1	55,4	52,8	50,3	48,0	46,0	45,0	44,0	42,0	40,0	36,0	32,4
180	4,5	-	**2JAM300T**	-	3	2,2	64,8	62,1	59,5	57,2	55,0	53,0	52,0	51,0	49,0	47,1	43,2	39,8


JA/JAM 106N÷146
Q [imp g.p.m.]
Q [US g.p.m.]
Q [m³/h]
Q [l/min]
H [m]
H [ft]
146
126
106N


JA/JAM 150÷300
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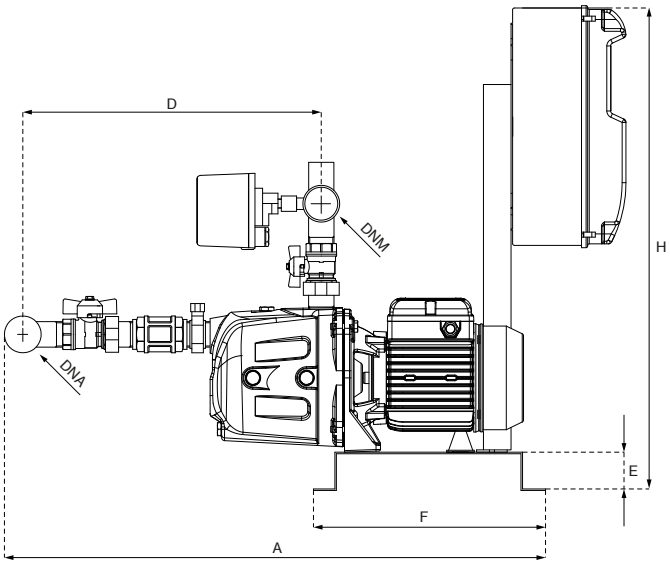
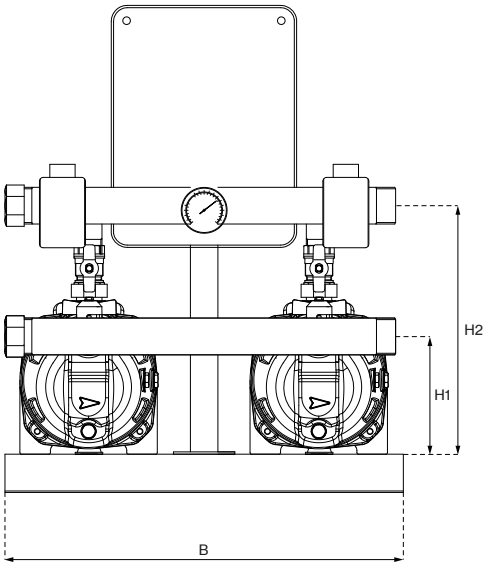
Q [US g.p.m.]
Q [m³/h]
Q [l/min]
H [m]
H [ft]
300
200
150





MODEL			P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																		
1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
			kW (×2)		A (×2)			Lt	mm										Kg	
2JA106N	**2JA106NT**	**2JA/E106NT**	1,04	0,92	4,7	1,7	2,9	2× 8	745	520	383	50	300	650	150	325	1" ½ G	1" ½ G	49	54
2JA126	**2JA126T**	**2JA/E126T**	1,14	1,07	5,2	1,9	3,3	2× 8	745	520	383	50	300	650	150	325			50	55
2JA146	**2JA146T**	**2JA/E146T**	1,3	1,25	6	2,5	4,3	2× 8	745	520	383	50	300	650	150	325			51	56
2JAM150	**2JAM150T**	**2JAM/E150T**	1,9	1,8	8,2	3,4	5,9	2× 20	850	615	474	60	380	650	175	360	2" G		76	81
2JAM200	**2JAM200T**	**2JAM/E200T**	2,2	2,1	9,8	3,9	6,8	2× 20	850	615	474	60	380	650	175	360			78	83
-	**2JAM300T**	**-**	-	2,5	-	4,8	-	-	850	615	474	60	380	650	175	360			77	-

f.s. : fixed speed
v.s. : variable speed

2JXF

Pressurisation units with 2 self-priming pumps of JXF series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features

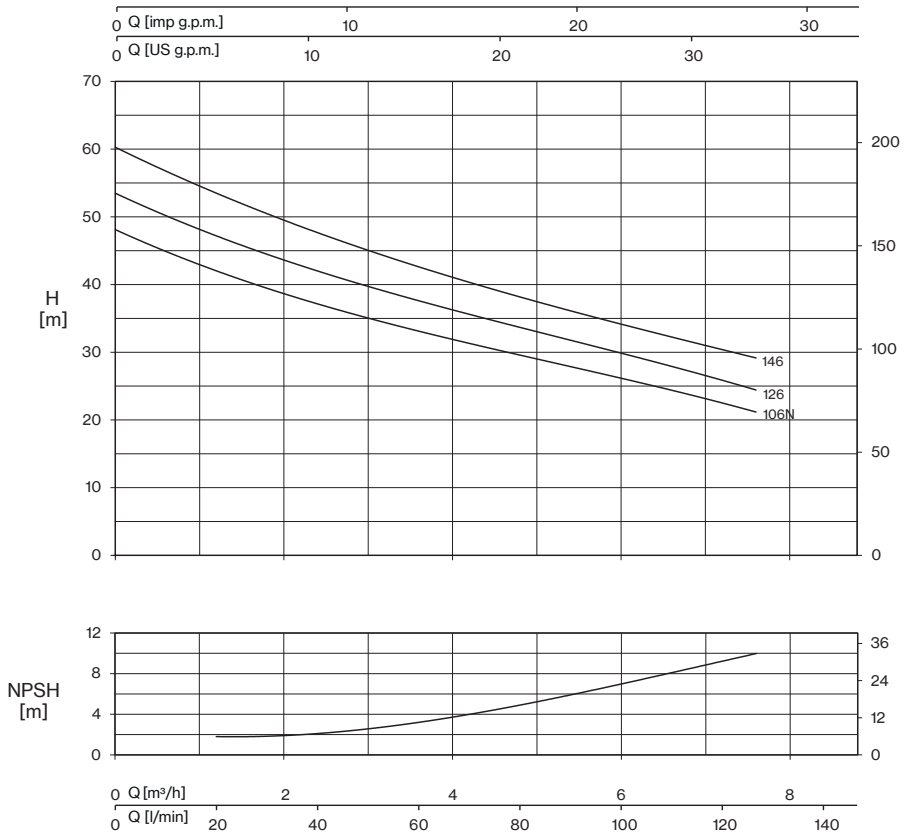
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC on each pump and two pressure sensors
Pressure tanks	available on request as accessories

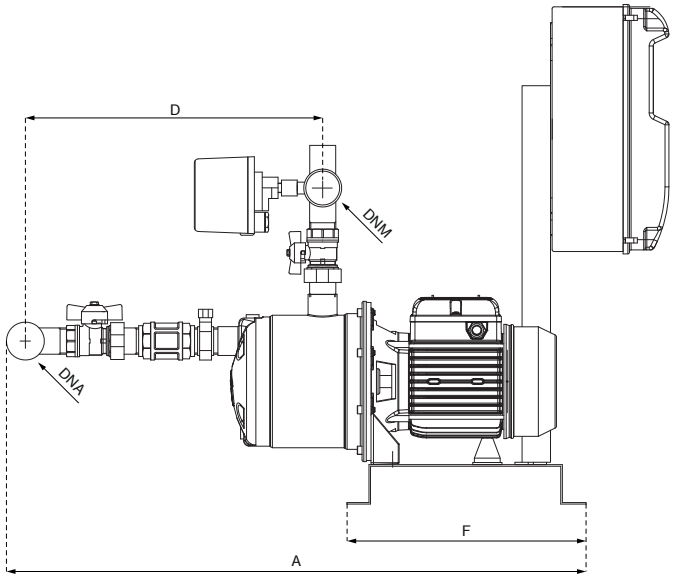
Pump features

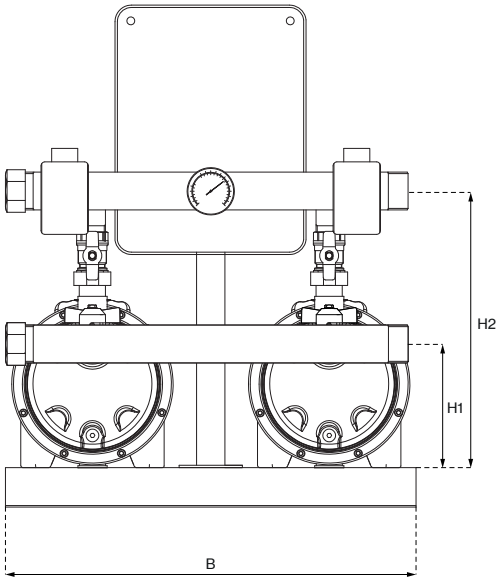
Pump body	stainless steel AISI 304
Motor bracket	aluminum
Impeller	Noryl®, steel AISI 304
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 416
Liquid temperature	0 - 50 °C
Operating pressure	max 8 bar
2 Poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4

PERFORMANCE

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)							
		FIXED SPEED		VARIABLE SPEED			0	1,2	2,4	3,6	4,8	6	7,2	7,6
		1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out			0	20	40	60	80	100	120	126,6
l/min	bar				HP (×2)	kW (×2)	H (m)							
80	3	**2JXF106N**	**2JXF106NT**	**2JXF/E106NT**	1	0,74	48,0	42,3	37,0	33,0	29,6	26,2	22,7	21,0
100		**2JXF126**	**2JXF126T**	**2JXF/E126T**	1,2	0,88	53,4	47,4	41,9	37,5	33,7	29,9	26,0	24,3
120		**2JXF146**	**2JXF146T**	**2JXF/E146T**	1,5	1,1	60,2	53,6	47,8	42,4	38,0	34,4	30,5	29,0







MODEL			P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																		
1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
			kW (×2)		A (×2)			Lt	mm										Kg	
2JXF106N	**2JXF106NT**	**2JXF/E106NT**	1,04	0,95	4,7	1,7	2,9	2× 8	740	520	392	50	300	650	153	350			42	47
2JXF126	**2JXF126T**	**2JXF/E126T**	1,14	1,03	5,2	1,9	3,3	2× 8	740	520	392	50	300	650	153	350	1" ½ G	1" ½ G	43	48
2JXF146	**2JXF146T**	**2JXF/E146T**	1,3	1,23	6	2,5	4,3	2× 8	740	520	392	50	300	650	153	350			44	49

f.s. : fixed speed
v.s. : variable speed

Dimensions and weights may differ slightly and therefore should be considered as indicative

2JA 150-300

Pressurisation units with 2 self-priming pumps of JA 150-300 series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features

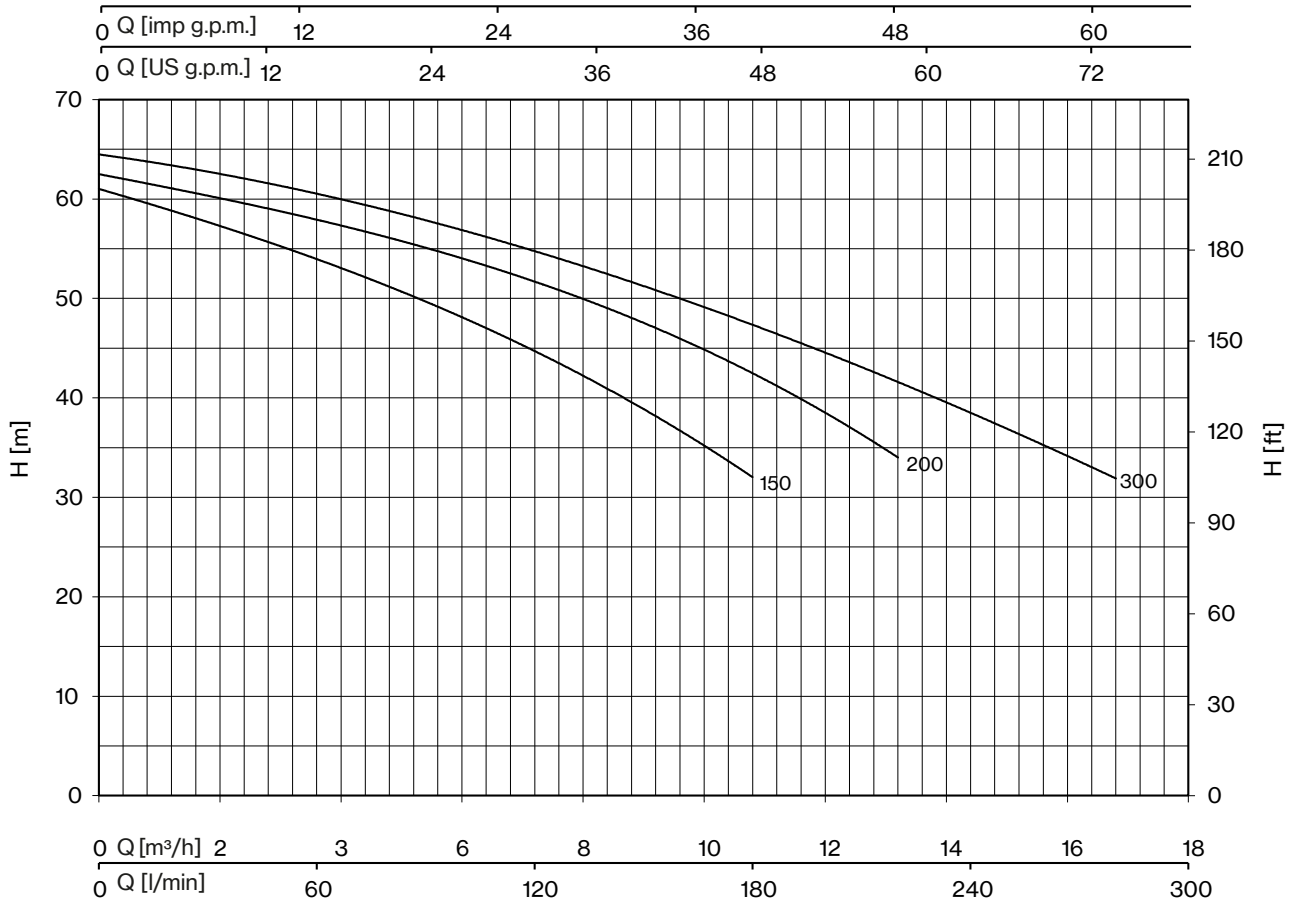
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC on each pump and two pressure sensors
Pressure tanks	available on request as accessories

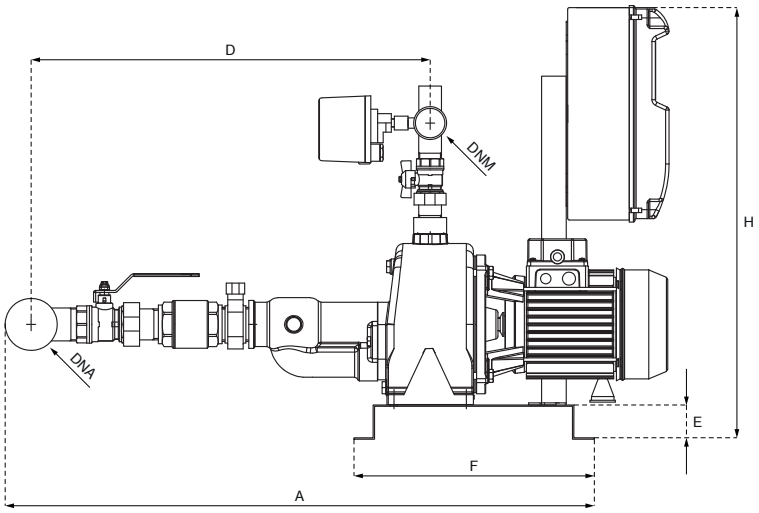
Pump construction features

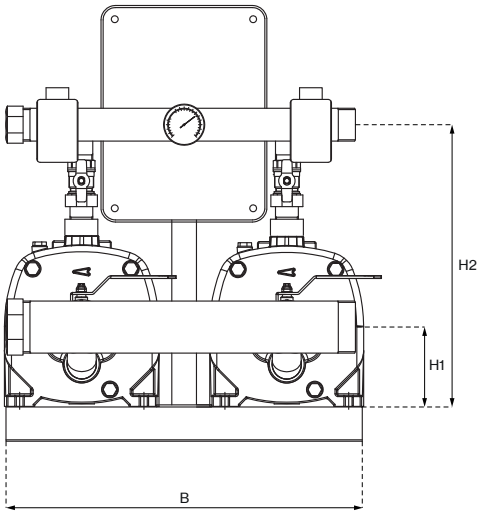
Pump body	cast iron
Motor bracket	cast iron
Impeller	Noryl® or brass
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 303 hydraulic side
Liquid temperature	0 - 50 °C
Operating pressure	max 8 bar
2 Poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4

PERFORMANCE

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)								
		FIXED SPEED		VARIABLE SPEED			0	2,4	3,6	6,0	8,4	10,8	13,2	15,6	16,8
		1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out			0	40	60	100	140	180	220	260,0	280
l/min	bar				HP (×2)	kW (×2)	H (m)								
140	4	**2JA150**	**2JA150T**	**2JA/E150T**	1,5	1,1	61,0	56,5	54,0	48,0	41,0	32,0			
180		**2JA200**	**2JA200T**	**2JA/E200T**	2	1,5	62,5	59,5	58,0	54,0	49,0	42,5	34,0		
220		**2JA300**	**2JA300T**	-	3	2,2	64,5	62,0	60,5	57,0	52,5	47,0	42,0	35,0	32,0





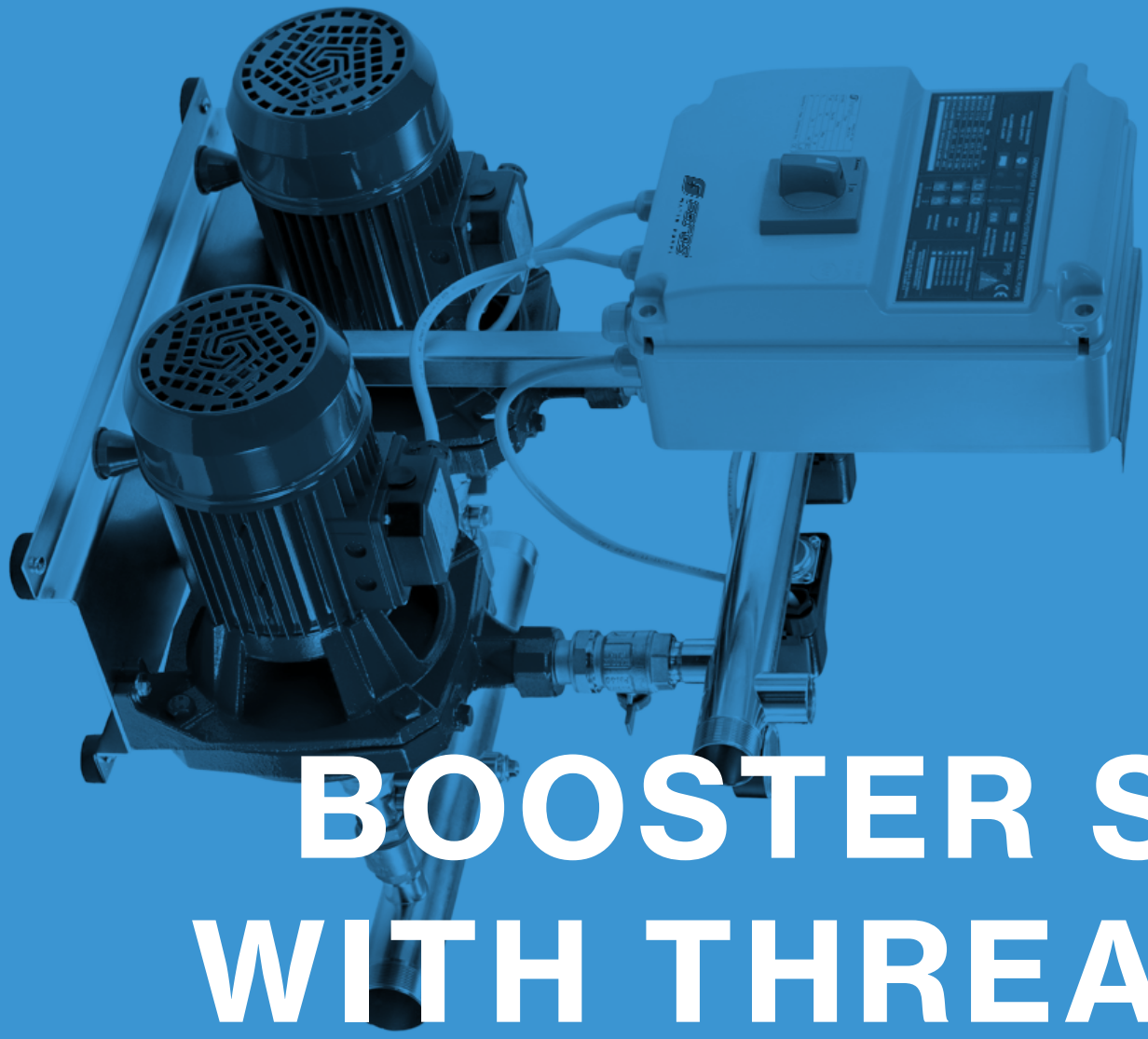


MODEL			P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																		
1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
			kW (×2)		A (×2)			Lt	mm										Kg	
2JA150	**2JA150T**	**2JA/E150T**	1,74	1,68	7,9	3,3	5,7	2× 20	940	615	564	60	380	650	112	380	2" G	1" ½ G	78	83
2JA200	**2JA200T**	**2JA/E200T**	2,22	2,1	10,3	3,9	6,8	2× 20	940	615	564	60	380	650	112	380			80	85
2JA300	**2JA300T**	**-**	2,65	2,5	11,8	4,9	-	-	940	615	564	60	380	650	112	380			82	-

f.s. : fixed speed
v.s. : variable speed

FORAS®

WATER PUMPS



BOOSTER SETS WITH THREADED CENTRIFUGAL PUMPS

THREADED CENTRIFUGAL BOOSTER SETS

Fixed speed and variable speed booster sets with two threaded centrifugal pumps

DESCRIPTION

Pressurisation units with 2 horizontal centrifugal pumps fitted on a single skid and connected in parallel by suction and delivery manifolds. These systems are extremely silent and designed for water supply, pressurization, heating and air conditioning and liquid transfer. They can be equipped with EPIC and EPIC-A inverters, which ensures that they can meet the constant pressure demands for modern systems. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. To ensure proper operation of the booster set, pressure tanks of adequate capacity are required depending on constant or variable speed, pumps type, and applications.

FEATURES

- Two horizontal axis pumps with single or double impeller
- Cast iron pump body
- Suction manifold in galvanized steel with non-return and isolation valves
- Delivery manifold in galvanized steel with pressure gauge and isolation valves
- Base frame in galvanized steel
- Electronic control panel EQ2SM(T) and two pressure switches for fixed speed version
- Inverter EPIC or EPIC-A on each pump and two pressure sensors for the variable speed version
- Pressure tanks available on request, as accessory

FUNCTIONING

In the fixed speed version as soon as pressure drops below the minimum set value on the pressure switch the first pump starts automatically. If water demand further increases, the second pump will run until the pressure rises above the maximum set value. When demand ends, the last pump turns off. All the pumps follow cycling changeover for equal work distribution. In case of one pump failure, the other pumps would continue to operate.

In the variable speed version when the system pressure drops below the desired level, the sensors detect it giving an input to the inverter to start the first pump at controlled speed. If the flow rate is not sufficient, the pressure continues to drop causing the second pump to start. As soon as the flow demand decreases, the pressure rises again and the second pump stop. The first pump continues to modulate its speed in order to regulate and maintain the set pressure until it turns off when the flow demand ends. Based on working hours, the inverters will alternate the starting order of pumps to ensure better wear distribution. Continuity of operation is ensured in the event of one pump or one inverter failure.

Threaded centrifugal pumps

KM	
P2	1÷5,5 [HP]
Q max	21 [m³/h]
H max	54,5 [m]

Single-impeller centrifugal pumps, extremely quiet, suitable for domestic, civil and industrial applications. The pumps guarantee constant pressure at the variation of flow rates.

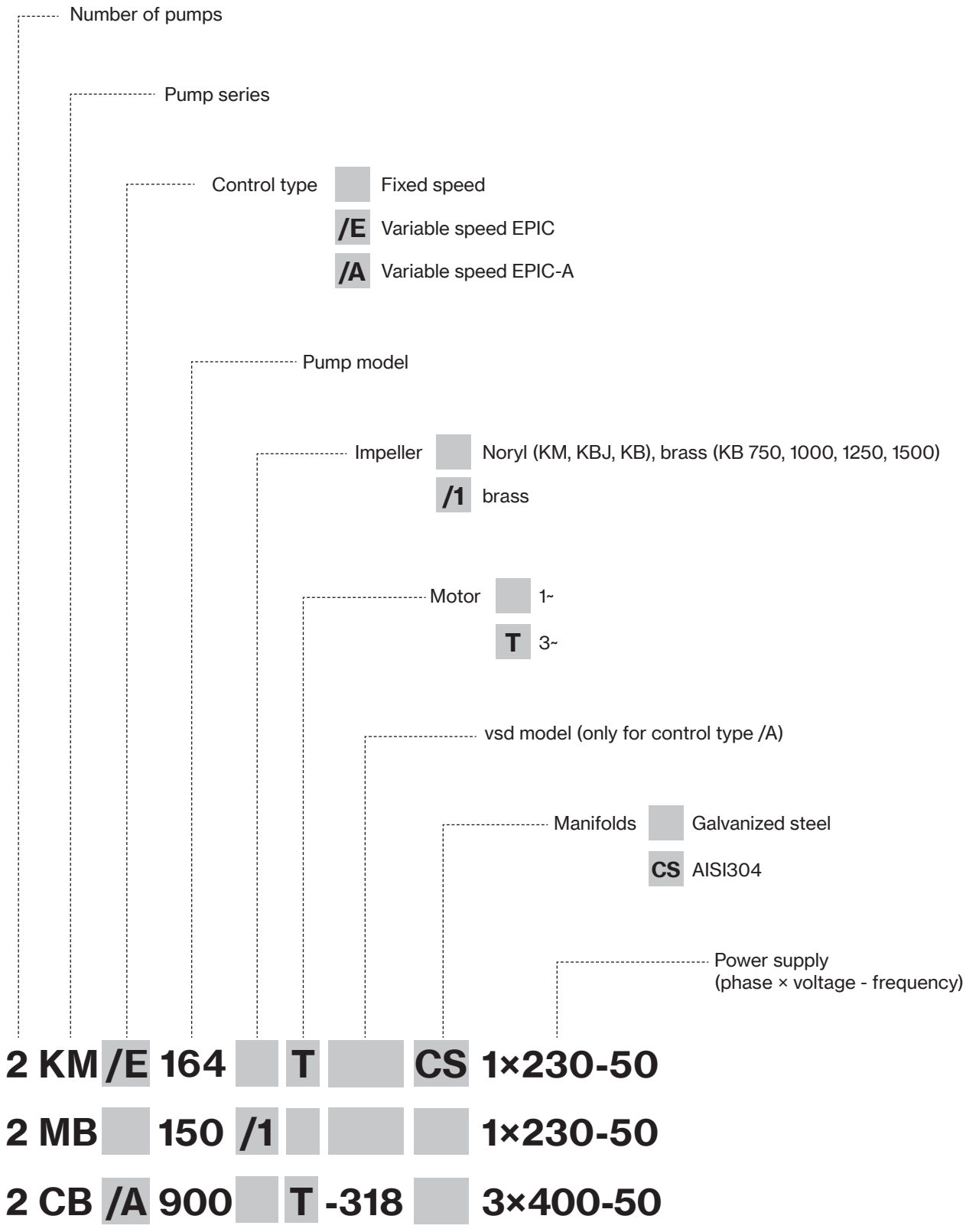
KBJ	
P2	1,5÷3 [HP]
Q max	10,8 [m³/h]
H max	45,9 [m]

Two impeller compact centrifugal pumps for constructing pressurisation systems for civil and industrial plant: guarantee good ratio between pressure and flow rate.

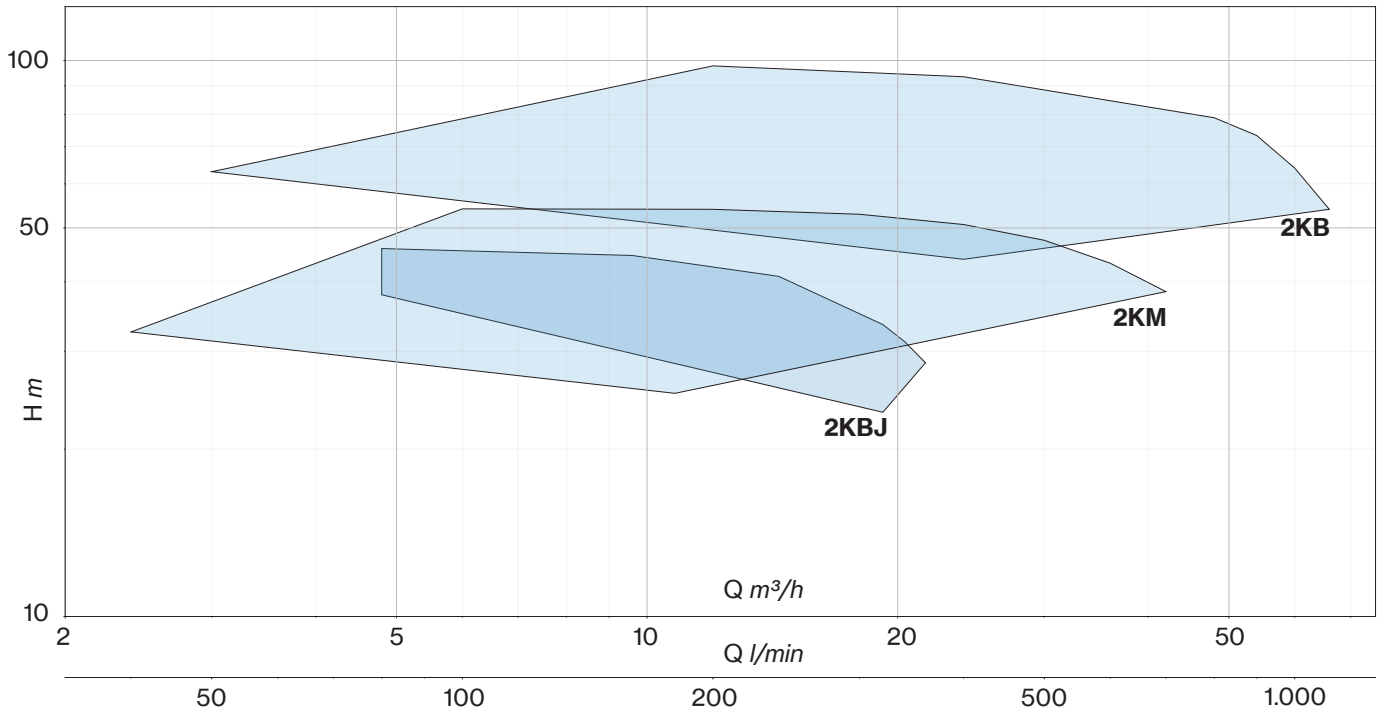
KB	
P2	1÷15 [HP]
Q max	33 [m³/h]
H max	97,8 [m]

Two impeller centrifugal pumps for constructing pressurisation systems for civil and industrial plant; the two counterposed impellers guarantee high head and flow rate.

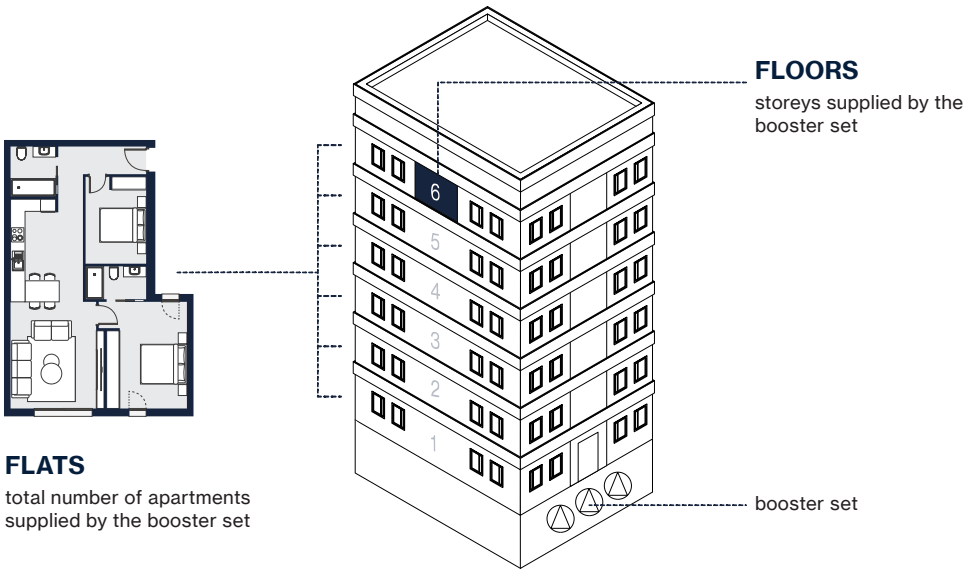
Name key


Number of pumps
Pump series
Control type
Fixed speed
/E Variable speed EPIC
/A Variable speed EPIC-A
Pump model
Impeller
Noryl (KM, KBJ, KB), brass (KB 750, 1000, 1250, 1500)
/1 brass
Motor
1~
T 3~
vsd model (only for control type /A)
Manifolds
Galvanized steel
CS AISI304
Power supply
(phase × voltage - frequency)
2 KM /E 164 T CS 1×230-50
2 MB 150 /1 1×230-50
2 CB /A 900 T -318 3×400-50

Performance data and curves



QUICK SELECTION



FLATS		FLOORS	KM series	KBJ series	KB series
1 duty and 1 standby pumps	2 duty pumps				
1	2-3	1-2	**2KM_106_**	-	-
		3	-	-	**2KB_100_**
2-3	4-6	1-2	**2KM_164_**	-	**2KB_100_**
		3	**2KM_164_**	-	**2KB_160_**
		4-5	**2KM_214_**	-	**2KB_160_**
		6	**2KM_314_**	-	**2KB_210_**
		7	-	-	**2KB_310_**
4-5	7-13	1-3	**2KM_164_**	**2KBJ_150_**	**2KB_160_**
		4	**2KM_214_**	**2KBJ_200_**	**2KB_160_**
		5	**2KM_214_**	**2KBJ_300_**	**2KB_210_**
		6	**2KM_314_**	-	**2KB_310_**
6-8	14-20	1-2	**2KM_214_**	**2KBJ_150_**	**2KB_160_**
		3	**2KM_214_**	**2KBJ_200_**	**2KB_160_**
		4	**2KM_214_**	**2KBJ_300_**	**2KB_210_**
		5	**2KM_314_**	-	**2KB_310_**
9-14	21-32	1-2	-	**2KBJ_200_**	**2KB_210_**
		3-4	-	**2KBJ_300_**	**2KB_310_**
		5-6	-	-	**2KB_400T_**
		7-9	-	-	**2KB_550T_**
		10-12	-	-	**2KBT_751_**
15-28	33-56	1-4	**2KM_400T_**	**2KBJ_300_**	-
		5-6	**2KM_400T_**	-	-
		7-8		-	**2KB_550T_**
		9-11		-	**2KB_751RT_**
		12-13		-	**2KB_900T_**

2KM

Pressurisation units with 2 threaded centrifugal pumps of KM series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC and EPIC-A inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

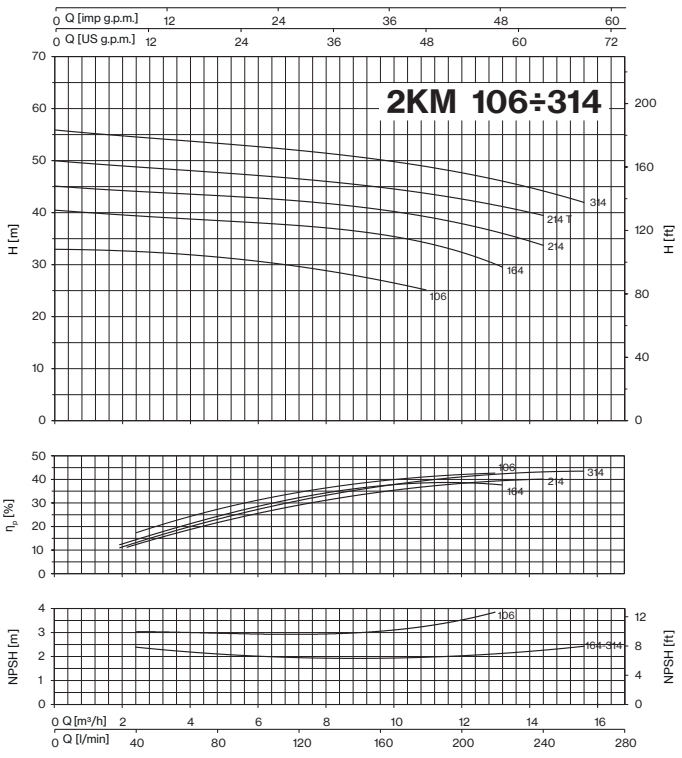
Booster set features	
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC or EPIC-A on each pump and two pressure sensors
Pressure tanks	available on request as accessories

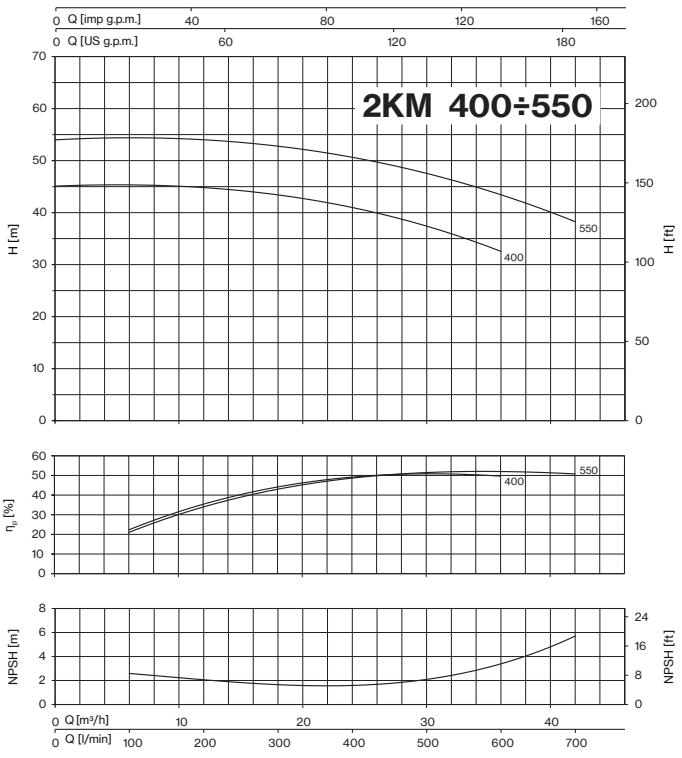
Pump features	
Pump body	cast iron
Motor bracket	cast iron (164÷550); aluminum (106)
Impeller	Noryl® or brass (106÷314), brass (400÷550)
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 416 (106) stainless steel AISI 303 (164÷550)
Liquid temperature	Noryl® impeller: 0 - 50 °C brass impeller: 0 - 90 °C
Operating pressure	max 6 bar (106) max 8 bar (164÷550)
2 Poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4

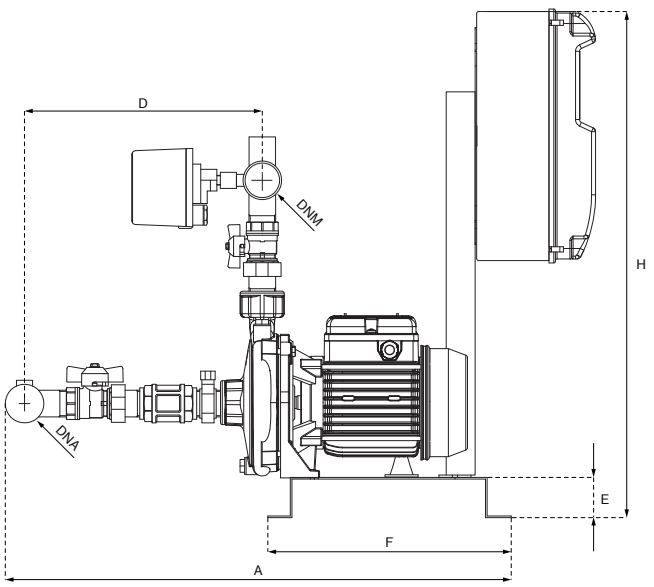
PERFORMANCE

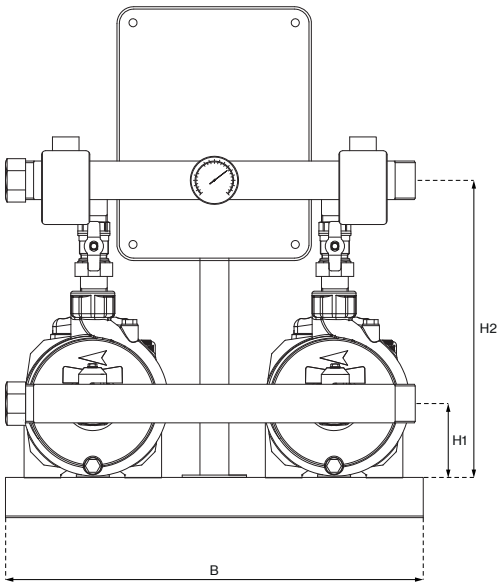
TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)								
		FIXED SPEED		VARIABLE SPEED				0	2,4	4,8	7,2	9,6	10,8	13,2	14,4	15,6
		1~ 230V	3~ 400V	EPIC	EPIC-A			0	40	80	120	160	180	220	240	260
l/min	bar			1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)								
100	3	-	-	**2KM/E106T**	**2KM/A106T-304**	1	0,74	33,0	32,5	31,5	29,6	26,8	25,2			
150	3,5	**2KM164**	**2KM164T**	**2KM/E164T**	**2KM/A164T-304**	1,5	1,1	40,5	39,3	38,6	37,5	35,6	34,6	29,5		
200	3,5	**2KM214**	-	-	-	2	1,5	45,1	44,1	43,3	42,3	40,5	39,2	36,4	33,5	
	4	-	**2KM214T**	-	**2KM/A214T-306**	2	1,5	50,0	48,7	47,8	46,5	44,9	43,7	41,3	39,4	
	4,5	**2KM314**	**2KM314T**	-	**2KM/A314T-306**	3	2,2	55,9	54,5	53,4	52,0	50,1	48,9	46,2	44,2	41,9

TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)							
		FIXED SPEED		VARIABLE SPEED				0	6	12	18	24	30	36	42
		1~ 230V	3~ 400V	EPIC	EPIC-A			0	100	200	300	400	500	600	700
l/min	bar			1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)							
400	4	-	**2KM400T**	-	**2KM/A400T-309**	4	3	45,1	45,2	44,9	43,4	40,9	37,4	32,5	
500	4,5	-	**2KM550T**	-	**2KM/A550T-314**	5,5	4	54,1	54,1	54,0	52,9	50,7	47,5	43,2	38,4









MODEL				P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																			
1~	3~	EPIC	EPIC-A	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
		1~ in 230V 3~out 230V	3~ 400V-in 3~ 400V-out	kW (×2)		A (×2)			Lt	mm										Kg	
-	-	**2KM/E106T**	**2KM/A106T-304**	-	1,17	-	2	3,5	2× 8	641	520	311	50	300	633	97	372	1" ½ G	1" ½ G	49	54
2KM164	**2KM164T**	**2KM/E164T**	**2KM/A164T-304**	1,9	1,8	8,5	3,4	5,9	2× 8	648	520	325	50	300	633	115	423	2" G		65	70
2KM214	**2KM214T**	-	**2KM/A214T-306**	2,2	2,43	10,3	4,9	-	2× 8	648	520	325	50	300	633	115	423			67	72
2KM314	**2KM314T**	-	**2KM/A314T-306**	2,85	2,67	13,5	5,1	-	2× 8	648	520	325	50	300	633	115	423			68	73
-	**2KM400T**	-	**2KM/A400T-309**	-	3,7	-	6,7	-	2× 20	849	615	378	60	380	633	133	515	3" G	2" ½ G	115	120
-	**2KM550T**	-	**2KM/A550T-314**	-	4,9	-	9	-	2× 20	849	615	378	60	380	633	133	515			116	136

f.s. : fixed speed
v.s. : variable speed

2KBJ

Pressurisation units with 2 threaded centrifugal pumps of KBJ series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC and EPIC-A inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features

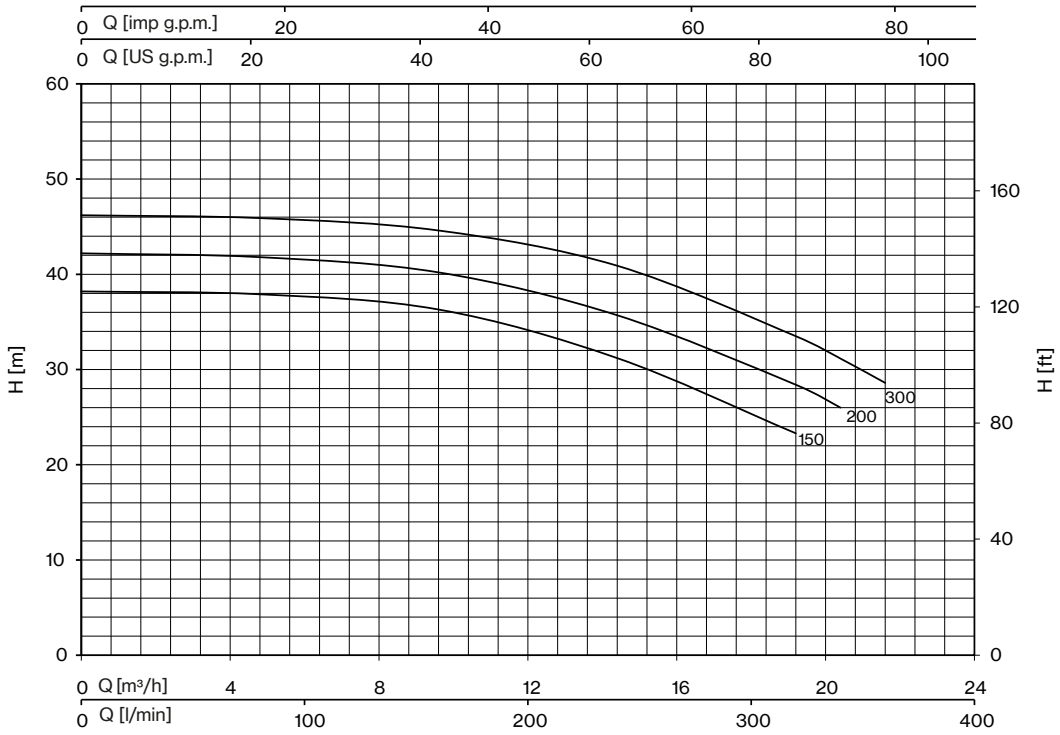
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC or EPIC-A on each pump and two pressure sensors
Pressure tanks	available on request as accessories

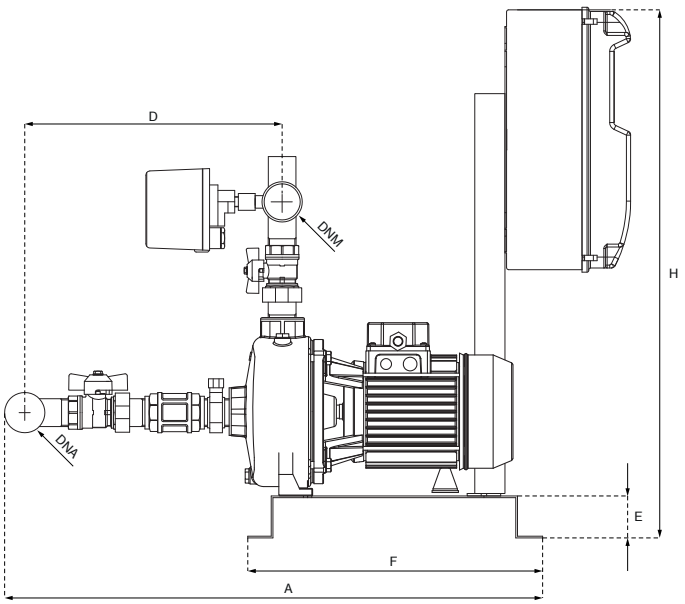
Pump features

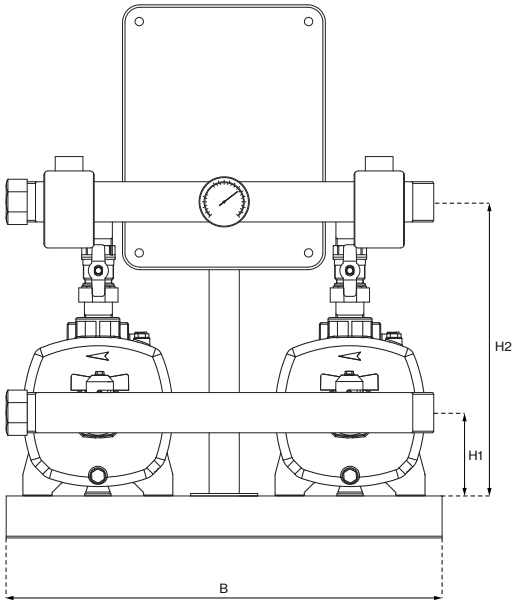
Pump body	cast iron
Motor bracket	cast iron
Impeller	Noryl® or brass
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 303
Liquid temperature	0 - 50 °C
Operating pressure	max 8 bar
2 Poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4

PERFORMANCE

TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)						
		FIXED SPEED		VARIABLE SPEED				0	4,8	9,6	14,4	19,2	20	21,6
				EPIC	EPIC-A			0	80	160	240	320	340	360
l/min	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)						
160	3,5	**2KBJ150**	**2KBJ150T**	**2KBJ/E150T**	**2KBJ/A150T-304**	1,5	1,1	38,2	37,9	36,3	31,2	23,3		
240		**2KBJ200**	**2KBJ200T**	**2KBJ/E200T**	**2KBJ/A200T-304**	2	1,5	42,2	41,8	40,2	35,7	28,4	26,0	
300		**2KBJ300**	**2KBJ300T**	-	**2KBJ/A300T-306**	3	2,2	46,2	45,9	44,6	40,9	33,5	31,2	28,6







MODEL				P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																			
1~	3~	EPIC	EPIC-A	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
		1~ in 230V 3~out 230V	3~ 400V-in 3~ 400V-out	kW (×2)		A (×2)			Lt	mm										Kg	
2KBJ150	**2KBJ150T**	**2KBJ/E150T**	**2KBJ/A150T-304**	1,6	1,5	7,2	3,1	5,4	2× 20	740	615	390	60	380	633	115	401			70	75
2KBJ200	**2KBJ200T**	**2KBJ/E200T**	**2KBJ/A200T-304**	1,85	1,75	8,4	3,4	5,9	2× 20	740	615	390	60	380	633	115	401	2" ½ G	2" G	71	76
2KBJ300	**2KBJ300T**	-	**2KBJ/A300T-306**	2,15	2,05	9,7	4,3	-	2× 20	740	615	390	60	380	633	115	401			73	79

f.s. : fixed speed
v.s. : variable speed

Dimensions and weights may differ slightly and therefore should be considered as indicative

2KB

Pressurisation units with 2 threaded centrifugal pumps of KB series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC and EPIC-A inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features	
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) and two pressure switches
Variable speed	inverter EPIC or EPIC-A on each pump and two pressure sensors
Pressure tanks	available on request as accessories

Pump features	
Pump body	cast iron
Motor bracket	cast iron
Impeller	Noryl® or brass (100÷900) brass (750÷1500)
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 303 stainless steel AISI 416 (100)
Liquid temperature	Noryl® impeller: 0 - 50 °C brass impeller: 0 - 90 °C
Operating pressure	max 6 bar (100) max 11 bar (160÷1500)
2 Poles induction motor	3~ 230/400V - 50Hz P ⩽ 4kW 3~ 400/690V - 50Hz P > 4kW 1~ 230V - 50Hz
Motor insulation class	F
Motor protection degree	IPX4 IPX5 (750÷1500)

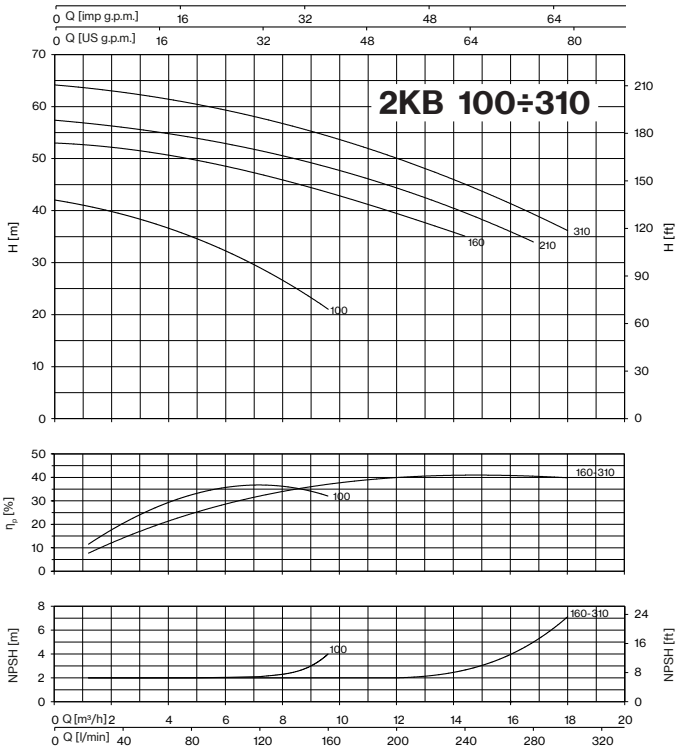
PERFORMANCE

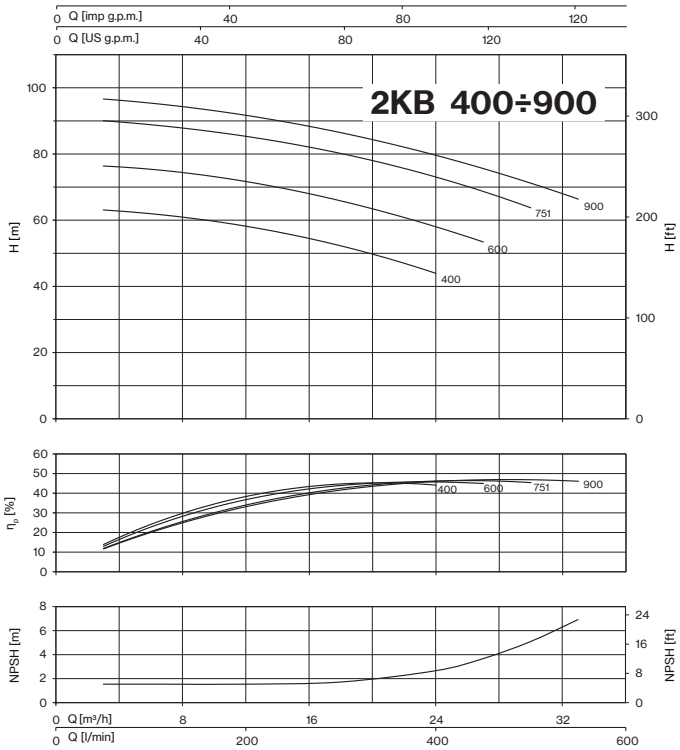
TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)										
		FIXED SPEED		VARIABLE SPEED				0	1,2	2,4	3,6	4,8	7,2	9,6	12,0	14,4	16,8	18
				EPIC	EPIC-A			0	20	40	60	80	120	160	200	240	280	300
l/min	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)										
60	3,5	**2KB100**	**2KB100T**	**2KB/E100T**	**2KB/A100T-304**	1	0,74	42,0	40,8	39,4	37,4	34,7	29,2	21,0				
180	4	**2KB160**	**2KB160T**	**2KB/E160T**	**2KB/A160T-306**	1,5	1,1	53,0	52,5	52,0	51,0	50,0	46,9	43,3	39,7	35,0		
220	4	**2KB210**	**2KB210T**	-	**2KB/A210T-306**	2	1,5	57,3	56,9	56,0	55,1	54,0	51,5	48,4	44,4	39,5	34,0	
220	4,5	**2KB310**	**2KB310T**	-	**2KB/A310T-306**	3	2,2	64,0	63,5	63,0	61,9	60,6	57,7	54,1	50,0	45,4	39,4	36,0

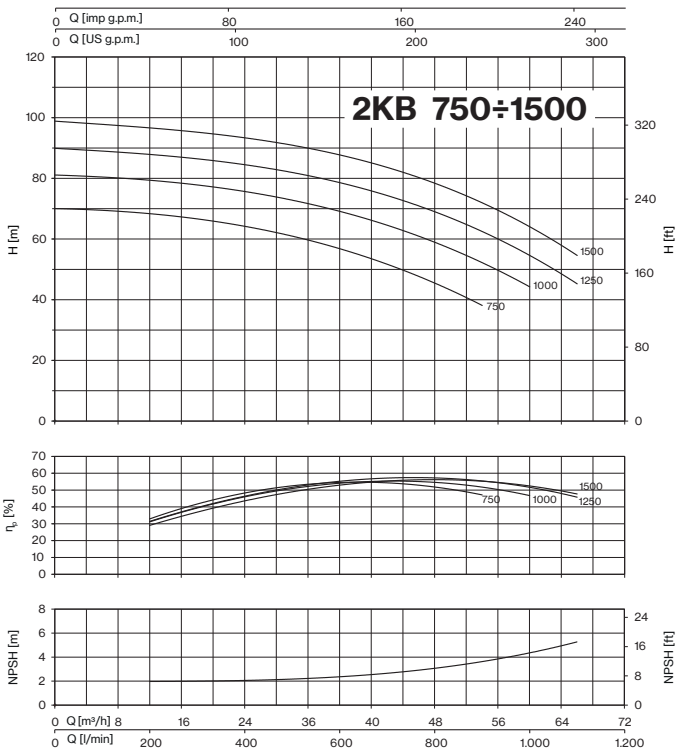
TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)										
		FIXED SPEED		VARIABLE SPEED				0	3	6	9	12	15	18	21	24	27	30	33
				EPIC	EPIC-A			0	50	100	150	200	250	300	350	400	450	500	550
l/min	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)											
250	5,5	-	**2KB400T**	-	**2KB/A400T-309**	4	3	63,6	63,1	62,0	60,3	58,2	55,5	52,3	48,4	43,9			
300	6,5	-	**2KB550T**	-	**2KB/A550T-314**	5,5	4	76,9	76,4	75,4	73,8	71,7	69,0	65,9	62,1	58,0	53,4		
350	7,5	-	**2KB751RT**	-	**2KB/A751RT-314**	7,5	5,5	90,7	90,0	88,9	87,3	85,3	82,9	80,1	76,8	73,1	68,8	63,7	
350	8	-	**2KB900T**	-	**2KB/A900T-318**	10	7,5	97,5	96,6	95,4	93,7	91,7	89,2	86,5	83,3	79,8	75,2	71,2	66,4

TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)							
		FIXED SPEED		VARIABLE SPEED				0	12	24	36	48	54	60	66
				EPIC	EPIC-A			0	200	400	600	800	900	1000	1100
l/min	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)							
600	5	-	**2KB750T**	-	**2KB/A750T-314**	7,5	5,5	70,0	68,5	63,9	57,1	45,3	38,2		
800	5,5	-	**2KB1000T**	-	**2KB/A1000T-318**	10	7,5	80,7	80,4	75,0	68,5	59,7	52,6	43,7	
900	6	-	**2KB1250T**	-	**2KB/A1250T-318**	12,5	9,2	89,5	88,8	84,1	77,7	69,7	63,0	54,2	45,1
900	7	-	**2KB1500T**	-	**2KB/A1500T-325**	15	11	98,3	97,8	93,5	85,7	78,9	73,3	64,0	54,0

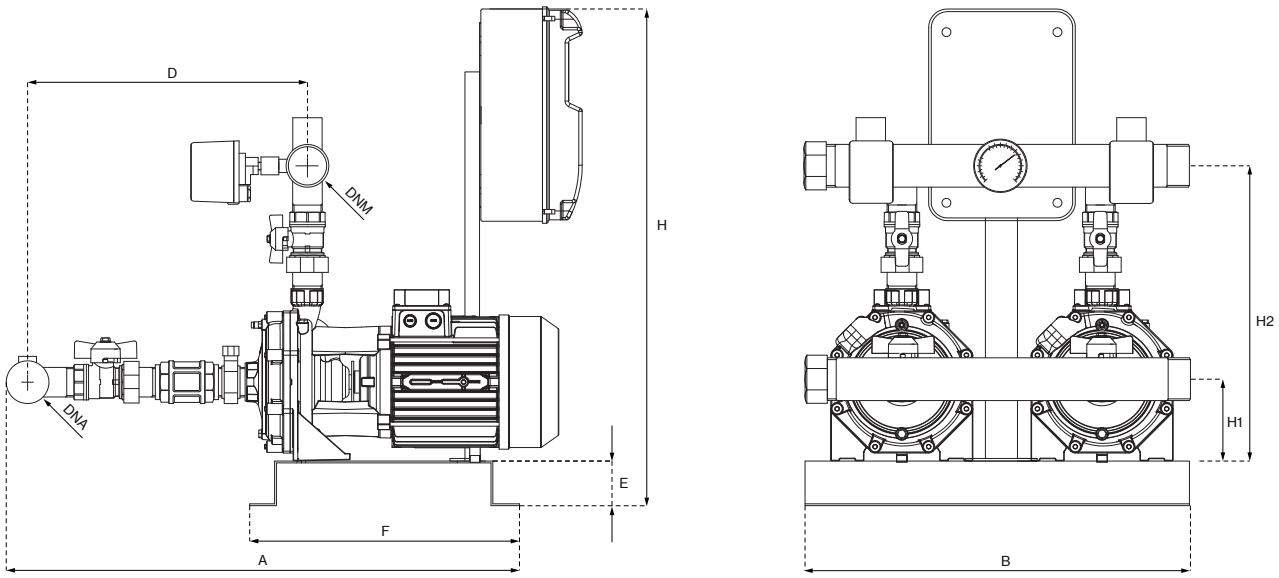
2KB







Dimensions and weights may differ slightly and therefore should be considered as indicative



MODEL				P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																			
1~	3~	EPIC	EPIC-A	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
		1~ in 230V 3~out 230V	3~ 400V-in 3~ 400V-out	kW (×2)		A (×2)			Lt	mm										Kg	
2KB100	**2KB100T**	**2KB/E100T**	**2KB/A100T-304**	1,17	1,15	5,4	2,4	4,2	2× 8	653	520	351	50	300	633	98	366	2" G	1" ½ G	49	54
2KB160	**2KB160T**	**2KB/E160T**	**2KB/A160T-306**	2,3	2,2	10,2	4,1	7,1	2× 20	646	520	361	50	300	633	110	403			65	70
2KB210	**2KB210T**	**-**	**2KB/A210T-306**	2,6	2,45	11,5	4,8	-	2× 20	646	520	361	50	300	633	110	403			66	71
2KB310	**2KB310T**	**-**	**2KB/A310T-306**	2,9	2,8	13,2	5,2	-	2× 20	646	520	361	50	300	633	110	403			67	72
-	**2KB400T**	**-**	**2KB/A400T-309**	-	3,8	-	6,7	-	2× 20	777	615	462	60	380	633	135	464	2" ½ G	2" G	108	113
-	**2KB550T**	**-**	**2KB/A550T-314**	-	5	-	9,1	-	1× 50	777	615	462	60	380	633	135	464			116	136
-	**2KB751RT**	**-**	**2KB/A751RT-314**	-	6,5	-	11,5	-	1× 50	777	615	462	60	380	633	135	464			132	152
-	**2KB900T**	**-**	**2KB/A900T-318**	-	7,3	-	13,3	-	1× 50	777	615	462	60	380	633	135	464			144	164
-	**2KB750T**	**-**	**2KB/A750T-314**	-	6,7	-	11,1	-	1× 100	1050	840	470	60	380	920	150	650	DN100	DN80	237	257
-	**2KB1000T**	**-**	**2KB/A1000T-318**	-	8,5	-	13,9	-	1× 100	1050	840	470	60	380	920	150	650			247	267
-	**2KB1250T**	**-**	**2KB/A1250T-318**	-	9,8	-	16,3	-	1× 100	1050	840	470	60	380	920	150	650			264	284
-	**2KB1500T**	**-**	**2KB/A1500T-325**	-	11,2	-	18,6	-	1× 100	1050	900	470	60	380	920	150	650			272	292

f.s. : fixed speed
v.s. : variable speed

FORAS®

WATER PUMPS

BOOSTER SETS WITH CENTRIFUGAL FLANGED PUMPS

CENTRIFUGAL FLANGED BOOSTER SETS

2MN (EN 733)

2MN/I (EN 733)

Fixed speed and variable speed booster sets with two monobloc centrifugal flanged pumps

DESCRIPTION

Booster units with 2 monobloc horizontal centrifugal pumps of MN (EN 733) series, set on a single skid and connected in parallel by suction and delivery manifolds. These systems are widely used in water supplies, pressurization and fire-fighting systems, cooling, heating, irrigation, industrial and agricultural applications. To ensure a constant pressure to the system these booster sets can be equipped with EPIC-A or IPFC inverters.
To ensure proper operation of the booster set, pressure tanks of adequate capacity are required depending on constant or variable speed, pumps type, and applications.

FEATURES

- Two monobloc horizontal centrifugal flanged pumps of MN (EN 733) series
- Cast iron pump body
- Suction manifold in galvanized steel with non-return and isolation valves
- Delivery manifold in galvanized steel with pressure gauge and isolation valves
- Base frame in galvanized steel
- EQ2SM(T) electronic or Q2ST electromechanical control panel with pressure switches for fixed speed version
- Inverter EPIC-A or IPFC, connected on each pump with pressure sensors, for variable speed version
- Pressure tanks, available on request, as accessory

FUNCTIONING

In the fixed speed version as soon as pressure drops below the minimum set value on the pressure switch the first pump starts automatically. If water demand further increases, the second pump will run until the pressure rises above the maximum set value. When demand ends, the last pump turns off. All the pumps follow cycling changeover for equal work distribution. In case of one pump failure, the other pumps would continue to operate.

In the variable speed version when the system pressure drops below the desired level, the sensors detect it giving an input to the inverter to start the first pump at controlled speed. If the flow rate is not sufficient, the pressure continues to drop causing the second pump to start. As soon as the flow demand decreases, the pressure rises again and the second pump stop. The first pump continues to modulate its speed in order to regulate and maintain the set pressure until it turns off when the flow demand ends. Based on working hours, the inverters will alternate the starting order of pumps to ensure better wear distribution. Continuity of operation is ensured in the event of one pump or one inverter failure.

MN EN 733	
P2	4÷50 [HP]
Q max	150 [m³/h]
H max	93,6 [m]

Monobloc horizontal centrifugal pumps, constructed in compliance with EN 733 standards; widely used in water supplies, pressurisation and fire-fighting systems, cooling, heating, irrigation, industrial and agricultural applications; standard supply with counter-flange.

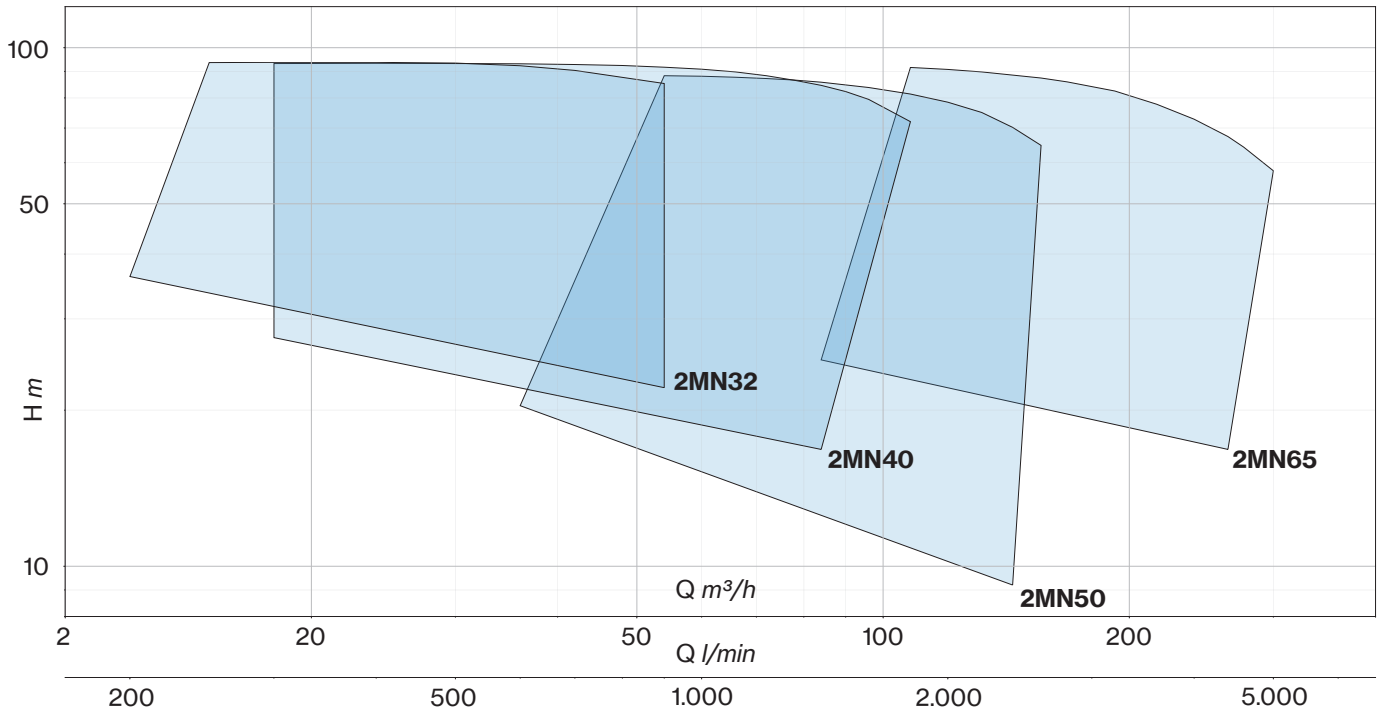
Name key

- Pump series
- Control type
  - (blank) Fixed speed
  - /A Variable speed EPIC-A
  - /I Variable speed IPFC
- Pump model
- Impeller
  - (blank) cast iron
  - B bronze
  - X AISI 316
- vsd model (only for control type /A or /I)
- Manifolds
  - (blank) Galvanized steel
  - CS AISI304
- Power supply (phase × voltage - frequency)

2 MN /A 32-200B X -2E -314 CS 3×400-50

- Mech. seal and O-rings
  - (blank) standard
  - E EPDM
  - V FKM
  - 2E SiC-SiC-EPDM
  - 2V SiC-SiC-FKM
- Number of pumps

Performance data and curves



2MN (EN 733)

Pressurisation units with 2 centrifugal flanged pumps of MN EN733 series on a single skid, connected in parallel by suction and delivery manifolds.

They are available in fixed speed version with electronic control panel or in variable speed version with EPIC-A or IPFC inverters for constant pressure. The key characteristics of these systems are their reliability, user-friendly operation, and low maintenance needs. Installation of a pressure tank is required.

Booster set features	
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control panel EQ2SM(T) (3~ up to 15kW), electromechanical control panel Q2ST (3~ from 18,5kW to 37kW) and two pressure switches
Variable speed	inverter EPIC-A or IPFC on each pump and two pressure sensors
Pressure tanks	available on request as accessories

Pump features	
Pump body	cast iron
Motor bracket	cast iron
Impeller	cast iron, bronze or stainless steel
Mechanical seal	ceramic-graphite-NBR
Pump shaft end	stainless steel AISI 304
Liquid temperature	-10 ÷ +90 °C
Operating pressure	max 10 bar
2 Poles induction motor	3~ 230/400V - 50Hz P ≤ 4kW 3~ 400/690V - 50Hz P > 4kW 1~ 230V-50Hz
Motor insulation class	F
Motor protection degree	IPX5

2MN (EN 733)

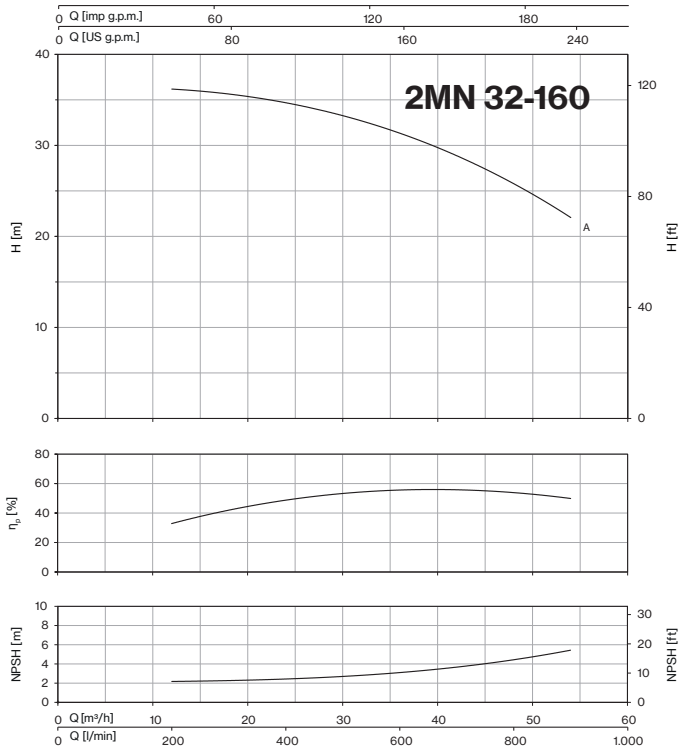
PERFORMANCE

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)											
		FIXED SPEED	VARIABLE SPEED				0	12	15	18	24	30	36	42	48	54	60	66
		3~400V	EPIC-A	IPFC			0	200	250	300	400	500	600	700	800	900	1000	1100
m³/h	bar		3~400V-in 3~400V-out		HP (×2)	kW (×2)	H (m)											
36	3	**2MN32-160A**	**2MN/A32-160A-309**	**2MN/I 32-160A-309**	4	3	36,1	36,2	36,0	35,6	34,6	33,2	31,4	28,9	25,7	22,1		
	3,5	**2MN32-200C**	**2MN/A32-200C-314**	**2MN/I 32-200C-311**	5,5	4	40,2	40,3	40,1	39,8	38,9	37,7	36,1	34,2	31,6	28,7		
42	4	**2MN32-200B**	**2MN/A32-200B-314**	**2MN/I 32-200B-314**	7,5	5,5	48,3	48,0	47,9	47,6	46,7	45,5	44,2	42,6	40,5	37,9	35,4	
	5	**2MN32-200A**	**2MN/A32-200A-318**	**2MN/I 32-200A-318**	10	7,5	57,9	58,3	58,4	58,4	58,0	57,1	55,6	53,8	51,4	49,2	46,6	44,3
	6,5	**2MN32-250C**	**2MN/A32-250C-318**	**2MN/I 32-250C-318**	12,5	9,2	74,6		72,8	72,5	71,9	70,5	68,8	66,6	64,1	61,3		
	7,5	**2MN32-250B**	**2MN/A32-250B-325**	**2MN/I 32-250B-325**	15	11	84,8		84,0	83,9	83,6	82,7	81,1	78,6	75,4	73,2		
	8,5	**2MN32-250A**	**2MN/A32-250A-330**	**2MN/I 32-250A-330**	20	15	93,5		93,6	93,7	93,7	93,4	92,3	90,4	87,7	85,3		

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)													
		FIXED SPEED	VARIABLE SPEED				0	18	36	42	48	54	60	66	72	78	84	90	96	108
		3~400V	EPIC-A	IPFC			0	300	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1800
m³/h	bar		3~400V-in 3~400V-out		HP (×2)	kW (×2)	H (m)													
54	2	**2MN40-125A**	**2MN/A40-125A-309**	**2MN/I 40-125A-309**	4	3	26,8	27,6	27,2	26,5	25,7	24,6	23,4	22,0	20,3	18,5	16,8			
	3	**2MN40-160A**	**2MN/A40-160A-314**	**2MN/I 40-160A-311**	5,5	4	38,8	34,9	33,9	33,2	32,4	31,3	30,0	28,5	26,9	25,2	23,4			
	4	**2MN40-200B**	**2MN/A40-200B-314**	**2MN/I 40-200B-314**	7,5	5,5	44,6	45,5	44,5	43,5	42,3	41,0	39,3	37,2	34,9	32,3	29,4			
	5	**2MN40-200A**	**2MN/A40-200A-318**	**2MN/I 40-200A-318**	10	7,5	56,2	56,5	55,9	55,1	54,1	52,8	51,2	49,3	47,0	44,4	41,6			
66	5	**2MN40-200AP**	**2MN/A40-200AP-318**	**2MN/I 40-200AP-318**	12,5	9,2	61,7	61,4	60,0	59,1	57,9	56,4	54,7	53,1	51,1	48,5	45,5	42,2		
	6,5	**2MN40-250B**	**2MN/A40-250B-325**	**2MN/I 40-250B-325**	15	11	73,7	73,9	71,9	71,1	70,2	69,2	68,1	66,7	64,7	62,1				
72	7,5	**2MN40-250A**	**2MN/A40-250A-330**	**2MN/I 40-250A-330**	20	15	82,6	84,6	84,3	83,4	82,4	81,3	80,0	78,5	76,9	75,4	72,8	69,0		
84	8,5	**2MN40-250BM**	**2MN/A40-250BM-338**	**2MN/I 40-250BM-338**	25	18,5	92,6	93,2	93,1	92,8	92,4	91,7	90,9	89,8	88,3	86,5	84,6	82,3	79,5	72,0

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)													
		FIXED SPEED	VARIABLE SPEED				0	36	42	48	54	60	72	84	96	108	120	132	144	156
		3~400V	EPIC-A	IPFC			0	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600
m³/h	bar		3~400V-in 3~400V-out		HP (×2)	kW (×2)	H (m)													
96	1,5	**2MN50-125B**	**2MN/A50-125B-309**	**2MN/I 50-125B-309**	4	3	20,0	20,4	20,3	20,1	19,9	19,6	18,7	17,6	16,4	15,0	13,2	11,3	9,2	
	2	**2MN50-125A**	**2MN/A50-125A-314**	**2MN/I 50-125A-311**	5,5	4	23,7	24,2	24,1	23,9	23,7	23,3	22,6	21,7	20,7	19,6	18,2	16,4	14,2	
108	2,5	**2MN50-160B**	**2MN/A50-160B-314**	**2MN/I 50-160B-314**	7,5	5,5	32,1		33,5	33,4	33,1	32,7	31,6	30,2	28,3	26,2	23,9	21,5	18,9	
120	3	**2MN50-160A**	**2MN/A50-160A-318**	**2MN/I 50-160A-318**	10	7,5	38,1		39,8	39,8	39,8	39,6	38,8	37,7	36,1	34,1	32,1	29,9	27,6	25,4
	3,5	**2MN50-200C**	**2MN/A50-200C-325**	**2MN/I 50-200C-325**	12,5	9,2	48,2			49,7	49,2	48,5	46,9	44,9	42,6	40,0	36,0	32,3	28,9	
	4	**2MN50-200B**	**2MN/A50-200B-325**	**2MN/I 50-200B-325**	15	11	53,1			54,6	54,1	53,5	52,2	50,4	48,1	45,5	42,7	38,8	35,0	
	5	**2MN50-200A**	**2MN/A50-200A-330**	**2MN/I 50-200A-330**	20	15	59,9			61,8	61,5	61,0	59,7	58,0	56,0	53,6	50,8	47,8	44,4	39,8
	6,5	**2MN50-250B**	**2MN/A50-250B-338**	**2MN/I 50-250B-338**	25	18,5	78,8				78,4	78,0	77,0	75,1	72,9	70,3	66,9	62,9	58,5	
	7,5	**2MN50-250A**	**2MN/A50-250A-344**	**2MN/I 50-250A-348**	30	22	88,5				88,3	88,1	87,2	85,8	83,8	81,4	78,5	75,0	70,2	64,8

TARGET (2 pumps)		MODEL			P2 NOMINAL		Q (m³/h - l/min)													
		FIXED SPEED	VARIABLE SPEED				0	84	90	108	132	156	168	192	216	240	264	276	288	300
		3~400V	EPIC-A	IPFC			0	1400	1500	1800	2200	2600	2800	3200	3600	4000	4400	4600	4800	5000
m³/h	bar		3~400V-in 3~400V-out		HP (×2)	kW (×2)	H (m)													
192	2	**2MN65-125A**	**2MN/A65-125A-318**	**2MN/I 65-125A-318**	10	7,5	24,6	25,0	24,9	24,7	24,2	23,5	23,0	22,0	20,6	18,8	16,8			
	2,5	**2MN65-160C**	**2MN/A65-160C-318**	**2MN/I 65-160C-318**	12,5	9,2	28,9	30,6	30,5	30,0	29,1	27,9	27,2	25,3	22,9	20,2	17,5	16,0	13,9	
	3	**2MN65-160B**	**2MN/A65-160B-325**	**2MN/I 65-160B-325**	15	11	33,2	35,1	35,0	34,6	33,8	32,8	32,1	30,4	28,2	25,5	22,5	21,4	20,4	
	3,5	**2MN65-160A**	**2MN/A65-160A-338**	**2MN/I 65-160A-338**	20	15	40,1	42,5	42,5	42,3	41,8	41,0	40,4	38,9	37,1	35,3	32,8	31,7	30,9	
240	3	**2MN65-200C**	**2MN/A65-200C-338**	**2MN/I 65-200C-338**	20	15	44,4			46,1	44,7	43,2	42,4	40,3	37,5	33,7	28,9	26,8		
	4	**2MN65-200B**	**2MN/A65-200B-338**	**2MN/I 65-200B-338**	25	18,5	51,7			53,9	52,7	51,3	50,4	48,6	45,9	43,0	39,4	37,1	34,6	
	5	**2MN65-200A**	**2MN/A65-200A-344**	**2MN/I 65-200A-348**	30	22	60,3			61,8	61,0	59,8	59,1	57,1	54,6	51,6	48,3	46,5	44,4	
	6	**2MN65-250B**	-	**2MN/I 65-250B-365**	40	30	80,6			80,6	78,4	75,7	74,1	70,4	66,1	61,0	54,7	51,0	47,3	
	7	**2MN65-250A**	-	**2MN/I 65-250A-375**	50	37	91,6			91,6	89,8	87,4	85,9	82,5	77,8	72,8	67,4	64,3	60,8	57,9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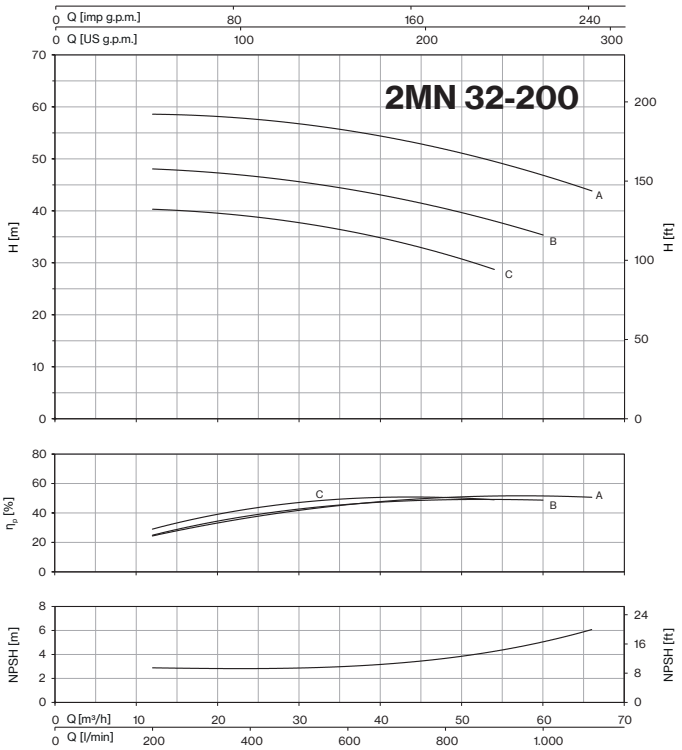
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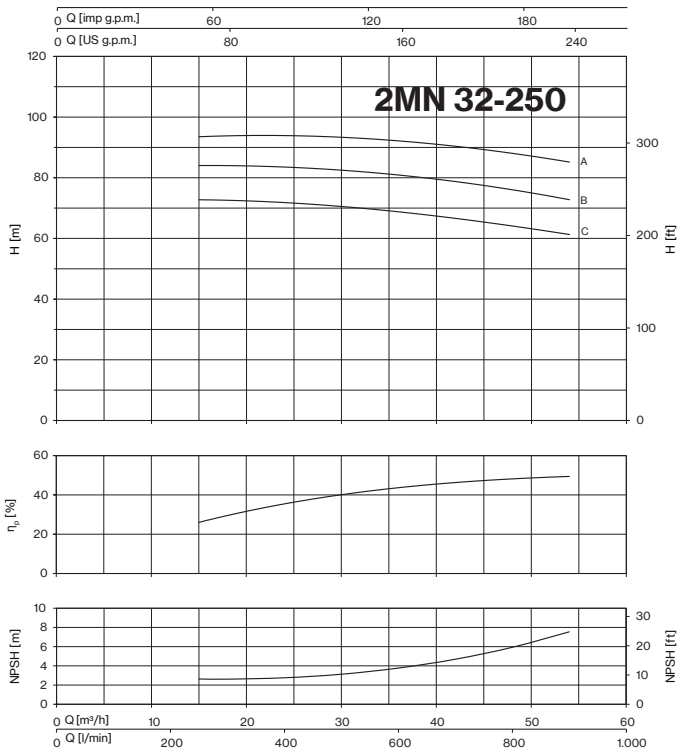
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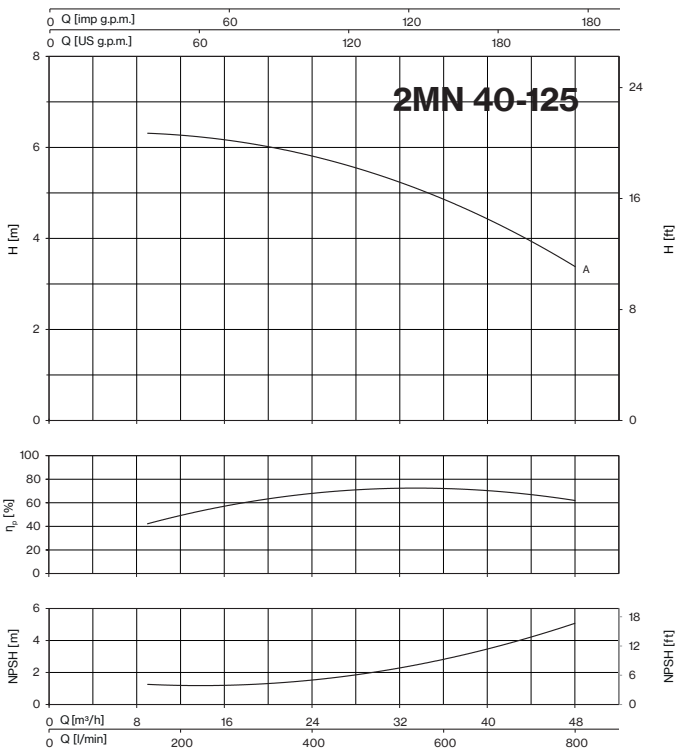
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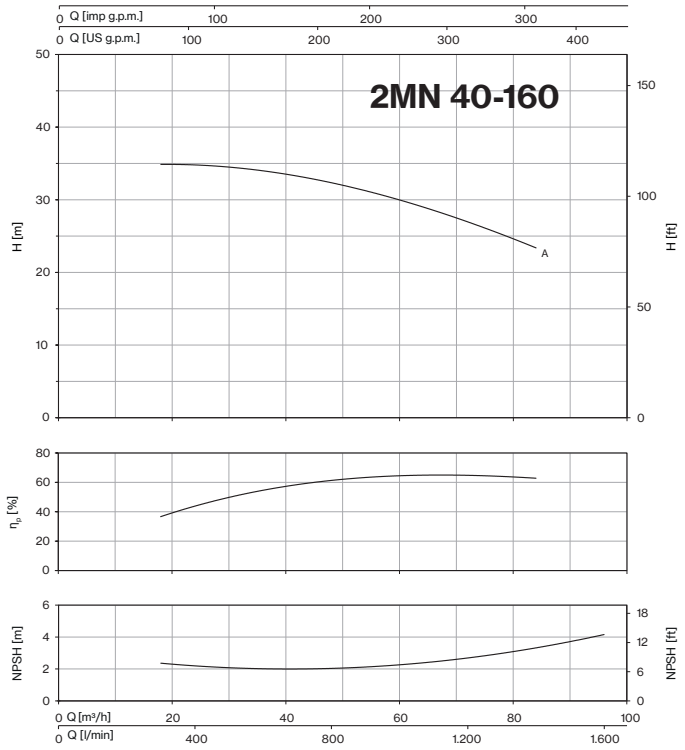
2MN (EN 733)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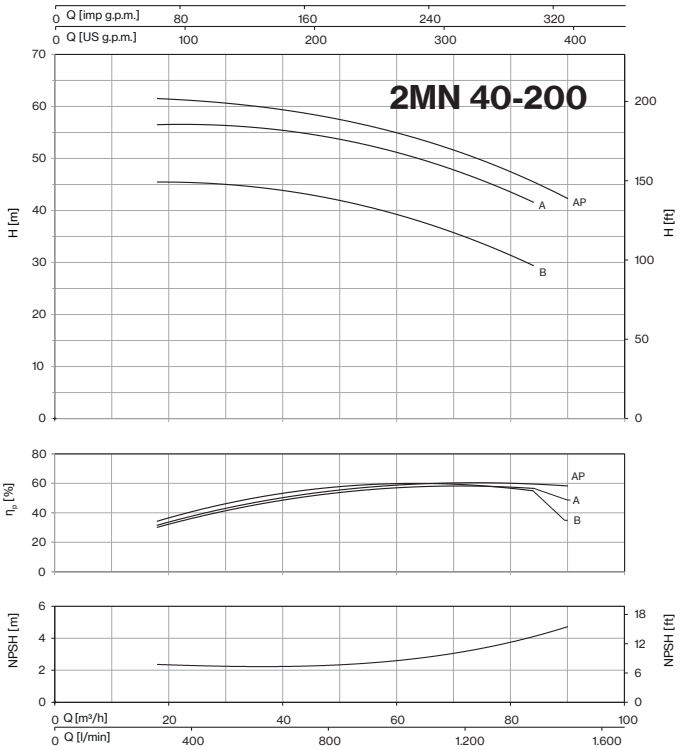
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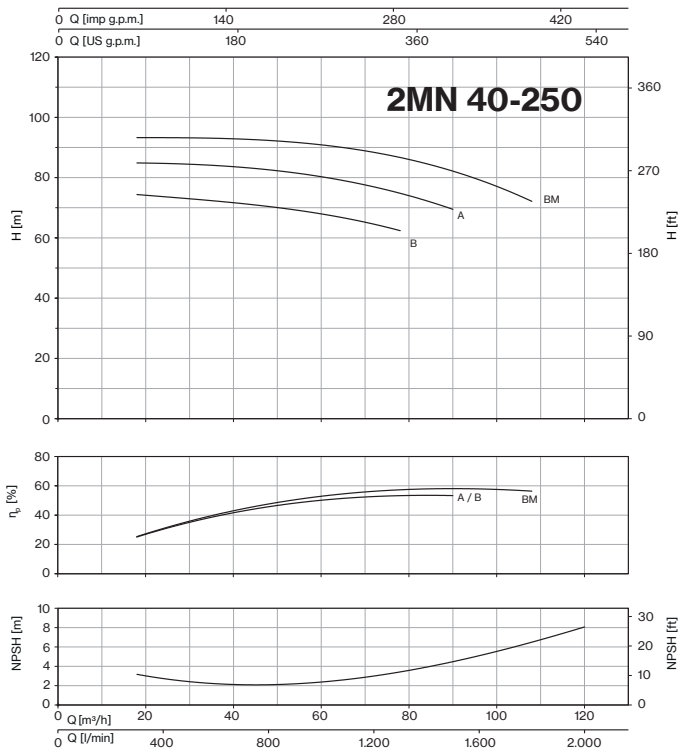
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NPSH [m]
NPSH [ft]
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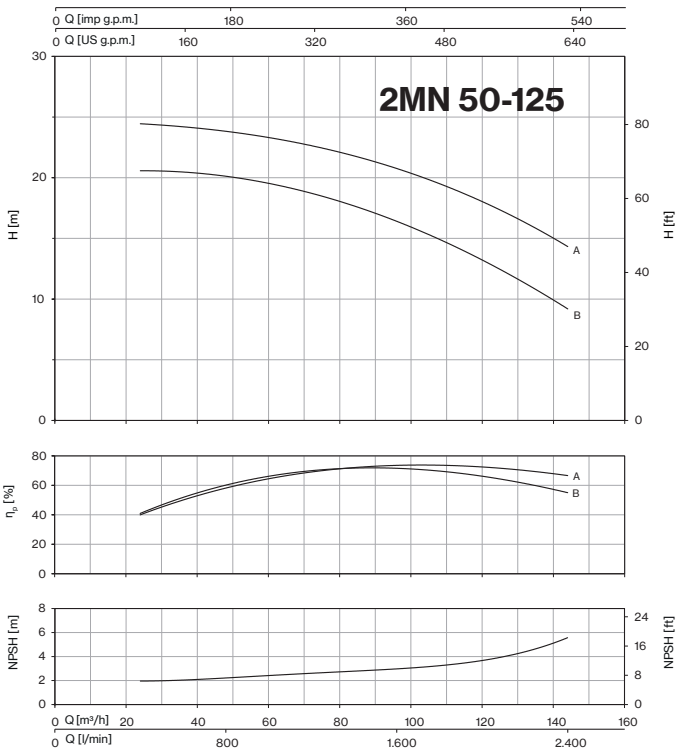
Q [l/min]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B
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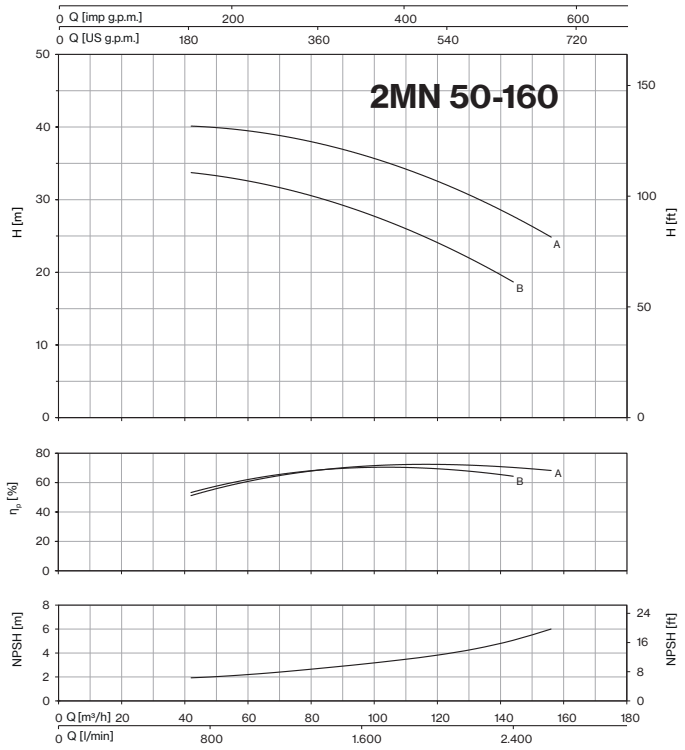
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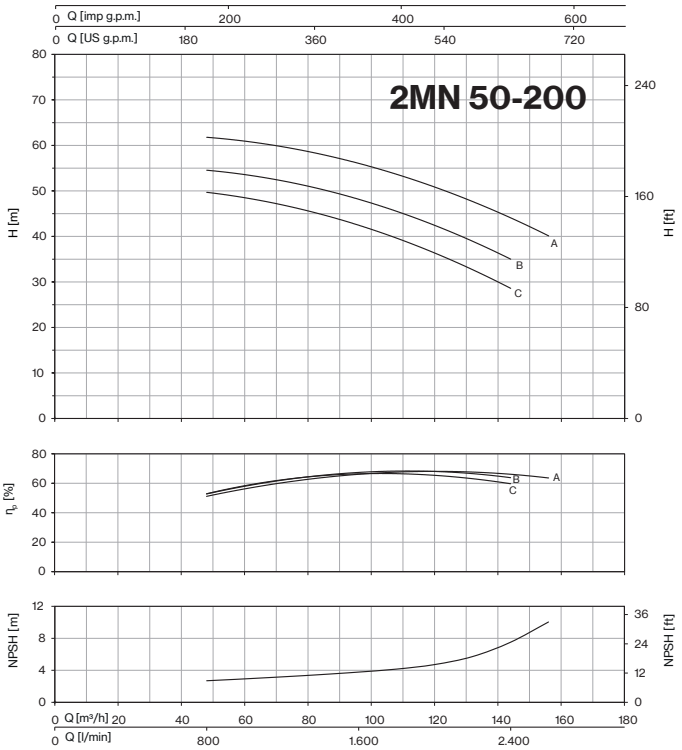
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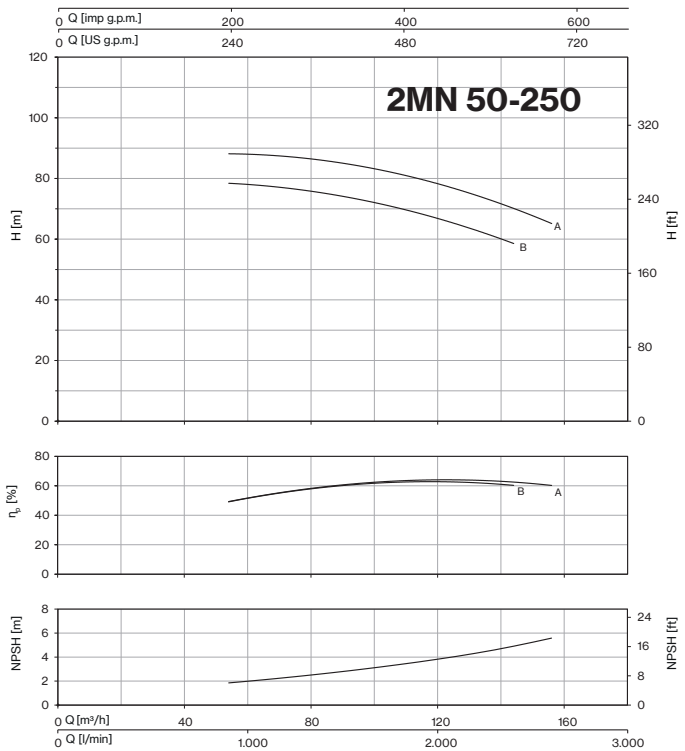
NPSH [ft]
Q [m³/h]
Q [l/min]
A
B
C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Q [l/min]
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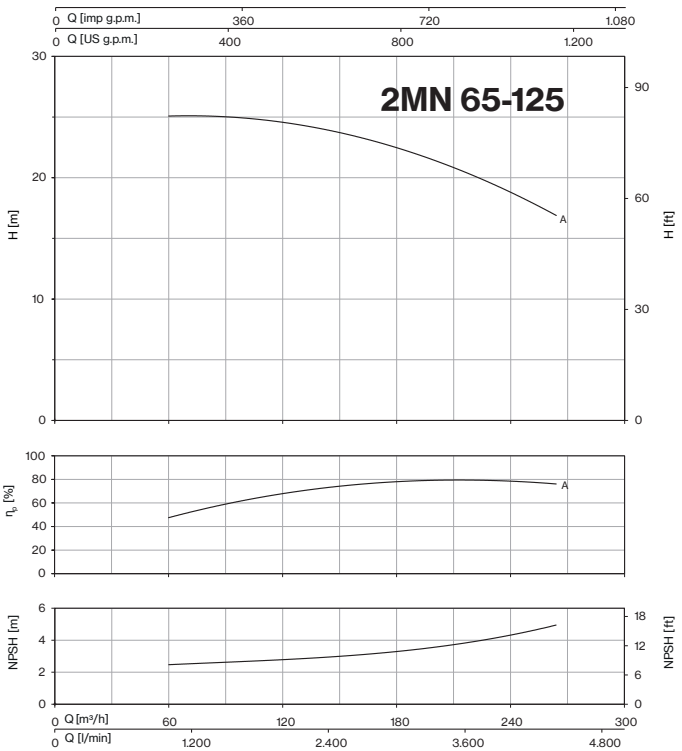
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NPSH [ft]
Q [m³/h]
Q [l/min]
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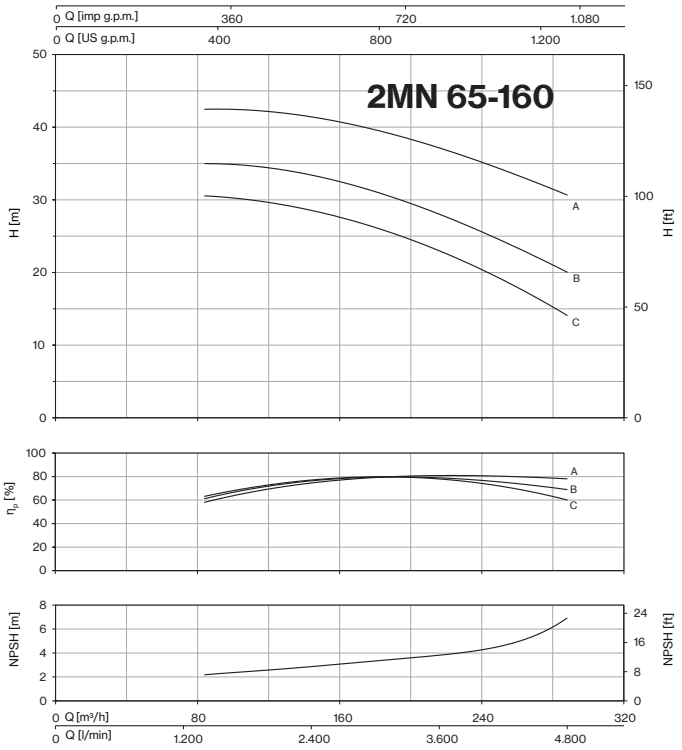
2MN (EN 733)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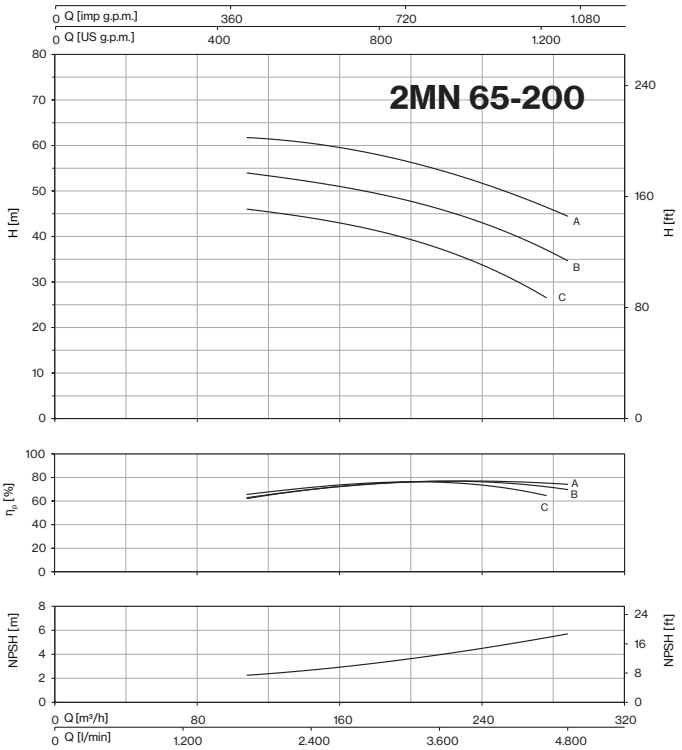
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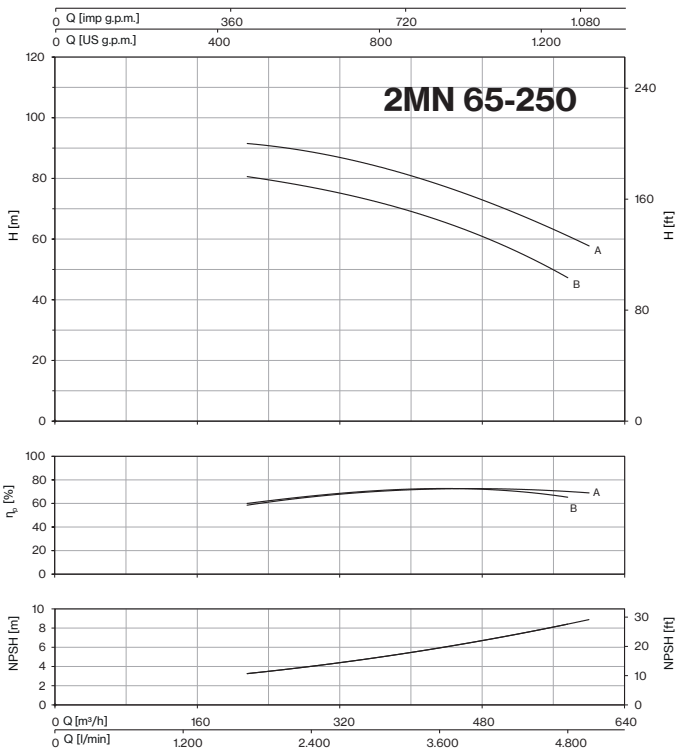
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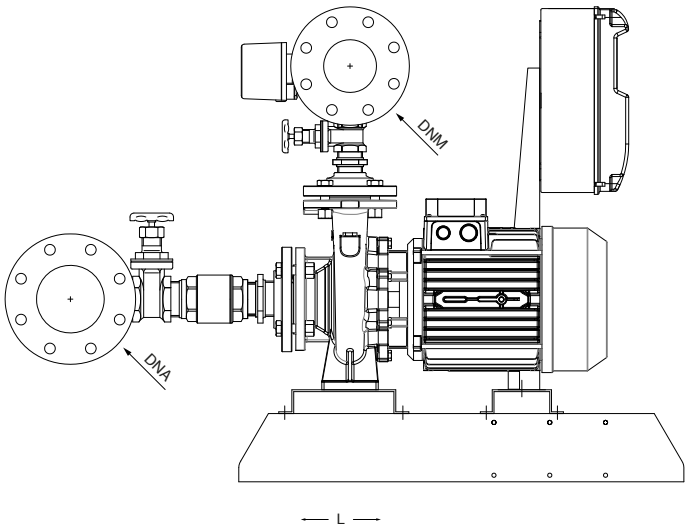
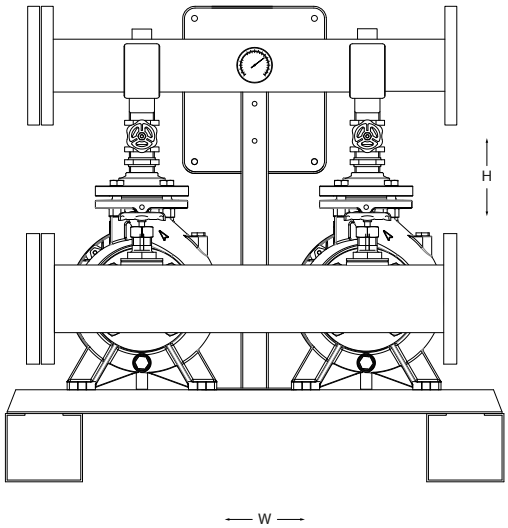


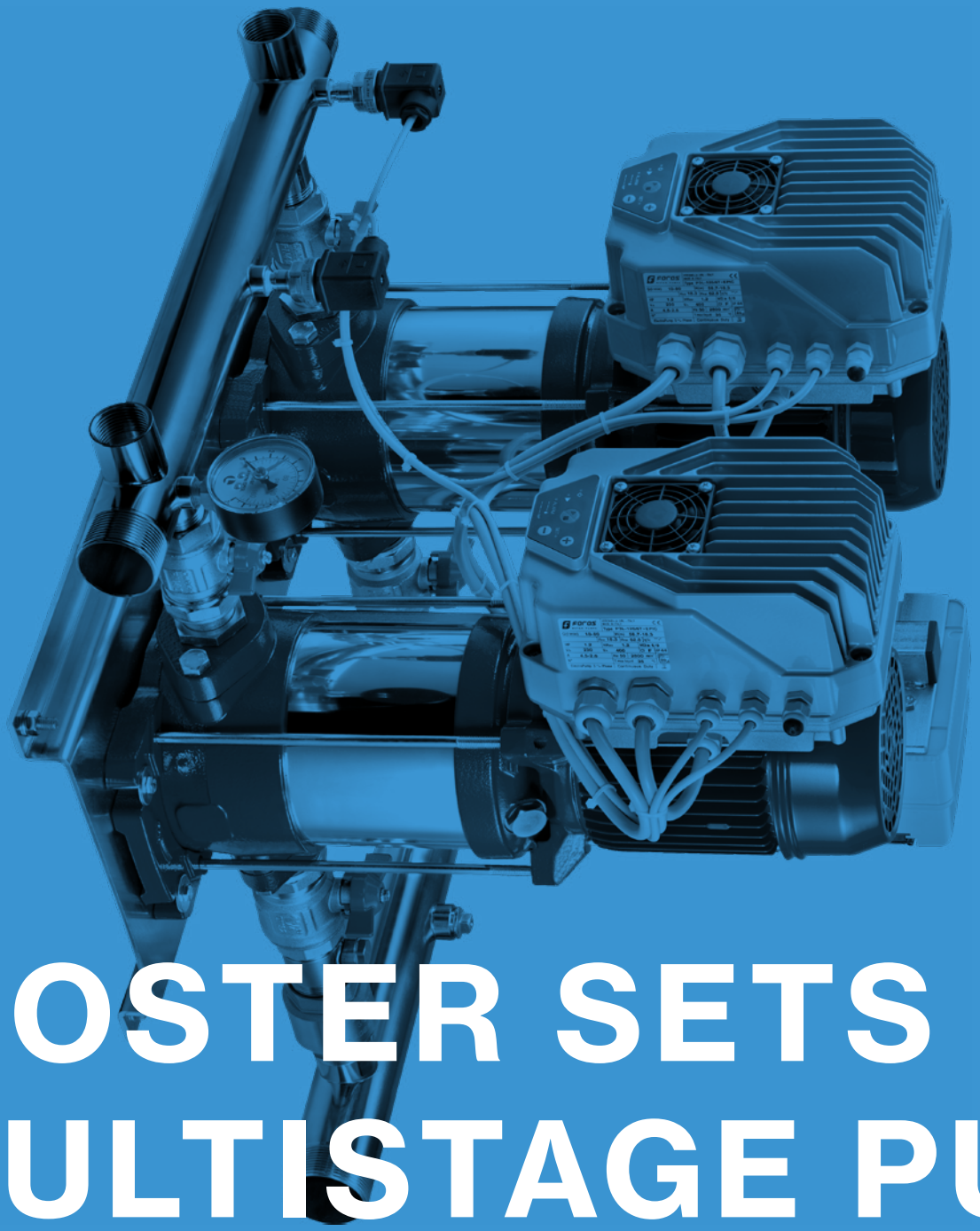


MODEL			P1	In	Required tank for v.s.	DIMENSIONS					WEIGHT		
FIXED SPEED	VARIABLE SPEED												
3~ 400V	EPIC-A	IPFC	3~ 400V			L	W	H	DNA	DNM	f.s	v.s.	
	3~ 400V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out										/A	/I
			kW (×2)	A (×2)	Lt	mm					Kg		
2MN32-160A	2MN/A32-160A-309	2MN/I 32-160A-309	3,8	6,8	1×60	1110	840	920			164	169	174
2MN32-200C	2MN/A32-200C-314	2MN/I 32-200C-311	4,9	8,9		1110	840	920			183	203	193
2MN32-200B	2MN/A32-200B-314	2MN/I 32-200B-314	6,7	11,1	1× 80	1110	840	920			220	240	238
2MN32-200A	2MN/A32-200A-318	2MN/I 32-200A-318	8,6	14,1		1110	840	920			203	223	221
2MN32-250C	2MN/A32-250C-318	2MN/I 32-250C-318	10	16,8		1130	840	920			259	279	277
2MN32-250B	2MN/A32-250B-325	2MN/I 32-250B-325	12,2	20		1130	900	1580	DN100	DN80	305	325	323
2MN32-250A	2MN/A32-250A-330	2MN/I 32-250A-330	13,5	23,2		1280	900	1580			381	401	399
2MN40-125A	2MN/A40-125A-309	2MN/I 40-125A-309	3,6	6,5	1× 100	1130	840	920			174	179	192
2MN40-160A	2MN/A40-160A-314	2MN/I 40-160A-311	4,9	8,8		1130	840	920			183	203	201
2MN40-200B	2MN/A40-200B-314	2MN/I 40-200B-314	6,9	11,4		1160	840	920			195	215	213
2MN40-200A	2MN/A40-200A-318	2MN/I 40-200A-318	9,3	15,1		1160	840	920			208	228	226
2MN40-200AP	2MN/A40-200AP-318	2MN/I 40-200AP-318	10,2	16,8		1190	900	1570			312	332	330
2MN40-250B	2MN/A40-250B-325	2MN/I 40-250B-325	13,8	22,3		1370	900	1570			353	373	371
2MN40-250A	2MN/A40-250A-330	2MN/I 40-250A-330	17,5	29,1		1370	900	1570			413	433	431
2MN40-250BM	2MN/A40-250BM-338	2MN/I 40-250BM-338	20,6	34,1		1370	900	1570			471	491	539
2MN50-125B	2MN/A50-125B-309	2MN/I 50-125B-309	3,8	6,8	1× 200	1220	840	920			182	187	192
2MN50-125A	2MN/A50-125A-314	2MN/I 50-125A-311	4,8	8,8		1220	840	920			190	210	200
2MN50-160B	2MN/A50-160B-314	2MN/I 50-160B-314	6,5	10,9		1220	840	930	DN150	DN125	215	235	233
2MN50-160A	2MN/A50-160A-318	2MN/I 50-160A-318	8,8	14,4		1220	840	930			205	225	223
2MN50-200C	2MN/A50-200C-325	2MN/I 50-200C-325	10,4	17,2		1220	900	955			248	268	266
2MN50-200B	2MN/A50-200B-325	2MN/I 50-200B-325	11,9	19,5		1220	900	1560			315	335	333
2MN50-200A	2MN/A50-200A-330	2MN/I 50-200A-330	14,6	24,7		1390	900	1560			405	425	423
2MN50-250B	2MN/A50-250B-338	2MN/I 50-250B-338	20,7	34,3		1370	900	1560			473	493	541
2MN50-250A	2MN/A50-250A-344	2MN/I 50-250A-348	24,8	40,9		1370	900	1560			493	513	561
2MN65-125A	2MN/A65-125A-318	2MN/I 65-125A-318	8,8	14,4	1× 300	1390	1030	920			302	322	320
2MN65-160C	2MN/A65-160C-318	2MN/I 65-160C-318	10,1	16,8		1390	1030	920			353	373	371
2MN65-160B	2MN/A65-160B-325	2MN/I 65-160B-325	12,7	20,6		1550	1030	1540			378	398	396
2MN65-160A	2MN/A65-160A-338	2MN/I 65-160A-338	17,1	28,5		1550	1030	1540			452	472	520
2MN65-200C	2MN/A65-200C-338	2MN/I 65-200C-338	17	28,3		1550	1030	1540	DN200	DN150	495	515	563
2MN65-200B	2MN/A65-200B-338	2MN/I 65-200B-338	21,2	34,8	1× 500	1550	1030	1540			526	546	594
2MN65-200A	2MN/A65-200A-344	2MN/I 65-200A-348	25,4	41,7		1550	1030	1540			547	567	615
2MN65-250B	-	2MN/I 65-250B-365	30,8	55,3		1550	1030	1540			817	-	885
2MN65-250A	-	2MN/I 65-250A-375	37	69,2		1550	1030	1540			862	-	930

f.s. : fixed speed
v.s. : variable speed

FORAS®

WATER PUMPS



BOOSTER SETS WITH MULTISTAGE PUMPS

MULTISTAGE BOOSTER SETS

Fixed speed booster sets with two or three pumps

DESCRIPTION

Fully automatic booster sets for water supply consisting of two (2P) or three (3P) fixed speed multistage pumps, control panel, pressure switches, all fixed on a single frame for easy installation. These booster sets are suitable for water network supply in housing complexes, offices, hotels, shopping centers, industrial plants and for irrigation. It is recommended the installation of a pressure tank.

FEATURES

- Horizontal or vertical multistage pumps of PLUS series
- Suction galvanized steel manifold with non-return and isolation valves
- Delivery galvanized steel manifold with pressure gauge, isolation valves and pressure switches
- Base frame in galvanized steel
- Electronic or electromechanical panels for pump's control and protection
- Two pressure switches
- Pressure tanks available on request, as accessory

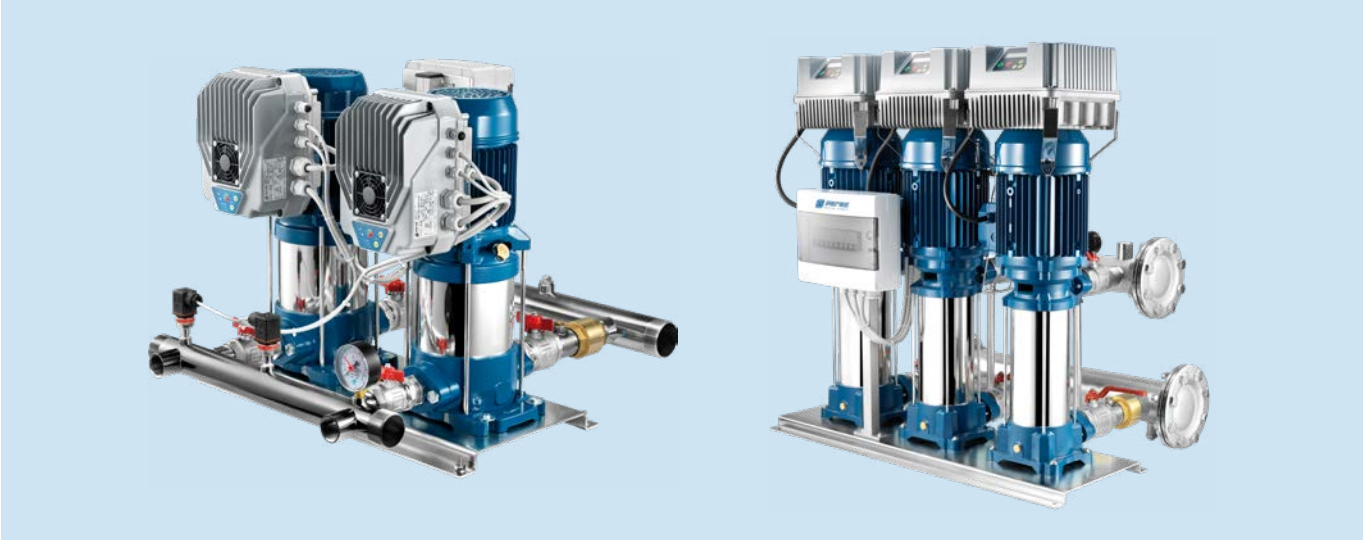
FUNCTIONING

As soon as pressure drops below the minimum set value on a pressure switch, the first pump starts automatically.
If water demand further increases, the second pump (and third if present) will run until the pressure rises above the maximum set value. When demand ends, the last pump fills up the membrane tank and then turns off. All the pumps follow cycling changeover for equal work distribution. In case of one pump failure, the other pumps would continue to operate.

CONTROL PANELS

- EQ2SM-EQ3SM electronic control panel (1~ up to 2,2kW)
- EQ2SMT-EQ3SMT electronic control panel (3~ up to 15kW)
- Q2ST-Q3ST star-delta electromechanical control panel (3~ from 18,5kW to 37kW)

MULTISTAGE BOOSTER SETS + VSD



Variable speed booster sets with two or three pumps

DESCRIPTION

The booster sets + VSD are fully automatic systems consisting of two (2P+VSD) or three (3P+VSD) speed-controlled multistage pumps. The booster sets + VSD deliver the highest comfort level on domestic, agricultural and industrial applications ensuring constant pressure, low energy consumption and protection against overload and dry running. It is required the installation of a pressure tank.

FEATURES

- Horizontal or vertical multistage pumps of PLUS series
- Inlet and outlet galvanized steel manifolds (inox as option)
- Base frame in galvanized steel
- Non-return valves on suction side, one per pump
- Isolating valves, two per pump
- Pressure gauge
- Variable speed drive, one per pump
- Outlet-pressure sensors, one per pump
- Breaker box
- On request membrane tanks (not connected)

FUNCTIONING

When the system pressure drops below the desired level, the sensors detect it giving an input to the VSD to start the first pump at controlled speed. If the flow rate is not sufficient, the pressure continues to drop causing the second and the third pump to start. As soon as the flow demand decreases, the pressure rises again and the second and third pumps stop. The first pump continues to modulate its speed in order to regulate and maintain the set pressure until it turns off when the flow demand ends. Based on working hours, VSDs will alternate the starting order of pumps to ensure better wear distribution. Continuity of operation is ensured in the event of one pump or one VSD failure.

VARIABLE SPEED DRIVES

- EPIC with single-phase input up to 7,5 A
- IPFC with single-phase input up to 9,9 A
- EPIC-A with three-phase input up to 42 A
- IPFC with three-phase input up to 27 A

Multistage horizontal

PLUS/PLUS S	
P2	0,8÷4 [HP]
Q max	25,2 [m³/h]
H max	83,3 [m]

Stainless steel multistage horizontal pumps. Pumping of clean non-loaded fluids, pressurizing system, irrigation, drinking and glycol water, water treatment, heating and air conditioning, washing system.

Multistage vertical

PLUS V-L/ PLUS LG	
P2	1÷10 [HP]
Q max	24 [m³/h]
H max	129 [m]

Stainless steel multistage vertical pumps. Pumping of clean non-loaded fluids, pressurizing system, irrigation, drinking and glycol water, water treatment, food industry, heating and air conditioning, washing system.

PLUS SV-SL-SLX	
P2	1÷10 [HP]
Q max	24 [m³/h]
H max	133,2 [m]

Stainless steel multistage vertical pumps. Pumping of clean non-loaded fluids, pressurizing system, irrigation, drinking and glycol water, water treatment, food industry, heating and air conditioning, washing system.

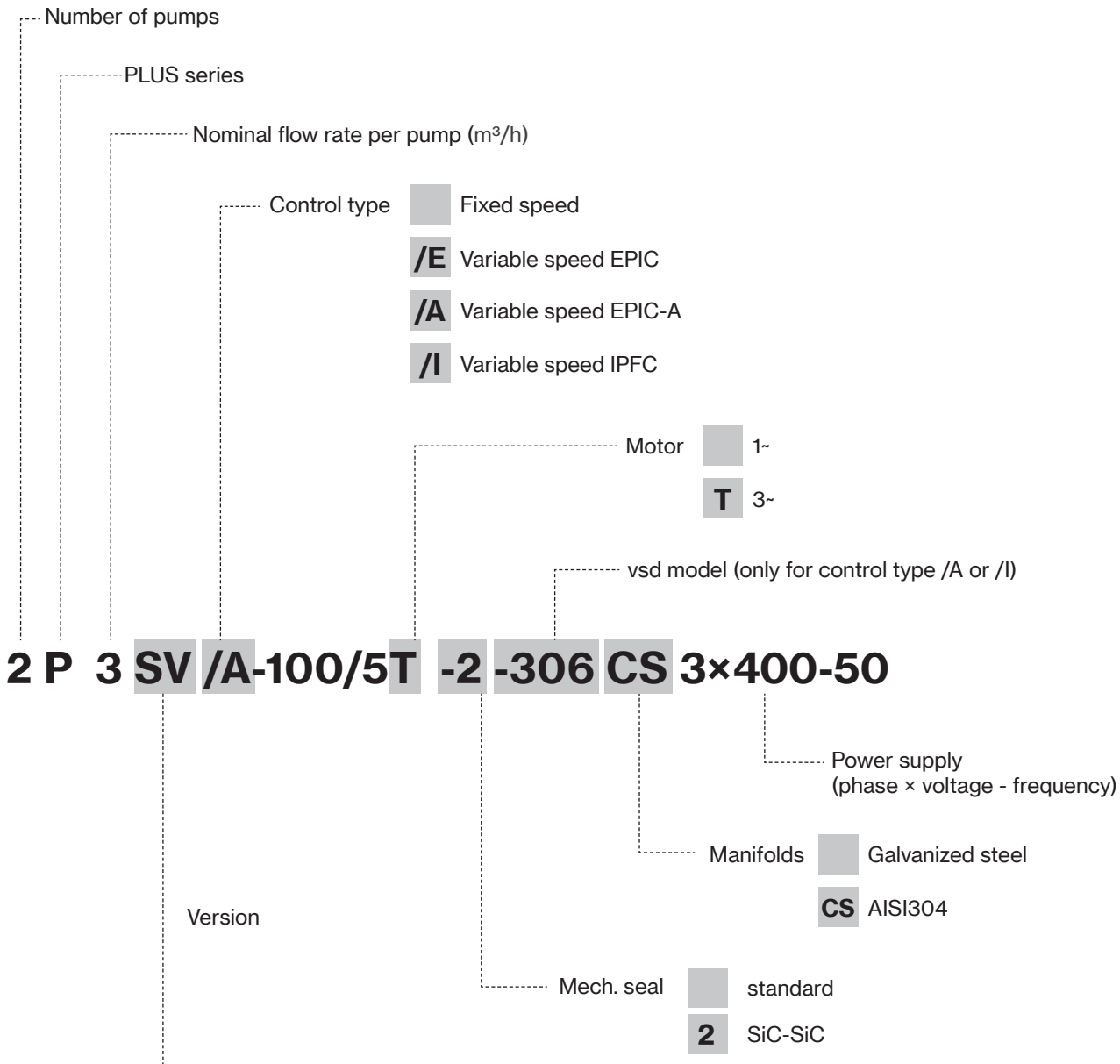
PLUS SLG-SLXG	
P2	3÷10 [HP]
Q max	14,4 [m³/h]
H max	240,9 [m]

Stainless steel multistage vertical pumps. For non-loaded clean fluids, pressurizing system, irrigation, drinking and glycol water, water treatment, food industry, heating and air conditioning, washing system.

PLUS HS-HX	
P2	3÷50 [HP]
Q max	115 [m³/h]
H max	141,6 [m]

Stainless steel multistage vertical pumps. Suitable for clean non-loaded fluids, pressurizing system, irrigation, drinking and glycol water, water treatment, food industry, heating and air conditioning, washing system.

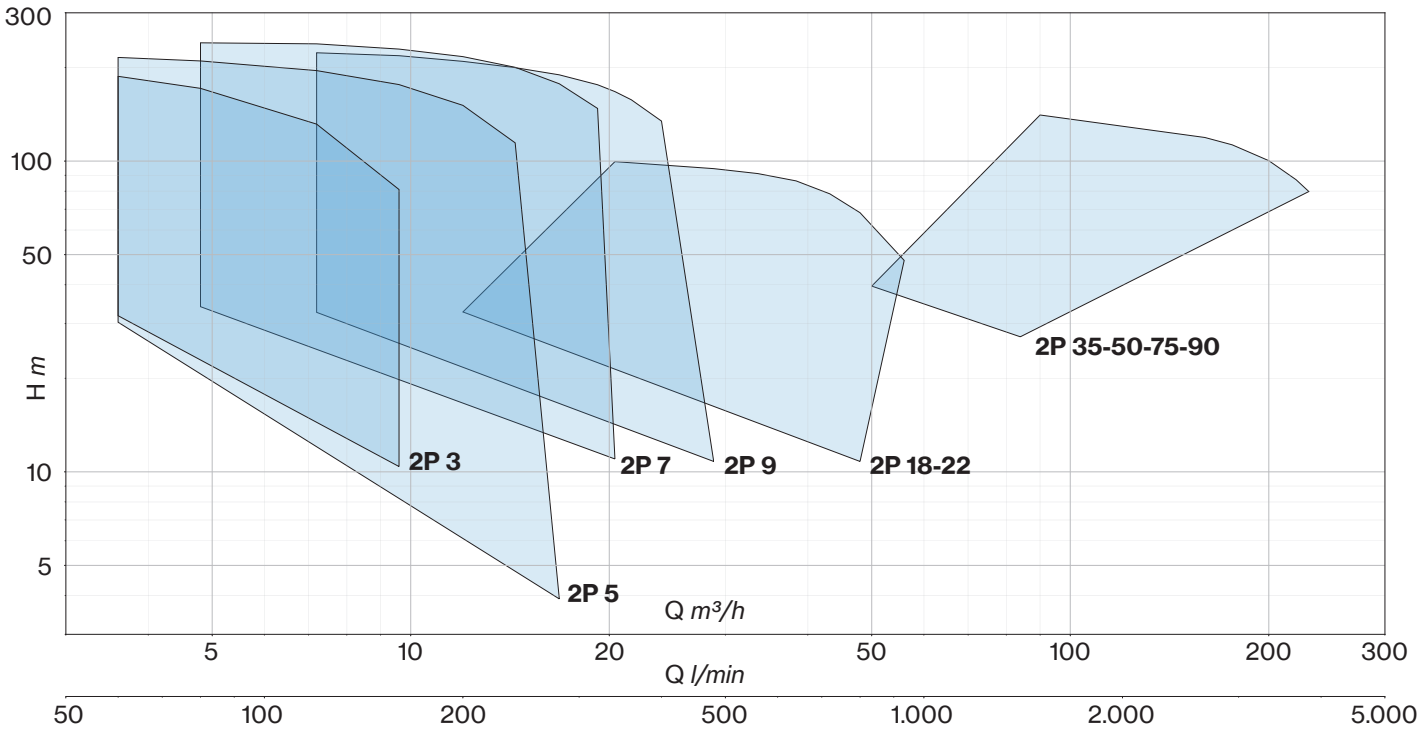
Name key



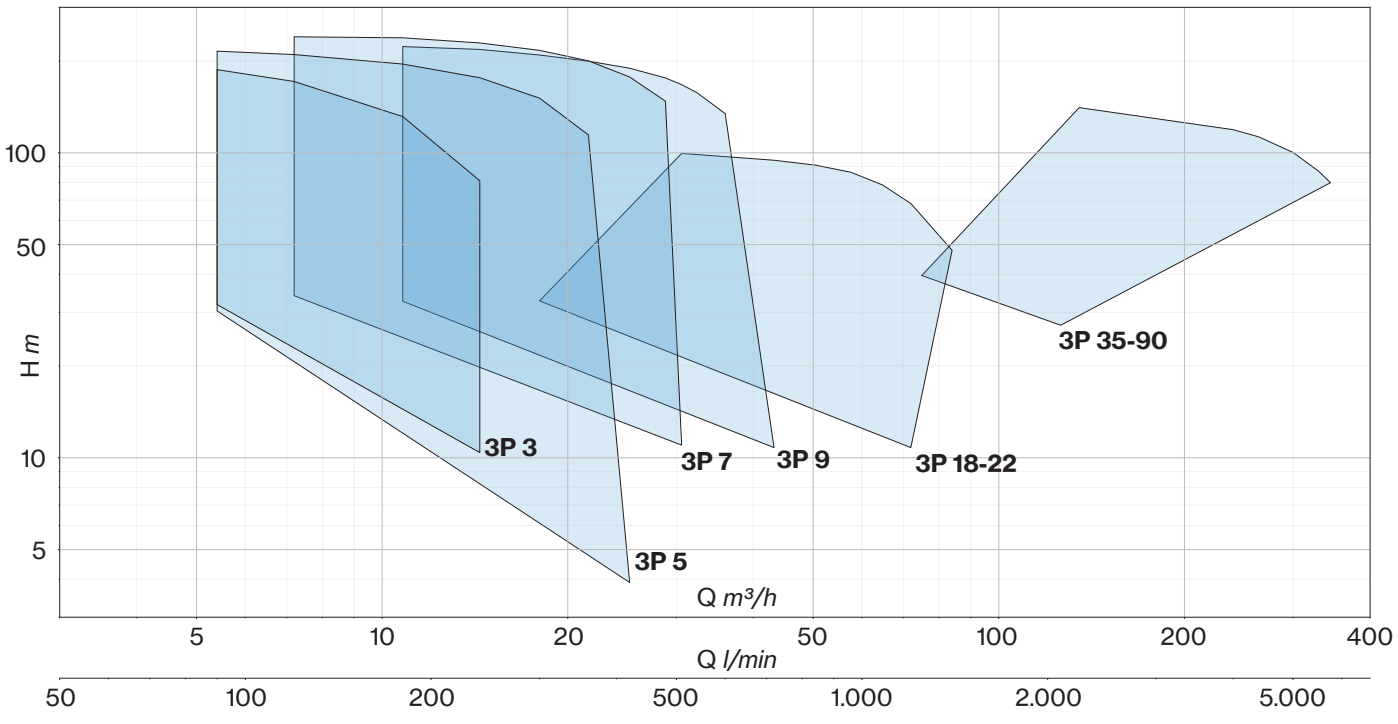
	PUMP TYPE	MAX LIQUID TEMPERATURE	IMPELLERS MATERIAL	PUMP SHELL AND BODY MATERIAL	PUMP AND MOTOR SHAFT
	Horizontal multistage	35° C	Noryl®	AISI 304	monoblock
S		110° C	AISI 304	AISI 304	
V	Vertical multistage, overlapped ports	35° C	Noryl®	AISI 304 / cast iron	
SV		90° C	AISI 304	AISI 304 / cast iron	
L	Vertical multistage, inline ports	35° C	Noryl®	AISI 304 / cast iron	
LG		35° C	Noryl®	AISI 304 / cast iron	with coupling
SL		110° C	AISI 304	AISI 304 / cast iron	monoblock
SLX		110° C	AISI 304	AISI 304	
SLG		110° C	AISI 304	AISI 304 / cast iron	with coupling
SLXG		110° C	AISI 304	AISI 304	
HS		120° C	AISI 304	AISI 304 / cast iron	
HX		120° C	AISI 316	AISI 316	

Performance data and curves

2 PLUS



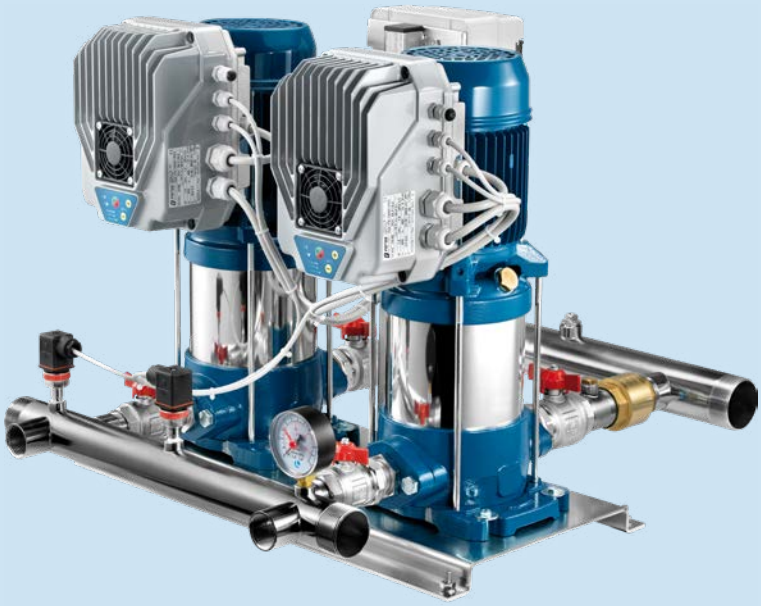
3 PLUS



2P

FIXED SPEED PUMPS

VARIABLE SPEED PUMPS



Pump specification	
Flow	up to 230 m³/h
Head	up to 240 m
Start up	direct, star/delta, inverter
Power supply voltage	1~ 230V - 50Hz 3~ 400V - 50Hz
Ambient temperature at nominal load	max 40° C
Temperature of pumped liquid	-5° C to +35° C (Horizontal pumps with Noryl impellers) -5° C to +35° C (V-L-LG version) -15° C to +90° C (SV version) -15° C to +110° C (S-SL-SLX-SLG-SLXG version) -15° C to +120° C (HS-HX version)

PERFORMANCE

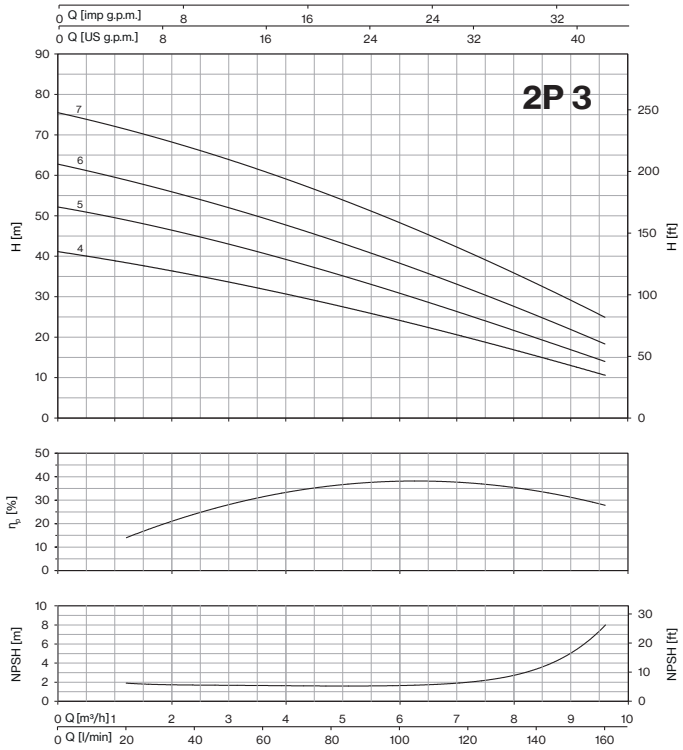
TARGET (2 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)														FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	3,6	4,8	7,2	9,6	12	14,4	16,8	19,2	20,4	21,6	24	28,8	33,6						
								0	60	80	120	160	200	240	280	320	340	360	400	480	560	1~	3~	1~		3~	
m³/h	bar					HP (×2)	kW (×2)	H (m)																/E	/I	/A	/I
6	2	2P 3	-	-	90/4	0,9	0,66	40,8	31,8	27,9	19,8	10,4										■	■	■	-	■	-
		2P 3S	-	-				44,3	36,4	33,2	24,5	13,9										■	■	■	-	■	-
	3	2P 3	2P 3V	2P 3L	100/5	1	0,75	52,2	40,8	36,0	25,4	14,0										■	■	■	■	■	■
		2P 3S	2P 3SV	2P 3SL				55,3	46,5	42,1	31,6	17,7										■	■	■	■	■	■
	4	2P 3	2P 3V	2P 3L	120/6	1,2	0,9	62,8	49,6	43,9	32,1	18,3										■	■	■	■	■	■
		2P 3S	2P 3SV	2P 3SL				66,6	56,0	50,7	38,1	22,4										■	■	■	■	■	■
	5	2P 3	2P 3V	2P 3L	150/7	1,5	1,1	75,5	61,2	54,8	41,1	24,9										■	■	■	■	■	■
		2P 3S	2P 3SV	2P 3SL				80,1	69,1	63,3	48,8	30,0										■	■	■	■	■	■
	6	-	2P 3V	2P 3L	180/8	1,8	1,3	85,2	69,3	61,9	45,2	26,9										■	■	■	■	■	■
		-	2P 3SV	2P 3SL				91,5	79,0	72,3	55,8	34,3										■	■	■	■	■	■
	7	-	2P 3V	2P 3L	200/9	2	1,5	95,8	78,9	70,7	52,7	30,8										■	■	■	■	■	■
		-	2P 3SV	2P 3SL				103,0	88,8	81,4	62,7	38,6										■	■	■	■	■	■
	8	-	2P 3V	2P 3L	250/10	2,5	1,8	108,4	88,2	79,7	58,3	34,1										■	■	■	■	■	■
		-	2P 3SV	2P 3SL				114,4	98,7	90,4	69,7	42,9										■	■	■	■	■	■
	9	-	2P 3V	2P 3L	280/11	2,8	2,1	119,0	95,3	85,6	62,7	37,3										■	■	-	■	■	■
		-	2P 3SV	2P 3SL				125,9	108,6	99,5	76,7	47,1										■	■	■	■	■	■
	10	-	2P 3V	2P 3L	300/12	3	2,2	128,9	103,5	92,2	67,9	40,5										■	■	-	■	■	■
		-	2P 3SV	2P 3SL				137,3	118,5	108,5	83,7	51,4										■	■	-	■	■	■
	12	-	-	2P 3SLG	350/14	3	2,2	154,8	133,7	122,5	97,4	58,2										-	■	-	■	■	■
	14	-	-	2P 3SLG	380/16	4	3	177,5	154,5	141,3	109,4	67,0										-	■	-	■	■	■
	15	-	-	2P 3SLG	400/18	4	3	195,1	172,8	158,0	122,1	75,3										-	■	-	-	■	■
	16	-	-	2P 3SLG	450/20	4	3	218,3	187,4	171,4	131,5	81,0										-	■	-	-	■	■
10	2	2P 5	-	-	80/3	0,8	0,6	33,4	30,3	29,0	26,0	22,5	17,6	12,0	3,9							■	■	■	-	■	-
		2P 5S	-	-				34,0	31,1	29,9	27,0	23,6	19,1	13,1	6,0							■	■	■	-	■	-
	3	2P 5	2P 5V	2P 5L	120/4	1,2	0,9	45,3	41,3	39,6	35,6	30,8	24,9	17,6	6,4							■	■	■	■	■	■
		2P 5S	2P 5SV	2P 5SL				45,5	42,2	40,7	37,2	32,9	27,4	19,8	10,4							■	■	■	■	■	■
	4	2P 5	2P 5V	2P 5L	150/5	1,5	1,1	56,8	53,0	51,0	46,1	40,1	33,3	24,8	11,5							■	■	■	■	■	■
		2P 5S	2P 5SV	2P 5SL				57,2	53,4	51,7	47,6	42,3	35,2	25,7	14,0							■	■	■	■	■	■
	5	2P 5	2P 5V	2P 5L	180/6	1,8	1,3	69,3	64,4	62,0	55,6	48,2	39,6	28,8	12,0							■	■	■	■	■	■
		2P 5S	2P 5SV	2P 5SL				68,9	64,4	62,3	57,5	51,5	43,5	32,6	18,1							■	■	■	■	■	■
	5,5	2P 5	2P 5V	2P 5L	200/7	2	1,5	80,3	73,6	71,0	61,5	56,1	46,0	33,4	12,5							■	■	■	■	■	■
		2P 5S	2P 5SV	2P 5SL				81,0	75,5	73,0	67,4	60,3	51,0	38,6	21,0							■	■	■	■	■	■
	6,5	-	2P 5V	2P 5L	250/8	2,5	1,87	91,4	85,0	81,8	74,3	65,5	54,7	40,4	19,1							■	■	■	■	■	■
		-	2P 5SV	2P 5SL				92,1	86,5	84,0	77,8	70,1	60,0	45,5	26,0							■	■	■	■	■	■
	7	-	2P 5V	2P 5L	280/9	2,8	2,1	102,1	94,6	90,7	81,6	71,0	58,5	42,3	20,1							■	■	-	■	■	■
		-	2P 5SV	2P 5SL				103,4	96,7	93,5	86,0	77,1	65,6	48,7	27,6							■	■	■	■	■	■
	8	-	2P 5V	2P 5L	300/10	3	2,2	112,7	103,9	99,9	89,8	78,2	64,0	46,4	21,0							■	■	-	■	■	■
		-	2P 5SV	2P 5SL				114,2	106,4	102,9	95,2	85,2	72,0	53,3	30,0							■	■	-	■	■	■
	9	-	2P 5V	2P 5L	350/11	3,5	2,57	127,6	122,5	119,4	110,8	98,0	80,8	57,4								-	■	-	■	■	■
		-	2P 5SV	2P 5SL				125,1	117,6	114,3	106,1	95,5	80,9	60,9	34,8							-	■	-	■	■	■
	10	-	2P 5V	2P 5L	380/12	4	3	140,3	135,4	132,1	123,2	109,5	90,1	66,5								-	■	-	-	■	■
		-	2P 5SV	2P 5SL				135,7	128,9	125,6	117,7	106,3	91,3	70,2	41,5							-	■	-	-	■	■
	12	-	-	2P 5SLG	400/14	4	3	159,2	150,7	146,7	136,6	122,9	105,5	79,0								-	■	-	-	■	■
	14	-	-	2P 5SLG	450/16	5,5	4	182,0	173,2	169,1	158,0	142,9	122,9	93,6								-	■	-	-	■	■
	16	-	-	2P 5SLG	550/18	5,5	4	204,4	194,4	189,5	176,5	159,6	136,3	103,2								-	■	-	-	■	■
	18	-	-	2P 5SLG	600/20	5,5	4	226,7	215,5	210,0	195,5	176,3	151,1	114,5								-	■	-	-	■	■

TARGET (2 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)													FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	3,6	4,8	7,2	9,6	12	14,4	16,8	19,2	20,4	21,6	24	28,8	33,6	1~	3~	1~		3~	
								0	60	80	120	160	200	240	280	320	340	360	400	480	560						
m³/h	bar					HP (×2)	kW (×2)	H (m)																/E	/I	/A	/I
14	2	2P 7	-	-	120/3	1,2	0,9	36,7		34,0	32,0	29,6	26,5	23,0	18,6	13,8	11,0					■	■	■	-	■	-
		2P 7S	-	-				35,6		33,9	32,8	31,2	28,1	24,7	20,6	15,7	13,0	10,0				■	■	■	-	■	-
	3	2P 7	2P 7V	2P 7L	180/4	1,8	1,3	49,5		47,4	45,3	42,5	39,2	34,8	29,4	22,6	16,9					■	■	■	■	■	■
		2P 7S	2P 7SV	2P 7SL				48,0		46,3	45,7	43,6	40,4	36,4	31,3	25,0	21,3	17,2				■	■	■	■	■	■
	4	2P 7	2P 7V	2P 7L	250/5	2,5	1,85	62,6		60,6	58,2	55,1	51,1	45,8	39,0	29,8	21,5					■	■	■	■	■	■
		2P 7S	2P 7SV	2P 7SL				60,3		59,0	58,2	55,7	52,2	47,4	41,6	33,5	28,1	22,0				■	■	■	■	■	■
	5	2P 7	2P 7V	2P 7L	300/6	3	2,2	74,8		71,5	68,3	64,5	59,3	53,0	44,6	34,5	26,7					■	■	-	■	■	■
		2P 7S	2P 7SV	2P 7SL				72,5		70,5	69,2	66,0	61,5	55,7	48,0	37,8	31,6	24,7				■	■	-	■	■	■
	6	2P 7	2P 7V	2P 7L	350/7	3,5	2,57	89,0		88,0	85,8	81,2	74,5	66,3	56,2							-	■	-	■	■	■
		2P 7S	2P 7SV	2P 7SL				82,8		82,0	80,6	77,2	72,3	66,0	57,4	46,4						-	■	-	■	■	■
	7	-	2P 7V	2P 7L	400/8	4	3	102,3		101,0	98,2	92,4	84,4	74,6	62,4							-	■	-	-	■	■
		-	2P 7SV	2P 7SL				94,8		94,3	92,5	88,6	83,2	76,4	66,2	52,6						-	■	-	-	■	■
	8	-	2P 7V	2P 7L	450/9	4,5	3,37	115,2		114,4	111,4	105,6	97,1	86,3	73,1							-	■	-	-	■	■
		-	2P 7SV	2P 7SL				107,4		106,9	105,2	101,1	95,3	87,7	76,3	61,0						-	■	-	-	■	■
	9	-	2P 7V	2P 7L	550/10	5,5	4	128,1		128,0	124,9	118,7	109,4	97,6	83,0							-	■	-	-	■	■
		-	2P 7SV	2P 7SL				119,8		119,6	118,4	113,9	107,7	99,4	87,0	70,4						-	■	-	-	■	■
	11	-	-	2P 7SLG	750/12	7,5	5,5	143,7		143,7	142,6	137,0	129,6	119,8	105,6	87,0						-	■	-	-	■	■
	13	-	-	2P 7SLG	800/14	7,5	5,5	167,6		167,3	165,9	159,6	151,0	139,5	122,6	100,3						-	■	-	-	■	■
	15	-	-	2P 7SLG	900/16	7,5	5,5	191,5		191,2	189,3	181,7	171,5	157,7	137,6	111,1						-	■	-	-	■	■
	17	-	-	2P 7SLG	950/18	10	7,5	215,5		215,7	213,9	205,8	194,7	179,8	159,0	132,3						-	■	-	-	■	■
	19	-	-	2P 7SLG	1000/20	10	7,5	240,3		240,2	238,4	229,3	216,8	200,3	177,3	147,7						-	■	-	-	■	■
18	2	2P 9	-	-	150/3	1,5	1,1	35,2			32,6	31,5	30,3	28,8	26,9	24,5	23,1	21,5	18,3	10,8		■	■	■	-	■	-
		2P 9S	-	-				35,6			32,5	31,5	30,0	28,7	26,9	24,6	23,4	22,0	18,7	10,7		■	■	■	-	■	-
	3	2P 9	2P 9V	2P 9L	200/4	2	1,5	47,1			43,5	42,0	40,5	38,3	35,7	32,4	30,5	28,4	23,8	13,3		■	■	■	■	■	■
		2P 9S	2P 9SV	2P 9SL				47,6			43,5	42,1	40,1	38,1	35,7	32,7	30,9	28,9	24,2	13,1		■	■	■	■	■	■
	3,5	2P 9	2P 9V	2P 9L	250/5	2,5	1,85	59,2			54,4	52,4	50,4	47,9	44,8	40,5	38,1	35,5	29,8	16,3		■	■	-	■	■	■
		2P 9S	2P 9SV	2P 9SL				60,0			54,8	53,0	51,0	48,2	45,4	42,0	39,8	37,3	31,6	18,0		■	■	-	■	■	■
	4	-	2P 9V	2P 9L	300/6	3	2,2	69,4			63,7	61,4	58,8	55,6	51,6	46,5	43,5	40,3	33,5	17,0		■	■	-	■	■	■
			2P 9SV	2P 9SL				71,8			64,9	63,0	59,9	57,0	53,7	49,7	47,2	44,3	37,0	20,8		■	■	-	■	■	■
	5,5	-	2P 9V	2P 9L	400/7	4	3	83,3			77,8	75,7	72,7	68,9	64,2	58,5	55,2	51,6	43,6			-	■	-	-	■	■
			2P 9SV	2P 9SL				82,0			77,2	74,9	72,0	68,7	64,9	59,9	56,6	52,9	44,2			-	■	-	-	■	■
	6,5	-	2P 9V	2P 9L	450/8	4,5	3,37	96,7			90,7	88,2	84,8	80,6	75,5	69,2	65,4	61,3	52,2			-	■	-	-	■	■
			2P 9SV	2P 9SL				93,5			88,5	86,3	82,6	79,0	74,9	69,5	65,8	61,5	52,0			-	■	-	-	■	■
	7	-	2P 9V	2P 9L	500/9	4,5	3,37	107,1			99,5	96,4	92,8	88,3	82,4	75,2	71,0	66,4	56,4			-	■	-	-	■	■
			2P 9SV	2P 9SL				105,4			99,1	96,5	92,5	88,3	83,5	77,3	73,0	68,1	57,5			-	■	-	-	■	■
	8	-	2P 9V	2P 9L	550/10	5,5	4	119,5			111,6	108,2	104,3	99,3	92,7	84,6	79,9	74,8	63,5			-	■	-	-	■	■
			2P 9SV	2P 9SL				117,6			111,2	108,7	104,5	99,9	94,7	87,8	83,2	77,9	66,2			-	■	-	-	■	■
	10	-	-	2P 9SLG	750/12	7,5	5,5	141,3			133,2	130,4	125,4	119,7	113,4	105,1	99,7	93,7	79,6			-	■	-	-	■	■
	12	-	-	2P 9SLG	800/14	7,5	5,5	165,5			155,7	152,6	146,5	139,9	132,7	123,4	117,3	110,3	94,0			-	■	-	-	■	■
	13	-	-	2P 9SLG	900/16	10	7,5	188,7			177,6	173,6	167,1	159,7	151,4	140,4	133,3	125,1	106,2			-	■	-	-	■	■
	15	-	-	2P 9SLG	950/18	10	7,5	213,8			201,6	197,3	189,6	181,2	172,0	159,9	151,8	142,5	121,0			-	■	-	-	■	■
	17	-	-	2P 9SLG	1000/20	10	7,5	236,7			223,1	218,3	209,3	199,8	189,5	176,1	167,3	157,5	134,5			-	■	-	-	■	■

PERFORMANCE

TARGET (2 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)													FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	12	14,4	16,8	19,2	20,4	21,6	24	28,8	33,6	38,4	43,2	48	56						
								0	200	240	280	320	340	360	400	480	560	640	720	800	933	1~	3~	1~		3~	
m³/h	bar					HP (×2)	kW (×2)	H (m)																/E	/I	/A	/I
36	2	2P 18	2P 18V	2P 18L	250/3	2,5	1,85	35,0	32,7	32,2	31,4	30,5	30,0	29,5	28,3	25,5	22,8	19,3	15,1	10,8		-	■	-	■	■	■
		2P 18S	2P 18SV	2P 18SL				35,7	33,1	32,3	31,3	30,4	29,9	29,4	28,4	26,3	24,0	21,4	17,8	12,9		-	■	-	■	■	■
	2,5	-	-	2P 18H	300/3	3	2,2	41,2			37,1	36,3	35,9	35,5	34,4	32,3	28,9	24,8	19,4	13,5		-	■	-	■	■	■
	3	2P 18	2P 18V	2P 18L	400/4	4	3	47,1	45,4	45,2	44,9	44,3	44,0	43,6	42,6	40,0	36,0	30,6	24,6	17,8		-	■	-	-	■	■
		2P 18S	2P 18SV	2P 18SL				46,3	44,2	43,4	42,5	41,4	40,9	40,3	39,1	36,7	34,1	30,8	25,6	19,0		-	■	-	-	■	■
	3,5	-	-	2P 18H	400/4	4	3	55,1			49,9	48,8	48,3	47,7	46,3	43,5	39,1	33,5	26,4	18,5		-	■	-	■	■	■
	4	-	2P 18V	2P 18L	450/5	4,5	3,37	59,2	57,6	57,4	57,0	56,4	56,0	55,6	54,5	51,6	46,7	40,1	33,3	25,3		-	■	-	-	■	■
		-	2P 18SV	2P 18SL				58,1	55,7	54,6	53,4	52,1	51,4	50,7	49,3	46,3	42,9	38,7	32,2	24,0		-	■	-	-	■	■
	4,5	-	-	2P 18H	550/5	5,5	4	72,3			64,3	63,1	62,4	61,7	60,1	56,6	51,8	45,1	36,8	27,6		-	■	-	-	■	■
	5	-	2P 18V	2P 18L	550/6	5,5	4	71,4	69,7	69,6	69,0	68,2	67,7	67,1	65,7	62,2	56,3	48,0	39,4	29,4		-	■	-	-	■	■
		-	2P 18SV	2P 18SL				70,1	67,4	66,3	64,9	63,4	62,6	61,7	60,0	56,4	52,4	47,6	39,6	29,9		-	■	-	-	■	■
	6	-	-	2P 18H	750/6	7,5	5,5	88,0			79,6	78,2	77,4	76,7	74,9	71,0	66,0	58,3	48,8	37,5		-	■	-	-	■	■
	6,5	-	-	2P 18H	750/7	7,5	5,5	102,5			92,4	90,7	89,8	88,9	86,8	82,3	76,2	67,3	56,1	43,0		-	■	-	-	■	■
	7	-	2P 18V	2P 18L	750/8	7,5	5,5	96,1	94,2	94,1	93,5	92,4	91,7	90,9	89,1	84,5	77,0	66,1	54,2	41,1		-	■	-	-	■	■
		-	2P 18SV	2P 18SL				94,2	90,6	89,1	87,3	85,3	84,2	83,1	80,9	76,2	71,1	65,0	54,6	41,4		-	■	-	-	■	■
	7,5	-	2P 18V	2P 18L	900/9	10	7,5	108,5	106,9	107,0	106,4	105,3	104,5	103,7	101,7	96,8	88,6	75,9	62,6	47,8		-	■	-	-	■	■
		-	2P 18SV	2P 18SL				106,4	102,8	101,3	99,3	97,2	96,1	94,9	92,4	87,3	81,6	75,0	63,5	48,5		-	■	-	-	■	■
	8	-	-	2P 18H	1000/8	10	7,5	117,0			105,2	103,2	102,3	101,2	98,8	93,5	86,5	76,2	63,5	48,5		-	■	-	-	■	■
	9	-	-	2P 18H	1000/9	10	7,5	131,2			117,8	115,5	114,4	113,1	110,4	104,5	96,5	84,9	70,5	53,6		-	■	-	-	■	■
	9,5	-	-	2P 18LG	920/10	10	7,5	120,4	116,8	118,3	118,0	116,6	115,9	115,0	112,6	104,4	96,3	85,8	67,8			-	■	-	-	■	■
	10	-	-	2P 18LG	1000/11	10	7,5	132,4	128,9	130,0	129,6	128,0	127,1	125,9	123,0	115,0	103,9	93,0	72,6			-	■	-	-	■	■
44	3	-	-	2P 22H	400/3	4	3	45,0					40,8	40,5	39,9	38,3	36,6	34,2	30,5	25,8	16,6	-	■	-	■	■	■
	4	-	-	2P 22H	550/4	5,5	4	62,2					55,5	55,1	54,2	52,4	50,2	47,3	42,7	36,8	25,2	-	■	-	-	■	■
	5	-	-	2P 22H	750/5	7,5	5,5	78,6					70,6	70,1	69,0	67,0	64,2	60,8	55,3	47,9	33,5	-	■	-	-	■	■
	6,5	-	-	2P 22H	1000/6	10	7,5	94,2					86,0	85,3	84,1	81,7	79,2	76,8	63,6	52,8	42,0	-	■	-	-	■	■
	7,5	-	-	2P 22H	1000/7	10	7,5	109,5					99,6	98,8	97,4	94,6	91,2	86,3	78,4	68,2	47,9	-	■	-	-	■	■

TARGET (2 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)													FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	50	60	68	84	90	100	120	128	140	160	176	200	230						
								0	833	1000	1133	1400	1500	1667	2000	2133	2333	2667	2933	3333	3833	1~	3~	1~		3~	
m³/h	bar					HP (×2)	kW (×2)	H (m)																/E	/I	/A	/I
70	3	-	-	2P 35H	750/2	7,5	5,5	48,5	39,6	36,9	34,4	27,2										-	■	-	-	■	■
	4,5	-	-	2P 35H	1000/3	10	7,5	72,2	58,2	54,2	50,3	39,5										-	■	-	-	■	■
	5	-	-	2P 35H	1000/4-2R	10	7,5	85,1	68,6	63,9	58,4	44,7										-	■	-	-	■	■
	6	-	-	2P 35H	1500/4-1R	15	11	92,8	75,3	70,2	65,2	50,8										-	■	-	-	■	■
	7	-	-	2P 35H	1500/4	15	11	99,4	81,0	76,3	71,8	58,5										-	■	-	-	■	■
	8,5	-	-	2P 35H	2000/5	20	15	121,1	99,3	93,1	87,4	70,0										-	■	-	-	■	■
	10	-	-	2P 35H	2000/6	20	15	145,6	119,3	111,9	105,0	84,2										-	■	-	-	■	■
	11	-	-	2P 35H	2000/7-1R	20	15	163,3	132,3	123,2	114,0	89,1										-	■	-	-	■	■
100	3	-	-	2P 50H	1000/2	10	7,5	49,0			42,0	38,8	37,2	34,3	27,5	24,1						-	■	-	-	■	■
	5	-	-	2P 50H	1500/3	15	11	74,2			65,0	60,9	58,8	54,8	45,5	41,0						-	■	-	-	■	■
	7	-	-	2P 50H	2000/4	20	15	97,5			86,4	81,3	78,5	73,2	60,8	54,7						-	■	-	-	■	■
	9	-	-	2P 50H	2500/5	25	18,5	122,3			109,1	102,9	99,5	92,9	77,5	70,0						-	■	-	-	■	-
	11	-	-	2P 50H	3000/6	30	22	146,0			129,8	122,2	118,0	110,0	91,6	82,5						-	■	-	-	■	-
150	3,5	-	-	2P 75H	1500/2	15	11	59,3		51,2	49,9	47,5	46,8	45,5	43,2	42,0	39,9	35,3	30,8			-	■	-	-	■	■
	6	-	-	2P 75H	2500/3	25	18,5	89,6		77,6	75,6	72,0	70,9	69,0	65,7	63,9	60,7	53,9	47,2			-	■	-	-	■	-
	8	-	-	2P 75H	3000/4	30	22	111,8		100,8	99,2	95,8	94,5	92,4	88,4	86,3	82,3	73,3	62,9			-	■	-	-	■	-
	10	-	-	2P 75H	4000/5	40	30	142,4		129,2	127,1	123,0	121,5	119,0	114,1	111,5	106,9	96,3	84,6			-	■	-	-	-	-
	11	-	-	2P 75H	4000/6-2R	40	30	153,5		141,6	139,5	135,1	133,3	130,3	123,4	119,6	112,9	99,0	84,1			-	■	-	-	-	-
180	2,5	-	-	2P 90H	1500/2-2R	15	11	49,6					42,4	41,3	39,0	38,1	36,6	33,2	29,4	22,7	11,7	-	■	-	-	■	■
	4	-	-	2P 90H	2000/2	20	15	69,2					56,6	54,5	50,5	49,2	47,3	44,3	41,6	36,3	27,3	-	■	-	-	■	■
	6,5	-	-	2P 90H	3000/3	30	22	92,4					82,6	80,6	76,7	75,3	73,2	69,4	65,5	57,8	45,2	-	■	-	-	■	-
	9	-	-	2P 90H	4000/4	40	30	125,6					113,0	110,4	105,2	103,3	100,6	95,7	90,7	80,8	64,4	-	■	-	-	-	-
	11	-	-	2P 90H	5000/5	50	37	156,6					140,7	137,4	130,9	128,6	125,2	119,1	112,8	100,3	79,8	-	■	-	-	-	-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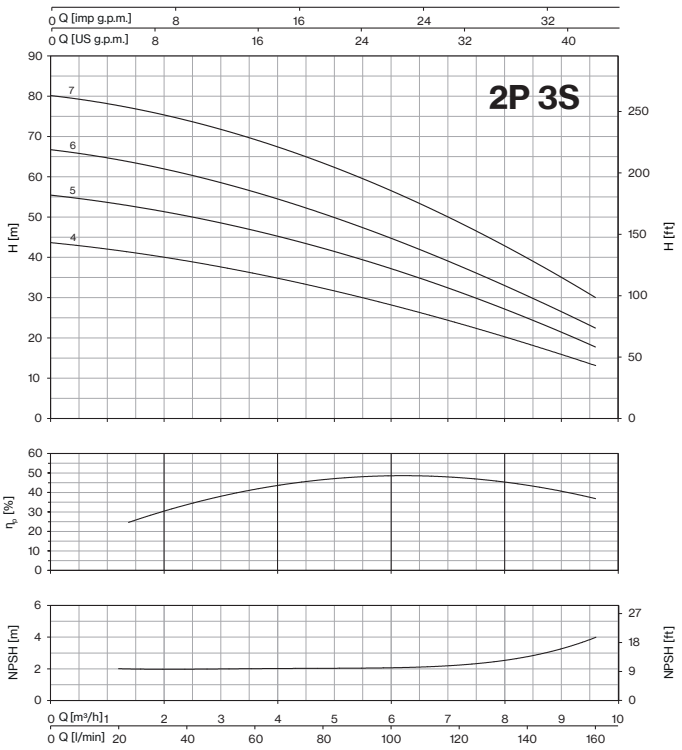
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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η_p [%]
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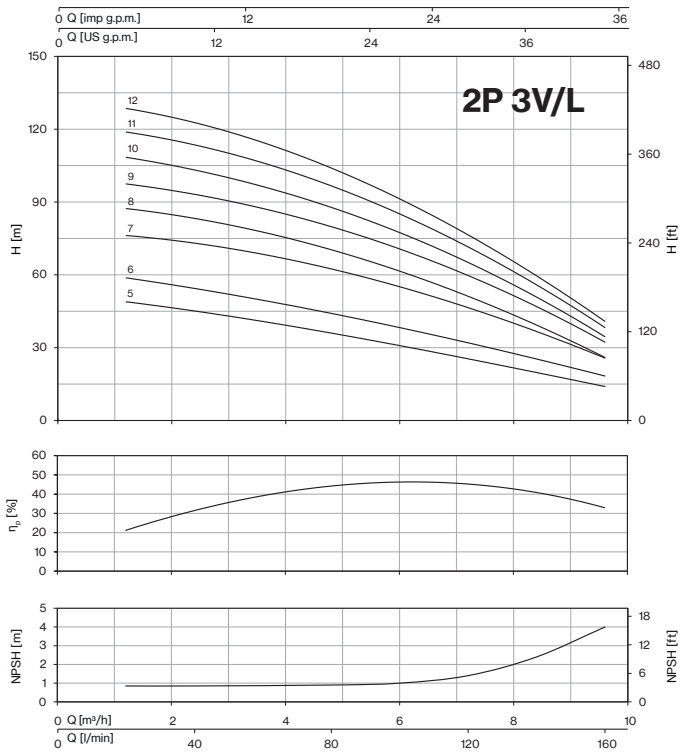
Q [m³/h]
Q [l/min]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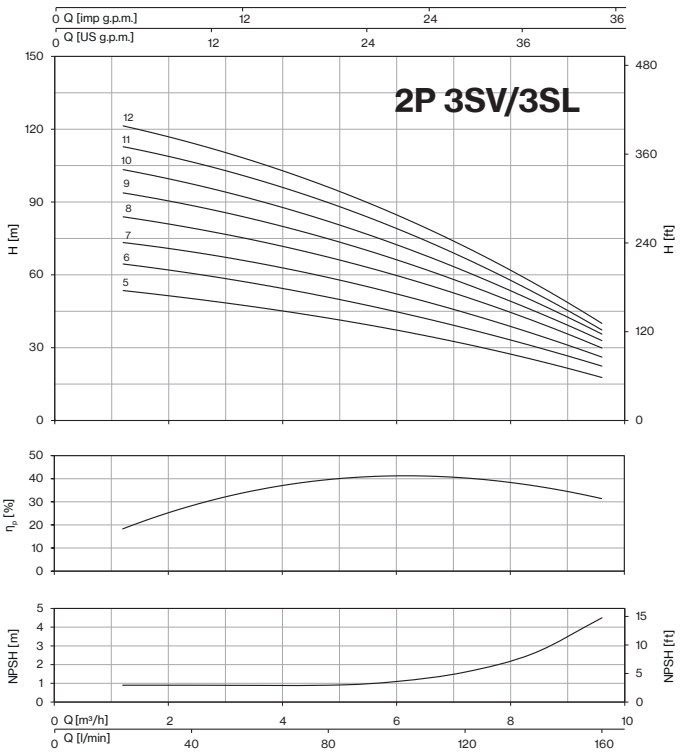
Q [l/min]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Q [US g.p.m.]
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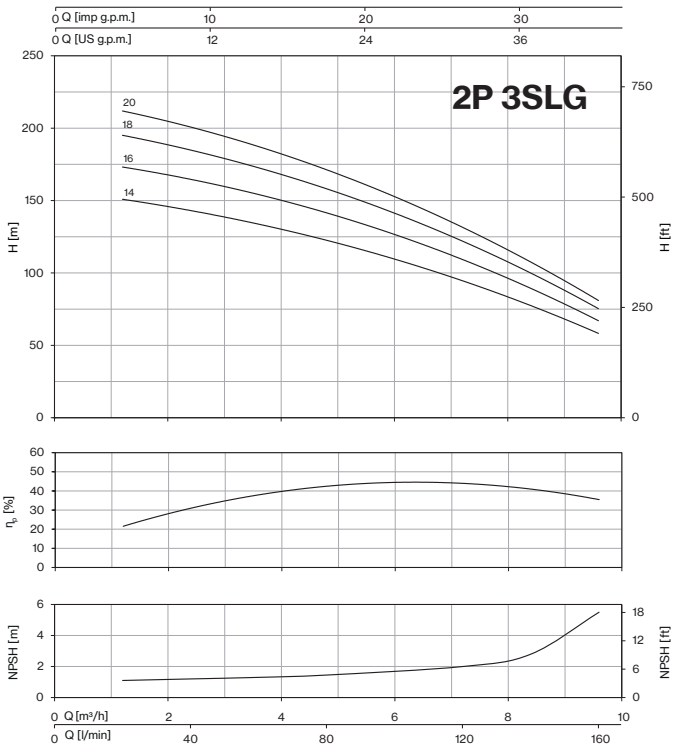
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

CURVES 2P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H [ft]
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18
16
14
η_p [%]
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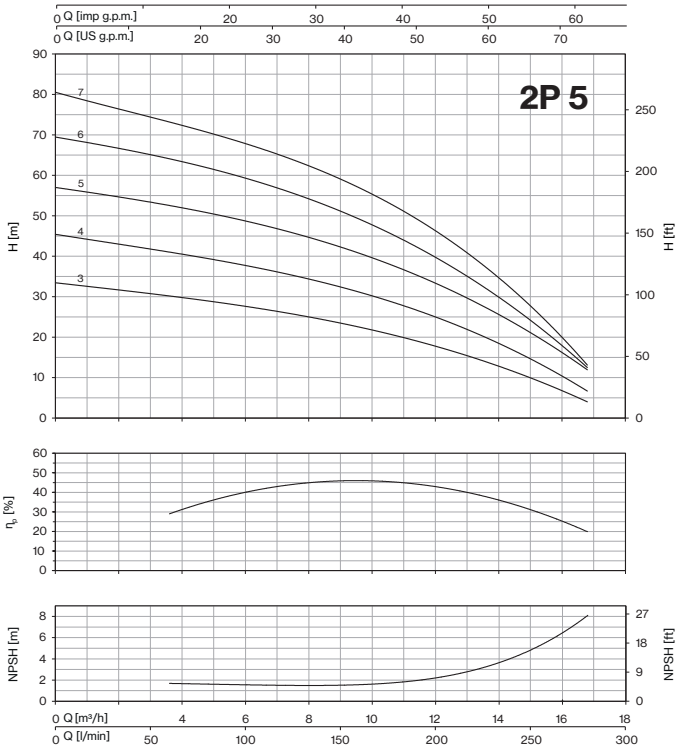
NPSH [ft]
Q [m³/h]
Q [l/min]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H [ft]
7
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5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
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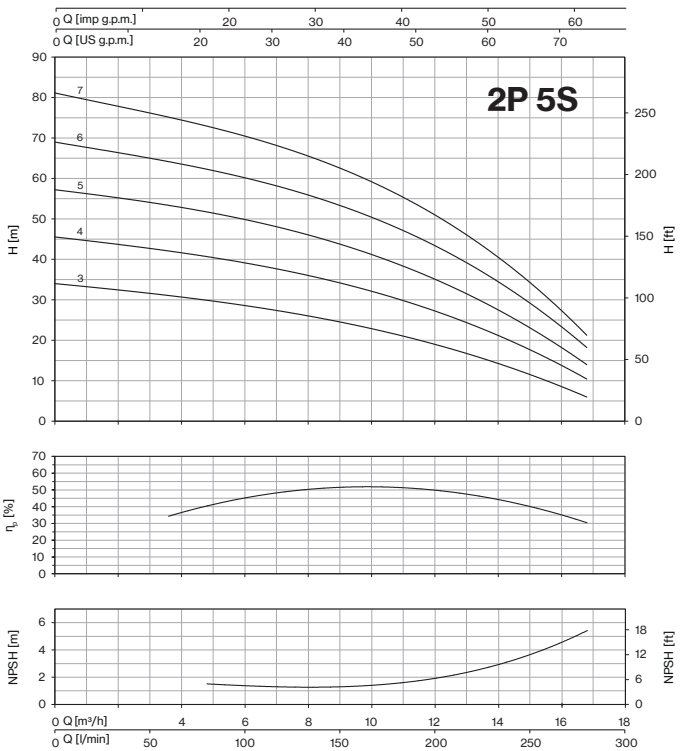
Q [l/min]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Q [US g.p.m.]
H [m]
H [ft]
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6
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4
3
η_p [%]
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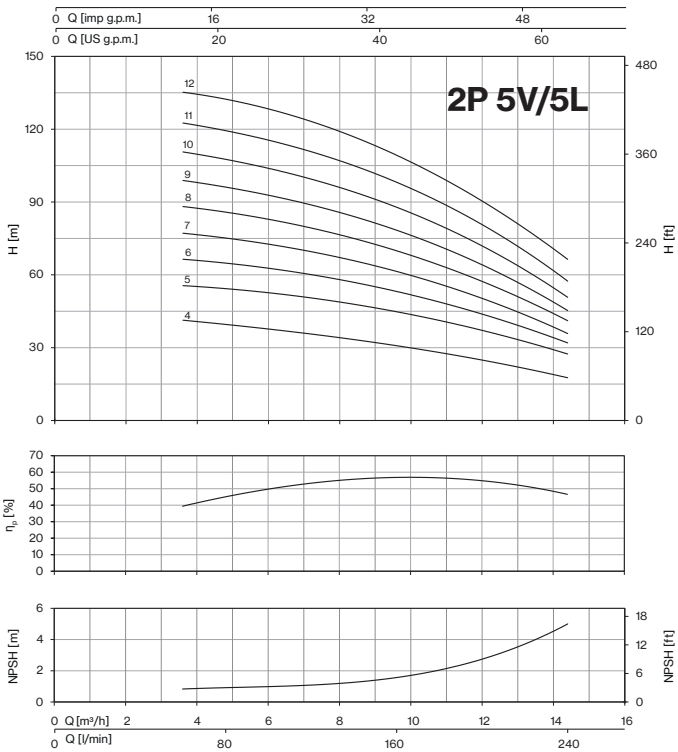
NPSH [ft]
Q [m³/h]
Q [l/min]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12
11
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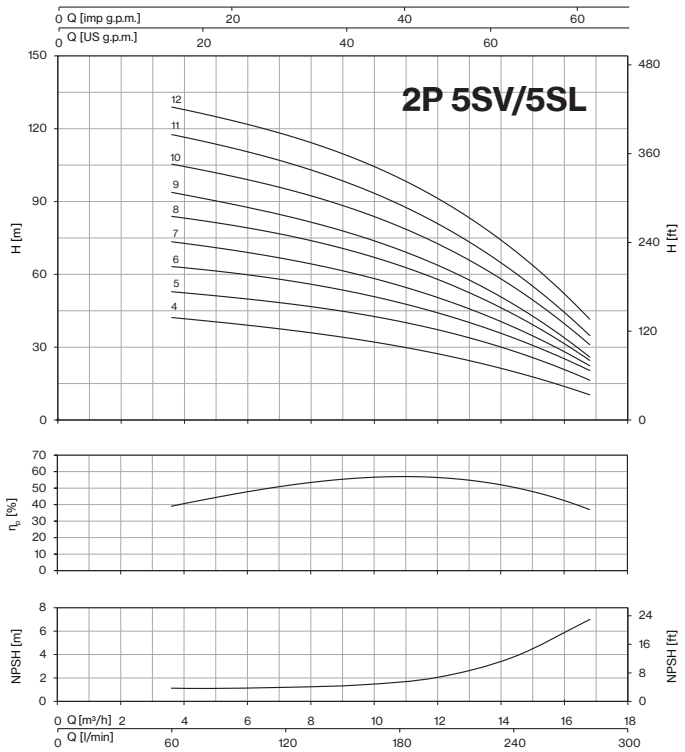
Q [l/min]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H [ft]
η [%]
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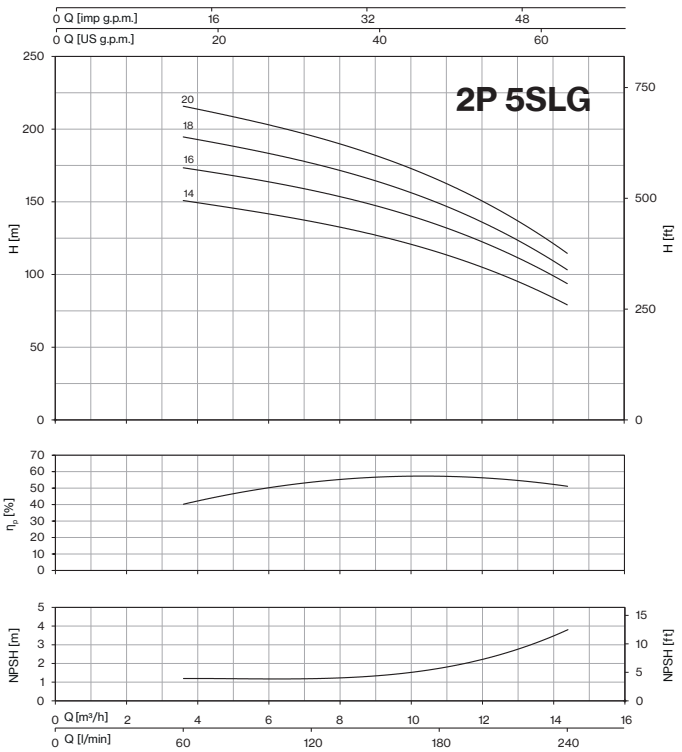
NPSH [ft]
Q [m³/h]
Q [l/min]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H [ft]
η [%]
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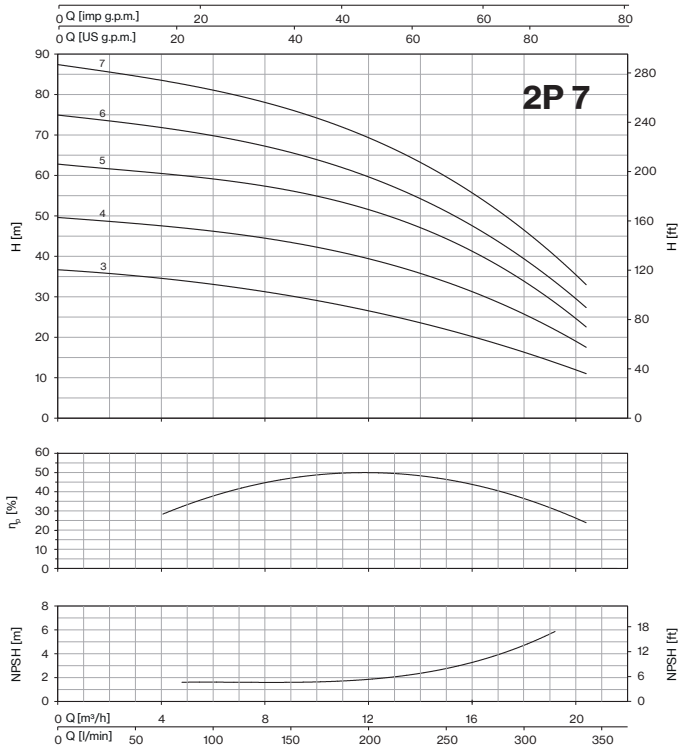
Q [l/min]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H [ft]
η [%]
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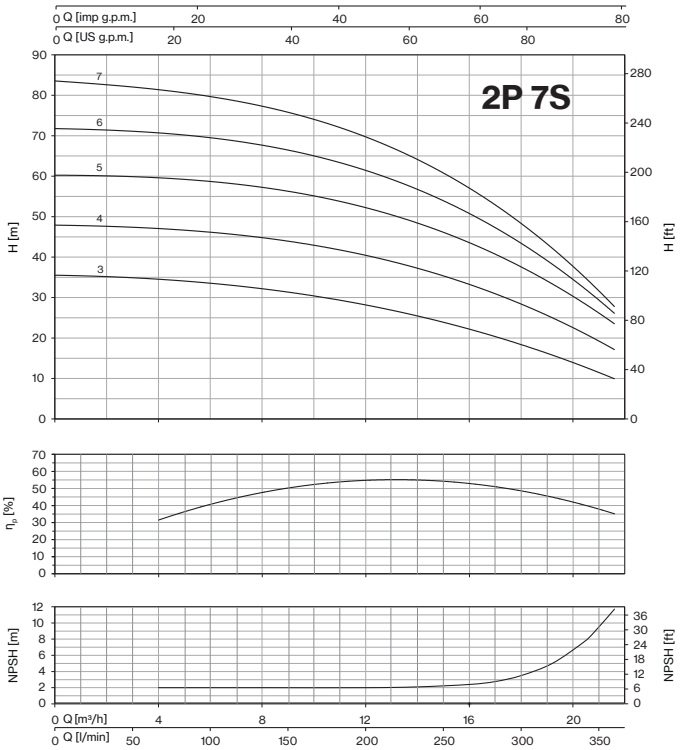
NPSH [ft]
Q [m³/h]
Q [l/min]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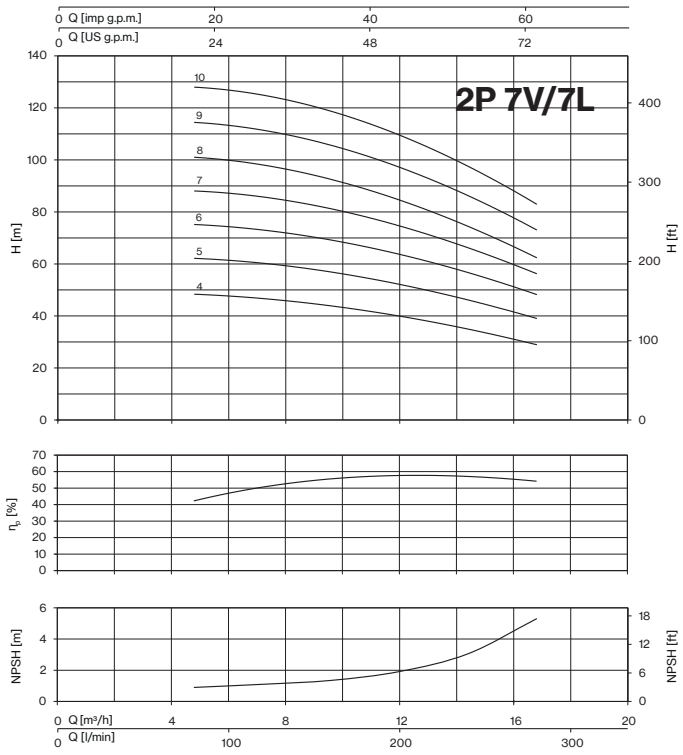
Q [l/min]

CURVES 2P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Q [m³/h]
Q [l/min]
H [m]
H [ft]
NPSH [m]
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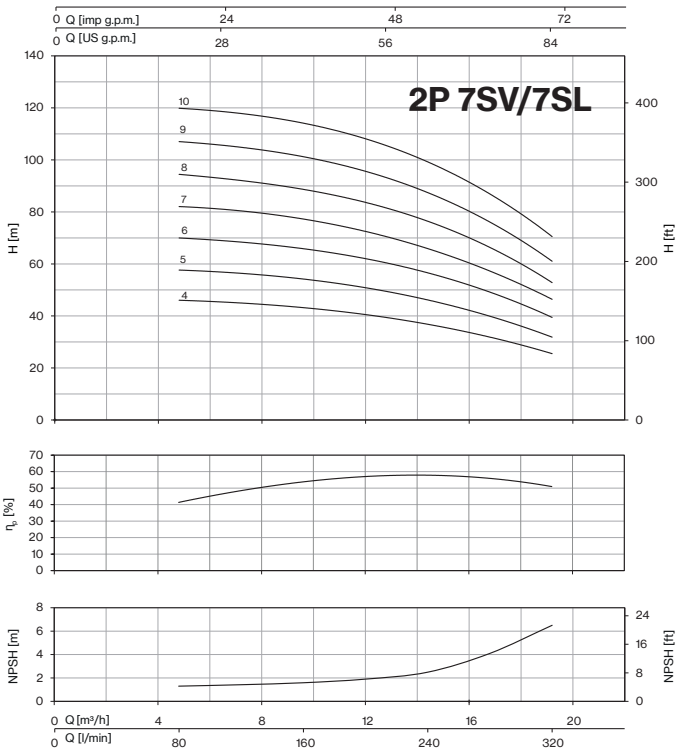
η [%]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Q [l/min]
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H [ft]
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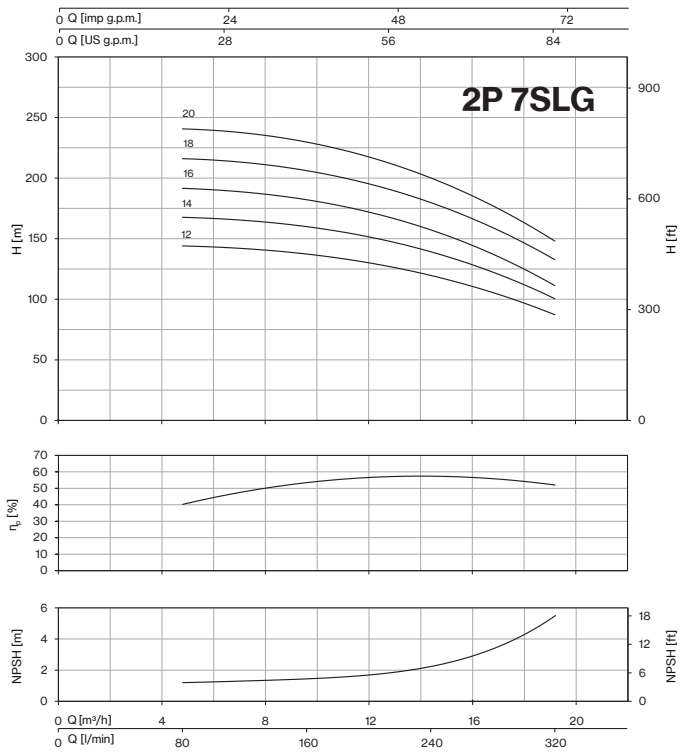
η [%]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Q [m³/h]
Q [l/min]
H [m]
H [ft]
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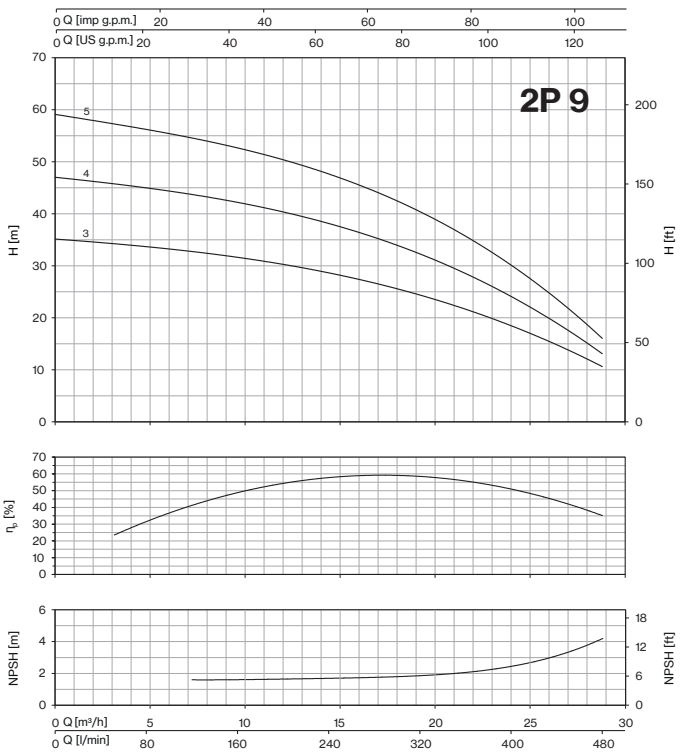
NPSH [ft]
η [%]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H [ft]
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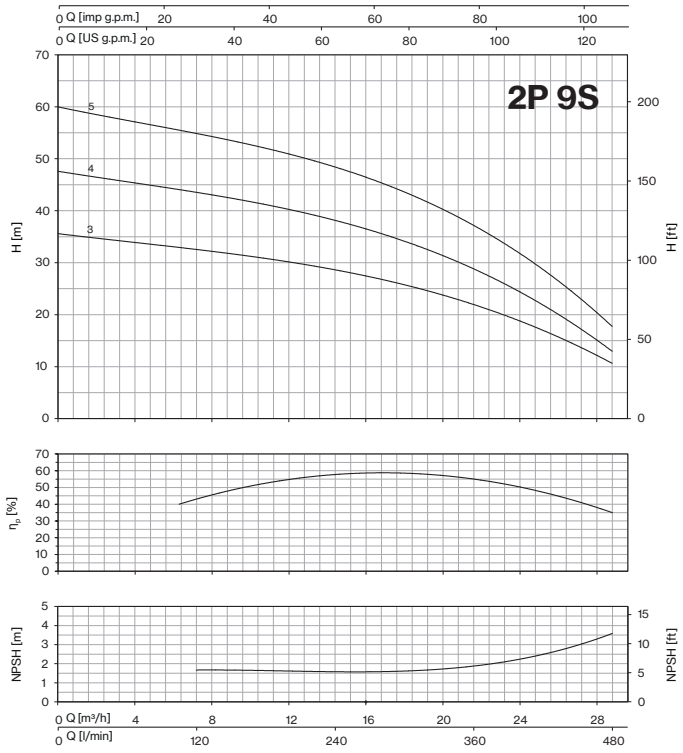
η [%]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H [ft]
η [%]
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NPSH [ft]
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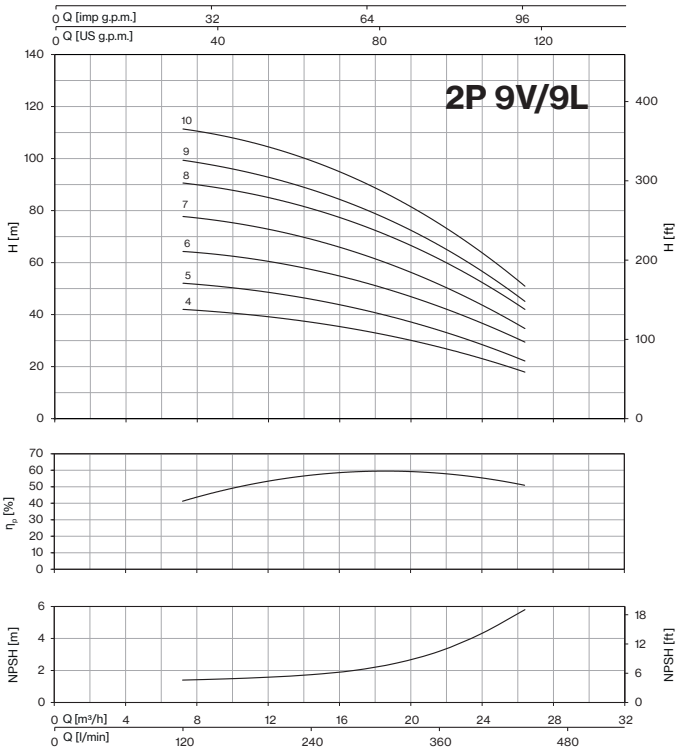
Q [l/min]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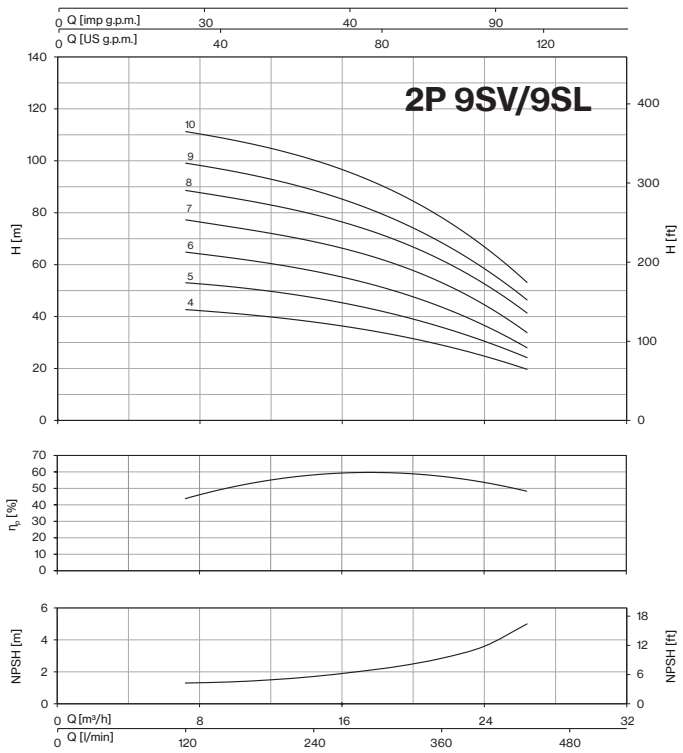
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H [ft]
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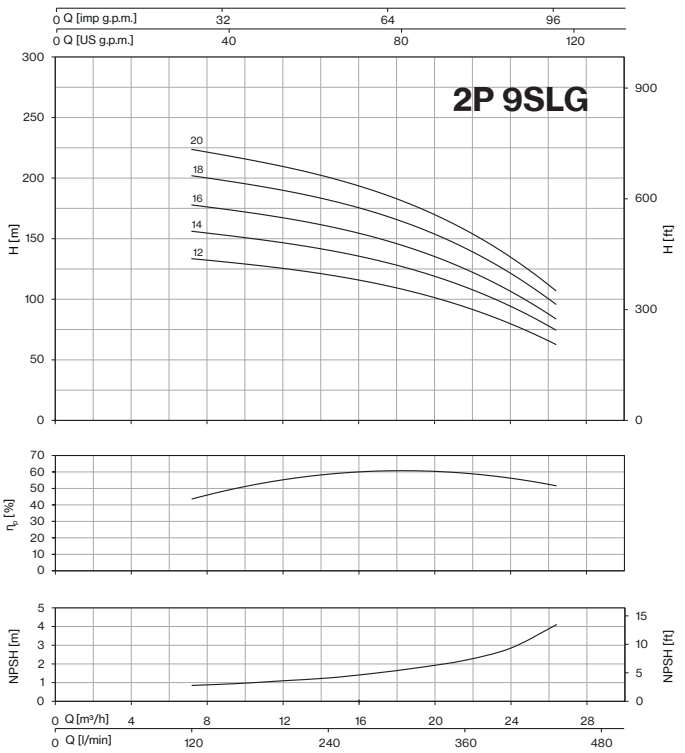
Q [l/min]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Q [US g.p.m.]
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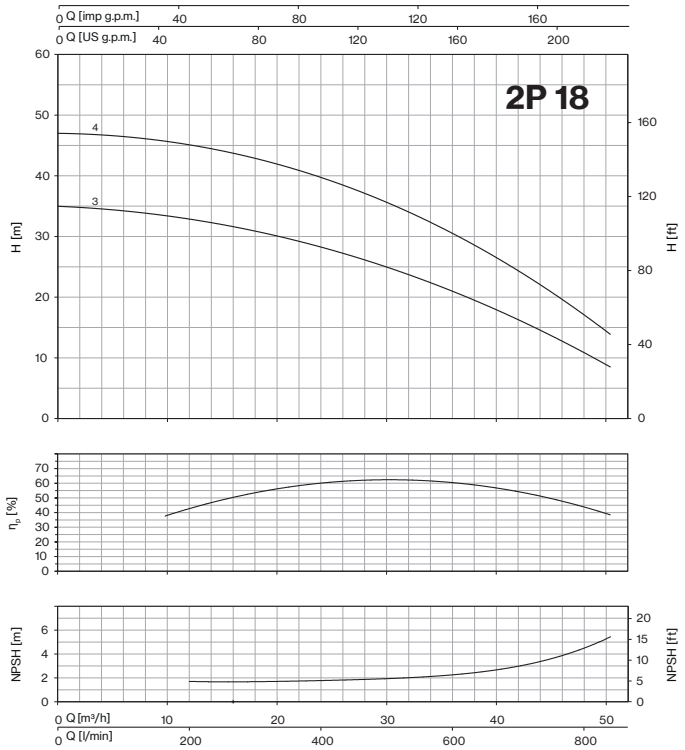
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

CURVES 2P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Q [US g.p.m.]
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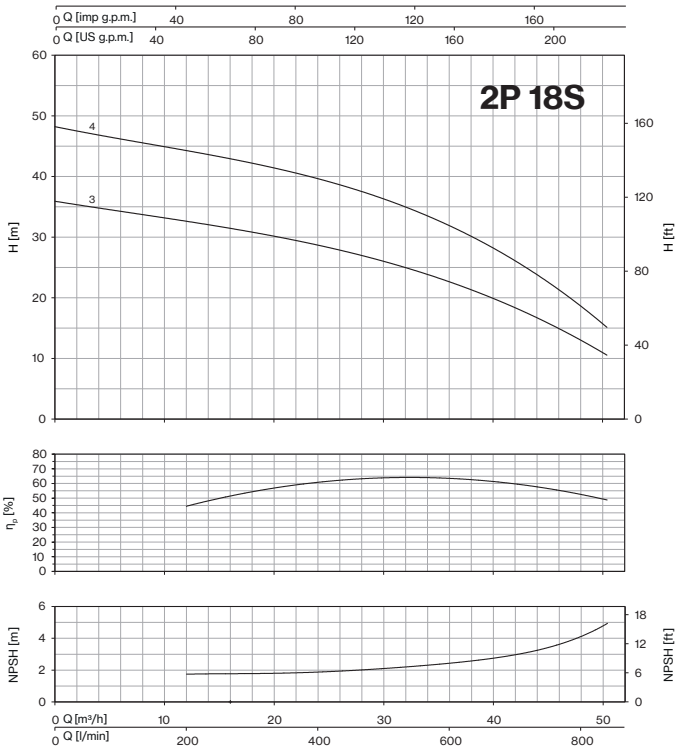
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]
4
3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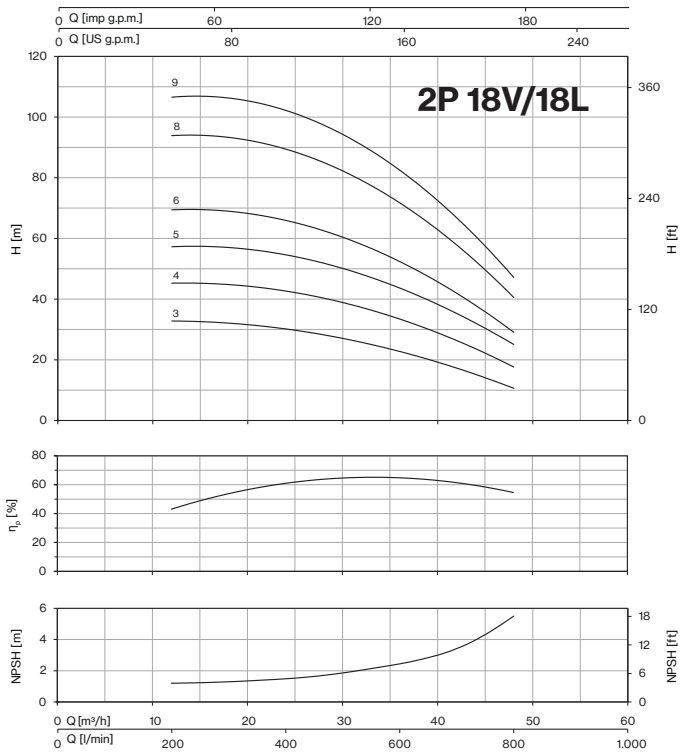
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]
4
3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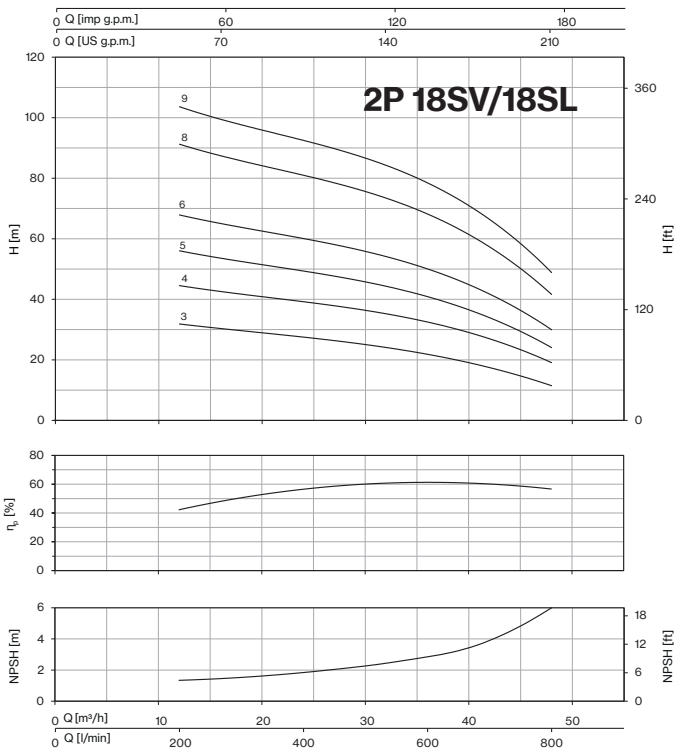
Q [US g.p.m.]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]
9
8
6
5
4
3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H [ft]
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NPSH [ft]
Q [m³/h]
Q [l/min]
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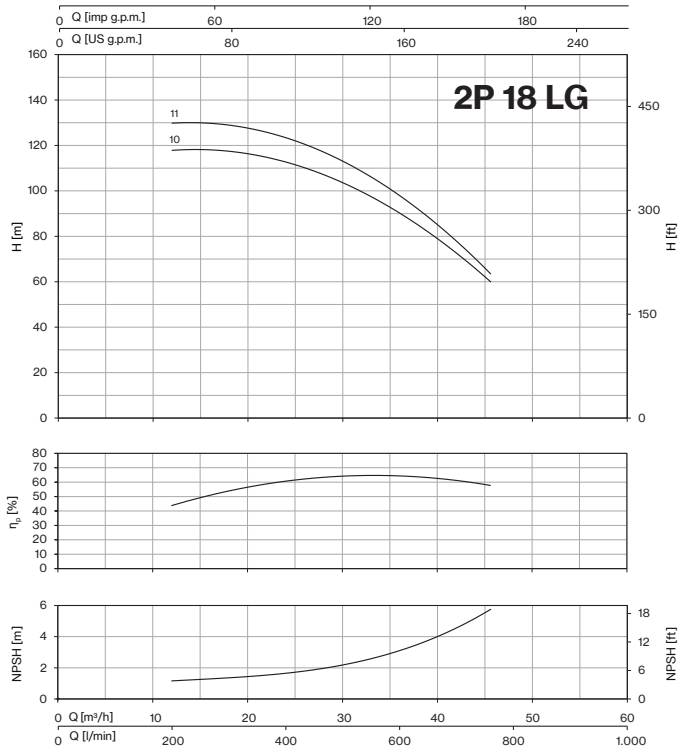
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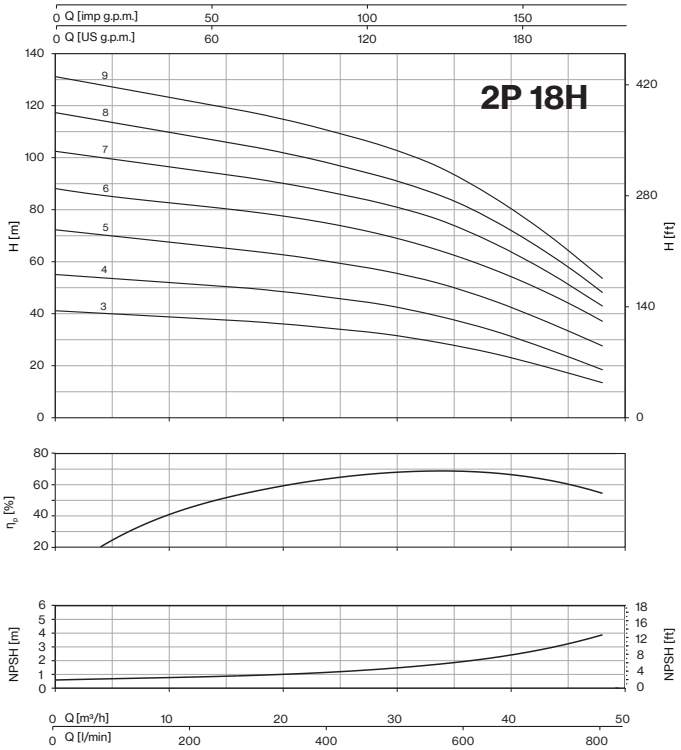
H [ft]
11
10
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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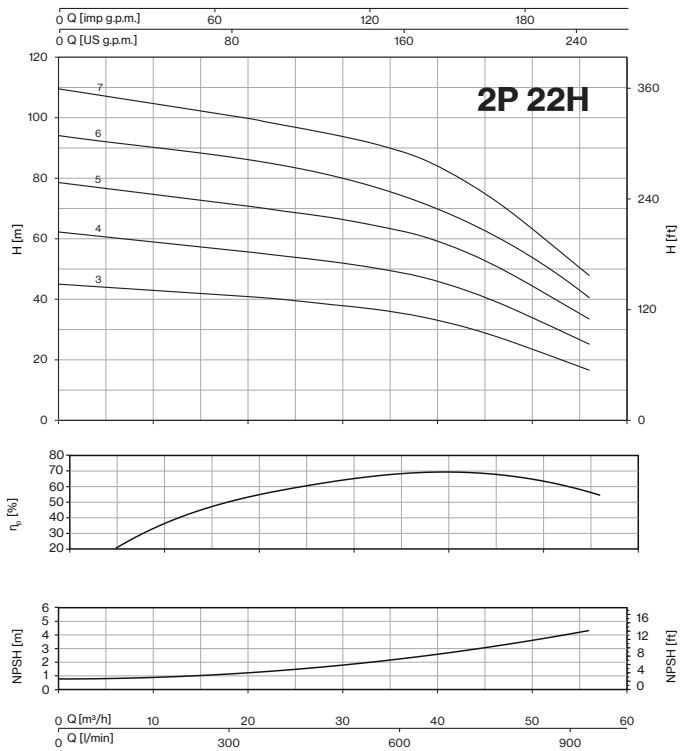
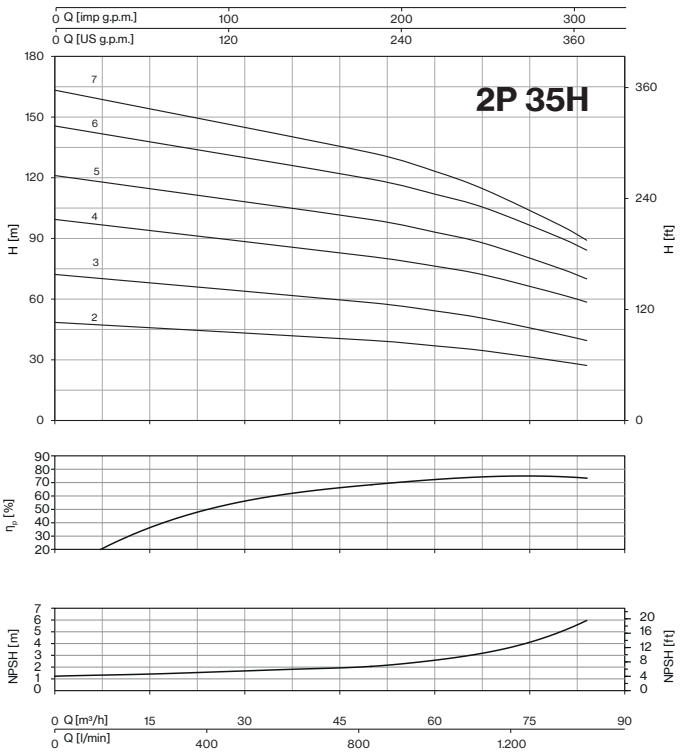
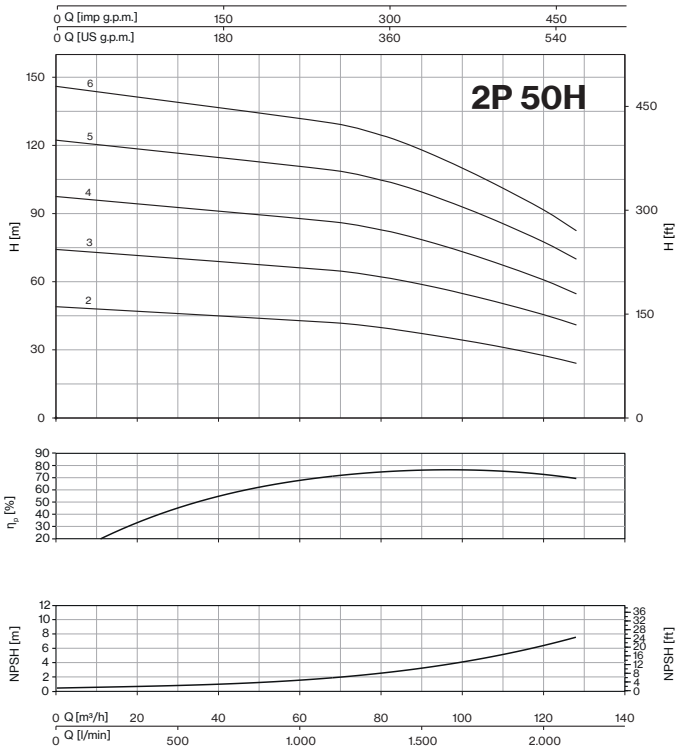
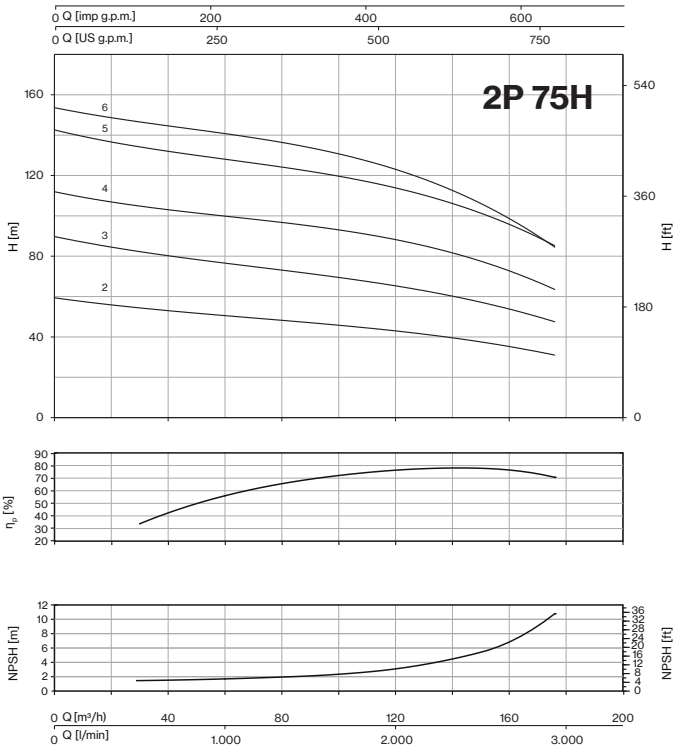
Q [US g.p.m.]
H [m]
H [ft]
9
8
7
6
5
4
3
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

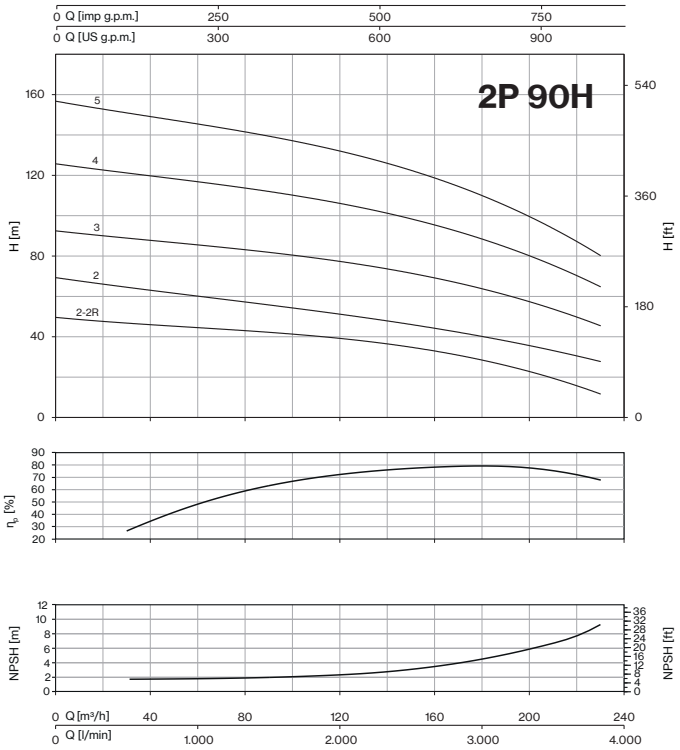

2P 22H
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
7
6
5
4
3
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

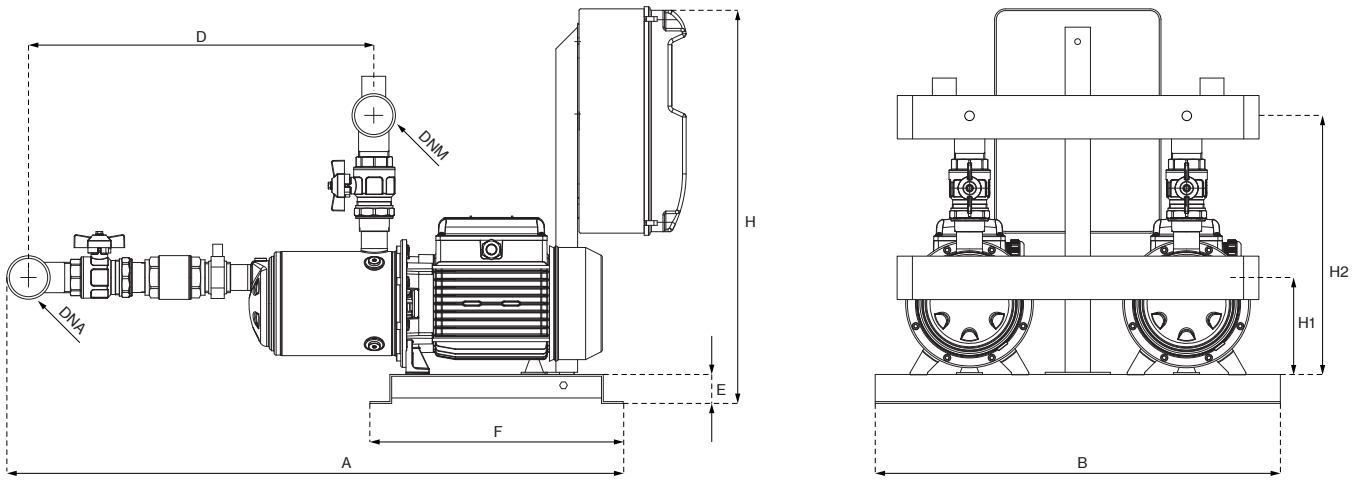

2P 35H
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
7
6
5
4
3
2
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

CURVES 2P


2P 50H
0 Q [imp g.p.m.] 150 300 450
0 Q [US g.p.m.] 180 360 540
H [m]
H [ft]
6
5
4
3
2
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 20 40 60 80 100 120 140
0 Q [l/min] 500 1.000 1.500 2.000


2P 75H
0 Q [imp g.p.m.] 200 400 600
0 Q [US g.p.m.] 250 500 750
H [m]
H [ft]
6
5
4
3
2
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 40 80 120 160 200
0 Q [l/min] 1.000 2.000 3.000


2P 90H
0 Q [imp g.p.m.] 250 500 750
0 Q [US g.p.m.] 300 600 900
H [m]
H [ft]
5
4
3
2
2-2R
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 40 80 120 160 200 240
0 Q [l/min] 1.000 2.000 3.000 4.000

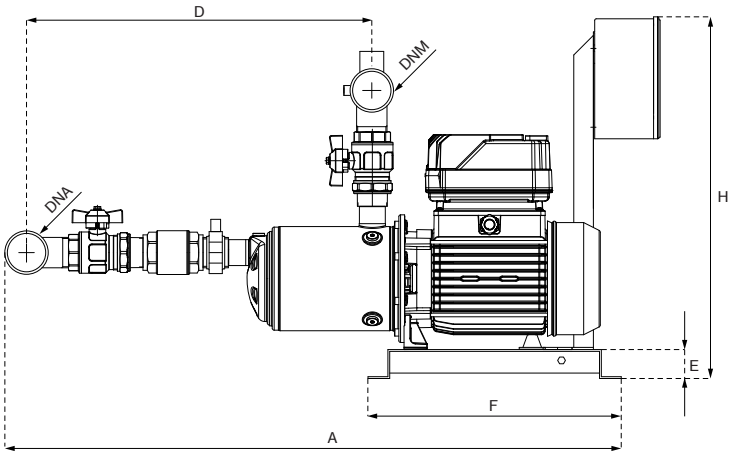


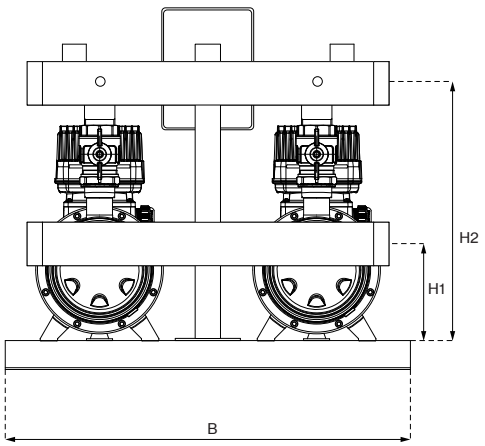
HORIZONTAL MODEL		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm										
2P 3-90/4	**2P 3-90/4T**	0,9	0,88	4,0	1,8	781	560	405	40	350	545	128	352	2" G	1" ½ G	41
2P 3S-90/4	**2P 3S-90/4T**	0,83	0,8	3,6	1,7											
2P 3-100/5	**2P 3-100/5T**	1,06	1,01	4,8	1,9	805	560	429	40	350	545	128	352			45
2P 3S-100/5	**2P 3S-100/5T**	0,99	0,92	4,4	1,7											
2P 3-120/6	**2P 3-120/6T**	1,23	1,23	5,6	2,6	829	560	453	40	350	545	128	352			48
2P 3S-120/6	**2P 3S-120/6T**	1,11	1,11	5,1	2,5											
2P 3-150/7	**2P 3-150/7T**	1,54	1,45	7,1	2,9	853	560	477	40	350	545	128	358			52
2P 3S-150/7	**2P 3S-150/7T**	1,38	1,31	6,4	2,7											
2P 5-80/3	**2P 5-80/3T**	0,86	0,79	3,9	1,5	757	560	381	40	350	545	128	352	2" G	1" ½ G	43
2P 5S-80/3	**2P 5S-80/3T**	0,8	0,75	3,8	1,4											
2P 5-120/4	**2P 5-120/4T**	1,13	1,13	5,2	2,5	781	560	405	40	350	545	128	352			45
2P 5S-120/4	**2P 5S-120/4T**	1,09	1,08	4,9	2,4											
2P 5-150/5	**2P 5-150/5T**	1,47	1,39	6,8	2,8	805	560	429	40	350	545	134	358			50
2P 5S-150/5	**2P 5S-150/5T**	1,39	1,31	6,5	2,7											
2P 5-180/6	**2P 5-180/6T**	1,7	1,62	7,7	3	829	560	453	40	350	545	134	358			43
2P 5S-180/6	**2P 5S-180/6T**	1,63	1,55	7,3	3											
2P 5-200/7	**2P 5-200/7T**	2	1,86	9	3,4	853	560	477	40	350	545	134	358			55
2P 5S-200/7	**2P 5S-200/7T**	1,94	1,77	8,7	3,3											
2P 7-120/3	**2P 7-120/3T**	1,32	1,3	5,9	2,6	799	560	414	40	350	545	92	350	2" ½ G	2" G	55
2P 7S-120/3	**2P 7S-120/3T**	1,23	1,22	5,6	2,5											
2P 7-180/4	**2P 7-180/4T**	1,83	1,71	8,3	3,2	823	560	438	40	350	545	98	356			57
2P 7S-180/4	**2P 7S-180/4T**	1,69	1,62	7,7	3,1											
2P 7-250/5	**2P 7-250/5T**	2,39	2,15	10,9	4,2	847	560	462	40	350	545	98	356			62
2P 7S-250/5	**2P 7S-250/5T**	2,19	2,05	10,2	4,1											
2P 7-300/6	**2P 7-300/6T**	2,68	2,63	12,2	5	871	560	486	40	350	545	103 / 98T	316 / 356T			64
2P 7S-300/6	**2P 7S-300/6T**	2,53	2,44	11,4	4,8											
-	**2P 7-350/7T**	-	2,8	-	5,1	895	560	510	40	350	545	103	361			66
-	**2P 7S-350/7T**	-	2,9	-	5,3											
2P 9-150/3	**2P 9-150/3T**	1,43	1,38	6,7	2,8	818	560	433	40	350	545	98	356	2" ½ G	2" G	55
2P 9S-150/3	**2P 9S-150/3T**	1,47	1,45	6,8	3,1											
2P 9-200/4	**2P 9-200/4T**	1,88	1,77	8,4	3,3	848	560	463	40	350	545	98	356			56
2P 9S-200/4	**2P 9S-200/4T**	1,88	1,77	8,4	3,3											
2P 9-250/5	**2P 9-250/5T**	2,32	2,18	10,6	4,3	878	560	493	40	350	545	98	356			61
2P 9S-250/5	**2P 9S-250/5T**	2,36	2,23	10,8	4,3											
-	**2P 18-250/3T**	-	2,19	-	4,3	889	620	465	40	350	545	98	390	3" G	2" ½ G	72
-	**2P 18S-250/3T**	-	2,29	-	4,4											
-	**2P 18-400/4T**	-	3	-	5,8	926	620	502	40	350	545	103	395			88
-	**2P 18S-400/4T**	-	3,1	-	5,9											

Dimensions and weights may differ slightly and therefore should be considered as indicative

2P

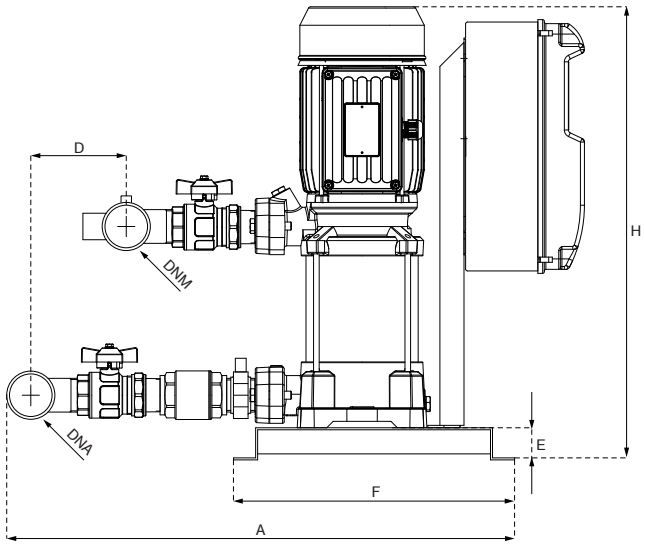
Variable speed EPIC and EPIC-A

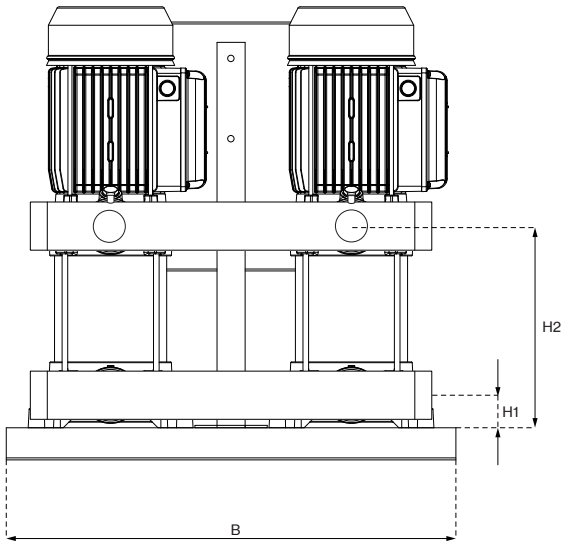




HORIZONTAL MODEL		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 3/E-90/4T	**2P 3/A-90/4T-304**	0,88	3,1	1,8	2× 8	781	560	405	40	350	545	128	352	2" G	1" ½ G	46
2P 3S/E-90/4T	**2P 3S/A-90/4T-304**	0,8	2,9	1,7												
2P 3/E-100/5T	**2P 3/A-100/5T-304**	1,01	3,3	1,9	2× 8	805	560	429	40	350	545	128	352			50
2P 3S/E-100/5T	**2P 3S/A-100/5T-304**	0,92	2,9	1,7												
2P 3/E-120/6T	**2P 3/A-120/6T-304**	1,23	4,5	2,6	2× 8	829	560	453	40	350	545	128	352			53
2P 3S/E-120/6T	**2P 3S/A-120/6T-304**	1,11	4,3	2,5												
2P 3/E-150/7T	**2P 3/A-150/7T-304**	1,45	5	2,9	2× 8	853	560	477	40	350	545	134	358			57
2P 3S/E-150/7T	**2P 3S/A-150/7T-304**	1,31	4,7	2,7												
2P 5/E-80/3T	**2P 5/A-80/3T-304**	0,79	2,6	1,5	2× 20	757	560	381	40	350	545	128	352	2" G	1" ½ G	48
2P 5S/E-80/3T	**2P 5S/A-80/3T-304**	0,75	2,4	1,4												
2P 5/E-120/4T	**2P 5/A-120/4T-304**	1,13	4,3	2,5	2× 20	781	560	405	40	350	545	128	352			50
2P 5S/E-120/4T	**2P 5S/A-120/4T-304**	1,08	4,2	2,4												
2P 5/E-150/5T	**2P 5/A-150/5T-304**	1,39	4,9	2,8	2× 20	805	560	429	40	350	545	134	358			55
2P 5S/E-150/5T	**2P 5S/A-150/5T-304**	1,31	4,7	2,7												
2P 5/E-180/6T	**2P 5/A-180/6T-304**	1,62	5,2	3	2× 20	829	560	453	40	350	545	134	358			58
2P 5S/E-180/6T	**2P 5S/A-180/6T-304**	1,55	5,2	3												
2P 5/E-200/7T	**2P 5/A-200/7T-304**	1,86	5,9	3,4	2× 20	853	560	477	40	350	545	134	358			60
2P 5S/E-200/7T	**2P 5S/A-200/7T-304**	1,77	5,7	3,3												
2P 7/E-120/3T	**2P 7/A-120/3T-304**	1,3	4,5	2,6	2× 20	799	560	414	40	350	545	92	350	2" ½ G	2" G	60
2P 7S/E-120/3T	**2P 7S/A-120/3T-304**	1,22	4,3	2,5												
2P 7/E-180/4T	**2P 7/A-180/4T-304**	1,71	5,5	3,2	2× 20	823	560	438	40	350	545	98	356			62
2P 7S/E-180/4T	**2P 7S/A-180/4T-304**	1,62	5,4	3,1												
2P 7/E-250/5T	**2P 7/A-250/5T-306**	2,15	7,3	4,2	2× 20	847	560	462	40	350	545	98	356			67
2P 7S/E-250/5T	**2P 7S/A-250/5T-306**	2,05	7,1	4,1												
-	**2P 7/A-300/6T-306**	2,63	-	5	2× 20	871	560	486	40	350	545	98	356			69
-	**2P 7S/A-300/6T-306**	2,44	-	4,8												
-	**2P 7/A-350/7T-306**	2,8	-	5,1	2× 20	895	560	510	40	350	545	103	361			72
-	**2P 7S/A-350/7T-306**	2,9	-	5,3												
2P 9/E-150/3T	**2P 9/A-150/3T-304**	1,38	4,9	2,8	2× 20	818	560	433	40	350	545	98	356	2" ½ G	2" G	60
2P 9S/E-150/3T	**2P 9S/A-150/3T-304**	1,45	5,4	3,1												
2P 9/E-200/4T	**2P 9/A-200/4T-306**	1,77	5,7	3,3	2× 20	848	560	463	40	350	545	98	356			61
2P 9S/E-200/4T	**2P 9S/A-200/4T-306**	1,77	5,7	3,3												
-	**2P 9/A-250/5T-306**	2,18	-	4,3	2× 20	878	560	493	40	350	545	98	356			66
-	**2P 9S/A-250/5T-306**	2,23	-	4,3												
-	**2P 18/A-250/3T-306**	2,19	-	4,3	1× 80	889	620	465	40	350	545	98	390	3" G	2" ½ G	77
-	**2P 18S/A-250/3T-306**	2,29	-	4,4												
-	**2P 18/A-400/4T-309**	3,0	-	5,8	1× 80	927	620	502,5	40	350	545	103	395			93
-	**2P 18S/A-400/4T-309**	3,1	-	5,9												

Dimensions and weights may differ slightly and therefore should be considered as indicative





VERTICAL MODEL V		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm										
2P 3V-100/5	**2P 3V-100/5T**	1,06	1,01	4,8	1,9	633	560	100	40	350	453	40	178	2" G	1" ½ G	56
2P 3SV-100/5	**2P 3SV-100/5T**	0,99	0,92	4,4	1,7											
2P 3V-120/6	**2P 3V-120/6T**	1,23	1,23	5,6	2,6	633	560	100	40	350	477	40	202			58
2P 3SV-120/6	**2P 3SV-120/6T**	1,11	1,11	5,1	2,5											
2P 3V-150/7	**2P 3V-150/7T**	1,54	1,45	7,1	2,9	633	560	100	40	350	561	40	226			63
2P 3SV-150/7	**2P 3SV-150/7T**	1,38	1,31	6,4	2,7											
2P 3V-180/8	**2P 3V-180/8T**	1,7	1,6	7,5	3	633	560	100	40	350	585	40	250			64
2P 3SV-180/8	**2P 3SV-180/8T**	1,6	1,55	6,9	2,7											
2P 3V-200/9	**2P 3V-200/9T**	1,9	1,8	8,4	3,3	633	560	100	40	350	609	40	274			67
2P 3SV-200/9	**2P 3SV-200/9T**	1,7	1,6	7,7	3											
2P 3V-250/10	**2P 3V-250/10T**	2,1	2	10	4,1	633	560	100	40	350	633	40	298			70
2P 3SV-250/10	**2P 3SV-250/10T**	1,9	1,8	9,2	3,7											
2P 3V-280/11	**2P 3V-280/11T**	2,3	2,2	10,5	4,3	633	560	100	40	350	657	40	322			72
2P 3SV-280/11	**2P 3SV-280/11T**	2,1	2	9,7	3,9											
2P 3V-300/12	**2P 3V-300/12T**	2,5	2,44	11,2	4,7	633	560	100	40	350	681	40	346			73
2P 3SV-300/12	**2P 3SV-300/12T**	2,3	2,2	10,3	4,3											
2P 5V-120/4	**2P 5V-120/4T**	1,13	1,13	5,2	2,5	633	560	100	40	350	429	40	178	2" G	1" ½ G	59
2P 5SV-120/4	**2P 5SV-120/4T**	1,09	1,08	4,9	2,4											
2P 5V-150/5	**2P 5V-150/5T**	1,47	1,39	6,8	2,8	633	560	100	40	350	513	40	202			62
2P 5SV-150/5	**2P 5SV-150/5T**	1,39	1,31	6,5	2,7											
2P 5V-180/6	**2P 5V-180/6T**	1,7	1,62	7,7	3	633	560	100	40	350	537	40	226			63
2P 5SV-180/6	**2P 5SV-180/6T**	1,63	1,55	7,3	3											
2P 5V-200/7	**2P 5V-200/7T**	2	1,86	9	3,4	633	560	100	40	350	561	40	250			65
2P 5SV-200/7	**2P 5SV-200/7T**	1,94	1,77	8,7	3,3											
2P 5V-250/8	**2P 5V-250/8T**	2,37	2,17	10,7	4,1	633	560	100	40	350	585	40	274			68
2P 5SV-250/8	**2P 5SV-250/8T**	2,2	2,07	10,1	4											
2P 5V-280/9	**2P 5V-280/9T**	2,6	2,4	11,7	4,4	633	560	100	40	350	609	40	298			69
2P 5SV-280/9	**2P 5SV-280/9T**	2,45	2,27	11	4,2											
2P 5V-300/10	**2P 5V-300/10T**	2,84	2,73	12,8	4,9	633	560	100	40	350	633	40	322			71
2P 5SV-300/10	**2P 5SV-300/10T**	2,67	2,57	11,9	4,7											
-	**2P 5V-350/11T**	-	2,9	-	5,3	633	560	100	40	350	712	40	346			75
-	**2P 5SV-350/11T**	-	2,9	-	5,3											
-	**2P 5V-380/12T**	-	3,2	-	6	633	560	100	40	350	736	40	370			88
-	**2P 5SV-380/12T**	-	3,2	-	6											

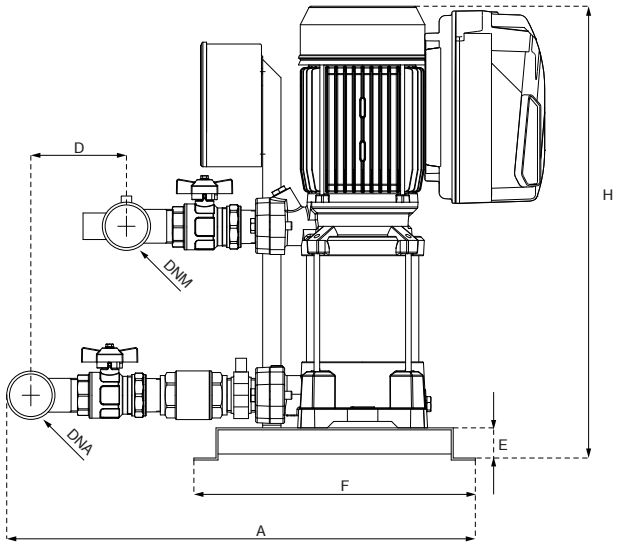
Dimensions and weights may differ slightly and therefore should be considered as indicative

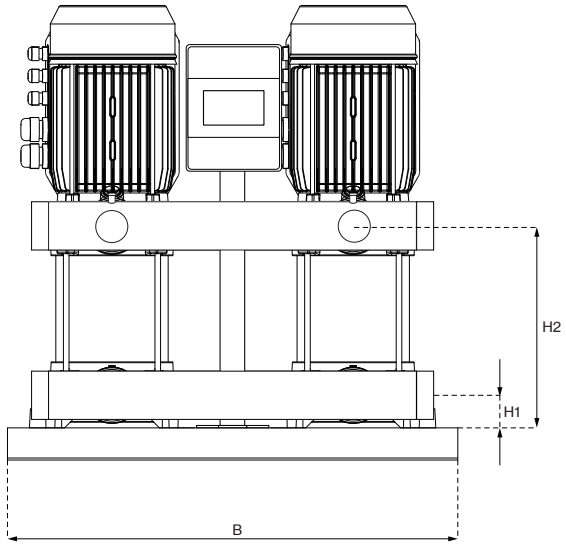
2P V

Fixed speed

VERTICAL MODEL V		P1		In		DIMENSIONS									Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~	3~	kW (×2)		A (×2)		mm										
2P 7V-180/4	**2P 7V-180/4T**	1,83	1,71	8,3	3,2	673	560	152	40	350	462	40	178			69
2P 7SV-180/4	**2P 7SV-180/4T**	1,69	1,62	7,7	3,1											
2P 7V-250/5	**2P 7V-250/5T**	2,39	2,15	10,9	4,2	673	560	152	40	350	513	40	202			74
2P 7SV-250/5	**2P 7SV-250/5T**	2,19	2,05	10,2	4,1											
2P 7V-300/6	**2P 7V-300/6T**	2,68	2,63	12,2	5	673	560	152	40	350	537	40	226			76
2P 7SV-300/6	**2P 7SV-300/6T**	2,53	2,44	11,4	4,8											
-	**2P 7V-350/7T**	-	2,8	-	5,1	673	560	152	40	350	615	40	250	2" ½ G	2" G	89
-	**2P 7SV-350/7T**	-	2,9	-	5,3											
-	**2P 7V-400/8T**	-	3,1	-	5,9	673	560	152	40	350	640	40	274			92
-	**2P 7SV-400/8T**	-	3,3	-	6,1											
-	**2P 7V-450/9T**	-	3,6	-	6,5	673	560	152	40	350	693	40	301			101
-	**2P 7SV-450/9T**	-	3,7	-	6,7											
-	**2P 7V-550/10T**	-	4	-	7,7	673	560	152	40	350	716	40	325			114
-	**2P 7SV-550/10T**	-	4,1	-	7,9											
2P 9V-200/4	**2P 9V-200/4T**	1,88	1,77	8,4	3,3	673	560	152	40	350	513	40	202			69
2P 9SV-200/4	**2P 9SV-200/4T**	1,88	1,77	8,4	3,3											
2P 9V-250/5	**2P 9V-250/5T**	2,32	2,18	10,6	4,3	673	560	152	40	350	543	40	232			72
2P 9SV-250/5	**2P 9SV-250/5T**	2,36	2,23	10,8	4,3											
2P 9V-300/6	**2P 9V-300/6T**	2,74	2,64	12,2	4,8	673	560	152	40	350	573	40	262			74
2P 9SV-300/6	**2P 9SV-300/6T**	2,78	2,58	12,5	4,9											
-	**2P 9V-400/7T**	-	3	-	5,8	673	560	152	40	350	657	40	292	2" ½ G	2" G	92
-	**2P 9SV-400/7T**	-	3,1	-	5,9											
-	**2P 9V-450/8T**	-	3,5	-	6,4	673	560	152	40	350	717	40	325			100
-	**2P 9SV-450/8T**	-	3,6	-	6,5											
-	**2P 9V-500/9T**	-	3,9	-	6,9	673	560	152	40	350	747	40	355			103
-	**2P 9SV-500/9T**	-	4	-	7											
-	**2P 9V-550/10T**	-	4,3	-	8,1	673	560	152	40	350	777	40	385			112
-	**2P 9SV-550/10T**	-	4,4	-	8,2											
-	**2P 18V-250/3T**	-	2,19	-	4,3	720	620	133	40	350	521	50	211			83
-	**2P 18SV-250/3T**	-	2,29	-	4,4											
-	**2P 18V-400/4T**	-	3	-	5,8	720	620	133	40	350	613	50	248			99
-	**2P 18SV-400/4T**	-	3,1	-	5,9											
-	**2P 18V-450/5T**	-	3,9	-	6,9	720	620	133	40	350	680	50	289			110
-	**2P 18SV-450/5T**	-	3,9	-	6,9											
-	**2P 18V-550/6T**	-	4,6	-	8,4	720	620	133	40	350	718	50	326	3" G	2" ½ G	120
-	**2P 18SV-550/6T**	-	4,7	-	8,5											
-	**2P 18V-750/8T**	-	6,2	-	11,2	720	620	133	40	350	855	50	401			143
-	**2P 18SV-750/8T**	-	6,2	-	11,2											
-	**2P 18V-900/9T**	-	6,9	-	12,8	720	620	133	40	350	892	50	439			154
-	**2P 18SV-900/9T**	-	7	-	12,9											

Dimensions and weights may differ slightly and therefore should be considered as indicative





VERTICAL MODEL V		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 3V/E-100/5T	**2P 3V/A-100/5T-304**	1,01	3,3	1,9	2× 8	633	560	100	40	350	453	40	178			61
2P 3SV/E-100/5T	**2P 3SV/A-100/5T-304**	0,92	2,9	1,7												
2P 3V/E-120/6T	**2P 3V/A-120/6T-304**	1,23	4,5	2,6	2× 8	633	560	100	40	350	477	40	202			63
2P 3SV/E-120/6T	**2P 3SV/A-120/6T-304**	1,11	4,3	2,5												
2P 3V/E-150/7T	**2P 3V/A-150/7T-304**	1,45	5	2,9	2× 8	633	560	100	40	350	561	40	226			68
2P 3SV/E-150/7T	**2P 3SV/A-150/7T-304**	1,31	4,7	2,7												
2P 3V/E-180/8T	**2P 3V/A-180/8T-304**	1,6	5,2	3	2× 8	633	560	100	40	350	585	40	250			69
2P 3SV/E-180/8T	**2P 3SV/A-180/8T-304**	1,55	4,7	2,7												
2P 3V/E-200/9T	**2P 3V/A-200/9T-304**	1,8	5,7	3,3	2× 8	633	560	100	40	350	609	40	274	2" G	1" ½ G	72
2P 3SV/E-200/9T	**2P 3SV/A-200/9T-304**	1,6	5,2	3												
2P 3V/E-250/10T	**2P 3V/A-250/10T-306**	2	7,1	4,1	2× 8	633	560	100	40	350	633	40	298			75
2P 3SV/E-250/10T	**2P 3SV/A-250/10T-306**	1,8	6,4	3,7												
-	**2P 3V/A-280/11T-306**	2,2	-	4,3	2× 8	633	560	100	40	350	657	40	322			77
2P 3SV/E-280/11T	**2P 3SV/A-280/11T-306**	2	6,8	3,9												
-	**2P 3V/A-300/12T-306**	2,44	-	4,7	2× 8	633	560	100	40	350	681	40	346			78
-	**2P 3SV/A-300/12T-306**	2,2	-	4,3												
2P 5V/E-120/4T	**2P 5V/A-120/4T-304**	1,13	4,3	2,5	2× 20	633	560	100	40	350	429	40	178			64
2P 5SV/E-120/4T	**2P 5SV/A-120/4T-304**	1,08	4,2	2,4												
2P 5V/E-150/5T	**2P 5V/A-150/5T-304**	1,39	4,9	2,8	2× 20	633	560	100	40	350	513	40	202			67
2P 5SV/E-150/5T	**2P 5SV/A-150/5T-304**	1,31	4,7	2,7												
2P 5V/E-180/6T	**2P 5V/A-180/6T-304**	1,62	5,2	3	2× 20	633	560	100	40	350	537	40	226			68
2P 5SV/E-180/6T	**2P 5SV/A-180/6T-304**	1,55	5,2	3												
2P 5V/E-200/7T	**2P 5V/A-200/7T-304**	1,86	5,9	3,4	2× 20	633	560	100	40	350	561	40	250			70
2P 5SV/E-200/7T	**2P 5SV/A-200/7T-304**	1,77	5,7	3,3												
2P 5V/E-250/8T	**2P 5V/A-250/8T-306**	2,17	7,1	4,1	2× 20	633	560	100	40	350	585	40	274	2" G	1" ½ G	73
2P 5SV/E-250/8T	**2P 5SV/A-250/8T-306**	2,07	6,9	4												
-	**2P 5V/A-280/9T-306**	2,4	-	4,4	2× 20	633	560	100	40	350	609	40	298			74
2P 5SV/E-280/9T	**2P 5SV/A-280/9T-306**	2,27	7,3	4,2												
-	**2P 5V/A-300/10T-306**	2,73	-	4,9	2× 20	633	560	100	40	350	633	40	322			76
-	**2P 5SV/A-300/10T-306**	2,57	-	4,7												
-	**2P 5V/A-350/11T-306**	2,9	-	5,3	2× 20	633	560	100	40	350	712	40	346			80
-	**2P 5SV/A-350/11T-306**	2,9	-	5,3												
-	**2P 5V/A-380/12T-309**	3,2	-	6	2× 20	633	560	100	40	350	736	40	370			93
-	**2P 5SV/A-380/12T-309**	3,2	-	6												

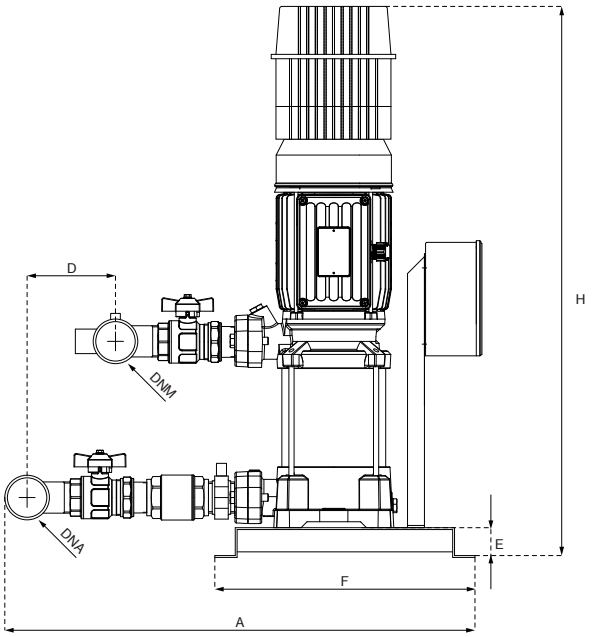
Dimensions and weights may differ slightly and therefore should be considered as indicative

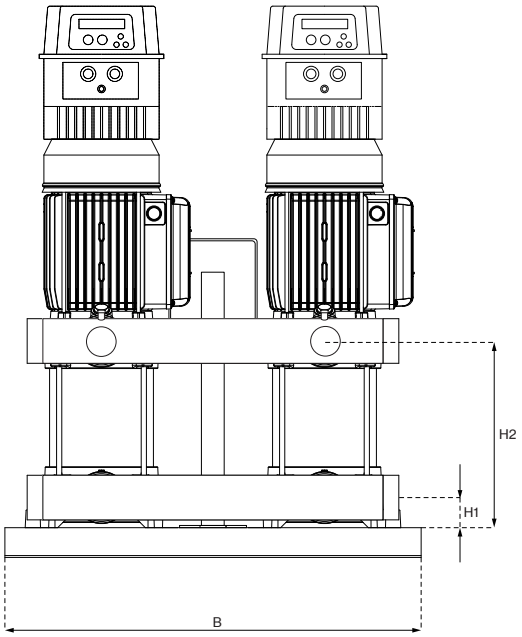
2P V

Variable speed EPIC and EPIC-A

VERTICAL MODEL V		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 7V/E-180/4T	**2P 7V/A-180/4T-304**	1,71	5,5	3,2	2× 20	673	560	152	40	350	462	40	178			74
2P 7SV/E-180/4T	**2P 7SV/A-180/4T-304**	1,62	5,4	3,1												
2P 7V/E-250/5T	**2P 7V/A-250/5T-306**	2,15	7,3	4,2	2× 20	673	560	152	40	350	513	40	202			79
2P 7SV/E-250/5T	**2P 7SV/A-250/5T-306**	2,05	7,1	4,1												
-	**2P 7V/A-300/6T-306**	2,63	-	5	2× 20	673	560	152	40	350	537	40	226			81
-	**2P 7SV/A-300/6T-306**	2,44	-	4,8												
-	**2P 7V/A-350/7T-306**	2,8	-	5,1	2× 20	673	560	152	40	350	615	40	250	2" ½ G	2" G	94
-	**2P 7SV/A-350/7T-306**	2,9	-	5,3												
-	**2P 7V/A-400/8T-309**	3,1	-	5,9	2× 20	673	560	152	40	350	640	40	274			97
-	**2P 7SV/A-400/8T-309**	3,3	-	6,1												
-	**2P 7V/A-450/9T-309**	3,6	-	6,5	2× 20	673	560	152	40	350	693	40	301			106
-	**2P 7SV/A-450/9T-309**	3,7	-	6,7												
-	**2P 7V/A-550/10T-309**	4	-	7,7	2× 20	673	560	152	40	350	716	40	325			123
-	**2P 7SV/A-550/10T-309**	4,1	-	7,9												
2P 9V/E-200/4T	**2P 9V/A-200/4T-304**	1,77	5,7	3,3	2× 20	673	560	152	40	350	513	40	202			74
2P 9SV/E-200/4T	**2P 9SV/A-200/4T-304**	1,77	5,7	3,3												
-	**2P 9V/A-250/5T-306**	2,18	-	4,3	2× 20	673	560	152	40	350	543	40	232			77
-	**2P 9SV/A-250/5T-306**	2,23	-	4,3												
-	**2P 9V/A-300/6T-306**	2,64	-	4,8	2× 20	673	560	152	40	350	573	40	262			79
-	**2P 9SV/A-300/6T-306**	2,58	-	4,9												
-	**2P 9V/A-400/7T-309**	3	-	5,8	2× 20	673	560	152	40	350	657	40	292	2" ½ G	2" G	97
-	**2P 9SV/A-400/7T-309**	3,1	-	5,9												
-	**2P 9V/A-450/8T-309**	3,5	-	6,4	2× 20	673	560	152	40	350	717	40	325			105
-	**2P 9SV/A-450/8T-309**	3,6	-	6,5												
-	**2P 9V/A-500/9T-309**	3,9	-	6,9	2× 20	673	560	152	40	350	747	40	355			108
-	**2P 9SV/A-500/9T-309**	4	-	7												
-	**2P 9V/A-550/10T-309**	4,3	-	8,1	2× 20	673	560	152	40	350	777	40	385			132
-	**2P 9SV/A-550/10T-314**	4,4	-	8,2												
-	**2P 18V/A-250/3T-306**	2,19	-	4,3	1× 80	720	620	133	40	350	521	50	211			88
-	**2P 18SV/A-250/3T-306**	2,29	-	4,4												
-	**2P 18V/A-400/4T-309**	3	-	5,8	1× 80	720	620	133	40	350	613	50	248			104
-	**2P 18SV/A-400/4T-309**	3,1	-	5,9												
-	**2P 18V/A-450/5T-309**	3,9	-	6,9	1× 80	720	620	133	40	350	680	50	289			115
-	**2P 18SV/A-450/5T-309**	3,9	-	6,9										3" G	2" ½ G	
-	**2P 18V/A-550/6T-314**	4,6	-	8,4	1× 80	720	620	133	40	350	718	50	326			140
-	**2P 18SV/A-550/6T-314**	4,7	-	8,5												
-	**2P 18V/A-750/8T-314**	6,2	-	11,2	1× 80	720	620	133	40	350	855	50	401			155
-	**2P 18SV/A-750/8T-314**	6,2	-	11,2												
-	**2P 18V/A-900/9T-318**	6,9	-	12,8	1× 80	720	620	133	40	350	892	50	439			166
-	**2P 18SV/A-900/9T-318**	7	-	12,9												

Dimensions and weights may differ slightly and therefore should be considered as indicative





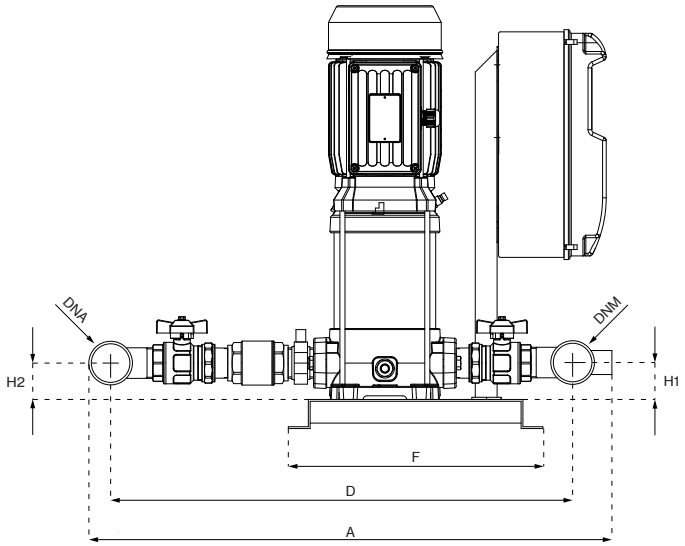
VERTICAL MODEL V IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm										
2P 3V/I-100/5T-109	**2P 3V/I-100/5T-306**	1,01	3,3	1,9	2× 8	633	560	100	40	350	663	40	178	2" G	1" ½ G	66
2P 3SV/I-100/5T-109	**2P 3SV/I-100/5T-306**	0,92	2,9	1,7												
2P 3V/I-120/6T-109	**2P 3V/I-120/6T-306**	1,23	4,5	2,6	2× 8	633	560	100	40	350	687	40	202			68
2P 3SV/I-120/6T-109	**2P 3SV/I-120/6T-306**	1,11	4,3	2,5												
2P 3V/I-150/7T-109	**2P 3V/I-150/7T-306**	1,45	5	2,9	2× 8	633	560	100	40	350	771	40	226			73
2P 3SV/I-150/7T-109	**2P 3SV/I-150/7T-306**	1,31	4,7	2,7												
2P 3V/I-180/8T-109	**2P 3V/I-180/8T-306**	1,6	5,2	3	2× 8	633	560	100	40	350	795	40	250			74
2P 3SV/I-180/8T-109	**2P 3SV/I-180/8T-306**	1,55	4,7	2,7												
2P 3V/I-200/9T-109	**2P 3V/I-200/9T-306**	1,8	5,7	3,3	2× 8	633	560	100	40	350	819	40	274			77
2P 3SV/I-200/9T-109	**2P 3SV/I-200/9T-306**	1,6	5,2	3												
2P 3V/I-250/10T-114	**2P 3V/I-250/10T-306**	2	7,1	4,1	2× 8	633	560	100	40	350	843	40	298			80
2P 3SV/I-250/10T-114	**2P 3SV/I-250/10T-306**	1,8	6,4	3,7												
2P 3V/I-280/11T-114	**2P 3V/I-280/11T-306**	2,2	7,4	4,3	2× 8	633	560	100	40	350	867	40	322			82
2P 3SV/I-280/11T-114	**2P 3SV/I-280/11T-306**	2	6,8	3,9												
2P 3V/I-300/12T-114	**2P 3V/I-300/12T-306**	2,44	8,1	4,7	2× 8	633	560	100	40	350	891	40	346			83
2P 3SV/I-300/12T-114	**2P 3SV/I-300/12T-306**	2,2	7,4	4,3												
2P 5V/I-120/4T-109	**2P 5V/I-120/4T-306**	1,13	4,3	2,5	2× 20	633	560	100	40	350	639	40	178	2" G	1" ½ G	69
2P 5SV/I-120/4T-109	**2P 5SV/I-120/4T-306**	1,08	4,2	2,4												
2P 5V/I-150/5T-109	**2P 5V/I-150/5T-306**	1,39	4,9	2,8	2× 20	633	560	100	40	350	723	40	202			72
2P 5SV/I-150/5T-109	**2P 5SV/I-150/5T-306**	1,31	4,7	2,7												
2P 5V/I-180/6T-109	**2P 5V/I-180/6T-306**	1,62	5,2	3	2× 20	633	560	100	40	350	747	40	226			73
2P 5SV/I-180/6T-109	**2P 5SV/I-180/6T-306**	1,55	5,2	3												
2P 5V/I-200/7T-109	**2P 5V/I-200/7T-306**	1,86	5,9	3,4	2× 20	633	560	100	40	350	771	40	250			75
2P 5SV/I-200/7T-109	**2P 5SV/I-200/7T-306**	1,77	5,7	3,3												
2P 5V/I-250/8T-114	**2P 5V/I-250/8T-306**	2,17	7,1	4,1	2× 20	633	560	100	40	350	795	40	274			78
2P 5SV/I-250/8T-114	**2P 5SV/I-250/8T-306**	2,07	6,9	4												
2P 5V/I-280/9T-114	**2P 5V/I-280/9T-306**	2,4	7,6	4,4	2× 20	633	560	100	40	350	819	40	298			79
2P 5SV/I-280/9T-114	**2P 5SV/I-280/9T-306**	2,27	7,3	4,2												
2P 5V/I-300/10T-114	**2P 5V/I-300/10T-306**	2,73	8,5	4,9	2× 20	633	560	100	40	350	843	40	322			81
2P 5SV/I-300/10T-114	**2P 5SV/I-300/10T-306**	2,57	8,1	4,7												
2P 5V/I-350/11T-114	**2P 5V/I-350/11T-306**	2,9	9,2	5,3	2× 20	633	560	100	40	350	922	40	346			85
2P 5SV/I-350/11T-114	**2P 5SV/I-350/11T-306**	2,9	9,2	5,3												
-	**2P 5V/I-380/12T-309**	3,2	-	6	2× 20	633	560	100	40	350	946	40	370			98
-	**2P 5SV/I-380/12T-309**	3,2	-	6												

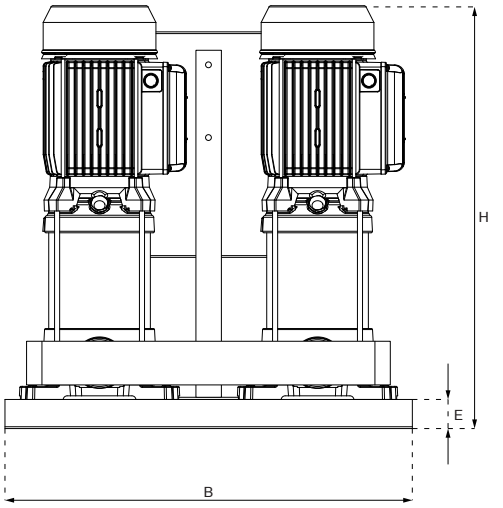
Dimensions and weights may differ slightly and therefore should be considered as indicative

2P V

Variable speed IPFC

VERTICAL MODEL V IPFC		P1	In		Required tank	DIMENSIONS									Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm										
2P 7V/I-180/4T-109	**2P 7V/I-180/4T-306**	1,71	5,5	3,2	2× 20	673	560	152	40	350	672	40	178			79
2P 7SV/I-180/4T-109	**2P 7SV/I-180/4T-306**	1,62	5,4	3,1												
2P 7V/I-250/5T-114	**2P 7V/I-250/5T-306**	2,15	7,3	4,2	2× 20	673	560	152	40	350	723	40	202			84
2P 7SV/I-250/5T-114	**2P 7SV/I-250/5T-306**	2,05	7,1	4,1												
2P 7V/I-300/6T-114	**2P 7V/I-300/6T-306**	2,63	8,7	5	2× 20	673	560	152	40	350	747	40	226			86
2P 7SV/I-300/6T-114	**2P 7SV/I-300/6T-306**	2,44	8,3	4,8												
2P 7V/I-350/7T-114	**2P 7V/I-350/7T-306**	2,8	8,8	5,1	2× 20	673	560	152	40	350	825	40	250	2" ½ G	2" G	99
2P 7SV/I-350/7T-114	**2P 7SV/I-350/7T-306**	2,9	9,2	5,3												
-	**2P 7V/I-400/8T-309**	3,1	-	5,9	2× 20	673	560	152	40	350	850	40	274			102
-	**2P 7SV/I-400/8T-309**	3,3	-	6,1												
-	**2P 7V/I-450/9T-309**	3,6	-	6,5	2× 20	673	560	152	40	350	903	40	301			111
-	**2P 7SV/I-450/9T-309**	3,7	-	6,7												
-	**2P 7V/I-550/10T-309**	4	-	7,7	2× 20	673	560	152	40	350	926	40	325			128
-	**2P 7SV/I-550/10T-309**	4,1	-	7,9												
2P 9V/I-200/4T-109	**2P 9V/I-200/4T-306**	1,77	5,7	3,3	2× 20	673	560	152	40	350	723	40	202			79
2P 9SV/I-200/4T-109	**2P 9SV/I-200/4T-306**	1,77	5,7	3,3												
2P 9V/I-250/5T-114	**2P 9V/I-250/5T-306**	2,18	7,5	4,3	2× 20	673	560	152	40	350	753	40	232			82
2P 9SV/I-250/5T-114	**2P 9SV/I-250/5T-306**	2,23	7,5	4,3												
2P 9V/I-300/6T-114	**2P 9V/I-300/6T-306**	2,64	8,3	4,8	2× 20	673	560	152	40	350	783	40	262			84
2P 9SV/I-300/6T-114	**2P 9SV/I-300/6T-306**	2,58	8,5	4,9												
-	**2P 9V/I-400/7T-309**	3	-	5,8	2× 20	673	560	152	40	350	867	40	292	2" ½ G	2" G	102
-	**2P 9SV/I-400/7T-309**	3,1	-	5,9												
-	**2P 9V/I-450/8T-309**	3,5	-	6,4	2× 20	673	560	152	40	350	927	40	325			110
-	**2P 9SV/I-450/8T-309**	3,6	-	6,5												
-	**2P 9V/I-500/9T-309**	3,9	-	6,9	2× 20	673	560	152	40	350	957	40	355			113
-	**2P 9SV/I-500/9T-309**	4	-	7												
-	**2P 9V/I-550/10T-309**	4,3	-	8,1	2× 20	673	560	152	40	350	987	40	385			122
-	**2P 9SV/I-550/10T-311**	4,4	-	8,2												
2P 18V/I-250/3T-114	**2P 18V/I-250/3T-306**	2,19	7,5	4,3	1× 80	720	620	133	40	350	731	50	211			93
2P 18SV/I-250/3T-114	**2P 18SV/I-250/3T-306**	2,29	7,6	4,4												
-	**2P 18V/I-400/4T-309**	3	-	5,8	1× 80	720	620	133	40	350	824	50	248			109
-	**2P 18SV/I-400/4T-309**	3,1	-	5,9												
-	**2P 18V/I-450/5T-309**	3,9	-	6,9	1× 80	720	620	133	40	350	890	50	289			120
-	**2P 18SV/I-450/5T-309**	3,9	-	6,9												
-	**2P 18V/I-550/6T-311**	4,6	-	8,4	1× 80	720	620	133	40	350	928	50	326	3" G	2" ½ G	130
-	**2P 18SV/I-550/6T-311**	4,7	-	8,5												
-	**2P 18V/I-750/8T-314**	6,2	-	11,2	1× 80	720	620	133	40	350	1035	50	401			153
-	**2P 18SV/I-750/8T-314**	6,2	-	11,2												
-	**2P 18V/I-900/9T-318**	6,9	-	12,8	1× 80	720	620	133	40	350	1072	50	439			164
-	**2P 18SV/I-900/9T-318**	7	-	12,9												





VERTICAL MODEL L		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm										
2P 3L-100/5	**2P 3L-100/5T**	1,06	1,01	4,8	1,9	700	560	615	40	350	469	50	50	2" G	1" ½ G	57
2P 3SL-100/5	**2P 3SL-100/5T**	0,99	0,92	4,4	1,7											
2P 3L-120/6	**2P 3L-120/6T**	1,23	1,23	5,6	2,6	700	560	615	40	350	493	50	50			62
2P 3SL-120/6	**2P 3SL-120/6T**	1,11	1,11	5,1	2,5											
2P 3L-150/7	**2P 3L-150/7T**	1,54	1,45	7,1	2,9	700	560	615	40	350	577	50	50			66
2P 3SL-150/7	**2P 3SL-150/7T**	1,38	1,31	6,4	2,7											
2P 3L-180/8	**2P 3L-180/8T**	1,7	1,6	7,5	3	700	560	615	40	350	601	50	50			67
2P 3SL-180/8	**2P 3SL-180/8T**	1,6	1,55	6,9	2,7											
2P 3L-200/9	**2P 3L-200/9T**	1,9	1,8	8,4	3,3	700	560	615	40	350	625	50	50			68
2P 3SL-200/9	**2P 3SL-200/9T**	1,7	1,6	7,7	3											
2P 3L-250/10	**2P 3L-250/10T**	2,1	2	10	4,1	700	560	615	40	350	649	50	50			75
2P 3SL-250/10	**2P 3SL-250/10T**	1,9	1,8	9,2	3,7											
2P 3L-280/11	**2P 3L-280/11T**	2,3	2,2	10,5	4,3	700	560	615	40	350	673	50	50			76
2P 3SL-280/11	**2P 3SL-280/11T**	2,1	2	9,7	3,9											
2P 3L-300/12	**2P 3L-300/12T**	2,5	2,44	11,2	4,7	700	560	615	40	350	697	50	50			77
2P 3SL-300/12	**2P 3SL-300/12T**	2,3	2,2	10,3	4,3											
-	**2P 3SLG-350/14T**	-	2,5	-	4,7	815	560	730	40	350	972	75	75			115
-	**2P 3SLG-380/16T**	-	2,9	-	5,5	815	560	730	40	350	1017	75	75			123
-	**2P 3SLG-400/18T**	-	3,2	-	6	815	560	730	40	350	1065	75	75			127
-	**2P 3SLG-450/20T**	-	3,6	-	6,5	815	560	730	40	350	1138	75	75			143
2P 5L-120/4	**2P 5L-120/4T**	1,13	1,13	5,2	2,5	700	560	615	40	350	445	50	50	2" G	1" ½ G	62
2P 5SL-120/4	**2P 5SL-120/4T**	1,09	1,08	4,9	2,4											
2P 5L-150/5	**2P 5L-150/5T**	1,47	1,39	6,8	2,8	700	560	615	40	350	529	50	50			66
2P 5SL-150/5	**2P 5SL-150/5T**	1,39	1,31	6,5	2,7											
2P 5L-180/6	**2P 5L-180/6T**	1,7	1,62	7,7	3	700	560	615	40	350	553	50	50			67
2P 5SL-180/6	**2P 5SL-180/6T**	1,63	1,55	7,3	3											
2P 5L-200/7	**2P 5L-200/7T**	2	1,86	9	3,4	700	560	615	40	350	577	50	50			69
2P 5SL-200/7	**2P 5SL-200/7T**	1,94	1,77	8,7	3,3											
2P 5L-250/8	**2P 5L-250/8T**	2,37	2,17	10,7	4,1	700	560	615	40	350	601	50	50			72
2P 5SL-250/8	**2P 5SL-250/8T**	2,2	2,07	10,1	4											
2P 5L-280/9	**2P 5L-280/9T**	2,6	2,4	11,7	4,4	700	560	615	40	350	625	50	50			74
2P 5SL-280/9	**2P 5SL-280/9T**	2,45	2,27	11	4,2											
2P 5L-300/10	**2P 5L-300/10T**	2,84	2,73	12,8	4,9	700	560	615	40	350	649	50	50			76
2P 5SL-300/10	**2P 5SL-300/10T**	2,67	2,57	11,9	4,7											
-	**2P 5L-350/11T**	-	2,9	-	5,3	700	560	615	40	350	727	50	50			80
-	**2P 5SL-350/11T**	-	2,9	-	5,3											

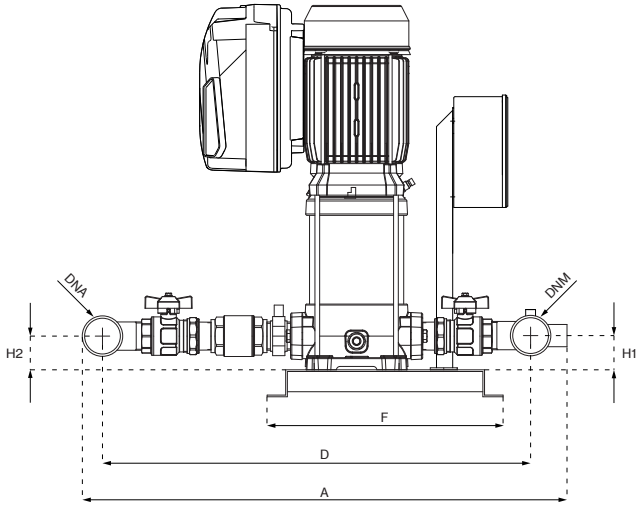
Dimensions and weights may differ slightly and therefore should be considered as indicative

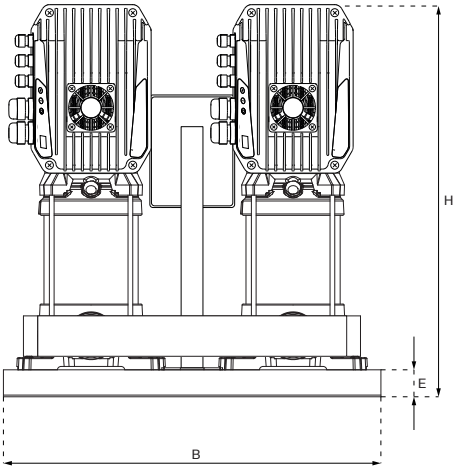
2P L

Fixed speed

VERTICAL MODEL L		P1 pumps		In pumps		DIMENSIONS									Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~	3~	kW		A		mm										
-	**2P 5L-380/12T**	-	3,2	-	6	700	560	615	40	350	751	50	50	2" G	1" ½ G	93
-	**2P 5SL-380/12T**	-	3,2	-	6											
-	**2P 5SLG-400/14T**	-	3,5	-	6,3	815	560	730	40	350	972	75	75			120
-	**2P 5SLG-450/16T**	-	4,1	-	7,9	815	560	730	40	350	1040	75	75			144
-	**2P 5SLG-550/18T**	-	4,5	-	8,3	815	560	730	40	350	1088	75	75			148
-	**2P 5SLG-600/20T**	-	5	-	8,9	815	560	730	40	350	1138	75	75			151
2P 7L-180/4	**2P 7L-180/4T**	1,83	1,71	8,3	3,2	760	560	670	40	350	505	50	50	2" ½ G	2" G	73
2P 7SL-180/4	**2P 7SL-180/4T**	1,69	1,62	7,7	3,1											
2P 7L-250/5	**2P 7L-250/5T**	2,39	2,15	10,9	4,2	760	560	670	40	350	529	50	50			78
2P 7SL-250/5	**2P 7SL-250/5T**	2,19	2,05	10,2	4,1											
2P 7L-300/6	**2P 7L-300/6T**	2,68	2,63	12,2	5	760	560	670	40	350	553	50	50			80
2P 7SL-300/6	**2P 7SL-300/6T**	2,53	2,44	11,4	4,8											
-	**2P 7L-350/7T**	-	2,8	-	5,1	760	560	670	40	350	630	50	50			93
-	**2P 7SL-350/7T**	-	2,9	-	5,3											
-	**2P 7L-400/8T**	-	3,1	-	5,9	760	560	670	40	350	654	50	50			97
-	**2P 7SL-400/8T**	-	3,3	-	6,1											
-	**2P 7L-450/9T**	-	3,6	-	6,5	760	560	670	40	350	708	50	50			106
-	**2P 7SL-450/9T**	-	3,7	-	6,7											
-	**2P 7L-550/10T**	-	4	-	7,7	760	560	670	40	350	732	50	50			125
-	**2P 7SL-550/10T**	-	4,1	-	7,9											
-	**2P 7SLG-750/12T**	-	5,1	-	9,9	875	560	785	40	350	980	75	75			162
-	**2P 7SLG-800/14T**	-	5,9	-	10,9	875	560	785	40	350	1028	75	75			165
-	**2P 7SLG-900/16T**	-	6,7	-	12	875	560	785	40	350	1076	75	75			179
-	**2P 7SLG-950/18T**	-	7,4	-	12,4	875	560	785	40	350	1121	75	75			196
-	**2P 7SLG-1000/20T**	-	8,2	-	13,5	875	560	785	40	350	1168	75	75			198
2P 9L-200/4	**2P 9L-200/4T**	1,88	1,77	8,4	3,3	780	560	670	40	350	560	80	80			80
2P 9SL-200/4	**2P 9SL-200/4T**	1,88	1,77	8,4	3,3											
2P 9L-250/5	**2P 9L-250/5T**	2,32	2,18	10,6	4,3	780	560	670	40	350	590	80	80			83
2P 9SL-250/5	**2P 9SL-250/5T**	2,36	2,23	10,8	4,3											
2P 9L-300/6	**2P 9L-300/6T**	2,74	2,64	12,2	4,8	780	560	670	40	350	620	80	80			85
2P 9SL-300/6	**2P 9SL-300/6T**	2,78	2,58	12,5	4,9											
-	**2P 9L-400/7T**	-	3	-	5,8	780	560	670	40	350	703	80	80			105
-	**2P 9SL-400/7T**	-	3,1	-	5,9											
-	**2P 9L-450/8T**	-	3,5	-	6,4	780	560	670	40	350	763	80	80			113
-	**2P 9SL-450/8T**	-	3,6	-	6,5											
-	**2P 9L-500/9T**	-	3,9	-	6,9	780	560	670	40	350	803	80	80			116
-	**2P 9SL-500/9T**	-	4	-	7											
-	**2P 9L-550/10T**	-	4,3	-	8,1	780	560	670	40	350	823	80	80			128
-	**2P 9SL-550/10T**	-	4,4	-	8,2											
-	**2P 9SLG-750/12T**	-	5,3	-	10,1	885	560	795	40	350	1067	80	80			169
-	**2P 9SLG-800/14T**	-	6,1	-	11,1	885	560	795	40	350	1128	80	80			172
-	**2P 9SLG-900/16T**	-	6,9	-	12,8	885	560	795	40	350	1187	80	80			187
-	**2P 9SLG-950/18T**	-	7,6	-	12,7	885	560	795	40	350	1245	80	80			203
-	**2P 9SLG-1000/20T**	-	8,5	-	13,9	885	560	795	40	350	1303	80	80			207
-	**2P 18L-250/3T**	-	2,19	-	4,3	850	620	750	40	350	522	90	90	3" G	2" ½ G	94
-	**2P 18SL-250/3T**	-	2,29	-	4,4											
-	**2P 18L-400/4T**	-	3	-	5,8	850	620	750	40	350	643	90	90			110
-	**2P 18SL-400/4T**	-	3,1	-	5,9											
-	**2P 18L-450/5T**	-	3,9	-	6,9	850	620	750	40	350	720	90	90			121
-	**2P 18SL-450/5T**	-	3,9	-	6,9											
-	**2P 18L-550/6T**	-	4,6	-	8,4	850	620	750	40	350	758	90	90			134
-	**2P 18SL-550/6T**	-	4,7	-	8,5											
-	**2P 18L-750/8T**	-	6,2	-	11,2	850	620	750	40	350	895	90	90			152
-	**2P 18SL-750/8T**	-	6,2	-	11,2											
-	**2P 18L-900/9T**	-	6,9	-	12,8	850	620	750	40	350	933	90	90			163
-	**2P 18SL-900/9T**	-	7	-	12,9											
-	**2P 18LG-920/10T**	-	7,7	-	14	850	620	750	40	350	1059	90	90			168
-	**2P 18LG-1000/11T**	-	8,3	-	13,6	850	620	750	40	350	1097	90	90			184

Dimensions and weights may differ slightly and therefore should be considered as indicative





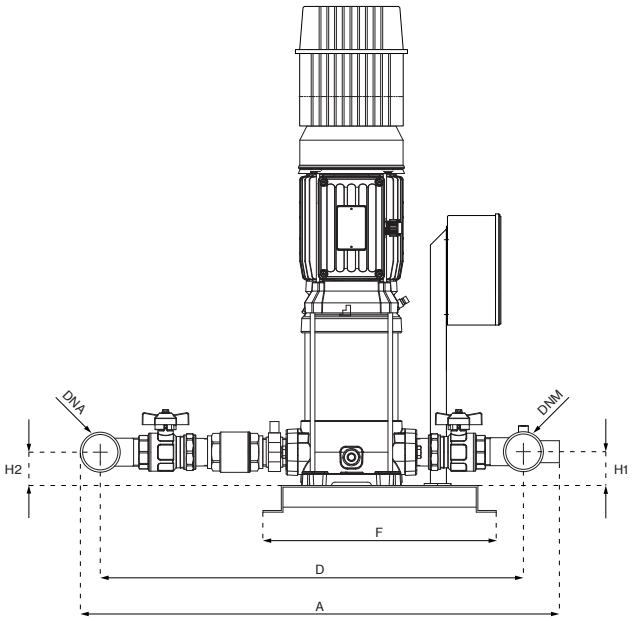
VERTICAL MODEL L		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 3L/E-100/5T	**2P 3L/A-100/5T-304**	1,01	3,3	1,9	2× 8	700	560	615	40	350	469	50	50			62
2P 3SL/E-100/5T	**2P 3SL/A-100/5T-304**	0,92	2,9	1,7												
2P 3L/E-120/6T	**2P 3L/A-120/6T-304**	1,23	4,5	2,6	2× 8	700	560	615	40	350	493	50	50			67
2P 3SL/E-120/6T	**2P 3SL/A-120/6T-304**	1,11	4,3	2,5												
2P 3L/E-150/7T	**2P 3L/A-150/7T-304**	1,45	5	2,9	2× 8	700	560	615	40	350	577	50	50			71
2P 3SL/E-150/7T	**2P 3SL/A-150/7T-304**	1,31	4,7	2,7												
2P 3L/E-180/8T	**2P 3L/A-180/8T-304**	1,6	5,2	3	2× 8	700	560	615	40	350	601	50	50			72
2P 3SL/E-180/8T	**2P 3SL/A-180/8T-304**	1,55	4,7	2,7												
2P 3L/E-200/9T	**2P 3L/A-200/9T-304**	1,8	5,7	3,3	2× 8	700	560	615	40	350	625	50	50			73
2P 3SL/E-200/9T	**2P 3SL/A-200/9T-304**	1,6	5,2	3												
2P 3L/E-250/10T	**2P 3L/A-250/10T-306**	2	7,1	4,1	2× 8	700	560	615	40	350	649	50	50	2" G	1" ½ G	80
2P 3SL/E-250/10T	**2P 3SL/A-250/10T-306**	1,8	6,4	3,7												
-	**2P 3L/A-280/11T-306**	2,2	-	4,3	2× 8	700	560	615	40	350	673	50	50			81
2P 3SL/E-280/11T	**2P 3SL/A-280/11T-306**	2	6,8	3,9												
-	**2P 3L/A-300/12T-306**	2,44	-	4,7	2× 8	700	560	615	40	350	697	50	50			83
-	**2P 3SL/A-300/12T-306**	2,2	-	4,3												
-	**2P 3SLG/A-350/14T-306**	2,5	-	4,7	2× 8	815	560	730	40	350	972	75	75			120
-	**2P 3SLG/A-380/16T-309**	2,9	-	5,5	2× 8	815	560	730	40	350	1017	75	75			128
-	**2P 3SLG/A-400/18T-309**	3,2	-	6	2× 8	815	560	730	40	350	1065	75	75			132
-	**2P 3SLG/A-450/20T-309**	3,6	-	6,5	2× 8	815	560	730	40	350	1138	75	75			148
2P 5L/E-120/4T	**2P 5L/A-120/4T-304**	1,13	4,3	2,5	2× 20	700	560	615	40	350	445	50	50			67
2P 5SL/E-120/4T	**2P 5SL/A-120/4T-304**	1,08	4,2	2,4												
2P 5L/E-150/5T	**2P 5L/A-150/5T-304**	1,39	4,9	2,8	2× 20	700	560	615	40	350	529	50	50			71
2P 5SL/E-150/5T	**2P 5SL/A-150/5T-304**	1,31	4,7	2,7												
2P 5L/E-180/6T	**2P 5L/A-180/6T-304**	1,62	5,2	3	2× 20	700	560	615	40	350	553	50	50			72
2P 5SL/E-180/6T	**2P 5SL/A-180/6T-304**	1,55	5,2	3												
2P 5L/E-200/7T	**2P 5L/A-200/7T-304**	1,86	5,9	3,4	2× 20	700	560	615	40	350	577	50	50			74
2P 5SL/E-200/7T	**2P 5SL/A-200/7T-304**	1,77	5,7	3,3												
2P 5L/E-250/8T	**2P 5L/A-250/8T-306**	2,17	7,1	4,1	2× 20	700	560	615	40	350	601	50	50	2" G	1" ½ G	77
2P 5SL/E-250/8T	**2P 5SL/A-250/8T-306**	2,07	6,9	4												
-	**2P 5L/A-280/9T-306**	2,4	-	4,4	2× 20	700	560	615	40	350	625	50	50			79
2P 5SL/E-280/9T	**2P 5SL/A-280/9T-306**	2,27	7,3	4,2												
-	**2P 5L/A-300/10T-306**	2,73	-	4,9	2× 20	700	560	615	40	350	649	50	50			81
-	**2P 5SL/A-300/10T-306**	2,57	-	4,7												
-	**2P 5L/A-350/11T-306**	2,9	-	5,3	2× 20	700	560	615	40	350	727	50	50			85
-	**2P 5SL/A-350/11T-306**	2,9	-	5,3												

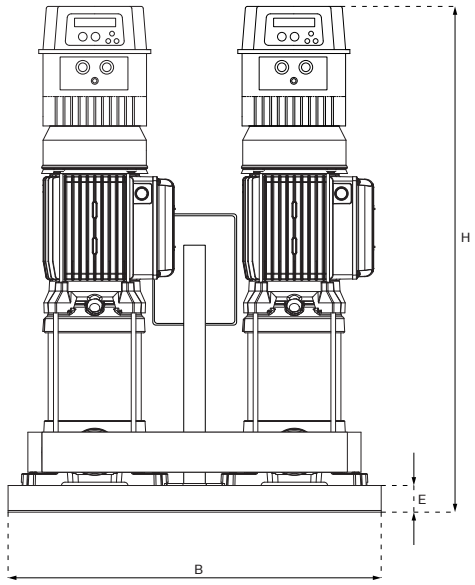
Dimensions and weights may differ slightly and therefore should be considered as indicative

2P L

Variable speed EPIC and EPIC-A

VERTICAL MODEL L		P1	In		Required tank	DIMENSIONS									Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
-	**2P 5L/A-380/12T-309**	3,2	-	6	2× 20	700	560	615	40	350	751	50	50			98
-	**2P 5SL/A-380/12T-309**	3,2	-	6												
-	**2P 5SLG/A-400/14T-309**	3,5	-	6,3	2× 20	815	560	730	40	350	972	75	75	2" G	1" ½ G	125
-	**2P 5SLG/A-450/16T-309**	4,1	-	7,9	2× 20	815	560	730	40	350	1040	75	75			149
-	**2P 5SLG/A-550/18T-314**	4,5	-	8,3	2× 20	815	560	730	40	350	1088	75	75			170
-	**2P 5SLG/A-600/20T-314**	5	-	8,9	2× 20	815	560	730	40	350	1138	75	75			173
2P 7L/E-180/4T	**2P 7L/A-180/4T-304**	1,71	5,5	3,2	2× 20	760	560	670	40	350	505	50	50			78
2P 7SL/E-180/4T	**2P 7SL/A-180/4T-304**	1,62	5,4	3,1												
2P 7L/E-250/5T	**2P 7L/A-250/5T-306**	2,15	7,3	4,2	2× 20	760	560	670	40	350	529	50	50			83
2P 7SL/E-250/5T	**2P 7SL/A-250/5T-306**	2,05	7,1	4,1												
-	**2P 7L/A-300/6T-306**	2,63	-	5	2× 20	760	560	670	40	350	553	50	50			85
-	**2P 7SL/A-300/6T-306**	2,44	-	4,8												
-	**2P 7L/A-350/7T-306**	2,8	-	5,1	2× 20	760	560	670	40	350	630	50	50			98
-	**2P 7SL/A-350/7T-306**	2,9	-	5,3												
-	**2P 7L/A-400/8T-309**	3,1	-	5,9	2× 20	760	560	670	40	350	654	50	50	2" ½ G	2" G	102
-	**2P 7SL/A-400/8T-309**	3,3	-	6,1												
-	**2P 7L/A-450/9T-309**	3,6	-	6,5	2× 20	760	560	670	40	350	708	50	50			111
-	**2P 7SL/A-450/9T-309**	3,7	-	6,7												
-	**2P 7L/A-550/10T-309**	4	-	7,7	2× 20	760	560	670	40	350	732	50	50			130
-	**2P 7SL/A-550/10T-309**	4,1	-	7,9												
-	**2P 7SLG/A-750/12T-314**	5,1	-	9,9	2× 20	875	560	785	40	350	980	75	75			187
-	**2P 7SLG/A-800/14T-314**	5,9	-	10,9	2× 20	875	560	785	40	350	1028	75	75			185
-	**2P 7SLG/A-900/16T-314**	6,7	-	12	2× 20	875	560	785	40	350	1076	75	75			199
-	**2P 7SLG/A-950/18T-314**	7,4	-	12,4	2× 20	875	560	785	40	350	1121	75	75			216
-	**2P 7SLG/A-1000/20T-318**	8,2	-	13,5	2× 20	875	560	785	40	350	1168	75	75			218
2P 9L/E-200/4T	**2P 9L/A-200/4T-304**	1,77	5,7	3,3	2× 20	780	560	670	40	350	560	80	80			85
2P 9SL/E-200/4T	**2P 9SL/A-200/4T-304**	1,77	5,7	3,3												
-	**2P 9L/A-250/5T-306**	2,18	-	4,3	2× 20	780	560	670	40	350	590	80	80			88
-	**2P 9SL/A-250/5T-306**	2,23	-	4,3												
-	**2P 9L/A-300/6T-306**	2,64	-	4,8	2× 20	780	560	670	40	350	620	80	80			90
-	**2P 9SL/A-300/6T-306**	2,58	-	4,9												
-	**2P 9L/A-400/7T-309**	3	-	5,8	2× 20	780	560	670	40	350	703	80	80			110
-	**2P 9SL/A-400/7T-309**	3,1	-	5,9												
-	**2P 9L/A-450/8T-309**	3,5	-	6,4	2× 20	780	560	670	40	350	763	80	80	2" ½ G	2" G	118
-	**2P 9SL/A-450/8T-309**	3,6	-	6,5												
-	**2P 9L/A-500/9T-309**	3,9	-	6,9	2× 20	780	560	670	40	350	803	80	80			121
-	**2P 9SL/A-500/9T-309**	4	-	7												
-	**2P 9L/A-550/10T-309**	4,3	-	8,1	2× 20	780	560	670	40	350	823	80	80			148
-	**2P 9SL/A-550/10T-314**	4,4	-	8,2												
-	**2P 9SLG/A-750/12T-314**	5,3	-	10,1	2× 20	885	560	795	40	350	1067	80	80			185
-	**2P 9SLG/A-800/14T-314**	6,1	-	11,1	2× 20	885	560	795	40	350	1128	80	80			192
-	**2P 9SLG/A-900/16T-318**	6,9	-	12,8	2× 20	885	560	795	40	350	1187	80	80			207
-	**2P 9SLG/A-950/18T-318**	7,6	-	12,7	2× 20	885	560	795	40	350	1245	80	80			223
-	**2P 9SLG/A-1000/20T-318**	8,5	-	13,9	2× 20	885	560	795	40	350	1303	80	80			227
-	**2P 18L/A-250/3T-306**	2,19	7,5	4,3	1× 80	850	620	750	40	350	522	90	90			99
-	**2P 18SL/A-250/3T-306**	2,29	7,6	4,4												
-	**2P 18L/A-400/4T-309**	3	-	5,8	1× 80	850	620	750	40	350	643	90	90			115
-	**2P 18SL/A-400/4T-309**	3,1	-	5,9												
-	**2P 18L/A-450/5T-309**	3,9	-	6,9	1× 80	850	620	750	40	350	720	90	90			126
-	**2P 18SL/A-450/5T-309**	3,9	-	6,9												
-	**2P 18L/A-550/6T-314**	4,6	-	8,4	1× 80	850	620	750	40	350	758	90	90	3" G	2" ½ G	154
-	**2P 18SL/A-550/6T-314**	4,7	-	8,5												
-	**2P 18L/A-750/8T-314**	6,2	-	11,2	1× 80	850	620	750	40	350	895	90	90			172
-	**2P 18SL/A-750/8T-314**	6,2	-	11,2												
-	**2P 18L/A-900/9T-318**	6,9	-	12,8	1× 80	850	620	750	40	350	933	90	90			183
-	**2P 18SL/A-900/9T-318**	7	-	12,9												
-	**2P 18LG/A-920/10T-318**	7,7	-	14	1× 80	850	620	750	40	350	1059	90	90			188
-	**2P 18LG/A-1000/11T-318**	8,3	-	13,6	1× 80	850	620	750	40	350	1097	90	90			204





VERTICAL MODEL L IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm										
2P 3L/I-100/5T-109	**2P 3L/I-100/5T-306**	1,01	3,3	1,9	2× 8	700	560	615	40	350	679	50	50	2" G	1" ½ G	67
2P 3SL/I-100/5T-109	**2P 3SL/I-100/5T-306**	0,92	2,9	1,7												
2P 3L/I-120/6T-109	**2P 3L/I-120/6T-306**	1,23	4,5	2,6	2× 8	700	560	615	40	350	703	50	50			72
2P 3SL/I-120/6T-109	**2P 3SL/I-120/6T-306**	1,11	4,3	2,5												
2P 3L/I-150/7T-109	**2P 3L/I-150/7T-306**	1,45	5	2,9	2× 8	700	560	615	40	350	787	50	50			76
2P 3SL/I-150/7T-109	**2P 3SL/I-150/7T-306**	1,31	4,7	2,7												
2P 3L/I-180/8T-109	**2P 3L/I-180/8T-306**	1,6	5,2	3	2× 8	700	560	615	40	350	811	50	50			77
2P 3SL/I-180/8T-109	**2P 3SL/I-180/8T-306**	1,55	4,7	2,7												
2P 3L/I-200/9T-109	**2P 3L/I-200/9T-306**	1,8	5,7	3,3	2× 8	700	560	615	40	350	835	50	50			78
2P 3SL/I-200/9T-109	**2P 3SL/I-200/9T-306**	1,6	5,2	3												
2P 3L/I-250/10T-114	**2P 3L/I-250/10T-306**	2	7,1	4,1	2× 8	700	560	615	40	350	859	50	50			85
2P 3SL/I-250/10T-114	**2P 3SL/I-250/10T-306**	1,8	6,4	3,7												
2P 3L/I-280/11T-114	**2P 3L/I-280/11T-306**	2,2	7,4	4,3	2× 8	700	560	615	40	350	883	50	50			86
2P 3SL/I-280/11T-114	**2P 3SL/I-280/11T-306**	2	6,8	3,9												
2P 3L/I-300/12T-114	**2P 3L/I-300/12T-306**	2,44	8,1	4,7	2× 8	700	560	615	40	350	907	50	50			87
2P 3SL/I-300/12T-114	**2P 3SL/I-300/12T-306**	2,2	7,4	4,3												
2P 3SLG/I-350/14T-114	**2P 3SLG/I-350/14T-306**	2,5	8,1	4,7	2× 8	815	560	730	40	350	1182	75	75			125
2P 3SLG/I-380/16T-114	**2P 3SLG/I-380/16T-309**	2,9	9,5	5,5	2× 8	815	560	730	40	350	1227	75	75			133
-	**2P 3SLG/I-400/18T-309**	3,2	-	6	2× 8	815	560	730	40	350	1275	75	75			137
-	**2P 3SLG/I-450/20T-309**	3,6	-	6,5	2× 8	815	560	730	40	350	1348	75	75			153
2P 5L/I-120/4T-109	**2P 5L/I-120/4T-306**	1,13	4,3	2,5	2× 20	700	560	615	40	350	655	50	50	2" G	1" ½ G	72
2P 5SL/I-120/4T-109	**2P 5SL/I-120/4T-306**	1,08	4,2	2,4												
2P 5L/I-150/5T-109	**2P 5L/I-150/5T-306**	1,39	4,9	2,8	2× 20	700	560	615	40	350	739	50	50			76
2P 5SL/I-150/5T-109	**2P 5SL/I-150/5T-306**	1,31	4,7	2,7												
2P 5L/I-180/6T-109	**2P 5L/I-180/6T-306**	1,62	5,2	3	2× 20	700	560	615	40	350	763	50	50			77
2P 5SL/I-180/6T-109	**2P 5SL/I-180/6T-306**	1,55	5,2	3												
2P 5L/I-200/7T-109	**2P 5L/I-200/7T-306**	1,86	5,9	3,4	2× 20	700	560	615	40	350	787	50	50			79
2P 5SL/I-200/7T-109	**2P 5SL/I-200/7T-306**	1,77	5,7	3,3												
2P 5L/I-250/8T-114	**2P 5L/I-250/8T-306**	2,17	7,1	4,1	2× 20	700	560	615	40	350	811	50	50			82
2P 5SL/I-250/8T-114	**2P 5SL/I-250/8T-306**	2,07	6,9	4												
2P 5L/I-280/9T-114	**2P 5L/I-280/9T-306**	2,4	7,6	4,4	2× 20	700	560	615	40	350	835	50	50			84
2P 5SL/I-280/9T-114	**2P 5SL/I-280/9T-306**	2,27	7,3	4,2												
2P 5L/I-300/10T-114	**2P 5L/I-300/10T-306**	2,73	8,5	4,9	2× 20	700	560	615	40	350	859	50	50			86
2P 5SL/I-300/10T-114	**2P 5SL/I-300/10T-306**	2,57	8,1	4,7												
2P 5L/I-350/11T-114	**2P 5L/I-350/11T-306**	2,9	9,2	5,3	2× 20	700	560	615	40	350	937	50	50			90
2P 5SL/I-350/11T-114	**2P 5SL/I-350/11T-306**	2,9	9,2	5,3												

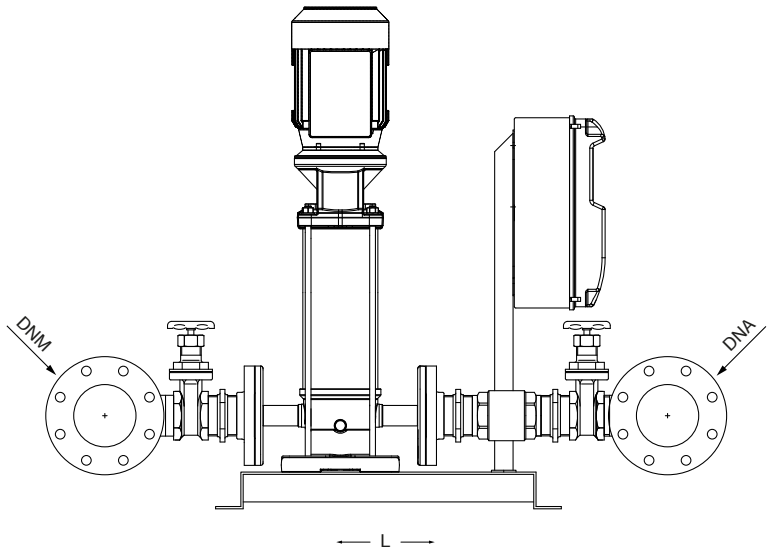
Dimensions and weights may differ slightly and therefore should be considered as indicative

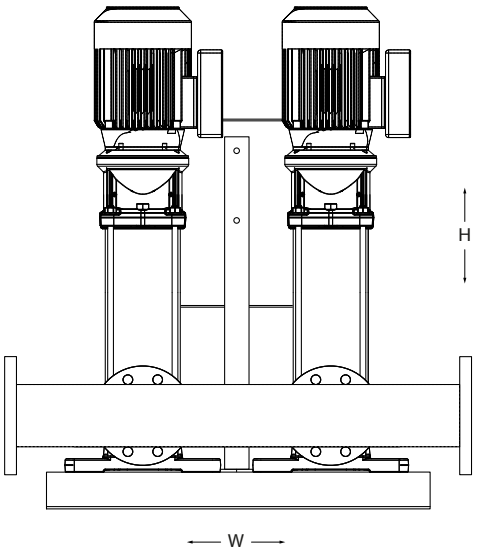
2P L

Variable speed IPFC

VERTICAL MODEL L		P1	In		Required tank	DIMENSIONS										Kg
IPFC																
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm										
-	2P 5L/I-380/12T-309	3,2	-	6	2× 20	700	560	615	40	350	961	50	50	2" G	1" ½ G	103
-	2P 5SL/I-380/12T-309	3,2	-	6												
-	2P 5SLG/I-400/14T-309	3,5	-	6,3	2× 20	815	560	730	40	350	1182	75	75			130
-	2P 5SLG/I-450/16T-309	4,1	-	7,9	2× 20	815	560	730	40	350	1250	75	75			154
-	2P 5SLG/I-550/18T-311	4,5	-	8,3	2× 20	815	560	730	40	350	1298	75	75			158
-	2P 5SLG/I-600/20T-311	5	-	8,9	2× 20	815	560	730	40	350	1348	75	75			161
2P 7L/I-180/4T-109	2P 7L/I-180/4T-306	1,71	5,5	3,2	2× 20	760	560	670	40	350	715	50	50	2" ½ G	2" G	83
2P 7SL/I-180/4T-109	2P 7SL/I-180/4T-306	1,62	5,4	3,1												
2P 7L/I-250/5T-114	2P 7L/I-250/5T-306	2,15	7,3	4,2	2× 20	760	560	670	40	350	739	50	50			88
2P 7SL/I-250/5T-114	2P 7SL/I-250/5T-306	2,05	7,1	4,1												
2P 7L/I-300/6T-114	2P 7L/I-300/6T-306	2,63	8,7	5	2× 20	760	560	670	40	350	763	50	50			90
2P 7SL/I-300/6T-114	2P 7SL/I-300/6T-306	2,44	8,3	4,8												
2P 7L/I-350/7T-114	2P 7L/I-350/7T-306	2,8	8,8	5,1	2× 20	760	560	670	40	350	840	50	50			103
2P 7SL/I-350/7T-114	2P 7SL/I-350/7T-306	2,9	9,2	5,3												
-	2P 7L/I-400/8T-309	3,1	-	5,9	2× 20	760	560	670	40	350	864	50	50			107
-	2P 7SL/I-400/8T-309	3,3	-	6,1												
-	2P 7L/I-450/9T-309	3,6	-	6,5	2× 20	760	560	670	40	350	918	50	50			116
-	2P 7SL/I-450/9T-309	3,7	-	6,7												
-	2P 7L/I-550/10T-309	4	-	7,7	2× 20	760	560	670	40	350	942	50	50			135
-	2P 7SL/I-550/10T-309	4,1	-	7,9												
-	2P 7SLG/I-750/12T-311	5,1	-	9,9	2× 20	875	560	785	40	350	1190	75	75			172
-	2P 7SLG/I-800/14T-314	5,9	-	10,9	2× 20	875	560	785	40	350	1208	75	75			183
-	2P 7SLG/I-900/16T-314	6,7	-	12	2× 20	875	560	785	40	350	1256	75	75			197
-	2P 7SLG/I-950/18T-314	7,4	-	12,4	2× 20	875	560	785	40	350	1301	75	75			214
-	2P 7SLG/I-1000/20T-318	8,2	-	13,5	2× 20	875	560	785	40	350	1378	75	75			216
2P 9L/I-200/4T-109	2P 9L/I-200/4T-306	1,77	5,7	3,3	2× 20	780	560	670	40	350	770	80	80	2" ½ G	2" G	90
2P 9SL/I-200/4T-109	2P 9SL/I-200/4T-306	1,77	5,7	3,3												
2P 9L/I-250/5T-114	2P 9L/I-250/5T-306	2,18	7,5	4,3	2× 20	780	560	670	40	350	800	80	80			93
2P 9SL/I-250/5T-114	2P 9SL/I-250/5T-306	2,23	7,5	4,3												
2P 9L/I-300/6T-114	2P 9L/I-300/6T-306	2,64	8,3	4,8	2× 20	780	560	670	40	350	830	80	80			95
2P 9SL/I-300/6T-114	2P 9SL/I-300/6T-306	2,58	8,5	4,9												
-	2P 9L/I-400/7T-309	3	-	5,8	2× 20	780	560	670	40	350	913	80	80			115
-	2P 9SL/I-400/7T-309	3,1	-	5,9												
-	2P 9L/I-450/8T-309	3,5	-	6,4	2× 20	780	560	670	40	350	973	80	80			123
-	2P 9SL/I-450/8T-309	3,6	-	6,5												
-	2P 9L/I-500/9T-309	3,9	-	6,9	2× 20	780	560	670	40	350	1013	80	80			126
-	2P 9SL/I-500/9T-309	4	-	7												
-	2P 9L/I-550/10T-309	4,3	-	8,1	2× 20	780	560	670	40	350	1033	80	80			138
-	2P 9SL/I-550/10T-311	4,4	-	8,2												
-	2P 9SLG/I-750/12T-314	5,3	-	10,1	2× 20	885	560	795	40	350	1247	80	80			183
-	2P 9SLG/I-800/14T-314	6,1	-	11,1	2× 20	885	560	795	40	350	1308	80	80			190
-	2P 9SLG/I-900/16T-318	6,9	-	12,8	2× 20	885	560	795	40	350	1367	80	80			205
-	2P 9SLG/I-950/18T-318	7,6	-	12,7	2× 20	885	560	795	40	350	1425	80	80			221
-	2P 9SLG/I-1000/20T-318	8,5	-	13,9	2× 20	885	560	795	40	350	1483	80	80			225
2P 18L/I-250/3T-114	2P 18L/I-250/3T-306	2,19	7,5	4,3	1× 80	850	620	750	40	350	732	90	90	3" G	2" ½ G	104
2P 18SL/I-250/3T-114	2P 18SL/I-250/3T-306	2,29	7,6	4,4												
-	2P 18L/I-400/4T-309	3	-	5,8	1× 80	850	620	750	40	350	853	90	90			120
-	2P 18SL/I-400/4T-309	3,1	-	5,9												
-	2P 18L/I-450/5T-309	3,9	-	6,9	1× 80	850	620	750	40	350	930	90	90			131
-	2P 18SL/I-450/5T-309	3,9	-	6,9												
-	2P 18L/I-550/6T-311	4,6	-	8,4	1× 80	850	620	750	40	350	968	90	90			144
-	2P 18SL/I-550/6T-311	4,7	-	8,5												
-	2P 18L/I-750/8T-314	6,2	-	11,2	1× 80	850	620	750	40	350	1075	90	90			170
-	2P 18SL/I-750/8T-314	6,2	-	11,2												
-	2P 18L/I-900/9T-318	6,9	-	12,8	1× 80	850	620	750	40	350	1113	90	90			181
-	2P 18SL/I-900/9T-318	7	-	12,9												
-	2P 18LG/I-920/10T-318	7,7	-	14	1× 80	850	620	750	40	350	1239	90	90			186
-	2P 18LG/I-1000/11T-318	8,3	-	13,6	1× 80	850	620	750	40	350	1277	90	90			202

Dimensions and weights may differ slightly and therefore should be considered as indicative

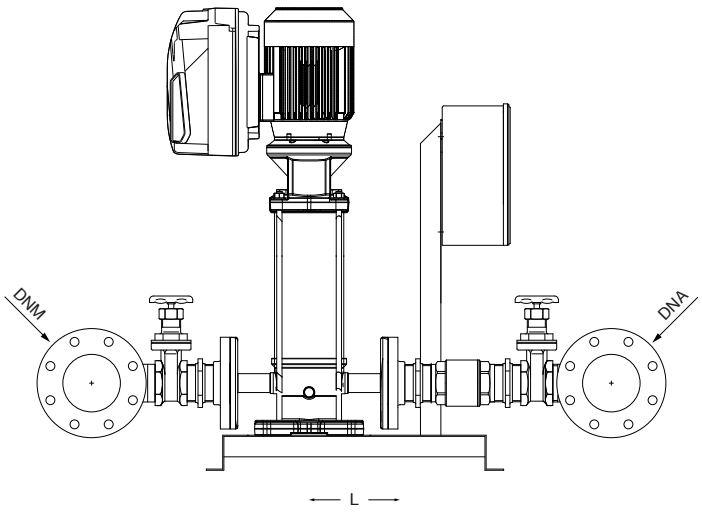


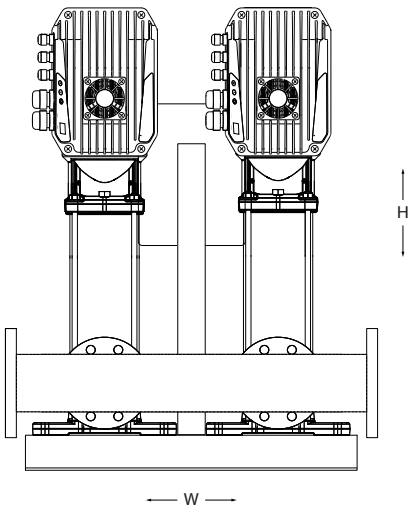


VERTICAL MODEL H (18-22)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230	3~ 400	kW (×2)		A (×2)		mm					
-	**2P 18HX-300/3T**	-	2,31	-	4,2	1000	700	800	3" G	2" ½ G	128
-	**2P 18HX-400/4T**	-	3,2	-	5,1	1000	700	890			148
-	**2P 18HX-550/5T**	-	4,3	-	7,6	1000	700	980			167
-	**2P 18HX-750/6T**	-	5	-	8,4	1000	700	1070			256
-	**2P 18HX-750/7T**	-	5,8	-	9,5	1000	700	1120			258
-	**2P 18HX-1000/8T**	-	6,5	-	11,3	1000	700	1200			275
-	**2P 18HX-1000/9T**	-	7,3	-	12,3	1000	700	1250			278
-	**2P 22HX-400/3T**	-	3,3	-	5,3	1000	800	1000	DN100	DN80	146
-	**2P 22HX-550/4T**	-	4,6	-	8,1	1000	800	1050			164
-	**2P 22HX-750/5T**	-	5,9	-	9,5	1000	800	1190			253
-	**2P 22HX-1000/6T**	-	6,7	-	11,4	1000	800	1250			270
-	**2P 22HX-1000/7T**	-	7,7	-	12,8	1000	800	1290			272

2P H (18-22)

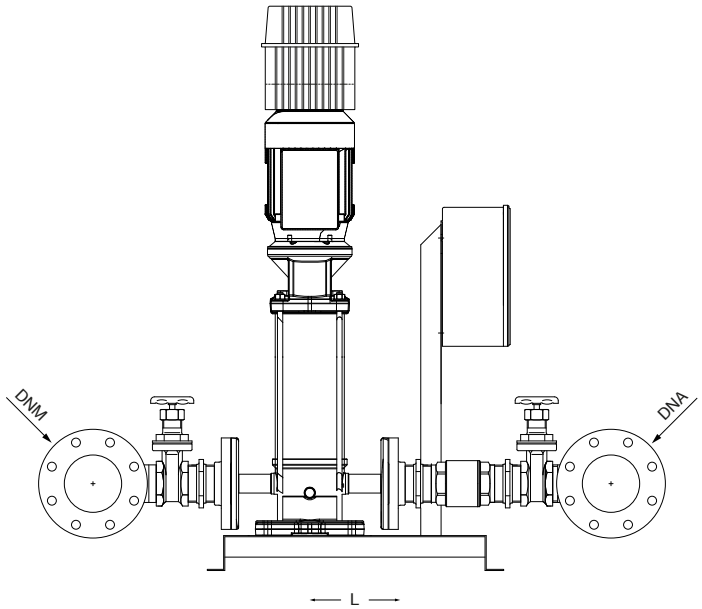
Variable speed EPIC-A

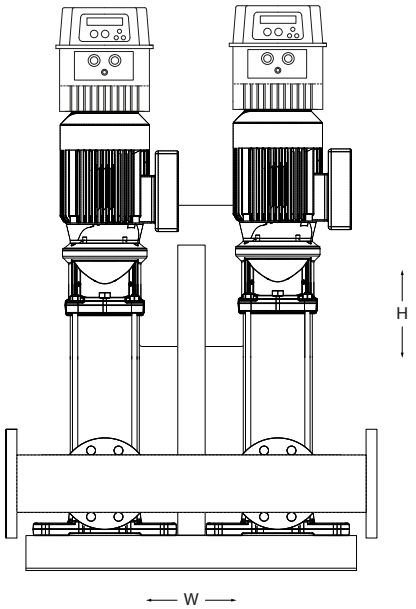




VERTICAL MODEL H (18-22) EPIC-A 3~ 400V-in 3~ 400V-out	P1	In	Required tank	DIMENSIONS					Kg
				L	W	H	DNA	DNM	
	kW (×2)	A (×2)	Lt	mm					
2P 18HX/A-300/3T-306	2,31	4,2	1× 80	1000	700	800	3" G	2" ½ G	139
2P 18HX/A-400/4T-306	3,2	5,1	1× 80	1000	700	890			159
2P 18HX/A-550/5T-309	4,3	7,6	1× 80	1000	700	980			178
2P 18HX/A-750/6T-314	5	8,4	1× 80	1000	700	1070			282
2P 18HX/A-750/7T-314	5,8	9,5	1× 80	1000	700	1120			284
2P 18HX/A-1000/8T-314	6,5	11,3	1× 80	1000	700	1200			293
2P 18HX/A-1000/9T-314	7,3	12,3	1× 80	1000	700	1250			296
2P 22HX/A-400/3T-306	3,3	5,3	1× 80	1000	800	1000	DN100	DN80	157
2P 22HX/A-550/4T-309	4,6	8,1	1× 80	1000	800	1050			175
2P 22HX/A-750/5T-314	5,9	9,5	1× 80	1000	800	1190			279
2P 22HX/A-1000/6T-314	6,7	11,4	1× 80	1000	800	1250			288
2P 22HX/A-1000/7T-318	7,7	12,8	1× 80	1000	800	1290			290

Dimensions and weights may differ slightly and therefore should be considered as indicative

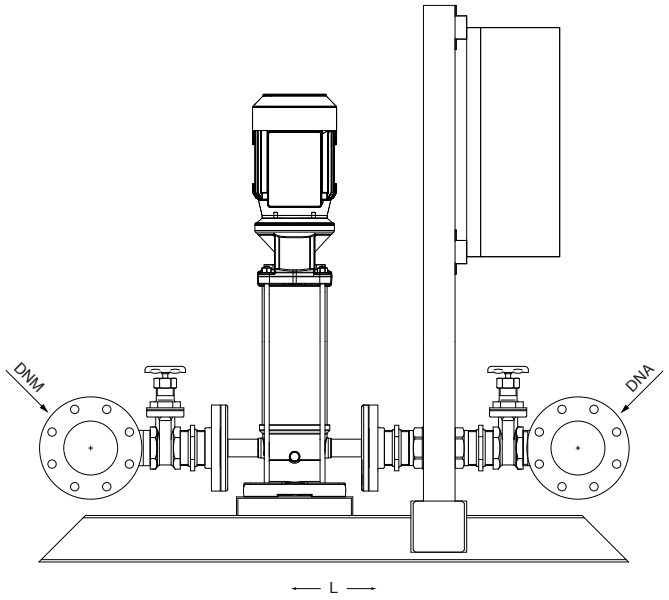


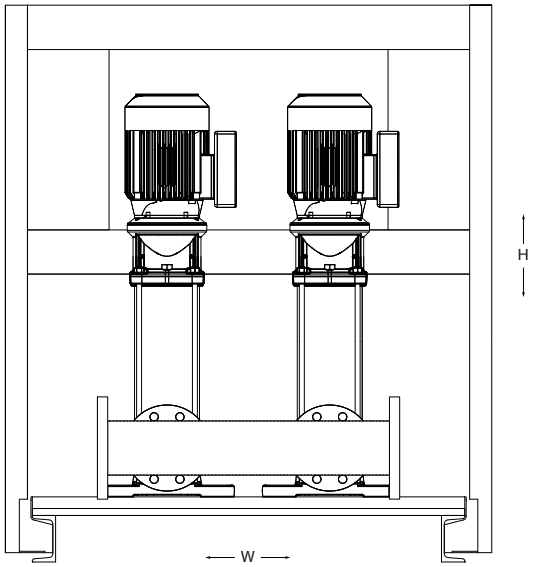


VERTICAL MODEL H (18-22)		P1	In		Required tank	DIMENSIONS					Kg
IPFC											
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		L	W	H	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm					
2P 18HX/I-300/3T-114	**2P 18HX/I-300/3T-306**	2,31	7,3	4,2	1× 80	1000	700	1100			144
2P 18HX/I-400/4T-114	**2P 18HX/I-400/4T-306**	3,2	8,8	5,1	1× 80	1000	700	1190			164
-	**2P 18HX/I-550/5T-309**	4,3	-	7,6	1× 80	1000	700	1280			183
	2P 18HX/I-750/6T-311	5	-	8,4	1× 80	1000	700	1370	3" G	2" ½ G	272
-	**2P 18HX/I-750/7T-311**	5,8	-	9,5	1× 80	1000	700	1420			274
	2P 18HX/I-1000/8T-314	6,5	-	11,3	1× 80	1000	700	1500			291
-	**2P 18HX/I-1000/9T-314**	7,3	-	12,3	1× 80	1000	700	1550			294
2P 22HX/I-400/3T-114	**2P 22HX/I-400/3T-306**	3,3	9,2	5,3	1× 80	1000	800	1300			162
-	**2P 22HX/I-550/4T-309**	4,6	-	8,1	1× 80	1000	800	1350			180
-	**2P 22HX/I-750/5T-311**	5,9	-	9,5	1× 80	1000	800	1490	DN100	DN80	269
	2P 22HX/I-1000/6T-314	6,7	-	11,4	1× 80	1000	800	1540			286
-	**2P 22HX/I-1000/7T-318**	7,7	-	12,8	1× 80	1000	800	1590			288

2P H (35-50-75-90)

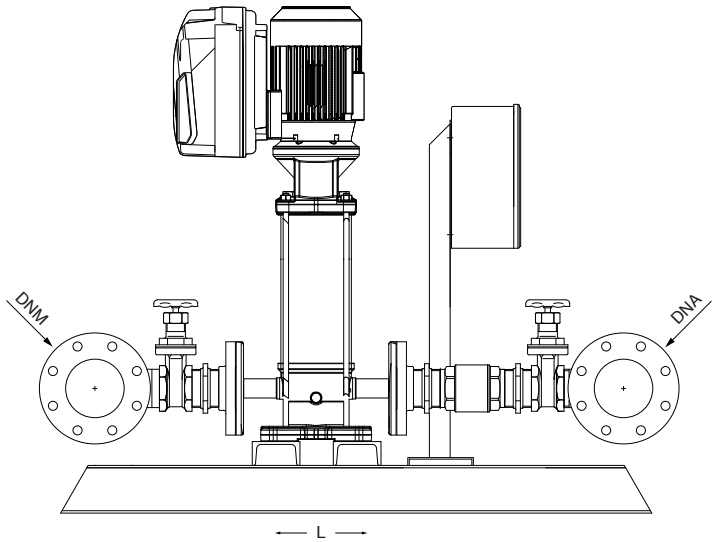
Fixed speed

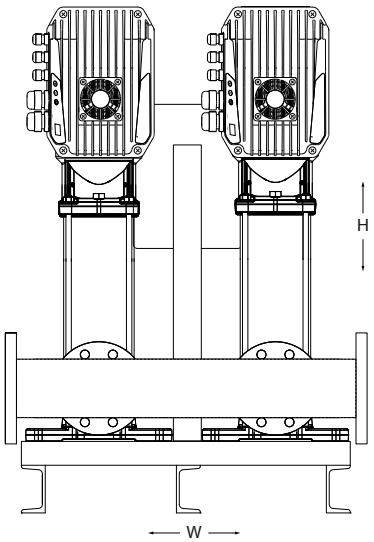




VERTICAL MODEL H (35÷90)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm					
-	**2P 35HS-750/2T**	-	5,0	-	8,3	1150	820	1550	DN100	DN100	450
-	**2P 35HS-1000/3T**	-	7,2	-	12,2	1150	820	1550			480
-	**2P 35HS-1000/4-2RT**	-	8,5	-	13,7	1150	820	1550			490
-	**2P 35HS-1500/4-1RT**	-	9,4	-	15,5	1150	820	1550			500
-	**2P 35HS-1500/4T**	-	10,1	-	16,6	1150	820	1550			500
-	**2P 35HS-2000/5T**	-	12,1	-	19,4	1150	820	1669			540
-	**2P 35HS-2000/6T**	-	14,4	-	24,0	1150	820	1760			580
-	**2P 35HS-2000/7-1RT**	-	16,1	-	26,4	1150	820	1860			600
-	**2P 50HS-1000/2T**	-	7,7	-	12,7	1450	900	1520	DN125	DN125	480
-	**2P 50HS-1500/3T**	-	11,5	-	18,6	1450	900	1520			500
-	**2P 50HS-2000/4T**	-	15,1	-	24,9	1450	900	1520			580
-	**2P 50HS-2500/5T**	-	19,0	-	31,7	1450	900	1700			600
-	**2P 50HS-3000/6T**	-	22,4	-	37,0	1450	900	1790			650
-	**2P 75HS-1500/2T**	-	11,6	-	18,7	1450	900	1520	DN150	DN150	530
-	**2P 75HS-2500/3T**	-	17,4	-	29,4	1450	900	1520			540
-	**2P 75HS-3000/4T**	-	22,7	-	37,5	1450	900	1690			560
-	**2P 75HS-4000/5T**	-	29,3	-	47,7	1450	900	1790			930
-	**2P 75HS-4000/6-2RT**	-	31,0	-	50,2	1450	900	1890			950
-	**2P 90HS-1500/2-2RT**	-	11,0	-	17,9	1640	950	1530	DN200	DN200	550
-	**2P 90HS-2000/2T**	-	15,4	-	25,4	1640	950	1530			570
-	**2P 90HS-3000/3T**	-	22,9	-	37,8	1640	950	1650			800
-	**2P 90HS-4000/4T**	-	31,6	-	51,2	1640	950	1870			1150
-	**2P 90HS-5000/5T**	-	39,4	-	63,2	1640	950	1970			1170

Dimensions and weights may differ slightly and therefore should be considered as indicative

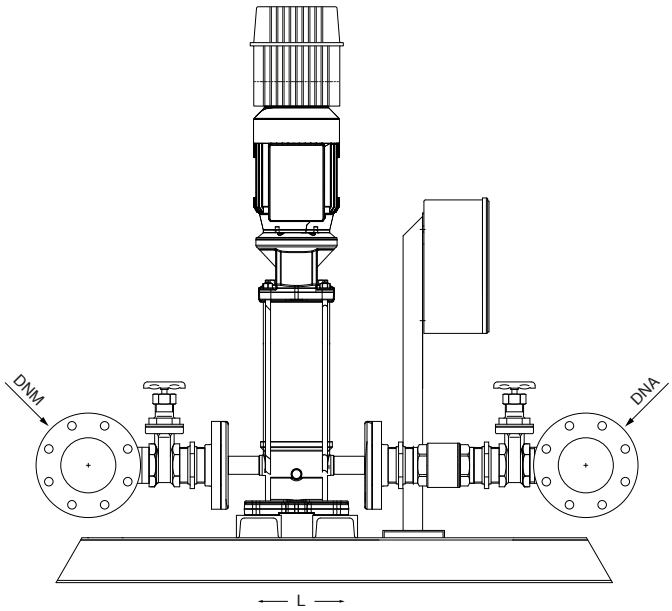


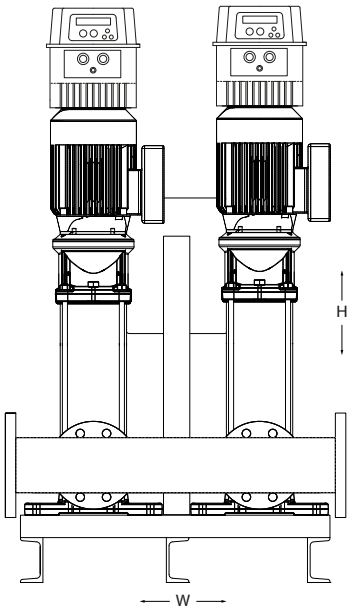


VERTICAL MODEL H (35÷90) EPIC-A 3~ 400V-in 3~ 400V-out	P1	In	Required tank	DIMENSIONS					Kg
		3~ 230V		L	W	H	DNA	DNM	
	kW (×2)	A (×2)	Lt	mm					
2P 35HS/A-750/2T-314	5,0	8,3	1× 100	1150	820	1550	DN100	DN100	477
2P 35HS/A-1000/3T-314	7,2	12,2	1× 100	1150	820	1550			498
2P 35HS/A-1000/4-2RT-318	8,5	13,7	1× 100	1150	820	1550			508
2P 35HS/A-1500/4-1RT-318	9,4	15,5	1× 100	1150	820	1550			518
2P 35HS/A-1500/4T-325	10,1	16,6	1× 100	1150	820	1550			518
2P 35HS/A-2000/5T-325	12,1	19,4	1× 100	1150	820	1669			558
2P 35HS/A-2000/6T-330	14,4	24,0	1× 100	1150	820	1760			598
2P 35HS/A-2000/7-1RT-330	16,1	26,4	1× 100	1150	820	1860			618
2P 50HS/A-1000/2T-318	7,7	12,7	1× 200	1450	900	1520	DN125	DN125	498
2P 50HS/A-1500/3T-325	11,5	18,6	1× 200	1450	900	1520			518
2P 50HS/A-2000/4T-330	15,1	24,9	1× 200	1450	900	1520			598
2P 50HS/A-2500/5T-338	19	31,7	1× 200	1450	900	1700			620
2P 50HS/A-3000/6T-344	22,4	37,0	1× 200	1450	900	1790			670
2P 75HS/A-1500/2T-325	11,6	18,7	1× 200	1450	900	1520	DN150	DN150	550
2P 75HS/A-2500/3T-338	17,4	29,4	1× 200	1450	900	1520			560
2P 75HS/A-3000/4T-344	22,7	37,5	1× 200	1450	900	1690			580
2P 90HS/A-1500/2-2RT-325	11,0	17,9	1× 300	1640	950	1530	DN200	DN200	570
2P 90HS/A-2000/2T-330	15,4	25,4	1× 300	1640	950	1530			590
2P 90HS/A-3000/3T-344	22,9	37,8	1× 300	1640	950	1650			820

2P H (35-50-75-90)

Variable speed IPFC



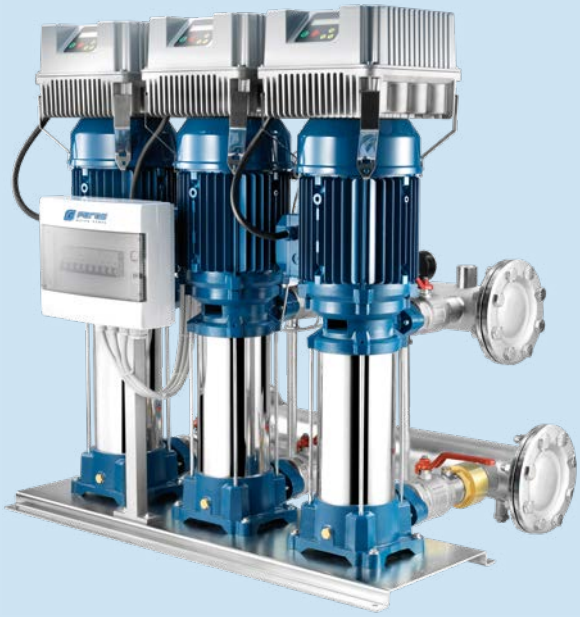


VERTICAL MODEL H (35÷90) IPFC	P1	In	Required tank	DIMENSIONS					Kg
3~ 400V-in 3~ 400V-out		3~ 400V		L	W	H	DNA	DNM	
	kW (×2)	A (×2)	Lt	mm					
2P 35HS/I-750/2T-311	5,0	8,3	1× 100	1150	820	1850	DN100	DN100	466
2P 35HS/I-1000/3T-314	7,2	12,2	1× 100	1150	820	1850			496
2P 35HS/A-1000/4-2RT-318	8,5	13,7	1× 100	1150	820	1850			506
2P 35HS/A-1500/4-1RT-318	9,4	15,5	1× 100	1150	820	1850			516
2P 35HS/I-1500/4T-325	10,1	16,6	1× 100	1150	820	1850			516
2P 35HS/I-2000/5T-325	12,1	19,4	1× 100	1150	820	1960			556
2P 35HS/I-2000/6T-330	14,4	24,0	1× 100	1150	820	2060			596
2P 35HS/I-2000/7-1RT-330	16,1	26,4	1× 100	1150	820	2160			616
2P 50HS/I-1000/2T-318	7,7	12,7	1× 200	1450	900	1820	DN125	DN125	496
2P 50HS/I-1500/3T-325	11,5	18,6	1× 200	1450	900	1820			516
2P 50HS/I-2000/4T-330	15,1	24,9	1× 200	1450	900	1820			596
2P 75HS/I-1500/2T-325	11,6	18,7	1× 200	1450	900	1820	DN150	DN150	548
2P 90HS/I-1500/2-2RT-325	11,0	17,9	1× 300	1640	950	1830	DN200	DN200	568
2P 90HS/I-2000/2T-330	15,4	25,4	1× 300	1640	950	1830			588

3P

FIXED SPEED PUMPS

VARIABLE SPEED PUMPS



Pump specification	
Flow	up to 345 m³/h
Head	up to 240 m
Start up	direct, star/delta, inverter
Power supply voltage	1~ 230V 50Hz 3~ 400V 50Hz
Ambient temperature at nominal load	max 40° C
Temperature of pumped liquid	-5° C to +35° C (Horizontal pumps with Noryl impellers) -5° C to +35° C (V-L-LG version) -15° C to +90° C (SV version) -15° C to +110° C (S-SL-SLX-SLG-SLXG-HS-HX version)

PERFORMANCE

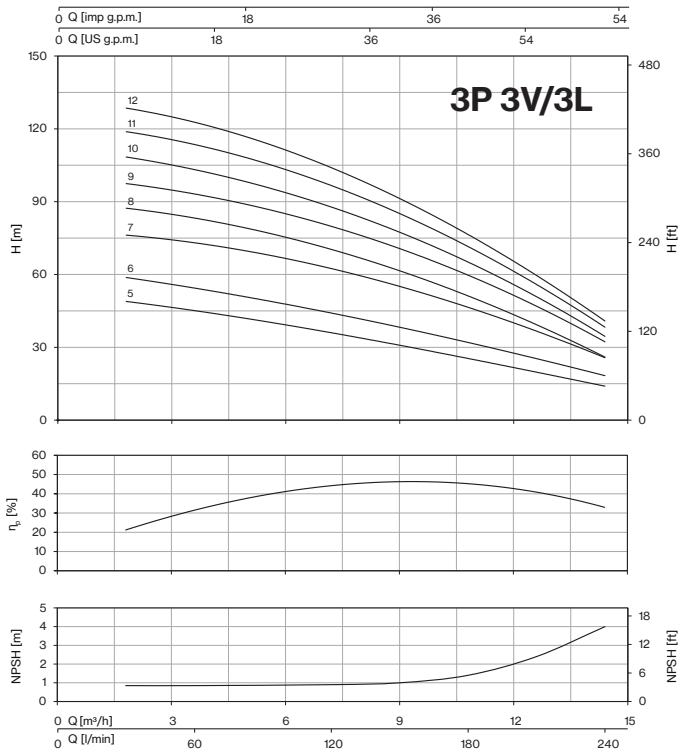
TARGET (3 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)														FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	5,4	7,2	10,8	14,4	18	21,6	25,2	28,8	30,6	32,4	36	43,2	50,4						
								0	90	120	180	240	300	360	420	480	510	540	600	720	840	1~	3~	1~		3~	
m³/h	bar					HP (×3)	kW (×3)	H (m)																/E	/I	/A	/I
9	3	-	3P 3V	3P 3L	100/5	1	0,75	52,2	40,8	36,0	25,4	14,0										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				55,3	46,5	42,1	31,6	17,7										■	■	-	■	■	■
	4	-	3P 3V	3P 3L	120/6	1,2	0,9	62,8	49,6	43,9	32,1	18,3										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				66,6	56,0	50,7	38,1	22,4										■	■	-	■	■	■
	5	-	3P 3V	3P 3L	150/7	1,5	1,1	75,5	61,2	54,8	41,1	24,9										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				80,1	69,1	63,3	48,8	30,0										■	■	-	■	■	■
	6	-	3P 3V	3P 3L	180/8	1,8	1,3	85,2	69,3	61,9	45,2	26,9										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				91,5	79,0	72,3	55,8	34,3										■	■	-	■	■	■
	7	-	3P 3V	3P 3L	200/9	2	1,5	95,8	78,9	70,7	52,7	30,8										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				103,0	88,8	81,4	62,7	38,6										■	■	-	■	■	■
	8	-	3P 3V	3P 3L	250/10	2,5	1,8	108,4	88,2	79,7	58,3	34,1										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				114,4	98,7	90,4	69,7	42,9										■	■	-	■	■	■
	9	-	3P 3V	3P 3L	280/11	2,8	2,1	119,0	95,3	85,6	62,7	37,3										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				125,9	108,6	99,5	76,7	47,1										■	■	-	■	■	■
	10	-	3P 3V	3P 3L	300/12	3	2,2	128,9	103,5	92,2	67,9	40,5										■	■	-	■	■	■
		-	3P 3SV	3P 3SL				137,3	118,5	108,5	83,7	51,4										■	■	-	■	■	■
	12	-	-	3P 3SLG	350/14	3	2,2	154,8	133,7	122,5	97,4	58,2										-	■	-	■	■	■
	14	-	-	3P 3SLG	380/16	4	3	177,5	154,5	141,3	109,4	67,0										-	■	-	■	■	■
	15	-	-	3P 3SLG	400/18	4	3	195,1	172,8	158,0	122,1	75,3										-	■	-	-	■	■
	16	-	-	3P 3SLG	450/20	4	3	218,3	187,4	171,4	131,5	81,0										-	■	-	-	■	■
15	3	-	3P 5V	3P 5L	120/4	1,2	0,9	45,3	41,3	39,6	35,6	30,8	24,9	17,6	6,4							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				45,5	42,2	40,7	37,2	32,9	27,4	19,8	10,4							■	■	-	■	■	■
	3	-	3P 5V	3P 5L	150/5	1,2	0,9	45,3	41,3	39,6	35,6	30,8	24,9	17,6	6,4							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				45,5	42,2	40,7	37,2	32,9	27,4	19,8	10,4							■	■	-	■	■	■
	5	-	3P 5V	3P 5L	180/6	1,8	1,3	69,3	64,4	62,0	55,6	48,2	39,6	28,8	12,0							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				68,9	64,4	62,3	57,5	51,5	43,5	32,6	18,1							■	■	-	■	■	■
	5,5	-	3P 5V	3P 5L	200/7	2	1,5	80,3	73,6	71,0	61,5	56,1	46,0	33,4	12,5							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				81,0	75,5	73,0	67,4	60,3	51,0	38,6	21,0							■	■	-	■	■	■
	6,5	-	3P 5V	3P 5L	250/8	2,5	1,87	91,4	85,0	81,8	74,3	65,5	54,7	40,4	19,1							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				92,1	86,5	84,0	77,8	70,1	60,0	45,5	26,0							■	■	-	■	■	■
	7	-	3P 5V	3P 5L	280/9	2,8	2,1	102,1	94,6	90,7	81,6	71,0	58,5	42,3	20,1							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				103,4	96,7	93,5	86,0	77,1	65,6	48,7	27,6							■	■	-	■	■	■
	8	-	3P 5V	3P 5L	300/10	3	2,2	112,7	103,9	99,9	89,8	78,2	64,0	46,4	21,0							■	■	-	■	■	■
		-	3P 5SV	3P 5SL				114,2	106,4	102,9	95,2	85,2	72,0	53,3	30,0							■	■	-	■	■	■
	9	-	3P 5V	3P 5L	350/11	3,5	2,57	127,6	122,5	119,4	110,8	98,0	80,8	57,4								-	■	-	■	■	■
		-	3P 5SV	3P 5SL				125,1	117,6	114,3	106,1	95,5	80,9	60,9	34,8							-	■	-	■	■	■
	10	-	3P 5V	3P 5L	380/12	4	3	140,3	135,4	132,1	123,2	109,5	90,1	66,5								-	■	-	-	■	■
		-	3P 5SV	3P 5SL				135,7	128,9	125,6	117,7	106,3	91,3	70,2	41,5							-	■	-	-	■	■
	12	-	-	3P 5SLG	400/14	4	3	159,2	150,7	146,7	136,6	122,9	105,5	79,0								-	■	-	-	■	■
	14	-	-	3P 5SLG	450/16	5,5	4	182,0	173,2	169,1	158,0	142,9	122,9	93,6								-	■	-	-	■	■
	16	-	-	3P 5SLG	550/18	5,5	4	204,4	194,4	189,5	176,5	159,6	136,3	103,2								-	■	-	-	■	■
	18	-	-	3P 5SLG	600/20	5,5	4	226,7	215,5	210,0	195,5	176,3	151,1	114,5								-	■	-	-	■	■

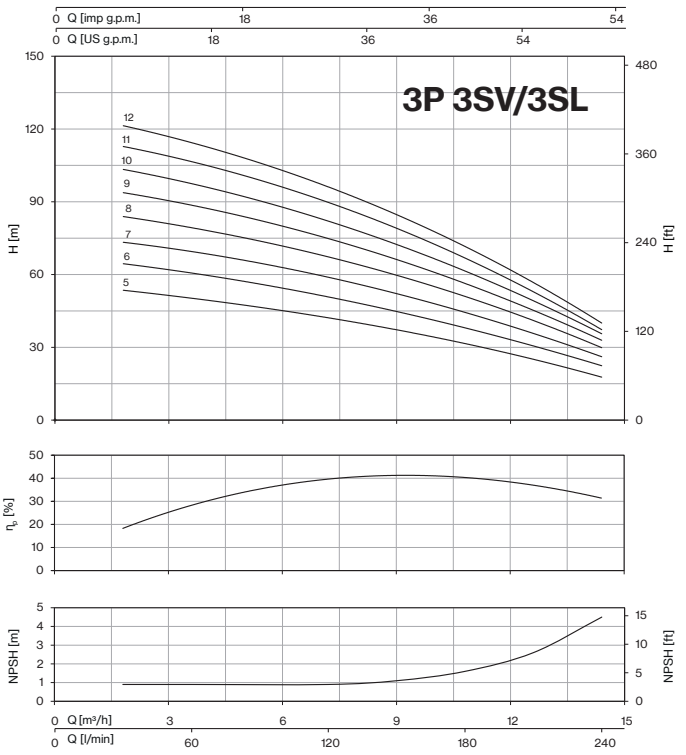
TARGET (3 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)														FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	5,4	7,2	10,8	14,4	18	21,6	25,2	28,8	30,6	32,4	36	43,2	50,4						
								0	90	120	180	240	300	360	420	480	510	540	600	720	840	1~	3~	1~		3~	
m³/h	bar					HP (×3)	kW (×3)	H (m)																/E	/I	/A	/I
21	3	-	3P 7V	3P 7L	180/4	1,8	1,3	49,5		47,4	45,3	42,5	39,2	34,8	29,4	22,6	16,9					■	■	-	■	■	■
		-	3P 7SV	3P 7SL				48,0		46,3	45,7	43,6	40,4	36,4	31,3	25,0	21,3	17,2				■	■	-	■	■	■
	4	-	3P 7V	3P 7L	250/5	2,5	1,85	62,6		60,6	58,2	55,1	51,1	45,8	39,0	29,8	21,5					■	■	-	■	■	■
		-	3P 7SV	3P 7SL				60,3		59,0	58,2	55,7	52,2	47,4	41,6	33,5	28,1	22,0				■	■	-	■	■	■
	5	-	3P 7V	3P 7L	300/6	3	2,2	74,8		71,5	68,3	64,5	59,3	53,0	44,6	34,5	26,7					■	■	-	■	■	■
		-	3P 7SV	3P 7SL				72,5		70,5	69,2	66,0	61,5	55,7	48,0	37,8	31,6	24,7				■	■	-	■	■	■
	6	-	3P 7V	3P 7L	350/7	3,5	2,57	89,0		88,0	85,8	81,2	74,5	66,3	56,2							-	■	-	■	■	■
		-	3P 7SV	3P 7SL				82,8		82,0	80,6	77,2	72,3	66,0	57,4	46,4						-	■	-	■	■	■
	7	-	3P 7V	3P 7L	400/8	4	3	102,3		101,0	98,2	92,4	84,4	74,6	62,4							-	■	-	-	■	■
		-	3P 7SV	3P 7SL				94,8		94,3	92,5	88,6	83,2	76,4	66,2	52,6						-	■	-	-	■	■
	8	-	3P 7V	3P 7L	450/9	4,5	3,37	115,2		114,4	111,4	105,6	97,1	86,3	73,1							-	■	-	-	■	■
		-	3P 7SV	3P 7SL				107,4		106,9	105,2	101,1	95,3	87,7	76,3	61,0						-	■	-	-	■	■
	9	-	3P 7V	3P 7L	550/10	5,5	4	128,1		128,0	124,9	118,7	109,4	97,6	83,0							-	■	-	-	■	■
		-	3P 7SV	3P 7SL				119,8		119,6	118,4	113,9	107,7	99,4	87,0	70,4						-	■	-	-	■	■
	11	-	-	3P 7SLG	750/12	7,5	5,5	143,7		143,7	142,6	137,0	129,6	119,8	105,6	87,0						-	■	-	-	■	■
	13	-	-	3P 7SLG	800/14	7,5	5,5	167,6		167,3	165,9	159,6	151,0	139,5	122,6	100,3						-	■	-	-	■	■
	15	-	-	3P 7SLG	900/16	7,5	5,5	191,5		191,2	189,3	181,7	171,5	157,7	137,6	111,1						-	■	-	-	■	■
	17	-	-	3P 7SLG	950/18	10	7,5	215,5		215,7	213,9	205,8	194,7	179,8	159,0	132,3						-	■	-	-	■	■
	19	-	-	3P 7SLG	1000/20	10	7,5	240,3		240,2	238,4	229,3	216,8	200,3	177,3	147,7						-	■	-	-	■	■
27	3	-	3P 9V	3P 9L	200/4	2	1,5	47,1			43,5	42,0	40,5	38,3	35,7	32,4	30,5	28,4	23,8	13,3		■	■	-	■	■	■
		-	3P 9SV	3P 9SL				47,6			43,5	42,1	40,1	38,1	35,7	32,7	30,9	28,9	24,2	13,1		■	■	-	■	■	■
	3,5	-	3P 9V	3P 9L	250/5	2,5	1,85	59,2			54,4	52,4	50,4	47,9	44,8	40,5	38,1	35,5	29,8	16,3		■	■	-	■	■	■
		-	3P 9SV	3P 9SL				60,0			54,8	53,0	51,0	48,2	45,4	42,0	39,8	37,3	31,6	18,0		■	■	-	■	■	■
	4	-	3P 9V	3P 9L	300/6	3	2,2	69,4			63,7	61,4	58,8	55,6	51,6	46,5	43,5	40,3	33,5	17,0		■	■	-	■	■	■
		-	3P 9SV	3P 9SL				71,8			64,9	63,0	59,9	57,0	53,7	49,7	47,2	44,3	37,0	20,8		■	■	-	■	■	■
	5,5	-	3P 9V	3P 9L	400/7	4	3	83,3			77,8	75,7	72,7	68,9	64,2	58,5	55,2	51,6	43,6			-	■	-	-	■	■
		-	3P 9SV	3P 9SL				82,0			77,2	74,9	72,0	68,7	64,9	59,9	56,6	52,9	44,2			-	■	-	-	■	■
	6,5	-	3P 9V	3P 9L	450/8	4,5	3,37	96,7			90,7	88,2	84,8	80,6	75,5	69,2	65,4	61,3	52,2			-	■	-	-	■	■
		-	3P 9SV	3P 9SL				93,5			88,5	86,3	82,6	79,0	74,9	69,5	65,8	61,5	52,0			-	■	-	-	■	■
	7	-	3P 9V	3P 9L	500/9	4,5	3,37	107,1			99,5	96,4	92,8	88,3	82,4	75,2	71,0	66,4	56,4			-	■	-	-	■	■
		-	3P 9SV	3P 9SL				105,4			99,1	96,5	92,5	88,3	83,5	77,3	73,0	68,1	57,5			-	■	-	-	■	■
	8	-	3P 9V	3P 9L	550/10	5,5	4	119,5			111,6	108,2	104,3	99,3	92,7	84,6	79,9	74,8	63,5			-	■	-	-	■	■
		-	3P 9SV	3P 9SL				117,6			111,2	108,7	104,5	99,9	94,7	87,8	83,2	77,9	66,2			-	■	-	-	■	■
	10	-	-	3P 9SLG	750/12	7,5	5,5	141,3			133,2	130,4	125,4	119,7	113,4	105,1	99,7	93,7	79,6			-	■	-	-	■	■
	12	-	-	3P 9SLG	800/14	7,5	5,5	165,5			155,7	152,6	146,5	139,9	132,7	123,4	117,3	110,3	94,0			-	■	-	-	■	■
	13	-	-	3P 9SLG	900/16	10	7,5	188,7			177,6	173,6	167,1	159,7	151,4	140,4	133,3	125,1	106,2			-	■	-	-	■	■
	15	-	-	3P 9SLG	950/18	10	7,5	213,8			201,6	197,3	189,6	181,2	172,0	159,9	151,8	142,5	121,0			-	■	-	-	■	■
	17	-	-	3P 9SLG	1000/20	10	7,5	236,7			223,1	218,3	209,3	199,8	189,5	176,1	167,3	157,5	134,5			-	■	-	-	■	■

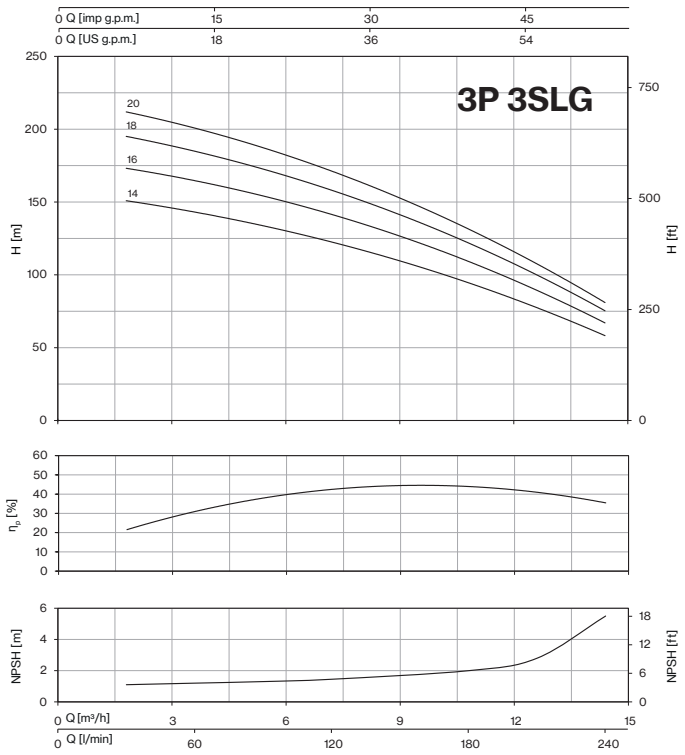
PERFORMANCE

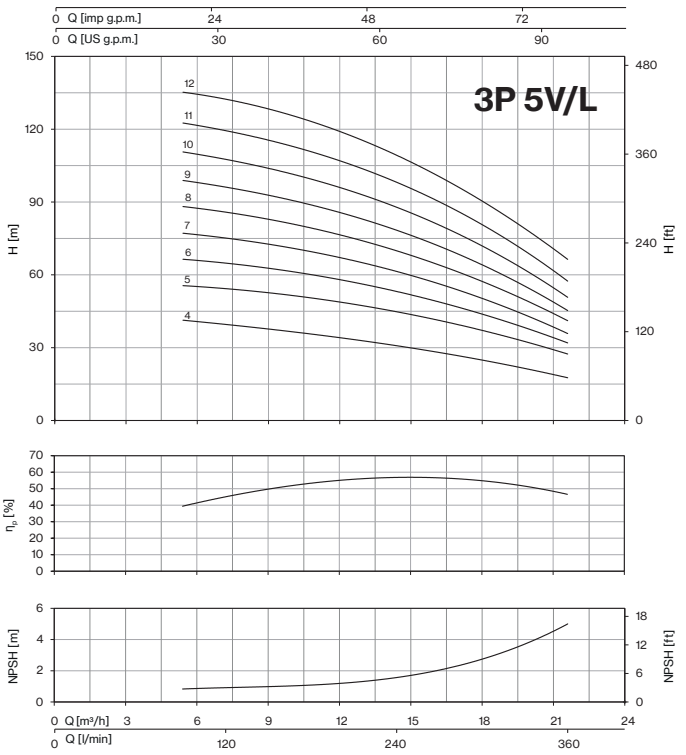
TARGET (3 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)														FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	18	21,6	25,2	28,8	30,6	32,4	36	43,2	50,4	57,6	64,8	72	84						
								0	300	360	420	480	510	540	600	720	840	960	1080	1200	1400						
m³/h	bar					HP (×3)	kW (×3)	H (m)														1~	3~	1~		3~	
																								/E	/I	/A	/I
54	2	-	3P 18V	3P 18L	250/3	2,5	1,85	35,0	32,7	32,2	31,4	30,5	30,0	29,5	28,3	25,5	22,8	19,3	15,1	10,8		-	■	-	■	■	■
		-	3P 18SV	3P 18SL				35,7	33,1	32,3	31,3	30,4	29,9	29,4	28,4	26,3	24,0	21,4	17,8	12,9		-	■	-	■	■	■
	2,5	-	-	3P 18H	300/3	3	2,2	41,2			37,1	36,3	35,9	35,5	34,4	32,3	28,9	24,8	19,4	13,5		-	■	-	■	■	■
	3	-	3P 18V	3P 18L	400/4	4	3	47,1	45,4	45,2	44,9	44,3	44,0	43,6	42,6	40,0	36,0	30,6	24,6	17,8		-	■	-	-	■	■
		-	3P 18SV	3P 18SL				46,3	44,2	43,4	42,5	41,4	40,9	40,3	39,1	36,7	34,1	30,8	25,6	19,0		-	■	-	-	■	■
	3,5	-	-	3P 18H	400/4	4	3	55,1			49,9	48,8	48,3	47,7	46,3	43,5	39,1	33,5	26,4	18,5		-	■	-	■	■	■
	4	-	3P 18V	3P 18L	450/5	4,5	3,37	59,2	57,6	57,4	57,0	56,4	56,0	55,6	54,5	51,6	46,7	40,1	33,3	25,3		-	■	-	-	■	■
		-	3P 18SV	3P 18SL				58,1	55,7	54,6	53,4	52,1	51,4	50,7	49,3	46,3	42,9	38,7	32,2	24,0		-	■	-	-	■	■
	4,5	-	-	3P 18H	550/5	5,5	4	72,3			64,3	63,1	62,4	61,7	60,1	56,6	51,8	45,1	36,8	27,6		-	■	-	-	■	■
	5	-	3P 18V	3P 18L	550/6	5,5	4	71,4	69,7	69,6	69,0	68,2	67,7	67,1	65,7	62,2	56,3	48,0	39,4	29,4		-	■	-	-	■	■
		-	3P 18SV	3P 18SL				70,1	67,4	66,3	64,9	63,4	62,6	61,7	60,0	56,4	52,4	47,6	39,6	29,9		-	■	-	-	■	■
	6	-	-	3P 18H	750/6	7,5	5,5	88,0			79,6	78,2	77,4	76,7	74,9	71,0	66,0	58,3	48,8	37,5		-	■	-	-	■	■
	6,5	-	-	3P 18H	750/7	7,5	5,5	102,5			92,4	90,7	89,8	88,9	86,8	82,3	76,2	67,3	56,1	43,0		-	■	-	-	■	■
	7	-	3P 18V	3P 18L	750/8	7,5	5,5	96,1	94,2	94,1	93,5	92,4	91,7	90,9	89,1	84,5	77,0	66,1	54,2	41,1		-	■	-	-	■	■
		-	3P 18SV	3P 18SL				94,2	90,6	89,1	87,3	85,3	84,2	83,1	80,9	76,2	71,1	65,0	54,6	41,4		-	■	-	-	■	■
	7,5	-	3P 18V	3P 18L	900/9	10	7,5	108,5	106,9	107,0	106,4	105,3	104,5	103,7	101,7	96,8	88,6	75,9	62,6	47,8		-	■	-	-	■	■
		-	3P 18SV	3P 18SL				106,4	102,8	101,3	99,3	97,2	96,1	94,9	92,4	87,3	81,6	75,0	63,5	48,5		-	■	-	-	■	■
	8	-	-	3P 18H	1000/8	10	7,5	117,0			105,2	103,2	102,3	101,2	98,8	93,5	86,5	76,2	63,5	48,5		-	■	-	-	■	■
	9	-	-	3P 18H	1000/9	10	7,5	131,2			117,8	115,5	114,4	113,1	110,4	104,5	96,5	84,9	70,5	53,6		-	■	-	-	■	■
	9,5	-	-	3P 18LG	920/10	10	7,5	120,4	116,8	118,3	118,0	116,6	115,9	115,0	112,6	104,4	96,3	85,8	67,8			-	■	-	-	■	■
	10	-	-	3P 18LG	1000/11	10	7,5	132,4	128,9	130,0	129,6	128,0	127,1	125,9	123,0	115,0	103,9	93,0	72,6			-	■	-	-	■	■
66	3	-	-	3P 22H	400/3	4	3	45,0					40,8	40,5	39,9	38,3	36,6	34,2	30,5	25,8	16,6	-	■	-	■	■	■
	4	-	-	3P 22H	550/4	5,5	4	62,2					55,5	55,1	54,2	52,4	50,2	47,3	42,7	36,8	25,2	-	■	-	-	■	■
	5	-	-	3P 22H	750/5	7,5	5,5	78,6					70,6	70,1	69,0	67,0	64,2	60,8	55,3	47,9	33,5	-	■	-	-	■	■
	6,5	-	-	3P 22H	1000/6	10	7,5	94,2					86,0	85,3	84,1	81,7	79,2	76,8	63,6	52,8	42,0	-	■	-	-	■	■
	7,5	-	-	3P 22H	1000/7	10	7,5	109,5					99,6	98,8	97,4	94,6	91,2	86,3	78,4	68,2	47,9	-	■	-	-	■	■

TARGET (3 pumps)		VERSION			TYPE	P2 NOMINAL		Q (m³/h - l/min)														FIXED SPEED		VARIABLE SPEED			
		HORIZ.	VERT. OVERLAP	VERT. INLINE				0	75	90	102	126	135	150	180	192	210	240	264	300	345						
								0	1250	1500	1700	2100	2250	2500	3000	3200	3500	4000	4400	5000	5750						
m³/h	bar					HP (×3)	kW (×3)	H (m)														1~	3~	1~		3~	
																								/E	/I	/A	/I
105	3	-	-	3P 35H	750/2	7,5	5,5	48,5	39,6	36,9	34,4	27,2										-	■	-	-	■	■
	4,5	-	-	3P 35H	1000/3	10	7,5	72,2	58,2	54,2	50,3	39,5										-	■	-	-	■	■
	5	-	-	3P 35H	1000/4-2R	10	7,5	85,1	68,6	63,9	58,4	44,7										-	■	-	-	■	■
	6	-	-	3P 35H	1500/5-1R	15	11	92,8	75,3	70,2	65,2	50,8										-	■	-	-	■	■
	7	-	-	3P 35H	1500/4	15	11	99,4	81,0	76,3	71,8	58,5										-	■	-	-	■	■
	8,5	-	-	3P 35H	2000/5	20	15	121,1	99,3	93,1	87,4	70,0										-	■	-	-	■	■
	10	-	-	3P 35H	2000/6	20	15	145,6	119,3	111,9	105,0	84,2										-	■	-	-	■	■
	11	-	-	3P 35H	2000/7-1R	20	15	163,3	132,3	123,2	114,0	89,1										-	■	-	-	■	■
150	3	-	-	3P 50H	1000/2	10	7,5	49,0			42,0	38,8	37,2	34,3	27,5	24,1						-	■	-	-	■	■
	5	-	-	3P 50H	1500/3	15	11	74,2			65,0	60,9	58,8	54,8	45,5	41,0						-	■	-	-	■	■
	7	-	-	3P 50H	2000/4	20	15	97,5			86,4	81,3	78,5	73,2	60,8	54,7						-	■	-	-	■	■
	9	-	-	3P 50H	2500/5	25	18,5	122,3			109,1	102,9	99,5	92,9	77,5	70,0						-	■	-	-	■	-
	11	-	-	3P 50H	3000/6	30	22	146,0			129,8	122,2	118,0	110,0	91,6	82,5						-	■	-	-	■	-
225	3,5	-	-	3P 75H	1500/2	15	11	59,3		51,2	49,9	47,5	46,8	45,5	43,2	42,0	39,9	35,3	30,8			-	■	-	-	■	■
	6	-	-	3P 75H	2500/3	25	18,5	89,6		77,6	75,6	72,0	70,9	69,0	65,7	63,9	60,7	53,9	47,2			-	■	-	-	■	-
	8	-	-	3P 75H	3000/4	30	22	111,8		100,8	99,2	95,8	94,5	92,4	88,4	86,3	82,3	73,3	62,9			-	■	-	-	■	-
	10	-	-	3P 75H	4000/5	40	30	142,4		129,2	127,1	123,0	121,5	119,0	114,1	111,5	106,9	96,3	84,6			-	■	-	-	-	-
	11	-	-	3P 75H	4000/6-2R	40	30	153,5		141,6	139,5	135,1	133,3	130,3	123,4	119,6	112,9	99,0	84,1			-	■	-	-	-	-
270	2,5	-	-	3P 90H	1500/2-2R	15	11	49,6					42,4	41,3	39,0	38,1	36,6	33,2	29,4	22,7	11,7	-	■	-	-	■	■
	4	-	-	3P 90H	2000/2	20	15	69,2					56,6	54,5	50,5	49,2	47,3	44,3	41,6	36,3	27,3	-	■	-	-	■	■
	6,5	-	-	3P 90H	3000/3	30	22	92,4					82,6	80,6	76,7	75,3	73,2	69,4	65,5	57,8	45,2	-	■	-	-	■	-
	9	-	-	3P 90H	4000/4	40	30	125,6					113,0	110,4	105,2	103,3	100,6	95,7	90,7	80,8	64,4	-	■	-	-	-	-
	11	-	-	3P 90H	5000/5	50	37	156,6					140,7	137,4	130,9	128,6	125,2	119,1	112,8	100,3	79,8	-	■	-	-	-	-

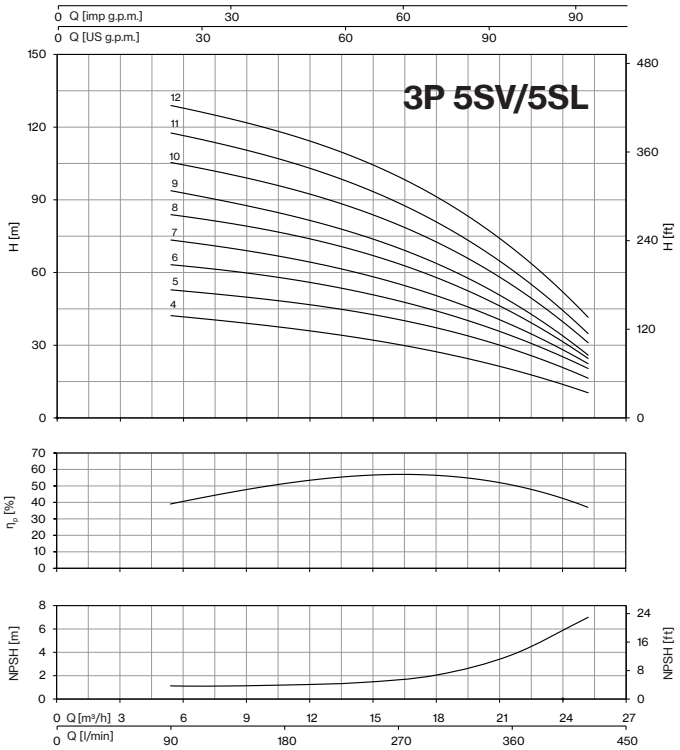

3P 3V/3L
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

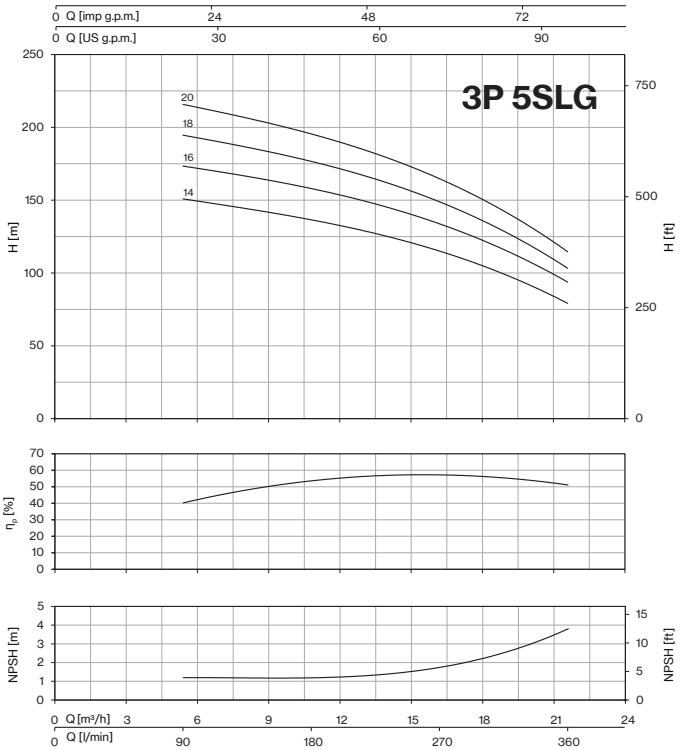

3P 3SV/3SL
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

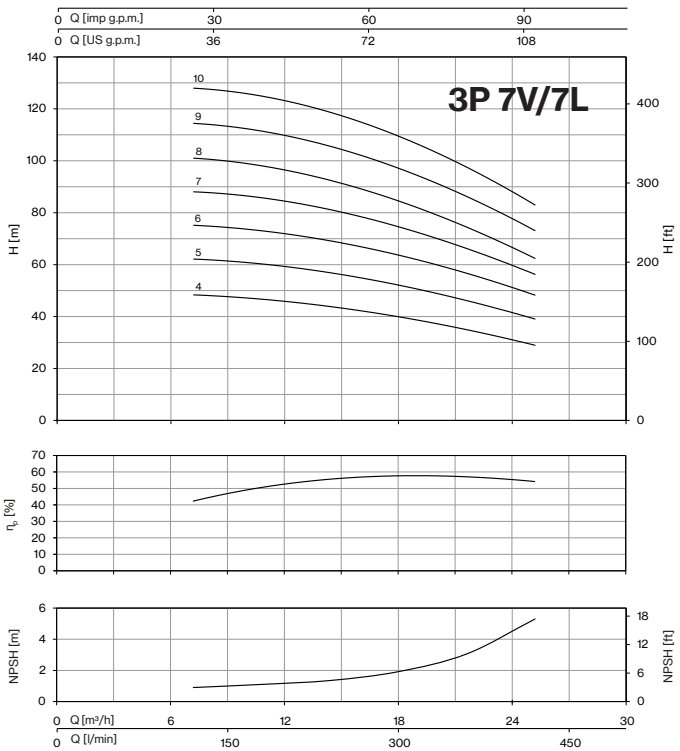

3P 3SLG
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

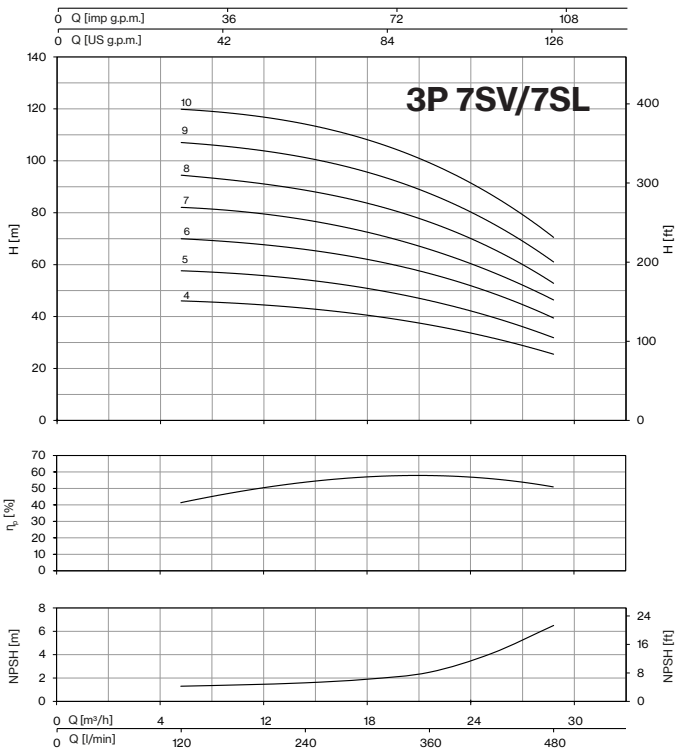

3P 5V/L
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

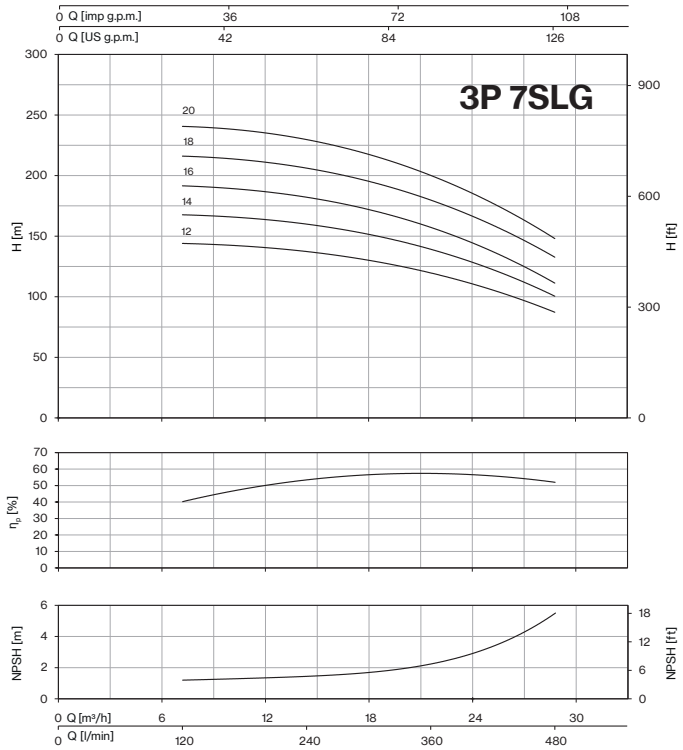
CURVES 3P

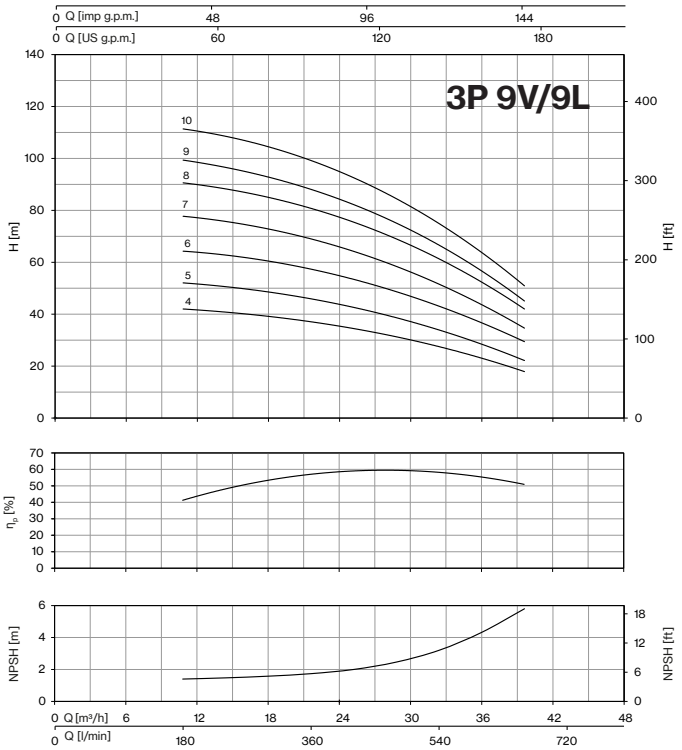

3P 5SV/5SL
0 Q [imp g.p.m.] 30 60 90
0 Q [US g.p.m.] 30 60 90
H [m]
H [ft]
12
11
10
9
8
7
6
5
4
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 3 6 9 12 15 18 21 24 27
0 Q [l/min] 90 180 270 360 450

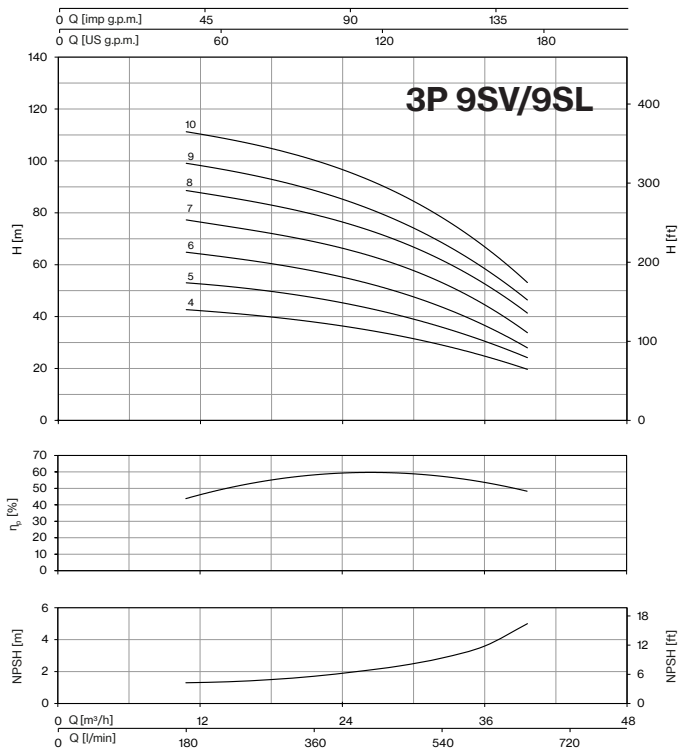

3P 5SLG
0 Q [imp g.p.m.] 24 48 72
0 Q [US g.p.m.] 30 60 90
H [m]
H [ft]
20
18
16
14
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 3 6 9 12 15 18 21 24
0 Q [l/min] 90 180 270 360

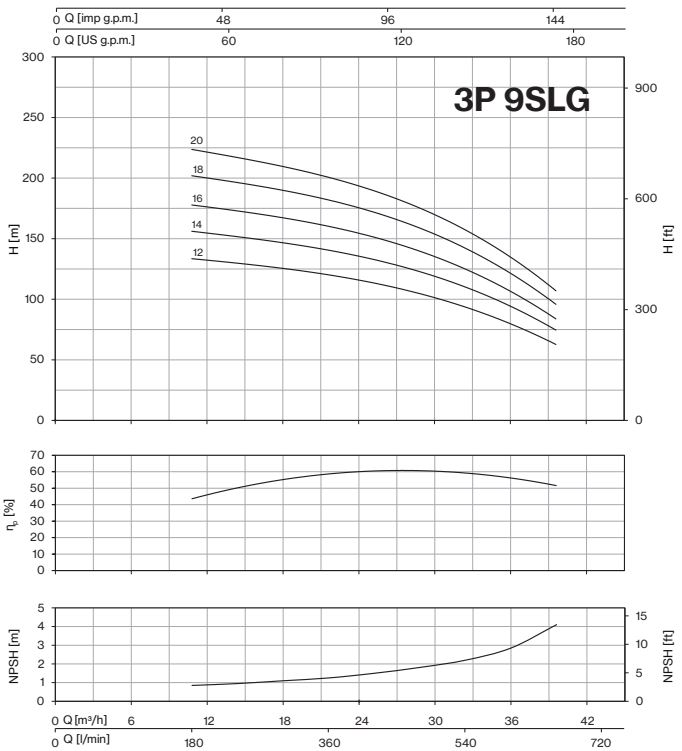

3P 7V/7L
0 Q [imp g.p.m.] 30 60 90
0 Q [US g.p.m.] 36 72 108
H [m]
H [ft]
10
9
8
7
6
5
4
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 6 12 18 24 30
0 Q [l/min] 150 300 450


3P 7SV/7SL
0 Q [imp g.p.m.] 36 72 108
0 Q [US g.p.m.] 42 84 126
H [m]
H [ft]
10
9
8
7
6
5
4
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 4 12 18 24 30
0 Q [l/min] 120 240 360 480

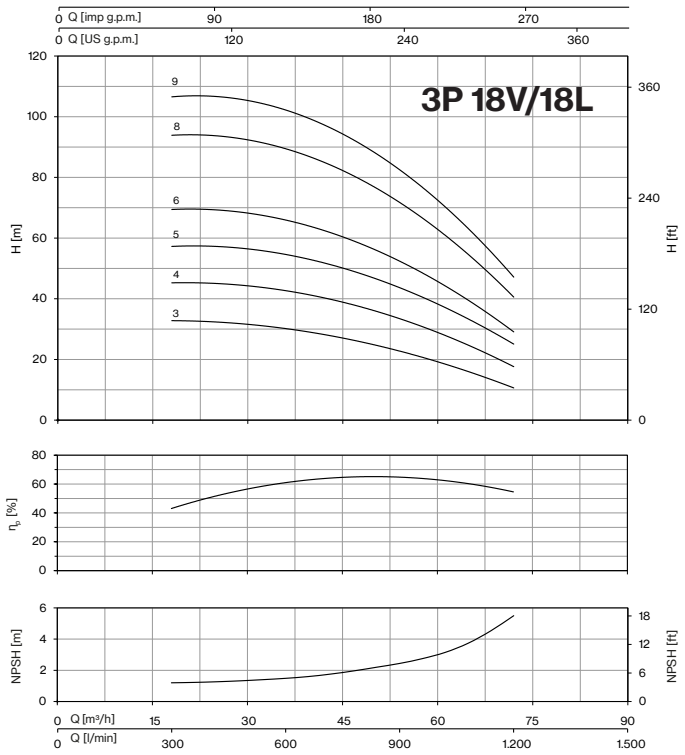

3P 7SLG
0 Q [imp g.p.m.] 36 72 108
0 Q [US g.p.m.] 42 84 126
H [m]
H [ft]
20
18
16
14
12
ηp [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 6 12 18 24 30
0 Q [l/min] 120 240 360 480

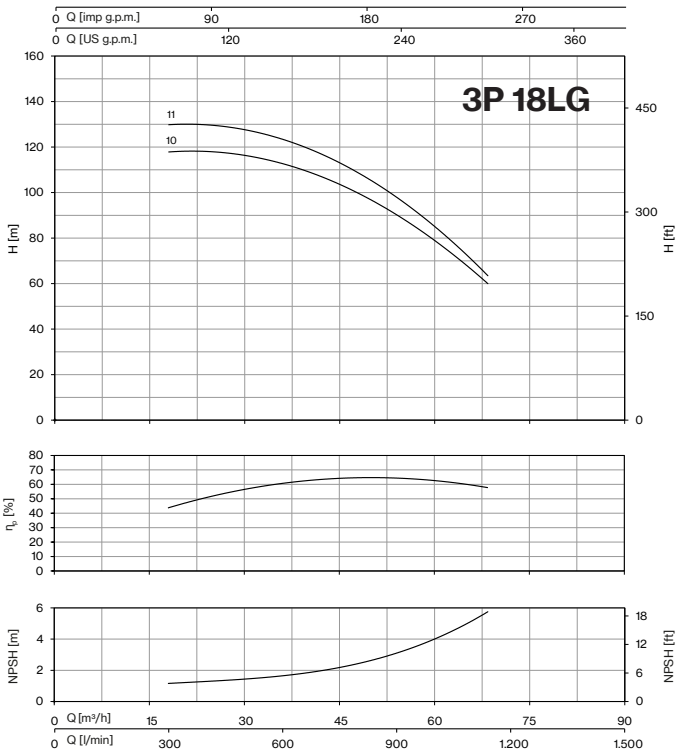

3P 9V/9L
0 Q [imp g.p.m.] 48 96 144
0 Q [US g.p.m.] 60 120 180
H [m]
H [ft]
10
9
8
7
6
5
4
ηp [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 6 12 18 24 30 36 42 48
0 Q [l/min] 180 360 540 720

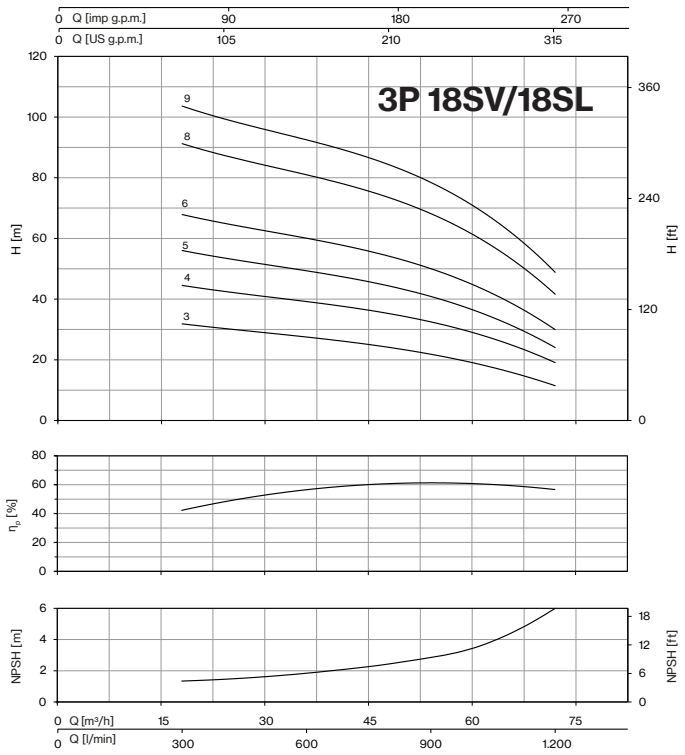

3P 9SV/9SL
0 Q [imp g.p.m.] 45 90 135
0 Q [US g.p.m.] 60 120 180
H [m]
H [ft]
10
9
8
7
6
5
4
ηp [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 12 24 36 48
0 Q [l/min] 180 360 540 720

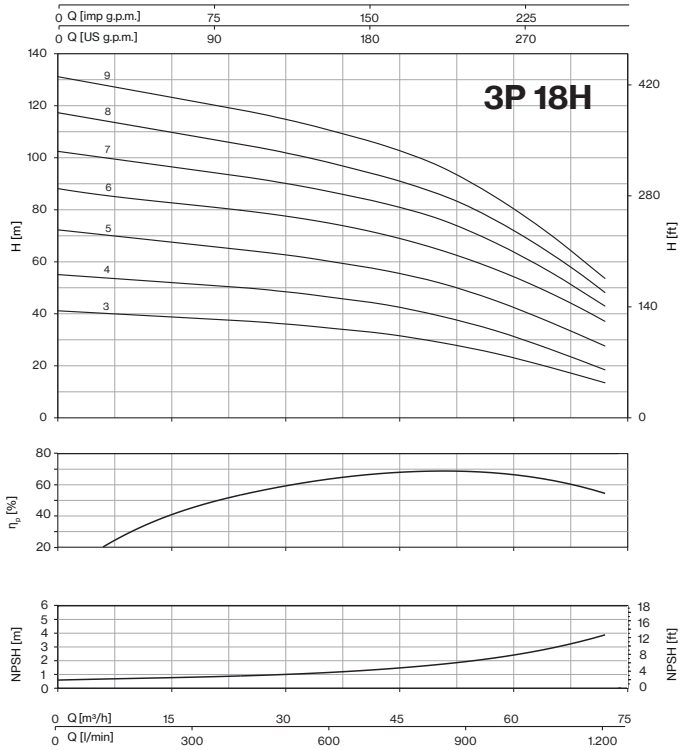

3P 9SLG
0 Q [imp g.p.m.] 48 96 144
0 Q [US g.p.m.] 60 120 180
H [m]
H [ft]
20
18
16
14
12
ηp [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 6 12 18 24 30 36 42
0 Q [l/min] 180 360 540 720

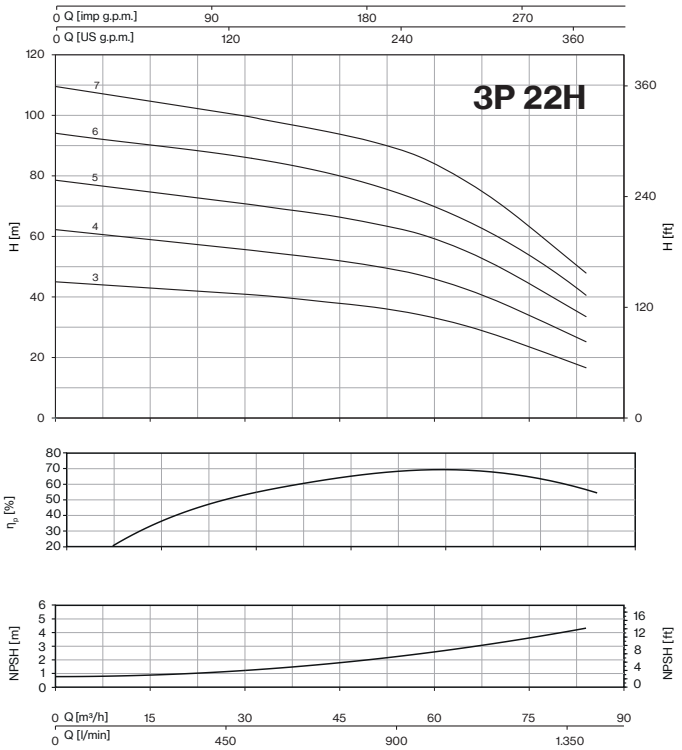
CURVES 3P

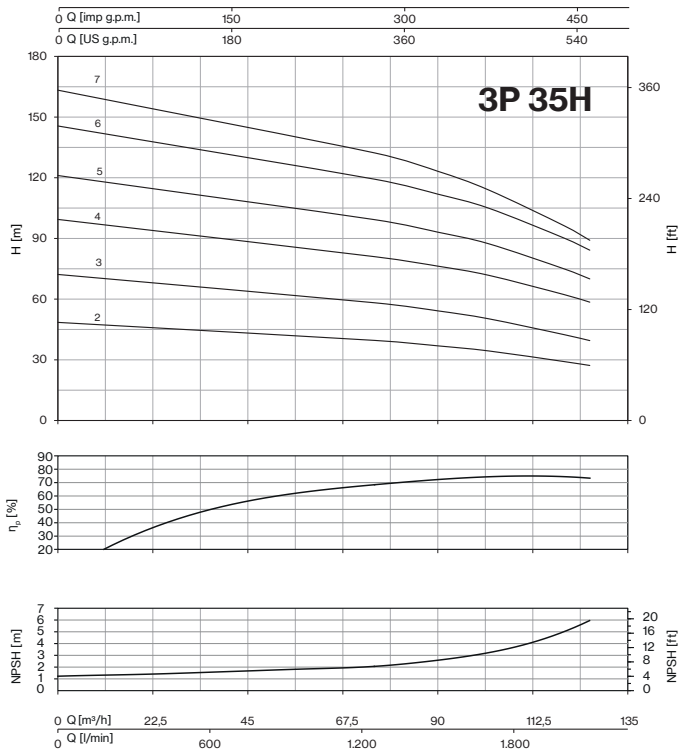

3P 18V/18L
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 120 240 360
H [m]
H [ft]
9
8
6
5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75 90
0 Q [l/min] 300 600 900 1.200 1.500

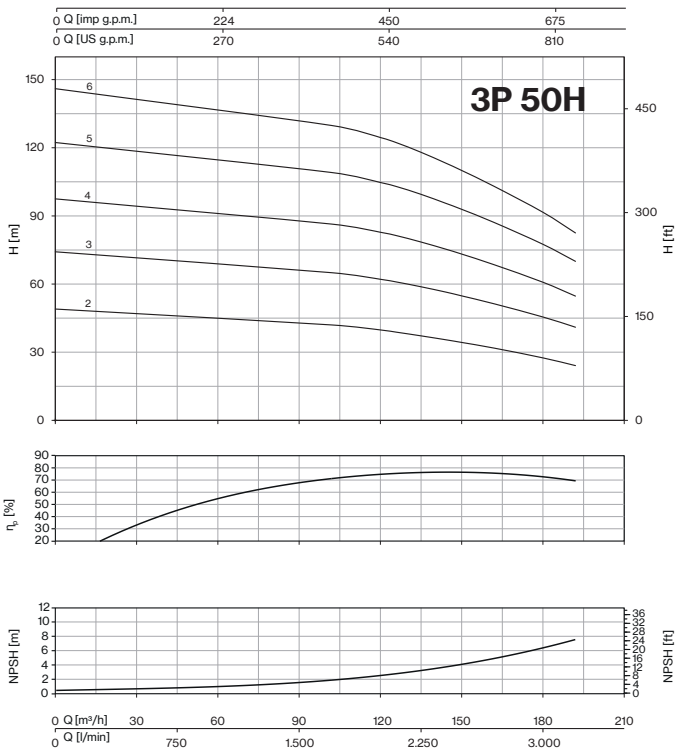

3P 18LG
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 120 240 360
H [m]
H [ft]
11
10
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75 90
0 Q [l/min] 300 600 900 1.200 1.500


3P 18SV/18SL
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 105 210 315
H [m]
H [ft]
9
8
6
5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75
0 Q [l/min] 300 600 900 1.200

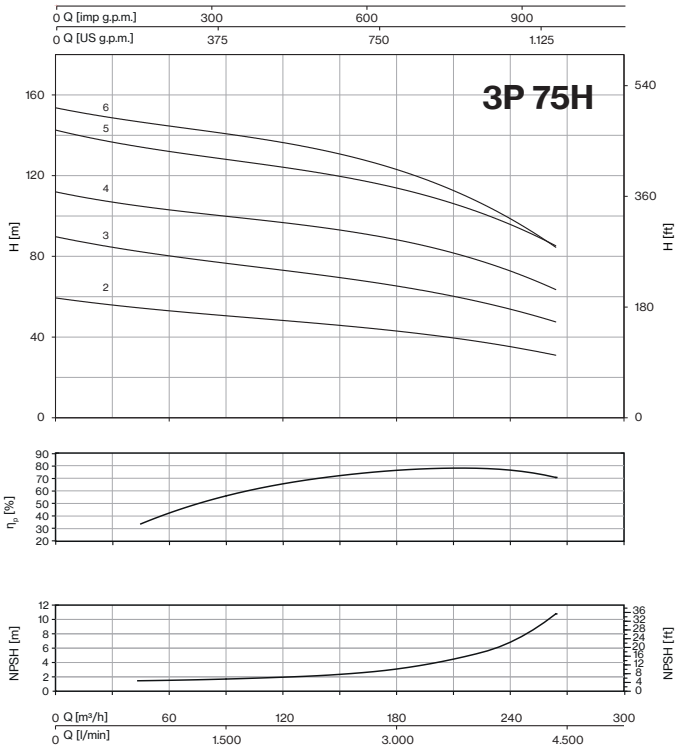

3P 18H
0 Q [imp g.p.m.] 75 150 225
0 Q [US g.p.m.] 90 180 270
H [m]
H [ft]
9
8
7
6
5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75
0 Q [l/min] 300 600 900 1.200

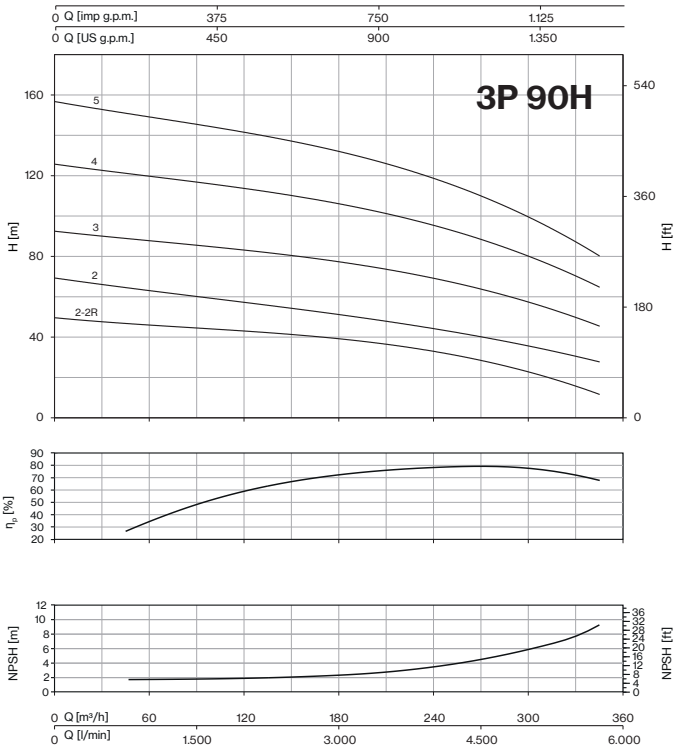

3P 22H
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 120 240 360
H [m]
H [ft]
7
6
5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75 90
0 Q [l/min] 450 900 1.350

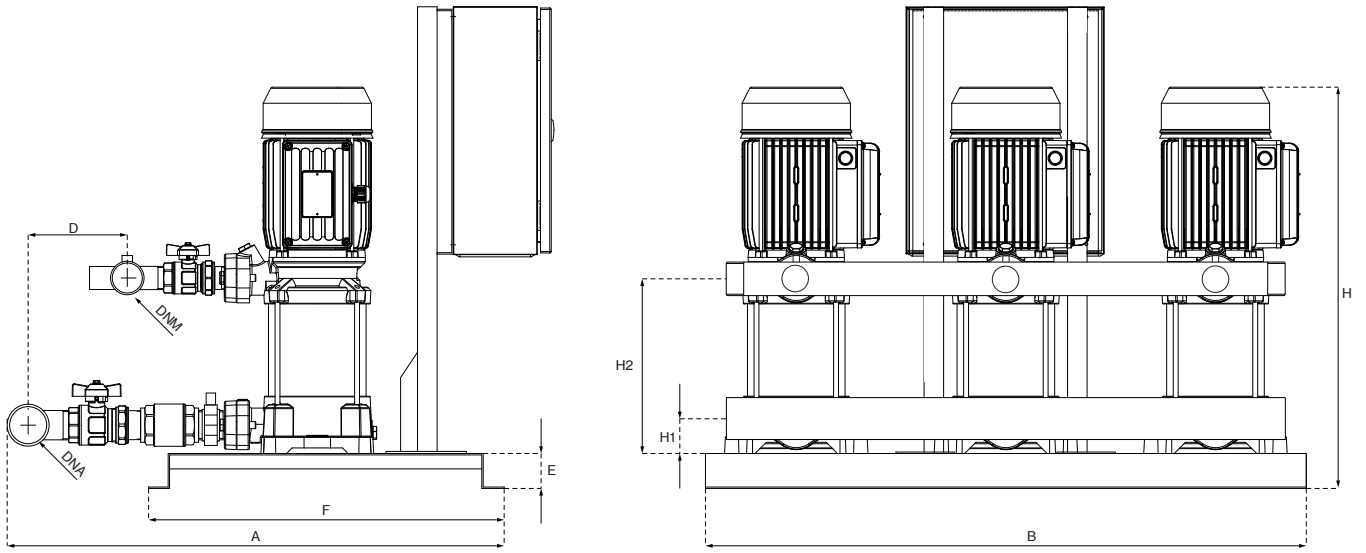

3P 35H
0 Q [imp g.p.m.] 150 300 450
0 Q [US g.p.m.] 180 360 540
H [m]
H [ft]
7
6
5
4
3
2
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 22,5 45 67,5 90 112,5 135
0 Q [l/min] 600 1.200 1.800


3P 50H
0 Q [imp g.p.m.] 224 450 675
0 Q [US g.p.m.] 270 540 810
H [m]
H [ft]
6
5
4
3
2
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 30 60 90 120 150 180 210
0 Q [l/min] 750 1.500 2.250 3.000

CURVES 3P


3P 75H
0 Q [imp g.p.m.] 300 600 900
0 Q [US g.p.m.] 375 750 1.125
H [m]
H [ft]
6
5
4
3
2
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 60 120 180 240 300
0 Q [l/min] 1.500 3.000 4.500


3P 90H
0 Q [imp g.p.m.] 375 750 1.125
0 Q [US g.p.m.] 450 900 1.350
H [m]
H [ft]
5
4
3
2
2-2R
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 60 120 180 240 300 360
0 Q [l/min] 1.500 3.000 4.500 6.000



VERTICAL MODEL V (3-5)		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm										
3P 3V-100/5	**3P 3V-100/5T**	1,06	1,01	4,8	1,9	711	860	141	50	509	463	40	178	2" G	1" ½ G	86
3P 3SV-100/5	**3P 3SV-100/5T**	0,99	0,92	4,4	1,7											
3P 3V-120/6	**3P 3V-120/6T**	1,23	1,23	5,6	2,6	711	860	141	50	509	487	40	202			89
3P 3SV-120/6	**3P 3SV-120/6T**	1,11	1,11	5,1	2,5											
3P 3V-150/7	**3P 3V-150/7T**	1,54	1,45	7,1	2,9	711	860	141	50	509	571	40	226			98
3P 3SV-150/7	**3P 3SV-150/7T**	1,38	1,31	6,4	2,7											
3P 3V-180/8	**3P 3V-180/8T**	1,7	1,6	7,5	3	711	860	141	50	509	595	40	250			99
3P 3SV-180/8	**3P 3SV-180/8T**	1,6	1,55	6,9	2,7											
3P 3V-200/9	**3P 3V-200/9T**	1,9	1,8	8,4	3,3	711	860	141	50	509	619	40	274			104
3P 3SV-200/9	**3P 3SV-200/9T**	1,7	1,6	7,7	3											
3P 3V-250/10	**3P 3V-250/10T**	2,1	2	10	4,1	711	860	141	50	509	643	40	298			105
3P 3SV-250/10	**3P 3SV-250/10T**	1,9	1,8	9,2	3,7											
3P 3V-280/11	**3P 3V-280/11T**	2,3	2,2	10,5	4,3	711	860	141	50	509	667	40	322			110
3P 3SV-280/11	**3P 3SV-280/11T**	2,1	2	9,7	3,9											
3P 3V-300/12	**3P 3V-300/12T**	2,5	2,44	11,2	4,7	711	860	141	50	509	691	40	346			114
3P 3SV-300/12	**3P 3SV-300/12T**	2,3	2,2	10,3	4,3											
3P 5V-120/4	**3P 5V-120/4T**	1,13	1,13	5,2	2,5	740	860	155	50	509	439	40	178	2" ½ G	2" G	86
3P 5SV-120/4	**3P 5SV-120/4T**	1,09	1,08	4,9	2,4											
3P 5V-150/5	**3P 5V-150/5T**	1,47	1,39	6,8	2,8	740	860	155	50	509	523	40	202			95
3P 5SV-150/5	**3P 5SV-150/5T**	1,39	1,31	6,5	2,7											
3P 5V-180/6	**3P 5V-180/6T**	1,7	1,62	7,7	3	740	860	155	50	509	547	40	226			96
3P 5SV-180/6	**3P 5SV-180/6T**	1,63	1,55	7,3	3											
3P 5V-200/7	**3P 5V-200/7T**	2	1,86	9	3,4	740	860	155	50	509	571	40	250			101
3P 5SV-200/7	**3P 5SV-200/7T**	1,94	1,77	8,7	3,3											
3P 5V-250/8	**3P 5V-250/8T**	2,37	2,17	10,7	4,1	740	860	155	50	509	595	40	274			104
3P 5SV-250/8	**3P 5SV-250/8T**	2,2	2,07	10,1	4											
3P 5V-280/9	**3P 5V-280/9T**	2,6	2,4	11,7	4,4	740	860	155	50	509	619	40	298			105
3P 5SV-280/9	**3P 5SV-280/9T**	2,45	2,27	11	4,2											
3P 5V-300/10	**3P 5V-300/10T**	2,84	2,73	12,8	4,9	740	860	155	50	509	643	40	322			110
3P 5SV-300/10	**3P 5SV-300/10T**	2,67	2,57	11,9	4,7											
-	**3P 5V-350/11T**	-	2,9	-	5,3	740	860	155	50	509	722	40	346			117
-	**3P 5SV-350/11T**	-	2,9	-	5,3											
-	**3P 5V-380/12T**	-	3,2	-	6	740	860	155	50	509	746	40	370			137
-	**3P 5SV-380/12T**	-	3,2	-	6											

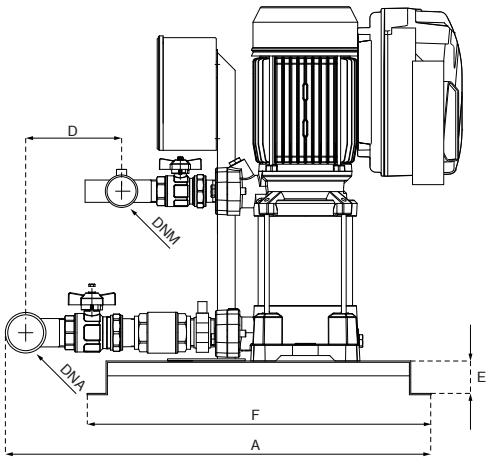
Dimensions and weights may differ slightly and therefore should be considered as indicative

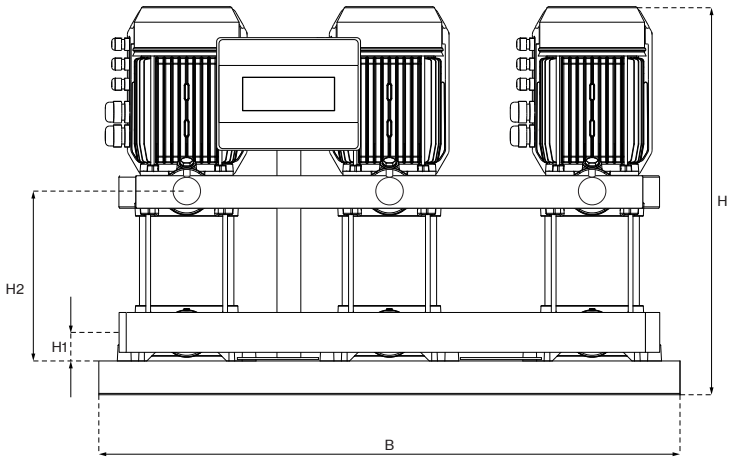
3P V (3-5-7-9)

Fixed speed

VERTICAL MODEL V (7-9)		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm										
3P 7V-180/4	**3P 7V-180/4T**	1,83	1,71	8,3	3,2	770	860	133	50	509	472	40	178			100
3P 7SV-180/4	**3P 7SV-180/4T**	1,69	1,62	7,7	3,1											
3P 7V-250/5	**3P 7V-250/5T**	2,39	2,15	10,9	4,2	770	860	133	50	509	523	40	202			106
3P 7SV-250/5	**3P 7SV-250/5T**	2,19	2,05	10,2	4,1											
3P 7V-300/6	**3P 7V-300/6T**	2,68	2,63	12,2	5	770	860	133	50	509	547	40	226			111
3P 7SV-300/6	**3P 7SV-300/6T**	2,53	2,44	11,4	4,8											
-	**3P 7V-350/7T**	-	2,8	-	5,1	770	860	133	50	509	625	40	250	3" G	2" ½ G	127
-	**3P 7SV-350/7T**	-	2,9	-	5,3											
-	**3P 7V-400/8T**	-	3,1	-	5,9	770	860	133	50	509	650	40	274			138
-	**3P 7SV-400/8T**	-	3,3	-	6,1											
-	**3P 7V-450/9T**	-	3,6	-	6,5	770	860	133	50	509	703	40	301			151
-	**3P 7SV-450/9T**	-	3,7	-	6,7											
-	**3P 7V-550/10T**	-	4	-	7,7	770	860	133	50	509	726	40	325			171
-	**3P 7SV-550/10T**	-	4,1	-	7,9											
3P 9V-200/4	**3P 9V-200/4T**	1,88	1,77	8,4	3,3	770	860	133	50	509	523	40	202			103
3P 9SV-200/4	**3P 9SV-200/4T**	1,88	1,77	8,4	3,3											
3P 9V-250/5	**3P 9V-250/5T**	2,32	2,18	10,6	4,3	770	860	133	50	509	553	40	232			108
3P 9SV-250/5	**3P 9SV-250/5T**	2,36	2,23	10,8	4,3											
3P 9V-300/6	**3P 9V-300/6T**	2,74	2,64	12,2	4,8	770	860	133	50	509	583	40	262			112
3P 9SV-300/6	**3P 9SV-300/6T**	2,78	2,58	12,5	4,9											
-	**3P 9V-400/7T**	-	3	-	5,8	770	860	133	50	509	667	40	292	3" G	2" ½ G	138
-	**3P 9SV-400/7T**	-	3,1	-	5,9											
-	**3P 9V-450/8T**	-	3,5	-	6,4	770	860	133	50	509	727	40	325			151
-	**3P 9SV-450/8T**	-	3,6	-	6,5											
-	**3P 9V-500/9T**	-	3,9	-	6,9	770	860	133	50	509	757	40	355			154
-	**3P 9SV-500/9T**	-	4	-	7											
-	**3P 9V-550/10T**	-	4,3	-	8,1	770	860	133	50	509	787	40	385			168
-	**3P 9SV-550/10T**	-	4,4	-	8,2											

Dimensions and weights may differ slightly and therefore should be considered as indicative



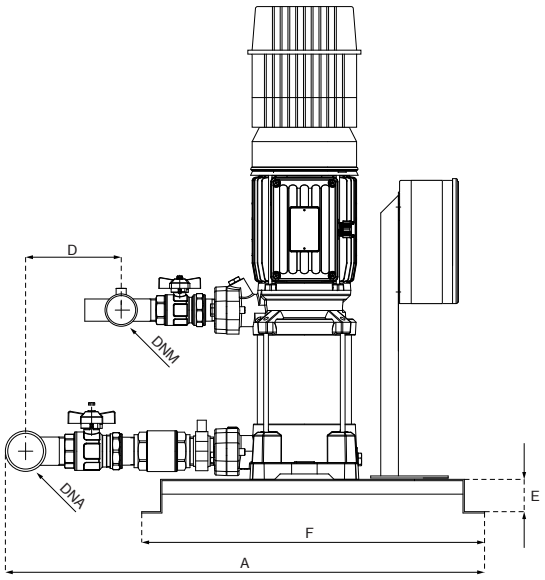


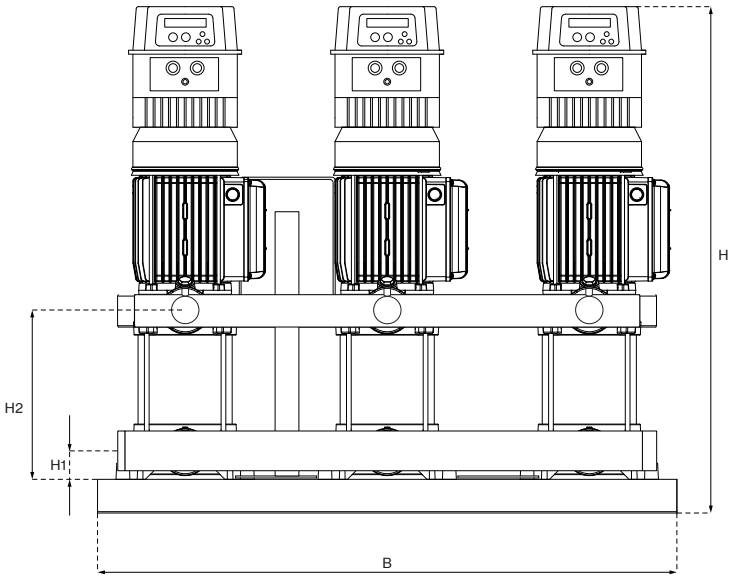
VERTICAL MODEL V (3-5)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 3V/A-100/5T-304**	1,01	3,3	1,9	3× 8	711	860	141	50	509	463	40	178			94
-	**3P 3SV/A-100/5T-304**	0,92	2,9	1,7												
-	**3P 3V/A-120/6T-304**	1,23	4,5	2,6	3× 8	711	860	141	50	509	487	40	202			97
-	**3P 3SV/A-120/6T-304**	1,11	4,3	2,5												
-	**3P 3V/A-150/7T-304**	1,45	5	2,9	3× 8	711	860	141	50	509	571	40	226			106
-	**3P 3SV/A-150/7T-304**	1,31	4,7	2,7												
-	**3P 3V/A-180/8T-304**	1,6	5,2	3	3× 8	711	860	141	50	509	595	40	250			107
-	**3P 3SV/A-180/8T-304**	1,55	4,7	2,7												
-	**3P 3V/A-200/9T-304**	1,8	5,7	3,3	3× 8	711	860	141	50	509	619	40	274	2" G	1" ½ G	112
-	**3P 3SV/A-200/9T-304**	1,6	5,2	3												
-	**3P 3V/A-250/10T-306**	2	7,1	4,1	3× 8	711	860	141	50	509	643	40	298			113
-	**3P 3SV/A-250/10T-306**	1,8	6,4	3,7												
-	**3P 3V/A-280/11T-306**	2,2	-	4,3	3× 8	711	860	141	50	509	667	40	322			118
-	**3P 3SV/A-280/11T-306**	2	6,8	3,9												
-	**3P 3V/A-300/12T-306**	2,44	-	4,7	3× 8	711	860	141	50	509	691	40	346			120
-	**3P 3SV/A-300/12T-306**	2,2	-	4,3												
-	**3P 5V/A-120/4T-304**	1,13	4,3	2,5	3× 20	740	860	155	50	509	439	40	178			94
-	**3P 5SV/A-120/4T-304**	1,08	4,2	2,4												
-	**3P 5V/A-150/5T-304**	1,39	4,9	2,8	3× 20	740	860	155	50	509	523	40	202			103
-	**3P 5SV/A-150/5T-304**	1,31	4,7	2,7												
-	**3P 5V/A-180/6T-304**	1,62	5,2	3	3× 20	740	860	155	50	509	547	40	226			104
-	**3P 5SV/A-180/6T-304**	1,55	5,2	3												
-	**3P 5V/A-200/7T-304**	1,86	5,9	3,4	3× 20	740	860	155	50	509	571	40	250			109
-	**3P 5SV/A-200/7T-304**	1,77	5,7	3,3												
-	**3P 5V/A-250/8T-306**	2,17	7,1	4,1	3× 20	740	860	155	50	509	595	40	274	2" ½ G	2" G	112
-	**3P 5SV/A-250/8T-306**	2,07	6,9	4												
-	**3P 5V/A-280/9T-306**	2,4	-	4,4	3× 20	740	860	155	50	509	619	40	298			113
-	**3P 5SV/A-280/9T-306**	2,27	-	4,2												
-	**3P 5V/A-300/10T-306**	2,73	-	4,9	3× 20	740	860	155	50	509	643	40	322			117
-	**3P 5SV/A-300/10T-306**	2,57	-	4,7												
-	**3P 5V/A-350/11T-306**	2,9	-	5,3	3× 20	740	860	155	50	509	722	40	346			125
-	**3P 5SV/A-350/11T-306**	2,9	-	5,3												
-	**3P 5V/A-380/12T-309**	3,2	-	6	3× 20	740	860	155	50	509	746	40	370			144
-	**3P 5SV/A-380/12T-309**	3,2	-	6												

3P V (3-5-7-9)

Variable speed EPIC-A

VERTICAL MODEL V (7-9)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 7V/A-180/4T-304**	1,71	5,5	3,2	3× 20	770	860	133	50	509	472	40	178			108
-	**3P 7SV/A-180/4T-304**	1,62	5,4	3,1												
-	**3P 7V/A-250/5T-306**	2,15	-	4,2	3× 20	770	860	133	50	509	523	40	202			114
-	**3P 7SV/A-250/5T-306**	2,05	-	4,1												
-	**3P 7V/A-300/6T-306**	2,63	-	5	3× 20	770	860	133	50	509	547	40	226			119
-	**3P 7SV/A-300/6T-306**	2,44	-	4,8												
-	**3P 7V/A-350/7T-306**	2,8	-	5,1	3× 20	770	860	133	50	509	625	40	250	3" G	2" ½ G	135
-	**3P 7SV/A-350/7T-306**	2,9	-	5,3												
-	**3P 7V/A-400/8T-309**	3,1	-	5,9	3× 20	770	860	133	50	509	650	40	274			146
-	**3P 7SV/A-400/8T-309**	3,3	-	6,1												
-	**3P 7V/A-450/9T-309**	3,6	-	6,5	3× 20	770	860	133	50	509	703	40	301			159
-	**3P 7SV/A-450/9T-309**	3,7	-	6,7												
-	**3P 7V/A-550/10T-309**	4	-	7,7	3× 20	770	860	133	50	509	726	40	325			179
-	**3P 7SV/A-550/10T-309**	4,1	-	7,9												
-	**3P 9V/A-200/4T-304**	1,77	5,7	3,3	3× 20	770	860	133	50	509	523	40	202			111
-	**3P 9SV/A-200/4T-304**	1,77	5,7	3,3												
-	**3P 9V/A-250/5T-306**	2,18	-	4,3	3× 20	770	860	133	50	509	553	40	232			116
-	**3P 9SV/A-250/5T-306**	2,23	-	4,3												
-	**3P 9V/A-300/6T-306**	2,64	-	4,8	3× 20	770	860	133	50	509	583	40	262			120
-	**3P 9SV/A-300/6T-306**	2,58	-	4,9												
-	**3P 9V/A-400/7T-309**	3	-	5,8	3× 20	770	860	133	50	509	667	40	292	3" G	2" ½ G	146
-	**3P 9SV/A-400/7T-309**	3,1	-	5,9												
-	**3P 9V/A-450/8T-309**	3,5	-	6,4	3× 20	770	860	133	50	509	727	40	325			159
-	**3P 9SV/A-450/8T-309**	3,6	-	6,5												
-	**3P 9V/A-500/9T-309**	3,9	-	6,9	3× 20	770	860	133	50	509	757	40	355			162
-	**3P 9SV/A-500/9T-309**	4	-	7												
-	**3P 9V/A-550/10T-309**	4,3	-	8,1	3× 20	770	860	133	50	509	787	40	385			176
-	**3P 9SV/A-550/10T-314**	4,4	-	8,2												





VERTICAL MODEL V (3-5) IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 3V/I-100/5T-109	**3P 3V/I-100/5T-306**	1,01	3,3	1,9	3× 8	711	860	141	50	509	673	40	178	2" G	1" ½ G	101
3P 3SV/I-100/5T-109	**3P 3SV/I-100/5T-306**	0,92	2,9	1,7												
3P 3V/I-120/6T-109	**3P 3V/I-120/6T-306**	1,23	4,5	2,6	3× 8	711	860	141	50	509	697	40	202			104
3P 3SV/I-120/6T-109	**3P 3SV/I-120/6T-306**	1,11	4,3	2,5												
3P 3V/I-150/7T-109	**3P 3V/I-150/7T-306**	1,45	5	2,9	3× 8	711	860	141	50	509	781	40	226			113
3P 3SV/I-150/7T-109	**3P 3SV/I-150/7T-306**	1,31	4,7	2,7												
3P 3V/I-180/8T-109	**3P 3V/I-180/8T-306**	1,6	5,2	3	3× 8	711	860	141	50	509	805	40	250			114
3P 3SV/I-180/8T-109	**3P 3SV/I-180/8T-306**	1,55	4,7	2,7												
3P 3V/I-200/9T-109	**3P 3V/I-200/9T-306**	1,8	5,7	3,3	3× 8	711	860	141	50	509	829	40	274			119
3P 3SV/I-200/9T-109	**3P 3SV/I-200/9T-306**	1,6	5,2	3												
3P 3V/I-250/10T-114	**3P 3V/I-250/10T-306**	2	7,1	4,1	3× 8	711	860	141	50	509	853	40	298			119
3P 3SV/I-250/10T-114	**3P 3SV/I-250/10T-306**	1,8	6,4	3,7												
3P 3V/I-280/11T-114	**3P 3V/I-280/11T-306**	2,2	7,4	4,3	3× 8	711	860	141	50	509	877	40	322			125
3P 3SV/I-280/11T-114	**3P 3SV/I-280/11T-306**	2	6,8	3,9												
3P 3V/I-300/12T-114	**3P 3V/I-300/12T-306**	2,44	8,1	4,7	3× 8	711	860	141	50	509	901	40	346			129
3P 3SV/I-300/12T-114	**3P 3SV/I-300/12T-306**	2,2	7,4	4,3												
3P 5V/I-120/4T-109	**3P 5V/I-120/4T-306**	1,13	4,3	2,5	3× 20	740	860	155	50	509	649	40	178	2" ½ G	2" G	101
3P 5SV/I-120/4T-109	**3P 5SV/I-120/4T-306**	1,08	4,2	2,4												
3P 5V/I-150/5T-109	**3P 5V/I-150/5T-306**	1,39	4,9	2,8	3× 20	740	860	155	50	509	733	40	202			110
3P 5SV/I-150/5T-109	**3P 5SV/I-150/5T-306**	1,31	4,7	2,7												
3P 5V/I-180/6T-109	**3P 5V/I-180/6T-306**	1,62	5,2	3	3× 20	740	860	155	50	509	757	40	226			111
3P 5SV/I-180/6T-109	**3P 5SV/I-180/6T-306**	1,55	5,2	3												
3P 5V/I-200/7T-109	**3P 5V/I-200/7T-306**	1,86	5,9	3,4	3× 20	740	860	155	50	509	781	40	250			116
3P 5SV/I-200/7T-109	**3P 5SV/I-200/7T-306**	1,77	5,7	3,3												
3P 5V/I-250/8T-114	**3P 5V/I-250/8T-306**	2,17	7,1	4,1	3× 20	740	860	155	50	509	805	40	274			119
3P 5SV/I-250/8T-114	**3P 5SV/I-250/8T-306**	2,07	6,9	4												
3P 5V/I-280/9T-114	**3P 5V/I-280/9T-306**	2,4	7,6	4,4	3× 20	740	860	155	50	509	829	40	298			120
3P 5SV/I-280/9T-114	**3P 5SV/I-280/9T-306**	2,27	7,3	4,2												
3P 5V/I-300/10T-114	**3P 5V/I-300/10T-306**	2,73	8,5	4,9	3× 20	740	860	155	50	509	853	40	322			125
3P 5SV/I-300/10T-114	**3P 5SV/I-300/10T-306**	2,57	8,1	4,7												
3P 5V/I-350/11T-114	**3P 5V/I-350/11T-306**	2,9	9,2	5,3	3× 20	740	860	155	50	509	932	40	346			132
3P 5SV/I-350/11T-114	**3P 5SV/I-350/11T-306**	2,9	9,2	5,3												
-	**3P 5V/I-380/12T-309**	3,2	-	6	3× 20	740	860	155	50	509	956	40	370			152
-	**3P 5SV/I-380/12T-309**	3,2	-	6												

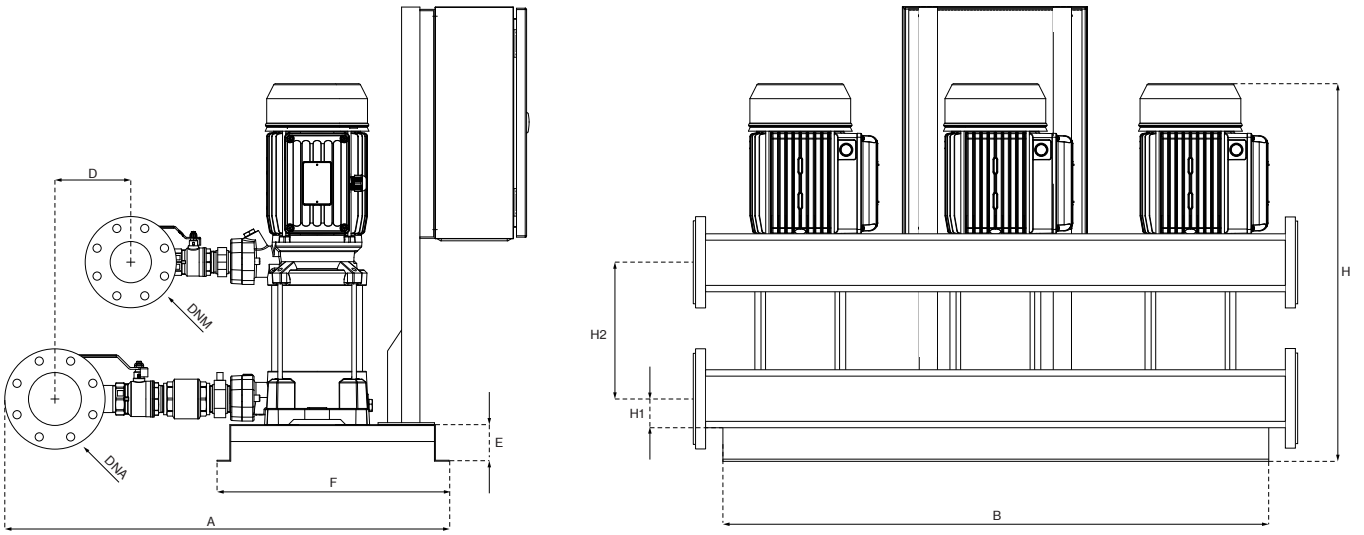
Dimensions and weights may differ slightly and therefore should be considered as indicative

3P V (3-5-7-9)

Variable speed IPFC

VERTICAL MODEL V (7-9) IPFC		P1	In		Required tank	DIMENSIONS									Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 7V/I-180/4T-109	**3P 7V/I-180/4T-306**	1,71	5,5	3,2	3× 20	770	860	133	50	509	682	40	178			115
3P 7SV/I-180/4T-109	**3P 7SV/I-180/4T-306**	1,62	5,4	3,1												
3P 7V/I-250/5T-114	**3P 7V/I-250/5T-306**	2,15	7,3	4,2	3× 20	770	860	133	50	509	733	40	202			121
3P 7SV/I-250/5T-114	**3P 7SV/I-250/5T-306**	2,05	7,1	4,1												
3P 7V/I-300/6T-114	**3P 7V/I-300/6T-306**	2,63	8,7	5	3× 20	770	860	133	50	509	757	40	226			126
3P 7SV/I-300/6T-114	**3P 7SV/I-300/6T-306**	2,44	8,3	4,8												
3P 7V/I-350/7T-114	**3P 7V/I-350/7T-306**	2,8	8,8	5,1	3× 20	770	860	133	50	509	835	40	250	3" G	2" ½ G	142
3P 7SV/I-350/7T-114	**3P 7SV/I-350/7T-306**	2,9	9,2	5,3												
-	**3P 7V/I-400/8T-309**	3,1	-	5,9	3× 20	770	860	133	50	509	860	40	274			153
-	**3P 7SV/I-400/8T-309**	3,3	-	6,1												
-	**3P 7V/I-450/9T-309**	3,6	-	6,5	3× 20	770	860	133	50	509	913	40	301			166
-	**3P 7SV/I-450/9T-309**	3,7	-	6,7												
-	**3P 7V/I-550/10T-309**	4	-	7,7	3× 20	770	860	133	50	509	936	40	325			186
-	**3P 7SV/I-550/10T-309**	4,1	-	7,9												
3P 9V/I-200/4T-109	**3P 9V/I-200/4T-306**	1,77	5,7	3,3	3× 20	770	860	133	50	509	733	40	202			118
3P 9SV/I-200/4T-109	**3P 9SV/I-200/4T-306**	1,77	5,7	3,3												
3P 9V/I-250/5T-114	**3P 9V/I-250/5T-306**	2,18	7,5	4,3	3× 20	770	860	133	50	509	763	40	232			123
3P 9SV/I-250/5T-114	**3P 9SV/I-250/5T-306**	2,23	7,5	4,3												
3P 9V/I-300/6T-114	**3P 9V/I-300/6T-306**	2,64	8,3	4,8	3× 20	770	860	133	50	509	793	40	262			127
3P 9SV/I-300/6T-114	**3P 9SV/I-300/6T-306**	2,58	8,5	4,9												
-	**3P 9V/I-400/7T-309**	3	-	5,8	3× 20	770	860	133	50	509	877	40	292	3" G	2" ½ G	153
-	**3P 9SV/I-400/7T-309**	3,1	-	5,9												
-	**3P 9V/I-450/8T-309**	3,5	-	6,4	3× 20	770	860	133	50	509	937	40	325			166
-	**3P 9SV/I-450/8T-309**	3,6	-	6,5												
-	**3P 9V/I-500/9T-309**	3,9	-	6,9	3× 20	770	860	133	50	509	967	40	355			169
-	**3P 9SV/I-500/9T-309**	4	-	7												
-	**3P 9V/I-550/10T-309**	4,3	-	8,1	3× 20	770	860	133	50	509	997	40	385			183
-	**3P 9SV/I-550/10T-311**	4,4	-	8,2												

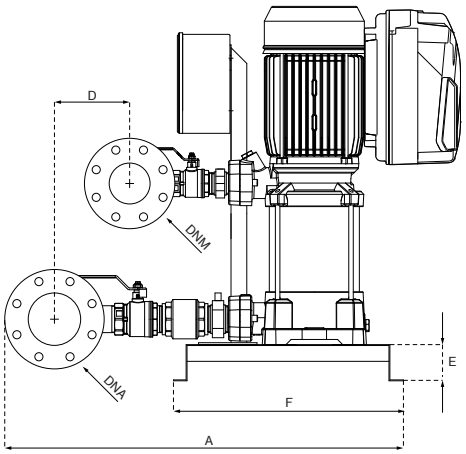
Dimensions and weights may differ slightly and therefore should be considered as indicative

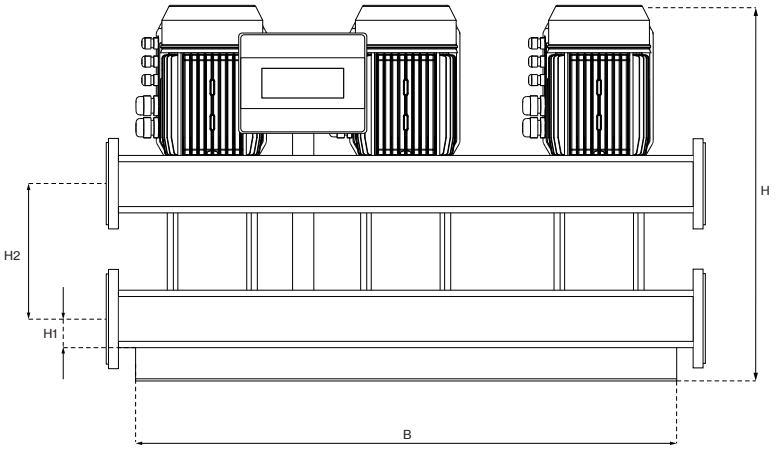


VERTICAL MODEL V (18)		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm										
-	**3P 18V-250/3T**	-	2,19	-	4,3	895	980	166	60	509	541	50	211	DN100	DN80	118
-	**3P 18SV-250/3T**	-	2,29	-	4,4											
-	**3P 18V-400/4T**	-	3	-	5,8	895	980	166	60	509	633	50	248			147
-	**3P 18SV-400/4T**	-	3,1	-	5,9											
-	**3P 18V-450/5T**	-	3,9	-	6,9	895	980	166	60	509	700	50	289			162
-	**3P 18SV-450/5T**	-	3,9	-	6,9											
-	**3P 18V-550/6T**	-	4,6	-	8,4	895	980	166	60	509	738	50	326			175
-	**3P 18SV-550/6T**	-	4,7	-	8,5											
-	**3P 18V-750/8T**	-	6,2	-	11,2	895	980	166	60	509	875	50	401			210
-	**3P 18SV-750/8T**	-	6,2	-	11,2											
-	**3P 18V-900/9T**	-	6,9	-	12,8	895	980	166	60	509	912	50	439			228
-	**3P 18SV-900/9T**	-	7	-	12,9											

3P V (18)

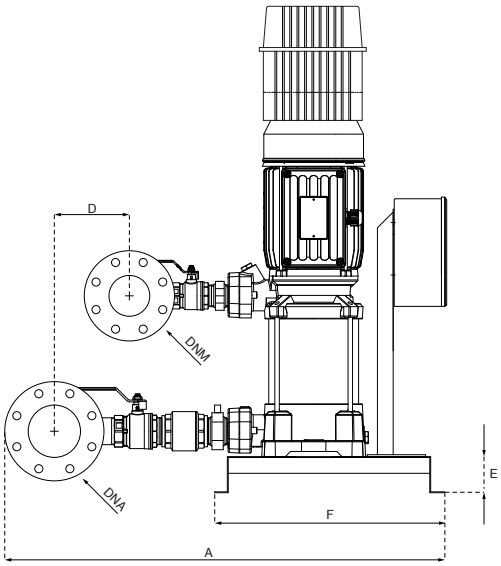
Variable speed EPIC-A

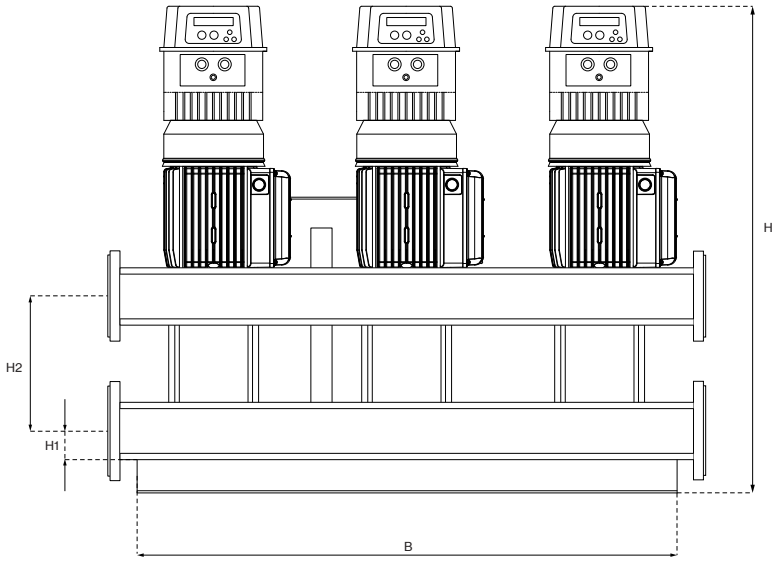




VERTICAL MODEL V (18)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 18V/A-250/3T-306**	2,19	-	4,3	1× 100	895	980	166	60	509	541	50	211	DN100	DN80	126
-	**3P 18SV/A-250/3T-306**	2,29	-	4,4												
-	**3P 18V/A-400/4T-309**	3	-	5,8	1× 100	895	980	166	60	509	633	50	248			155
-	**3P 18SV/A-400/4T-309**	3,1	-	5,9												
-	**3P 18V/A-450/5T-309**	3,9	-	6,9	1× 100	895	980	166	60	509	700	50	289			170
-	**3P 18SV/A-450/5T-309**	3,9	-	6,9												
-	**3P 18V/A-550/6T-314**	4,6	-	8,4	1× 100	895	980	166	60	509	738	50	326			183
-	**3P 18SV/A-550/6T-314**	4,7	-	8,5												
-	**3P 18V/A-750/8T-314**	6,2	-	11,2	1× 100	895	980	166	60	509	875	50	401			218
-	**3P 18SV/A-750/8T-314**	6,2	-	11,2												
-	**3P 18V/A-900/9T-318**	6,9	-	12,8	1× 100	895	980	166	60	509	912	50	439			236
-	**3P 18SV/A-900/9T-318**	7	-	12,9												

Dimensions and weights may differ slightly and therefore should be considered as indicative

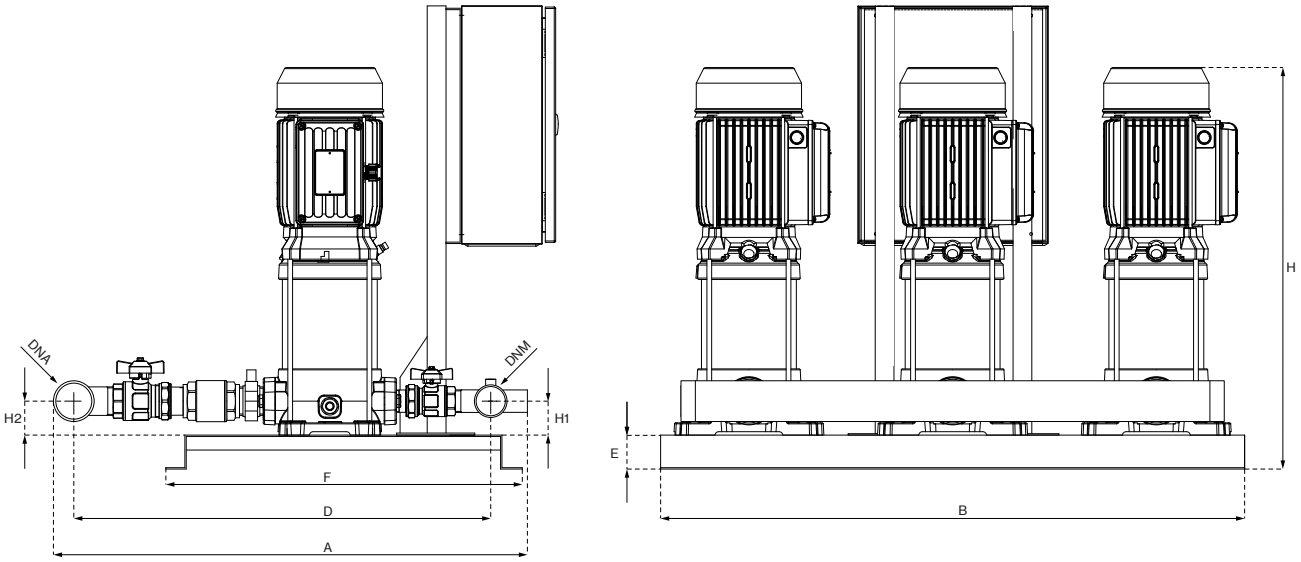




VERTICAL MODEL V (18) IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 18V/I-250/3T-114	**3P 18V/I-250/3T-306**	2,19	7,5	4,3	1× 100	895	980	166	60	509	751	50	211			133
3P 18SV/I-250/3T-114	**3P 18SV/I-250/3T-306**	2,29	7,6	4,4												
-	**3P 18V/I-400/4T-309**	3		5,8	1× 100	895	980	166	60	509	843	50	248			162
-	**3P 18SV/I-400/4T-309**	3,1		5,9												
-	**3P 18V/I-450/5T-309**	3,9		6,9	1× 100	895	980	166	60	509	910	50	289			177
-	**3P 18SV/I-450/5T-309**	3,9		6,9												
-	**3P 18V/I-550/6T-311**	4,6		8,4	1× 100	895	980	166	60	509	948	50	326	DN100	DN80	190
-	**3P 18SV/I-550/6T-311**	4,7		8,5												
-	**3P 18V/I-750/8T-314**	6,2		11,2	1× 100	895	980	166	60	509	1055	50	401			237
-	**3P 18SV/I-750/8T-314**	6,2		11,2												
-	**3P 18V/I-900/9T-318**	6,9		12,8	1× 100	895	980	166	60	509	1092	50	439			255
-	**3P 18SV/I-900/9T-318**	7		12,9												

3P L (3-5-7-9)

Fixed speed



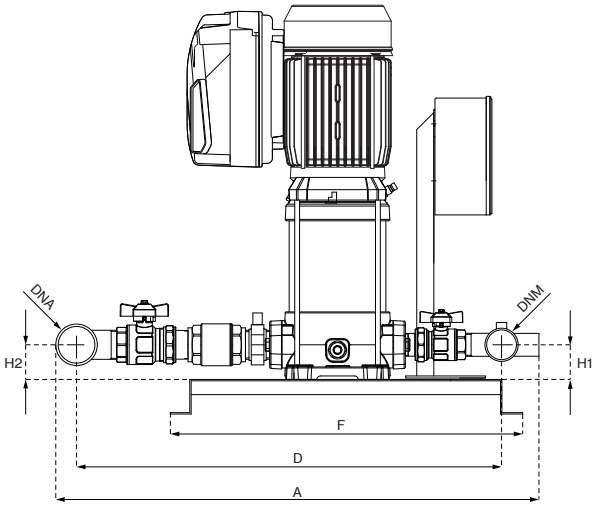
VERTICAL MODEL L (3-5-7-9)		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm										
3P 3L-100/5	**3P 3L-100/5T**	1,06	1,01	4,8	1,9	698	860	614	50	509	479	50	50	2" G	1" ½ G	87
3P 3SL-100/5	**3P 3SL-100/5T**	0,99	0,92	4,4	1,7											
3P 3L-120/6	**3P 3L-120/6T**	1,23	1,23	5,6	2,6	698	860	614	50	509	503	50	50			90
3P 3SL-120/6	**3P 3SL-120/6T**	1,11	1,11	5,1	2,5											
3P 3L-150/7	**3P 3L-150/7T**	1,54	1,45	7,1	2,9	698	860	614	50	509	587	50	50			101
3P 3SL-150/7	**3P 3SL-150/7T**	1,38	1,31	6,4	2,7											
3P 3L-180/8	**3P 3L-180/8T**	1,7	1,6	7,5	3	698	860	614	50	509	611	50	50			102
3P 3SL-180/8	**3P 3SL-180/8T**	1,6	1,55	6,9	2,7											
3P 3L-200/9	**3P 3L-200/9T**	1,9	1,8	8,4	3,3	698	860	614	50	509	635	50	50			103
3P 3SL-200/9	**3P 3SL-200/9T**	1,7	1,6	7,7	3											
3P 3L-250/10	**3P 3L-250/10T**	2,1	2	10	4,1	698	860	614	50	509	659	50	50			111
3P 3SL-250/10	**3P 3SL-250/10T**	1,9	1,8	9,2	3,7											
3P 3L-280/11	**3P 3L-280/11T**	2,3	2,2	10,5	4,3	698	860	614	50	509	683	50	50			113
3P 3SL-280/11	**3P 3SL-280/11T**	2,1	2	9,7	3,9											
3P 3L-300/12	**3P 3L-300/12T**	2,5	2,44	11,2	4,7	698	860	614	50	509	707	50	50			117
3P 3SL-300/12	**3P 3SL-300/12T**	2,3	2,2	10,3	4,3											
-	**3P 3SLG-350/14T**	-	2,5	-	4,7	698	860	614	50	509	982	50	50			177
-	**3P 3SLG-380/16T**	-	2,9	-	5,5	698	860	614	50	509	1027	50	50			189
-	**3P 3SLG-400/18T**	-	3,2	-	6	698	860	614	50	509	1075	50	50			195
-	**3P 3SLG-450/20T**	-	3,6	-	6,5	698	860	614	50	509	1148	50	50			219
3P 5L-120/4	**3P 5L-120/4T**	1,13	1,13	5,2	2,5	759	860	667	50	509	455	50	50	2" ½ G	2" G	87
3P 5SL-120/4	**3P 5SL-120/4T**	1,09	1,08	4,9	2,4											
3P 5L-150/5	**3P 5L-150/5T**	1,47	1,39	6,8	2,8	759	860	667	50	509	539	50	50			96
3P 5SL-150/5	**3P 5SL-150/5T**	1,39	1,31	6,5	2,7											
3P 5L-180/6	**3P 5L-180/6T**	1,7	1,62	7,7	3	759	860	667	50	509	563	50	50			98
3P 5SL-180/6	**3P 5SL-180/6T**	1,63	1,55	7,3	3											
3P 5L-200/7	**3P 5L-200/7T**	2	1,86	9	3,4	759	860	667	50	509	587	50	50			102
3P 5SL-200/7	**3P 5SL-200/7T**	1,94	1,77	8,7	3,3											
3P 5L-250/8	**3P 5L-250/8T**	2,37	2,17	10,7	4,1	759	860	667	50	509	611	50	50			107
3P 5SL-250/8	**3P 5SL-250/8T**	2,2	2,07	10,1	4											
3P 5L-280/9	**3P 5L-280/9T**	2,6	2,4	11,7	4,4	759	860	667	50	509	635	50	50			110
3P 5SL-280/9	**3P 5SL-280/9T**	2,45	2,27	11	4,2											

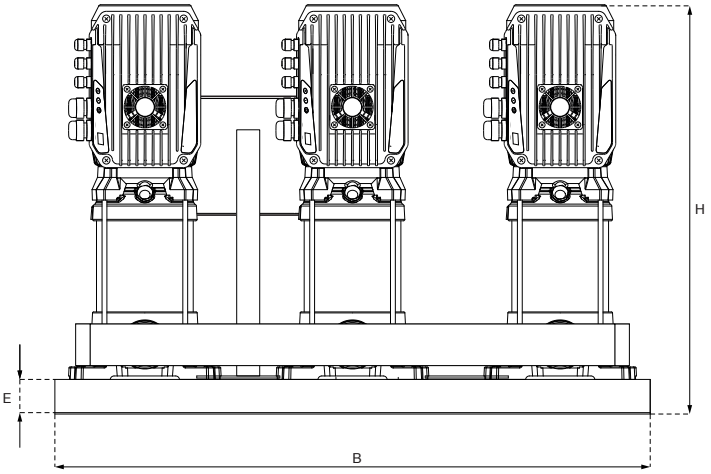
Dimensions and weights may differ slightly and therefore should be considered as indicative

VERTICAL MODEL L (3-5-7-9)		P1		In		DIMENSIONS									Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~	3~	kW (×3)		A (×3)		mm										
3P 5L-300/10	**3P 5L-300/10T**	2,84	2,73	12,8	4,9	759	860	667	50	509	659	50	50			113
3P 5SL-300/10	**3P 5SL-300/10T**	2,67	2,57	11,9	4,7											
-	**3P 5L-350/11T**	-	2,9	-	5,3	759	860	667	50	509	737	50	50			120
-	**3P 5SL-350/11T**	-	2,9	-	5,3											
-	**3P 5L-380/12T**	-	3,2	-	6	759	860	667	50	509	761	50	50	2" ½ G	2" G	141
-	**3P 5SL-380/12T**	-	3,2	-	6											
-	**3P 5SLG-400/14T**	-	3,5	-	6,3	759	860	667	50	509	982	50	50			185
-	**3P 5SLG-450/16T**	-	4,1	-	7,9	759	860	667	50	509	1050	50	50			221
-	**3P 5SLG-550/18T**	-	4,5	-	8,3	759	860	667	50	509	1098	50	50			227
-	**3P 5SLG-600/20T**	-	5	-	8,9	759	860	667	50	509	1148	50	50			231
3P 7L-180/4	**3P 7L-180/4T**	1,83	1,71	8,3	3,2	811	860	712	50	509	515	50	50			106
3P 7SL-180/4	**3P 7SL-180/4T**	1,69	1,62	7,7	3,1											
3P 7L-250/5	**3P 7L-250/5T**	2,39	2,15	10,9	4,2	811	860	712	50	509	539	50	50			112
3P 7SL-250/5	**3P 7SL-250/5T**	2,19	2,05	10,2	4,1											
3P 7L-300/6	**3P 7L-300/6T**	2,68	2,63	12,2	5	811	860	712	50	509	563	50	50			117
3P 7SL-300/6	**3P 7SL-300/6T**	2,53	2,44	11,4	4,8											
-	**3P 7L-350/7T**	-	2,8	-	5,1	811	860	712	50	509	640	50	50			133
-	**3P 7SL-350/7T**	-	2,9	-	5,3											
-	**3P 7L-400/8T**	-	3,1	-	5,9	811	860	712	50	509	664	50	50			145
-	**3P 7SL-400/8T**	-	3,3	-	6,1									3" G	2" ½ G	
-	**3P 7L-450/9T**	-	3,6	-	6,5	811	860	712	50	509	718	50	50			159
-	**3P 7SL-450/9T**	-	3,7	-	6,7											
-	**3P 7L-550/10T**	-	4	-	7,7	811	860	712	50	509	742	50	50			178
-	**3P 7SL-550/10T**	-	4,1	-	7,9											
-	**3P 7SLG-750/12T**	-	5,1	-	9,9	811	860	712	50	509	990	50	50			243
-	**3P 7SLG-800/14T**	-	5,9	-	10,9	811	860	712	50	509	1038	50	50			247
-	**3P 7SLG-900/16T**	-	6,7	-	12	811	860	712	50	509	1086	50	50			268
-	**3P 7SLG-950/18T**	-	7,4	-	12,4	811	860	712	50	509	1131	50	50			294
-	**3P 7SLG-1000/20T**	-	8,2	-	13,5	811	860	712	50	509	1178	50	50			297
3P 9L-200/4	**3P 9L-200/4T**	1,88	1,77	8,4	3,3	811	860	712	50	509	570	50	50			123
3P 9SL-200/4	**3P 9SL-200/4T**	1,88	1,77	8,4	3,3											
3P 9L-250/5	**3P 9L-250/5T**	2,32	2,18	10,6	4,3	811	860	712	50	509	600	50	50			127
3P 9SL-250/5	**3P 9SL-250/5T**	2,36	2,23	10,8	4,3											
3P 9L-300/6	**3P 9L-300/6T**	2,74	2,64	12,2	4,8	811	860	712	50	509	630	50	50			132
3P 9SL-300/6	**3P 9SL-300/6T**	2,78	2,58	12,5	4,9											
-	**3P 9L-400/7T**	-	3	-	5,8	811	860	712	50	509	713	50	50			157
-	**3P 9SL-400/7T**	-	3,1	-	5,9											
-	**3P 9L-450/8T**	-	3,5	-	6,4	811	860	712	50	509	773	50	50			171
-	**3P 9SL-450/8T**	-	3,6	-	6,5									3" G	2" ½ G	
-	**3P 9L-500/9T**	-	3,9	-	6,9	811	860	712	50	509	813	50	50			174
-	**3P 9SL-500/9T**	-	4	-	7											
-	**3P 9L-550/10T**	-	4,3	-	8,1	811	860	712	50	509	833	50	50			192
-	**3P 9SL-550/10T**	-	4,4	-	8,2											
-	**3P 9SLG-750/12T**	-	5,3	-	10,1	811	860	712	50	509	1077	50	50			253
-	**3P 9SLG-800/14T**	-	6,1	-	11,1	811	860	712	50	509	1138	50	50			258
-	**3P 9SLG-900/16T**	-	6,9	-	12,8	811	860	712	50	509	1197	50	50			280
-	**3P 9SLG-950/18T**	-	7,6	-	12,7	811	860	712	50	509	1255	50	50			304
-	**3P 9SLG-1000/20T**	-	8,5	-	13,9	811	860	712	50	509	1313	50	50			310

3P L (3-5-7-9)

Variable speed EPIC-A





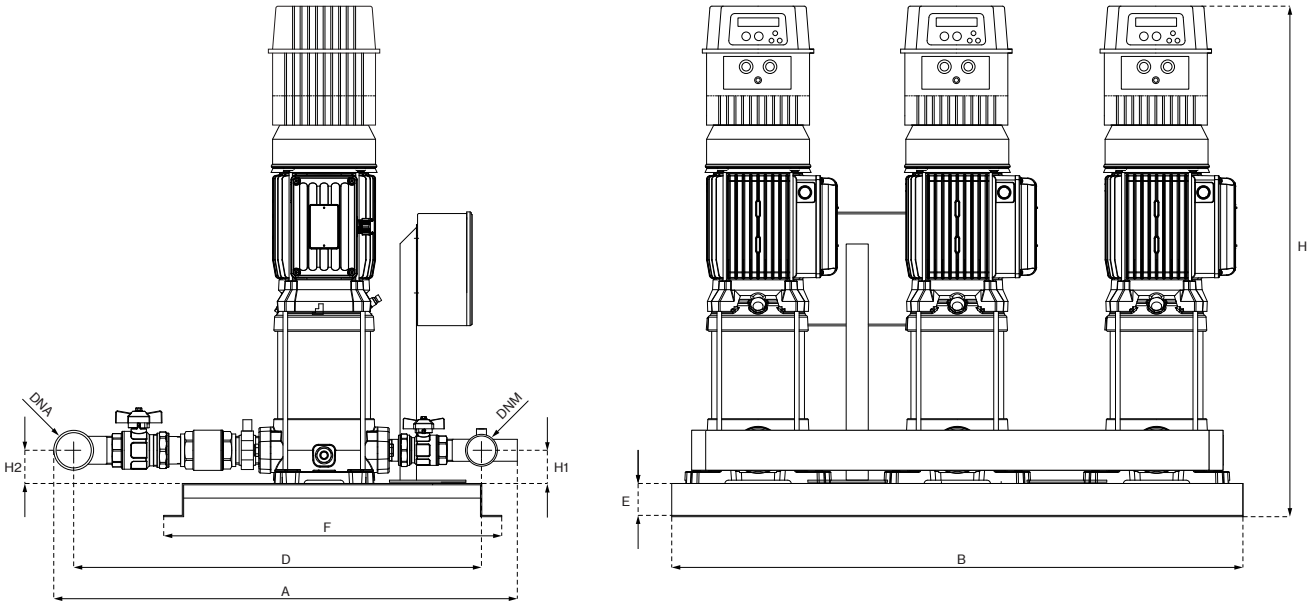
VERTICAL MODEL L (3÷9)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 3L/A-100/5T-304**	1,01	3,3	1,9	3× 8	698	860	614	50	509	479	50	50			95
-	**3P 3SL/A-100/5T-304**	0,92	2,9	1,7												
-	**3P 3L/A-120/6T-304**	1,23	4,5	2,6	3× 8	698	860	614	50	509	503	50	50			98
-	**3P 3SL/A-120/6T-304**	1,11	4,3	2,5												
-	**3P 3L/A-150/7T-304**	1,45	5	2,9	3× 8	698	860	614	50	509	587	50	50			109
-	**3P 3SL/A-150/7T-304**	1,31	4,7	2,7												
-	**3P 3L/A-180/8T-304**	1,6	5,2	3	3× 8	698	860	614	50	509	611	50	50			110
-	**3P 3SL/A-180/8T-304**	1,55	4,7	2,7												
-	**3P 3L/A-200/9T-304**	1,8	5,7	3,3	3× 8	698	860	614	50	509	635	50	50			111
-	**3P 3SL/A-200/9T-304**	1,6	5,2	3												
-	**3P 3L/A-250/10T-306**	2	7,1	4,1	3× 8	698	860	614	50	509	659	50	50	2" G	1" ½ G	119
-	**3P 3SL/A-250/10T-306**	1,8	6,4	3,7												
-	**3P 3L/A-280/11T-306**	2,2	-	4,3	3× 8	698	860	614	50	509	683	50	50			121
-	**3P 3SL/A-280/11T-306**	2	6,8	3,9												
-	**3P 3L/A-300/12T-306**	2,44	-	4,7	3× 8	698	860	614	50	509	707	50	50			125
-	**3P 3SL/A-300/12T-306**	2,2	-	4,3												
-	**3P 3SLG/A-350/14T-306**	2,5	-	4,7	3× 8	698	860	614	50	509	982	50	50			185
-	**3P 3SLG/A-380/16T-309**	2,9	-	5,5	3× 8	698	860	614	50	509	1027	50	50			197
-	**3P 3SLG/A-400/18T-309**	3,2	-	6	3× 8	698	860	614	50	509	1075	50	50			203
-	**3P 3SLG/A-450/20T-309**	3,6	-	6,5	3× 8	698	860	614	50	509	1148	50	50			227
-	**3P 5L/A-120/4T-304**	1,13	4,3	2,5	3× 20	759	860	667	50	509	455	50	50			95
-	**3P 5SL/A-120/4T-304**	1,08	4,2	2,4												
-	**3P 5L/A-150/5T-304**	1,39	4,9	2,8	3× 20	759	860	667	50	509	539	50	50			104
-	**3P 5SL/A-150/5T-304**	1,31	4,7	2,7												
-	**3P 5L/A-180/6T-304**	1,62	5,2	3	3× 20	759	860	667	50	509	563	50	50			106
-	**3P 5SL/A-180/6T-304**	1,55	5,2	3												
-	**3P 5L/A-200/7T-304**	1,86	5,9	3,4	3× 20	759	860	667	50	509	587	50	50	2" ½ G	2" G	110
-	**3P 5SL/A-200/7T-304**	1,77	5,7	3,3												
-	**3P 5L/A-250/8T-306**	2,17	7,1	4,1	3× 20	759	860	667	50	509	611	50	50			115
-	**3P 5SL/A-250/8T-306**	2,07	6,9	4												
-	**3P 5L/A-280/9T-306**	2,4	-	4,4	3× 20	759	860	667	50	509	635	50	50			118
-	**3P 5SL/A-280/9T-306**	2,27	-	4,2												

Dimensions and weights may differ slightly and therefore should be considered as indicative

VERTICAL MODEL L (3÷9)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 5L/A-300/10T-306**	2,73	-	4,9	3× 20	759	860	667	50	509	659	50	50			121
-	**3P 5SL/A-300/10T-306**	2,57	-	4,7												
-	**3P 5L/A-350/11T-306**	2,9	-	5,3	3× 20	759	860	667	50	509	737	50	50			12
-	**3P 5SL/A-350/11T-306**	2,9	-	5,3												
-	**3P 5L/A-380/12T-309**	3,2	-	6	3× 20	759	860	667	50	509	761	50	50	2" ½ G	2" G	149
-	**3P 5SL/A-380/12T-309**	3,2	-	6												
-	**3P 5SLG/A-400/14T-309**	3,5	-	6,3	3× 20	759	860	667	50	509	982	50	50			193
-	**3P 5SLG/A-450/16T-309**	4,1	-	7,9	3× 20	759	860	667	50	509	1050	50	50			229
-	**3P 5SLG/A-550/18T-314**	4,5	-	8,3	3× 20	759	860	667	50	509	1098	50	50			257
-	**3P 5SLG/A-600/20T-314**	5	-	8,9	3× 20	759	860	667	50	509	1148	50	50			261
-	**3P 7L/A-180/4T-304**	1,71	5,5	3,2	3× 20	811	860	712	50	509	515	50	50			114
-	**3P 7SL/A-180/4T-304**	1,62	5,4	3,1												
-	**3P 7L/A-250/5T-306**	2,15	-	4,2	3× 20	811	860	712	50	509	539	50	50			120
-	**3P 7SL/A-250/5T-306**	2,05	-	4,1												
-	**3P 7L/A-300/6T-306**	2,63	-	5	3× 20	811	860	712	50	509	563	50	50			125
-	**3P 7SL/A-300/6T-306**	2,44	-	4,8												
-	**3P 7L/A-350/7T-306**	2,8	-	5,1	3× 20	811	860	712	50	509	640	50	50			141
-	**3P 7SL/A-350/7T-306**	2,9	-	5,3												
-	**3P 7L/A-400/8T-309**	3,1	-	5,9	3× 20	811	860	712	50	509	664	50	50	3" G	2" ½ G	153
-	**3P 7SL/A-400/8T-309**	3,3	-	6,1												
-	**3P 7L/A-450/9T-309**	3,6	-	6,5	3× 20	811	860	712	50	509	718	50	50			167
-	**3P 7SL/A-450/9T-309**	3,7	-	6,7												
-	**3P 7L/A-550/10T-309**	4	-	7,7	3× 20	811	860	712	50	509	742	50	50			186
-	**3P 7SL/A-550/10T-309**	4,1	-	7,9												
-	**3P 7SLG/A-750/12T-314**	5,1	-	9,9	3× 20	811	860	712	50	509	990	50	50			273
-	**3P 7SLG/A-800/14T-314**	5,9	-	10,9	3× 20	811	860	712	50	509	1038	50	50			277
-	**3P 7SLG/A-900/16T-314**	6,7	-	12	3× 20	811	860	712	50	509	1086	50	50			298
-	**3P 7SLG/A-950/18T-314**	7,4	-	12,4	3× 20	811	860	712	50	509	1131	50	50			324
-	**3P 7SLG/A-1000/20T-318**	8,2	-	13,5	3× 20	811	860	712	50	509	1178	50	50			327
-	**3P 9L/A-200/4T-304**	1,77	5,7	3,3	3× 20	811	860	712	50	509	570	50	50			131
-	**3P 9SL/A-200/4T-304**	1,77	5,7	3,3												
-	**3P 9L/A-250/5T-306**	2,18	-	4,3	3× 20	811	860	712	50	509	600	50	50			135
-	**3P 9SL/A-250/5T-306**	2,23	-	4,3												
-	**3P 9L/A-300/6T-306**	2,64	-	4,8	3× 20	811	860	712	50	509	630	50	50			140
-	**3P 9SL/A-300/6T-306**	2,58	-	4,9												
-	**3P 9L/A-400/7T-309**	3	-	5,8	3× 20	811	860	712	50	509	713	50	50			165
-	**3P 9SL/A-400/7T-309**	3,1	-	5,9												
-	**3P 9L/A-450/8T-309**	3,5	-	6,4	3× 20	811	860	712	50	509	773	50	50	3" G	2" ½ G	179
-	**3P 9SL/A-450/8T-309**	3,6	-	6,5												
-	**3P 9L/A-500/9T-309**	3,9	-	6,9	3× 20	811	860	712	50	509	813	50	50			182
-	**3P 9SL/A-500/9T-309**	4	-	7												
-	**3P 9L/A-550/10T-309**	4,3	-	8,1	3× 20	811	860	712	50	509	833	50	50			222
-	**3P 9SL/A-550/10T-314**	4,4	-	8,2												
-	**3P 9SLG/A-750/12T-314**	5,3	-	10,1	3× 20	811	860	712	50	509	1077	50	50			283
-	**3P 9SLG/A-800/14T-314**	6,1	-	11,1	3× 20	811	860	712	50	509	1138	50	50			288
-	**3P 9SLG/A-900/16T-318**	6,9	-	12,8	3× 20	811	860	712	50	509	1197	50	50			310
-	**3P 9SLG/A-950/18T-318**	7,6	-	12,7	3× 20	811	860	712	50	509	1255	50	50			334
-	**3P 9SLG/A-1000/20T-318**	8,5	-	13,9	3× 20	811	860	712	50	509	1313	50	50			340

3P L (3-5-7-9)

Variable speed IPFC



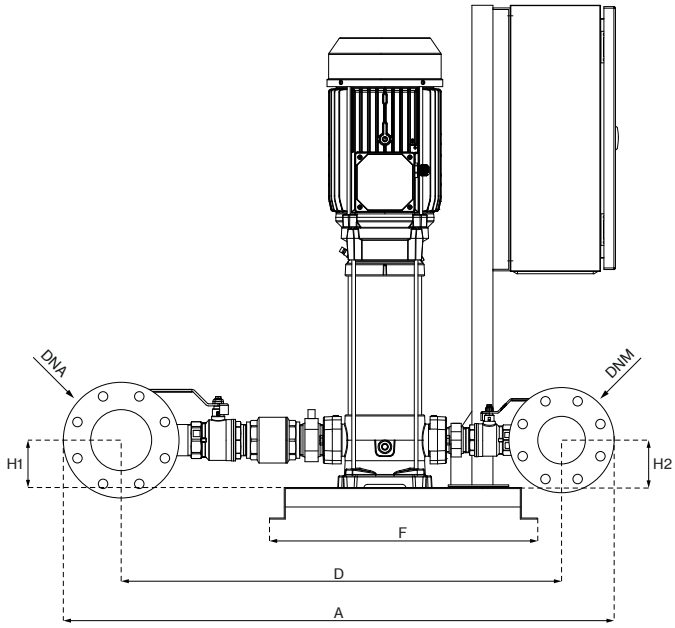
VERTICAL MODEL L (3÷9) IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 3L/I-100/5T-109	**3P 3L/I-100/5T-306**	1,01	3,3	1,9	3× 8	698	860	614	50	509	689	50	50			102
3P 3SL/I-100/5T-109	**3P 3SL/I-100/5T-306**	0,92	2,9	1,7												
3P 3L/I-120/6T-109	**3P 3L/I-120/6T-306**	1,23	4,5	2,6	3× 8	698	860	614	50	509	713	50	50			105
3P 3SL/I-120/6T-109	**3P 3SL/I-120/6T-306**	1,11	4,3	2,5												
3P 3L/I-150/7T-109	**3P 3L/I-150/7T-306**	1,45	5	2,9	3× 8	698	860	614	50	509	797	50	50			116
3P 3SL/I-150/7T-109	**3P 3SL/I-150/7T-306**	1,31	4,7	2,7												
3P 3L/I-180/8T-109	**3P 3L/I-180/8T-306**	1,6	5,2	3	3× 8	698	860	614	50	509	821	50	50			117
3P 3SL/I-180/8T-109	**3P 3SL/I-180/8T-306**	1,55	4,7	2,7												
3P 3L/I-200/9T-109	**3P 3L/I-200/9T-306**	1,8	5,7	3,3	3× 8	698	860	614	50	509	845	50	50			117
3P 3SL/I-200/9T-109	**3P 3SL/I-200/9T-306**	1,6	5,2	3												
3P 3L/I-250/10T-114	**3P 3L/I-250/10T-306**	2	7,1	4,1	3× 8	698	860	614	50	509	869	50	50	2" G	1" ½ G	126
3P 3SL/I-250/10T-114	**3P 3SL/I-250/10T-306**	1,8	6,4	3,7												
3P 3L/I-280/11T-114	**3P 3L/I-280/11T-306**	2,2	7,4	4,3	3× 8	698	860	614	50	509	893	50	50			128
3P 3SL/I-280/11T-114	**3P 3SL/I-280/11T-306**	2	6,8	3,9												
3P 3L/I-300/12T-114	**3P 3L/I-300/12T-306**	2,44	8,1	4,7	3× 8	698	860	614	50	509	917	50	50			132
3P 3SL/I-300/12T-114	**3P 3SL/I-300/12T-306**	2,2	7,4	4,3												
3P 3SLG/I-350/14T-114	**3P 3SLG/I-350/14T-306**	2,5	8,1	4,7	3× 8	698	860	614	50	509	1192	50	50			192
3P 3SLG/I-380/16T-114	**3P 3SLG/I-380/16T-309**	2,9	9,5	5,5	3× 8	698	860	614	50	509	1237	50	50			204
-	**3P 3SLG/I-400/18T-309**	3,2	-	6	3× 8	698	860	614	50	509	1285	50	50			210
-	**3P 3SLG/I-450/20T-309**	3,6	-	6,5	3× 8	698	860	614	50	509	1358	50	50			234
3P 5L/I-120/4T-109	**3P 5L/I-120/4T-306**	1,13	4,3	2,5	3× 20	759	860	667	50	509	665	50	50			102
3P 5SL/I-120/4T-109	**3P 5SL/I-120/4T-306**	1,08	4,2	2,4												
3P 5L/I-150/5T-109	**3P 5L/I-150/5T-306**	1,39	4,9	2,8	3× 20	759	860	667	50	509	749	50	50			111
3P 5SL/I-150/5T-109	**3P 5SL/I-150/5T-306**	1,31	4,7	2,7												
3P 5L/I-180/6T-109	**3P 5L/I-180/6T-306**	1,62	5,2	3	3× 20	759	860	667	50	509	773	50	50			113
3P 5SL/I-180/6T-109	**3P 5SL/I-180/6T-306**	1,55	5,2	3												
3P 5L/I-200/7T-109	**3P 5L/I-200/7T-306**	1,86	5,9	3,4	3× 20	759	860	667	50	509	797	50	50			117
3P 5SL/I-200/7T-109	**3P 5SL/I-200/7T-306**	1,77	5,7	3,3												
3P 5L/I-250/8T-114	**3P 5L/I-250/8T-306**	2,17	7,1	4,1	3× 20	759	860	667	50	509	821	50	50	2" ½ G	2" G	122
3P 5SL/I-250/8T-114	**3P 5SL/I-250/8T-306**	2,07	6,9	4												
3P 5L/I-280/9T-114	**3P 5L/I-280/9T-306**	2,4	7,6	4,4	3× 20	759	860	667	50	509	845	50	50			125
3P 5SL/I-280/9T-114	**3P 5SL/I-280/9T-306**	2,27	7,3	4,2												
3P 5L/I-300/10T-114	**3P 5L/I-300/10T-306**	2,73	8,5	4,9	3× 20	759	860	667	50	509	869	50	50			128
3P 5SL/I-300/10T-114	**3P 5SL/I-300/10T-306**	2,57	8,1	4,7												
3P 5L/I-350/11T-114	**3P 5L/I-350/11T-306**	2,9	9,2	5,3	3× 20	759	860	667	50	509	947	50	50			135
3P 5SL/I-350/11T-114	**3P 5SL/I-350/11T-306**	2,9	9,2	5,3												

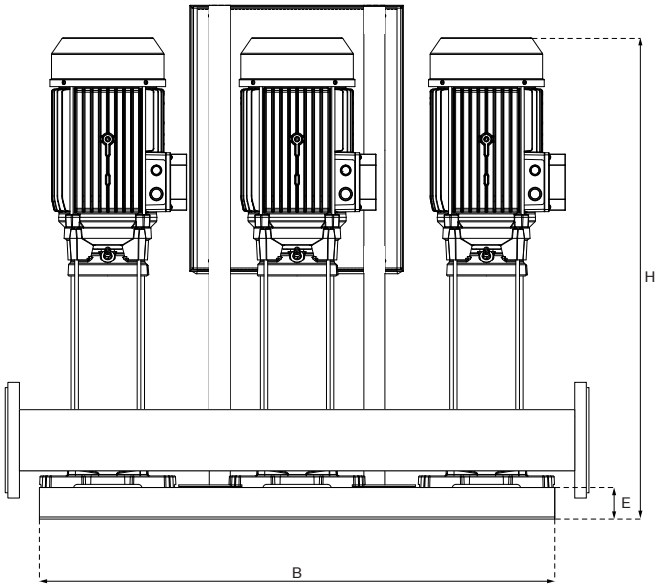
Dimensions and weights may differ slightly and therefore should be considered as indicative

VERTICAL MODEL L (3÷9) IPFC		P1	In		Required tank	DIMENSIONS									Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
-	3P 5L/I-380/12T-309	3,2	-	6	3× 20	759	860	667	50	509	971	50	50	2" ½ G	2" G	156
-	3P 5SL/I-380/12T-309	3,2	-	6												
-	3P 5SLG/I-400/14T-309	3,5	-	6,3	3× 20	759	860	667	50	509	1192	50	50			200
-	3P 5SLG/I-450/16T-309	4,1	-	7,9	3× 20	759	860	667	50	509	1260	50	50			236
-	3P 5SLG/I-550/18T-311	4,5	-	8,3	3× 20	759	860	667	50	509	1308	50	50			242
-	3P 5SLG/I-600/20T-311	5	-	8,9	3× 20	759	860	667	50	509	1358	50	50			246
3P 7L/I-180/4T-109	3P 7L/I-180/4T-306	1,71	5,5	3,2	3× 20	811	860	712	50	509	725	50	50	3" G	2" ½ G	121
3P 7SL/I-180/4T-109	3P 7SL/I-180/4T-306	1,62	5,4	3,1												
3P 7L/I-250/5T-114	3P 7L/I-250/5T-306	2,15	7,3	4,2	3× 20	811	860	712	50	509	749	50	50			127
3P 7SL/I-250/5T-114	3P 7SL/I-250/5T-306	2,05	7,1	4,1												
3P 7L/I-300/6T-114	3P 7L/I-300/6T-306	2,63	8,7	5	3× 20	811	860	712	50	509	773	50	50			132
3P 7SL/I-300/6T-114	3P 7SL/I-300/6T-306	2,44	8,3	4,8												
3P 7L/I-350/7T-114	3P 7L/I-350/7T-306	2,8	8,8	5,1	3× 20	811	860	712	50	509	850	50	50			148
3P 7SL/I-350/7T-114	3P 7SL/I-350/7T-306	2,9	9,2	5,3												
-	3P 7L/I-400/8T-309	3,1	-	5,9	3× 20	811	860	712	50	509	874	50	50			160
-	3P 7SL/I-400/8T-309	3,3	-	6,1												
-	3P 7L/I-450/9T-309	3,6	-	6,5	3× 20	811	860	712	50	509	928	50	50			174
-	3P 7SL/I-450/9T-309	3,7	-	6,7												
-	3P 7L/I-550/10T-309	4	-	7,7	3× 20	811	860	712	50	509	952	50	50			193
-	3P 7SL/I-550/10T-309	4,1	-	7,9												
-	3P 7SLG/I-750/12T-311	5,1	-	9,9	3× 20	811	860	712	50	509	1200	50	50			258
-	3P 7SLG/I-800/14T-314	5,9	-	10,9	3× 20	811	860	712	50	509	1218	50	50			274
-	3P 7SLG/I-900/16T-314	6,7	-	12	3× 20	811	860	712	50	509	1266	50	50			295
-	3P 7SLG/I-950/18T-314	7,4	-	12,4	3× 20	811	860	712	50	509	1311	50	50			321
-	3P 7SLG/I-1000/20T-318	8,2	-	13,5	3× 20	811	860	712	50	509	1358	50	50			324
3P 9L/I-200/4T-109	3P 9L/I-200/4T-306	1,77	5,7	3,3	3× 20	811	860	712	50	509	780	50	50	3" G	2" ½ G	138
3P 9SL/I-200/4T-109	3P 9SL/I-200/4T-306	1,77	5,7	3,3												
3P 9L/I-250/5T-114	3P 9L/I-250/5T-306	2,18	7,5	4,3	3× 20	811	860	712	50	509	810	50	50			142
3P 9SL/I-250/5T-114	3P 9SL/I-250/5T-306	2,23	7,5	4,3												
3P 9L/I-300/6T-114	3P 9L/I-300/6T-306	2,64	8,3	4,8	3× 20	811	860	712	50	509	840	50	50			147
3P 9SL/I-300/6T-114	3P 9SL/I-300/6T-306	2,58	8,5	4,9												
-	3P 9L/I-400/7T-309	3	-	5,8	3× 20	811	860	712	50	509	923	50	50			172
-	3P 9SL/I-400/7T-309	3,1	-	5,9												
-	3P 9L/I-450/8T-309	3,5	-	6,4	3× 20	811	860	712	50	509	983	50	50			186
-	3P 9SL/I-450/8T-309	3,6	-	6,5												
-	3P 9L/I-500/9T-309	3,9	-	6,9	3× 20	811	860	712	50	509	1023	50	50			189
-	3P 9SL/I-500/9T-309	4	-	7												
-	3P 9L/I-550/10T-309	4,3	-	8,1	3× 20	811	860	712	50	509	1043	50	50			207
-	3P 9SL/I-550/10T-311	4,4	-	8,2												
-	3P 9SLG/I-750/12T-314	5,3	-	10,1	3× 20	811	860	712	50	509	1257	50	50			280
-	3P 9SLG/I-800/14T-314	6,1	-	11,1	3× 20	811	860	712	50	509	1318	50	50			285
-	3P 9SLG/I-900/16T-318	6,9	-	12,8	3× 20	811	860	712	50	509	1377	50	50			307
-	3P 9SLG/I-950/18T-318	7,6	-	12,7	3× 20	811	860	712	50	509	1435	50	50			331
-	3P 9SLG/I-1000/20T-318	8,5	-	13,9	3× 20	811	860	712	50	509	1493	50	50			337

3P L (18)

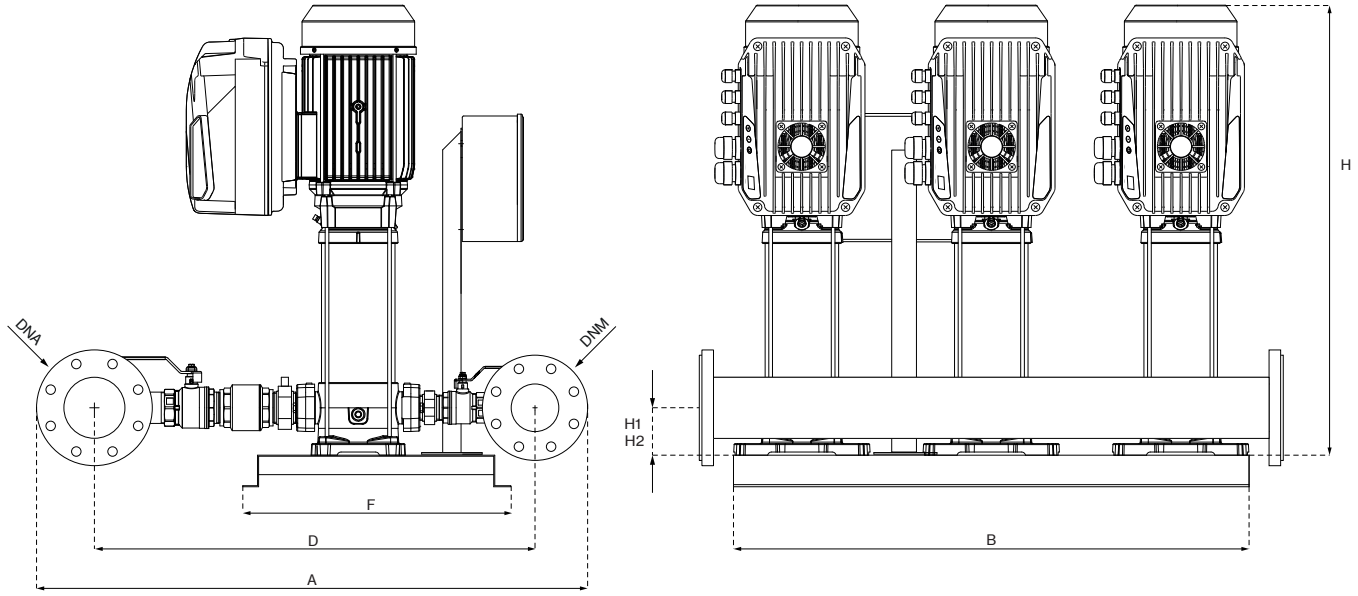
Fixed speed





VERTICAL MODEL L (18)		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm										
-	**3P 18L-250/3T**	-	2,19	-	4,3	1048	980	838	60	509	542	90	90	DN100	DN80	135
-	**3P 18SL-250/3T**	-	2,29	-	4,4											
-	**3P 18L-400/4T**	-	3	-	5,8	1048	980	838	60	509	663	90	90			163
-	**3P 18SL-400/4T**	-	3,1	-	5,9											
-	**3P 18L-450/5T**	-	3,9	-	6,9	1048	980	838	60	509	740	90	90			178
-	**3P 18SL-450/5T**	-	3,9	-	6,9											
-	**3P 18L-550/6T**	-	4,6	-	8,4	1048	980	838	60	509	778	90	90			196
-	**3P 18SL-550/6T**	-	4,7	-	8,5											
-	**3P 18L-750/8T**	-	6,2	-	11,2	1048	980	838	60	509	915	90	90			223
-	**3P 18SL-750/8T**	-	6,2	-	11,2											
-	**3P 18L-900/9T**	-	6,9	-	12,8	1048	980	838	60	509	953	90	90			241
-	**3P 18SL-900/9T**	-	7	-	12,9											
-	**3P 18LG-920/10T**	-	7,7	-	14	1048	980	838	60	509	1079	90	90			249
-	**3P 18LG-1000/11T**	-	8,3	-	13,6	1048	980	838	60	509	1117	90	90			273

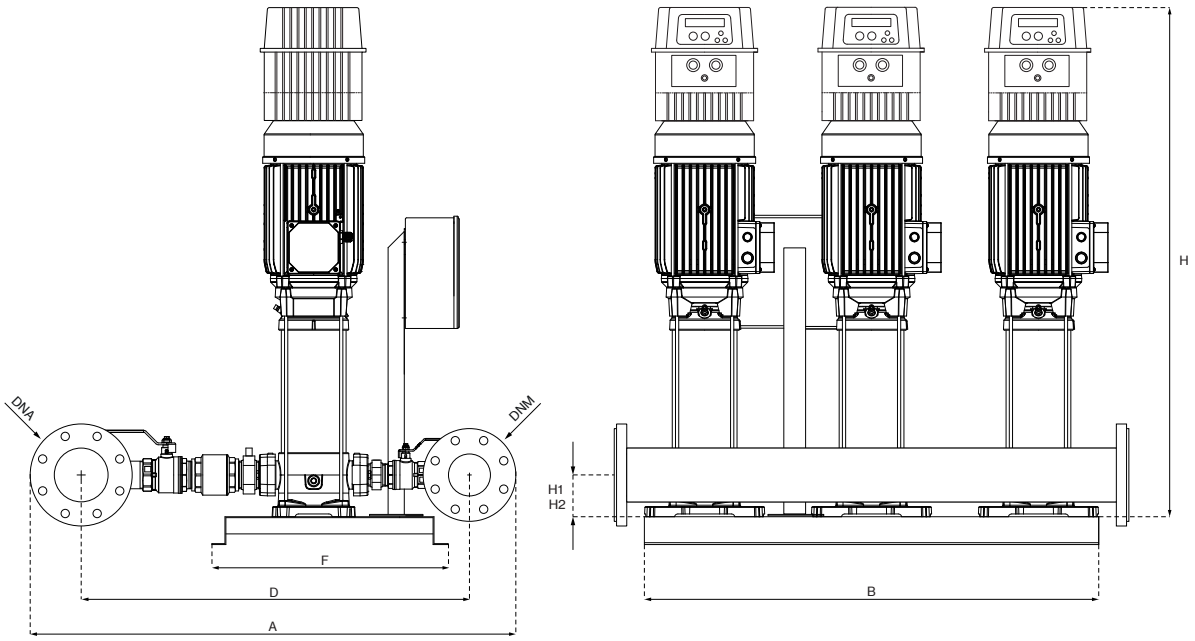
Dimensions and weights may differ slightly and therefore should be considered as indicative



VERTICAL MODEL L (18)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 18L/A-250/3T-306**	2,19	7,5	4,3	1× 100	1048	980	838	60	509	542	90	90			143
-	**3P 18SL/A-250/3T-306**	2,29	7,6	4,4												
-	**3P 18L/A-400/4T-309**	3	-	5,8	1× 100	1048	980	838	60	509	663	90	90			171
-	**3P 18SL/A-400/4T-309**	3,1	-	5,9												
-	**3P 18L/A-450/5T-309**	3,9	-	6,9	1× 100	1048	980	838	60	509	740	90	90			186
-	**3P 18SL/A-450/5T-309**	3,9	-	6,9												
-	**3P 18L/A-550/6T-314**	4,6	-	8,4	1× 100	1048	980	838	60	509	778	90	90	DN100	DN80	226
-	**3P 18SL/A-550/6T-314**	4,7	-	8,5												
-	**3P 18L/A-750/8T-314**	6,2	-	11,2	1× 100	1048	980	838	60	509	915	90	90			253
-	**3P 18SL/A-750/8T-314**	6,2	-	11,2												
-	**3P 18L/A-900/9T-318**	6,9	-	12,8	1× 100	1048	980	838	60	509	953	90	90			271
-	**3P 18SL/A-900/9T-318**	7	-	12,9												
-	**3P 18LG/A-920/10T-318**	7,7	-	14	1× 100	1048	980	838	60	509	1079	90	90			279
-	**3P 18LG/A-1000/11T-318**	8,3	-	13,6	1× 100	1048	980	838	60	509	1117	90	90			303

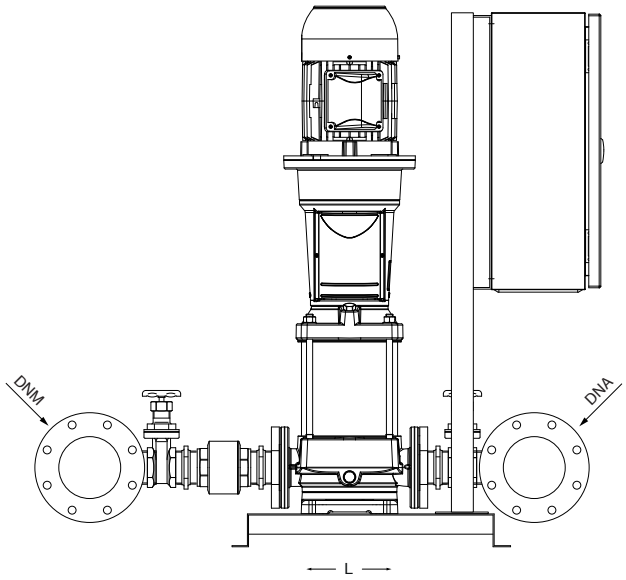
3P L (18)

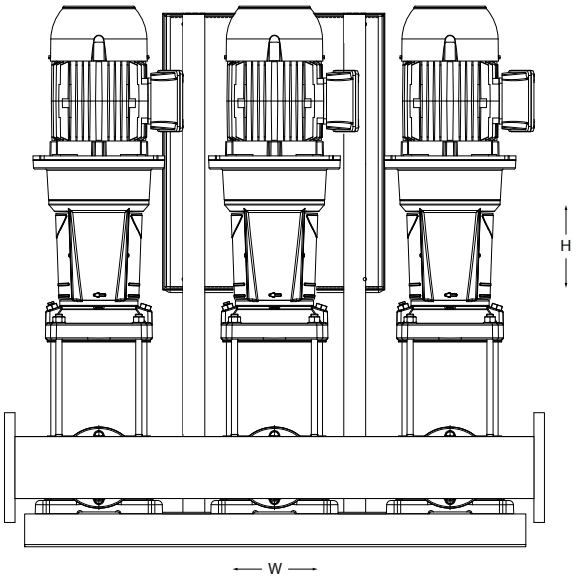
Variable speed IPFC



VERTICAL MODEL L (18) IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 18L/I-250/3T-114	**3P 18L/I-250/3T-306**	2,19	7,5	4,3	1× 100	1048	980	838	60	509	752	90	90			150
3P 18SL/I-250/3T-114	**3P 18SL/I-250/3T-306**	2,29	7,6	4,4												
-	**3P 18L/I-400/4T-309**	3	-	5,8	1× 100	1048	980	838	60	509	873	90	90			178
-	**3P 18SL/I-400/4T-309**	3,1	-	5,9												
-	**3P 18L/I-450/5T-309**	3,9	-	6,9	1× 100	1048	980	838	60	509	950	90	90			193
-	**3P 18SL/I-450/5T-309**	3,9	-	6,9												
-	**3P 18L/I-550/6T-311**	4,6	-	8,4	1× 100	1048	980	838	60	509	988	90	90	DN100	DN80	211
-	**3P 18SL/I-550/6T-311**	4,7	-	8,5												
-	**3P 18L/I-750/8T-314**	6,2	-	11,2	1× 100	1048	980	838	60	509	1095	90	90			250
-	**3P 18SL/I-750/8T-314**	6,2	-	11,2												
-	**3P 18L/I-900/9T-318**	6,9	-	12,8	1× 100	1048	980	838	60	509	1133	90	90			268
-	**3P 18SL/I-900/9T-318**	7	-	12,9												
-	**3P 18LG/I-920/10T-318**	7,7	-	14	1× 100	1048	980	838	60	509	1259	90	90			276
-	**3P 18LG/I-1000/11T-318**	8,3	-	13,6	1× 100	1048	980	838	60	509	1297	90	90			300

Dimensions and weights may differ slightly and therefore should be considered as indicative

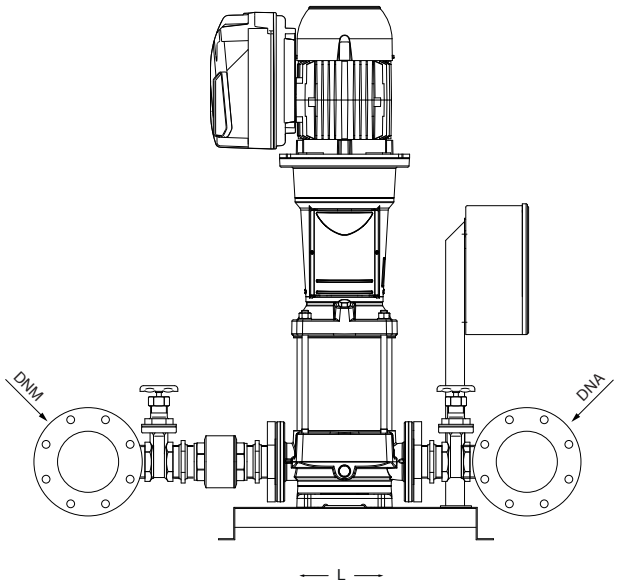


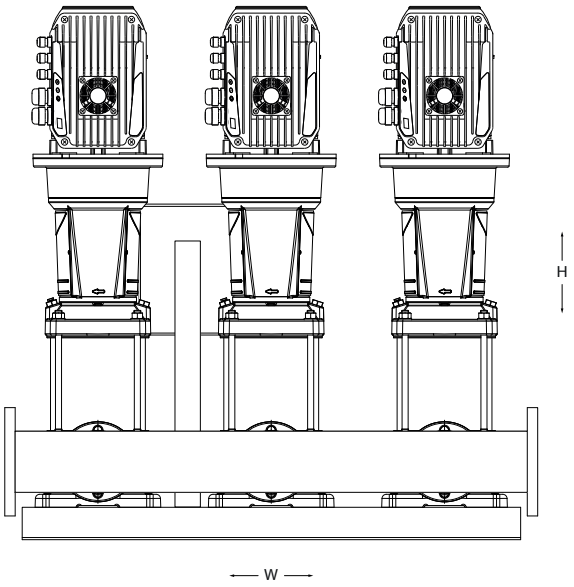


VERTICAL MODEL H (18-22)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm					
-	**3P 18HX-300/3T**	-	2,31	-	4,2	1000	1110	1260			189
-	**3P 18HX-400/4T**	-	3,2	-	5,1	1000	1110	1260			219
-	**3P 18HX-550/5T**	-	4,3	-	7,6	1000	1110	1260			247,5
	3P 18HX-750/6T	-	5	-	8,4	1000	1110	1260	DN100	DN80	381
-	**3P 18HX-750/7T**	-	5,8	-	9,5	1000	1110	1260			384
	3P 18HX-1000/8T	-	6,5	-	11,3	1000	1110	1260			405
-	**3P 18HX-1000/9T**	-	7,3	-	12,3	1000	1110	1260			409,5
-	**3P 22HX-400/3T**	-	3,3	-	5,3	1000	1110	1280			216
-	**3P 22HX-550/4T**	-	4,6	-	8,1	1000	1110	1280			243
-	**3P 22HX-750/5T**	-	5,9	-	9,5	1000	1110	1280	DN125	DN100	376,5
	3P 22HX-1000/6T	-	6,7	-	11,4	1000	1110	1280			402
-	**3P 22HX-1000/7T**	-	7,7	-	12,8	1000	1110	1280			405

3P H (18-22)

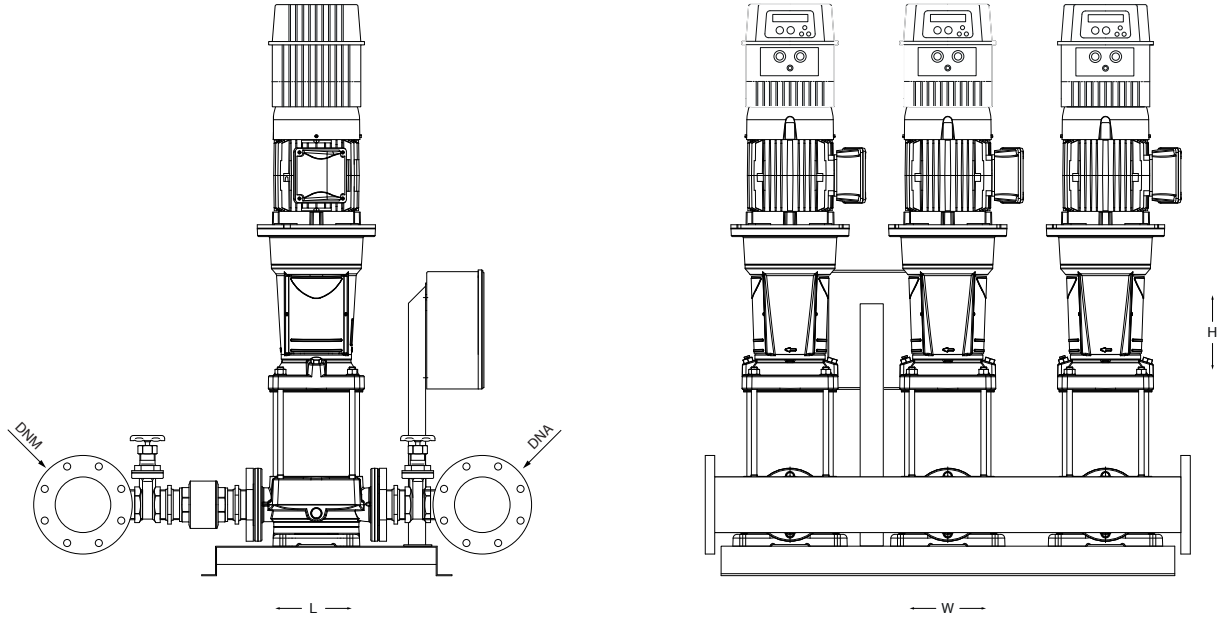
Variable speed EPIC-A





VERTICAL MODEL H (18-22) EPIC-A 3~ 400V-in 3~ 400V-out	P1	In	Required tank	DIMENSIONS					Kg
				L	W	H	DNA	DNM	
	kW (×3)	A (×3)	Lt	mm					
3P 18HX/A-300/3T-306	2,31	4,2	1× 80	1000	1110	800	DN100	DN80	212
3P 18HX/A-400/4T-306	3,2	5,1	1× 80	1000	1110	890			242
3P 18HX/A-550/5T-309	4,3	7,6	1× 80	1000	1110	980			270,5
3P 18HX/A-750/6T-314	5	8,4	1× 80	1000	1110	1070			426
3P 18HX/A-750/7T-314	5,8	9,5	1× 80	1000	1110	1120			429
3P 18HX/A-1000/8T-314	6,5	11,3	1× 80	1000	1110	1200			438
3P 18HX/A-1000/9T-314	7,3	12,3	1× 80	1000	1110	1250			442,5
3P 22HX/A-400/3T-306	3,3	5,3	1× 80	1000	1110	1000	DN125	DN100	239
3P 22HX/A-550/4T-309	4,6	8,1	1× 80	1000	1110	1050			288
3P 22HX/A-750/5T-314	5,9	9,5	1× 80	1000	1110	1190			421,5
3P 22HX/A-1000/6T-314	6,7	11,4	1× 80	1000	1110	1240			435
3P 22HX/A-1000/7T-318	7,7	12,8	1× 80	1000	1110	1290			438

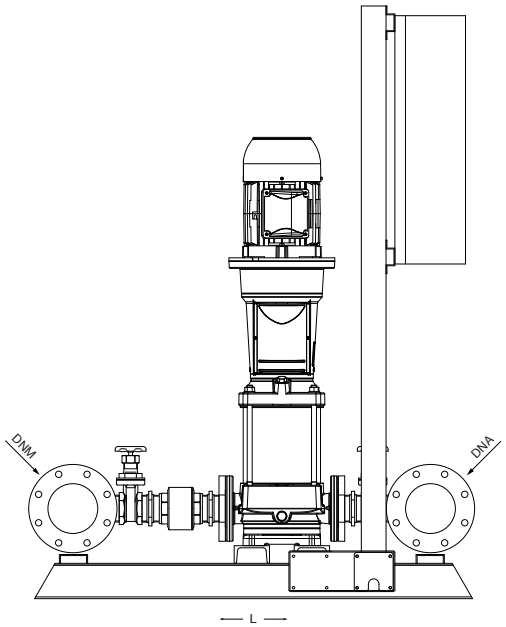
Dimensions and weights may differ slightly and therefore should be considered as indicative

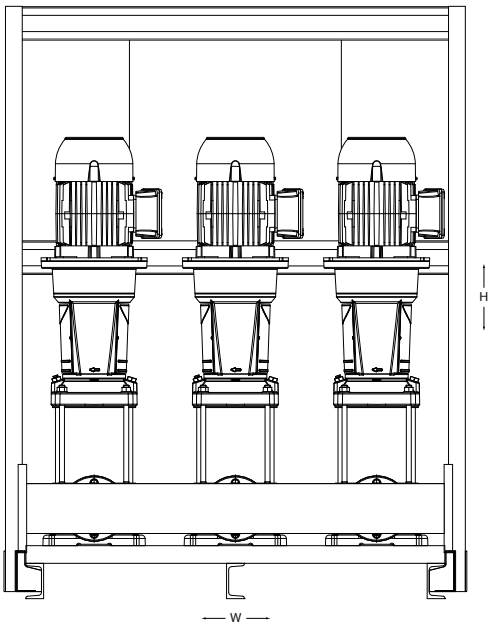


VERTICAL MODEL H (18-22) IPFC		P1	In		Required tank	DIMENSIONS					Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		L	W	H	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm					
3P 18HX/I-300/3T-114	**3P 18HX/I-300/3T-306**	2,31	7,3	4,2	1× 80	1000	1110	1100			219
3P 18HX/I-400/4T-114	**3P 18HX/I-400/4T-306**	3,2	8,8	5,1	1× 80	1000	1110	1190			249
-	**3P 18HX/I-550/5T-309**	4,3	-	7,6	1× 80	1000	1110	1280			277,5
	3P 18HX/I-750/6T-311	5	-	8,4	1× 80	1000	1110	1370	DN100	DN80	411
-	**3P 18HX/I-750/7T-311**	5,8	-	9,5	1× 80	1000	1110	1420			414
	3P 18HX/I-1000/8T-314	6,5	-	11,3	1× 80	1000	1110	1500			435
-	**3P 18HX/I-1000/9T-314**	7,3	-	12,3	1× 80	1000	1110	1550			439,5
3P 22HX/I-400/3T-114	**3P 22HX/I-400/3T-306**	3,3	9,2	5,3	1× 80	1000	1110	1300			246
-	**3P 22HX/I-550/4T-309**	4,6	-	8,1	1× 80	1000	1110	1350			273
-	**3P 22HX/I-750/5T-311**	5,9	-	9,5	1× 80	1000	1110	1490	DN125	DN100	406,5
	3P 22HX/I-1000/6T-314	6,7	-	11,4	1× 80	1000	1110	1540			432
-	**3P 22HX/I-1000/7T-318**	7,7	-	12,8	1× 80	1000	1110	1590			435

3P H (35-50-75-90)

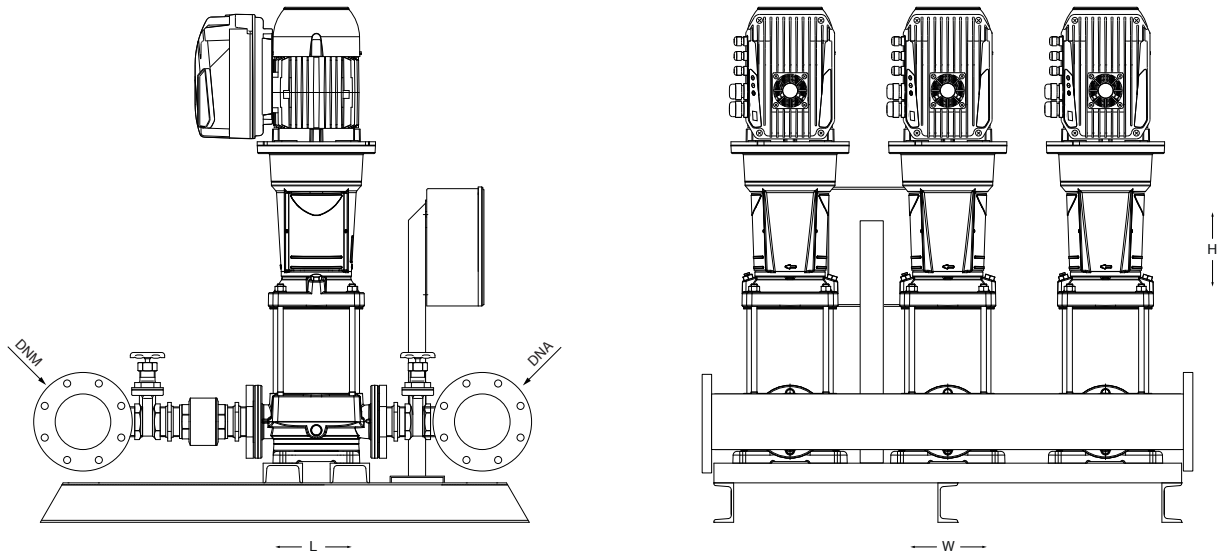
Fixed speed





VERTICAL MODEL H (35-90)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230	3~ 400	kW (×3)		A (×3)		mm					
-	**3P 35HS-750/2T**	-	5,0	-	8,3	1150	1220	1550	DN125	DN125	698
-	**3P 35HS-1000/3T**	-	7,2	-	12,2	1150	1220	1550			744
-	**3P 35HS-1000/4-2RT**	-	8,5	-	13,7	1150	1220	1550			759
-	**3P 35HS-1500/4-1RT**	-	9,4	-	15,5	1150	1220	1550			775
-	**3P 35HS-1500/4T**	-	10,1	-	16,6	1150	1220	1550			775
-	**3P 35HS-2000/5T**	-	12,1	-	19,4	1150	1220	1660			837
-	**3P 35HS-2000/6T**	-	14,4	-	24,0	1150	1220	1760			899
-	**3P 35HS-2000/7-1RT**	-	16,1	-	26,4	1150	1220	1860			930
-	**3P 50HS-1000/2T**	-	7,7	-	12,7	1450	1270	1520	DN150	DN150	744
-	**3P 50HS-1500/3T**	-	11,5	-	18,6	1450	1270	1520			775
-	**3P 50HS-2000/4T**	-	15,1	-	24,9	1450	1270	1520			899
-	**3P 50HS-2500/5T**	-	19,0	-	31,7	1450	1270	1700			930
-	**3P 50HS-3000/6T**	-	22,4	-	37,0	1450	1270	1790			1008
-	**3P 75HS-1500/2T**	-	11,6	-	18,7	1450	1300	1540	DN200	DN200	822
-	**3P 75HS-2500/3T**	-	17,4	-	29,4	1450	1300	1540			837
-	**3P 75HS-3000/4T**	-	22,7	-	37,5	1450	1300	1710			868
-	**3P 75HS-4000/5T**	-	29,3	-	47,7	1450	1300	1810			1442
-	**3P 75HS-4000/6-2RT**	-	31,0	-	50,2	1450	1300	1910			1473
-	**3P 90HS-1500/2-2RT**	-	11,0	-	17,9	1640	1400	1550	DN250	DN250	853
-	**3P 90HS-2000/2T**	-	15,4	-	25,4	1640	1400	1550			884
-	**3P 90HS-3000/3T**	-	22,9	-	37,8	1640	1400	1670			1240
-	**3P 90HS-4000/4T**	-	31,6	-	51,2	1640	1400	1890			1783
-	**3P 90HS-5000/5T**	-	39,4	-	63,2	1640	1400	2000			1814

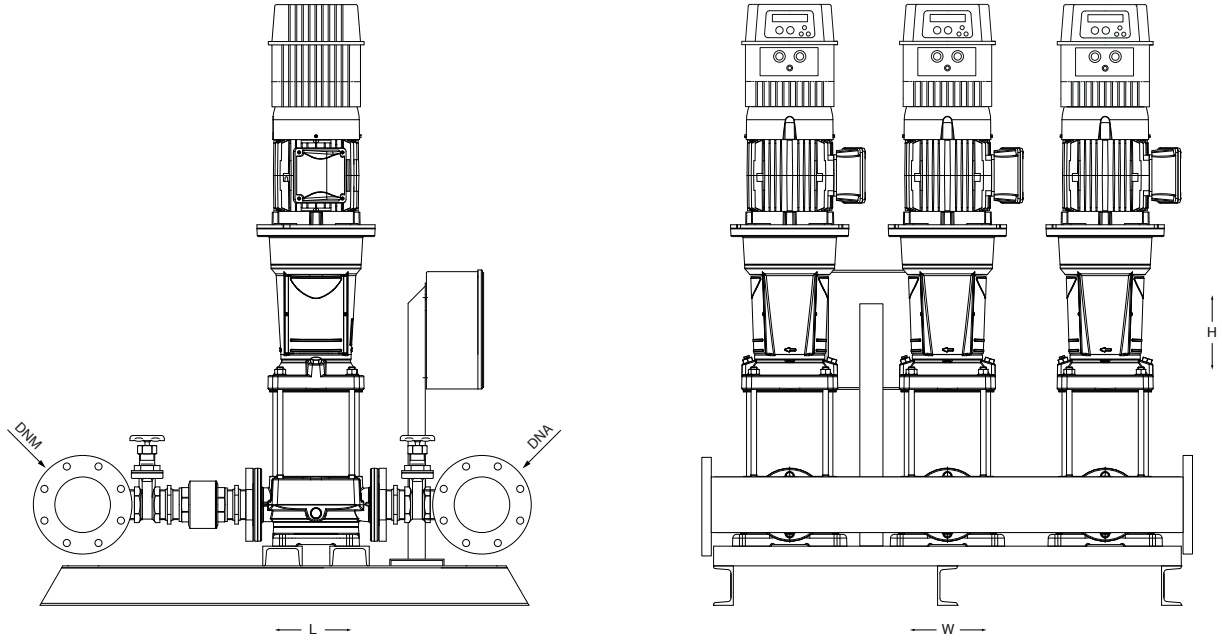
Dimensions and weights may differ slightly and therefore should be considered as indicative



VERTICAL MODEL H (35-90) EPIC-A 3~ 400V-in 3~ 400V-out	P1	In	Required tank	DIMENSIONS					Kg
		3~ 400V		L	W	H	DNA	DNM	
	kW (×3)	A (×3)	Lt	mm					
3P 35HS/A-750/2T-314	5,0	8,3	1× 200	1150	1220	1550	DN125	DN125	743
3P 35HS/A-1000/3T-314	7,2	12,2	1× 200	1150	1220	1550			777
3P 35HS/A-1000/4-2RT-318	8,5	13,7	1× 200	1150	1220	1550			792
3P 35HS/A-1500/4-1RT-318	9,4	15,5	1× 200	1150	1220	1550			808
3P 35HS/A-1500/4T-325	10,1	16,6	1× 200	1150	1220	1550			808
3P 35HS/A-2000/5T-325	12,1	19,4	1× 200	1150	1220	1669			870
3P 35HS/A-2000/6T-330	14,4	24,0	1× 200	1150	1220	1760			932
3P 35HS/A-2000/7-1RT-330	16,1	26,4	1× 200	1150	1220	1860			963
3P 50HS/A-1000/2T-318	7,7	12,7	1× 300	1450	1270	1520	DN150	DN150	777
3P 50HS/A-1500/3T-325	11,5	18,6	1× 300	1450	1270	1520			808
3P 50HS/A-2000/4T-330	15,1	24,9	1× 300	1450	1270	1520			932
3P 50HS/A-2500/5T-338	19	31,7	1× 300	1450	1270	1700			976
3P 50HS/A-3000/6T-344	22,4	37,0	1× 300	1450	1270	1790			1094
3P 75HS/A-1500/2T-325	11,6	18,7	1× 500	1450	1300	1520	DN200	DN200	855
3P 75HS/A-2500/3T-338	17,4	29,4	1× 500	1450	1300	1520			924
3P 75HS/A-3000/4T-344	22,7	37,5	1× 500	1450	1300	1690			1042
3P 90HS/A-1500/2-2RT-325	11,0	17,9	1× 500	1640	950	1530	DN250	DN250	886
3P 90HS/A-2000/2T-330	15,4	25,4	1× 500	1640	1400	1530			917
3P 90HS/A-3000/3T-344	22,9	37,8	1× 500	1640	1400	1650			1070

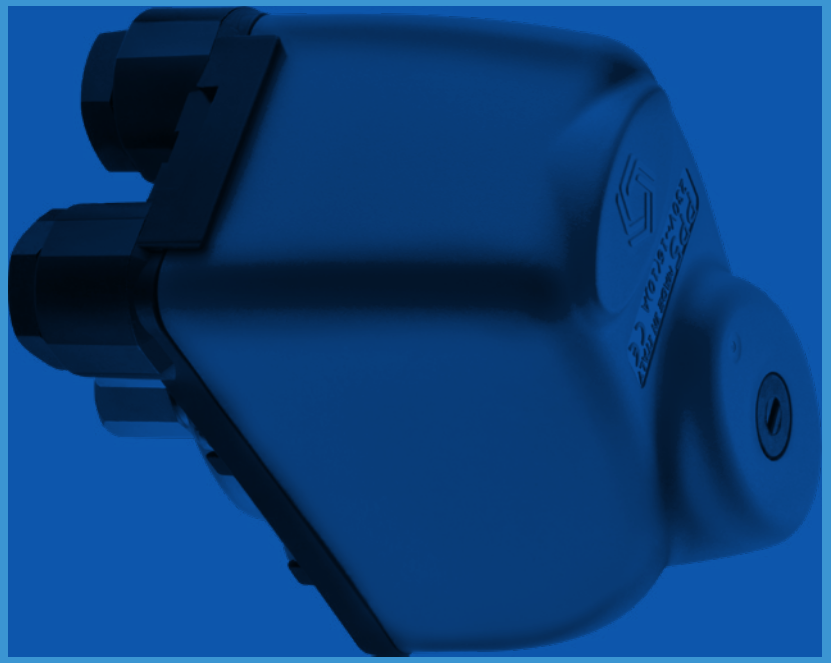
3P H (35-50-75-90)

Variable speed IPFC



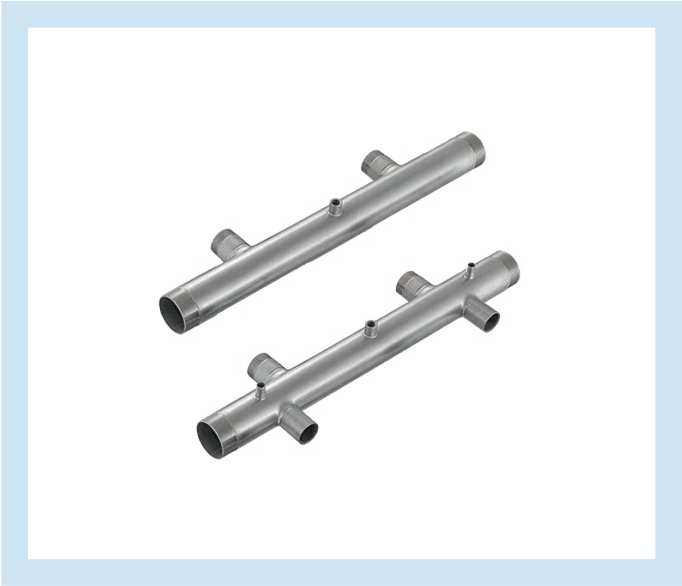
VERTICAL MODEL H (35-90) IPFC 3~ 400V-in 3~ 400V-out	P1	In	Required tank	DIMENSIONS					Kg
		3~ 400V		L	W	H	DNA	DNM	
	kW (×3)	A (×3)	Lt	mm					
3P 35HS/I-750/2T-311	5,0	8,3	1× 200	1150	1220	1850	DN125	DN125	728
3P 35HS/I-1000/3T-314	7,2	12,2	1× 200	1150	1220	1850			774
3P 35HS/I-1000/4-2RT-318	8,5	13,7	1× 200	1150	1220	1850			789
3P 35HS/I-1500/4-1RT-318	9,4	15,5	1× 200	1150	1220	1850			805
3P 35HS/I-1500/4T-325	10,1	16,6	1× 200	1150	1220	1850			805
3P 35HS/I-2000/5T-325	12,1	19,4	1× 200	1150	1220	1960			867
3P 35HS/I-2000/6T-330	14,4	24,0	1× 200	1150	1220	2060			929
3P 35HS/I-2000/7-1RT-330	16,1	26,4	1× 200	1150	1220	2160			960
3P 50HS/I-1000/2T-318	7,7	12,7	1× 300	1450	1270	1820	DN150	DN150	774
3P 50HS/I-1500/3T-325	11,5	18,6	1× 300	1450	1270	1820			805
3P 50HS/I-2000/4T-330	15,1	24,9	1× 300	1450	1270	1820			929
3P 75HS/I-1500/2T-325	11,6	18,7	1× 500	1450	1300	1840	DN200	DN200	852
3P 90HS/I-1500/2-2RT-325	11,0	17,9	1× 500	1640	1400	1850	DN250	DN250	883
3P 90HS/I-2000/2T-330	15,4	25,4	1× 500	1640	1400	1850			914

Dimensions and weights may differ slightly and therefore should be considered as indicative

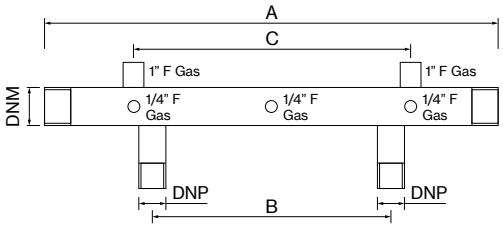


ACCESSORIES

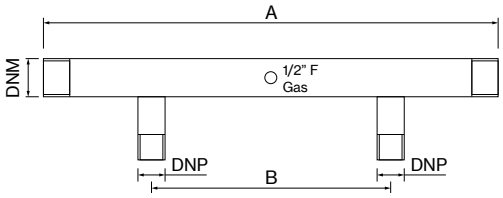
MANIFOLDS



DELIVERY MANIFOLDS



SUCTION MANIFOLDS



GALVANIZED MANIFOLDS

MODELS			MEASURES			Kg
TYPE	DNM to the pipes	DNP to the pump	A	B	C	
			mm			
DELIVERY 2 pumps	1" ½	1"	500	300	370	2
	2"	1" ¼	500	300	370	2,5
	2" ½	1" ¼	500	300	370	3
	2"	1" ¼	700	360	370	3
	3"	1" ½	700	360	370	13
	2" ½	1" ½	500	300	370	3
SUCTION 2 pumps	1" ½	1"	500	300	-	2
	2"	1" ¼	500	300	-	2
	2" ½	1" ½	500	300	-	3
	3"	2"	700	360	-	5,5
	4"	2"	700	360	-	16

STAINLESS STEEL MANIFOLDS

MODELS			MEASURES			Kg
TYPE	DNM to the pipes	DNP to the pump	A	B	C	
			mm			
DELIVERY 2 pumps	1" ½	1"	600	300	370	2,4
	2"	1" ¼	600	300	370	3
	2" ½	1" ½	600	300	370	3,6
	3"	2"	700	360	430	4
SUCTION 2 pumps	2"	1" ¼	600	300	-	2,4
	2" ½	1" ½	600	300	-	3,6
	3"	2"	700	360	-	5,5

PRESSURE TANKS

Pressure tanks with replaceable membrane, available in red or blue color.

UTILIZATION

Interchangeable membrane expansion tanks; the pre-charge pressure in the tank guarantees a water reserve but also reduces the number of startups of the connected pump; the membranes are certified for use with foodstuffs; they may be in EPDM or butyl depending on the model.

CONSTRUCTION CHARACTERISTICS

Flanges in galvanised steel or AISI 304 stainless steel.
Tanks in carbon steel coated with powder paint or in AISI 304 stainless steel.
Pre-charge valve with protective cover.

MODEL	TYPE	Capacity	Max pressure	Connection	Dimensions	Packaging	Kg
		litres	bar	inch	mm	m³	
STANDARD (CE marked)							
AV8	Vertical	8	8	1"	200×348	0,015	2,5
AV24	Vertical	20	8	1"	250×500	0,038	5
AS24	Spheric	24	8	1"	351×358	0,045	4.5
AV50	Vertical	50	10	1"	379×759	0,126	12,5
AV60	Vertical	60	10	1"	379×825	0,131	15
AV80	Vertical	80	10	1"	450×789	0,170	16
AV100	Vertical	100	10	1"	450×910	0,200	18
AV200	Vertical	200	10	1" ½	554×1250	0,407	44
AV300	Vertical	300	10	1" ½	624×1370	0,596	53
AV500	Vertical	500	10	1" ½	790×1460	0,900	100
AV750	Vertical	750	10	1" ½	786×1925	1,300	215
AV1000	Vertical	1000	9,5	2"	945×1912	1,900	265
AV2000	Vertical	2000	9,5	2"	1280×2080	3,720	395
HIGH PRESSURE (CE marked)							
AV8/16	Vertical	8	16	1"	200×320	0,015	4,5
AV20/16	Vertical	20	16	1"	250×509	0,038	7,5
AV50/16	Vertical	50	16	1"	379×759	0,128	13
AV80/16	Vertical	80	16	1"	450×789	0,170	16,5
AV100/16	Vertical	100	16	1"	450×910	0,200	38
AV200/16	Vertical	200	16	1" ½	554×1250	0,407	58
AV300/14	Vertical	300	14	1" ½	624×1370	0,596	70
AV500/12	Vertical	500	12	1" ½	790×1460	0,900	127
HIGH PRESSURE (not CE marked)							
AV300/16	Vertical	300	16	1" ½	624×1370	0,596	-
AV500/16	Vertical	500	16	1" ½	790×1460	0,900	-
AV750/16	Vertical	750	16	1" ½	790×1925	1,300	-
AV1000/16	Vertical	1000	16	2"	945×1912	1,900	-

MEMBRANES

TYPE	DESCRIPTION
MZ 24	EPDM membrane for ACZ 24 lt.
M 24	membrane for AS 24 - ACV 24
M 50	membrane for AC 50 - AV 50
M 100	membrane for AC 100 - AV 100
M 200	membrane for AC 200 - AV 200
M 300	membrane for AC 300 - AV 300
M 500	membrane for AV 500
M 750 - 2000	membrane for AV 750 - AV 2000

PRESSURE SWITCHES/TRASDUCER

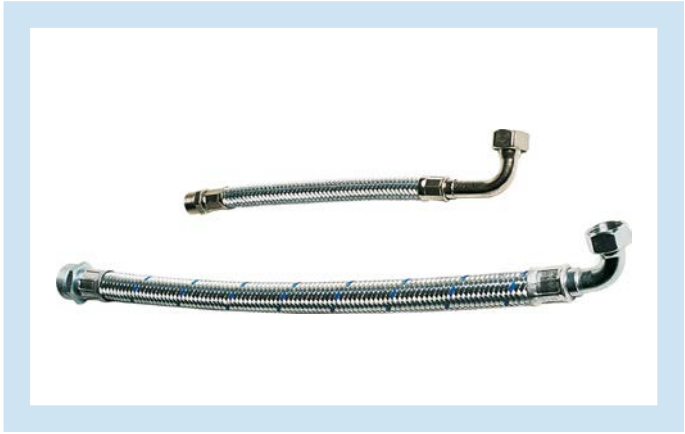
TYPE	DESCRIPTION	RANGE AT RISING PRESSURE (bar)
PP5	1- / 3~	1-5
PP12	1- / 3~	3-12

TYPE	Output signal	Input voltage	Working pressure	Maximum pressure
SPD	4... 20 mA	9... 28 V	0-16 bar / 0-25 bar	32 bar

PRESSURE GAUGES

TYPE	PHASE
PR 6	0-6 bar rear connection
PR 6 R	0-6 bar radial connection
PR 12	0-12 bar rear connection
PR 10 G	0-10 bar glycerine
PR 12 G	0-12 bar glycerine

FLEXIBLE HOSES



TYPE	DESCRIPTION
FL 530	Flexible hose with bend 1”×530×1”
FL 600	Flexible hose with bend 1”×600×1”
FL 700	Flexible hose with bend 1”×700×1”
FL 850	Flexible hose with bend 1”×850×1”

VALVES

TYPE	DESCRIPTION
VF 1”	foot valve 1”
VF 1” ¼	foot valve 1” ¼
VF 1”½	foot valve 1” ½
VF 2”	foot valve 1” ½
VR1”	check valve 1”
VR 1”¼	check valve 1” ¼
VR 1”½	check valve 1” ½
VR 2”	check valve 1”

CONNECTORS

TYPE	DESCRIPTION
R5X 1”	5 way 1” Aisi 304 connector with built-in no return valve
R5X 1”1/4	5 way 1” ¼ Aisi 304 connector with built-in no return valve
R5X 1”1/2	5 way 1” ½ Aisi 304 connector with built-in no return valve

FORAS®

WATER PUMPS

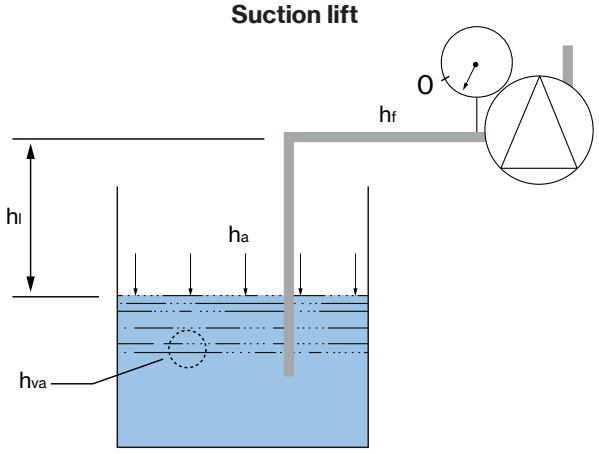
TECHNICAL APPENDIX

NPSH

The Net Positive Suction Head Available (NPSHA) is a measure of pressure present at the pump suction, while the Net Positive Suction Head Required (NPSHR) represents the minimum pressure necessary in the system for proper pump operation. The higher the NPSHA and the better the pump will operate. To meet the requirements of the pumps it is necessary to ensure that NPSHA exceeds NPSHR by at least 1 meter.

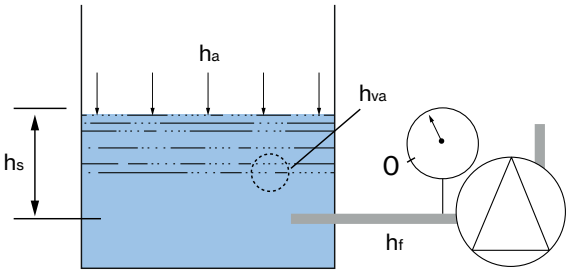
There are three equations to calculate NPSHA in a system depending upon whether the system has suction lift or flooded suction or looded suction from a pressurized suction tank.

Suction lift



NPSHA = h_a - h_l - h_f - h_{va}

Flooded suction



NPSHA = h_a + h_s - h_f - h_{va}

Where:

ha = atmospheric pressure head (m)

hl = liquid level below pump centre line (m)

hs= liquid level above pump centre line (m)

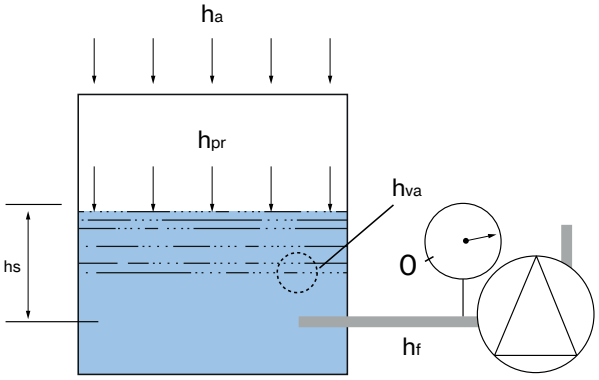
hf = friction head loss in the suction pipework (m)

hva = vapour pressure according to the liquid temperature (m)

Temperature °C	Water vapour pressure m
25	0
30	0,4
40	0,8
50	1,3
60	2,0
70	3,2
80	4,8
90	7,1

If the suction tank is pressurized, i.e. operates above the atmospheric pressure, then the additional pressure head will have to be added to the suction static head.

Pressurized tank



NPSHA = h_{pr} + h_a + h_s - h_f - h_{va}

Where h_{pr} is the additional pressure head on the surface of the liquid in the suction tank.

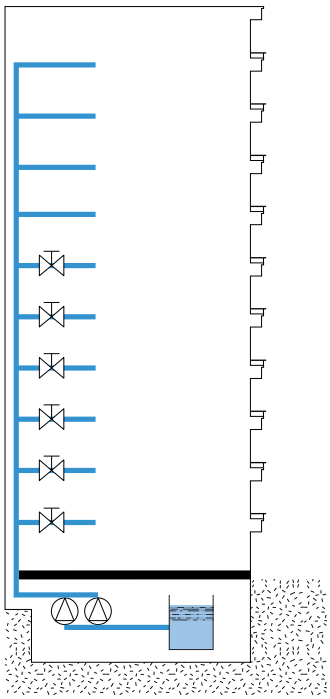
System layout

Booster systems may be designed in several different ways depending on local legislation, traditional practices, requirements or possibility for future expansions, etc. Not all system layouts may be ideal for all scenarios: for a high-rise building a properly sized "zone-divided booster system" would be more efficient than other systems.
The most common booster systems are described below including the advantages and disadvantages of each.

Single booster system

It is the simplest booster system available as it relies on a single set of pumps, boosting pressure from the basement to the point farthest away from the booster system. Basically, such systems may be configured with or without a storage tank.

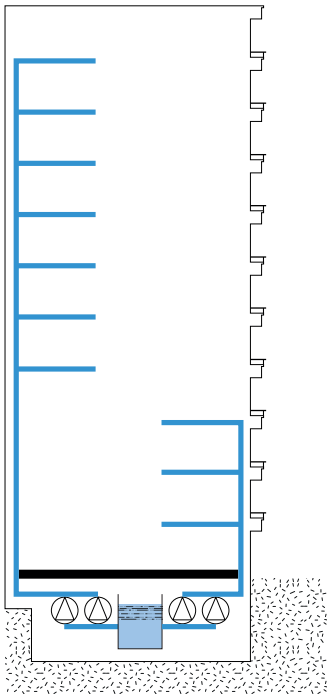
Advantages
Only one riser needed (simple design)
No space required on upper floors
Disadvantages
Excess pressure on lower floors in building exceed ten floors (pressure reduction valves and high pressure graded pipes needed)



Zone-divided booster systems

The building is divided into pressure zones of ten floors or less with a booster supplying each zone from the basement through dedicated risers.

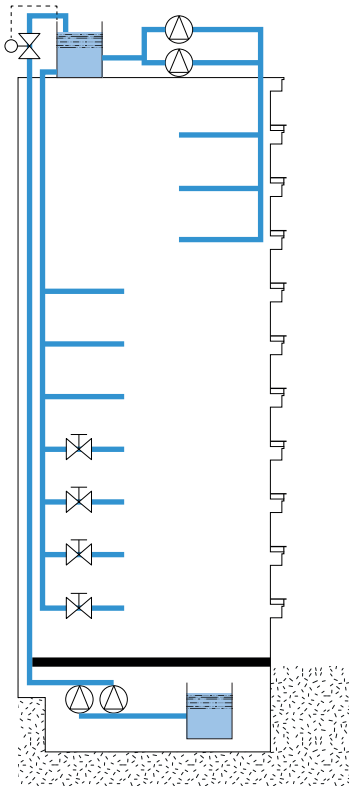
Advantages
Manageable pressure zones
Increased flexibility and security due to zoning
No space required on upper floors Low-cost operation due to no residual pressure
Disadvantages
Higher initial cost than single-zone systems
Higher static pressure in upper zones (high pressure graded pipes)



SYSTEM LAYOUT

Overhead tanks systems

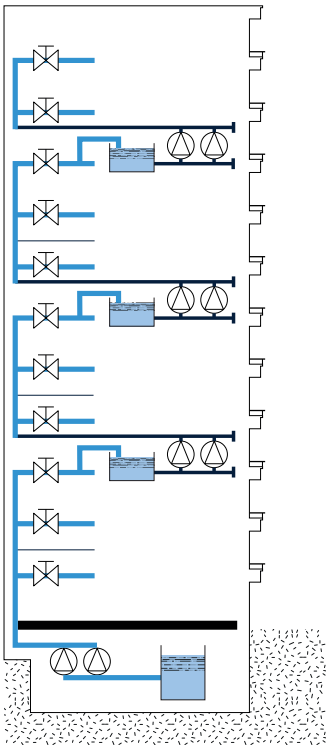
Fresh water tanks placed atop high-rise buildings are used in water supply applications mainly due to unstable water mains and unstable power supply. The transfer pumps in the basement fill the roof tank and then water is supplied to the majority of the apartments through gravity. For the apartments on the top floors gravity is not strong enough, so a booster pump (e.g. the Aquadomus or Superdomus) installed on the terrace will provide a proper water pressure. If the buildings exceeds 15 floors it requires pressure reducing valves on the lower floors to avoid too high static pressure at the taps.



Advantages
Mature technology
Small booster power due to roof tank working as buffer
Reserve capacity in roof tank
Disadvantages
Higher initial cost than single-zone systems
Higher static pressure in upper zones (high pressure graded pipes)

Series-connected systems with intermediate storage tanks

With this system, a building is divided into smaller and more manageable pressure zones. Every zone is then served by its own booster set.

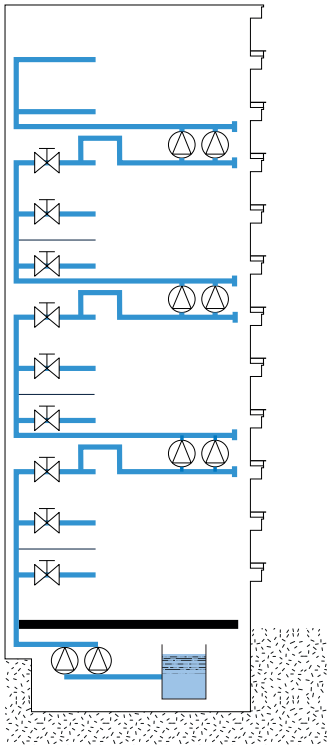


Advantages
Low pressure in each zone (no pressure reduction valves and less pressure-graded pipes needed)
Manageable pressure zones
Easy to size because each zone has its own supply tank
Disadvantages
Higher initial cost than single-zone systems
Higher static pressure in upper zones (high pressure graded pipes)

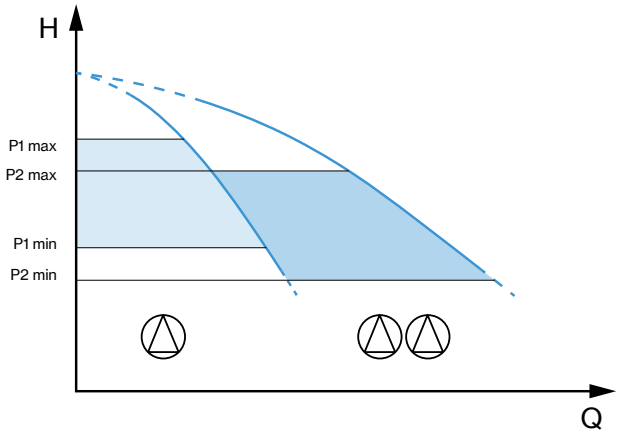
Series-connected systems without intermediate storage tanks

This enables an effective usage of power as the water is only pumped to the part of the zone where it is used and not past it. However, complete control is very important. When a consumer draws water on the upper floors, the booster systems must be able to deliver the water from the bottom of the building.

Advantages
Low pressure in each zone (no pressure reduction valves and less pressure-graded pipes needed)
Manageable pressure zones
No space required for tanks
Less excess boosting (low operation costs)
Disadvantages
Higher initial cost than single-zone systems
Space required for booster sets and tank on service floors
Complex control



Fixed VS variable speed control modes



booster set with two pumps

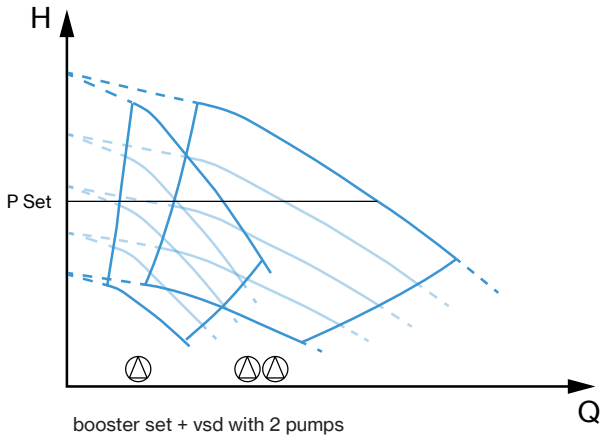
Operation principal of fixed speed control

When a tap is turned on, water is initially drawn from the membrane tank causing a pressure drop in the system. If the pressure falls beyond the "P1 min" level, then the primary pump will turn on to meet the water demand and recharge the membrane tank. The pump will turn off as soon as the pressure is restored to the "P1 max" level.

On the other hand, if the pressure in the system falls below "P2 min" the secondary pump is turned on as well to meet the extra water demand.

When the pressure reaches the "P2 max" level then the secondary pump will stop; once the water demand is drastically reduced or ended, such that the pressure rises to the "P1 max" level, then the primary pump will turn off and the membrane tank will be ready to meet next water demand. The pumps will intervene again as soon as the pressure drops below "P1 min" and "P2 min".

Fixed-speed control does not guarantee constant pressure, since the pressure supplied will vary continuously from min to max. For constant pressure, a ariable speed boosterset should be installed.



booster set + vsd with 2 pumps

Operation principal of VSD control

When the pressure in the system drops, the VSD (master) turns on the primary pump and gradually ramps the motor acceleration to meet the water demand. If the set pressure (P Set) cannot be met by the primary pump, even at full rotation speed, then the other VSD (slave) will bring on the secondary pump in sequence.

Once the set point is met, the VSDs will keep adjusting speed to maintain the set pressure at vary of flow or until they reach a minimum speed and will shut down the pumps.

Pressure tank calculation

MEMBRANE TANK VOLUME CALCULATION	
FIXED SPEED The sizing is determined based on the pump flow rate, the start and stop pressures and the number of starts allowed per hour. V= Volume of the tank (litres) Q= Flow rate (m^3/h) S= Start pressure (bar) D= Differential pressure “between stop and start (bar) M= Maximum starts allowed per hour $V = \frac{Q \times 1000 \times S}{4 \times M \times (D + 0{,}2)}$	**VARIABLE SPEED** The volume of the tank (litres) should be about 10% of the required flow rate considered in litres/minute. *E.g.* if the maximum flow rate required is 100 litres/min, an 8-litre tank is sufficient.
MEMBRANE TANK PRE-CHARGE PRESSURE	
FIXED SPEED For differential pressure (D) lower than 2 bar, the pre-charge pressure must be 0.2 bar less than the minimum start of the system. For differential pressure (D) greater than 2 bar, the pre-charge pressure must be 65% of the maximum stop pressure of the system.	**VARIABLE SPEED** 80% of the working pressure set in the variable speed drive. *E.g.* if the pressure is set at 3 bar, the pre-charge pressure of the tank must be about 2.4 bar

Load losses

This table relates to losses of PVC, PE or other polymer pipes with internal roughness less than 0.01 mm (smooth pipes). It is advisable to keep the speed of the liquid in the pipe preferably less than or equal to 3 m/s

Pc: Load losses (H, in metres of water column) per 100 m of linear tubing (excluding joints)
V: Average speed (v, in m/s)

Q		U.M.*	Internal diameter in mm and inches										
			15	20	25	32	40	50	65	80	100	125	150
m³/h	l/min		½"	¾"	1"	1" ¼	1" ½	2"	2" ½	3"	4"	5"	6"
0,3	5	Pc [m]	2,66	0,68	0,24	0,08							
		V [m/s]	0,48	0,27	0,17	0,11							
0,6	10	Pc [m]	8,96	2,26	0,78	0,25	0,09						
		V [m/s]	0,95	0,54	0,34	0,21	0,14						
0,9	15	Pc [m]	18,44	4,6	1,58	0,49	0,17	0,06					
		V [m/s]	1,42	0,8	0,51	0,32	0,2	0,13					
1,2	20	Pc [m]	30,97	7,67	2,62	0,81	0,28	0,1	0,03				
		V [m/s]	1,89	1,07	0,68	0,42	0,27	0,17	0,11				
1,5	25	Pc [m]	46,45	11,44	3,9	1,19	0,41	0,15	0,05				
		V [m/s]	2,36	1,33	0,85	0,52	0,34	0,22	0,13				
1,8	30	Pc [m]	64,83	15,88	5,39	1,65	0,57	0,2	0,06	0,03			
		V [m/s]	2,84	1,6	1,02	0,63	0,4	0,26	0,16	0,1			
2,1	35	Pc [m]	86,08	20,99	7,1	2,16	0,74	0,26	0,08	0,03			
		V [m/s]	3,31	1,86	1,19	0,73	0,47	0,3	0,18	0,12			
2,4	40	Pc [m]	110,18	26,76	9,03	2,74	0,94	0,33	0,1	0,04			
		V [m/s]	3,78	2,13	1,36	0,83	0,54	0,34	0,21	0,14			
2,7	45	Pc [m]	137,09	33,18	11,17	3,38	1,16	0,4	0,12	0,05	0,02		
		V [m/s]	4,25	2,39	1,53	0,94	0,6	0,39	0,23	0,15	0,1		
3	50	Pc [m]	166,82	40,25	13,52	4,08	1,4	0,48	0,14	0,06	0,02		
		V [m/s]	4,72	2,66	1,7	1,04	0,67	0,43	0,26	0,17	0,11		
3,6	60	Pc [m]	234,63	53,3	18,83	5,67	1,93	0,66	0,19	0,07	0,03		
		V [m/s]	5,67	3,19	2,04	1,25	0,8	0,51	0,31	0,2	0,13		
4,2	70	Pc [m]	313,55	74,88	24,96	7,49	2,54	0,87	0,25	0,1	0,04	0,02	0,01
		V [m/s]	6,61	3,72	2,38	1,46	0,93	0,6	0,36	0,24	0,15	0,1	0,07
4,8	80	Pc [m]	403,53	95,97	31,89	9,54	3,23	1,1	0,32	0,12	0,04	0,02	0,01
		V [m/s]	7,55	4,25	2,72	1,66	1,07	0,68	0,41	0,27	0,17	0,11	0,08
5,4	90	Pc [m]	504,52	119,55	39,62	11,82	3,99	1,36	0,39	0,15	0,05	0,02	0,01
		V [m/s]	8,5	4,78	3,06	1,87	1,2	0,77	0,46	0,3	0,2	0,13	0,09
6	100	Pc [m]	616,5	145,63	48,15	14,32	4,83	1,64	0,47	0,18	0,06	0,03	0,01
		V [m/s]	9,44	5,31	3,4	2,08	1,33	0,85	0,51	0,34	0,22	0,14	0,1 7,2
7,2	120	Pc [m]		205,18	67,55	20,01	6,73	2,28	0,65	0,24	0,09	0,03	0,02
		V [m/s]		6,37	4,08	2,49	1,6	1,02	0,61	0,4	0,26	0,17	0,12
8,4	140	Pc [m]		274,57	90,08	26,58	8,91	3,01	0,85	0,32	0,11	0,04	0,02
		V [m/s]		7,44	4,76	2,91	1,86	1,19	0,71	0,47	0,3	0,2	0,14
9,6	160	Pc [m]		353,77	115,7	34,02	11,37	3,83	1,08	0,4	0,14	0,05	0,02
		V [m/s]		8,5	5,44	3,32	2,13	1,36	0,81	0,54	0,34	0,22	0,16
10,8	180	Pc [m]		442,73	144,41	42,34	14,12	4,75	1,33	0,49	0,17	0,06	0,03
		V [m/s]		9,56	6,12	3,74	2,39	1,53	0,91	0,6	0,39	0,25	0,17
12	200	Pc [m]			176,2	51,52	17,14	5,75	1,61	0,59	0,21	0,07	0,03
		V [m/s]			6,8	4,15	2,66	1,7	1,01	0,67	0,43	0,28	0,19
14,4	240	Pc [m]			248,94	72,47	24,01	8,03	2,24	0,82	0,28	0,1	0,04
		V [m/s]			8,16	4,98	3,19	2,04	1,21	0,8	0,51	0,33	0,23
15,6	260	Pc [m]			289,9	84,22	27,86	9,3	2,59	0,95	0,33	0,12	0,05
		V [m/s]			8,84	5,4	3,46	2,21	1,31	0,87	0,56	0,36	0,25
16,8	280	Pc [m]			333,89	96,83	31,97	10,66	2,96	1,09	0,37	0,13	0,06
		V [m/s]			9,52	5,81	3,72	2,38	1,41	0,93	0,6	0,39	0,27
18	300	Pc [m]				110,28	36,36	12,11	3,36	1,23	0,42	0,15	0,06
		V [m/s]				6,23	3,99	2,55	1,51	1	0,64	0,41	0,29
21	350	Pc [m]				147,63	48,51	16,1	4,45	1,63	0,56	0,19	0,08
		V [m/s]				7,26	4,65	2,98	1,76	1,17	0,75	0,48	0,34

Pc values must be multiplied by:
1,5 for steel pipes

2 for cast iron pipes

1,1 for stainless steel pipes

LOAD LOSSES

Q		U.M.*	Internal diameter in mm and inches										
			15	20	25	32	40	50	65	80	100	125	150
m³/h	l/min		½"	¾"	1"	1" ¼	1" ½	2"	2" ½	3"	4"	5"	6"
24	400	Pc [m]				190,25	62,33	20,63	5,69	2,07	0,71	0,24	0,1
		V [m/s]				8,3	5,31	3,4	2,02	1,33	0,85	0,55	0,38
27	450	Pc [m]				238,12	77,82	25,69	7,07	2,57	0,87	0,3	0,13
		V [m/s]				9,34	5,98	3,83	2,27	1,5	0,96	0,62	0,43
30	500	Pc [m]					94,97	31,28	8,58	3,11	1,05	0,36	0,15
		V [m/s]					6,64	4,25	2,52	1,66	1,07	0,68	0,48
36	600	Pc [m]					134,22	44,04	12,03	4,35	1,47	0,5	0,21
		V [m/s]					7,97	5,1	3,02	2	1,28	0,82	0,57
42	700	Pc [m]					180,05	58,88	16,02	5,77	1,94	0,66	0,28
		V [m/s]					9,29	5,95	3,52	2,33	1,49	0,96	0,67
48	800	Pc [m]						75,8	20,56	7,39	2,48	0,84	0,35
		V [m/s]						6,8	4,03	2,66	1,7	1,09	0,76
54	900	Pc [m]						94,8	25,64	9,19	3,08	1,04	0,43
		V [m/s]						7,65	4,53	2,99	1,92	1,23	0,85
60	1000	Pc [m]						115,85	31,25	11,18	3,74	1,26	0,52
		V [m/s]						8,5	5,03	5,03	2,13	1,36	0,95
72	1200	Pc [m]							44,08	15,72	5,24	1,76	0,73
		V [m/s]							6,04	3,99	2,55	1,64	1,14
84	1400	Pc [m]							59,03	20,99	6,97	2,34	0,96
		V [m/s]							7,04	4,65	2,98	1,91	1,33
96	1600	Pc [m]							76,09	26,99	8,94	2,99	1,23
		V [m/s]							8,05	5,31	3,4	2,18	1,51
108	1800	Pc [m]							95,26	33,71	11,14	3,72	1,53
		V [m/s]							9,05	5,98	3,83	2,45	1,7
120	2000	Pc [m]								41,16	13,58	4,52	1,85
		V [m/s]								6,64	4,25	2,72	1,89


foras
WATER PUMPS

CONDIZIONI GENERALI DI VENDITA

1) ORDINI: Qualsiasi ordinazione trasmessaci, sia a mezzo di ns/agenti che a mezzo lettera, telefono o fax, si intende definita soltanto dopo ns/regolare accettazione scritta. 2) CONSEGNA: I termini indicati per la consegna non sono impegnativi ma subordinati alle possibilità di fabbricazione o a causa di forza maggiore (agitazioni sindacali, guasti a macchinari, ritardata consegna da parte dei fornitori, situazioni generali di irreperibilità di materie prime, incendi, inondazioni od altre cause di forza maggiore). Un eventuale ritardo non può dar luogo da parte dell'acquirente ad annullamento dell'ordine né a pretesa di rifusione di danni. 3) SPEDIZIONE: La merce viaggia a rischio e pericolo del committente anche se il prezzo è stabilito franco destino. Non si risponde di alcun reclamo per mancanza di peso od avarie di viaggio essendo di ciò responsabile solo ed esclusivamente il vettore al quale il destinatario deve prontamente elevare riserva prima di ritirare la merce e di ciò dare comunicazione scritta anche al cessionario per conoscenza. Trascorsi comunque 8 giorni dalla data di ricevimento della merce non sono più ammessi reclami. 4) PREZZI: I prezzi si intendono al netto degli oneri fiscali, possono essere variati senza obbligo di preavviso. 5) RISERVA DI PROPRIETÀ: La proprietà dei beni consegnati permane al costruttore e non trapassa al cliente se non dopo l'integrale pagamento del prezzo, degli interessi e delle spese dovute. In caso di inadempienza la merce andrà, su espressa richiesta del costruttore, prontamente riconsegnata presso i depositi dal costruttore indicati in porto franco. Il costruttore si riserva comunque la facoltà di addebitare al cliente le spese sostenute per la rigenerazione e messa a nuovo del materiale reso. 6) PAGAMENTI: I pagamenti devono essere effettuati alla scadenza e nei modi convenuti alla ns/sede. Non sono riconosciuti i pagamenti effettuati ad agenti, rappresentanti od altri anche se a mezzo effetti, salvo espressa autorizzazione scritta del costruttore. In caso di pagamento dilazionato, il mancato pagamento anche di una sola rata consente al costruttore di esigere il saldo immediato del rimanente credito aumentato degli interessi maturati al tasso medio in vigore nel periodo. 7) DIVIETO DI AZIONE: Il cliente non può, per nessuna ragione, ritardare o sospendere i pagamenti dovuti a qualunque titolo, anche se fossero insorti reclami o contestazioni, nè può promuovere o proseguire azioni giudiziarie di alcun genere se prima non abbia provveduto al pagamento nei termini e nei modi pattuiti. 8) CARATTERISTICHE TECNICHE: I dati e le caratteristiche tecniche citati in tutte le pubblicazioni ufficiali del costruttore fanno riferimento a valori nominali indicativi. Per specifiche necessità e su esplicita richiesta, il costruttore può mettere a disposizione schede tecniche di prodotto più dettagliate da cui si possono altresì dedurre i criteri di accettabilità interna dei prodotti. Il costruttore si riserva il diritto di apportare qualsiasi modifica senza preavviso; pertanto pesi, misure, prestazioni e quanto altro indicato non sono vincolanti ma solo indicativi. 9) GARANZIA: Il costruttore presta le garanzie di legge. La garanzia copre ogni difetto di costruzione del solo materiale prodotto dal costruttore, essa inoltre si limita alla riparazione o sostituzione dell'elettropompa o del pezzo riconosciuti difettosi presso gli stabilimenti del costruttore o quant'altri dallo stesso autorizzati. In nessun caso comunque la garanzia implica la possibilità di richiesta di indennità e si declina ogni responsabilità per danni materiali e corporali che venissero causati dalle macchine prodotte dal costruttore, sia diretti che indiretti. La garanzia decade: - Se la macchina è stata riparata, smontata o manomessa da persone non autorizzate dal costruttore. - Se il guasto è stato provocato da errori di collegamento elettrico od idraulico, da mancata o non adeguata protezione. - Se l'impianto o l'installazione delle macchine non è stato eseguito correttamente. - Se la macchina è stata assoggettata a sovraccarichi oltre i limiti di targa. - Se i materiali sono stati guastati a seguito del contatto con liquidi abrasivi o corrosivi comunque non compatibili con i materiali impiegati nella costruzione delle pompe. - Se i materiali sono avariati a seguito del naturale logoramento. La macchina difettosa dovrà pervenire presso gli stabilimenti del costruttore in porto franco. Il costruttore si riserva l'insindacabile giudizio sulla causa del difetto e se lo stesso rientra nei casi previsti dalla garanzia. A riparazione avvenuta, la macchina sarà restituita in porto assegnato al cliente. 10) FORO COMPETENTE: Per eventuali controversie il foro competente sarà quello di Verona anche se il pagamento è convenuto a mezzo tratta. 11) RICHIAMO AD ALTRE NORME: Per quanto non espressamente stabilito nei punti precedenti, varranno le disposizioni di legge e le norme usuali e consuetudinarie del luogo in cui ha sede il costruttore e vigenti in materia.
Il costruttore non si assume alcuna responsabilità per errori ed omissioni e si riserva il diritto di modifiche senza obbligo di preavviso.

GENERAL SALES CONDITIONS

1) ORDERS: Any order sent to us, whether by our representatives or by letter, telephone or fax, will be considered definite only after our regular acceptance in writing. 2) DELIVERY: The terms indicated for delivery are not binding but subject to manufacturing factors and unforeseeable circumstances (trade unions unrest, breakdown of machinery, late delivery by our suppliers, general unavailability of raw materials, fire, flood or other forces majeures). Any delay which might occur will not give rise on the part of the purchaser of the right to annul the order or to claim damages. 3) TRANSPORT: Goods travel at the customer's risk even if the price is stated as carriage free. The vendor will not be liable for the underweight goods or damage caused during transit as the carrier is exclusively liable in such cases and it is to him that the receiving party must promptly address a right informative notice in writing to this to the dealer. After 8 days have passed from receipt of the goods, no claims are in any case ammissible. 4) PRICES: The prices are to be understood as net of tax duties and may be changed without notice. 5) RIGHT OF PROPERTY: The goods property belongs to the manufacturer and it is not acquired by the customer until the complete payment is made for the goods, and for any interest and costs involved. In case of payment not honoured, goods will, on the manufacturer's express request, be promptly sent back to the stores in free port indicated by the manufacturer. In any case the manufacturer reserves the right to charge the customer with the cost of restoration and renewal of returned goods. 6) PAYMENTS: Payments must be effected at due dates and in the terms agreed at our Headquarters. Payments made to agents, representatives or others are not recognized even by bills unless there is an express written authority by the manufacturer. In case of payment by instalments the failure to pay even one instalment allows the manufacturer to require the balance immediately plus the interest accrued at the average rate in force for the period. 7) BLOCKAGE OF CLAIMS: The customer may not, for any reason, delay or suspend payments owed on any account even if claims or disputes have a risen, nor may he start or take legal action of any kind if he has not first paid by the terms and in the terms agreed. 8) TECHNICAL CHARACTERISTICS: The technical data and characteristics stated in all the manufacturer's official publications refer to indicative nominal values. For specific needs and on explicit demand, the manufacturer can provide detailed technical sheets from which the internal acceptance criteria of the product can be deduced. The manufacturer reserves the right to make any modification without prior notice. Therefore weights, dimensions, performances and any other stated issues are indicative only and not binding. 9) GUARANTEE: The manufacturer gives the guarantees provided by the Law. The guarantee covers every manufacturing defect only for the components/parts produced by the manufacturer: the Company also limits itself to the repair or replacement of the electric pump, or of the part recognized as being faulty, at the manufacturer's premises or other authorized premises. In no case however does the guarantee imply the possibility of claiming an indemnity and any liability is denied for damage to things or to the person caused by the manufacturer machines, whether directly or indirectly. The guarantee does not apply: - If the machine has been repaired, dismantled or tampered by persons not authorized by the manufacturer. - If the breakdown has been caused by errors in connecting the electrical or hydraulic systems, or by the failure to provide protection or the provision of inadequate protection. - If the setting up of the machine or its electrical or hydraulic systems has not been correctly carried out. - If the machine has been subject to loads exceeding the ones within the label specifications. - If materials have been damaged due to contact with abrasive or corrosive liquids or which are in any way incompatible with the materials used in the manufacture of the pumps. - If the materials have deteriorated due to natural wear. The defective machine must be taken to the manufacturer's premises in free port. The manufacturer reserves the indisputible right to impute the cause of the defect and to ascertain whether it falls within the warrant cases at his full expences. When the machine has been repaired it will be returned to the customer. 10) COMPETENT COURT: In case of any dispute the competent Court will be the one of Verona even if the payment is by Bill of Exchange. 11) RECOURSE TO OTHER NORMS: As regard to other matters not expressly stated in the above points, the laws, norms and commercial customs in force at the place, where the manufacturer has its premises, will be applied.
The manufacturer assumes no responsibility for errors and omissions and reserves the right of changes without notice.

GAZZETTA UFFICIALE DELL'UNIONE EUROPEA
Regolamento UE 547/2012

ALLEGATO II

«L'efficienza di una pompa con girante tornita è generalmente inferiore a quella di una pompa con diametro di girante pieno. La tornitura della girante adegua la pompa a un punto di lavoro fisso, con un conseguente minore consumo di energia. L'indice di efficienza minima (MEI) è basato sul diametro massimo della girante».
«Il funzionamento della presente pompa per acqua con punti di funzionamento variabili può essere più efficiente ed economico se controllato, ad esempio, tramite un motore a velocità variabile che adegua il funzionamento della pompa al sistema».

Le informazioni sull'efficienza di riferimento sono disponibili all'indirizzo:
www.europump.org/efficiencycharts.

OFFICIAL JOURNAL OF THE EUROPEAN UNION
Regulation UE 547/2012

ANNEX II

«The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter».
«The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system».

Information on benchmark efficiency is available at:
www.europump.org/efficiencycharts.

2-3 UNITS BOOSTER SETS

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