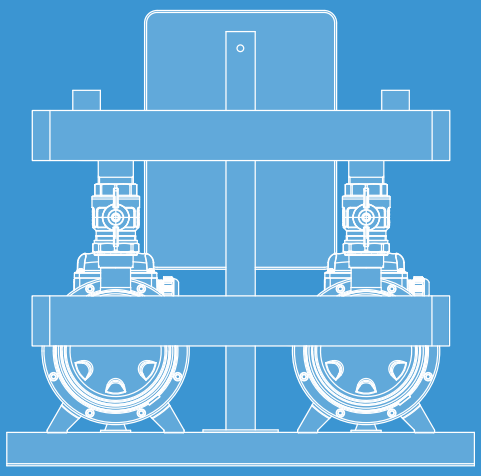
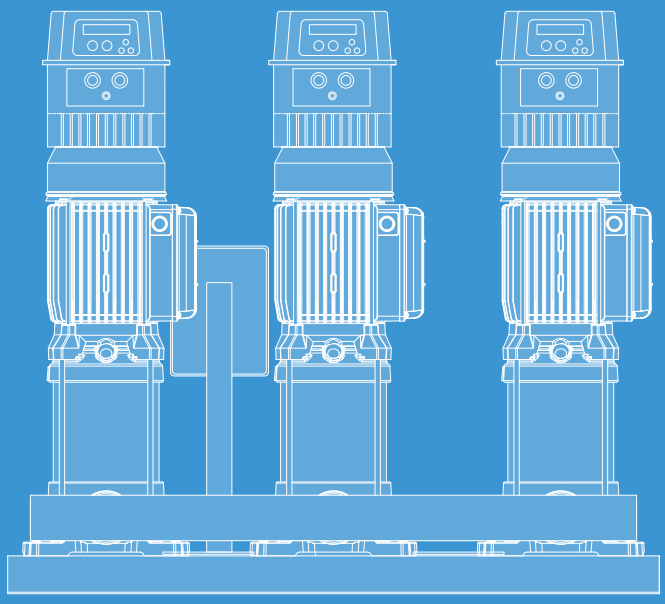
FORAS
WATER PUMPS

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 4

BASICS 6

CONTROL PANELS AND VARIABLE SPEED DRIVES 9

BOOSTER SETS WITH SELF-PRIMING PUMPS 19

2PLUS A / SA 26

2JA/JAM 29

2JXF 32

2JA 150-300 34

BOOSTER SETS WITH THREADED CENTRIFUGAL PUMPS 37

2KM 43

2KBJ 46

2KB 48

BOOSTER SETS WITH CENTRIFUGAL FLANGED PUMPS 53

2MN (EN 733) 57

BOOSTER SETS WITH MULTISTAGE PUMPS 65

2P HORIZONTAL 70

2P/3P VERTICAL 77

ACCESSORIES 133

TECHNICAL APPENDIX 139

NPSH 140

SYSTEM LAYOUT 141

FIXED VS VARIABLE SPEED CONTROL MODES 144

PRESSURE TANK CALCULATION 145

LOAD LOSSES 146

GENERAL SALES CONDITIONS 149

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 and pressure sensors.

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

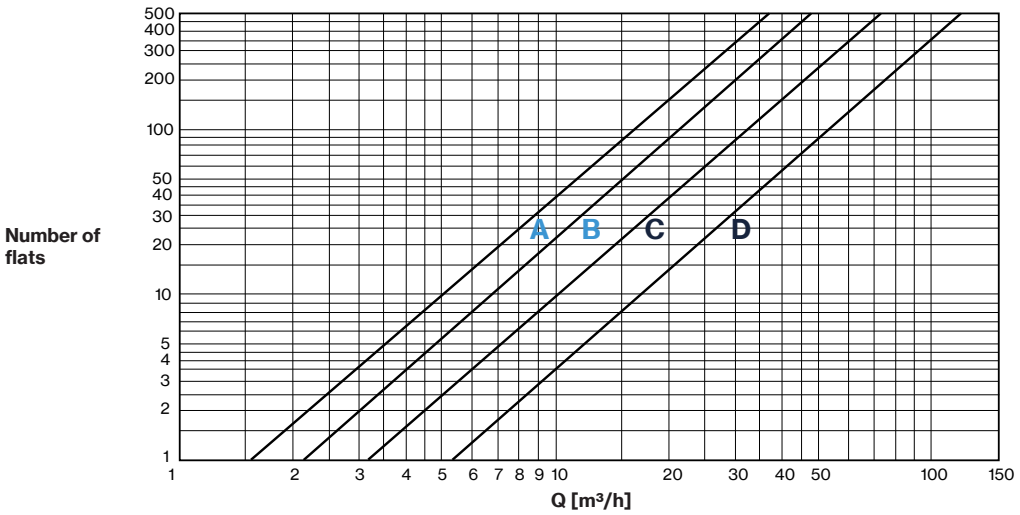
- Two or three identical electric pumps coupled in parallel by manifold, shut-off valves, check valves and fixed on a single base
- The pumps are controlled by variable speed drives EPIC, EPIC-A or IPFC
- The variable speed drives, one installed on each pump, modulate the operating frequency in order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

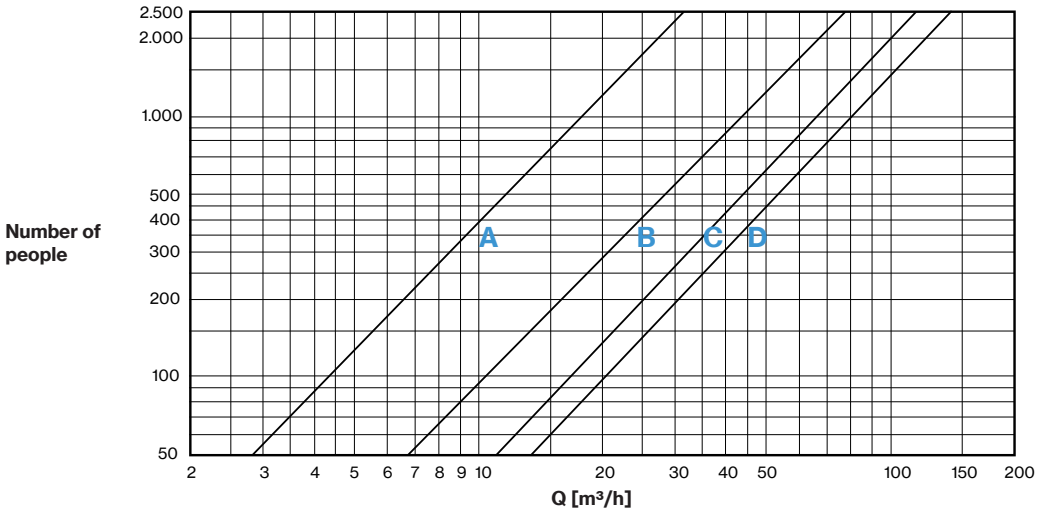
For residential buildings the flow rate can be estimated by the number of flats and outlets.



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.



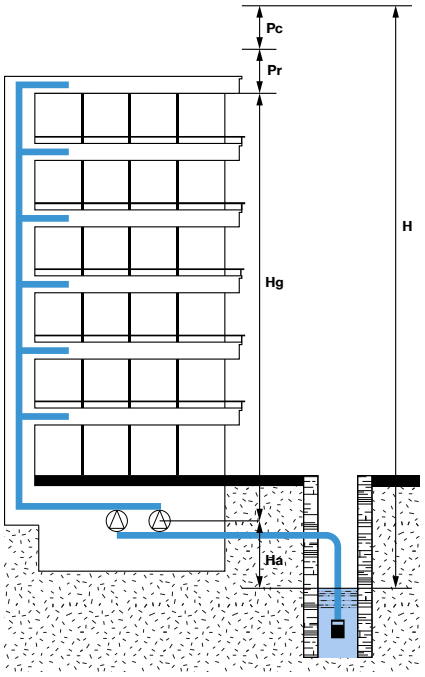
Function of the building

A	Offices
B	Shopping malls
C	Hospitals
D	Hotels

The pressure required H (head) in the system

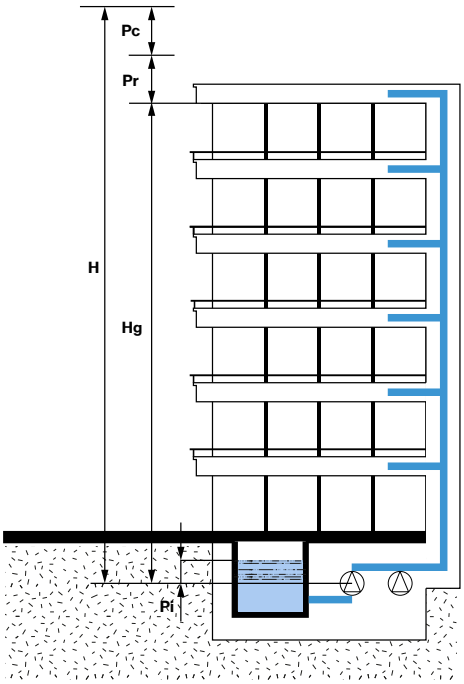
The are a few factors that go into the determination of the pressure required from a booster set and the formula to calculate it depends on whether we have suction lift or flooded suction.

Suction lift



H = Hg+Ha+Pr+Pc

Flooded suction



H = Hg-Pi+Pr+Pc

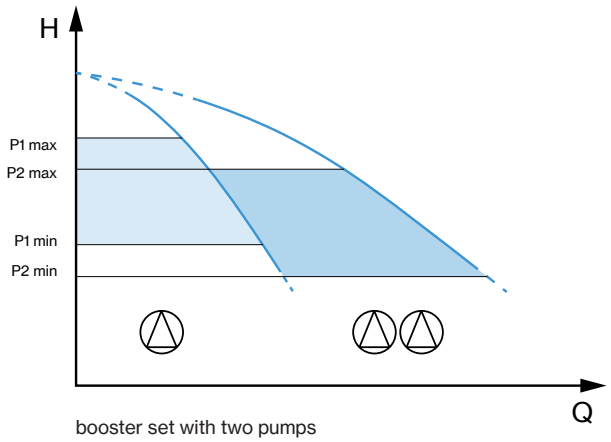
- [H] total head (m)
- [Hg] geodetic head to the highest outlet (m)
- [Ha] suction lift (m)
- [Pi] initial pressure (m)
- [Pr] residual pressure at the highest outlet (not less than 15m)
- [Pc] head loss (can be assumed 20% of Hg, or 0.5 m per floor for new systems and 1.5 m per floor for old systems)

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

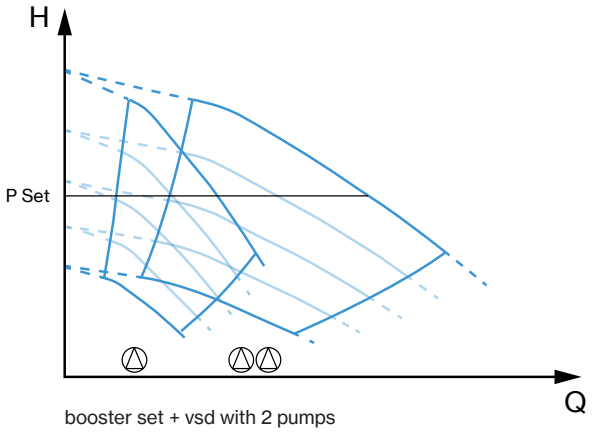
The fixed speed booster set is available for specific applications such as filling a water tank at a consistant rate. The recommendation is to select a pump model where the maximum pressure required is slightly left-hand side in the pump curve.



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 144

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 145

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~	0-16	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 the skid rod or the motor terminal box of horizontal and 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

Structure in aluminium with IP66 protection, for installation on humid and dusty environments

Control panel for setting and pressure regulation, with graphic OLED display and led indication for stand-by, run and alarm conditions

Independent ventilation

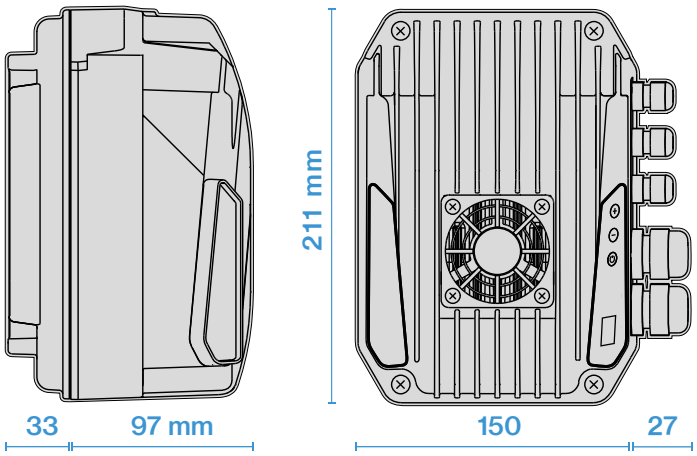
Built-in Bluetooth for complete programming through Pentax IPFC App for smartphone

Cable glands

TECHNICAL SPECIFICATIONS

EPIC-A	304	306	309
Installation	direct on-pump		
Input rated voltage	3 × 400 V ± 15%		
Output rated voltage	3 × 400 V		
Output rated current	4 A	6 A	9 A
Max electric pump current	3,6 A	5,4 A	8,1 A

DIMENSIONS AND WEIGHT



max weight 2,5 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
- OLED display
- Settable digital outputs, N.O. or N.C.
- Protection and analog/digital inputs

Structure in aluminium with IP55 protection

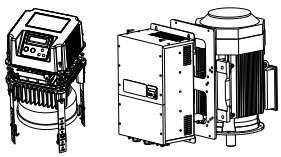
Control panel with OLED display for configuration and monitoring of electrical and hydraulic parameters

Cooled by the motor fan

Built-in Bluetooth for complete programming through Pentax IPFC App for smartphone

Cable glands

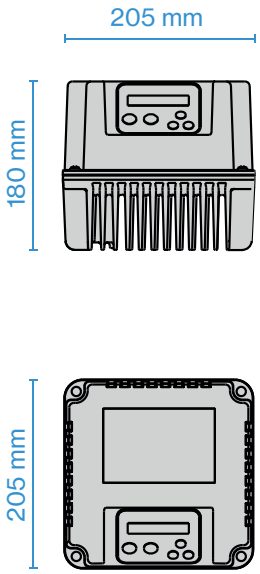
Installation directly on the motor fan cover



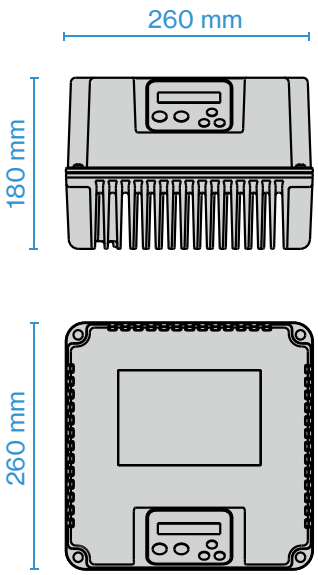
TECHNICAL SPECIFICATIONS

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



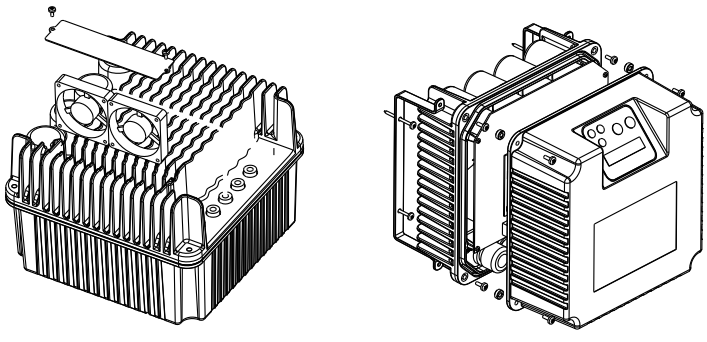
IPFC 109 - 114 - 306 - 309 - 311
max weight 5 kg



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.

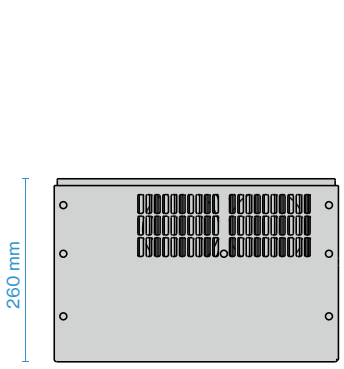
FEATURES

- 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

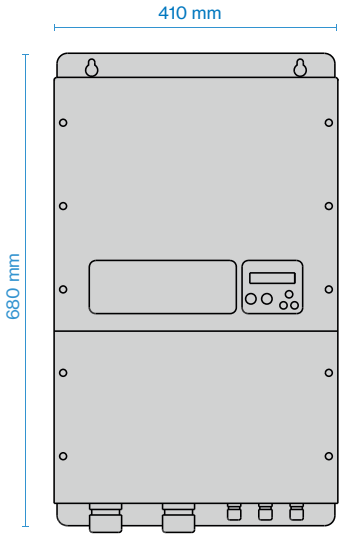
TECHNICAL SPECIFICATIONS

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



Dedicated APP for control and programming of variable speed drives EPIC-A and 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 pumps equipped with EPIC-A or IPFC inverters, via Wi-Fi or GSM by using a nearby smartphone as a modem

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

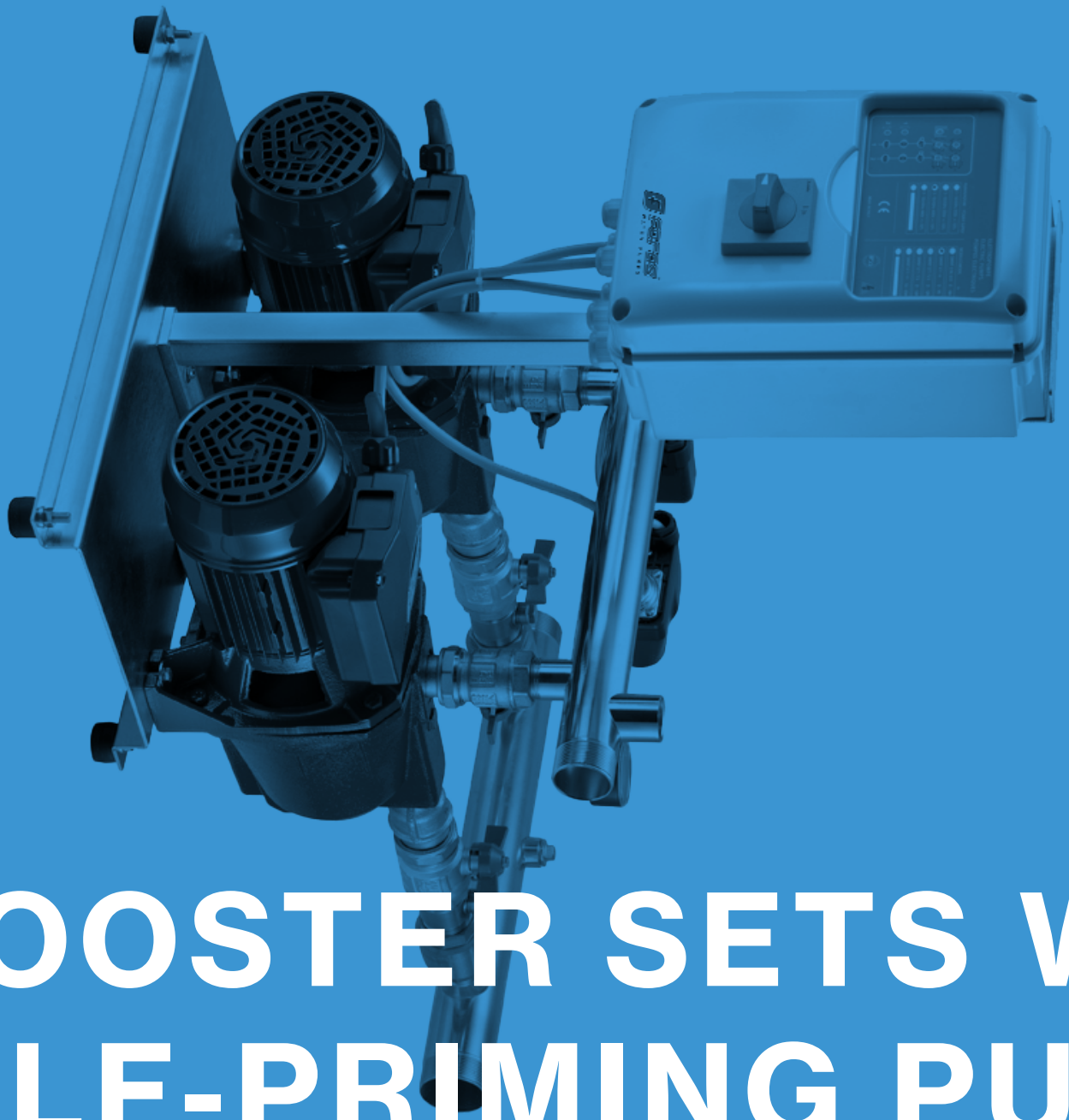
- **Guide**: receive online assitance on parameters and alarms

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	0,6÷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.

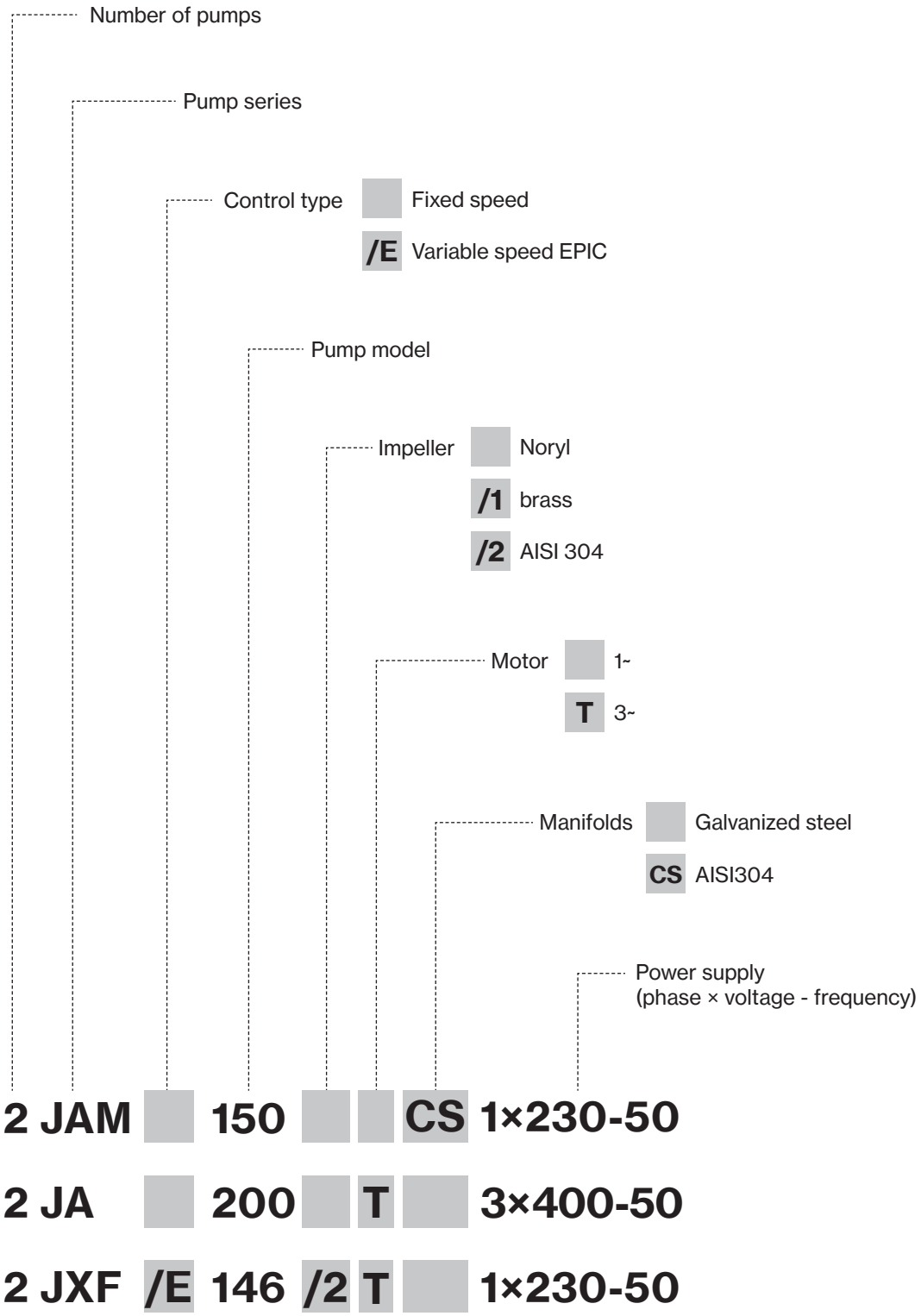
JXF	
P2	0,6÷1,5 [HP]
Q max	3,8 [m³/h]
H max	53,6 [m]

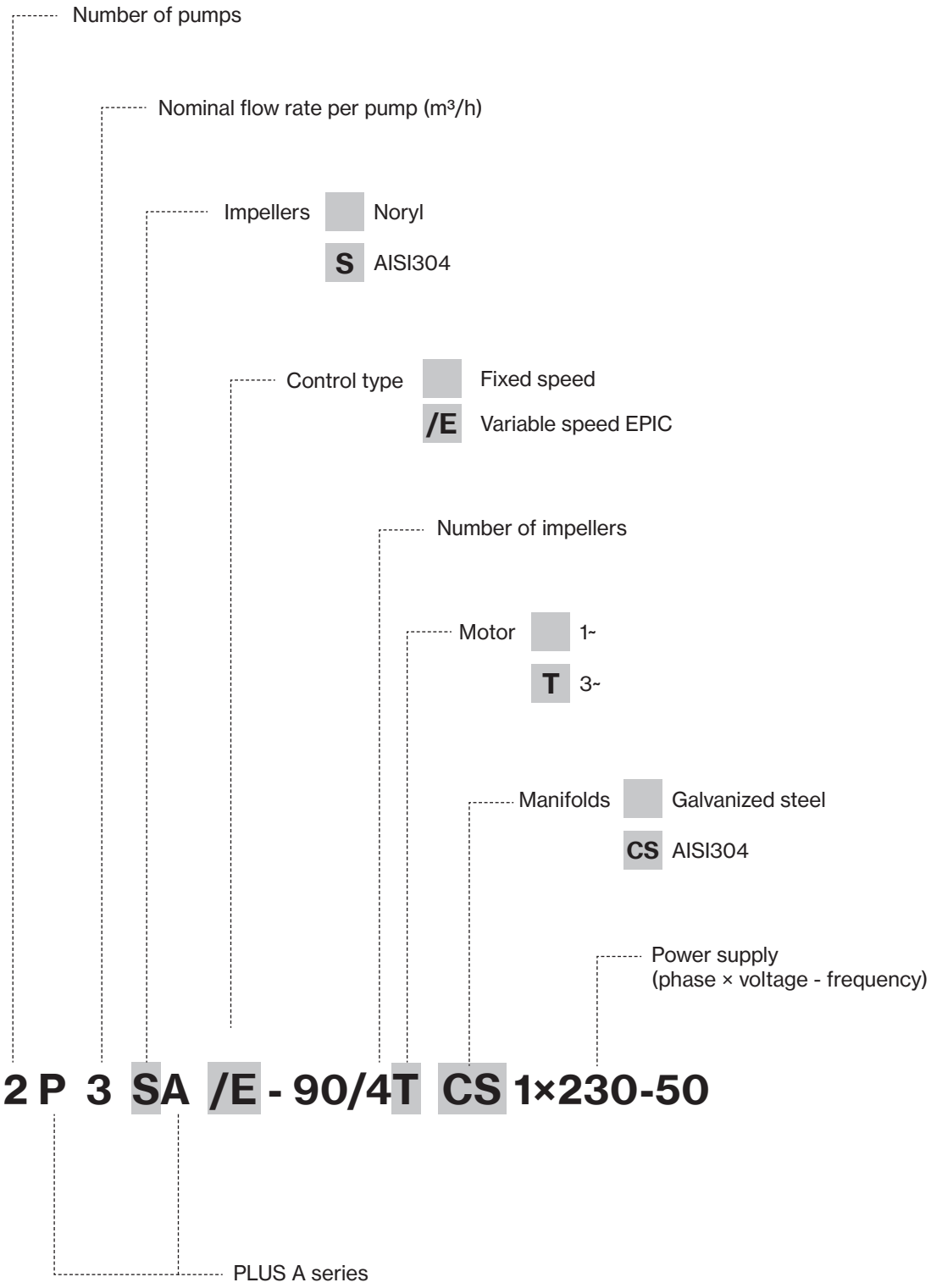
Self-priming centrifugal pumps for domestic applications such as domestic systems where air is mixed with water. Recommended in combination with pressure set for water transfer, rainwater harvesting and garden irrigation systems.

JA 150-300	
P2	1,5÷3 [HP]
Q max	8,4 [m³/h]
H max	62 [m]

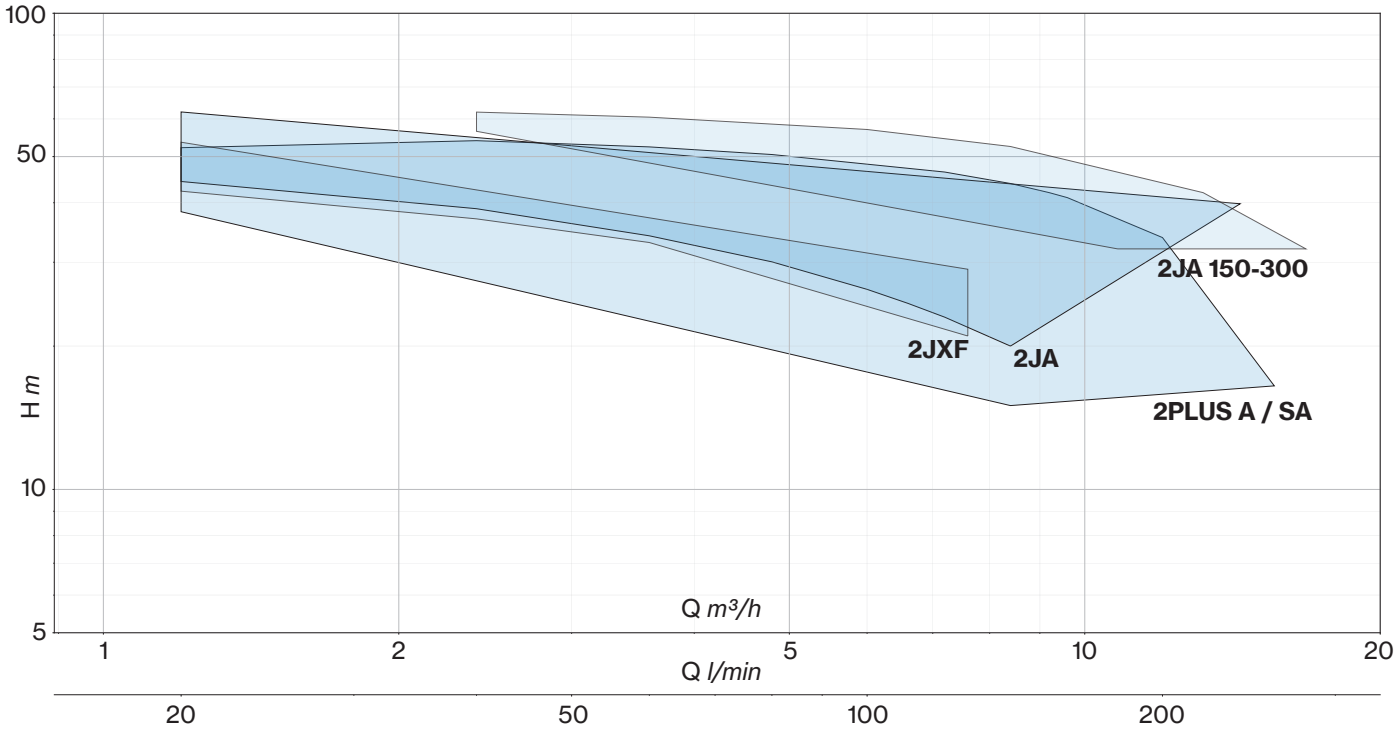
Self-priming centrifugal pumps for water supply (also mixed with air) of small and medium domestic and civil installations, that can be connected to an autoclave tank.

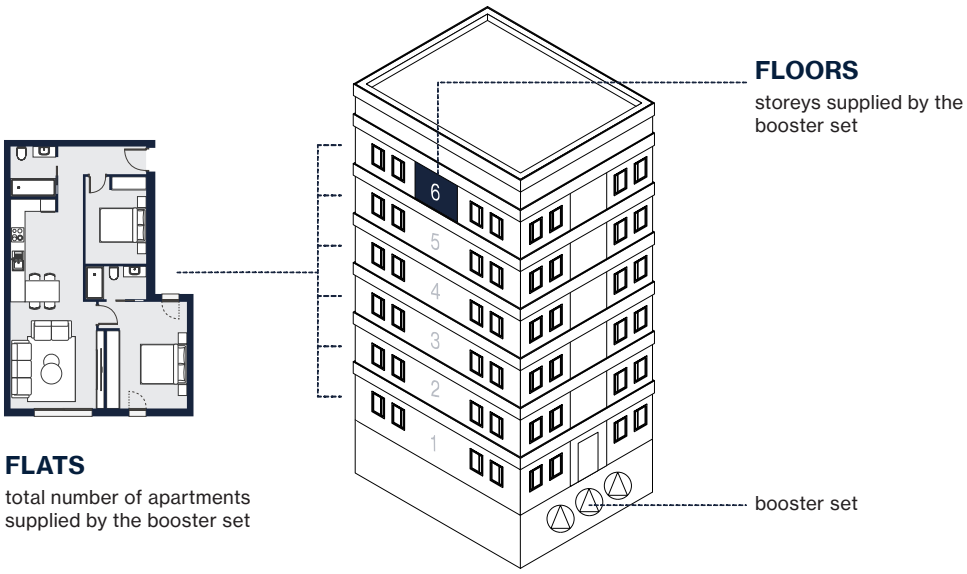
Name key


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
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

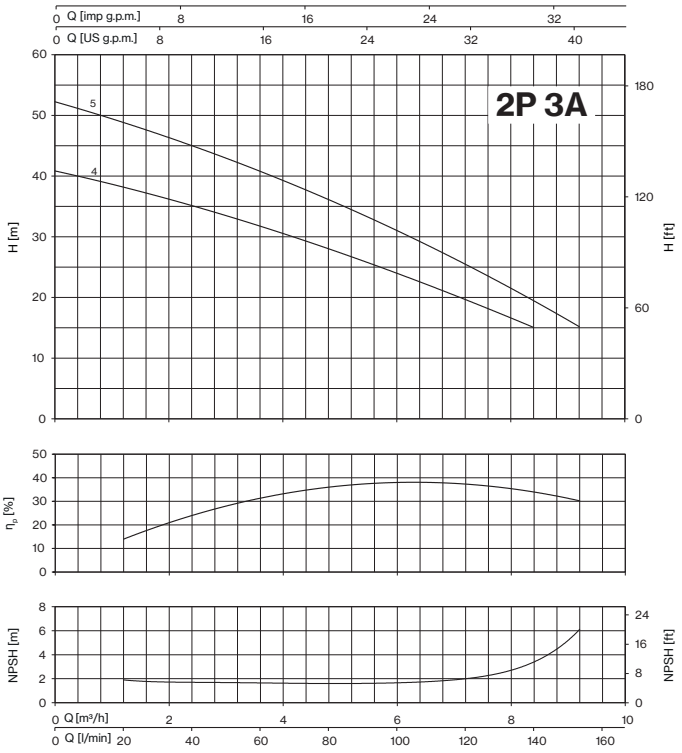
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control 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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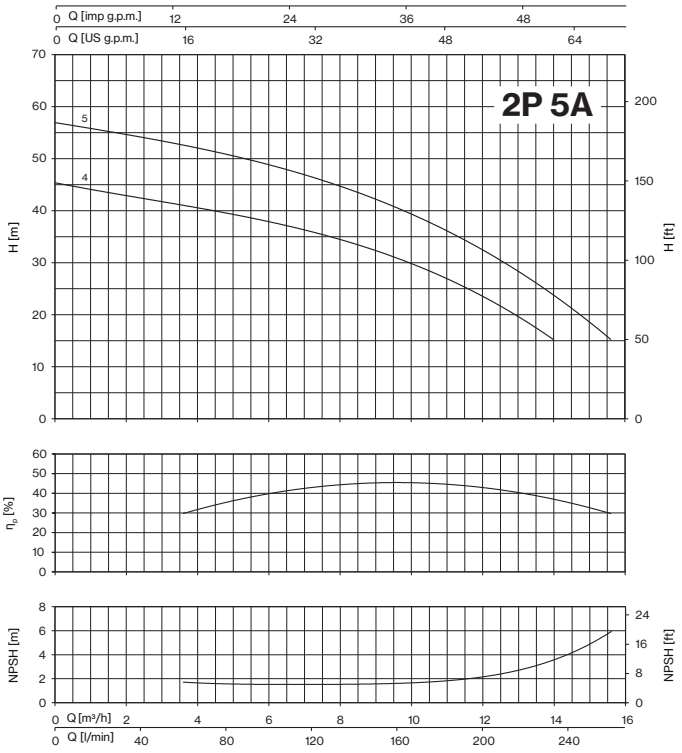
Q [US g.p.m.]
H [m]
H [ft]
5
4
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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4
η_p [%]
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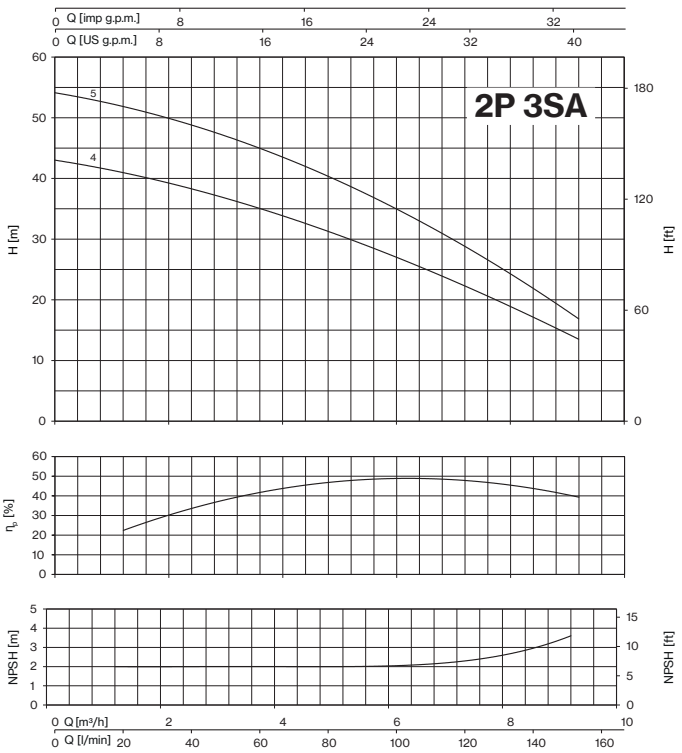
Q [l/min]


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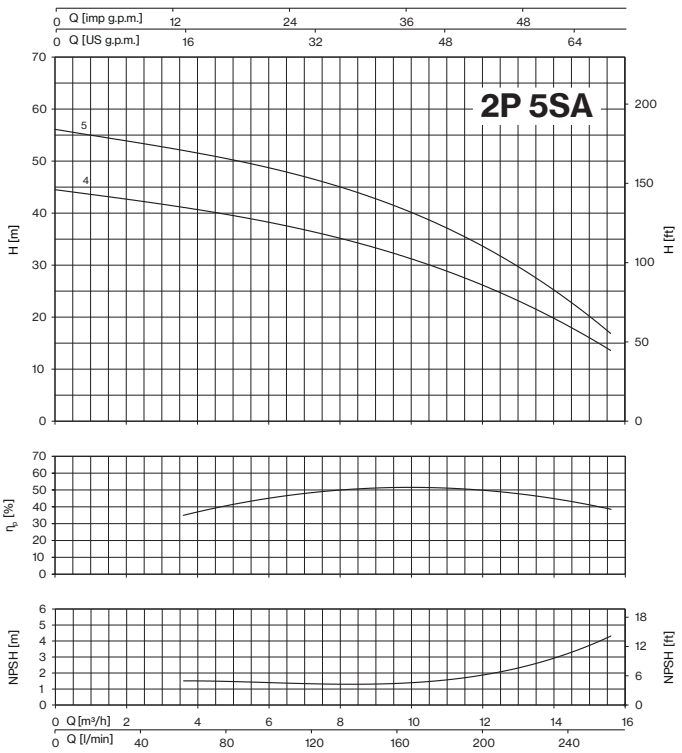
NPSH [ft]
Q [m³/h]
Q [l/min]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5
4
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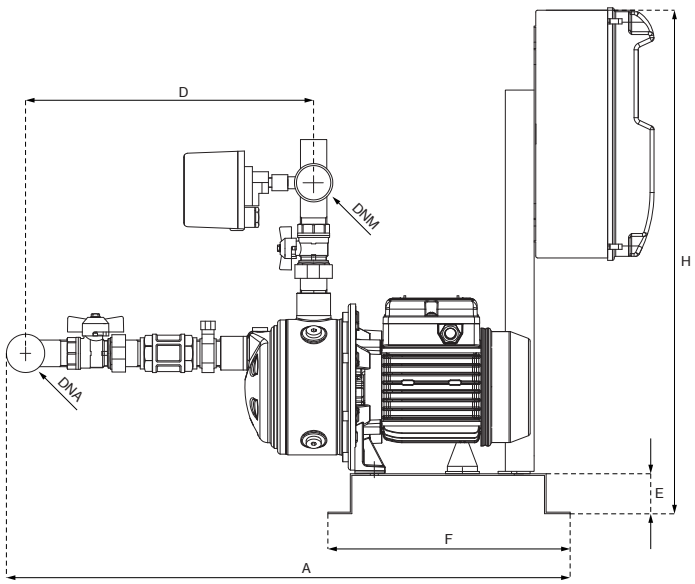
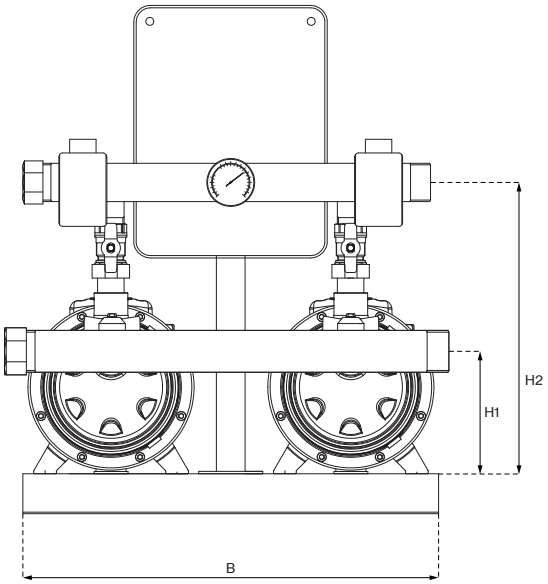
NPSH [ft]
Q [m³/h]
Q [l/min]

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

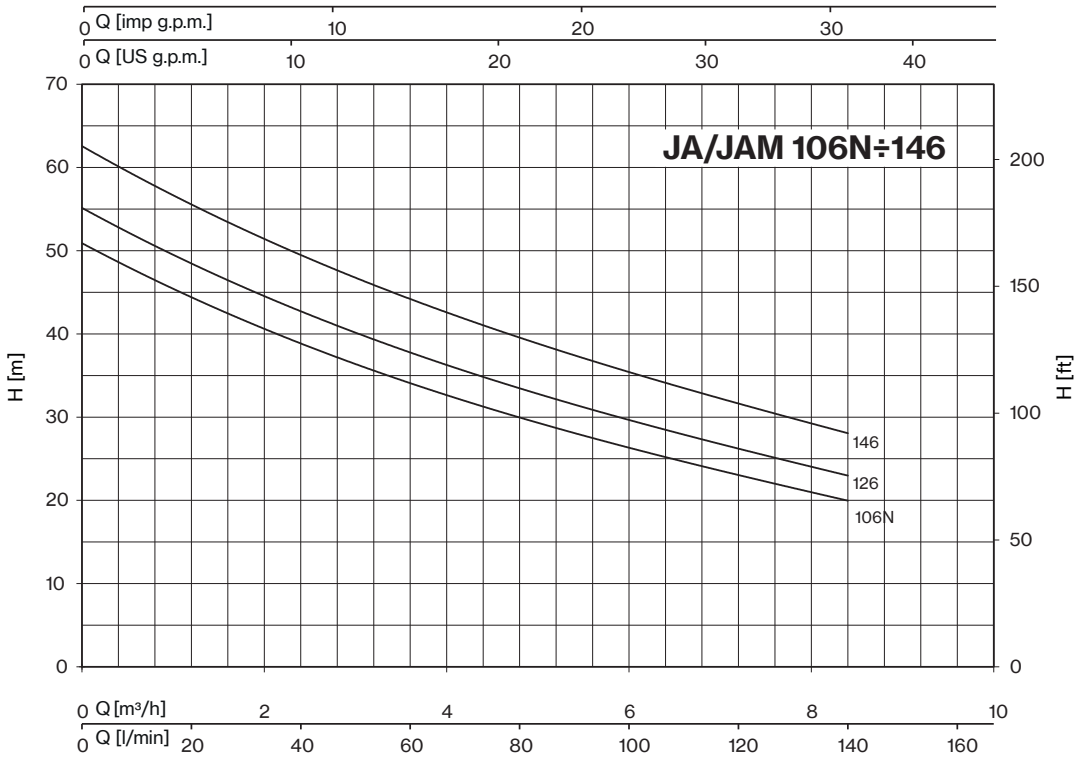
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control 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**	2	1,5	54,8	51,8	48,9	46,2	43,6	41,1	40,0	38,8	36,6	34,5	30,6	26,8
160	4	**2JAM200**	**2JAM200T**	-	2,5	1,85	62,7	59,7	56,8	54,0	51,5	49,1	47,9	46,8	44,6	42,4	38,4	34,8
180	4,5	-	**2JAM300T**	-	3	2,2	70,0	66,9	63,9	61,0	58,3	55,8	54,6	53,5	51,3	49,2	45,1	41,6


JA/JAM 106N÷146
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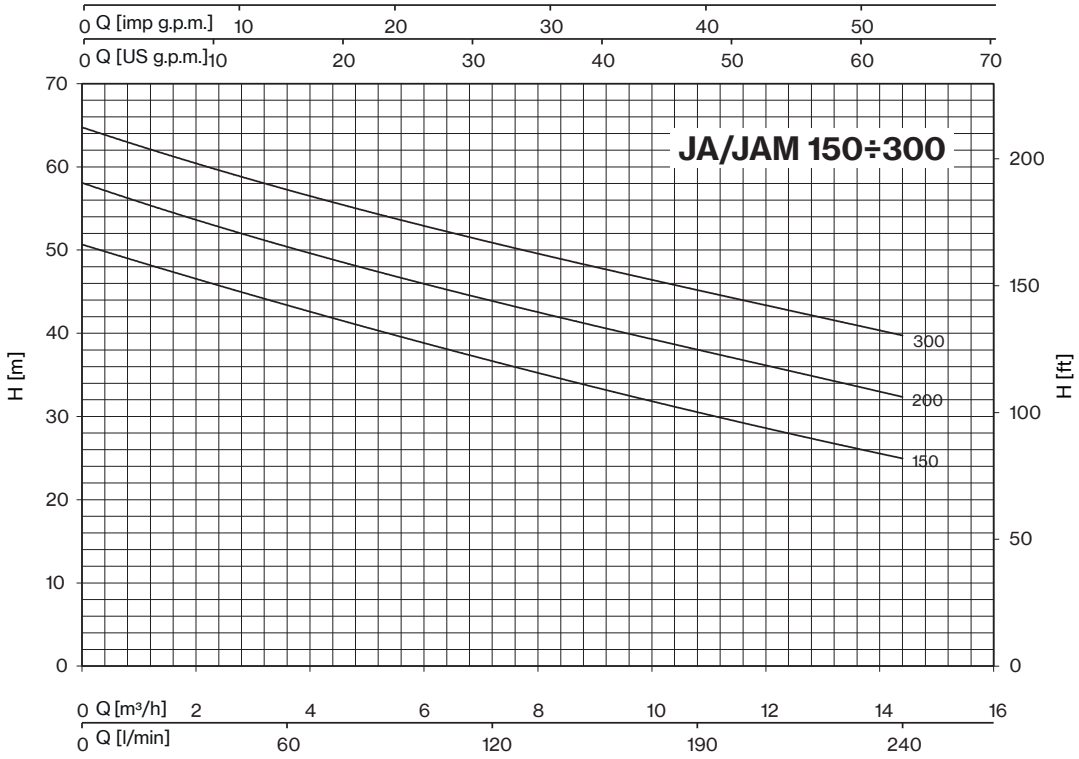
Q [US g.p.m.]
Q [m³/h]
Q [l/min]
H [m]
H [ft]
146
126
106N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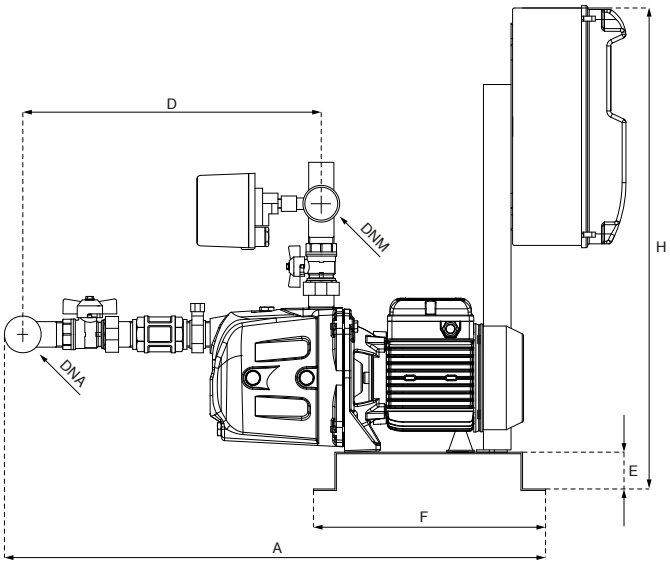
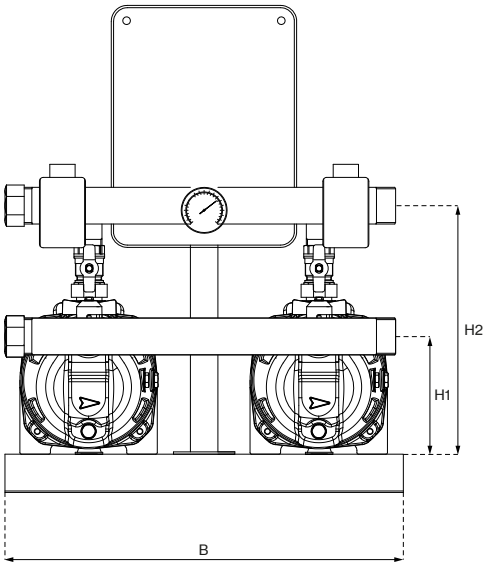
H [m]
H [ft]
300
200
150





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	8,5	3,7	6,4	2× 20	850	615	474	60	380	650	175	360	2" G		85	90
2JAM200	**2JAM200T**	-	2,3	2,2	10,4	4,4	7,6	-	850	615	474	60	380	650	175	360			83	-
-	**2JAM300T**	-	2,7	2,6	12,5	5,2	9	-	850	615	474	60	380	650	175	360			84	-

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

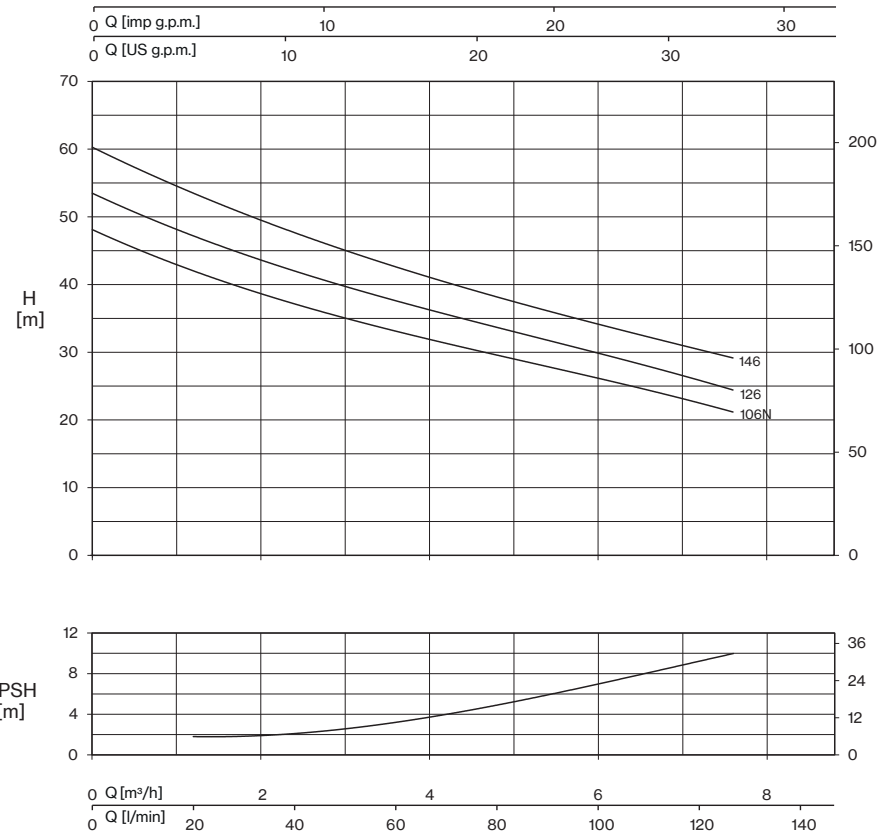
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control 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

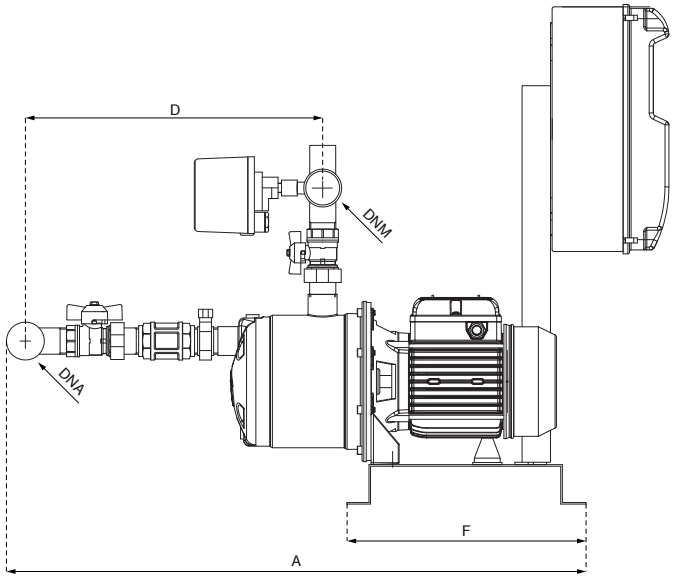
Pump features

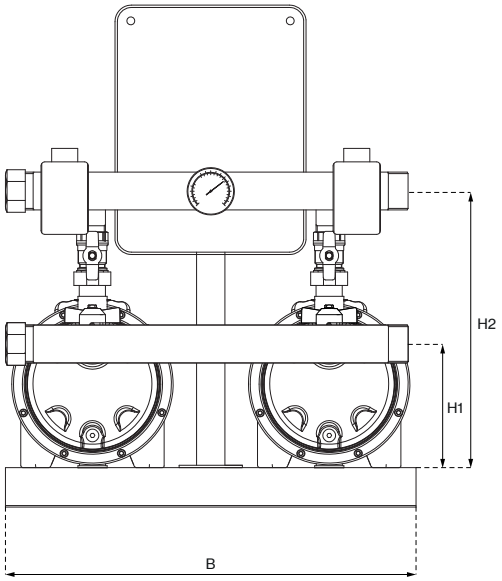
Pump body	stainless steel AISI 304
Motor bracket	aluminum
Impeller	Noryl®, steel AISI 304
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 416
Liquid temperature	0 - 50 °C
Operating pressure	max 8 bar
2 Poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class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

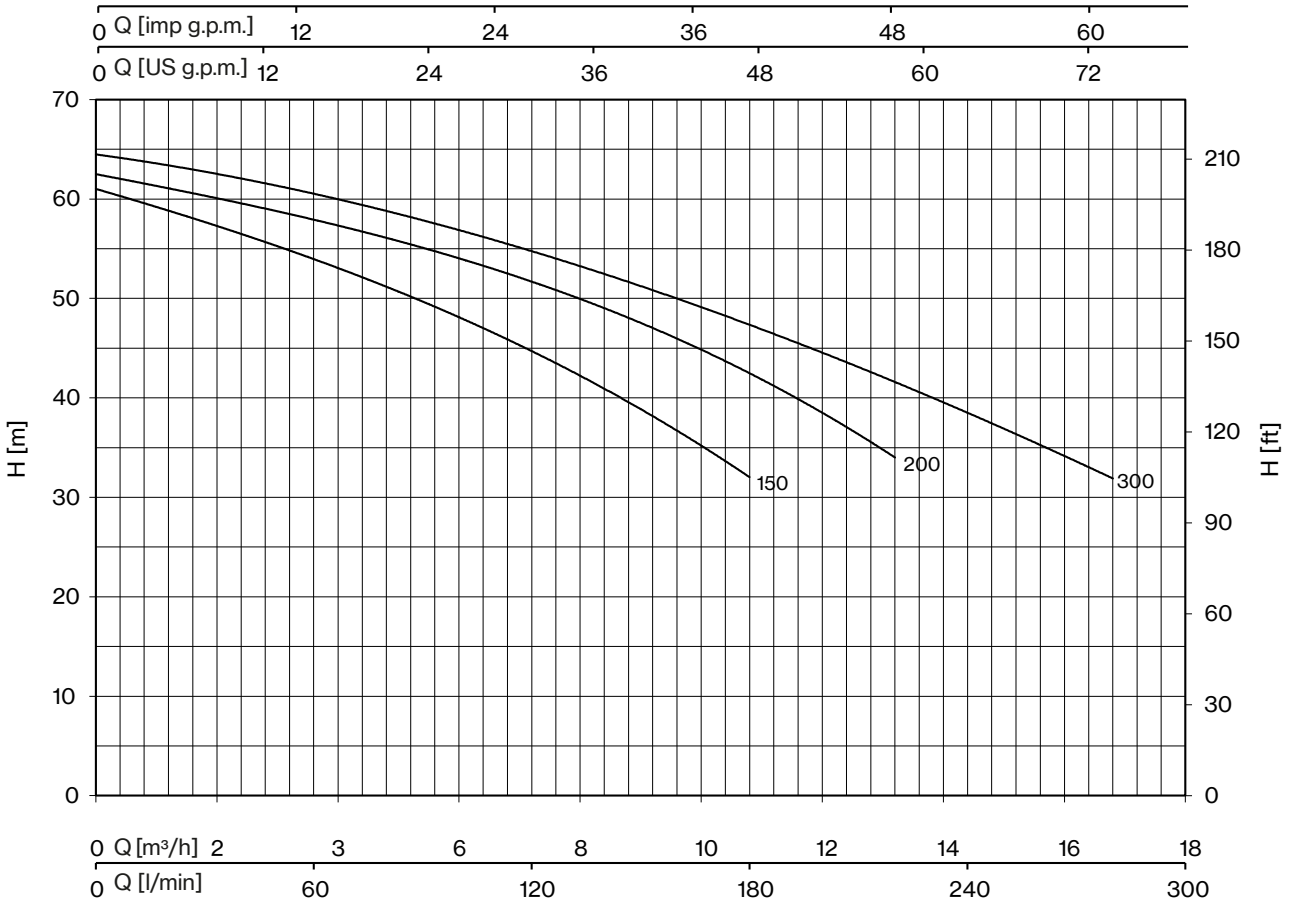
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control 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

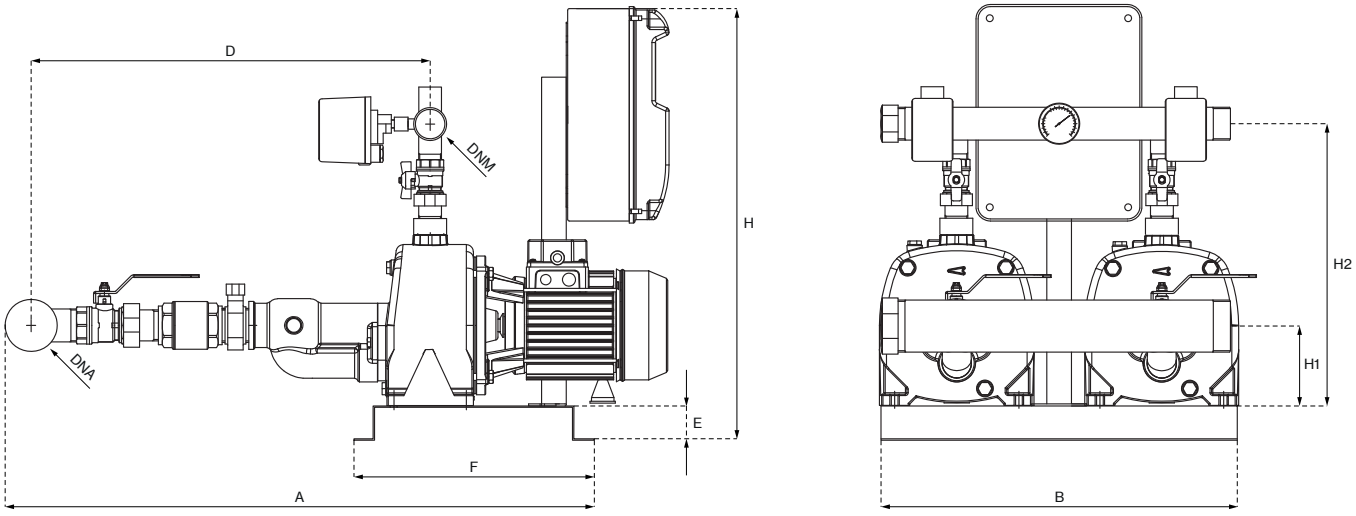
Pump construction features

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 2CAB		TYPE - 50 Hz			P2 (×2)		Q (m³/h - l/min)							
		FIXED SPEED		VARIABLE SPEED			0	2,4	3,6	6,0	8,4	10,8	13,2	15,6
		1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out			0	40	60	100	140	180	220	260,0
l/min	bar				HP	kW	H (m)							
140	4	**2JA150**	**2JA150T**	**2JA/E150T**	2	1,5	61,5	57,2	54,7	48,5	40,9	30,8		
180		**2JA200**	**2JA200T**	-	2,5	1,5	62,8	60,0	58,5	54,7	50,1	44,5	38,7	
220		**2JA300**	**2JA300T**	-	3	2,2	68,4	65,6	64,0	60,7	56,5	51,7	46,4	40,2

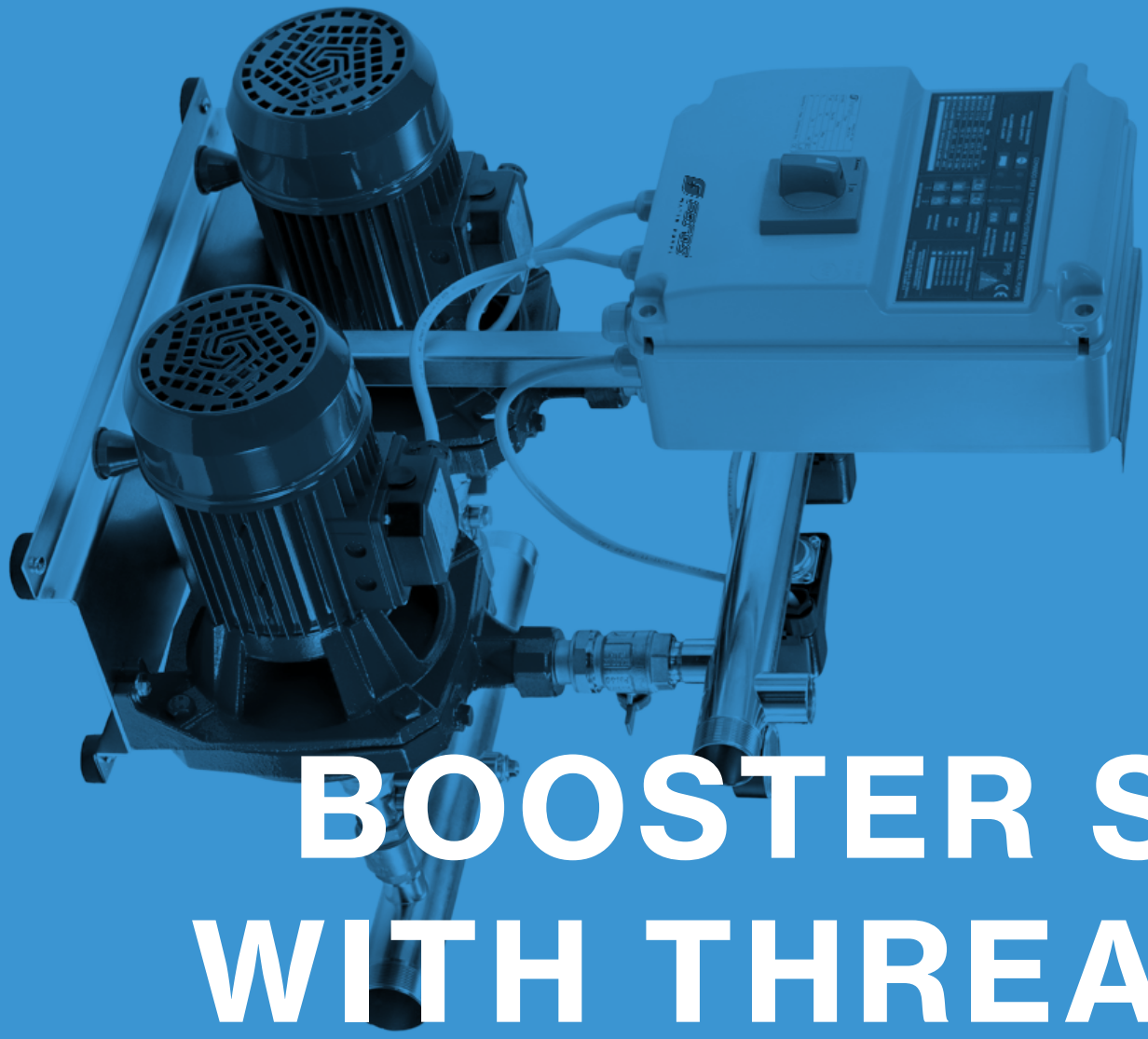




MODEL			P1		In			Required tank for v.s.	DIMENSIONS										WEIGHT	
FIXED SPEED		VARIABLE SPEED																		
1~ 230V	3~ 400V	1~ 230V-in 3~ 230V-out	1~	3~	1~ 230V	3~ 400V	3~ 230V		A	B	D	E	F	H	H1	H2	DNA	DNM	f.s.	v.s.
			kW (×2)		A (×2)			Lt	mm										Kg	
2JA150	**2JA150T**	**2JA/E150T**	1,8	1,7	8,2	3,6	6,2	2× 20	940	615	564	60	380	650	112	380	2" G	1" ½ G	86	91
2JA200	**2JA200T**	-	2,2	2,1	9,9	4,3	7,5	-	940	615	564	60	380	650	112	380			85	-
2JA300	**2JA300T**	-	2,8	2,6	13	5,2	9	-	940	615	564	60	380	650	112	380			87	-

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.

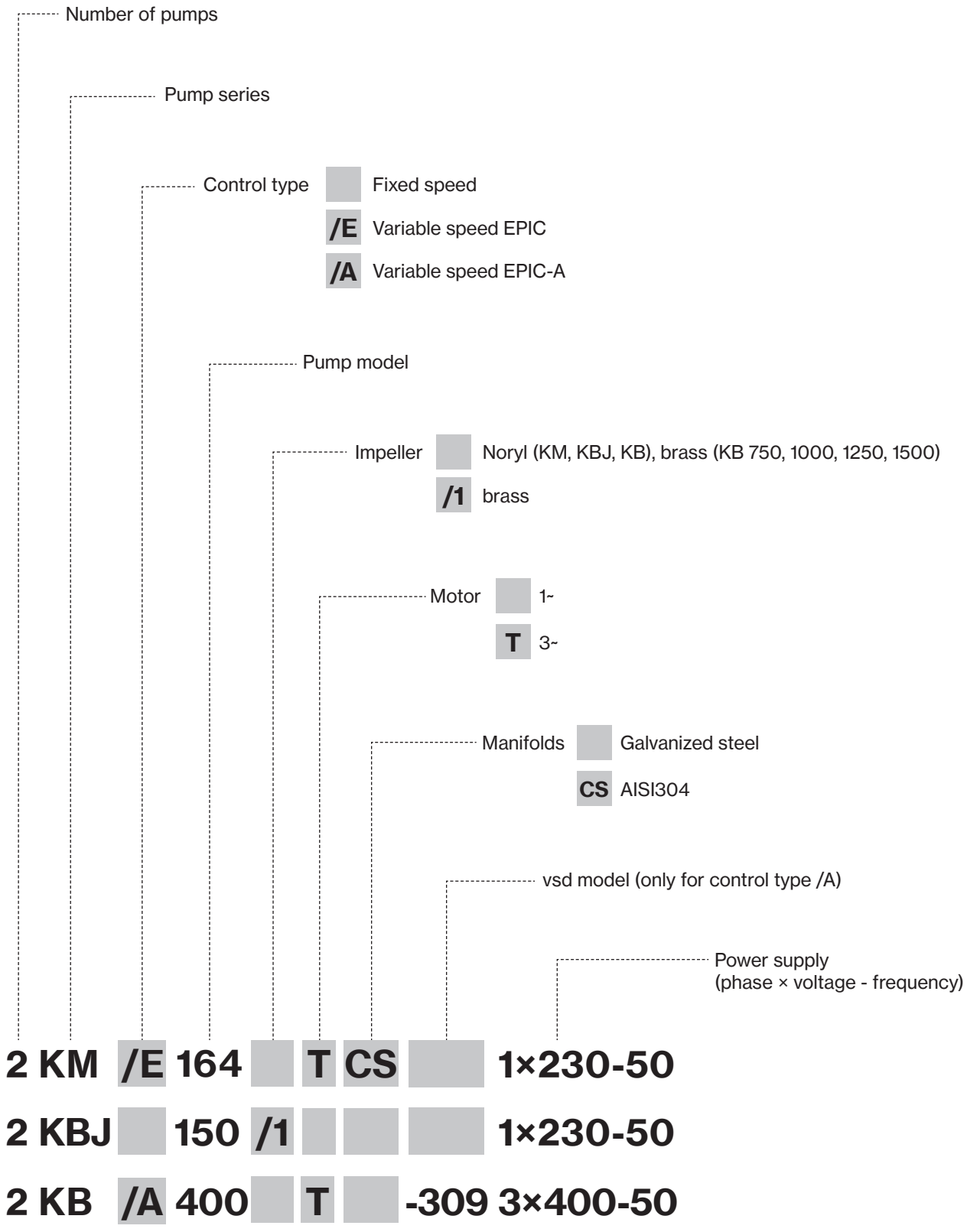
KBJ	
P2	1,5÷3 [HP]
Q max	10,8 [m³/h]
H max	45,9 [m]

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

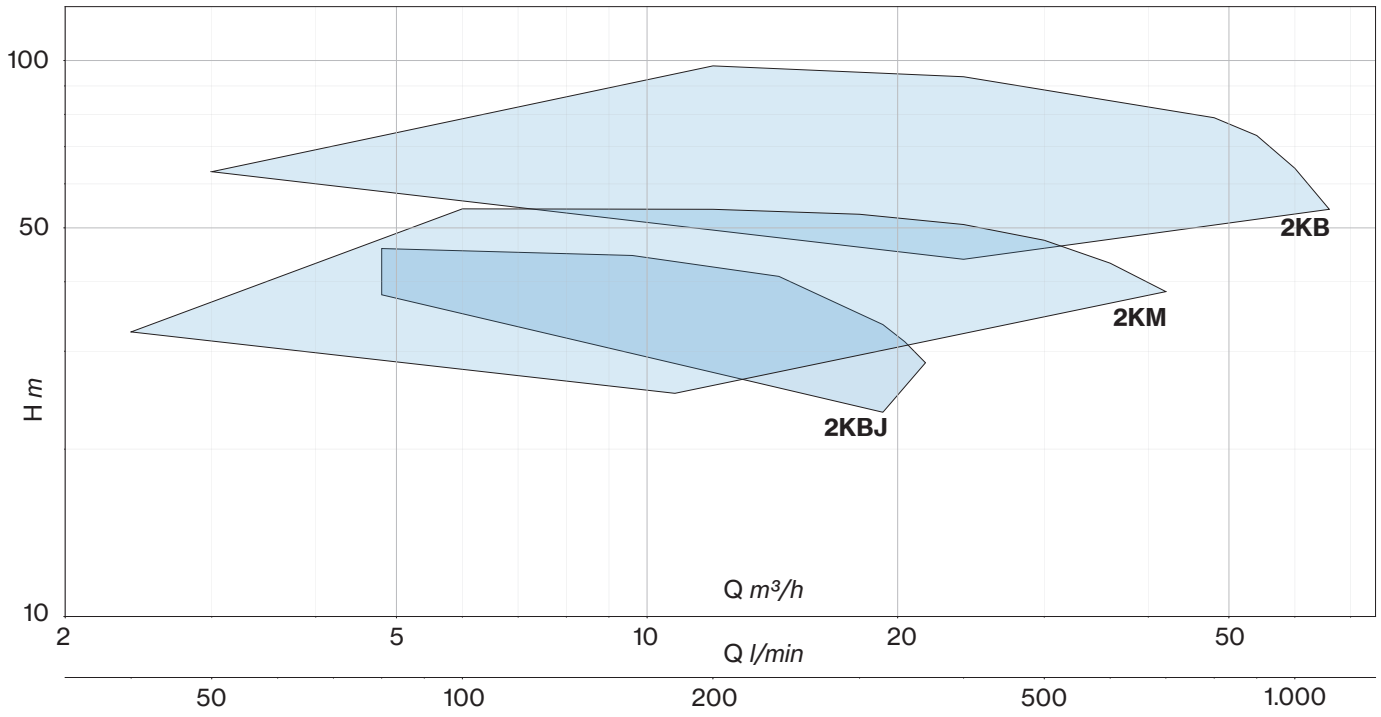
KB	
P2	1÷15 [HP]
Q max	33 [m³/h]
H max	97,8 [m]

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

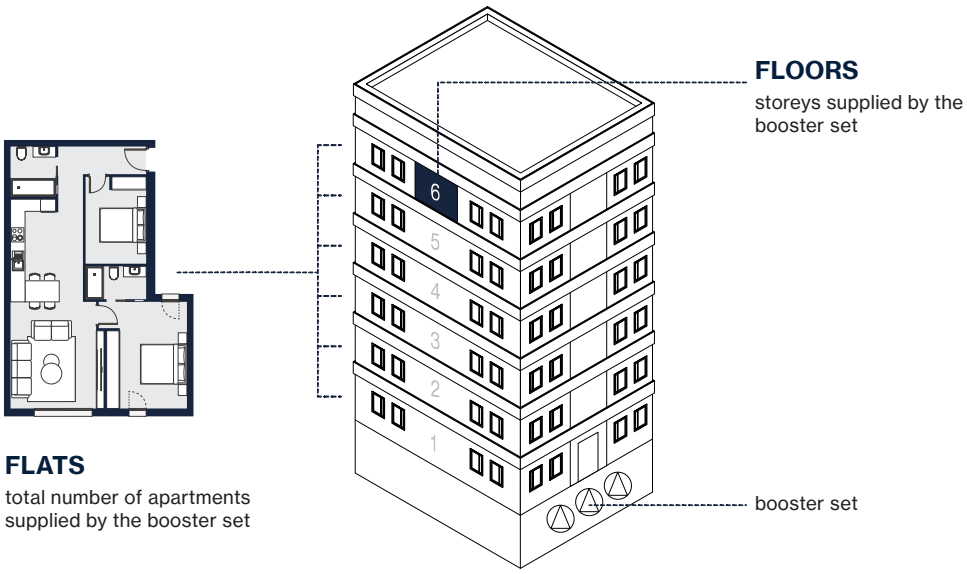
Name key


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~
Manifolds
Galvanized steel
CS AISI304
vsd model (only for control type /A)
Power supply
(phase × voltage - frequency)
2 KM /E 164 T CS 1×230-50
2 KBJ 150 /1 1×230-50
2 KB /A 400 T -309 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.

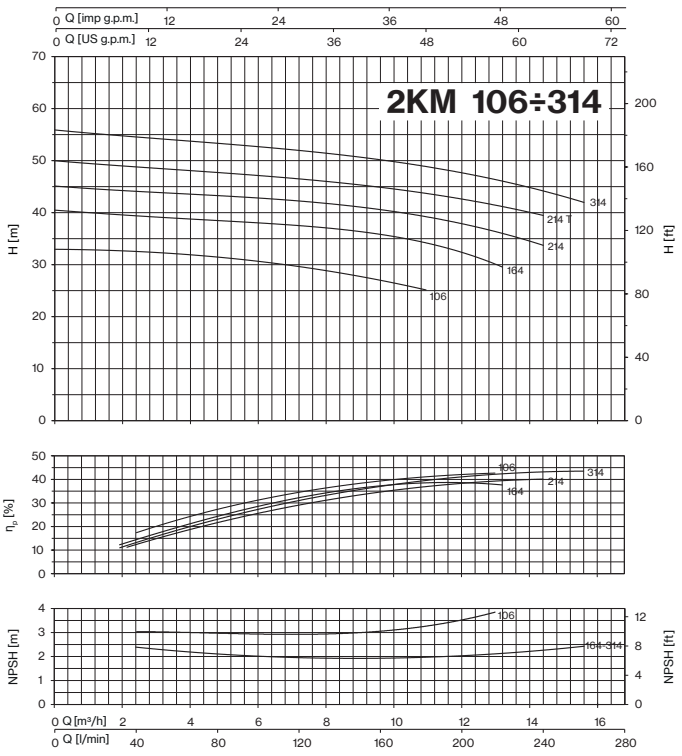
Booster set features	
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	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

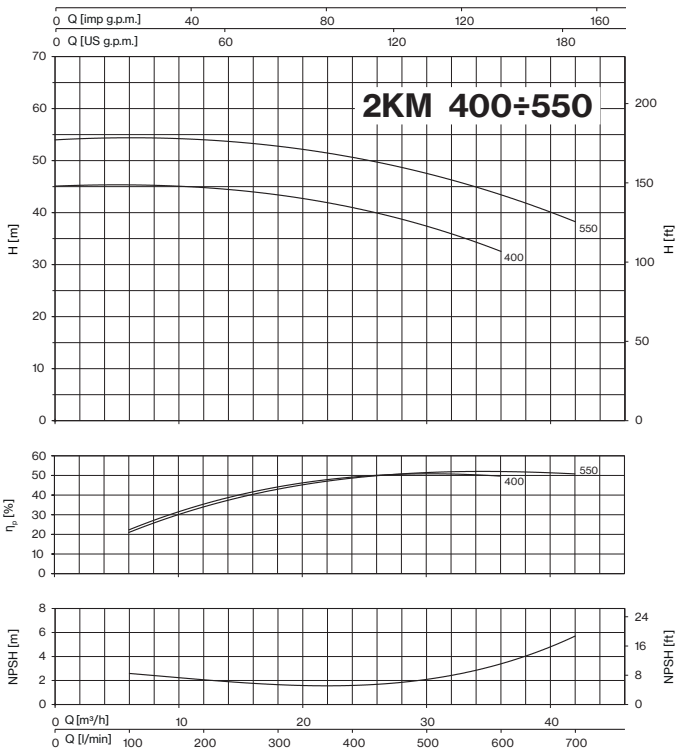
Pump features	
Pump body	cast iron
Motor bracket	cast iron (164÷550); aluminum (106)
Impeller	Noryl® or brass (106÷314), brass (400÷550)
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 416 (106) stainless steel AISI 303 (164÷550)
Liquid temperature	Noryl® impeller: 0 - 50 °C brass 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

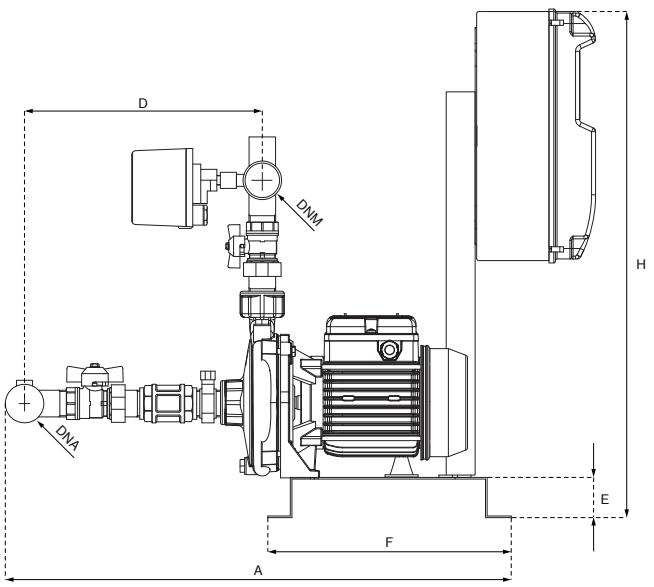
PERFORMANCE

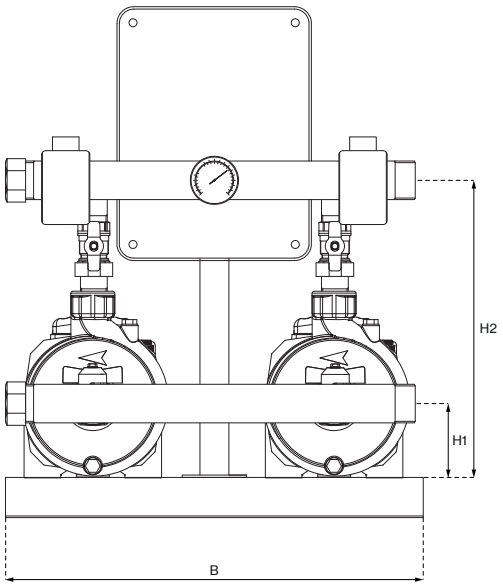
TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)								
		FIXED SPEED		VARIABLE SPEED				0	2,4	4,8	7,2	9,6	10,8	13,2	14,4	15,6
		1~ 230V	3~ 400V	EPIC	EPIC-A			0	40	80	120	160	180	220	240	260
l/min	bar			1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)								
100	3	-	-	**2KM/E106T**	**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**	2	1,5	39,4	39,1	38,6	37,2	35,2	33,8	27,2		
200	3,5	**2KM214**	-	-	-	2,5	1,85	46,3	45,9	45,5	44,1	42,1	41,1	38,2	35,5	
	4	-	**2KM214T**	-	**2KM/A214T-306**	3	2,2	53,2	52,7	52,1	50,8	48,8	47,6	45,0	42,9	39,2
	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**	-	-	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	2x 8	641	520	311	50	300	633	97	372	1" ½ G	1" ½ G	49	54
2KM164	**2KM164T**	**2KM/E164T**	**2KM/A164T-304**	1,8	1,8	8,2	3,7	6,4	2x 8	648	520	325	50	300	633	115	423	2" G		74	79
2KM214	**2KM214T**	-	**2KM/A214T-306**	2,3	2,2	10,4	4,4	-	2x 8	648	520	325	50	300	633	115	423			72	77
2KM314	**2KM314T**	-	**2KM/A314T-306**	2,80	2,6	13	5,2	-	2x 8	648	520	325	50	300	633	115	423			75	80
-	**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**	-	-	-	4,9	-	9	-	-	849	615	378	60	380	633	133	515			116	-

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

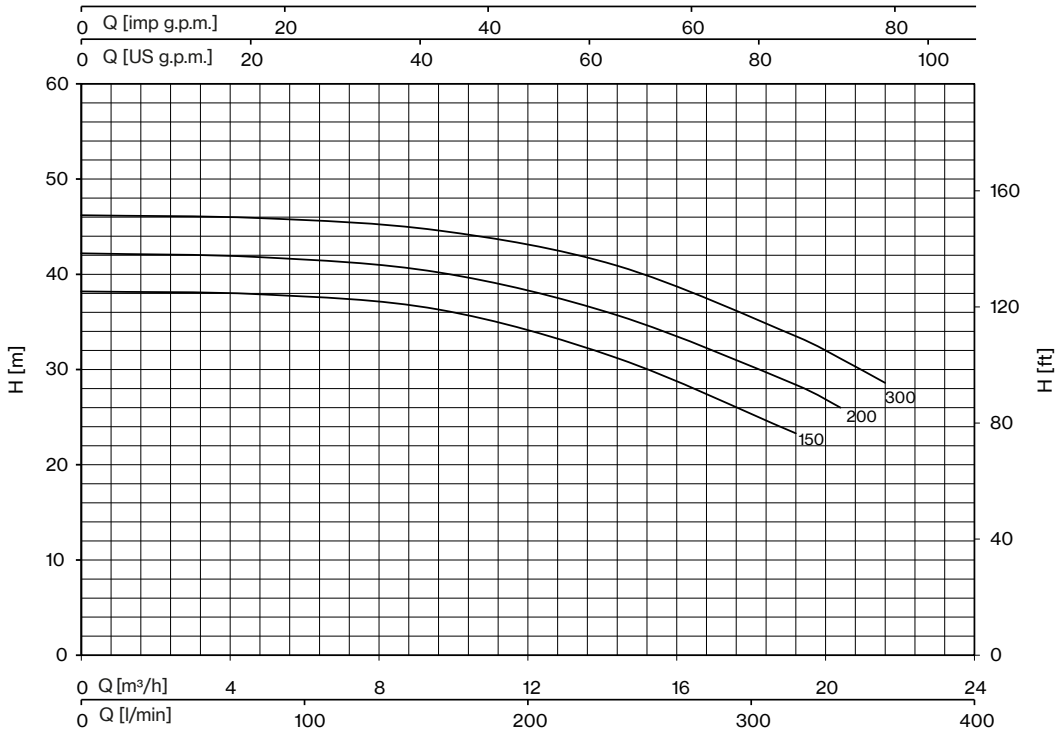
Suction manifold	galvanized steel with non-return and isolation valves
Delivery manifold	galvanized steel with pressure gauge and isolation valves, two connectors in the delivery manifold for direct installation of pressure tanks up to 24 lt
Base frame	galvanized steel
Fixed speed	electronic control 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

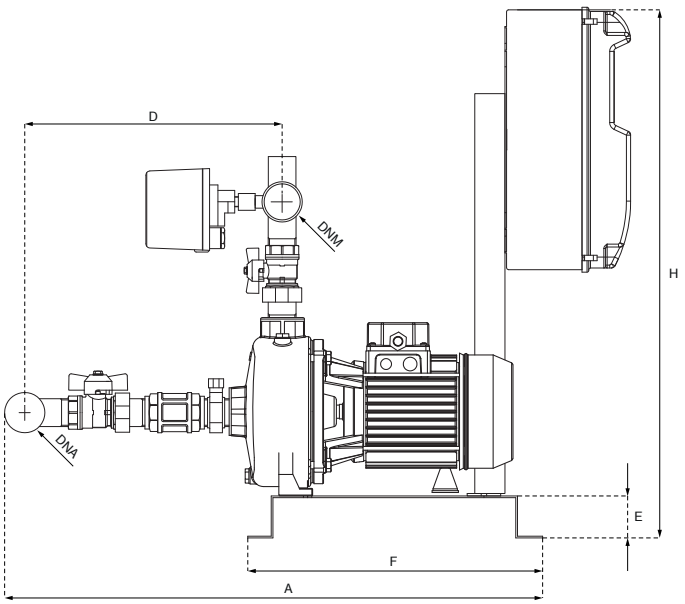
Pump features

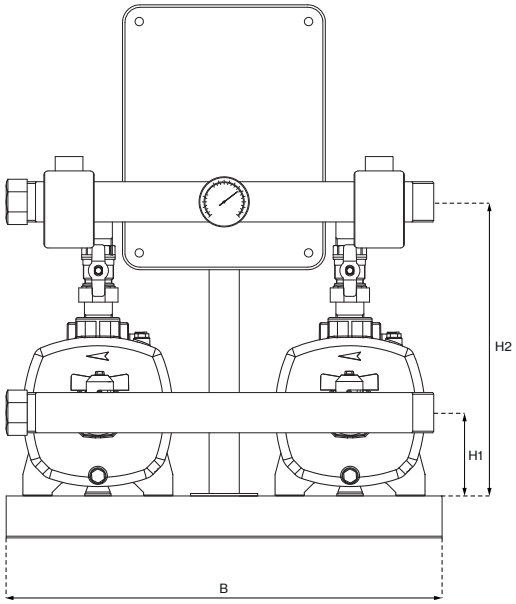
Pump body	cast iron
Motor bracket	cast iron
Impeller	Noryl® or brass
Mechanical seal	ceramic-graphite-NBR
Motor shaft	stainless steel AISI 303
Liquid temperature	0 - 50 °C
Operating pressure	max 8 bar
2 Poles induction motor	3~ 230/400V - 50Hz 1~ 230V - 50Hz
Motor insulation class	F
Motor protection 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	21,6	24,0
				EPIC	EPIC-A			0	80	160	240	320	360	400
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**	2	1,5	39,2	40,2	39,5	35,7	28,7	23,9	18,0
240		**2KBJ200**	**2KBJ200T**	-	**2KBJ/A200T-304**	2,5	1,85	44,9	45,6	44,8	41,7	35,2	30,8	25,8
300		**2KBJ300**	**2KBJ300T**	-	**2KBJ/A300T-306**	3	2,2	49,5	49,4	48,3	45,8	39,8	35,8	31,1







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**	2	1,9	8,9	3,7	6,41	2x 20	740	615	390	60	380	633	115	401			78	83
2KBJ200	**2KBJ200T**	**2KBJ/E200T**	**2KBJ/A200T-304**	2,3	2,2	10,4	4,4	-	2x 20	740	615	390	60	380	633	115	401	2" ½ G	2" G	78	83
2KBJ300	**2KBJ300T**	**-**	**2KBJ/A300T-306**	2,6	2,5	12,4	5,1	-	2x 20	740	615	390	60	380	633	115	401			81	87

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)

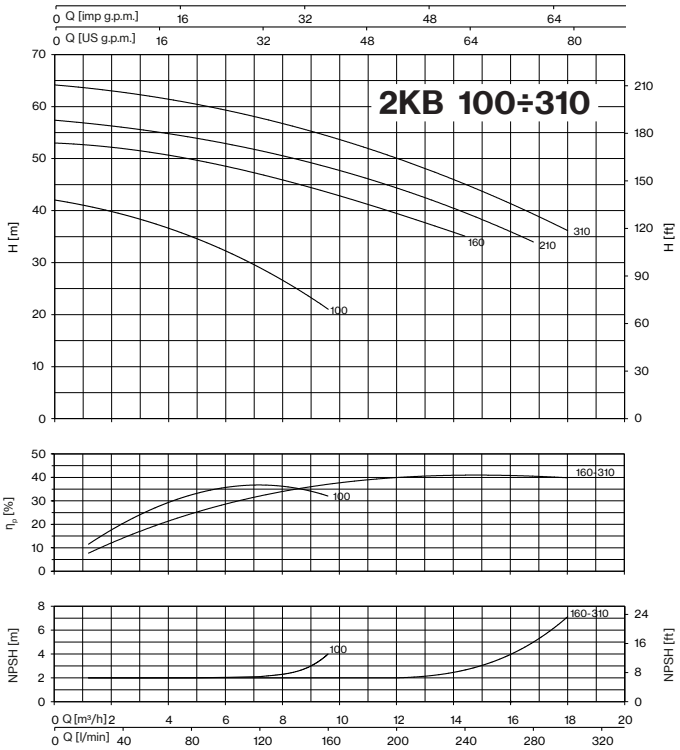
PERFORMANCE

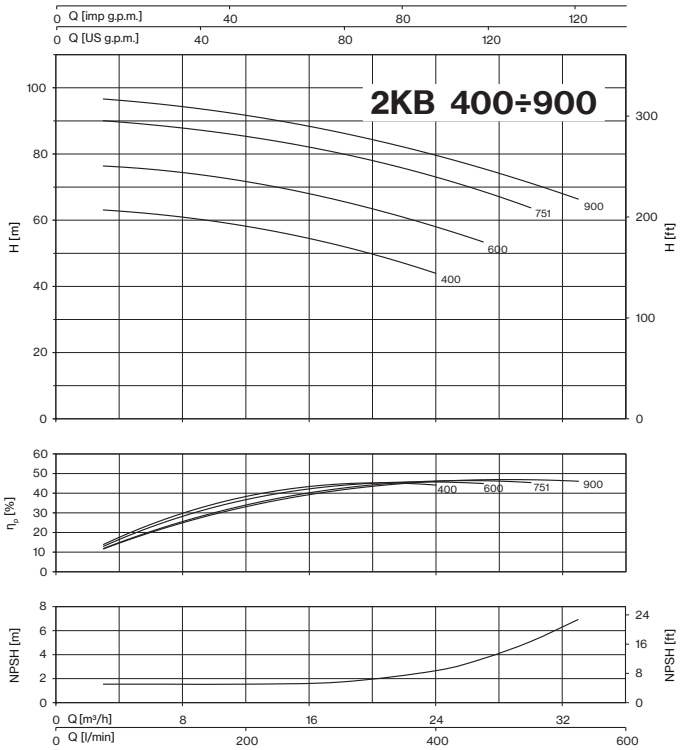
TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)										
		FIXED SPEED		VARIABLE SPEED				0	1,2	2,4	3,6	4,8	7,2	9,6	12,0	14,4	16,8	18
		1~ 230V	3~ 400V	EPIC	EPIC-A			0	20	40	60	80	120	160	200	240	280	300
l/min	bar			1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)										
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**	2	1,5	48,3	47,7	47,1	46,5	45,7	43,5	40,1	36,2	31,1		
220	4	**2KB210**	**2KB210T**	-	**2KB/A210T-306**	2,5	1,85	54,9	54,4	53,8	53,0	52,3	50,5	47,1	43,1	38,3	32,4	
220	4,5	**2KB310**	**2KB310T**	-	**2KB/A310T-306**	3	2,2	61,4	60,9	60,3	59,8	59,2	57,1	53,6	49,3	44,2	38,3	35,2

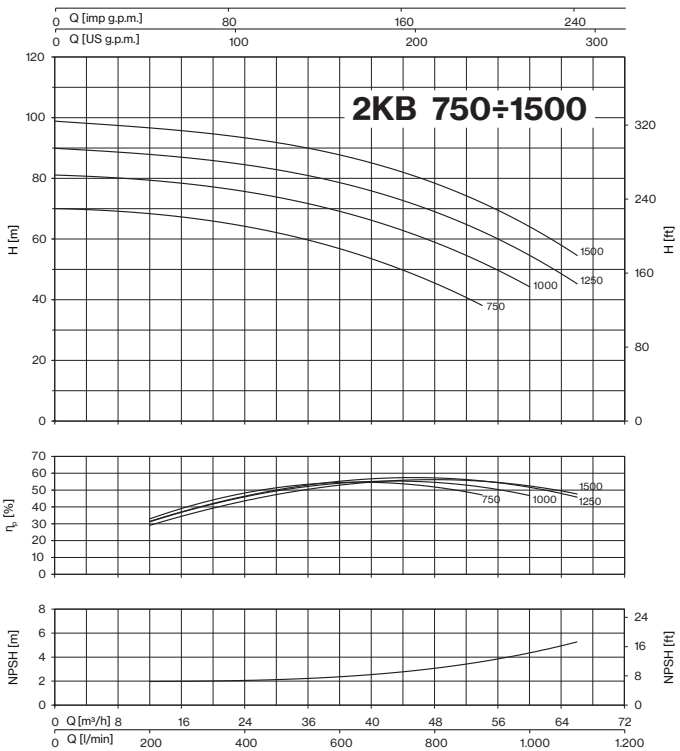
TARGET (2 pumps)		MODEL				P2 NOMINAL		Q (m³/h - l/min)										
		FIXED SPEED		VARIABLE SPEED				0	3	6	9	12	15	18	21	24	27	30	33
		1~ 230V	3~ 400V	EPIC	EPIC-A			0	50	100	150	200	250	300	350	400	450	500	550
l/min	bar			1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)											
250	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**	-	-	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**	-	-	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**	-	-	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
		1~ 230V	3~ 400V	EPIC	EPIC-A			0	200	400	600	800	900	1000	1100
l/min	bar			1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP (×2)	kW (×2)	H (m)							
600	5	-	**2KB750T**	-	-	7,5	5,5	70,0	68,5	63,9	57,1	45,3	38,2		
800	5,5	-	**2KB1000T**	-	-	10	7,5	80,7	80,4	75,0	68,5	59,7	52,6	43,7	
900	6	-	**2KB1250T**	-	-	12,5	9,2	89,5	88,8	84,1	77,7	69,7	63,0	54,2	45,1
900	7	-	**2KB1500T**	-	-	15	11	98,3	97,8	93,5	85,7	78,9	73,3	64,0	54,0

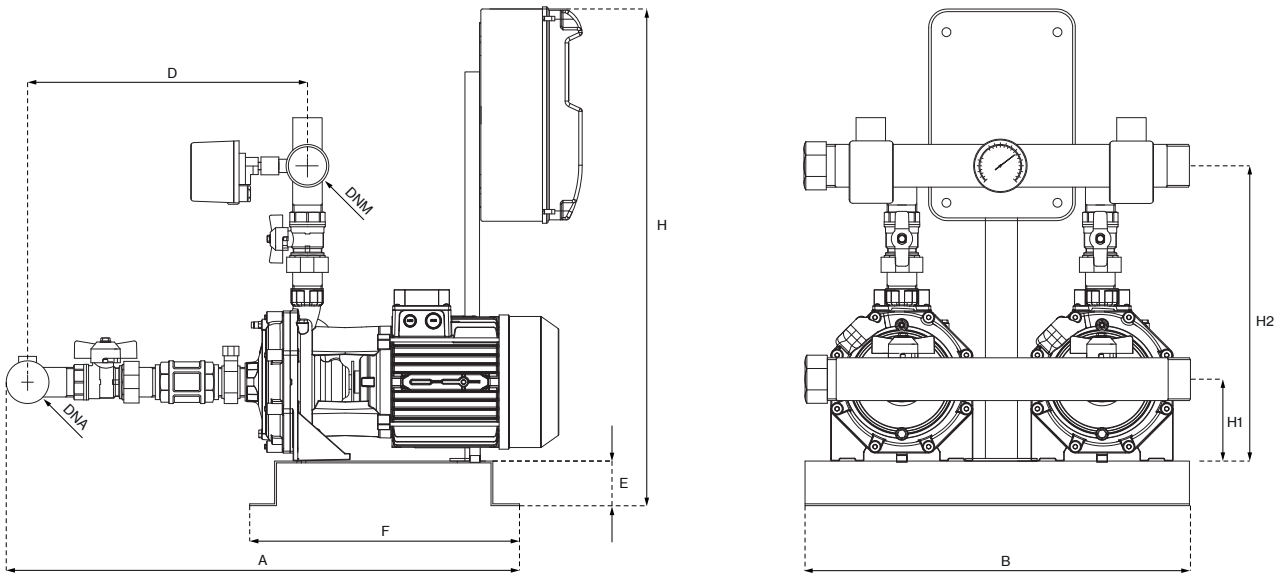
2KB







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



EPIC-A mounted on a skid rod for power ratings above 4 HP

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**	1,9	1,8	8,5	3,7	6,4	2× 20	646	520	361	50	300	633	110	403			71	76
2KB210	**2KB210T**	-	**2KB/A210T-306**	2,3	2,2	10,4	4,4	-	2× 20	646	520	361	50	300	633	110	403			72	77
2KB310	**2KB310T**	-	**2KB/A310T-306**	2,8	2,6	13	5,2	-	2× 20	646	520	361	50	300	633	110	403			73	78
-	**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**	-	-	-	5	-	9,1	-	-	777	615	462	60	380	633	135	464			116	-
-	**2KB751RT**	-	-	-	6,5	-	11,5	-	-	777	615	462	60	380	633	135	464			132	-
-	**2KB900T**	-	-	-	7,3	-	13,3	-	-	777	615	462	60	380	633	135	464			144	-
-	**2KB750T**	-	-	-	6,7	-	11,1	-	-	1050	840	470	60	380	920	150	650	DN100	DN80	237	-
-	**2KB1000T**	-	-	-	8,5	-	13,9	-	-	1050	840	470	60	380	920	150	650			247	-
-	**2KB1250T**	-	-	-	9,8	-	16,3	-	-	1050	840	470	60	380	920	150	650			264	-
-	**2KB1500T**	-	-	-	11,2	-	18,6	-	-	1050	900	470	60	380	920	150	650			272	-

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.

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

Manifolds
- (blank) Galvanized steel
- CS AISI304

vsd model (only for control type /A or /I)

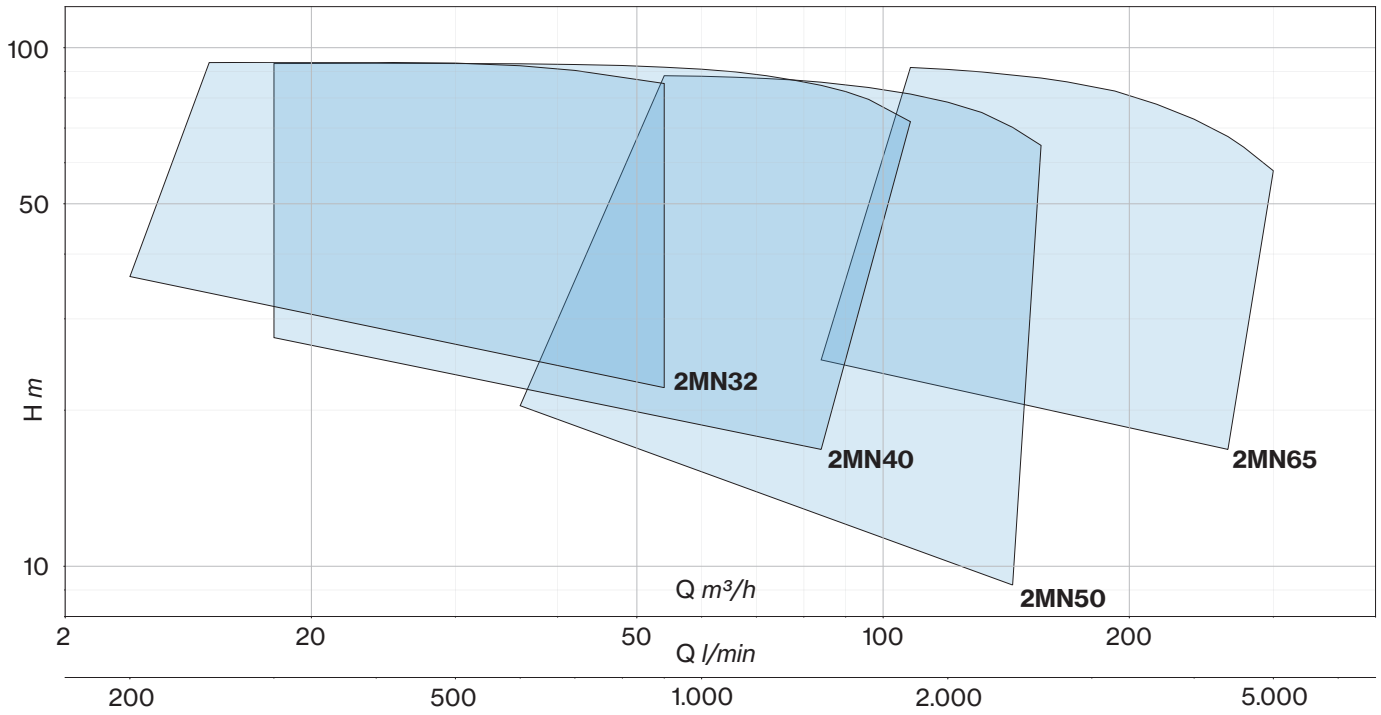
Power supply (phase × voltage - frequency)

2 MN /A 32-160A X -2E CS -309 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)

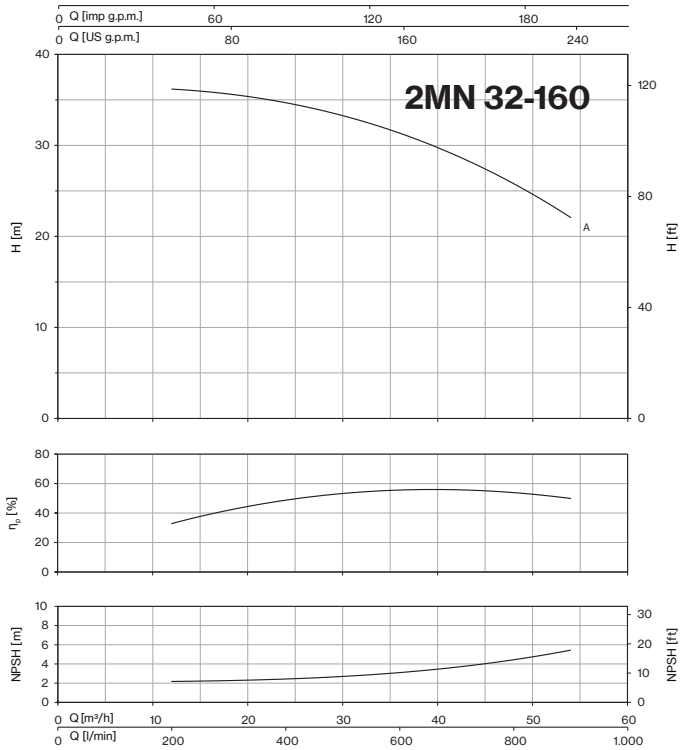
PERFORMANCE

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
			EPIC-A	IPFC			0	200	250	300	400	500	600	700	800	900	1000	1100
m³/h	bar	3~ 400V	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/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/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/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/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/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/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
			EPIC-A	IPFC			0	300	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1800
m³/h	bar	3~ 400V	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/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/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/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/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/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/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/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
			EPIC-A	IPFC			0	600	700	800	900	1000	1200	1400	1600	1800	2000	2200	2400	2600
m³/h	bar	3~ 400V	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/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/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/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/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/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/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/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/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
			EPIC-A	IPFC			0	1400	1500	1800	2200	2600	2800	3200	3600	4000	4400	4600	4800	5000
m³/h	bar	3~ 400V	3~ 400V-in 3~ 400V-out		HP (×2)	kW (×2)	H (m)													
192	2	**2MN65-125A**	-	**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/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/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/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/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/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/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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H [ft]
A
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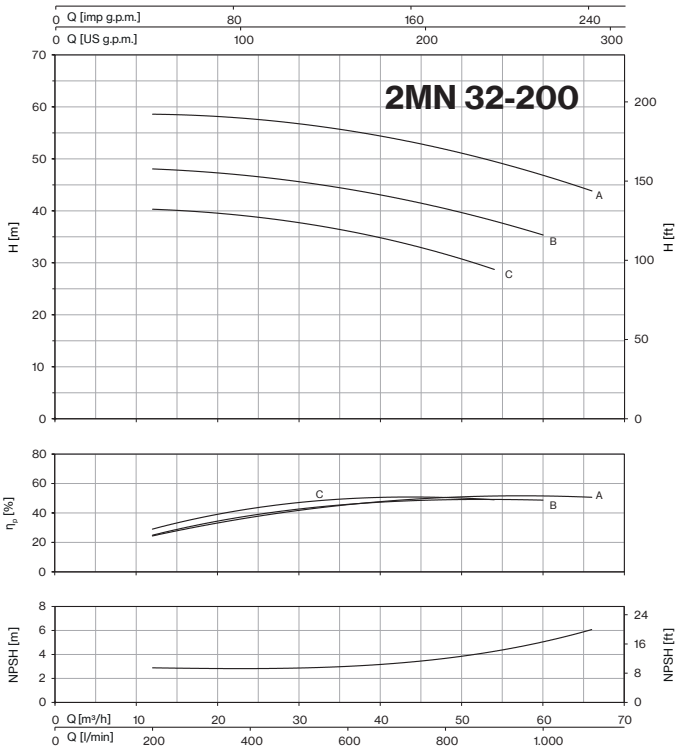
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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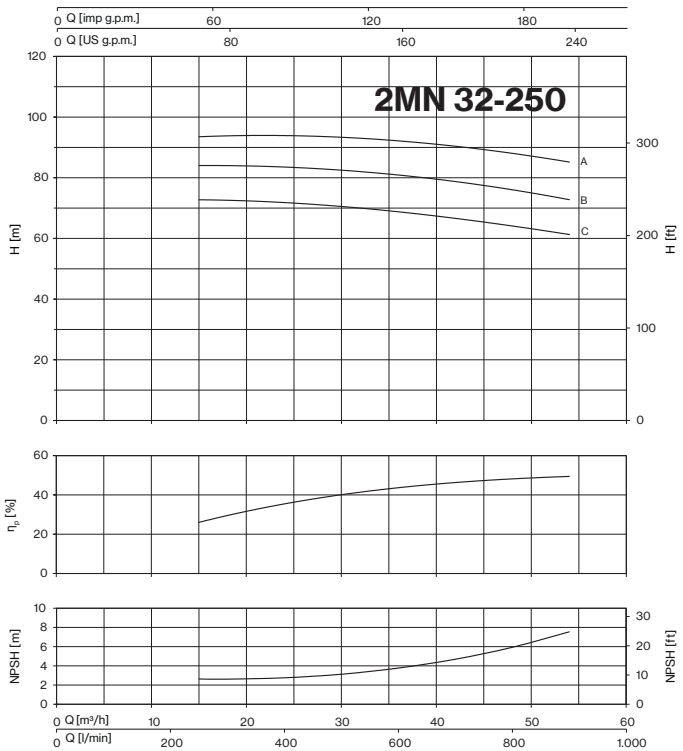
Q [l/min]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B
C
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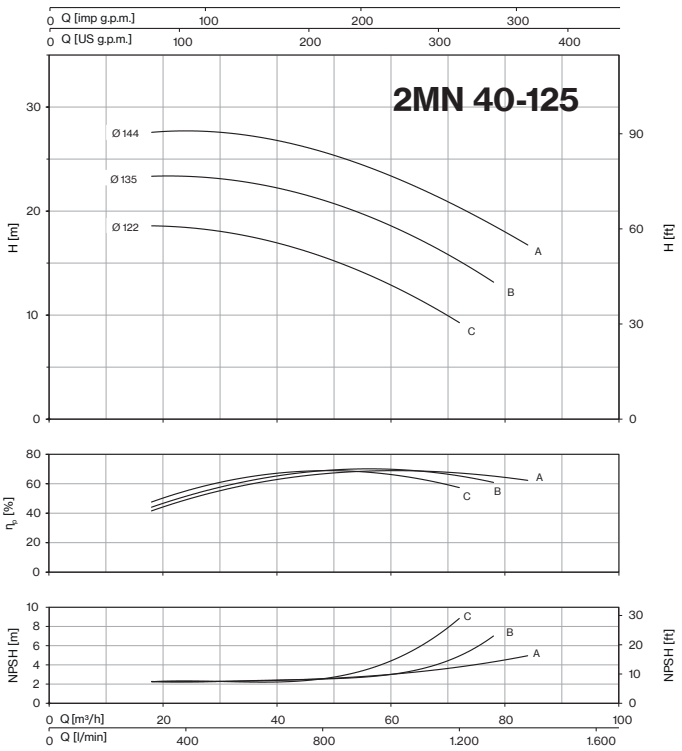
Q [l/min]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H [ft]
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Ø 135
Ø 122
A
B
C
η_p [%]
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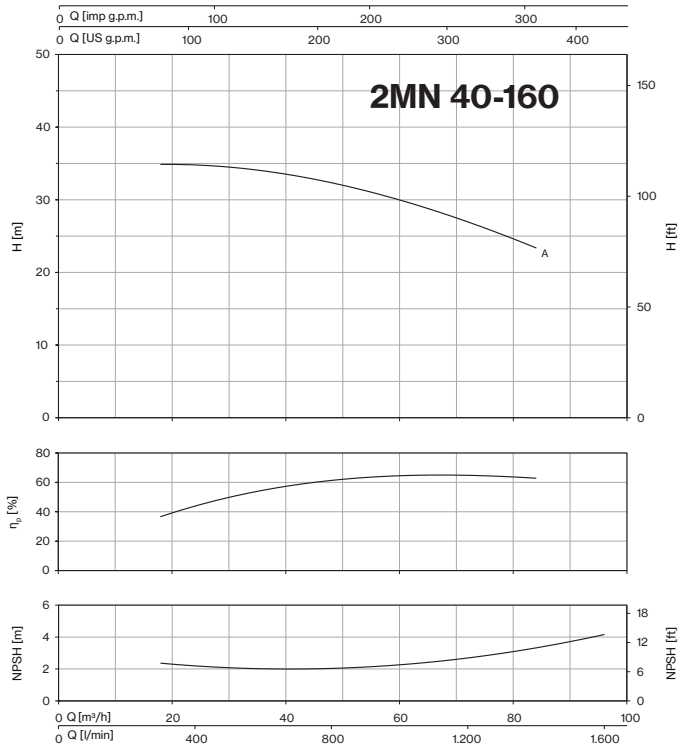
NPSH [ft]
Q [m³/h]
Q [l/min]

2MN (EN 733)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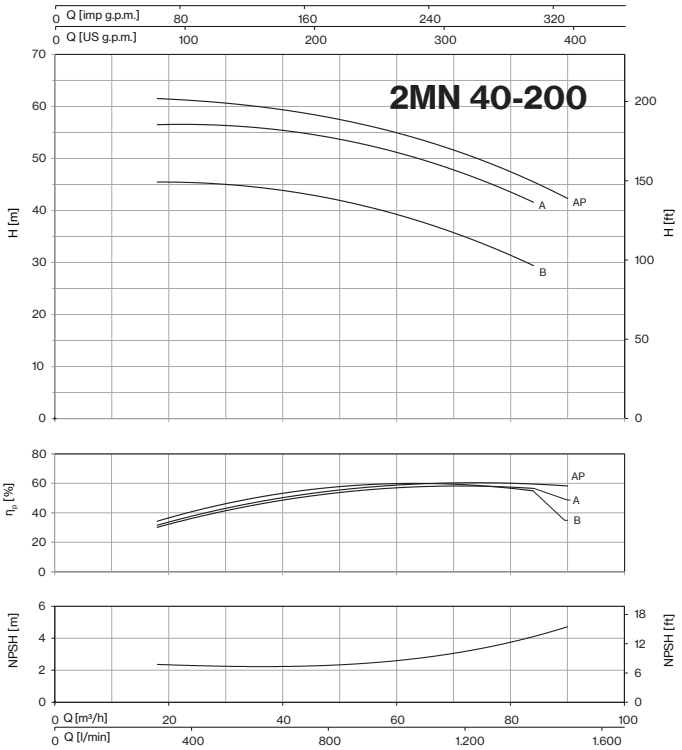
Q [l/min]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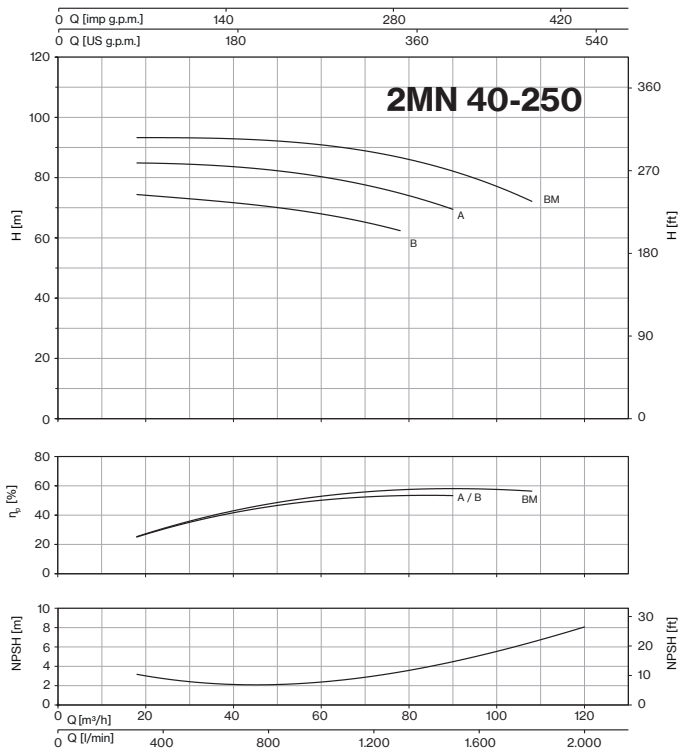
H [m]
H [ft]
A
AP
B
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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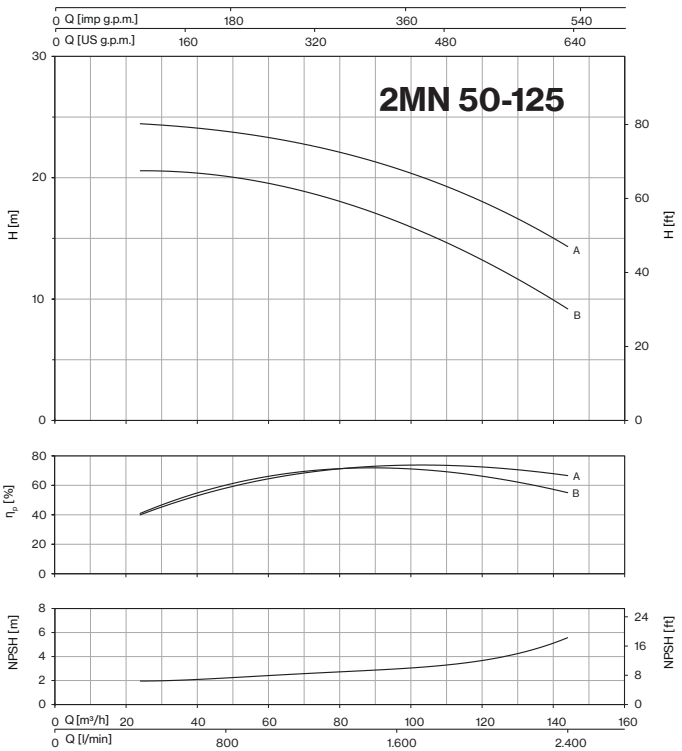
Q [US g.p.m.]
H [m]
H [ft]
BM
A
B
A / B
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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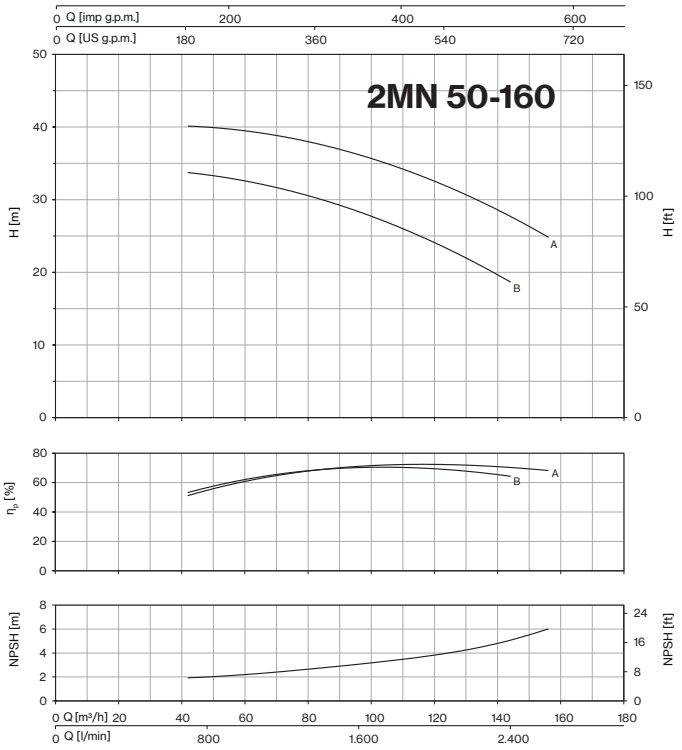
Q [US g.p.m.]
H [m]
H [ft]
A
B
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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H [ft]
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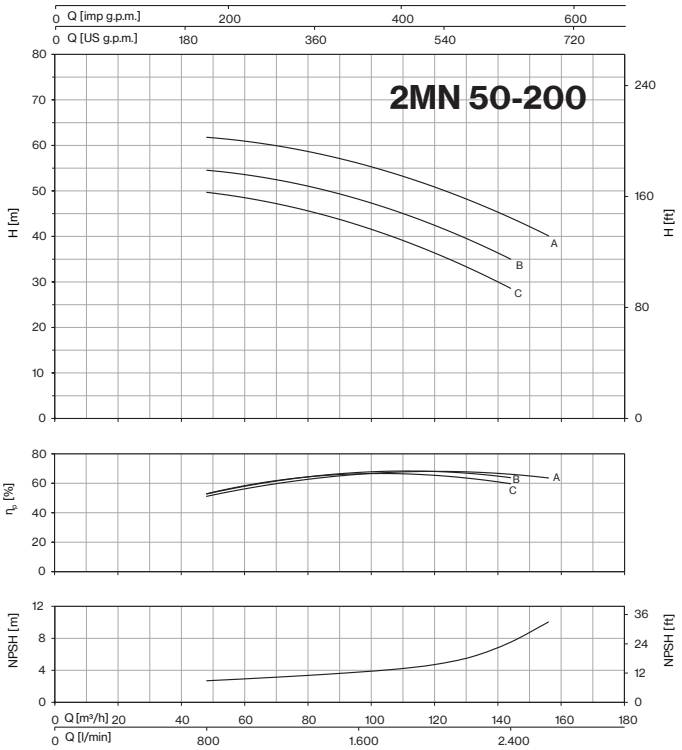
NPSH [ft]
Q [m³/h]
Q [l/min]
A
B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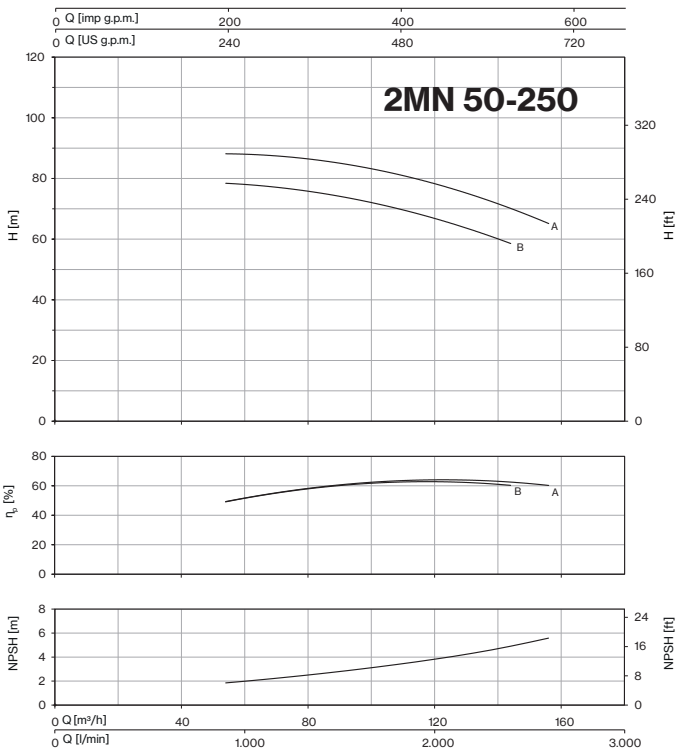
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]
A
B
C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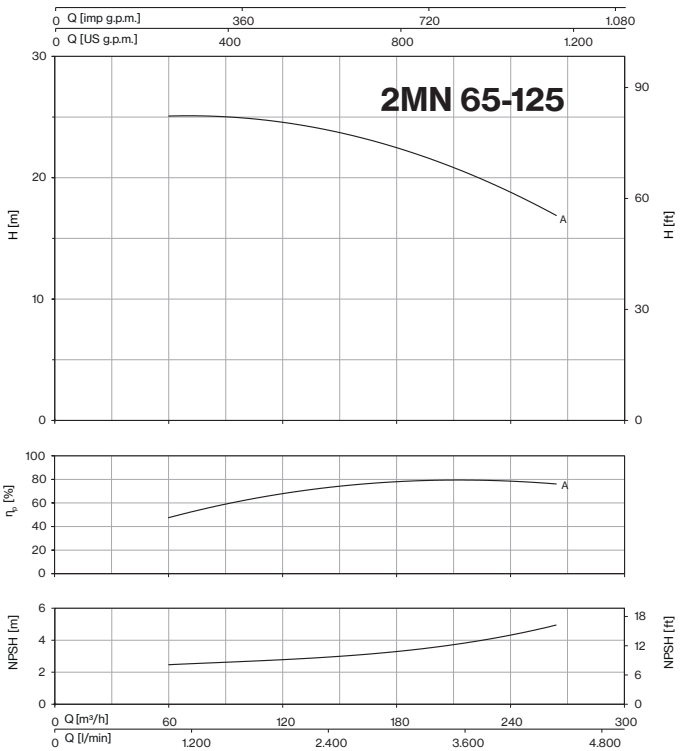
NPSH [ft]
Q [m³/h]
Q [l/min]
A
B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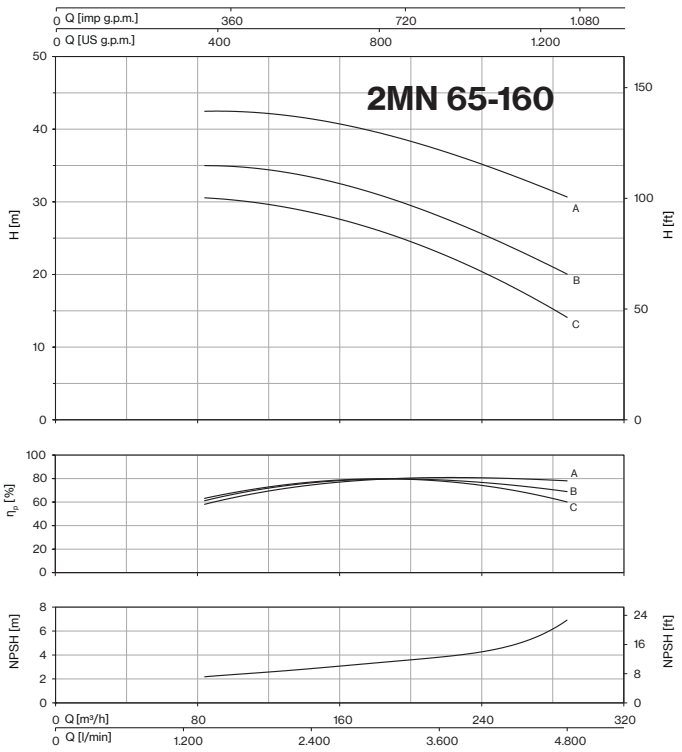
Q [US g.p.m.]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]
A

2MN (EN 733)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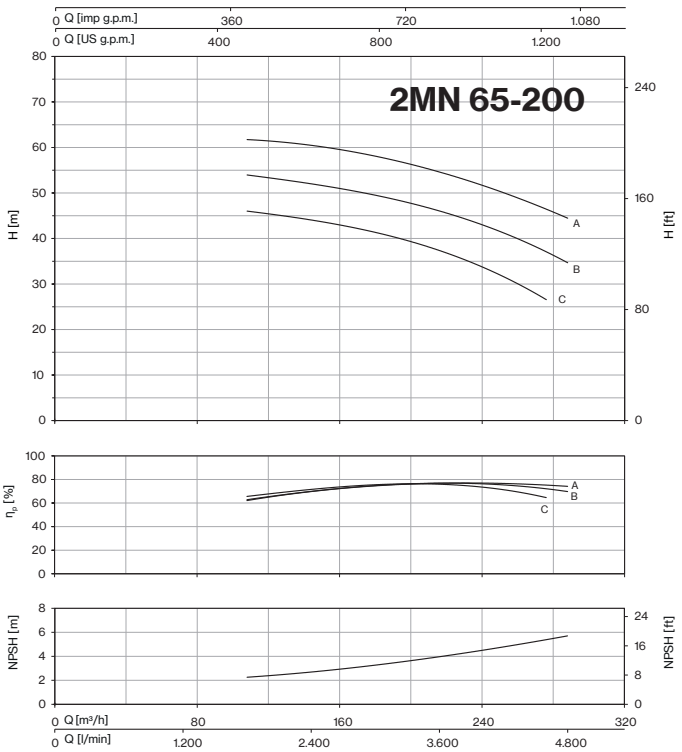
Q [m³/h]
Q [l/min]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
A
B
C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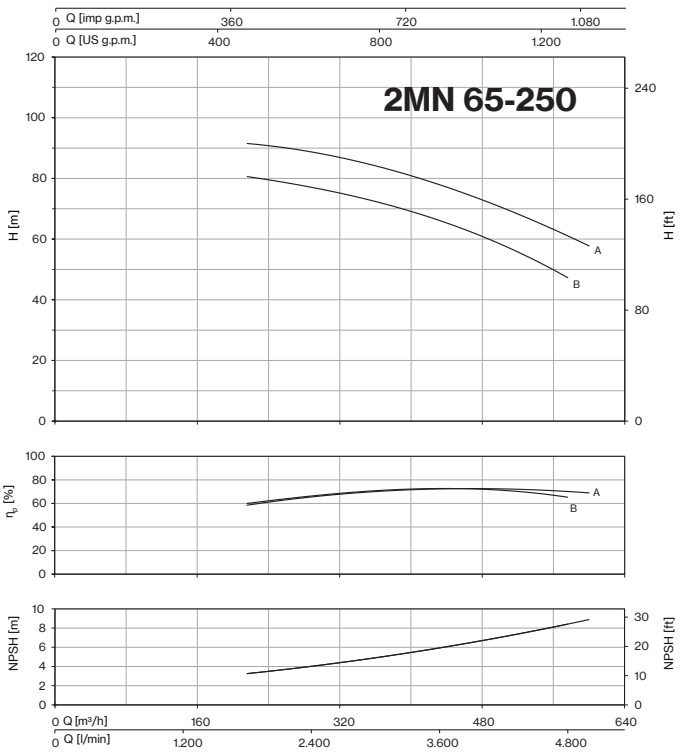
Q [US g.p.m.]
Q [m³/h]
Q [l/min]
H [m]
H [ft]
η [%]
NPSH [m]
NPSH [ft]
A
B
C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Q [m³/h]
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η [%]
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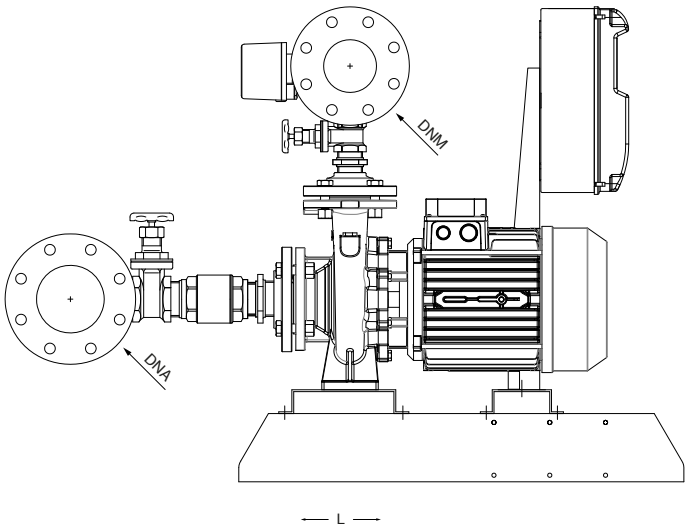
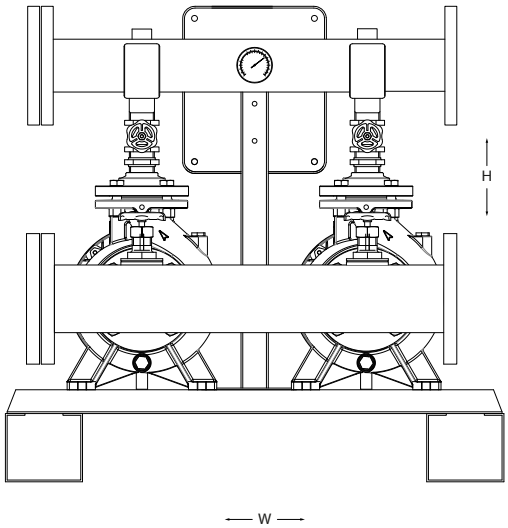
NPSH [ft]
A
B

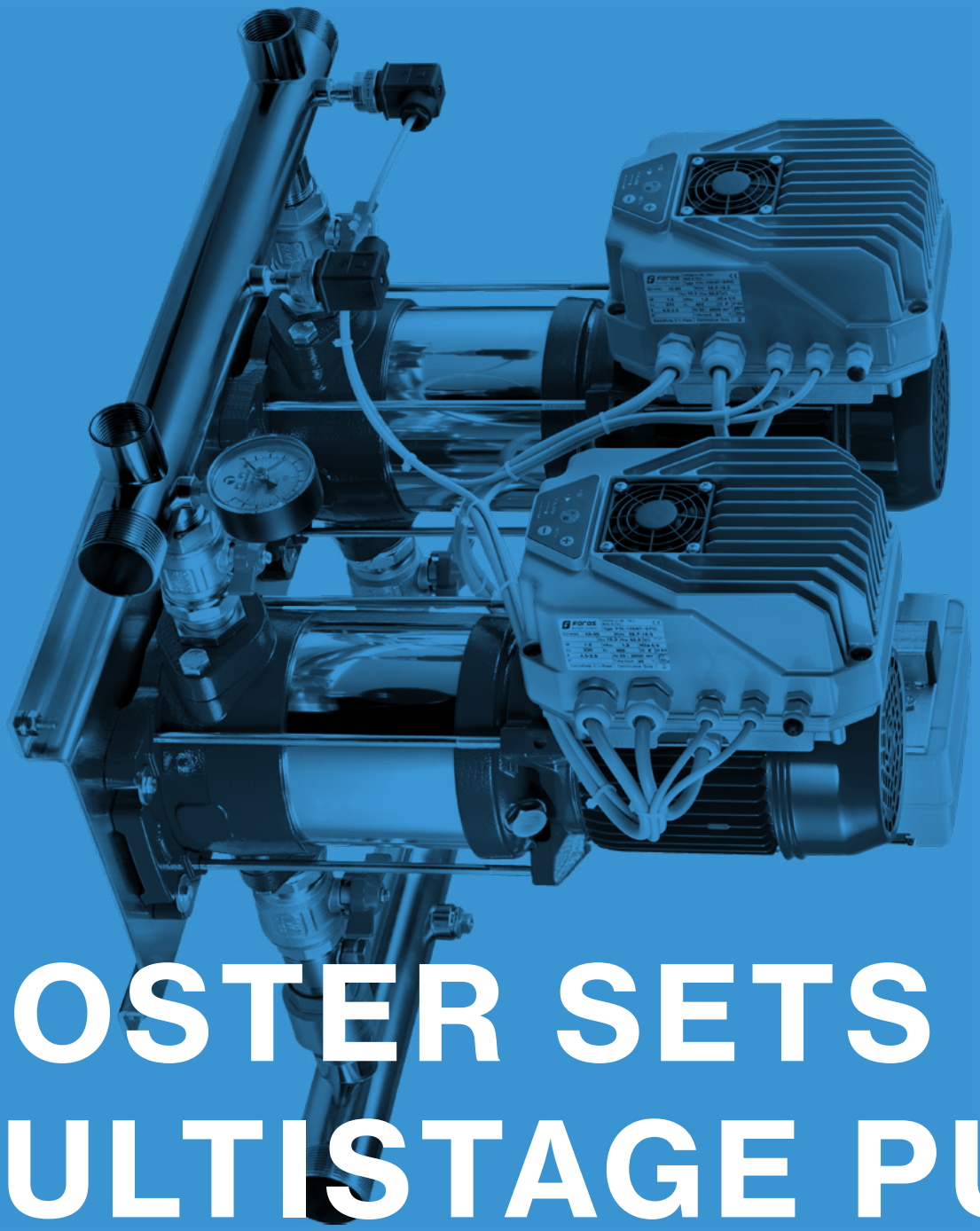




MODEL			P1	In	Required tank for v.s.	DIMENSIONS					WEIGHT		
FIXED SPEED	VARIABLE SPEED												
3~ 400V	EPIC-A	IPFC	3~ 400V			L	W	H	DNA	DNM	f.s	v.s.	
	3~ 400V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out										/A	/I
			kW (×2)	A (×2)	Lt	mm					Kg		
2MN32-160A	**2MN/A32-160A-309**	**2MN/I 32-160A-309**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

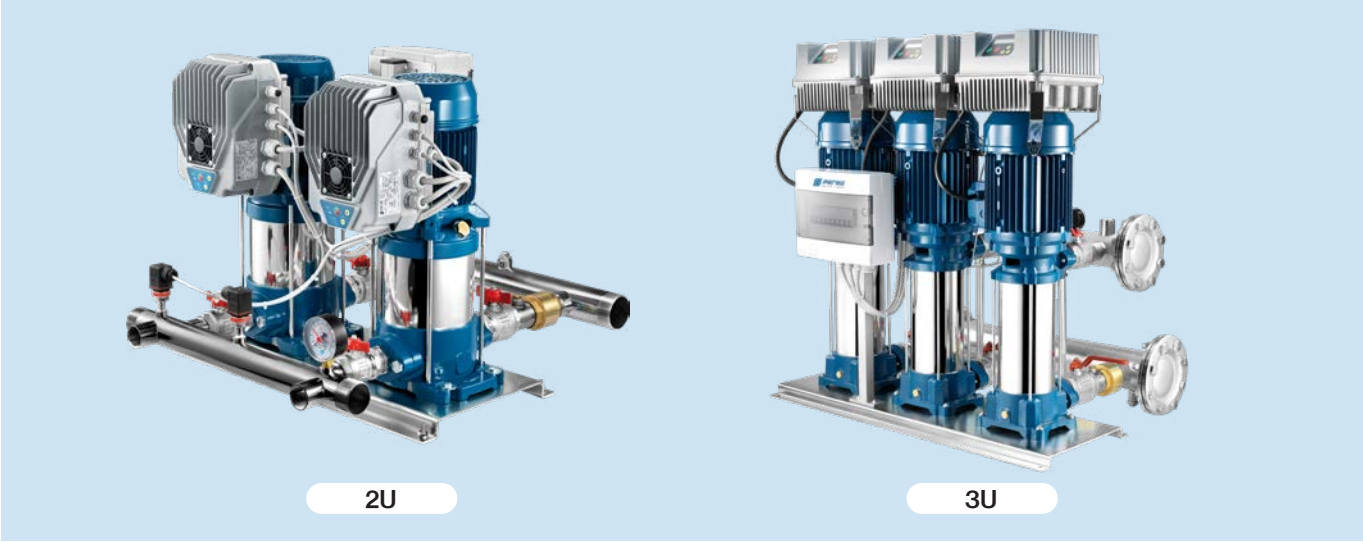
f.s. : fixed speed
v.s. : variable speed

foras
WATER PUMPS



BOOSTER SETS WITH MULTISTAGE PUMPS

MULTISTAGE BOOSTER SETS



Fixed speed and variable speed booster sets with two or three multistage pumps

DESCRIPTION

Fully automatic booster units with two (2P) or three (3P) multistage pumps of PLUS series, set on a single skid and connected in parallel by suction and delivery manifolds. To ensure a constant pressure and deliver the highest comfort level they can be equipped with EPIC, EPIC-A or IPFC inverters.
These pressure boosting systems are suitable for water network supply in housing complexes, offices, hotels, shopping centers, industrial plants and for irrigation. It is required the installation of a pressure tank.

FEATURES

- Horizontal or vertical multistage pumps of PLUS series
- Inlet and outlet galvanized steel manifolds (stainless steees 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
- EQ2SM(T) electronic or Q2ST star-delta electromechanical control panel with pressure switches for fixed speed version
- Inverter EPIC, 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.

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.

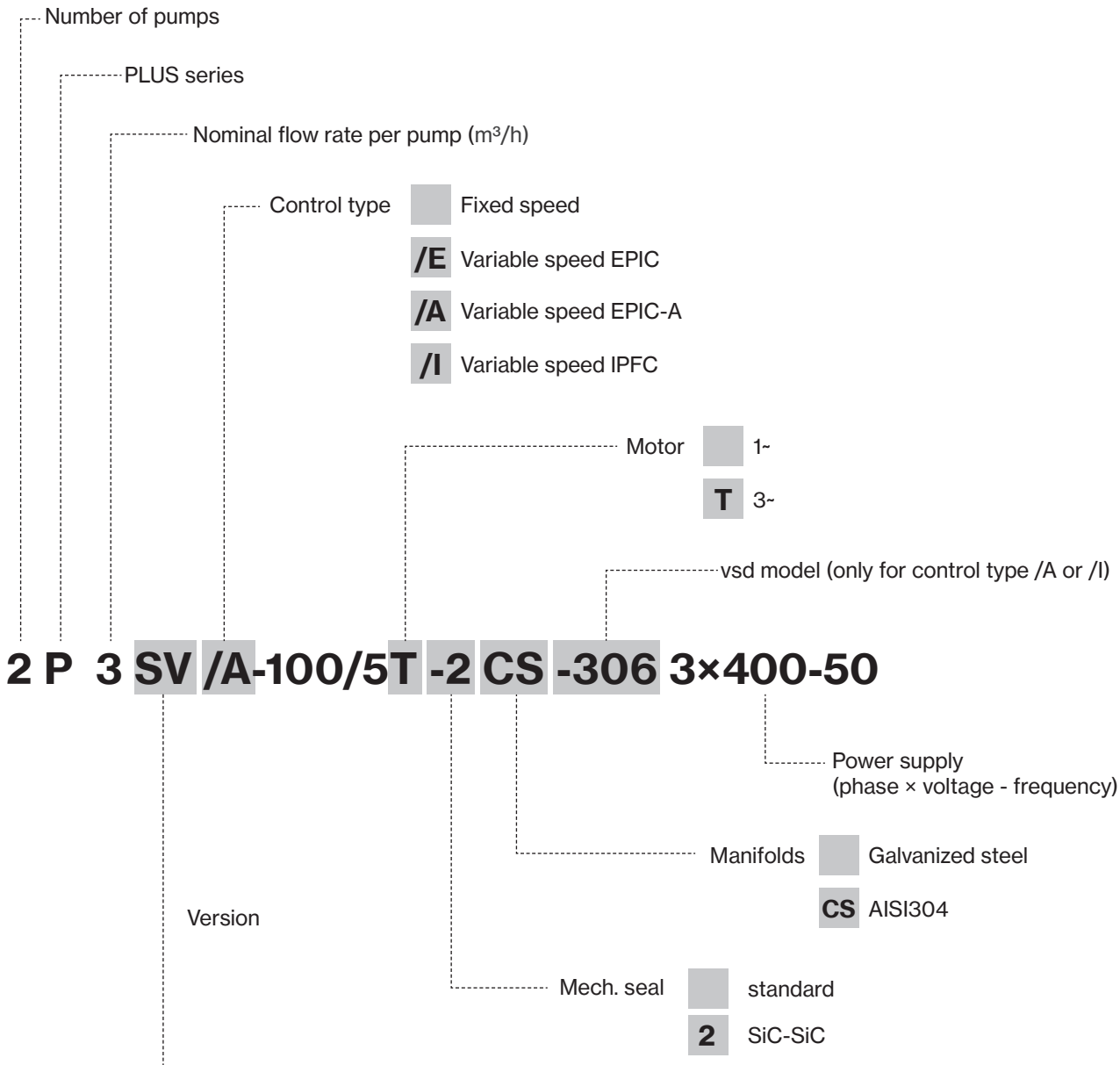
PLUS SLG-SLXG	
P2	3÷10 [HP]
Q max	14,4 [m³/h]
H max	240,9 [m]

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.

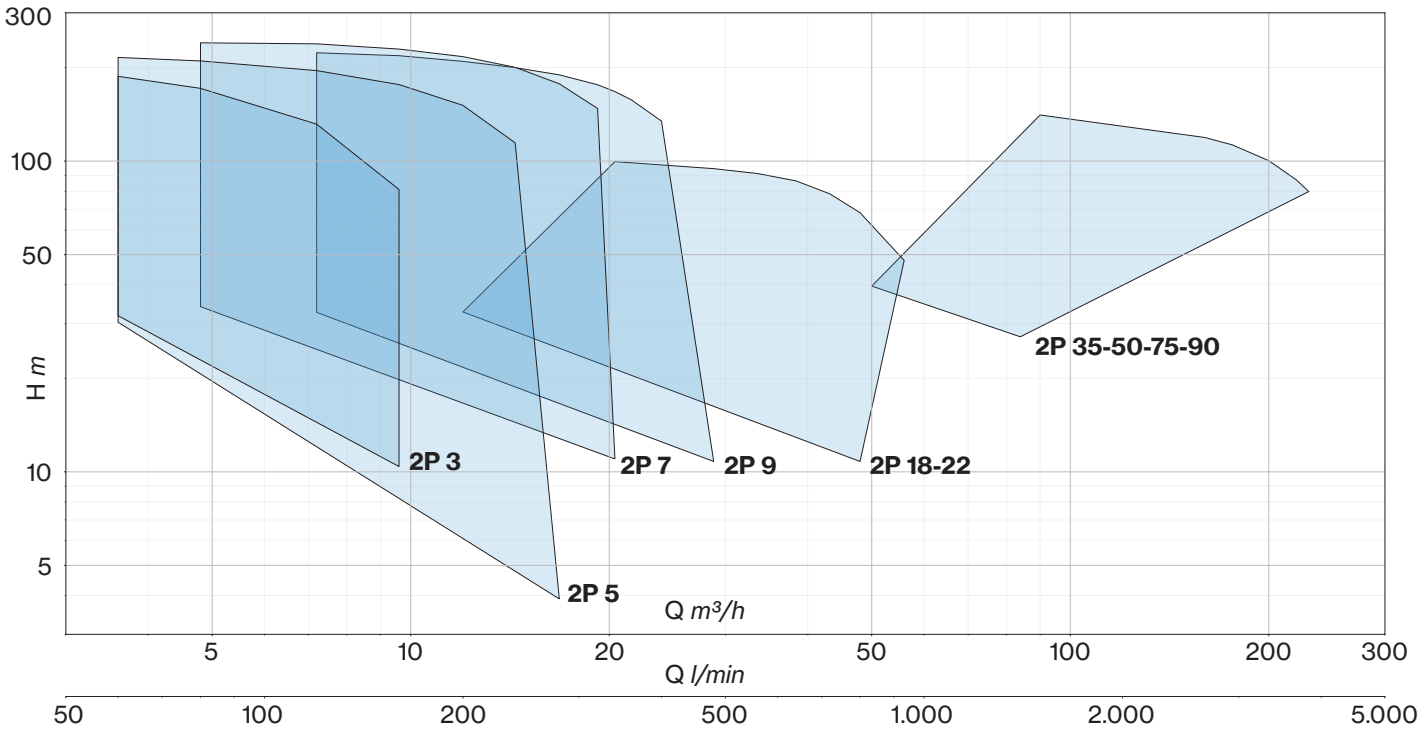
Name key



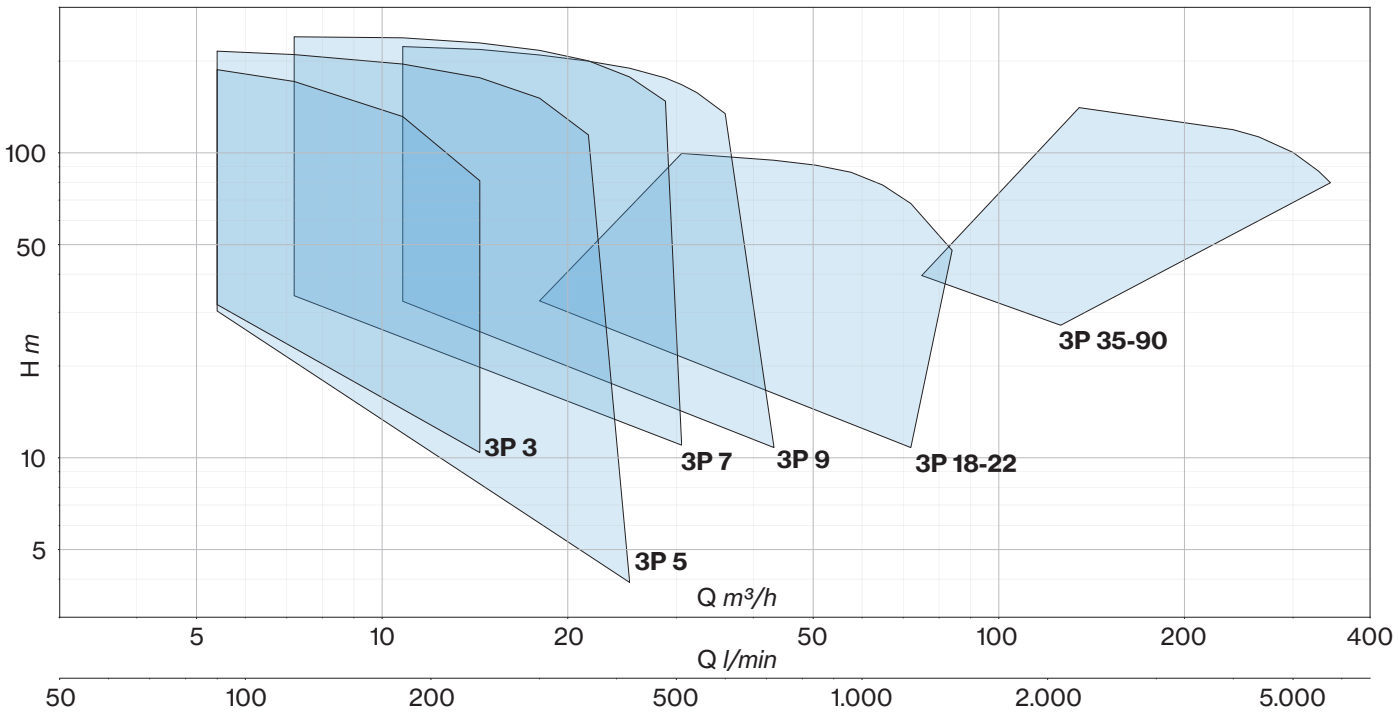
	PUMP TYPE	MAX LIQUID TEMPERATURE	IMPELLERS MATERIAL	PUMP SHELL AND BODY MATERIAL	PUMP AND MOTOR SHAFT
	Horizontal multistage	35° C	Noryl®	AISI 304	monoblock
S		110° C	AISI 304	AISI 304	
V	Vertical multistage, overlapped ports	35° C	Noryl®	AISI 304 / cast iron	
SV		90° C	AISI 304	AISI 304 / cast iron	
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 HORIZONTAL

2P

2P + VSD

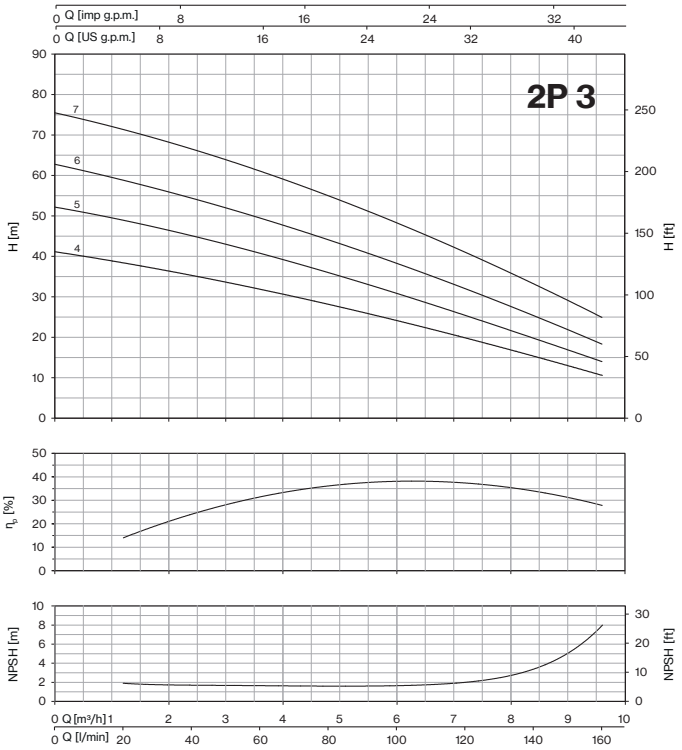
Pump specification	
Flow	up to 48 m³/h
Head	up to 82 m
Start up	direct or inverter
Power supply voltage	1- 230V - 50Hz 3- 400V - 50Hz
Ambient temperature at nominal load	max 40° C
Temperature of pumped liquid	-5° C to +35° C (Noryl impellers) -15° C to +110° C (S version, stainless steel impellers)

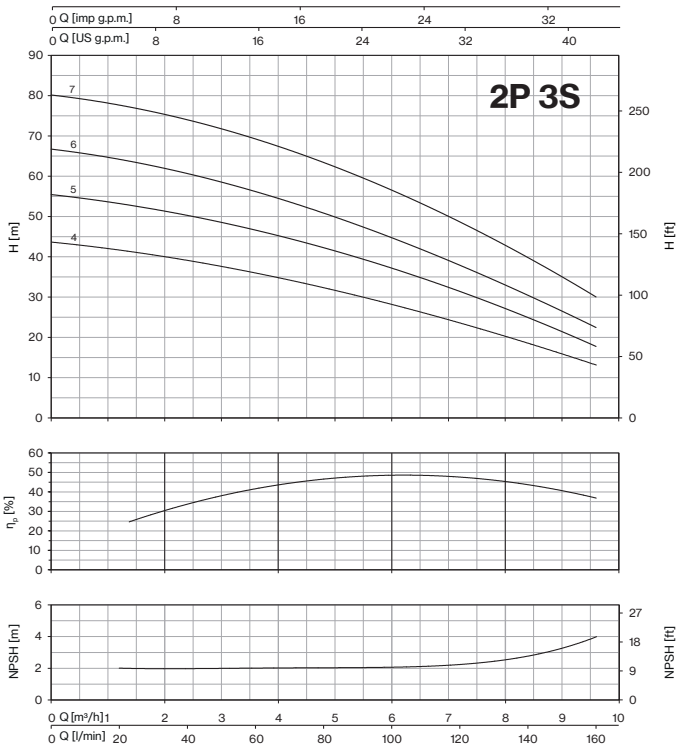
TARGET 2P		TYPE - 50 Hz HORIZONTAL PUMPS FIXED SPEED 2P		VARIABLE SPEED 2P - EPIC	VARIABLE SPEED 2P - EPIC-A	P2 (×2)		2P Q (m³/h - l/min) 0	4	5	7	10	12	14	17	19	20	22	24	29
								0	60	80	120	160	200	240	280	320	340	360	400	480
m³/h	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)												
6	2	3-90/4	3-90/4T	3/E-90/4T	3/A-90/4T-304	0,9	0,66	40,8	31,8	27,9	19,8	10,4								
		3S-90/4	3S-90/4T	3S/E-90/4T	3S/A-90/4T-304			44,3	36,4	33,2	24,5	13,9								
	3	3-100/5	3-100/5T	3/E-100/5T	3/A-100/5T-304	1	0,75	52,2	40,8	36	25,4	14								
		3S-100/5	3S-100/5T	3S/E-100/5T	3S/A-100/5T-304			55,3	46,5	42,1	31,6	17,7								
	4	3-120/6	3-120/6T	3/E-120/6T	3/A-120/6T-304	1,2	0,9	62,8	49,6	43,9	32,1	18,3								
		3S-120/6	3S-120/6T	3S/E-120/6T	3S/A-120/6T-304			66,6	56	50,7	38,1	22,4								
	5	3-150/7	3-150/7T	3/E-150/7T	3/A-150/7T-304	1,5	1,1	77,1	68,4	62,3	46,5	25,7								
		3S-150/7	3S-150/7T	3S/E-150/7T	3S/A-150/7T-304			75,6	64,8	58,9	44,4	26,1								
10	2	5-80/3	5-80/3T	5/E-80/3T	5/A-80/3T-304	0,8	0,6	33,4	30,3	29	26	22,5	17,6	12	3,9					
		5S-80/3	5S-80/3T	5S/E-80/3T	5S/A-80/3T-304			34	31,1	29,9	27	23,6	19,1	13,1	6					
	3	5-120/4	5-120/4T	5/E-120/4T	5/A-120/4T-304	1,2	0,9	45,3	41,3	39,6	35,6	30,8	24,9	17,6	6,4					
		5S-120/4	5S-120/4T	5S/E-120/4T	5S/A-120/4T-304			45,5	42,2	40,7	37,2	32,9	27,4	19,8	10,4					
	4	5-150/5	5-150/5T	5/E-150/5T	5/A-150/5T-304	1,5	1,1	57,6	55,6	54,2	50,5	45	37	27,4						
		5S-150/5	5S-150/5T	5S/E-150/5T	5S/A-150/5T-304			55,9	52,8	51,4	48,1	43,4	37,3	28,3	16,4					
	5	5-180/6	5-180/6T	5/E-180/6T	5/A-180/6T-304	2	1,5	69,1	66,5	64,8	60,1	53,2	43,8	32						
		5S-180/6	5S-180/6T	5S/E-180/6T	5S/A-180/6T-304			67	63,3	61,6	57,6	51,9	44,2	33,6	20,4					
	5,5	5-200/7	5-200/7T	5/E-200/7T	5/A-200/7T-304	2	15	80,6	77,1	75,1	69,6	61,3	50,4	35,8						
		5S-200/7	5S-200/7T	5S/E-200/7T	5S/A-200/7T-304			77,8	73,5	71,3	66,3	59,6	50,7	38	22,4					
14	2	7-120/3	7-120/3T	7/E-120/3T	7/A-120/3T-304	1,2	0,9	36,7		34,0	32,0	29,6	26,5	23,0	18,6	13,8	11,0			
		7S-120/3	7S-120/3T	7S/E-120/3T	7S/A-120/3T-304			35,6		33,9	32,8	31,2	28,1	24,7	20,6	15,7	13,0	10,0		
	3	7-180/4	7-180/4T	7/E-180/4T	7/A-180/4T-304	2	1,5	49,6		48,4	46,7	43,8	39,9	34,9	28,9					
		7S-180/4	7S-180/4T	7S/E-180/4T	7S/A-180/4T-304			46,7		46,0	45,2	43,1	40,3	36,9	32,3	25,5				
	4	7-250/5	7-250/5T	7/E-250/5T	7/A-250/5T-306	2,5	1,85	63,2		62,1	60,3	56,9	52,1	46,2	39,0					
		7S-250/5	7S-250/5T	7S/E-250/5T	7S/A-250/5T-306			58,5		57,6	56,6	54,1	50,8	46,1	40,3	31,8				
	5	7-300/6	7-300/6T	-	7/A-300/6T-306	3	2,2	76,0		75,1	73,1	69,2	63,6	56,8	48,2					
		7S-300/6	7S-300/6T	-	7S/A-300/6T-306			70,6		69,9	68,7	65,8	61,8	56,6	49,7	39,3				
	6	-	7-350/7T	-	7/A-350/7T-306	3,5	2,57	89,0		88,0	85,8	81,2	74,5	66,3	56,2					
		-	7S-350/7T	-	7S/A-350/7T-306			82,8		82,0	80,6	77,2	72,3	66,0	57,4	46,4				

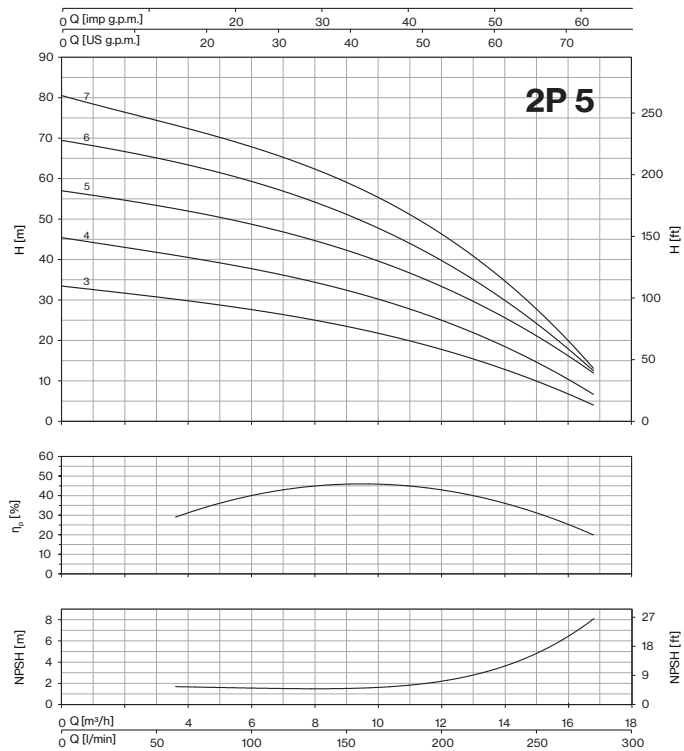
TARGET 2P		TYPE - 50 Hz HORIZONTAL PUMPS FIXED SPEED 2P		VARIABLE SPEED 2P - EPIC	VARIABLE SPEED 2P - EPIC-A	P2 (×2)		2P Q (m³/h - l/min) 0	4	5	7	10	12	14	17	19	20	22	24	29
								0	60	80	120	160	200	240	280	320	340	360	400	480
m³/h	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)												
18	2	9-150/3	9-150/3T	9/E-150/3T	9/A-150/3T-304	1,5	1,1	35			32,8	31,7	30,2	28,5	26,5	24,1	22,7	21,2	17,9	14,3
		9S-150/3	9S-150/3T	9S/E-150/3T	9S/A-150/3T-304			35,1			32,8	31,8	30,6	29	27,2	24,9	23,6	22,2	18,9	15,2
	3	9-200/4	9-200/4T	9/E-200/4T	9/A-200/4T-304	2	1,5	45,8			42,1	40,7	39,2	37,3	34,6	31,3	29,4	27,4	23	17,9
		9S-200/4	9S-200/4T	9S/E-200/4T	9S/A-200/4T-304			45,8			42,7	41,5	39,7	37,8	35,6	32,7	30,9	29	24,6	19,8
	3,5	9-250/5	9-250/5T	-	9/A-250/5T-306	2,5	1,85	56,9			52,2	50,4	48,5	46,1	42,9	38,8	36,4	33,8	28,2	22,3
		9S-250/5	9S-250/5T	-	9S/A-250/5T-306			57,1			53,1	51,6	49,5	47,2	44,3	40,6	38,4	35,8	30,2	24,4

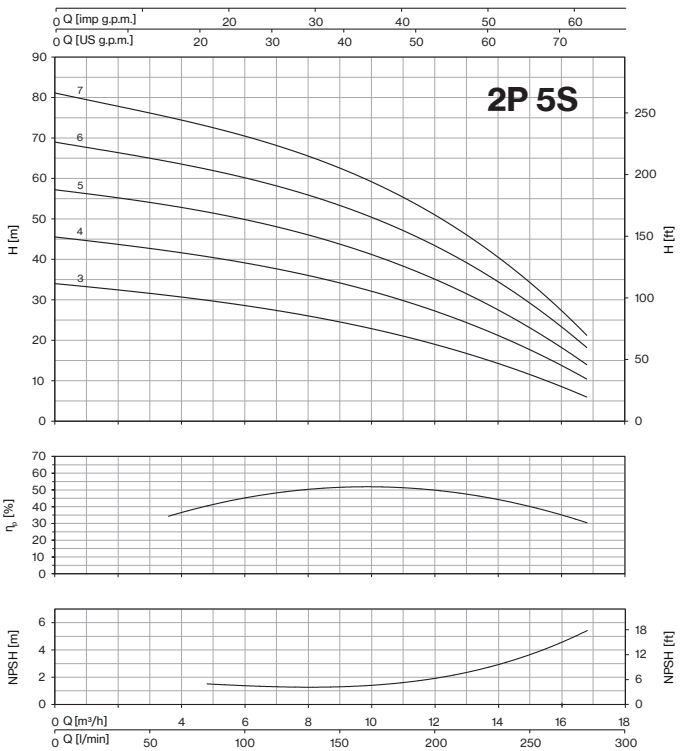
TARGET 2P		TYPE - 50 Hz HORIZONTAL PUMPS FIXED SPEED 2P		VARIABLE SPEED 2P - EPIC	VARIABLE SPEED 2P - EPIC-A	P2 (×2)		2P Q (m³/h - l/min) 0	12	14	17	19	20	22	24	29	34	38	43	48
								0	200	240	280	320	340	360	400	480	560	640	720	800
m³/h	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)												
36	2	-	18-250/3T	-	18/A-250/3T-306	2,5	1,85	34,7	32,9	32,6	32,2	31,6	31,3	31,0	30,1	28,0	24,7	20,6	15,9	10,7
		-	18S-250/3T	-	18S/A-250/3T-306			33,8	31,6	31,0	30,2	29,4	28,9	28,4	27,4	25,4	23,2	20,4	16,3	11,5
	3	-	18-400/4T	-	18/A-400/4T-309	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
		-	18S-400/4T	-	18S/A-400/4T-309			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

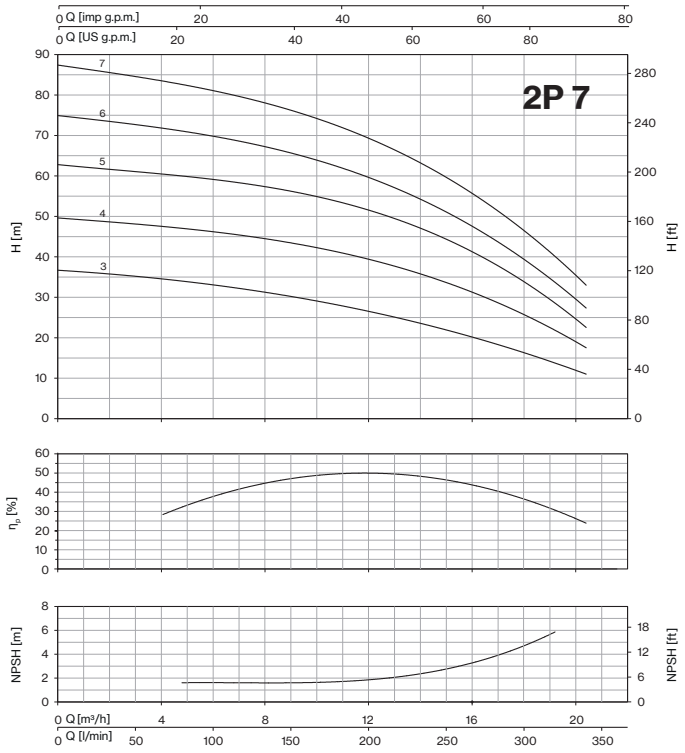
CURVES 2P HORIZONTAL







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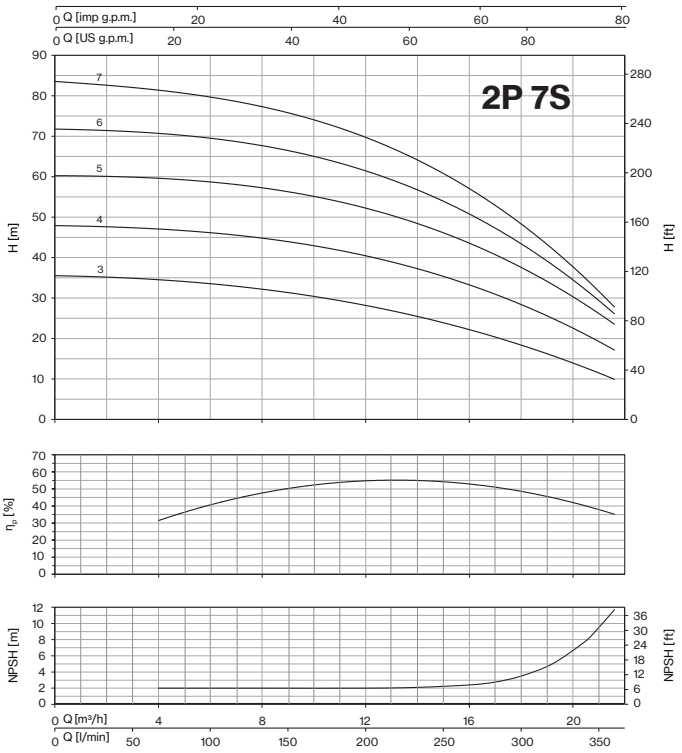
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]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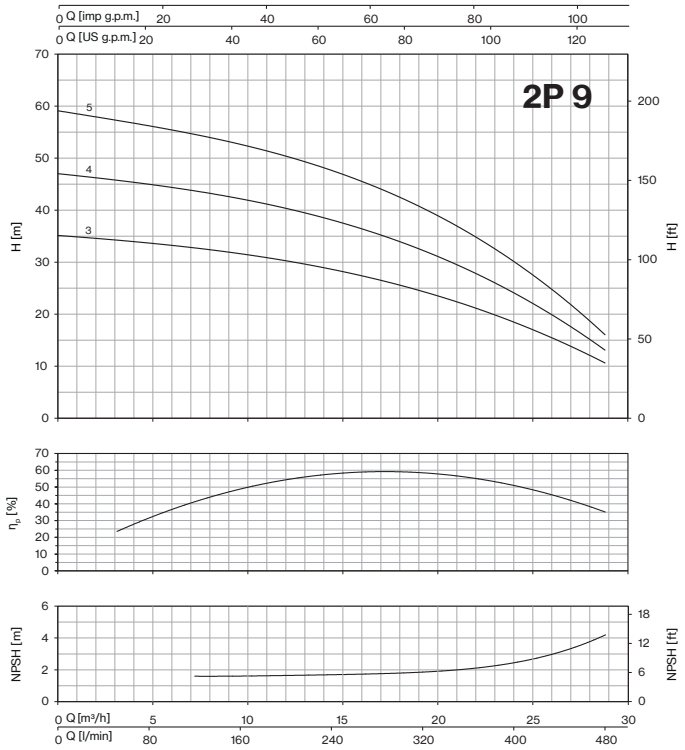
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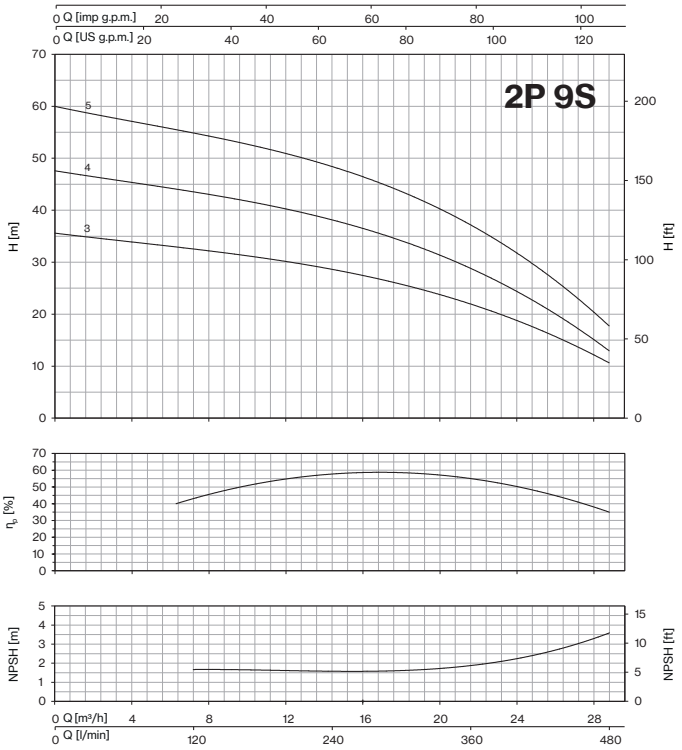
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Q [US g.p.m.]
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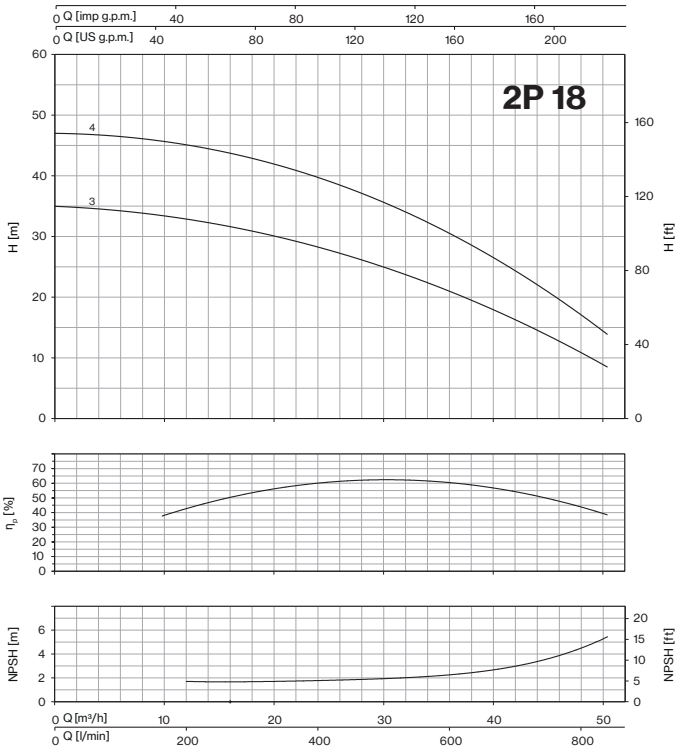
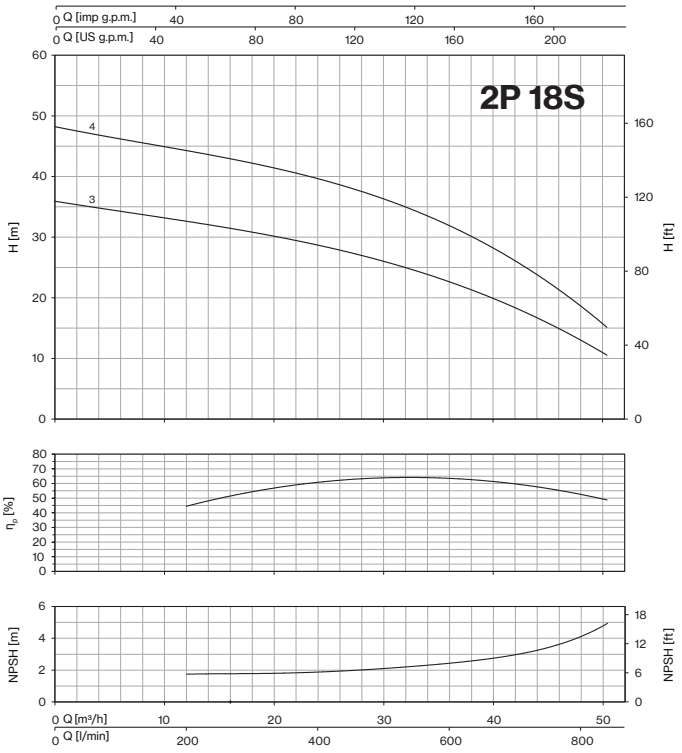
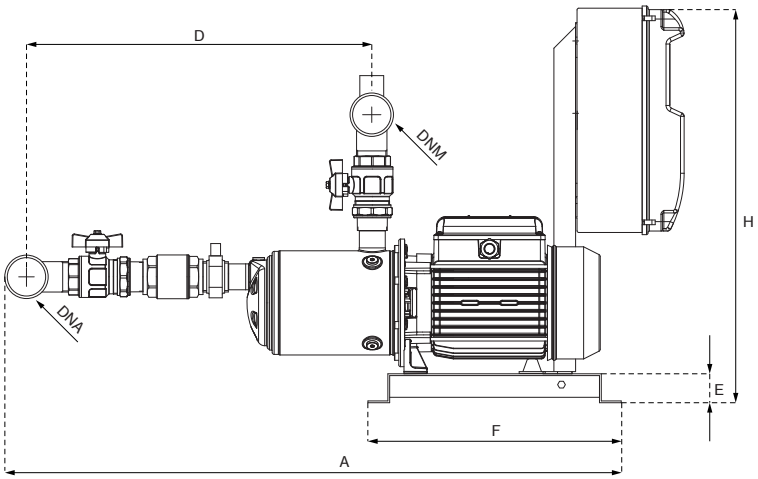
NPSH [ft]
Q [m³/h]
Q [l/min]

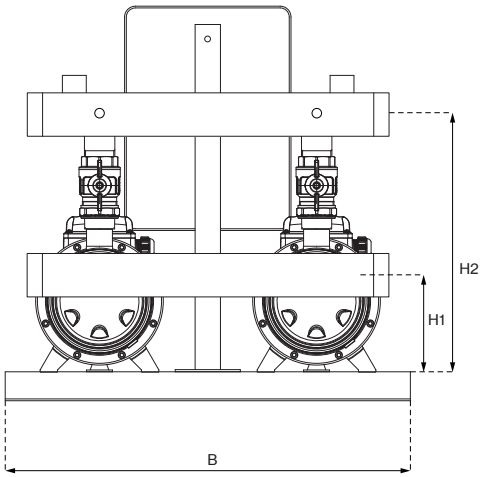
CURVES 2P HORIZONTAL





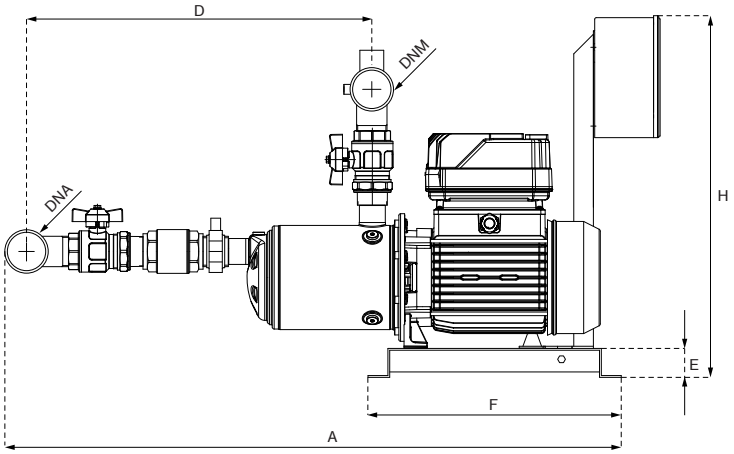
DIMENSIONS 2P HORIZONTAL

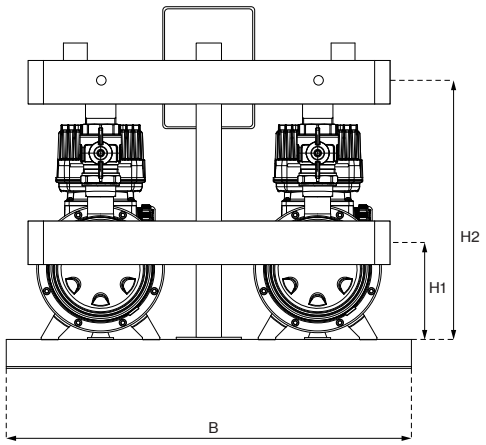




HORIZONTAL TYPE		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm										
2P 3-90/4	**2P 3-90/4T**	0,9	0,88	4,0	1,8	781	560	405	40	350	545	128	352	2" G	1" ½ G	41
2P 3S-90/4	**2P 3S-90/4T**	0,83	0,8	3,6	1,7											
2P 3-100/5	**2P 3-100/5T**	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**	1,3	1,2	6,1	3	853	560	477	40	350	545	128	358			60
2P 3S-150/7	**2P 3S-150/7T**	1,4	1,4	6,6	3,1											
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**	1,4	1,4	6,6	3,1	805	560	429	40	350	545	134	358			58
2P 5S-150/5	**2P 5S-150/5T**	1,4	1,3	6,6	3,1											
2P 5-180/6	**2P 5-180/6T**	1,6	1,6	7,4	3,3	829	560	453	40	350	545	134	358			51
2P 5S-180/6	**2P 5S-180/6T**	1,6	1,6	7,4	3,3											
2P 5-200/7	**2P 5-200/7T**	1,9	1,8	8,6	3,6	853	560	477	40	350	545	134	358			61
2P 5S-200/7	**2P 5S-200/7T**	1,9	1,8	8,6	3,6											
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**	1,7	1,6	7,9	3,3	823	560	438	40	350	545	98	356			65
2P 7S-180/4	**2P 7S-180/4T**	1,8	1,7	8,3	3,5											
2P 7-250/5	**2P 7-250/5T**	2,2	2	9,9	4	847	560	462	40	350	545	98	356			64
2P 7S-250/5	**2P 7S-250/5T**	2,2	2,1	9,9	4											
2P 7-300/6	**2P 7-300/6T**	2,5	2,4	11,5	4,7	871	560	486	40	350	545	103 / 98T	361 / 356T			67
2P 7S-300/6	**2P 7S-300/6T**	2,6	2,5	12,1	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**	1,4	1,4	6,6	3,1	818	560	433	40	350	545	98	356	2" ½ G	2" G	63
2P 9S-150/3	**2P 9S-150/3T**	1,5	1,4	7	3,1											
2P 9-200/4	**2P 9-200/4T**	1,8	1,7	8,3	3,5	848	560	463	40	350	545	98	356			63
2P 9S-200/4	**2P 9S-200/4T**	1,8	1,8	8,3	3,6											
2P 9-250/5	**2P 9-250/5T**	2,3	2,1	10,4	4,1	878	560	493	40	350	545	98	356			63
2P 9S-250/5	**2P 9S-250/5T**	2,3	2,2	10,4	4,2											
-	**2P 18-250/3T**	-	2,2	-	4,2	889	620	465	40	350	545	98	390	3" G	2" ½ G	75
-	**2P 18S-250/3T**	-	2,3	-	4,3											
-	**2P 18-400/4T**	-	3	-	5,8	926	620	502	40	350	545	103	395			89
-	**2P 18S-400/4T**	-	3,1	-	5,9											

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



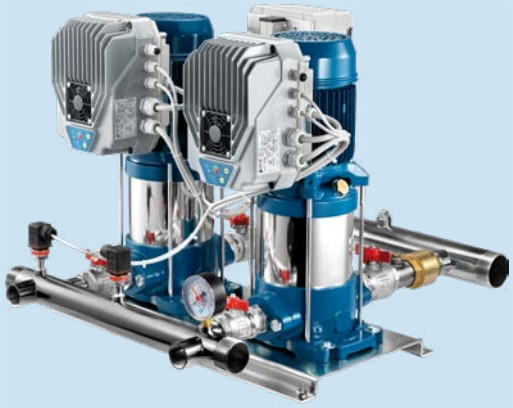


HORIZONTAL TYPE		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 3/E-90/4T	**2P 3/A-90/4T-304**	0,88	3,1	1,8	2× 8	781	560	405	40	350	545	128	352	2" G	1" ½ G	46
2P 3S/E-90/4T	**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**	1,2	5,2	3	2× 8	853	560	477	40	350	545	134	358			65
2P 3S/E-150/7T	**2P 3S/A-150/7T-304**	1,4	5,4	3,1												
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**	1,4	5,4	3,1	2× 20	805	560	429	40	350	545	134	358			63
2P 5S/E-150/5T	**2P 5S/A-150/5T-304**	1,3	5,4	3,1												
2P 5/E-180/6T	**2P 5/A-180/6T-304**	1,6	5,7	3,3	2× 20	829	560	453	40	350	545	134	358			66
2P 5S/E-180/6T	**2P 5S/A-180/6T-304**	1,6	5,7	3,3												
2P 5/E-200/7T	**2P 5/A-200/7T-304**	1,8	6,2	3,6	2× 20	853	560	477	40	350	545	134	358			67
2P 5S/E-200/7T	**2P 5S/A-200/7T-304**	1,8	6,2	3,6												
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**	1,6	5,7	3,3	2× 20	823	560	438	40	350	545	98	356			70
2P 7S/E-180/4T	**2P 7S/A-180/4T-304**	1,7	6,1	3,5												
2P 7/E-250/5T	**2P 7/A-250/5T-306**	2	6,9	4	2× 20	847	560	462	40	350	545	98	356			69
2P 7S/E-250/5T	**2P 7S/A-250/5T-306**	2,1	6,9	4												
-	**2P 7/A-300/6T-306**	2,4	-	4,7	2× 20	871	560	486	40	350	545	98	356			72
-	**2P 7S/A-300/6T-306**	2,5	-	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**	1,4	5,4	3,1	2× 20	818	560	433	40	350	545	98	356	2" ½ G	2" G	68
2P 9S/E-150/3T	**2P 9S/A-150/3T-304**	1,4	5,4	3,1												
2P 9/E-200/4T	**2P 9/A-200/4T-306**	1,7	6,1	3,5	2× 20	848	560	463	40	350	545	98	356			67
2P 9S/E-200/4T	**2P 9S/A-200/4T-306**	1,8	6,2	3,6												
-	**2P 9/A-250/5T-306**	2,1	-	4,1	2× 20	878	560	493	40	350	545	98	356			68
-	**2P 9S/A-250/5T-306**	2,2	-	4,2												
-	**2P 18/A-250/3T-306**	2,2	-	4,2	1× 80	889	620	465	40	350	545	98	390	3" G	2" ½ G	80
-	**2P 18S/A-250/3T-306**	2,3	-	4,3												
-	**2P 18/A-400/4T-309**	3,0	-	5,8	1× 80	927	620	502,5	40	350	545	103	395			94
-	**2P 18S/A-400/4T-309**	3,1	-	5,9												

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

2P/3P VERTICAL

2P



2P + VSD

3P

3P + VSD

Pump specification	
Flow	2P up to 230 m³/h 3P 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 (V-L-LG version) -15° C to +90° C (SV version) -15° C to +110° C (SL-SLX-SLG-SLXG-HS-HX version)

PERFORMANCE

TARGET		TYPE - 50 Hz						P2		2P - Q (m³/h - l/min)							
		VERTICAL PUMPS						2P (×2) 3P (×3)		0	3,6	4,8	7,2	9,6	12	14,4	16,8
										0	60	80	120	160	200	240	280
		FIXED SPEED		VARIABLE SPEED						3P - Q (m³/h - l/min)							
		2P/3P		2P - EPIC	2P/3P - EPIC-A	2P/3P - IPFC				0	5,4	7,2	10,8	14,4	18	21,6	25,2
										0	90	120	180	240	300	360	420
m³/h	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)							
(2P) 6 (3P) 9	3	3V-100/5	3V-100/5T	3V/E-100/5T	3V/A-100/5T-304	3V/I-100/5T-109	3V/I-100/5T-306	1	0,75	52,2	40,8	36	25,4	14			
		3L-100/5	3L-100/5T	3L/E-100/5T	3L/A-100/5T-304	3L/I-100/5T-109	3L/I-100/5T-306										
		3SV-100/5	3SV-100/5T	3SV/E-100/5T	3SV/A-100/5T-304	3SV/I-100/5T-109	3SV/I-100/5T-306			55,3	46,5	42,1	31,6	17,7			
		3SL-100/5	3SL-100/5T	3SL/E-100/5T	3SL/A-100/5T-304	3SL/I-100/5T-109	3SL/I-100/5T-306										
	4	3V-120/6	3V-120/6T	3V/E-120/6T	3V/A-120/6T-304	3V/I-120/6T-109	3V/I-120/6T-306	1,2	0,9	62,8	49,6	43,9	32,1	18,3			
		3L-120/6	3L-120/6T	3L/E-120/6T	3L/A-120/6T-304	3L/I-120/6T-109	3L/I-120/6T-306										
		3SV-120/6	3SV-120/6T	3SV/E-120/6T	3SV/A-120/6T-304	3SV/I-120/6T-109	3SV/I-120/6T-306			66,6	56	50,7	38,1	22,4			
		3SL-120/6	3SL-120/6T	3SL/E-120/6T	3SL/A-120/6T-304	3SL/I-120/6T-109	3SL/I-120/6T-306										
	5	3V-150/7	3V-150/7T	3V/E-150/7T	3V/A-150/7T-304	3V/I-150/7T-109	3V/I-150/7T-306	1,5	1,1	77,1	68,4	62,3	46,5	25,7			
		3L-150/7	3L-150/7T	3L/E-150/7T	3L/A-150/7T-304	3L/I-150/7T-109	3L/I-150/7T-306										
		3SV-150/7	3SV-150/7T	3SV/E-150/7T	3SV/A-150/7T-304	3SV/I-150/7T-109	3SV/I-150/7T-306			75,6	64,8	58,9	44,4	26,1			
		3SL-150/7	3SL-150/7T	3SL/E-150/7T	3SL/A-150/7T-304	3SL/I-150/7T-109	3SL/I-150/7T-306										
	6	3V-180/8	3V-180/8T	3V/E-180/8T	3V/A-180/8T-304	3V/I-180/8T-109	3V/I-180/8T-306	2	1,5	88,1	77,6	70,2	51,3	26			
		3L-180/8	3L-180/8T	3L/E-180/8T	3L/A-180/8T-304	3L/I-180/8T-109	3L/I-180/8T-306										
		3SV-180/8	3SV-180/8T	3SV/E-180/8T	3SV/A-180/8T-304	3SV/I-180/8T-109	3SV/I-180/8T-306			86,7	73,9	67,3	51	29,9			
		3SL-180/8	3SL-180/8T	3SL/E-180/8T	3SL/A-180/8T-304	3SL/I-180/8T-109	3SL/I-180/8T-306										
	7	3V-200/9	3V-200/9T	3V/E-200/9T	3V/A-200/9T-304	3V/I-200/9T-109	3V/I-200/9T-306	2	15	98,8	87,3	79,4	60	32,2			
		3L-200/9	3L-200/9T	3L/E-200/9T	3L/A-200/9T-304	3L/I-200/9T-109	3L/I-200/9T-306										
		3SV-200/9	3SV-200/9T	3SV/E-200/9T	3SV/A-200/9T-304	3SV/I-200/9T-109	3SV/I-200/9T-306			97	82,5	74,7	56,4	32,9			
		3SL-200/9	3SL-200/9T	3SL/E-200/9T	3SL/A-200/9T-304	3SL/I-200/9T-109	3SL/I-200/9T-306										
	8	3V-250/10	3V-250/10T	3V/E-250/10T	3V/A-250/10T-306	3V/I-250/10T-114	3V/I-250/10T-306	2	15	109,3	96,3	87,5	65,3	34,5			
		3L-250/10	3L-250/10T	3L/E-250/10T	3L/A-250/10T-306	3L/I-250/10T-114	3L/I-250/10T-306										
		3SV-250/10	3SV-250/10T	3SV/E-250/10T	3SV/A-250/10T-306	3SV/I-250/10T-114	3SV/I-250/10T-306			107,2	90,5	82	61,5	35,6			
		3SL-250/10	3SL-250/10T	3SL/E-250/10T	3SL/A-250/10T-306	3SL/I-250/10T-114	3SL/I-250/10T-306										
	9	3V-280/11	3V-280/11T	3V/E-280/11T	3V/A-280/11T-306	3V/I-280/11T-114	3V/I-280/11T-306	2,5	1,85	120,4	106,1	96,4	71,6	38,3			
		3L-280/11	3L-280/11T	3L/E-280/11T	3L/A-280/11T-306	3L/I-280/11T-114	3L/I-280/11T-306										
		3SV-280/11	3SV-280/11T	3SV/E-280/11T	3SV/A-280/11T-306	3SV/I-280/11T-114	3SV/I-280/11T-306			117,2	98,8	89,8	66,8	37,3			
		3SL-280/11	3SL-280/11T	3SL/E-280/11T	3SL/A-280/11T-306	3SL/I-280/11T-114	3SL/I-280/11T-306										
	10	3V-300/12	3V-300/12T	-	3V/A-300/12T-306	3V/I-300/12T-114	3V/I-300/12T-306	2,5	1,85	130,3	114,6	103,8	76,6	40,8			
		3L-300/12	3L-300/12T	-	3L/A-300/12T-306	3L/I-300/12T-114	3L/I-300/12T-306										
		3SV-300/12	3SV-300/12T	-	3SV/A-300/12T-306	3SV/I-300/12T-114	3SV/I-300/12T-306			126,4	106,1	95,9	71,7	40			
		3SL-300/12	3SL-300/12T	-	3SL/A-300/12T-306	3SL/I-300/12T-114	3SL/I-300/12T-306										
	12	-	3SLG-350/14T	-	3SLG/A-350/14T-306	3SLG/I-350/14T-114	3SLG/I-350/14T-306	3	2,2	154,8	133,7	122,5	97,4	58,2			
	14	-	3SLG-380/16T	-	3SLG/A-380/16T-309	3SLG/I-380/16T-114	3SLG/I-380/16T-309	4	3	177,5	154,5	141,3	109,4	67			
	15	-	3SLG-400/18T	-	3SLG/A-400/18T-309	-	3SLG/I-400/18T-309	4	3	195,1	172,8	158	122,1	75,3			
	16	-	3SLG-450/20T	-	3SLG/A-450/20T-309	-	3SLG/I-450/20T-309	4	3	218,3	187,4	171,4	131,5	81			
(2P) 10 (3P) 15	3	5V-120/4	5V-120/4T	5V/E-120/4T	5V/A-120/4T-304	5V/I-120/4T-109	5V/I-120/4T-306	1,2	0,9	45,3	41,3	39,6	35,6	30,8	24,9	17,6	6,4
		5L-120/4	5L-120/4T	5L/E-120/4T	5L/A-120/4T-304	5L/I-120/4T-109	5L/I-120/4T-306										
		5SV-120/4	5SV-120/4T	5SV/E-120/4T	5SV/A-120/4T-304	5SV/I-120/4T-109	5SV/I-120/4T-306			45,5	42,2	40,7	37,2	32,9	27,4	19,8	10,4
		5SL-120/4	5SL-120/4T	5SL/E-120/4T	5SL/A-120/4T-304	5SL/I-120/4T-109	5SL/I-120/4T-306										
	4	5V-150/5	5V-150/5T	5V/E-150/5T	5V/A-150/5T-304	5V/I-150/5T-109	5V/I-150/5T-306	1,5	1,1	57,6	55,6	54,2	50,5	45,0	37,0	27,4	
		5L-150/5	5L-150/5T	5L/E-150/5T	5L/A-150/5T-304	5L/I-150/5T-109	5L/I-150/5T-306										
		5SV-150/5	5SV-150/5T	5SV/E-150/5T	5SV/A-150/5T-304	5SV/I-150/5T-109	5SV/I-150/5T-306			55,9	52,8	51,4	48,1	43,4	37,3	28,3	16,4
		5SL-150/5	5SL-150/5T	5SL/E-150/5T	5SL/A-150/5T-304	5SL/I-150/5T-109	5SL/I-150/5T-306										
	5	5V-180/6	5V-180/6T	5V/E-180/6T	5V/A-180/6T-304	5V/I-180/6T-109	5V/I-180/6T-306	2	1,5	69,1	66,5	64,8	60,1	53,2	43,8	32,0	
		5L-180/6	5L-180/6T	5L/E-180/6T	5L/A-180/6T-304	5L/I-180/6T-109	5L/I-180/6T-306										
		5SV-180/6	5SV-180/6T	5SV/E-180/6T	5SV/A-180/6T-304	5SV/I-180/6T-109	5SV/I-180/6T-306			67	63,3	61,6	57,6	51,9	44,2	33,6	20,4
		5SL-180/6	5SL-180/6T	5SL/E-180/6T	5SL/A-180/6T-304	5SL/I-180/6T-109	5SL/I-180/6T-306										
	5,5	5V-200/7	5V-200/7T	5V/E-200/7T	5V/A-200/7T-304	5V/I-200/7T-109	5V/I-200/7T-306	2	15	80,6	77,1	75,1	69,6	61,3	50,4	35,8	
		5L-200/7	5L-200/7T	5L/E-200/7T	5L/A-200/7T-304	5L/I-200/7T-109	5L/I-200/7T-306										
		5SV-200/7	5SV-200/7T	5SV/E-200/7T	5SV/A-200/7T-304	5SV/I-200/7T-109	5SV/I-200/7T-306			77,8	73,5	71,3	66,3	59,6	50,7	38,0	22,4
		5SL-200/7	5SL-200/7T	5SL/E-200/7T	5SL/A-200/7T-304	5SL/I-200/7T-109	5SL/I-200/7T-306										
	6,5	5V-250/8	5V-250/8T	5V/E-250/8T	5V/A-250/8T-306	5V/I-250/8T-114	5V/I-250/8T-306	2,5	1,85	92	88,2	85,8	79,2	70,1	57,2	41,1	
		5L-250/8	5L-250/8T	5L/E-250/8T	5L/A-250/8T-306	5L/I-250/8T-114	5L/I-250/8T-306										
		5SV-250/8	5SV-250/8T	5SV/E-250/8T	5SV/A-250/8T-306	5SV/I-250/8T-114	5SV/I-250/8T-306			89,2	83,9	81,6	76,2	68,4	58,3	43,2	24,6
		5SL-250/8	5SL-250/8T	5SL/E-250/8T	5SL/A-250/8T-306	5SL/I-250/8T-114	5SL/I-250/8T-306										

TARGET		TYPE - 50 Hz						P2		2P - Q (m³/h - l/min)								
		VERTICAL PUMPS						2P (×2) 3P (×3)		0	3,6	4,8	7,2	9,6	12	14,4	16,8	19,2
										0	60	80	120	160	200	240	280	320
		FIXED SPEED		VARIABLE SPEED						3P - Q (m³/h - l/min)								
		2P/3P		2P - EPIC	2P/3P - EPIC-A	2P/3P - IPFC				0	5,4	7,2	10,8	14,4	18	21,6	25,2	28,8
										0	90	120	180	240	300	360	420	480
m³/h	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)								
(2P) 10 (3P) 15	7	5V-280/9	5V-280/9T	-	5V/A-280/9T-306	5V/I-280/9T-114	5V/I-280/9T-306	2,5	1,85	103,3	98,9	96,2	88,8	78,4	64,1	45,3		
		5L-280/9	5L-280/9T	-	5L/A-280/9T-306	5L/I-280/9T-114	5L/I-280/9T-306											
		5SV-280/9	5SV-280/9T	-	5SV/A-280/9T-306	5SV/I-280/9T-114	5SV/I-280/9T-306			99,7	93,7	90,9	84,1	75,2	61,1	47,4	25,9	
		5SL-280/9	5SL-280/9T	-	5SL/A-280/9T-306	5SL/I-280/9T-114	5SL/I-280/9T-306											
	8	5V-300/10	5V-300/10T	-	5V/A-300/10T-306	5V/I-300/10T-114	5V/I-300/10T-306	3	2,2	115,1	110,6	107,6	99,5	87,6	72,1	50,7		
		5L-300/10	5L-300/10T	-	5L/A-300/10T-306	5L/I-300/10T-114	5L/I-300/10T-306											
		5SV-300/10	5SV-300/10T	-	5SV/A-300/10T-306	5SV/I-300/10T-114	5SV/I-300/10T-306			112,2	105,4	102,4	95,3	85,6	72,6	54,8	31,0	
		5SL-300/10	5SL-300/10T	-	5SL/A-300/10T-306	5SL/I-300/10T-114	5SL/I-300/10T-306											
	9	-	5V-350/11T	-	5V/A-350/11T-306	5V/I-350/11T-114	5V/I-350/11T-306	3,5	2,57	127,6	122,5	119,4	110,8	98,0	80,8	57,4		
		-	5L-350/11T	-	5L/A-350/11T-306	5L/I-350/11T-114	5L/I-350/11T-306											
		-	5SV-350/11T	-	5SV/A-350/11T-306	5SV/I-350/11T-114	5SV/I-350/11T-306			125,1	117,6	114,3	106,1	95,5	80,9	60,9	34,8	
		-	5SL-350/11T	-	5SL/A-350/11T-306	5SL/I-350/11T-114	5SL/I-350/11T-306											
	10	-	5V-380/12T	-	5V/A-380/12T-309	-	5V/I-380/12T-309	4	3	140,3	135,4	132,1	123,2	109,5	90,1	66,5		
		-	5L-380/12T	-	5L/A-380/12T-309	-	5L/I-380/12T-309											
		-	5SV-380/12T	-	5SV/A-380/12T-309	-	5SV/I-380/12T-309			135,7	128,9	125,6	117,7	106,3	91,3	70,2	41,5	
		-	5SL-380/12T	-	5SL/A-380/12T-309	-	5SL/I-380/12T-309											
	12	-	5SLG-400/14T	-	5SLG/A-400/14T-309	-	5SLG/I-400/14T-309	4	3	159,2	150,7	146,7	136,6	122,9	105,5	79,0		
	14	-	5SLG-450/16T	-	5SLG/A-450/16T-309	-	5SLG/I-450/16T-309	5,5	4	182,0	173,2	169,1	158,0	142,9	122,9	93,6		
	16	-	5SLG-550/18T	-	-	-	5SLG/I-550/18T-311	5,5	4	204,4	194,4	189,5	176,5	159,6	136,3	103,2		
	18	-	5SLG-600/20T	-	-	-	5SLG/I-600/20T-311	5,5	4	226,7	215,5	210,0	195,5	176,3	151,1	114,5		
(2P) 14 (3P) 21	3	7V-180/4	7V-180/4T	7V/E-180/4T	7V/A-180/4T-304	7V/I-180/4T-109	7V/I-180/4T-306	2	1,5	49,6		48,4	46,7	43,8	39,9	34,9	28,9	
		7L-180/4	7L-180/4T	7L/E-180/4T	7L/A-180/4T-304	7L/I-180/4T-109	7L/I-180/4T-306											
		7SV-180/4	7SV-180/4T	7SV/E-180/4T	7SV/A-180/4T-304	7SV/I-180/4T-109	7SV/I-180/4T-306			46,7		46,0	45,2	43,1	40,3	36,9	32,3	25,5
		7SL-180/4	7SL-180/4T	7SL/E-180/4T	7SL/A-180/4T-304	7SL/I-180/4T-109	7SL/I-180/4T-306											
	4	7V-250/5	7V-250/5T	7V/E-250/5T	7V/A-250/5T-306	7V/I-250/5T-114	7V/I-250/5T-306	2,5	1,85	63,2		62,1	60,3	56,9	52,1	46,2	39,0	
		7L-250/5	7L-250/5T	7L/E-250/5T	7L/A-250/5T-306	7L/I-250/5T-114	7L/I-250/5T-306											
		7SV-250/5	7SV-250/5T	7SV/E-250/5T	7SV/A-250/5T-306	7SV/I-250/5T-114	7SV/I-250/5T-306			58,5		57,6	56,6	54,1	50,8	46,1	40,3	31,8
		7SL-250/5	7SL-250/5T	7SL/E-250/5T	7SL/A-250/5T-306	7SL/I-250/5T-114	7SL/I-250/5T-306											
	5	7V-300/6	7V-300/6T	-	7V/A-300/6T-306	7V/I-300/6T-114	7V/I-300/6T-306	3	2,2	76,0		75,1	73,1	69,2	63,6	56,8	48,2	
		7L-300/6	7L-300/6T	-	7L/A-300/6T-306	7L/I-300/6T-114	7L/I-300/6T-306											
		7SV-300/6	7SV-300/6T	-	7SV/A-300/6T-306	7SV/I-300/6T-114	7SV/I-300/6T-306			70,6		69,9	68,7	65,8	61,8	56,6	49,7	39,3
		7SL-300/6	7SL-300/6T	-	7SL/A-300/6T-306	7SL/I-300/6T-114	7SL/I-300/6T-306											
	6	-	7V-350/7T	-	7V/A-350/7T-306	7V/I-350/7T-114	7V/I-350/7T-306	3,5	2,57	89,0		88,0	85,8	81,2	74,5	66,3	56,2	
		-	7L-350/7T	-	7L/A-350/7T-306	7L/I-350/7T-114	7L/I-350/7T-306											
		-	7SV-350/7T	-	7SV/A-350/7T-306	7SV/I-350/7T-114	7SV/I-350/7T-306			82,8		82,0	80,6	77,2	72,3	66,0	57,4	46,4
		-	7SL-350/7T	-	7SL/A-350/7T-306	7SL/I-350/7T-114	7SL/I-350/7T-306											
	7	-	7V-400/8T	-	7V/A-400/8T-309	-	7V/I-400/8T-309	4	3	102,3		101,0	98,2	92,4	84,4	74,6	62,4	
		-	7L-400/8T	-	7L/A-400/8T-309	-	7L/I-400/8T-309											
		-	7SV-400/8T	-	7SV/A-400/8T-309	-	7SV/I-400/8T-309			94,8		94,3	92,5	88,6	83,2	76,4	66,2	52,6
		-	7SL-400/8T	-	7SL/A-400/8T-309	-	7SL/I-400/8T-309											
	8	-	7V-450/9T	-	7V/A-450/9T-309	-	7V/I-450/9T-309	4,5	3,37	115,2		114,4	111,4	105,6	97,1	86,3	73,1	
		-	7L-450/9T	-	7L/A-450/9T-309	-	7L/I-450/9T-309											
		-	7SV-450/9T	-	7SV/A-450/9T-309	-	7SV/I-450/9T-309			107,4		106,9	105,2	101,1	95,3	87,7	76,3	61,0
		-	7SL-450/9T	-	7SL/A-450/9T-309	-	7SL/I-450/9T-309											
	9	-	7V-550/10T	-	7V/A-550/10T-309	-	7V/I-550/10T-309	5,5	4	128,1		128,0	124,9	118,7	109,4	97,6	83,0	
		-	7L-550/10T	-	7L/A-550/10T-309	-	7L/I-550/10T-309											
		-	7SV-550/10T	-	7SV/A-550/10T-309	-	7SV/I-550/10T-309			119,8		119,6	118,4	113,9	107,7	99,4	87,0	70,4
		-	7SL-550/10T	-	7SL/A-550/10T-309	-	7SL/I-550/10T-309											
	11	-	7SLG-750/12T	-	-	-	7SLG/I-750/12T-311	7,5	5,5	143,7		143,7	142,6	137,0	129,6	119,8	105,6	87,0
	13	-	7SLG-800/14T	-	-	-	7SLG/I-800/14T-314	7,5	5,5	167,6		167,3	165,9	159,6	151,0	139,5	122,6	100,3
	15	-	7SLG-900/16T	-	-	-	7SLG/I-900/16T-314	7,5	5,5	191,5		191,2	189,3	181,7	171,5	157,7	137,6	111,1
	17	-	7SLG-950/18T	-	-	-	7SLG/I-950/18T-314	10	7,5	215,5		215,7	213,9	205,8	194,7	179,8	159,0	132,3
	19	-	7SLG-1000/20T	-	-	-	7SLG/I-1000/20T-318	10	7,5	240,3		240,2	238,4	229,3	216,8	200,3	177,3	147,7

PERFORMANCE

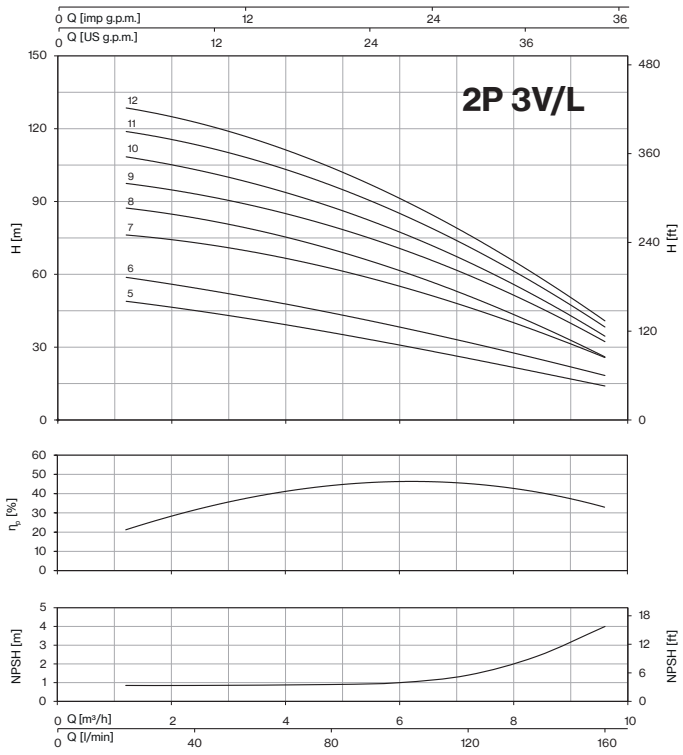
TARGET		TYPE - 50 Hz						P2		2P - Q (m³/h - l/min)								
		VERTICAL PUMPS						2P (×2) 3P (×3)		0	12	14,4	16,8	19,2	20,4	21,6	24	28,8
										0	200	240	280	320	340	360	400	480
		FIXED SPEED		VARIABLE SPEED						3P - Q (m³/h - l/min)								
		2P/3P		2P - EPIC	2P/3P - EPIC-A	2P/3P - IPFC				0	18	21,6	25,2	28,8	30,6	32,4	36	43,2
										0	300	360	420	480	510	540	600	720
m³/h	bar	1~ 230V	3~ 400V	1~ 230V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)								
(2P) 18 (3P) 27	3	9V-200/4	9V-200/4T	9V/E-200/4T	9V/A-200/4T-304	9V/I-200/4T-109	9V/I-200/4T-306	2	1,5	45,8	39,2	37,3	34,6	31,3	29,4	27,4	23,0	17,9
		9L-200/4	9L-200/4T	9L/E-200/4T	9L/A-200/4T-304	9L/I-200/4T-109	9L/I-200/4T-306											
		9SV-200/4	9SV-200/4T	9SV/E-200/4T	9SV/A-200/4T-304	9SV/I-200/4T-109	9SV/I-200/4T-306			45,8	39,7	37,8	35,6	32,7	30,9	29,0	24,6	19,8
		9SL-200/4	9SL-200/4T	9SL/E-200/4T	9SL/A-200/4T-304	9SL/I-200/4T-109	9SL/I-200/4T-306											
	3,5	9V-250/5	9V-250/5T	-	9V/A-250/5T-306	9V/I-250/5T-114	9V/I-250/5T-306	2,5	1,85	56,9	48,5	46,1	42,9	38,8	36,4	33,8	28,2	22,3
		9L-250/5	9L-250/5T	-	9L/A-250/5T-306	9L/I-250/5T-114	9L/I-250/5T-306											
		9SV-250/5	9SV-250/5T	-	9SV/A-250/5T-306	9SV/I-250/5T-114	9SV/I-250/5T-306			57,1	49,5	47,2	44,3	40,6	38,4	35,8	30,2	24,4
		9SL-250/5	9SL-250/5T	-	9SL/A-250/5T-306	9SL/I-250/5T-114	9SL/I-250/5T-306											
	4	9V-300/6	9V-300/6T	-	9V/A-300/6T-306	9V/I-300/6T-114	9V/I-300/6T-306	3	2,2	69,8	60,3	57,5	53,6	48,8	46,0	42,9	36,4	29,6
		9L-300/6	9L-300/6T	-	9L/A-300/6T-306	9L/I-300/6T-114	9L/I-300/6T-306											
		9SV-300/6	9SV-300/6T	-	9SV/A-300/6T-306	9SV/I-300/6T-114	9SV/I-300/6T-306			69,4	60,3	57,3	54,0	49,8	46,9	43,6	36,2	28,1
		9SL-300/6	9SL-300/6T	-	9SL/A-300/6T-306	9SL/I-300/6T-114	9SL/I-300/6T-306											
	5,5	-	9V-400/7T	-	9V/A-400/7T-309	-	9V/I-400/7T-309	4	3	83,3	72,7	68,9	64,2	58,5	55,2	51,6	43,6	34,7
		-	9L-400/7T	-	9L/A-400/7T-309	-	9L/I-400/7T-309											
		-	9SV-400/7T	-	9SV/A-400/7T-309	-	9SV/I-400/7T-309			82,0	72,0	68,7	64,9	59,9	56,6	52,9	44,2	33,9
		-	9SL-400/7T	-	9SL/A-400/7T-309	-	9SL/I-400/7T-309											
	6,5	-	9V-450/8T	-	9V/A-450/8T-309	-	9V/I-450/8T-309	4,5	3,37	96,7	84,8	80,6	75,5	69,2	65,4	61,3	52,2	42,1
		-	9L-450/8T	-	9L/A-450/8T-309	-	9L/I-450/8T-309											
		-	9SV-450/8T	-	9SV/A-450/8T-309	-	9SV/I-450/8T-309			93,5	82,6	79,0	74,9	69,5	65,8	61,5	52,0	41,7
		-	9SL-450/8T	-	9SL/A-450/8T-309	-	9SL/I-450/8T-309											
	7	-	9V-500/9T	-	9V/A-500/9T-309	-	9V/I-500/9T-309	4,5	3,37	107,1	92,8	88,3	82,4	75,2	71,0	66,4	56,4	45,2
		-	9L-500/9T	-	9L/A-500/9T-309	-	9L/I-500/9T-309											
		-	9SV-500/9T	-	9SV/A-500/9T-309	-	9SV/I-500/9T-309			105,4	92,5	88,3	83,5	77,3	73,0	68,1	57,5	46,9
		-	9SL-500/9T	-	9SL/A-500/9T-309	-	9SL/I-500/9T-309											
	8	-	9V-550/10T	-	9V/A-550/10T-309	-	9V/I-550/10T-309	5,5	4	119,5	104,3	99,3	92,7	84,6	79,9	74,8	63,5	51,2
		-	9L-550/10T	-	9L/A-550/10T-309	-	9L/I-550/10T-309											
		-	9SV-550/10T	-	-	-	9SV/I-550/10T-311			117,6	104,5	99,9	94,7	87,8	83,2	77,9	66,2	53,4
		-	9SL-550/10T	-	-	-	9SL/I-550/10T-311											
	10	-	9SLG-750/12T	-	-	-	9SLG/I-750/12T-314	7,5	5,5	141,3	125,4	119,7	113,4	105,1	99,7	93,7	79,6	
	12	-	9SLG-800/14T	-	-	-	9SLG/I-800/14T-314	7,5	5,5	165,5	146,5	139,9	132,7	123,4	117,3	110,3	94,0	
	13	-	9SLG-900/16T	-	-	-	9SLG/I-900/16T-318	10	7,5	188,7	167,1	159,7	151,4	140,4	133,3	125,1	106,2	
	15	-	9SLG-950/9T	-	-	-	9SLG/I-950/9T-318	10	7,5	213,8	189,6	181,2	172,0	159,9	151,8	142,5	121,0	
	17	-	9SLG-1000/20T	-	-	-	9SLG/I-1000/20T-318	10	7,5	236,7	209,3	199,8	189,5	176,1	167,3	157,5	134,5	

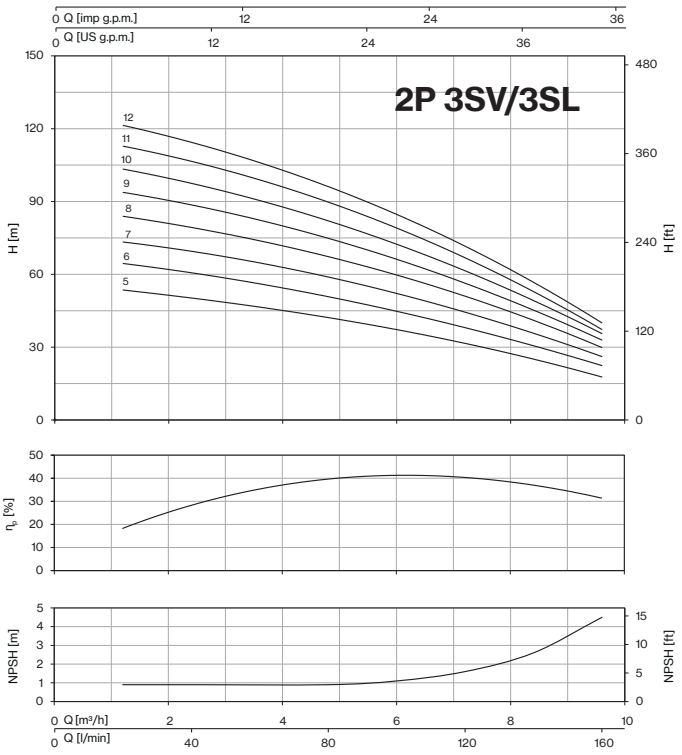
TARGET		TYPE - 50 Hz				P2		2P - Q (m³/h - l/min)												
		VERTICAL PUMPS				2P (×2) 3P (×3)		0	12	14,4	16,8	19,2	20,4	21,6	24	28,8	33,6	38,4	43,2	48
								0	200	240	280	320	340	360	400	480	560	640	720	800
		FIXED SPEED	VARIABLE SPEED					3P - Q (m³/h - l/min)												
		2P/3P	2P/3P - EPIC-A	2P/3P - IPFC				0	18	21,6	25,2	28,8	30,6	32,4	36	43,2	50,4	57,6	64,8	72
								0	300	360	420	480	510	540	600	720	840	960	1080	1200
m³/h	bar	3~ 400V	3~ 400V-in 3~ 400V-out	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)												
(2P) 36 (3P) 54	2	18V-250/3T	18V/A-250/3T-306	18V/I-250/3T-114	18V/I-250/3T-306	2,5	1,85	34,7	32,9	32,6	32,2	31,6	31,3	31,0	30,1	28,0	24,7	20,6	15,9	10,7
		18L-250/3T	18L/A-250/3T-306	18L/I-250/3T-114	18L/I-250/3T-306															
		18SV-250/3T	18SV/A-250/3T-306	18SV/I-250/3T-114	18SV/I-250/3T-306			33,8	31,6	31,0	30,2	29,4	28,9	28,4	27,4	25,4	23,2	20,4	16,3	11,5
		18SL-250/3T	18SL/A-250/3T-306	18SL/I-250/3T-114	18SL/I-250/3T-306															
	2,5	18HX-300/3T	-	18HX/I-300/3T-114	18HX/I-300/3T-306	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	18V-400/4T	18V/A-400/4T-309	-	18V/I-400/4T-309	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
		18L-400/4T	18L/A-400/4T-309	-	18L/I-400/4T-309															
		18SV-400/4T	18SV/A-400/4T-309	-	18SV/I-400/4T-309			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
		18SL-400/4T	18SL/A-400/4T-309	-	18SL/I-400/4T-309															
	3,5	18HX-400/4T	-	18HX/I-400/4T-114	18HX/I-400/4T-306	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	18V-450/5T	18V/A-450/5T-309	-	18V/I-450/5T-309	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
		18L-450/5T	18L/A-450/5T-309	-	18L/I-450/5T-309															
		18SV-450/5T	18SV/A-450/5T-309	-	18SV/I-450/5T-309			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
		18SL-450/5T	18SL/A-450/5T-309	-	18SL/I-450/5T-309															
	4,5	18HX-550/5T	-	-	18HX/I-550/5T-309	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

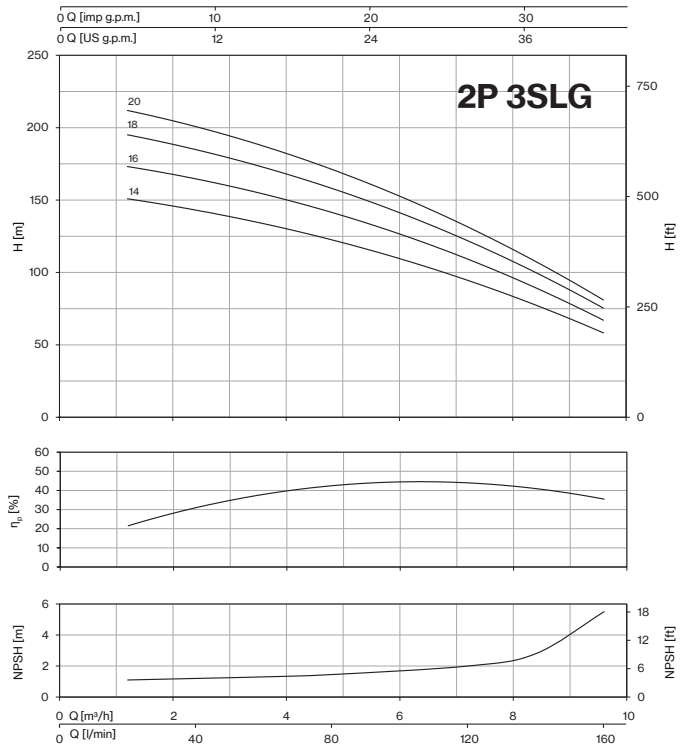
TARGET		TYPE - 50 Hz				P2		2P - Q (m³/h - l/min)												
		VERTICAL PUMPS				2P (×2) 3P (×3)		0	12	14,4	16,8	19,2	20,4	21,6	24	28,8	33,6	38,4	43,2	48	56
								0	200	240	280	320	340	360	400	480	560	640	720	800	933
		FIXED SPEED	VARIABLE SPEED					3P - Q (m³/h - l/min)												
		2P/3P	2P/3P - EPIC-A	2P/3P - IPFC				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	3~ 400V	3~ 400V-in 3~ 400V-out	1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)												
(2P) 36 (3P) 54	5	**18V-550/6T**	-	-	**18V/I-550/6T-311**	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	
		18L-550/6T	-	-	**18L/I-550/6T-311**															
		18SV-550/6T	-	-	**18SV/I-550/6T-311**			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	
		18SL-550/6T	-	-	**18SL/I-550/6T-311**															
	6	**18HX-750/6T**	-	-	**18HX/I-750/6T-311**	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	**18V-750/8T**	-	-	**18V/I-750/8T-314**	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	
		18L-750/8T	-	-	**18L/I-750/8T-314**															
		18SV-750/8T	-	-	**18SV/I-750/8T-314**			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	
		18SL-750/8T	-	-	**18SL/I-750/8T-314**															
	7	**18HX-750/7T**	-	-	**18HX/I-750/7T-311**	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	
	7,5	**18V-900/9T**	-	-	**18V/I-900/9T-318**	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	
		18L-900/9T	-	-	**18L/I-900/9T-318**															
		18SV-900/9T	-	-	**18SV/I-900/9T-318**			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	
		18SL-900/9T	-	-	**18SL/I-900/9T-318**															
	8	**18HX-1000/8T**	-	-	**18HX/I-1000/8T-314**	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	**18HX-1000/9T**	-	-	**18HX/I-1000/9T-314**	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	**18LG-920/10T**	-	-	**18LG/I-920/10T-318**	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	**18LG-1000/11T**	-	-	**18LG/I-1000/11T-318**	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		
(2P) 44 (3P) 66	3	**22HX-400/3T**	-	**22HX/I-400/3T-114**	**22HX/I-400/3T-306**	4	3	45,0					40,8	40,5	39,9	38,3	36,6	34,2	30,5	25,8	16,6
	4	**22HX-550/4T**	-	-	**22HX/I-550/4T-309**	5,5	4	62,2					55,5	55,1	54,2	52,4	50,2	47,3	42,7	36,8	25,2
	5	**22HX-750/5T**	-	-	**22HX/I-750/5T-311**	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	**22HX-1000/6T**	-	-	**22HX/I-1000/6T-314**	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	**22HX-1000/7T**	-	-	**22HX/I-1000/7T-318**	10	7,5	109,5					99,6	98,8	97,4	94,6	91,2	86,3	78,4	68,2	47,9

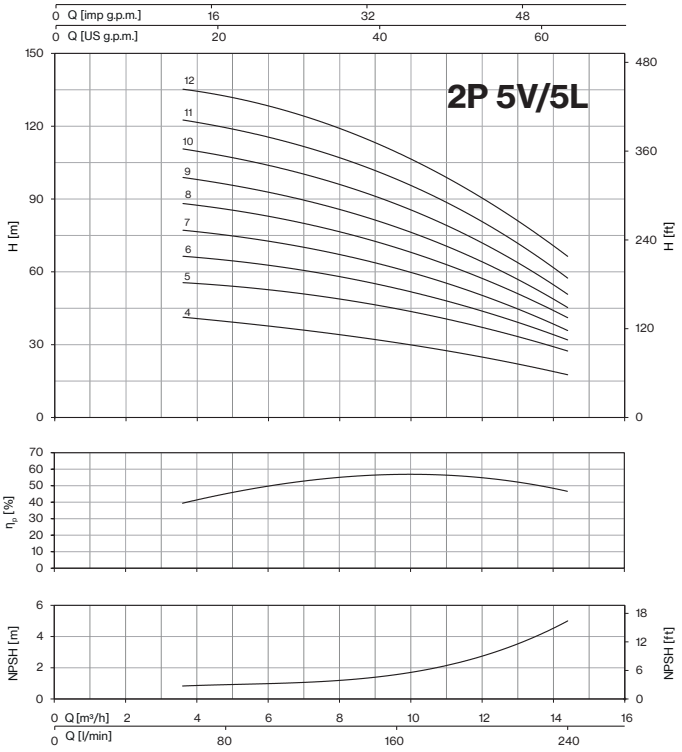
TARGET		TYPE - 50 Hz			P2		2P - Q (m³/h - l/min)													
		VERTICAL PUMPS			2P (×2) 3P (×3)		0	50	60	68	84	90	100	120	128	140	160	176	200	230
							0	833	1000	1133	1400	1500	1667	2000	2133	2333	2667	2933	3333	3833
		FIXED SPEED	VARIABLE SPEED				3P - Q (m³/h - l/min)													
		2P/3P	2P/3P - EPIC-A	2P/3P - IPFC			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	3~ 400V	3~ 400V-in 3~ 400V-out	3~ 400V-in 3~ 400V-out	HP	kW	H (m)													
(2P) 70 (3P) 105	3	**35HS-750/2T**	-	**35HS/I-750/2T-311**	7,5	5,5	48,5	39,6	36,9	34,4	27,2									
	4,5	**35HS-1000/3T**	-	**35HS/I-1000/3T-314**	10	7,5	72,2	58,2	54,2	50,3	39,5									
	5	**35HS-1000/4-2RT**	-	**35HS/I-1000/4-2RT-318**	10	7,5	85,1	68,6	63,9	58,4	44,7									
	6	**35HS-1500/4-1RT**	-	**35HS/I-1500/4-1RT-318**	15	11	92,8	75,3	70,2	65,2	50,8									
	7	**35HS-1500/4T**	-	**35HS/I-1500/4T-325**	15	11	99,4	81,0	76,3	71,8	58,5									
	8,5	**35HS-2000/5T**	-	**35HS/I-2000/5T-325**	20	15	121,1	99,3	93,1	87,4	70,0									
	10	**35HS-2000/6T**	-	**35HS/I-2000/6T-330**	20	15	145,6	119,3	111,9	105,0	84,2									
	11	**35HS-2000/7-1RT**	-	**35HS/I-2000/7-1RT-330**	20	15	163,3	132,3	123,2	114,0	89,1									
(2P) 100 (3P) 150	3	**50HS-1000/2T**	-	**50HS/I-1000/2T-318**	10	7,5	49,0			42,0	38,8	37,2	34,3	27,5	24,1					
	5	**50HS-1500/3T**	-	**50HS/I-1500/3T-325**	15	11	74,2			65,0	60,9	58,8	54,8	45,5	41,0					
	7	**50HS-2000/4T**	-	**50HS/I-2000/4T-330**	20	15	97,5			86,4	81,3	78,5	73,2	60,8	54,7					
	9	**50HS-2500/5T**	-	-	25	18,5	122,3			109,1	102,9	99,5	92,9	77,5	70,0					
	11	**50HS-3000/6T**	-	-	30	22	146,0			129,8	122,2	118,0	110,0	91,6	82,5					
(2P) 150 (3P) 225	3,5	**75HS-1500/2T**	-	**75HS/I-1500/2T-325**	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	**75HS-2500/3T**	-	-	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	**75HS-3000/4T**	-	-	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	**75HS-4000/5T**	-	-	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	**75HS-4000/6-2RT**	-	-	40	30	153,5		141,6	139,5	135,1	133,3	130,3	123,4	119,6	112,9	99,0	84,1		
(2P) 180 (3P) 270	2,5	**90HS-1500/2-2RT**	-	**90HS/I-1500/2-2RT-325**	15	11	49,6					42,4	41,3	39,0	38,1	36,6	33,2	29,4	22,7	11,7
	4	**90HS-2000/2T**	-	**90HS/I-2000/2T-330**	20	15	69,2					56,6	54,5	50,5	49,2	47,3	44,3	41,6	36,3	27,3
	6,5	**90HS-3000/3T**	-	-	30	22	92,4					82,6	80,6	76,7	75,3	73,2	69,4	65,5	57,8	45,2
	9	**90HS-4000/4T**	-	-	40	30	125,6					113,0	110,4	105,2	103,3	100,6	95,7	90,7	80,8	64,4
	11	**90HS-5000/5T**	-	-	50	37	156,6					140,7	137,4	130,9	128,6	125,2	119,1	112,8	100,3	79,8

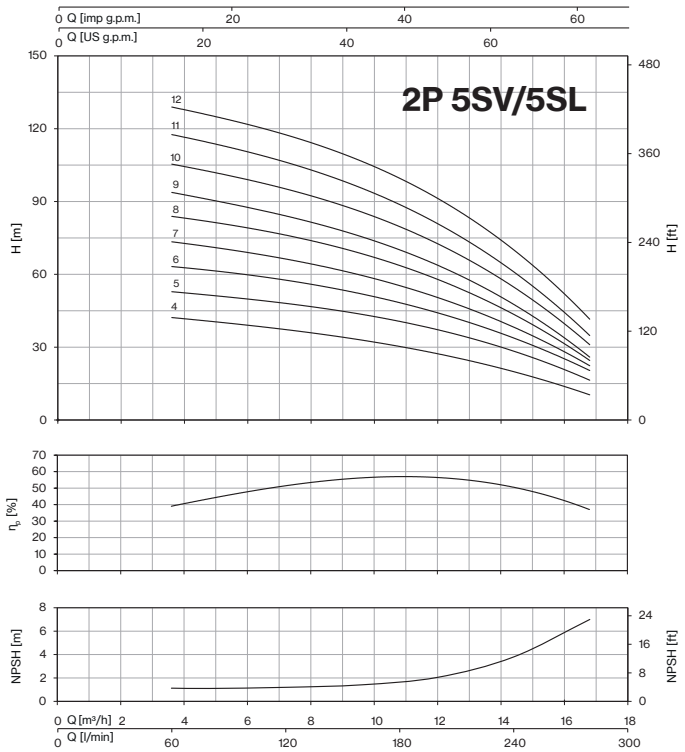
CURVES 2P VERTICAL










2P 5SV/5SL
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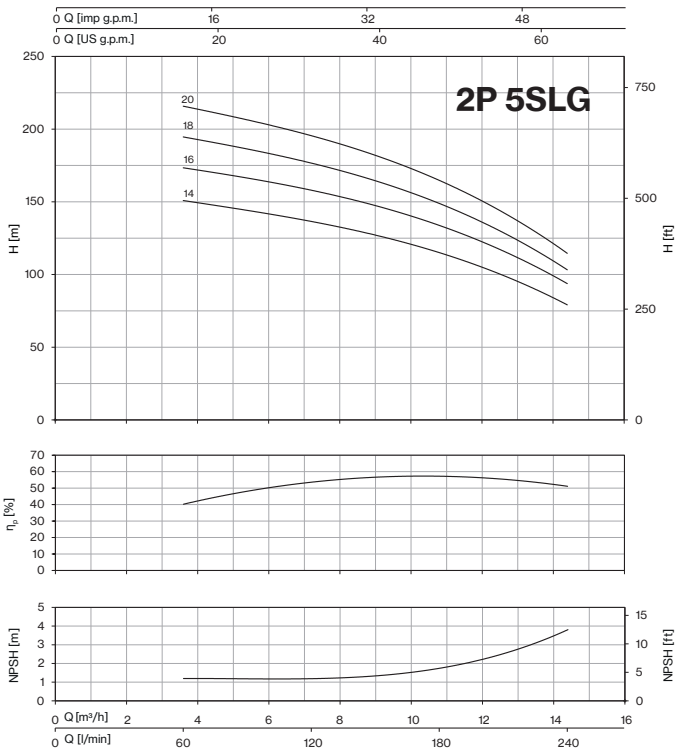
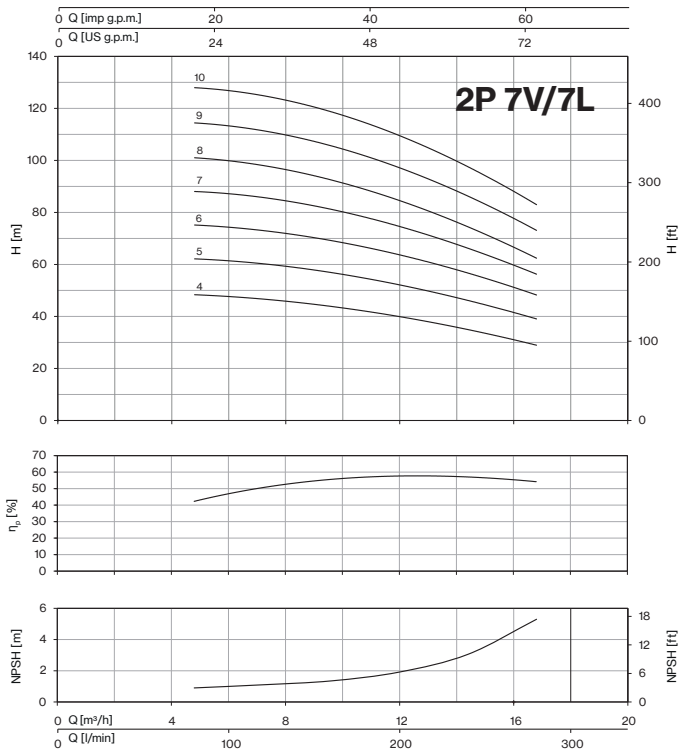
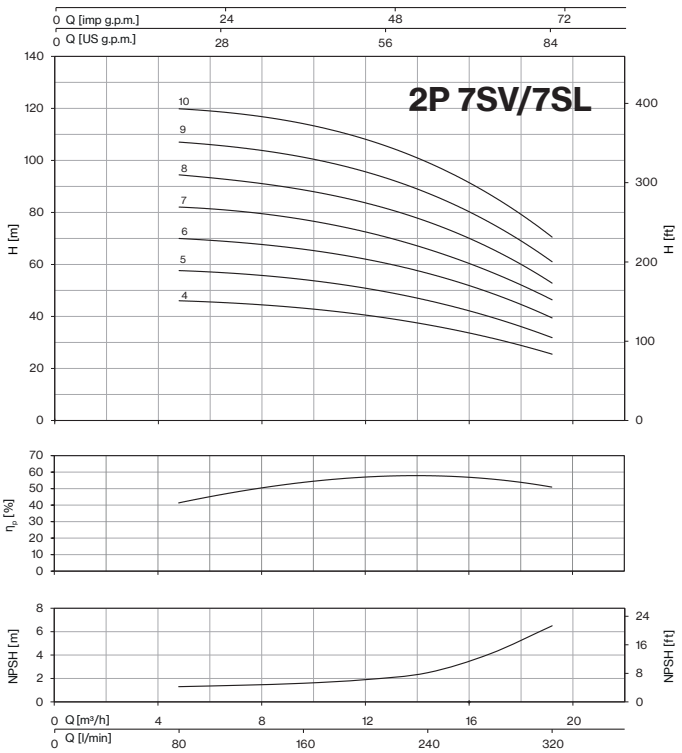
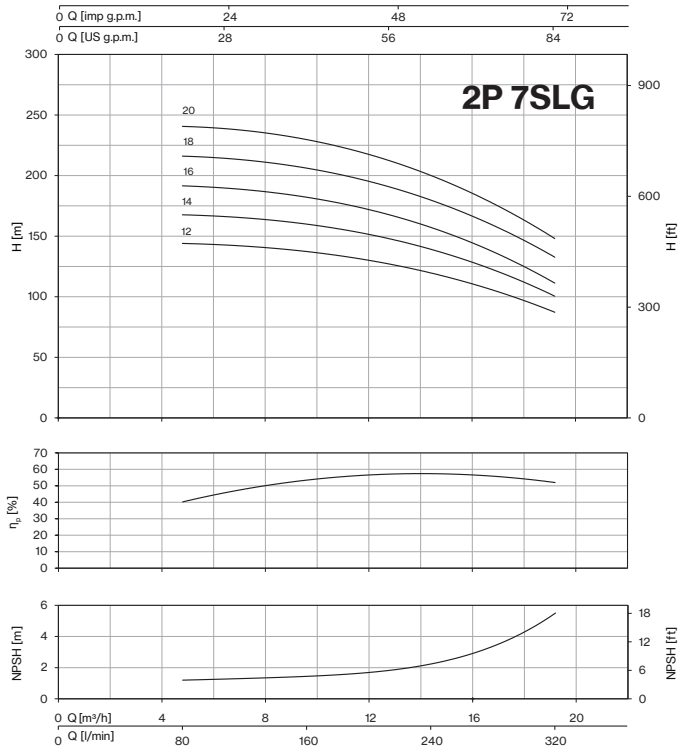
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

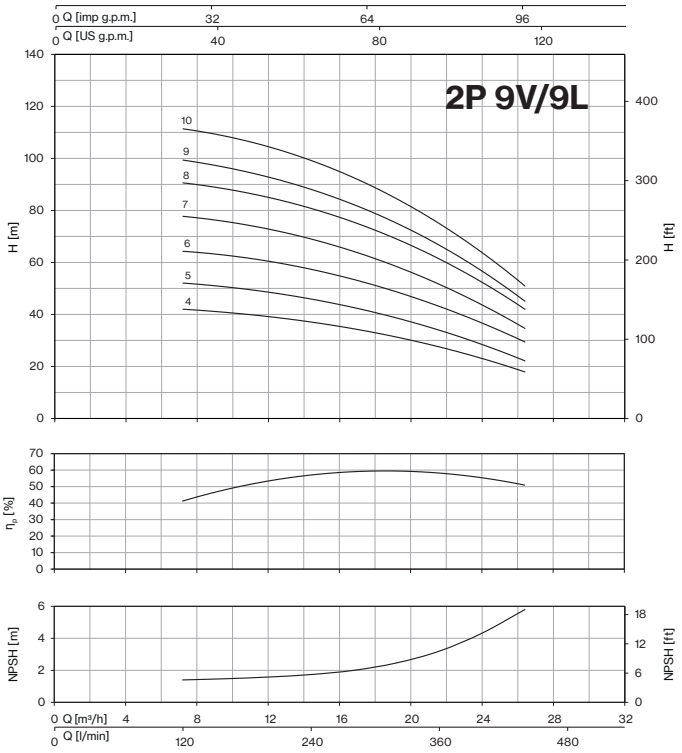

2P 5SLG
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

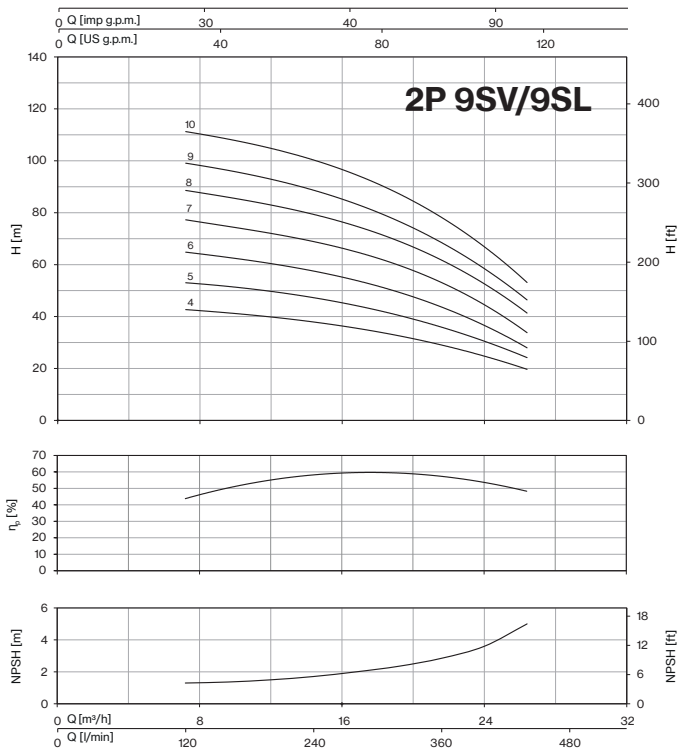

2P 7V/7L
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

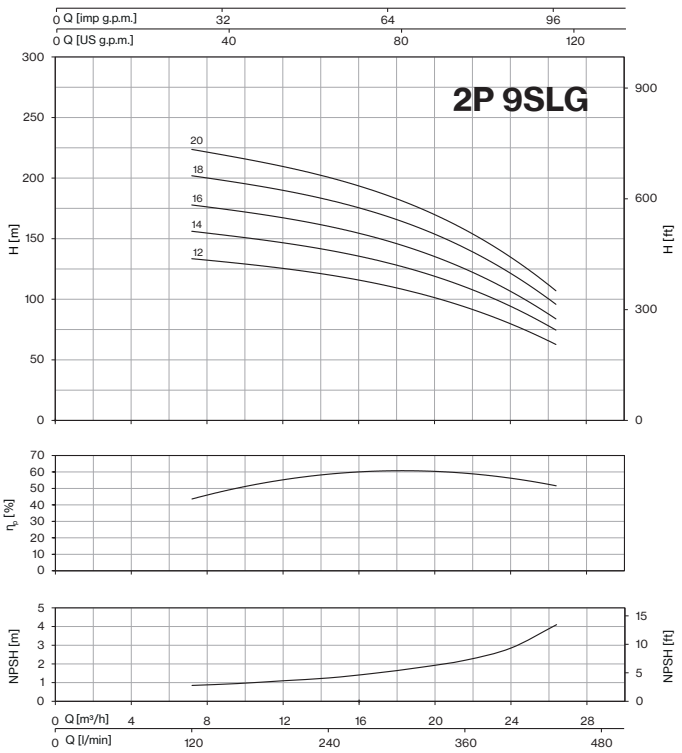

2P 7SV/7SL
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

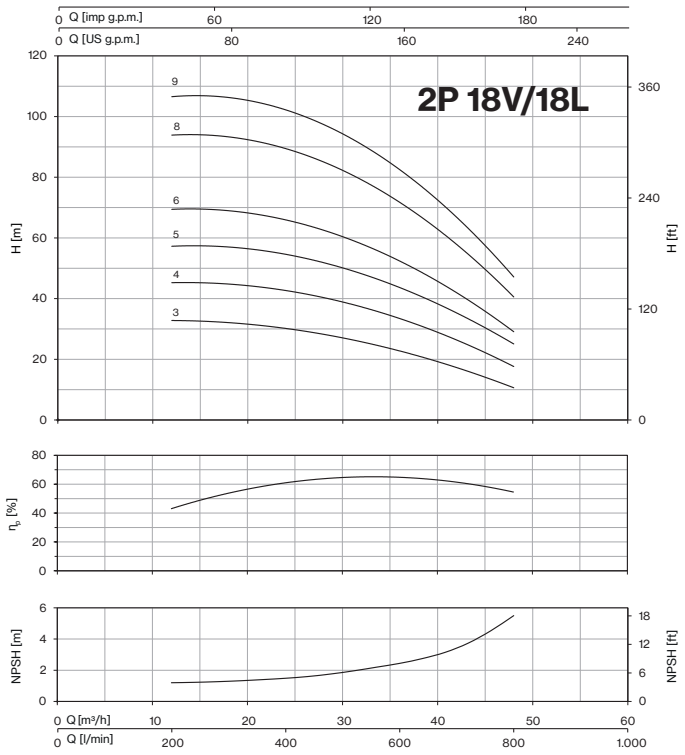
CURVES 2P VERTICAL

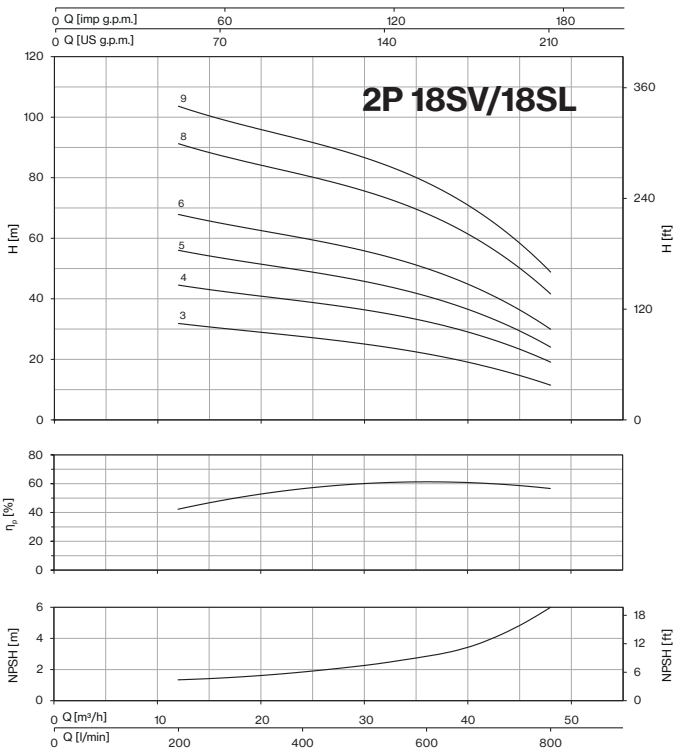


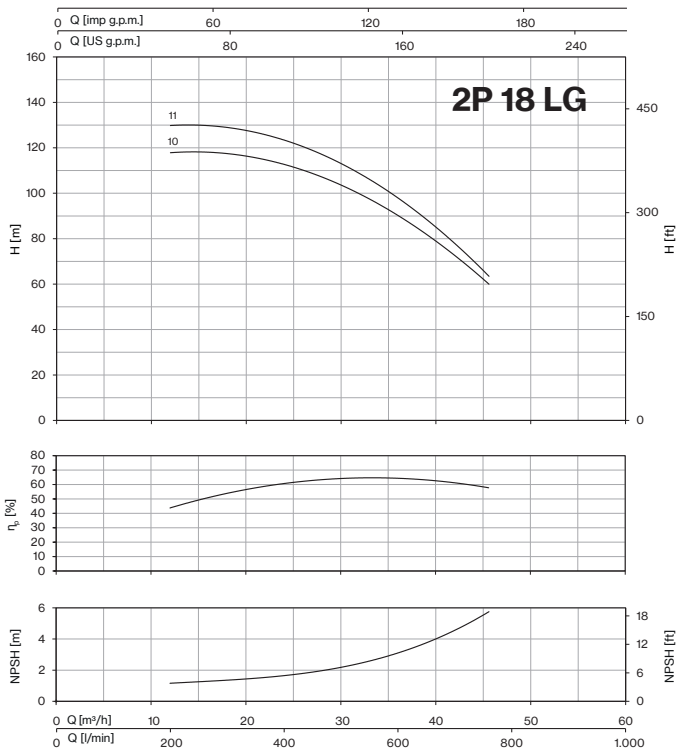




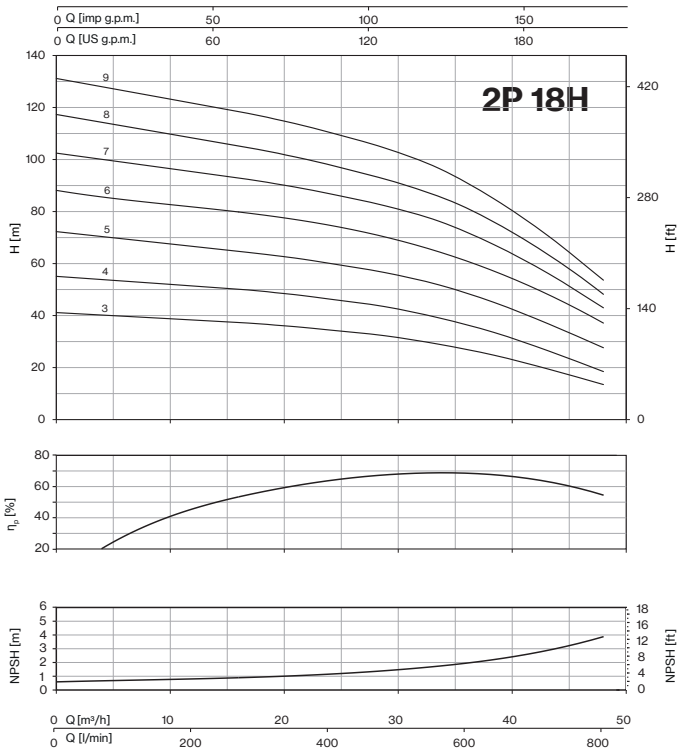


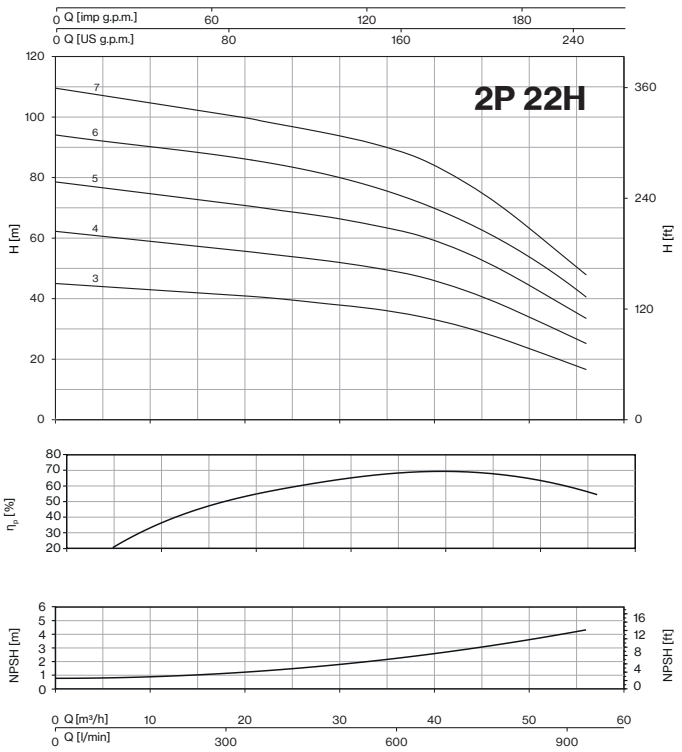

2P 18V/18L
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

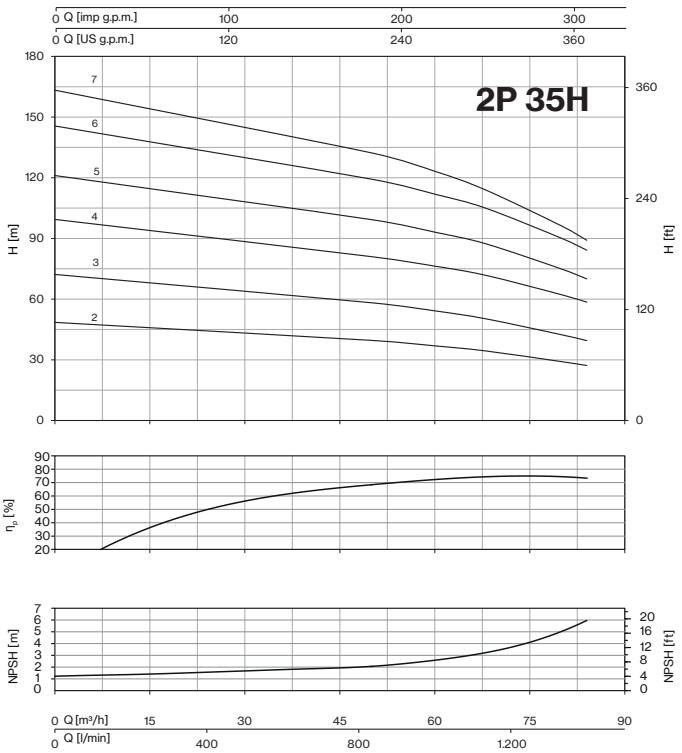

2P 18SV/18SL
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

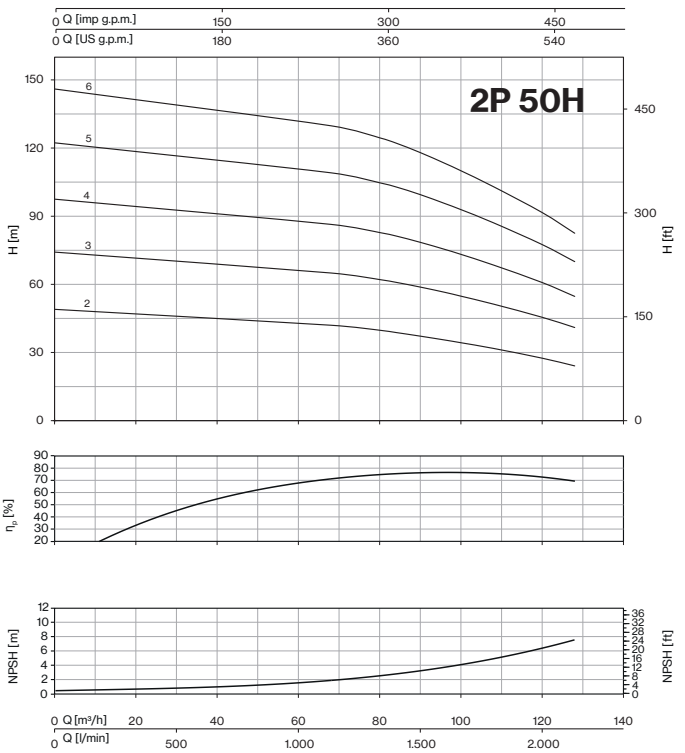

2P 18 LG
Q [imp g.p.m.]
Q [US g.p.m.]
H [m]
H [ft]
η_p [%]
NPSH [m]
NPSH [ft]
Q [m³/h]
Q [l/min]

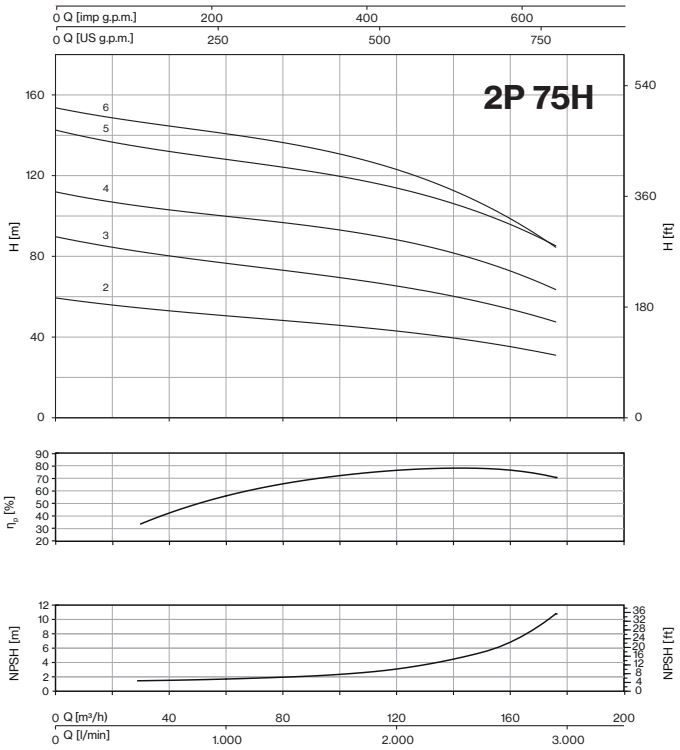
CURVES 2P VERTICAL







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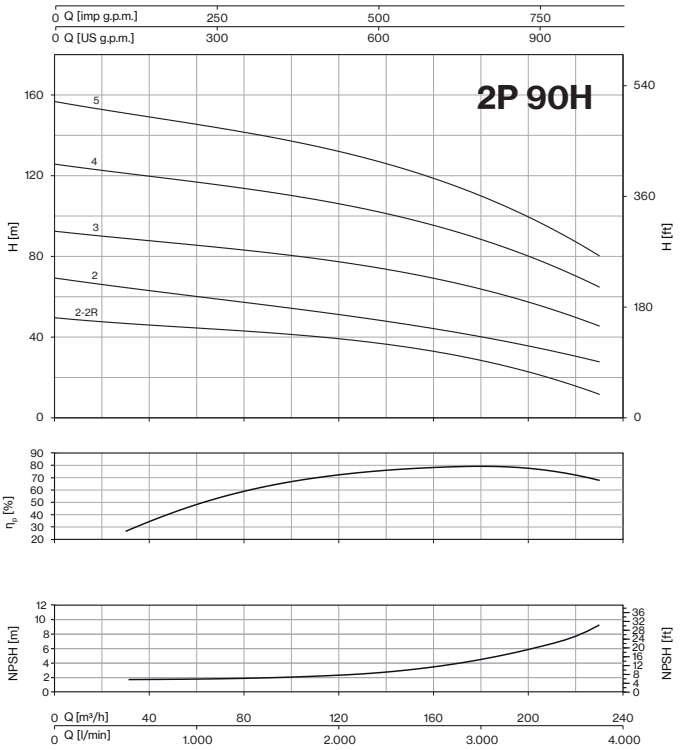
0 Q [US g.p.m.] 250 500 750
H [m] 0 40 80 120 160
H [ft] 0 180 360 540
6
5
4
3
2
ηp [%] 20 30 40 50 60 70 80 90
NPSH [m] 0 2 4 6 8 10 12
NPSH [ft] 0 4 8 12 16 20 24 28 32 36
0 Q [m³/h] 40 80 120 160 200
0 Q [l/min] 1.000 2.000 3.000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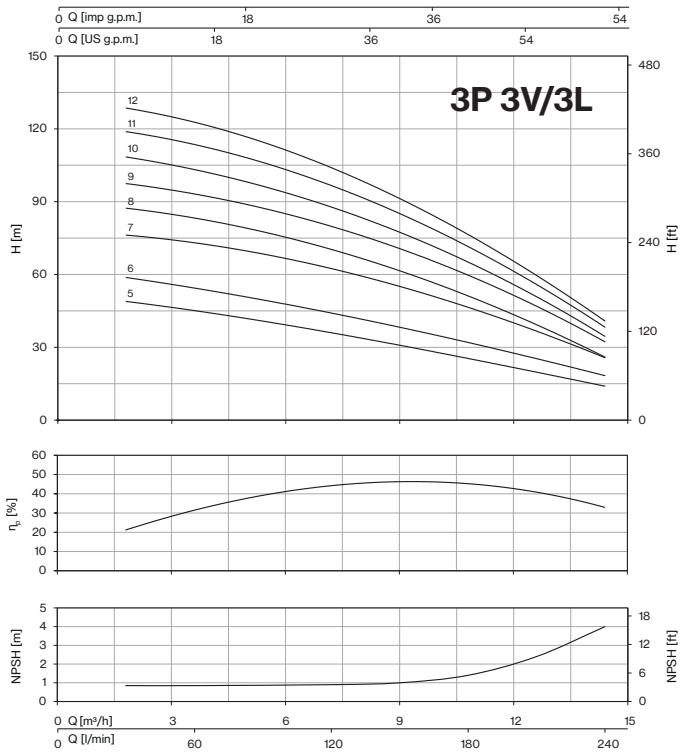
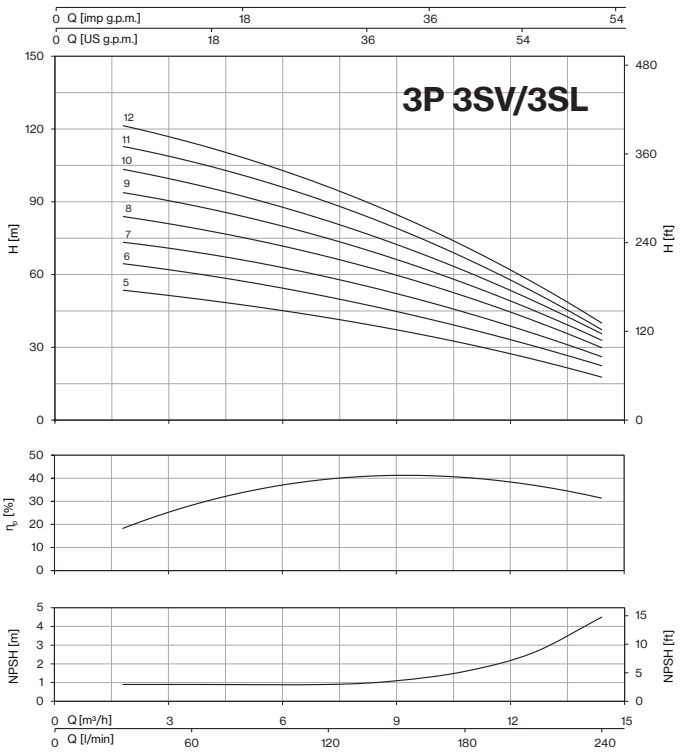
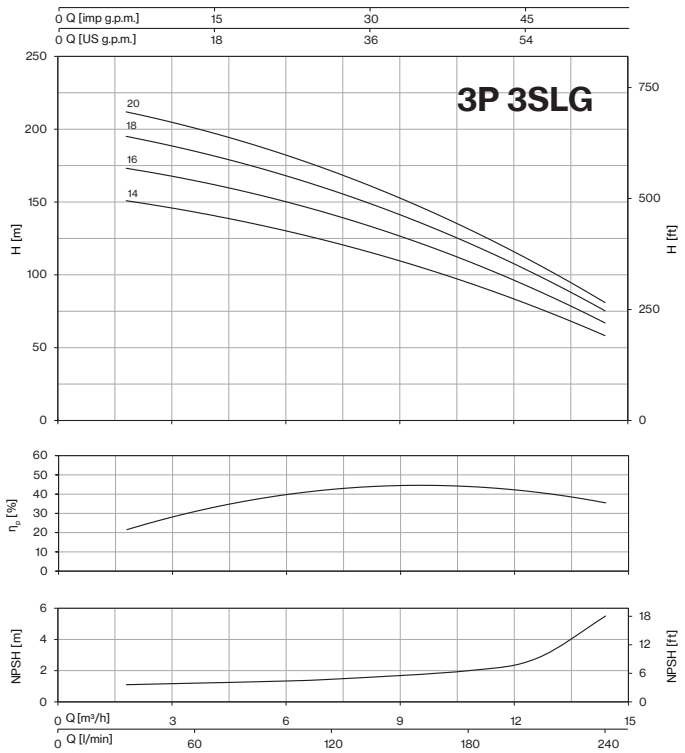
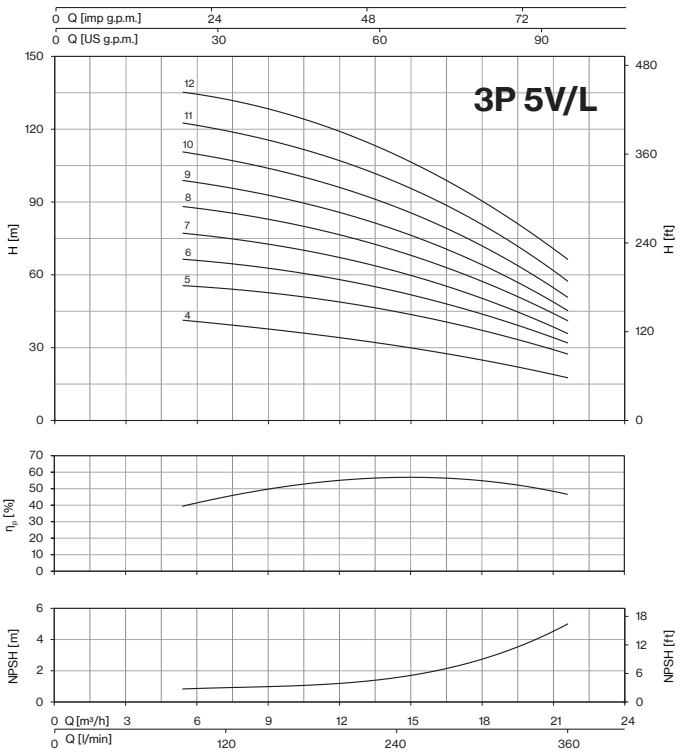
0 Q [US g.p.m.] 300 600 900
H [m] 0 40 80 120 160
H [ft] 0 180 360 540
5
4
3
2
2-2R
ηp [%] 20 30 40 50 60 70 80 90
NPSH [m] 0 2 4 6 8 10 12
NPSH [ft] 0 4 8 12 16 20 24 28 32 36
0 Q [m³/h] 40 80 120 160 200 240
0 Q [l/min] 1.000 2.000 3.000 4.000

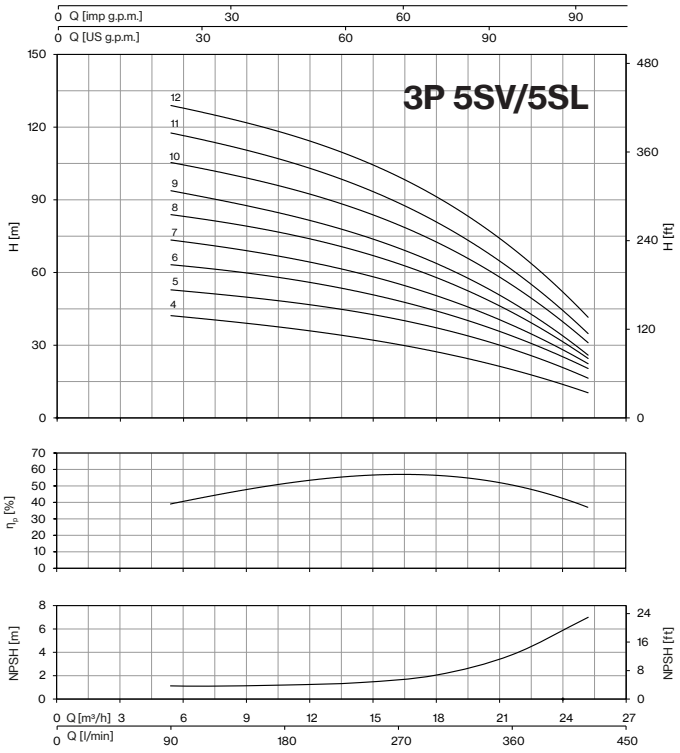
CURVES 3P VERTICAL

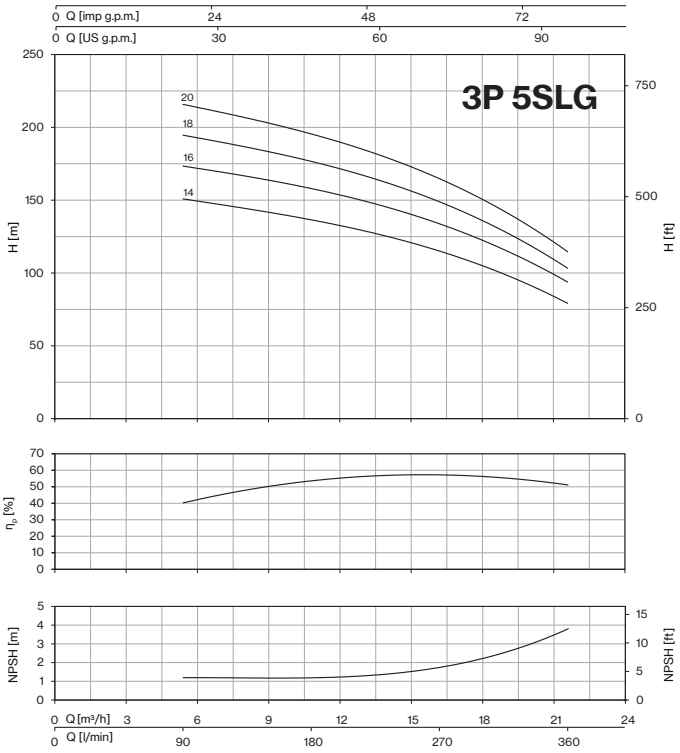


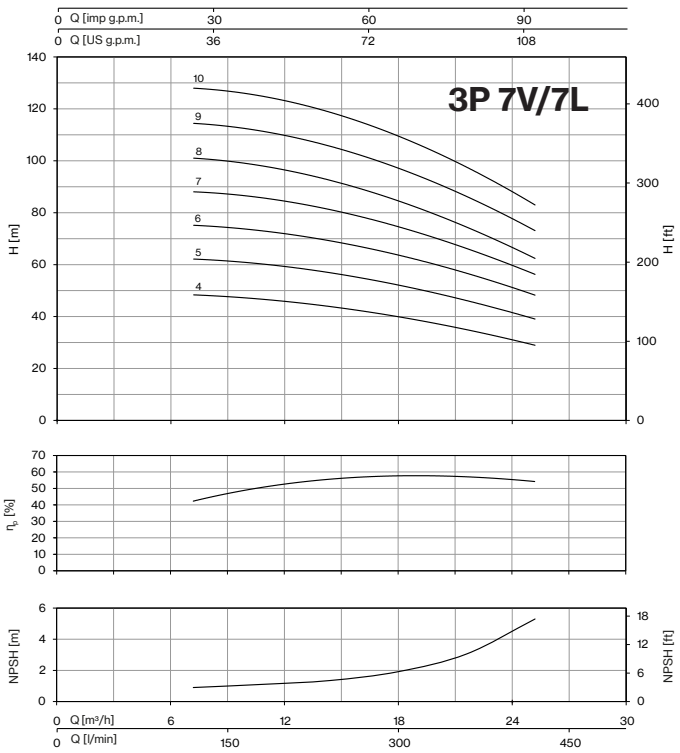


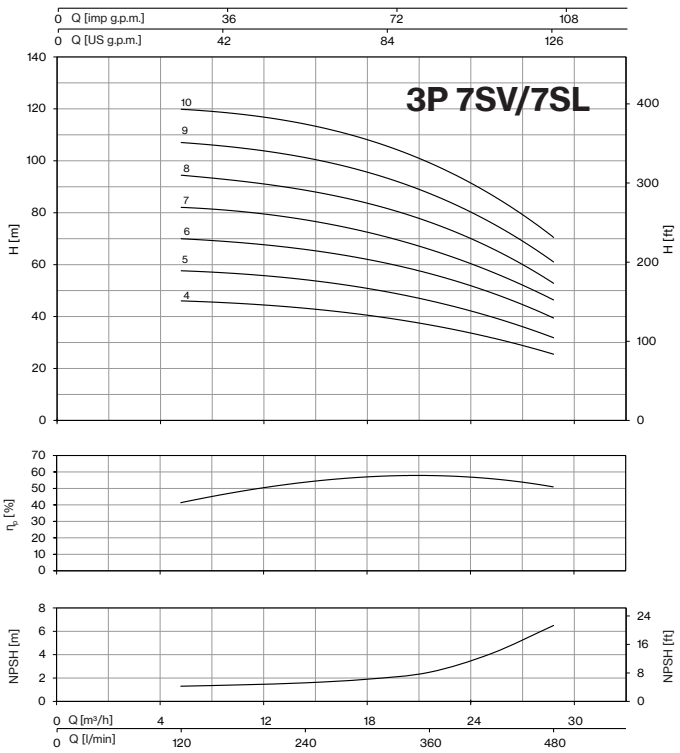





3P 5SV/5SL
0 Q [imp g.p.m.] 30 60 90
0 Q [US g.p.m.] 30 60 90
H [m]
H [ft]
12
11
10
9
8
7
6
5
4
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 3 6 9 12 15 18 21 24 27
0 Q [l/min] 90 180 270 360 450


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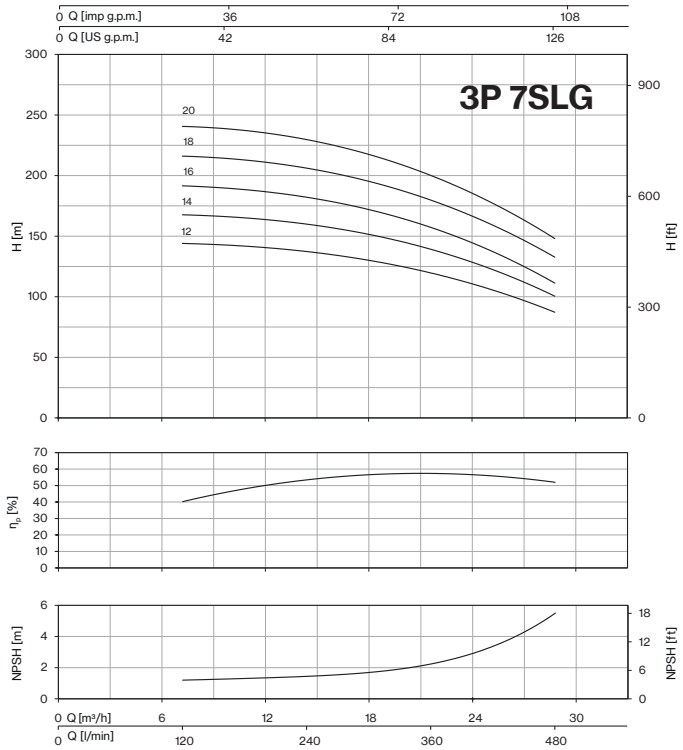
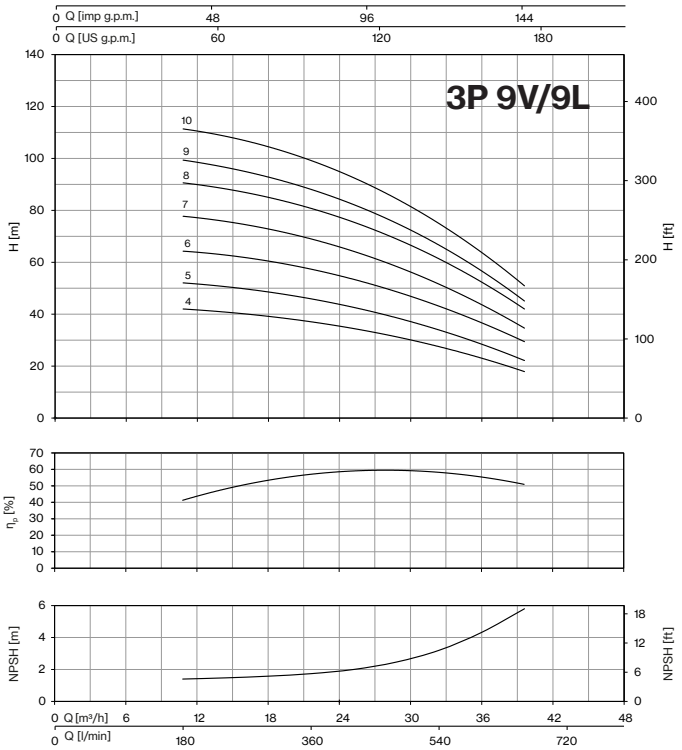
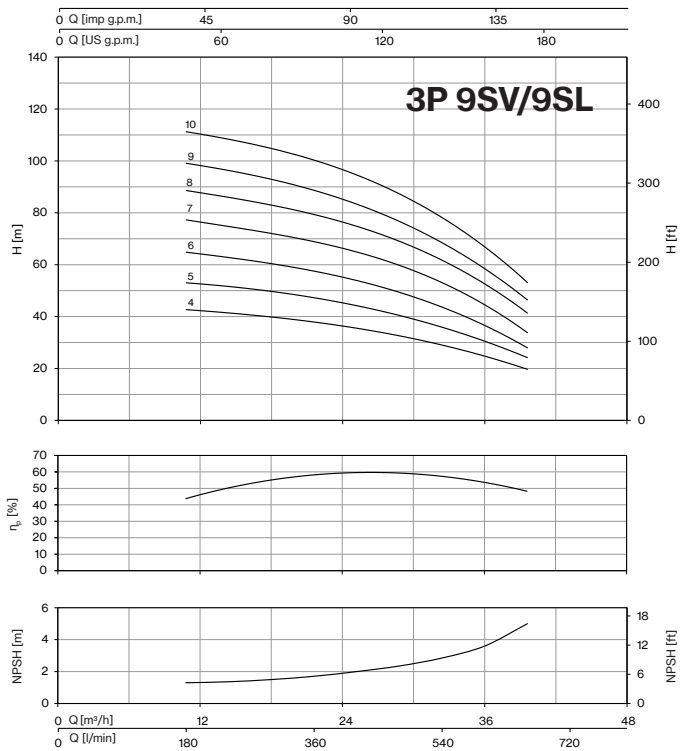
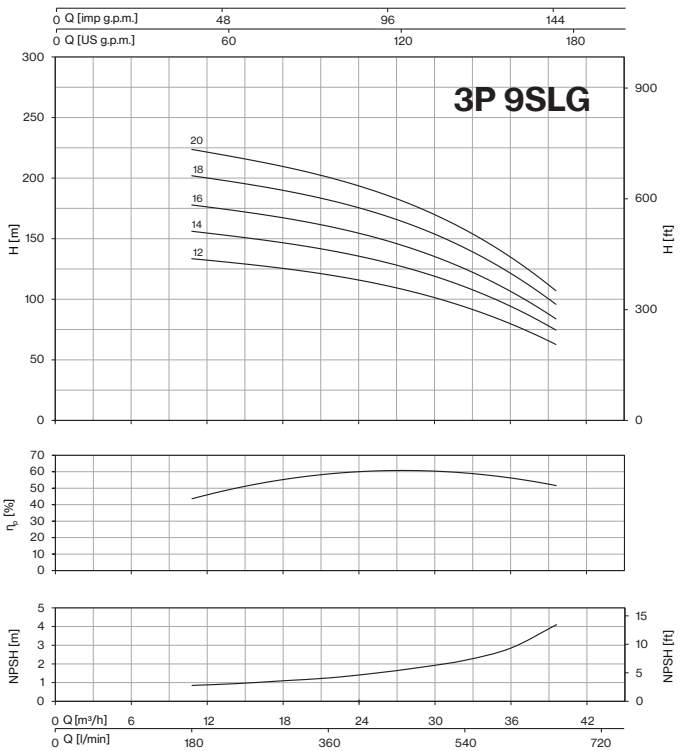
0 Q [US g.p.m.] 42 84 126
H [m]
H [ft]
10
9
8
7
6
5
4
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 4 12 18 24 30
0 Q [l/min] 120 240 360 480

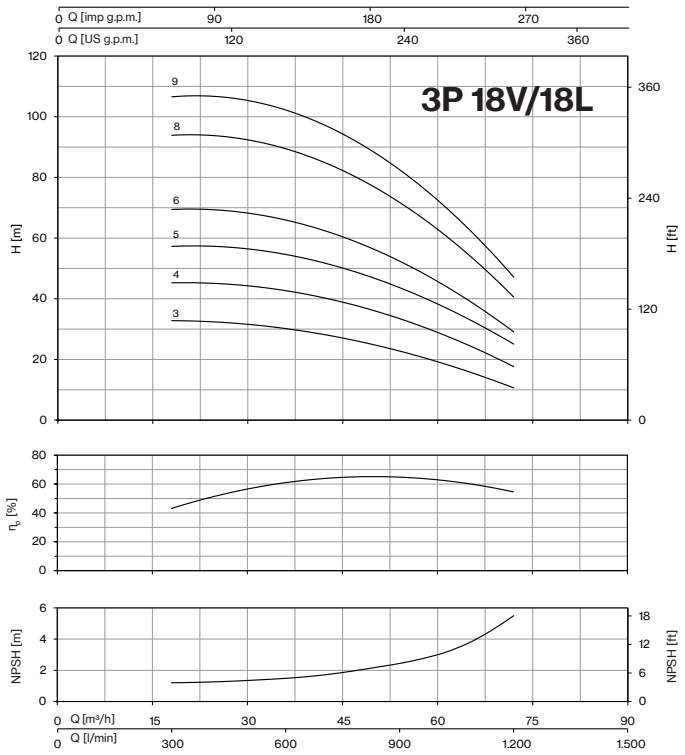
CURVES 3P VERTICAL

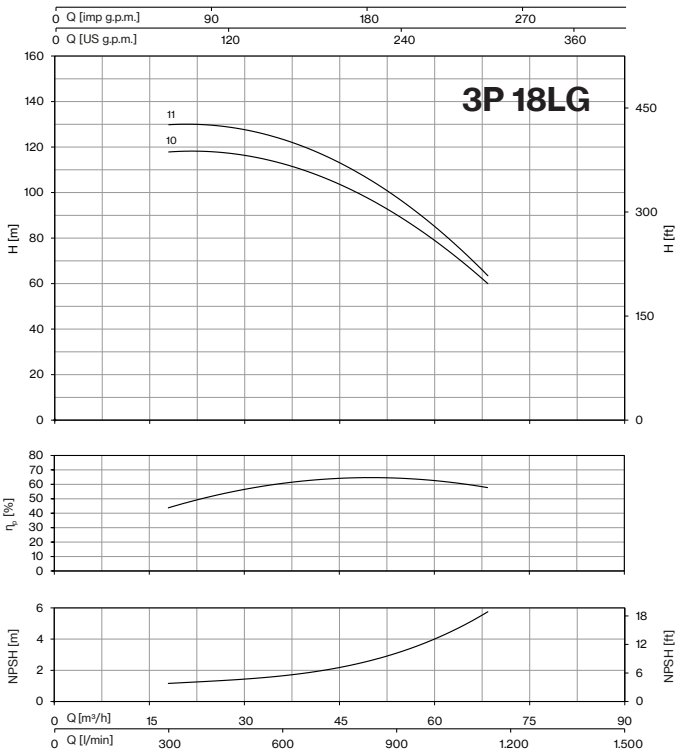


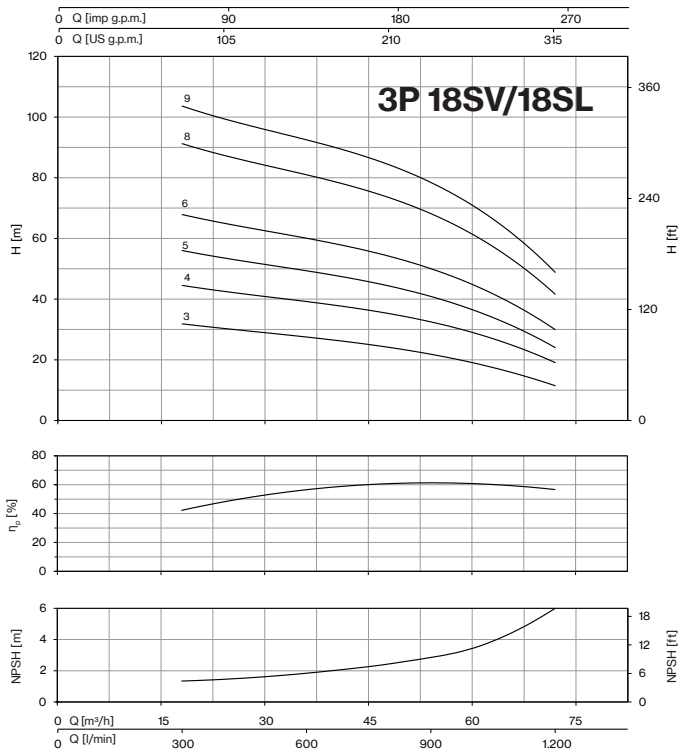




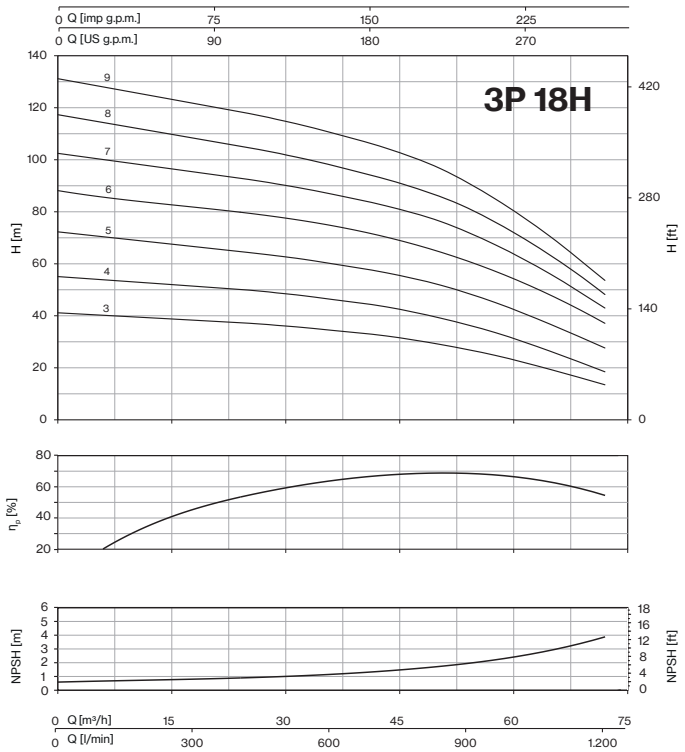


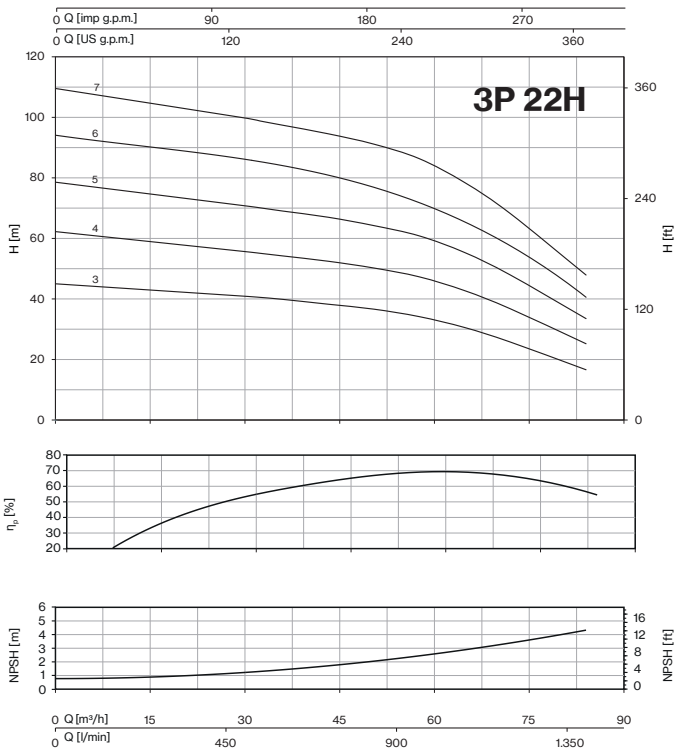

3P 18V/18L
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 120 240 360
H [m]
H [ft]
9
8
6
5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75 90
0 Q [l/min] 300 600 900 1.200 1.500

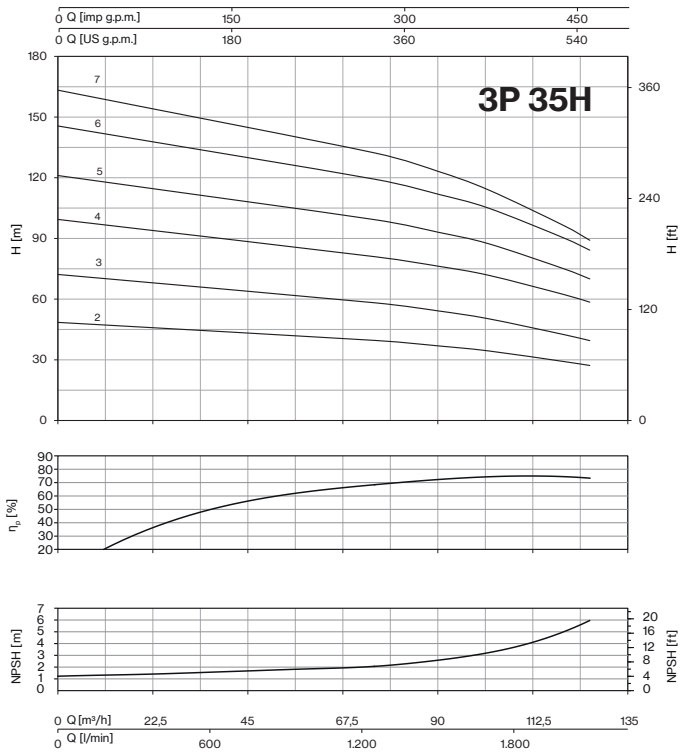

3P 18LG
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 120 240 360
H [m]
H [ft]
11
10
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75 90
0 Q [l/min] 300 600 900 1.200 1.500

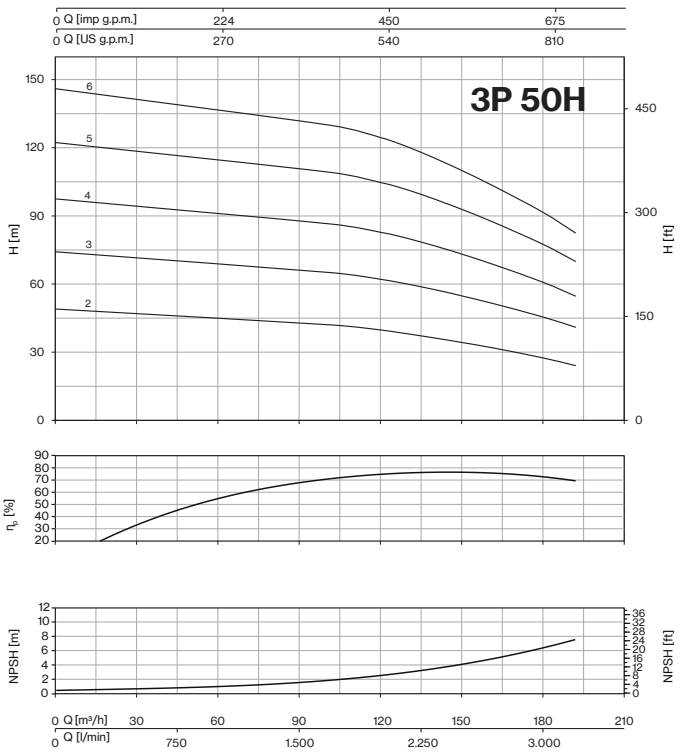

3P 18SV/18SL
0 Q [imp g.p.m.] 90 180 270
0 Q [US g.p.m.] 105 210 315
H [m]
H [ft]
9
8
6
5
4
3
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 15 30 45 60 75
0 Q [l/min] 300 600 900 1.200

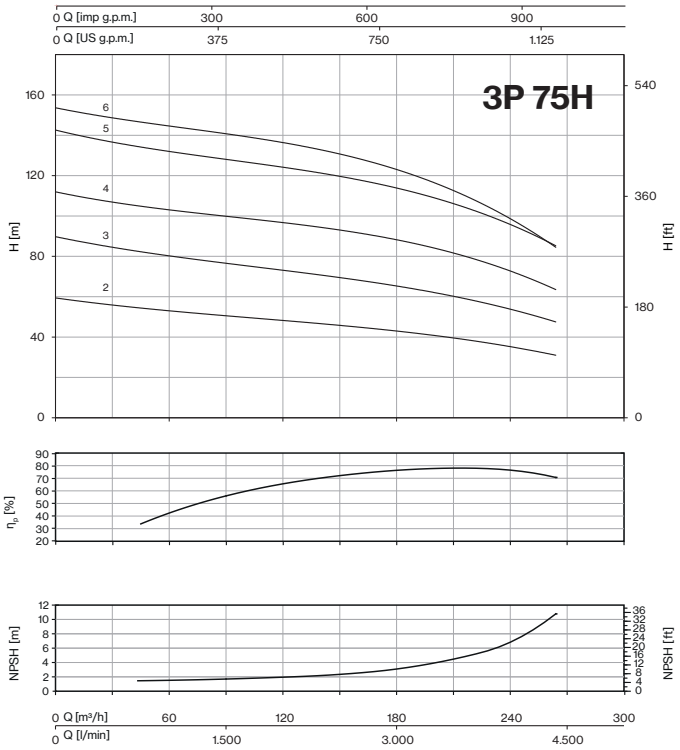
CURVES 3P VERTICAL

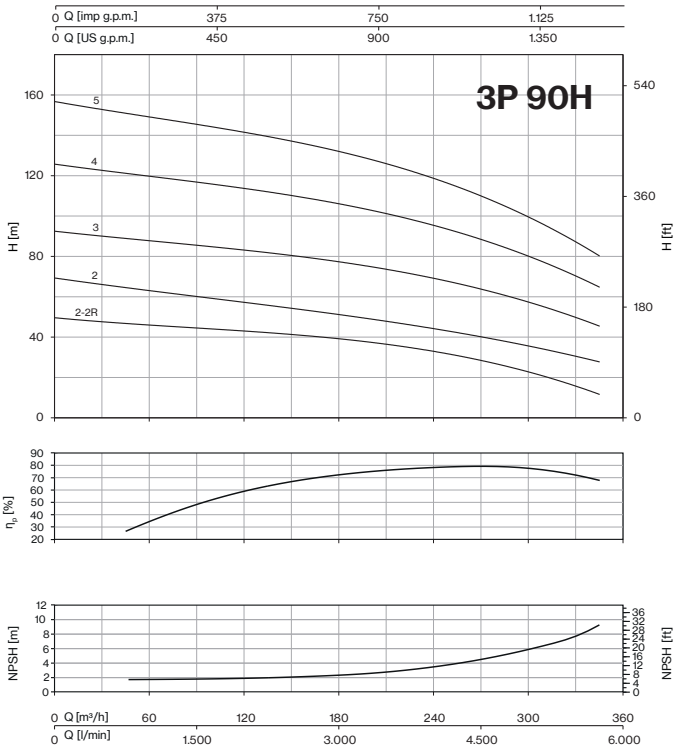


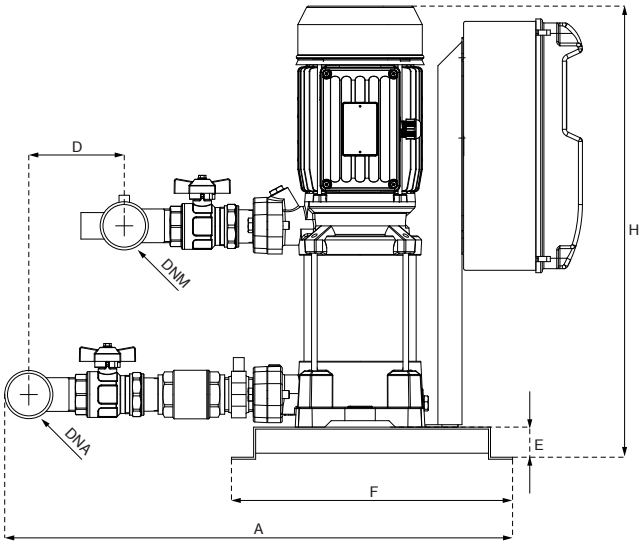


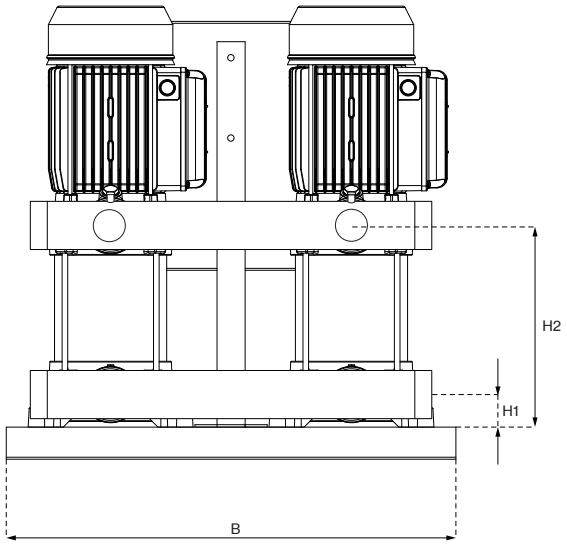





3P 75H
0 Q [imp g.p.m.] 300 600 900
0 Q [US g.p.m.] 375 750 1.125
H [m]
H [ft]
6
5
4
3
2
η_p [%]
NPSH [m]
NPSH [ft]
0 Q [m³/h] 60 120 180 240 300
0 Q [l/min] 1.500 3.000 4.500


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



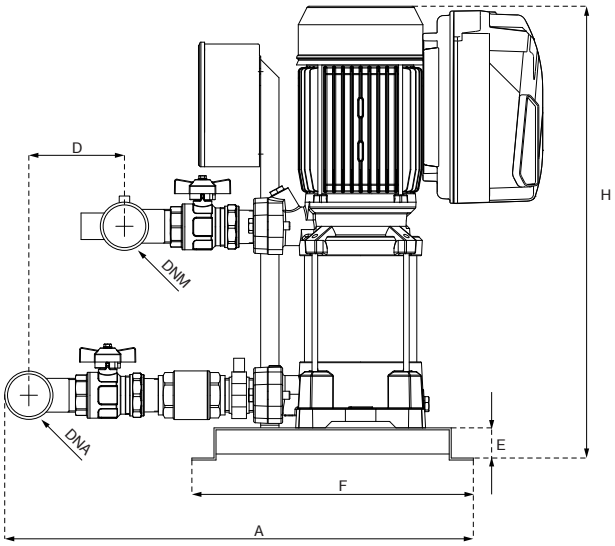


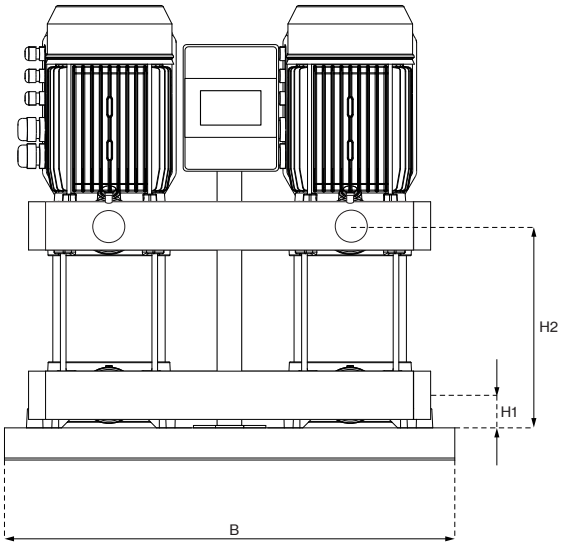
VERTICAL MODEL V		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm										
2P 3V-100/5	**2P 3V-100/5T**	1,06	1,01	4,8	1,9	633	560	100	40	350	453	40	202	2" G	1" ½ G	56
2P 3SV-100/5	**2P 3SV-100/5T**	0,99	0,92	4,4	1,7											
2P 3V-120/6	**2P 3V-120/6T**	1,23	1,23	5,6	2,6	633	560	100	40	350	477	40	226			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**	1,3	1,2	6,1	3	633	560	100	40	350	561	40	250			71
2P 3SV-150/7	**2P 3SV-150/7T**	1,4	1,4	6,6	3,1											
2P 3V-180/8	**2P 3V-180/8T**	1,5	1,4	7	3,1	633	560	100	40	350	585	40	274			71
2P 3SV-180/8	**2P 3SV-180/8T**	1,5	1,5	7	3,2											
2P 3V-200/9	**2P 3V-200/9T**	1,6	1,5	7,4	3,2	633	560	100	40	350	609	40	298			73
2P 3SV-200/9	**2P 3SV-200/9T**	1,7	1,6	7,6	3,3											
2P 3V-250/10	**2P 3V-250/10T**	1,7	1,7	7,9	3,5	633	560	100	40	350	633	40	322			76
2P 3SV-250/10	**2P 3SV-250/10T**	1,9	1,7	8,6	3,5											
2P 3V-280/11	**2P 3V-280/11T**	2	1,8	9,4	3,8	633	560	100	40	350	657	40	346			77
2P 3SV-280/11	**2P 3SV-280/11T**	2,1	1,9	9,8	3,9											
2P 3V-300/12	**2P 3V-300/12T**	2,1	2	9,8	4	633	560	100	40	350	681	40	370			77
2P 3SV-300/12	**2P 3SV-300/12T**	2,2	2,1	10,2	4,1											
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**	1,4	1,4	6,6	3,1	633	560	100	40	350	513	40	202			70
2P 5SV-150/5	**2P 5SV-150/5T**	1,4	1,3	6,6	3,1											
2P 5V-180/6	**2P 5V-180/6T**	1,6	1,6	7,4	3,3	633	560	100	40	350	537	40	226			71
2P 5SV-180/6	**2P 5SV-180/6T**	1,6	1,6	7,4	3,3											
2P 5V-200/7	**2P 5V-200/7T**	1,9	1,8	8,6	3,6	633	560	100	40	350	561	40	250			71
2P 5SV-200/7	**2P 5SV-200/7T**	1,9	1,8	8,6	3,6											
2P 5V-250/8	**2P 5V-250/8T**	2,2	2,1	9,9	4,1	633	560	100	40	350	585	40	274			71
2P 5SV-250/8	**2P 5SV-250/8T**	2,2	2,1	9,9	4,1											
2P 5V-280/9	**2P 5V-280/9T**	2,4	2,3	10,9	4,3	633	560	100	40	350	609	40	298			72
2P 5SV-280/9	**2P 5SV-280/9T**	2,4	2,3	10,9	4,3											
2P 5V-300/10	**2P 5V-300/10T**	2,7	2,6	12,5	4,9	633	560	100	40	350	633	40	322			74
2P 5SV-300/10	**2P 5SV-300/10T**	2,7	2,6	12,5	4,9											
-	**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 2P VERTICAL

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 7V-180/4	**2P 7V-180/4T**	1,7	1,6	7,9	3,3	673	560	152	40	350	462	40	178			77
2P 7SV-180/4	**2P 7SV-180/4T**	1,8	1,7	8,3	3,5											
2P 7V-250/5	**2P 7V-250/5T**	2,2	2	9,9	4	673	560	152	40	350	513	40	202			76
2P 7SV-250/5	**2P 7SV-250/5T**	2,2	2,1	9,9	4											
2P 7V-300/6	**2P 7V-300/6T**	2,5	2,4	11,5	4,7	673	560	152	40	350	537	40	226			79
2P 7SV-300/6	**2P 7SV-300/6T**	2,6	2,5	12,1	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**	1,8	1,7	8,3	3,5	673	560	152	40	350	513	40	202			75
2P 9SV-200/4	**2P 9SV-200/4T**	1,8	1,8	8,3	3,6											
2P 9V-250/5	**2P 9V-250/5T**	2,3	2,1	10,4	4,1	673	560	152	40	350	543	40	232			74
2P 9SV-250/5	**2P 9SV-250/5T**	2,3	2,2	10,4	4,2											
2P 9V-300/6	**2P 9V-300/6T**	2,8	2,6	12,8	5	673	560	152	40	350	573	40	262			76
2P 9SV-300/6	**2P 9SV-300/6T**	2,8	2,6	12,8	5											
-	**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**	-	2,2	-	4,2	720	620	133	40	350	521	50	211			85
-	**2P 18SV-250/3T**	-	2,3	-	4,3											
-	**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

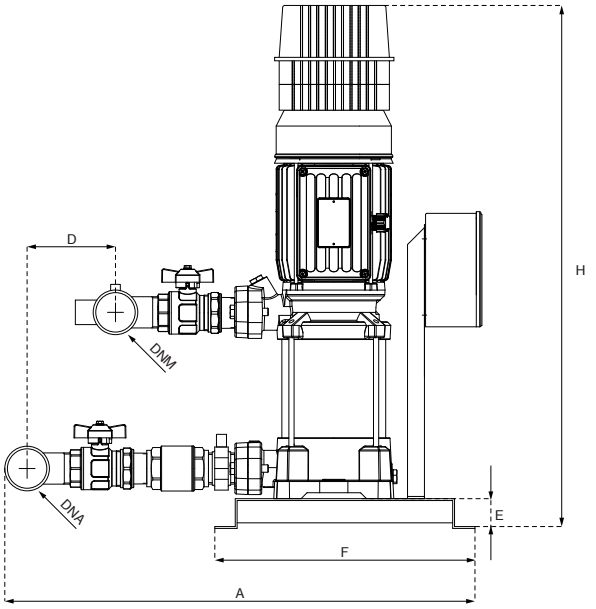


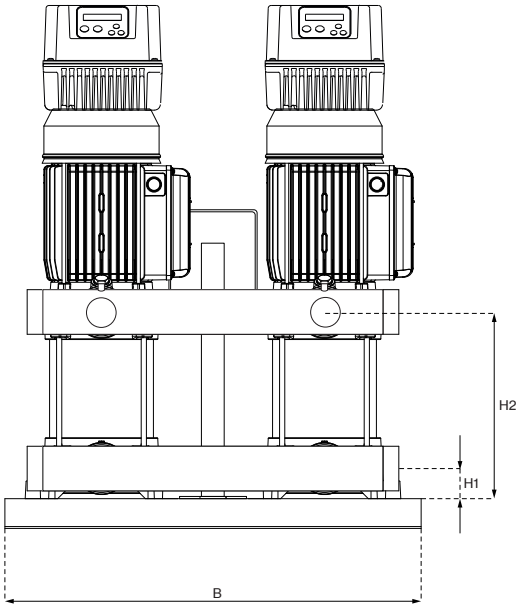


VERTICAL MODEL V		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 3V/E-100/5T	**2P 3V/A-100/5T-304**	1,01	3,3	1,9	2× 8	633	560	100	40	350	453	40	202			61
2P 3SV/E-100/5T	**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	226			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**	1,2	5,2	3	2× 8	633	560	100	40	350	561	40	250			76
2P 3SV/E-150/7T	**2P 3SV/A-150/7T-304**	1,4	5,4	3,1												
2P 3V/E-180/8T	**2P 3V/A-180/8T-304**	1,4	5,4	3,1	2× 8	633	560	100	40	350	585	40	274			76
2P 3SV/E-180/8T	**2P 3SV/A-180/8T-304**	1,5	5,5	3,2												
2P 3V/E-200/9T	**2P 3V/A-200/9T-304**	1,5	5,5	3,2	2× 8	633	560	100	40	350	609	40	298	2" G	1" ½ G	78
2P 3SV/E-200/9T	**2P 3SV/A-200/9T-304**	1,6	5,7	3,3												
2P 3V/E-250/10T	**2P 3V/A-250/10T-306**	1,7	6,1	3,5	2× 8	633	560	100	40	350	633	40	322			81
2P 3SV/E-250/10T	**2P 3SV/A-250/10T-306**	1,7	6,1	3,5												
2P 3V/E-280/11T	**2P 3V/A-280/11T-306**	1,8	6,6	3,8	2× 8	633	560	100	40	350	657	40	346			82
2P 3SV/E-280/11T	**2P 3SV/A-280/11T-306**	1,9	6,8	3,9												
-	**2P 3V/A-300/12T-306**	2	-	4	2× 8	633	560	100	40	350	681	40	370			82
-	**2P 3SV/A-300/12T-306**	2,1	-	4,1												
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**	1,4	5,4	3,1	2× 20	633	560	100	40	350	513	40	202			75
2P 5SV/E-150/5T	**2P 5SV/A-150/5T-304**	1,3	5,4	3,1												
2P 5V/E-180/6T	**2P 5V/A-180/6T-304**	1,6	5,7	3,3	2× 20	633	560	100	40	350	537	40	226			76
2P 5SV/E-180/6T	**2P 5SV/A-180/6T-304**	1,6	5,7	3,3												
2P 5V/E-200/7T	**2P 5V/A-200/7T-304**	1,8	6,2	3,6	2× 20	633	560	100	40	350	561	40	250			76
2P 5SV/E-200/7T	**2P 5SV/A-200/7T-304**	1,8	6,2	3,6												
2P 5V/E-250/8T	**2P 5V/A-250/8T-306**	2,1	7,1	4,1	2× 20	633	560	100	40	350	585	40	274	2" G	1" ½ G	76
2P 5SV/E-250/8T	**2P 5SV/A-250/8T-306**	2,1	7,1	4,1												
-	**2P 5V/A-280/9T-306**	2,3	-	4,3	2× 20	633	560	100	40	350	609	40	298			77
-	**2P 5SV/A-280/9T-306**	2,3	-	4,3												
-	**2P 5V/A-300/10T-306**	2,6	-	4,9	2× 20	633	560	100	40	350	633	40	322			79
-	**2P 5SV/A-300/10T-306**	2,6	-	4,9												
-	**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

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**	1,6	5,7	3,3	2× 20	673	560	152	40	350	462	40	178			82
2P 7SV/E-180/4T	**2P 7SV/A-180/4T-304**	1,7	6,1	3,5												
2P 7V/E-250/5T	**2P 7V/A-250/5T-306**	2	6,9	4	2× 20	673	560	152	40	350	513	40	202			81
2P 7SV/E-250/5T	**2P 7SV/A-250/5T-306**	2,1	6,9	4												
-	**2P 7V/A-300/6T-306**	2,4	-	4,7	2× 20	673	560	152	40	350	537	40	226			84
-	**2P 7SV/A-300/6T-306**	2,5	-	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**	1,7	6,1	3,5	2× 20	673	560	152	40	350	513	40	202			80
2P 9SV/E-200/4T	**2P 9SV/A-200/4T-304**	1,8	6,2	3,6												
-	**2P 9V/A-250/5T-306**	2,1	-	4,1	2× 20	673	560	152	40	350	543	40	232			79
-	**2P 9SV/A-250/5T-306**	2,2	-	4,2												
-	**2P 9V/A-300/6T-306**	2,6	-	5	2× 20	673	560	152	40	350	573	40	262			81
-	**2P 9SV/A-300/6T-306**	2,6	-	5												
-	**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 18V/A-250/3T-306**	2,2	-	4,2	1× 80	720	620	133	40	350	521	50	211			90
-	**2P 18SV/A-250/3T-306**	2,3	-	4,3												
-	**2P 18V/A-400/4T-309**	3	-	5,8	1× 80	720	620	133	40	350	613	50	248	3" G	2" ½ G	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												

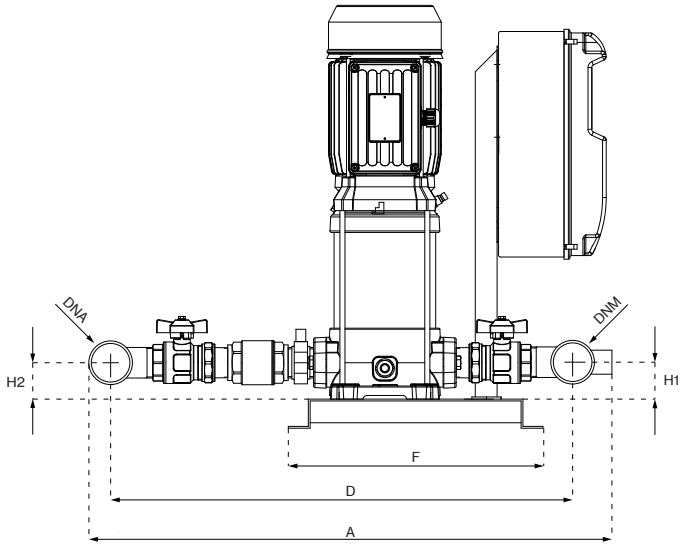


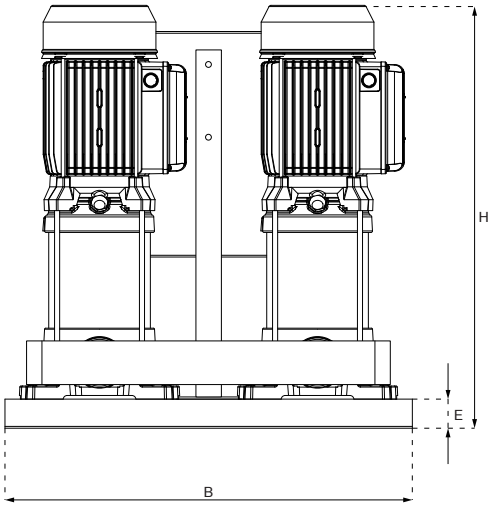


VERTICAL MODEL V IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm										
2P 3V/I-100/5T-109	**2P 3V/I-100/5T-306**	1,01	3,3	1,9	2× 8	633	560	100	40	350	615	40	202	2" G	1" ½ G	66
2P 3SV/I-100/5T-109	**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	639	40	226			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**	1,2	5,2	3	2× 8	633	560	100	40	350	723	40	250			81
2P 3SV/I-150/7T-109	**2P 3SV/I-150/7T-306**	1,4	5,4	3,1												
2P 3V/I-180/8T-109	**2P 3V/I-180/8T-306**	1,4	5,4	3,1	2× 8	633	560	100	40	350	747	40	274			81
2P 3SV/I-180/8T-109	**2P 3SV/I-180/8T-306**	1,5	5,5	3,2												
2P 3V/I-200/9T-109	**2P 3V/I-200/9T-306**	1,5	5,5	3,2	2× 8	633	560	100	40	350	771	40	298			83
2P 3SV/I-200/9T-109	**2P 3SV/I-200/9T-306**	1,6	5,7	3,3												
2P 3V/I-250/10T-114	**2P 3V/I-250/10T-306**	1,7	6,1	3,5	2× 8	633	560	100	40	350	795	40	322			86
2P 3SV/I-250/10T-114	**2P 3SV/I-250/10T-306**	1,7	6,1	3,5												
2P 3V/I-280/11T-114	**2P 3V/I-280/11T-306**	1,8	6,6	3,8	2× 8	633	560	100	40	350	819	40	346			87
2P 3SV/I-280/11T-114	**2P 3SV/I-280/11T-306**	1,9	6,8	3,9												
2P 3V/I-300/12T-114	**2P 3V/I-300/12T-306**	2	6,9	4	2× 8	633	560	100	40	350	843	40	370			87
2P 3SV/I-300/12T-114	**2P 3SV/I-300/12T-306**	2,1	7,1	4,1												
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	591	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**	1,4	5,4	3,1	2× 20	633	560	100	40	350	675	40	202			80
2P 5SV/I-150/5T-109	**2P 5SV/I-150/5T-306**	1,3	5,4	3,1												
2P 5V/I-180/6T-109	**2P 5V/I-180/6T-306**	1,6	5,7	3,3	2× 20	633	560	100	40	350	699	40	226			81
2P 5SV/I-180/6T-109	**2P 5SV/I-180/6T-306**	1,6	5,7	3,3												
2P 5V/I-200/7T-109	**2P 5V/I-200/7T-306**	1,8	6,2	3,6	2× 20	633	560	100	40	350	723	40	250			81
2P 5SV/I-200/7T-109	**2P 5SV/I-200/7T-306**	1,8	6,2	3,6												
2P 5V/I-250/8T-114	**2P 5V/I-250/8T-306**	2,1	7,1	4,1	2× 20	633	560	100	40	350	747	40	274			81
2P 5SV/I-250/8T-114	**2P 5SV/I-250/8T-306**	2,1	7,1	4,1												
2P 5V/I-280/9T-114	**2P 5V/I-280/9T-306**	2,3	7,5	4,3	2× 20	633	560	100	40	350	771	40	298			82
2P 5SV/I-280/9T-114	**2P 5SV/I-280/9T-306**	2,3	7,5	4,3												
2P 5V/I-300/10T-114	**2P 5V/I-300/10T-306**	2,6	8,5	4,9	2× 20	633	560	100	40	350	795	40	322			84
2P 5SV/I-300/10T-114	**2P 5SV/I-300/10T-306**	2,6	8,5	4,9												
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	874	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	898	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

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**	1,6	5,7	3,3	2× 20	673	560	152	40	350	624	40	178			87
2P 7SV/I-180/4T-109	**2P 7SV/I-180/4T-306**	1,7	6,1	3,5												
2P 7V/I-250/5T-114	**2P 7V/I-250/5T-306**	2	6,9	4	2× 20	673	560	152	40	350	675	40	202			86
2P 7SV/I-250/5T-114	**2P 7SV/I-250/5T-306**	2,1	6,9	4												
2P 7V/I-300/6T-114	**2P 7V/I-300/6T-306**	2,4	8,1	4,7	2× 20	673	560	152	40	350	699	40	226			89
2P 7SV/I-300/6T-114	**2P 7SV/I-300/6T-306**	2,5	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	777	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	802	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	855	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	878	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**	1,7	6,1	3,5	2× 20	673	560	152	40	350	675	40	202			85
2P 9SV/I-200/4T-109	**2P 9SV/I-200/4T-306**	1,8	6,2	3,6												
2P 9V/I-250/5T-114	**2P 9V/I-250/5T-306**	2,1	7,1	4,1	2× 20	673	560	152	40	350	705	40	232			84
2P 9SV/I-250/5T-114	**2P 9SV/I-250/5T-306**	2,2	7,3	4,2												
2P 9V/I-300/6T-114	**2P 9V/I-300/6T-306**	2,6	8,7	5	2× 20	673	560	152	40	350	735	40	262			86
2P 9SV/I-300/6T-114	**2P 9SV/I-300/6T-306**	2,6	8,7	5												
-	**2P 9V/I-400/7T-309**	3	-	5,8	2× 20	673	560	152	40	350	819	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	879	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	909	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	939	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**	2,2	7,3	4,2	1× 80	720	620	133	40	350	683	50	211			95
2P 18SV/I-250/3T-114	**2P 18SV/I-250/3T-306**	2,3	7,5	4,3												
-	**2P 18V/I-400/4T-309**	3	-	5,8	1× 80	720	620	133	40	350	776	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	842	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	880	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								DNA	DNM	Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2			
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**	1,3	1,2	6,1	3	700	560	615	40	350	577	50	50			74
2P 3SL-150/7	**2P 3SL-150/7T**	1,4	1,4	6,6	3,1											
2P 3L-180/8	**2P 3L-180/8T**	1,5	1,4	7	3,1	700	560	615	40	350	601	50	50			74
2P 3SL-180/8	**2P 3SL-180/8T**	1,5	1,5	7	3,2											
2P 3L-200/9	**2P 3L-200/9T**	1,6	1,5	7,4	3,2	700	560	615	40	350	625	50	50			74
2P 3SL-200/9	**2P 3SL-200/9T**	1,7	1,6	7,6	3,3											
2P 3L-250/10	**2P 3L-250/10T**	1,7	1,7	7,9	3,5	700	560	615	40	350	649	50	50			81
2P 3SL-250/10	**2P 3SL-250/10T**	1,9	1,7	8,6	3,5											
2P 3L-280/11	**2P 3L-280/11T**	2	1,8	9,4	3,8	700	560	615	40	350	673	50	50			81
2P 3SL-280/11	**2P 3SL-280/11T**	2,1	1,9	9,8	3,9											
2P 3L-300/12	**2P 3L-300/12T**	2,1	2	9,8	4	700	560	615	40	350	697	50	50			81
2P 3SL-300/12	**2P 3SL-300/12T**	2,2	2,1	10,2	4,1											
-	**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**	1,4	1,4	6,6	3,1	700	560	615	40	350	529	50	50			74
2P 5SL-150/5	**2P 5SL-150/5T**	1,4	1,3	6,6	3,1											
2P 5L-180/6	**2P 5L-180/6T**	1,6	1,6	7,4	3,3	700	560	615	40	350	553	50	50			75
2P 5SL-180/6	**2P 5SL-180/6T**	1,6	1,6	7,4	3,3											
2P 5L-200/7	**2P 5L-200/7T**	1,9	1,8	8,6	3,6	700	560	615	40	350	577	50	50			75
2P 5SL-200/7	**2P 5SL-200/7T**	1,9	1,8	8,6	3,6											
2P 5L-250/8	**2P 5L-250/8T**	2,2	2,1	9,9	4,1	700	560	615	40	350	601	50	50			75
2P 5SL-250/8	**2P 5SL-250/8T**	2,2	2,1	9,9	4,1											
2P 5L-280/9	**2P 5L-280/9T**	2,4	2,3	10,9	4,3	700	560	615	40	350	625	50	50			77
2P 5SL-280/9	**2P 5SL-280/9T**	2,4	2,3	10,9	4,3											
2P 5L-300/10	**2P 5L-300/10T**	2,7	2,6	12,5	4,9	700	560	615	40	350	649	50	50			79
2P 5SL-300/10	**2P 5SL-300/10T**	2,7	2,6	12,5	4,9											
-	**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											

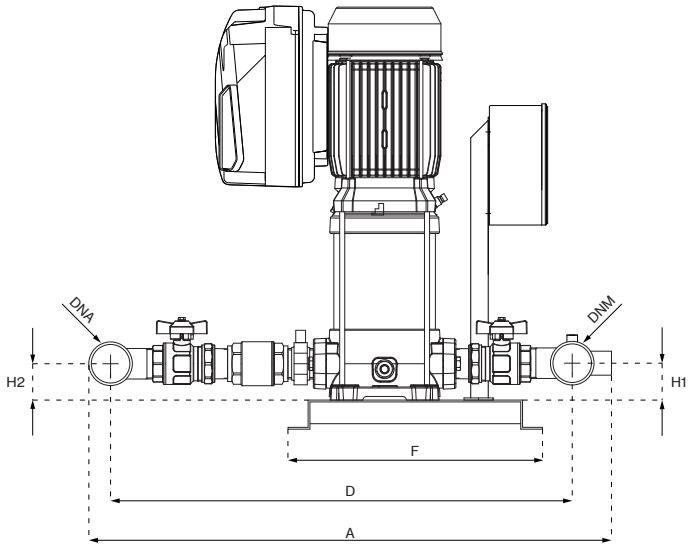
Dimensions and weights may differ slightly and therefore should be considered as indicative

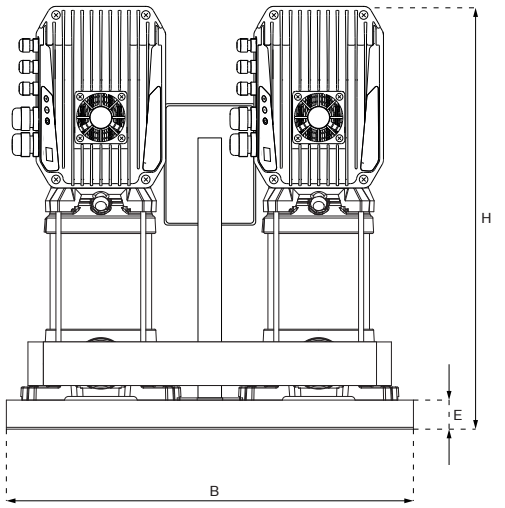
DIMENSIONS 2P VERTICAL

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~ 230V	3~ 400V	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	1,7	1,6	7,9	3,3	760	560	670	40	350	505	50	50	2" ½ G	2" G	81
2P 7SL-180/4	2P 7SL-180/4T	1,8	1,7	8,3	3,5											
2P 7L-250/5	2P 7L-250/5T	2,2	2	9,9	4	760	560	670	40	350	529	50	50			80
2P 7SL-250/5	2P 7SL-250/5T	2,2	2,1	9,9	4											
2P 7L-300/6	2P 7L-300/6T	2,5	2,4	11,5	4,7	760	560	670	40	350	553	50	50			83
2P 7SL-300/6	2P 7SL-300/6T	2,6	2,5	12,1	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	1,8	1,7	8,3	3,5	780	560	670	40	350	560	80	80	2" ½ G	2" G	86
2P 9SL-200/4	2P 9SL-200/4T	1,8	1,8	8,3	3,6											
2P 9L-250/5	2P 9L-250/5T	2,3	2,1	10,4	4,1	780	560	670	40	350	590	80	80			85
2P 9SL-250/5	2P 9SL-250/5T	2,3	2,2	10,4	4,2											
2P 9L-300/6	2P 9L-300/6T	2,8	2,6	12,8	5	780	560	670	40	350	620	80	80			87
2P 9SL-300/6	2P 9SL-300/6T	2,8	2,6	12,8	5											
-	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	-	2,2	-	4,2	850	620	750	40	350	522	90	90	3" G	2" ½ G	96
-	2P 18SL-250/3T	-	2,3	-	4,3											
-	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

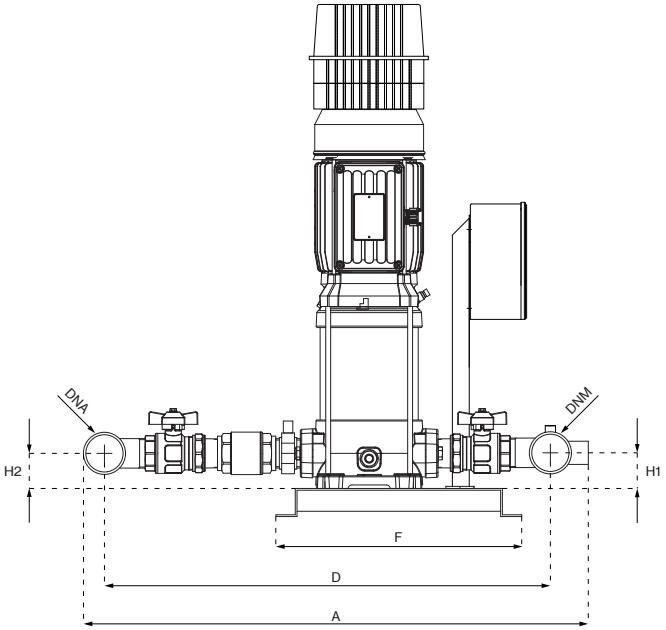


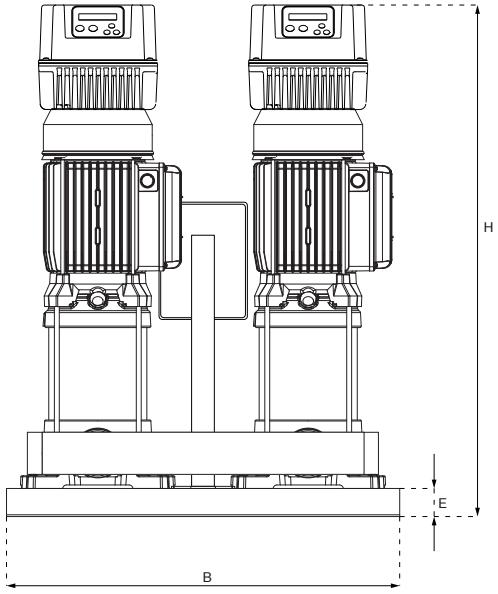


VERTICAL MODEL L		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×2)	A (×2)		Lt	mm										
2P 3L/E-100/5T	**2P 3L/A-100/5T-304**	1,01	3,3	1,9	2× 8	700	560	615	40	350	469	50	50			62
2P 3SL/E-100/5T	**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**	1,2	5,2	3	2× 8	700	560	615	40	350	577	50	50			79
2P 3SL/E-150/7T	**2P 3SL/A-150/7T-304**	1,4	5,4	3,1												
2P 3L/E-180/8T	**2P 3L/A-180/8T-304**	1,4	5,4	3,1	2× 8	700	560	615	40	350	601	50	50			79
2P 3SL/E-180/8T	**2P 3SL/A-180/8T-304**	1,5	5,5	3,2												
2P 3L/E-200/9T	**2P 3L/A-200/9T-304**	1,5	5,5	3,2	2× 8	700	560	615	40	350	625	50	50			79
2P 3SL/E-200/9T	**2P 3SL/A-200/9T-304**	1,6	5,7	3,3												
2P 3L/E-250/10T	**2P 3L/A-250/10T-306**	1,7	6,1	3,5	2× 8	700	560	615	40	350	649	50	50	2" G	1" ½ G	86
2P 3SL/E-250/10T	**2P 3SL/A-250/10T-306**	1,7	6,1	3,5												
2P 3L/E-280/11T	**2P 3L/A-280/11T-306**	1,8	6,6	3,8	2× 8	700	560	615	40	350	673	50	50			86
2P 3SL/E-280/11T	**2P 3SL/A-280/11T-306**	1,9	6,8	3,9												
-	**2P 3L/A-300/12T-306**	2	-	4	2× 8	700	560	615	40	350	697	50	50			87
-	**2P 3SL/A-300/12T-306**	2,1	-	4,1												
-	**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**	1,4	5,4	3,1	2× 20	700	560	615	40	350	529	50	50			79
2P 5SL/E-150/5T	**2P 5SL/A-150/5T-304**	1,3	5,4	3,1												
2P 5L/E-180/6T	**2P 5L/A-180/6T-304**	1,6	5,7	3,3	2× 20	700	560	615	40	350	553	50	50			80
2P 5SL/E-180/6T	**2P 5SL/A-180/6T-304**	1,6	5,7	3,3												
2P 5L/E-200/7T	**2P 5L/A-200/7T-304**	1,8	6,2	3,6	2× 20	700	560	615	40	350	577	50	50			80
2P 5SL/E-200/7T	**2P 5SL/A-200/7T-304**	1,8	6,2	3,6												
2P 5L/E-250/8T	**2P 5L/A-250/8T-306**	2,1	7,1	4,1	2× 20	700	560	615	40	350	601	50	50	2" G	1" ½ G	80
2P 5SL/E-250/8T	**2P 5SL/A-250/8T-306**	2,1	7,1	4,1												
-	**2P 5L/A-280/9T-306**	2,3	-	4,3	2× 20	700	560	615	40	350	625	50	50			82
-	**2P 5SL/A-280/9T-306**	2,3	-	4,3												
-	**2P 5L/A-300/10T-306**	2,6	-	4,9	2× 20	700	560	615	40	350	649	50	50			84
-	**2P 5SL/A-300/10T-306**	2,6	-	4,9												
-	**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

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	2" G	1" ½ G	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			125
-	**2P 5SLG/A-450/16T-309**	4,1	-	7,9	2× 20	815	560	730	40	350	1040	75	75			149
2P 7L/E-180/4T	**2P 7L/A-180/4T-304**	1,6	5,7	3,3	2× 20	760	560	670	40	350	505	50	50	2" ½ G	2" G	86
2P 7SL/E-180/4T	**2P 7SL/A-180/4T-304**	1,7	6,1	3,5												
2P 7L/E-250/5T	**2P 7L/A-250/5T-306**	2	6,9	4	2× 20	760	560	670	40	350	529	50	50			85
2P 7L/E-250/5T	**2P 7L/A-250/5T-306**	2,1	6,9	4												
-	**2P 7L/A-300/6T-306**	2,4	-	4,7	2× 20	760	560	670	40	350	553	50	50			88
-	**2P 7SL/A-300/6T-306**	2,5	-	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			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 9L/E-200/4T	**2P 9L/A-200/4T-304**	1,7	6,1	3,5	2× 20	780	560	670	40	350	560	80	80	2" ½ G	2" G	91
2P 9SL/E-200/4T	**2P 9SL/A-200/4T-304**	1,8	6,2	3,6												
-	**2P 9L/A-250/5T-306**	2,1	-	4,1	2× 20	780	560	670	40	350	590	80	80			90
-	**2P 9SL/A-250/5T-306**	2,2	-	4,2												
-	**2P 9L/A-300/6T-306**	2,6	-	5	2× 20	780	560	670	40	350	620	80	80			92
-	**2P 9SL/A-300/6T-306**	2,6	-	5												
-	**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			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 18L/A-250/3T-306**	2,2	-	4,2	1× 80	850	620	750	40	350	522	90	90	3" G	2" ½ G	101
-	**2P 18SL/A-250/3T-306**	2,3	-	4,3												
-	**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												





VERTICAL MODEL L		P1	In		Required tank	DIMENSIONS										Kg
IPFC			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/I-100/5T-109	**2P 3L/I-100/5T-306**	1,01	3,3	1,9	2× 8	700	560	615	40	350	631	50	50			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	655	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**	1,2	5,2	3	2× 8	700	560	615	40	350	739	50	50			84
2P 3SL/I-150/7T-109	**2P 3SL/I-150/7T-306**	1,4	5,4	3,1												
2P 3L/I-180/8T-109	**2P 3L/I-180/8T-306**	1,4	5,4	3,1	2× 8	700	560	615	40	350	763	50	50			84
2P 3SL/I-180/8T-109	**2P 3SL/I-180/8T-306**	1,5	5,5	3,2												
2P 3L/I-200/9T-109	**2P 3L/I-200/9T-306**	1,5	5,5	3,2	2× 8	700	560	615	40	350	787	50	50			84
2P 3SL/I-200/9T-109	**2P 3SL/I-200/9T-306**	1,6	5,7	3,3												
2P 3L/I-250/10T-114	**2P 3L/I-250/10T-306**	1,7	6,1	3,5	2× 8	700	560	615	40	350	811	50	50	2" G	1" ½ G	91
2P 3SL/I-250/10T-114	**2P 3SL/I-250/10T-306**	1,7	6,1	3,5												
2P 3L/I-280/11T-114	**2P 3L/I-280/11T-306**	1,8	6,6	3,8	2× 8	700	560	615	40	350	835	50	50			91
2P 3SL/I-280/11T-114	**2P 3SL/I-280/11T-306**	1,9	6,8	3,9												
2P 3L/I-300/12T-114	**2P 3L/I-300/12T-306**	2	6,9	4	2× 8	700	560	615	40	350	859	50	50			91
2P 3SL/I-300/12T-114	**2P 3SL/I-300/12T-306**	2,1	7,1	4,1												
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	1134	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	1179	75	75			133
-	**2P 3SLG/I-400/18T-309**	3,2	-	6	2× 8	815	560	730	40	350	1227	75	75			137
-	**2P 3SLG/I-450/20T-309**	3,6	-	6,5	2× 8	815	560	730	40	350	1300	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	607	50	50			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**	1,4	5,4	3,1	2× 20	700	560	615	40	350	691	50	50			84
2P 5SL/I-150/5T-109	**2P 5SL/I-150/5T-306**	1,3	5,4	3,1												
2P 5L/I-180/6T-109	**2P 5L/I-180/6T-306**	1,6	5,7	3,3	2× 20	700	560	615	40	350	715	50	50			85
2P 5SL/I-180/6T-109	**2P 5SL/I-180/6T-306**	1,6	5,7	3,3												
2P 5L/I-200/7T-109	**2P 5L/I-200/7T-306**	1,8	6,2	3,6	2× 20	700	560	615	40	350	739	50	50			85
2P 5SL/I-200/7T-109	**2P 5SL/I-200/7T-306**	1,8	6,2	3,6												
2P 5L/I-250/8T-114	**2P 5L/I-250/8T-306**	2,1	7,1	4,1	2× 20	700	560	615	40	350	763	50	50	2" G	1" ½ G	85
2P 5SL/I-250/8T-114	**2P 5SL/I-250/8T-306**	2,1	7,1	4,1												
2P 5L/I-280/9T-114	**2P 5L/I-280/9T-306**	2,3	7,5	4,3	2× 20	700	560	615	40	350	787	50	50			87
2P 5SL/I-280/9T-114	**2P 5SL/I-280/9T-306**	2,3	7,5	4,3												
2P 5L/I-300/10T-114	**2P 5L/I-300/10T-306**	2,6	8,5	4,9	2× 20	700	560	615	40	350	811	50	50			89
2P 5SL/I-300/10T-114	**2P 5SL/I-300/10T-306**	2,6	8,5	4,9												
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	889	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

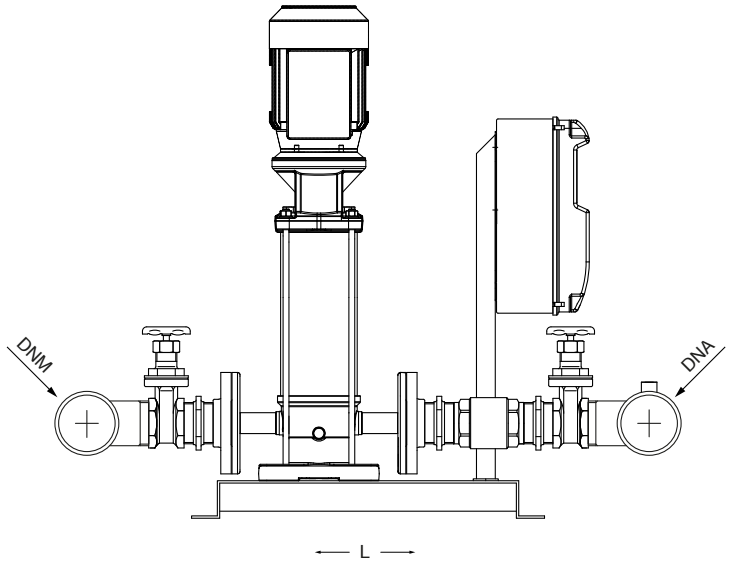
DIMENSIONS 2P VERTICAL

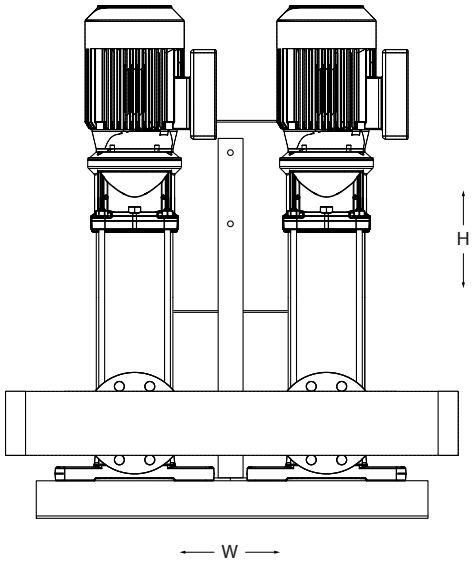
2P L

Variable speed IPFC

VERTICAL MODEL L		P1	In		Required tank	DIMENSIONS										Kg
IPFC			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/I-380/12T-309	3,2	-	6	2× 20	700	560	615	40	350	913	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	1134	75	75			130
-	2P 5SLG/I-450/16T-309	4,1	-	7,9	2× 20	815	560	730	40	350	1202	75	75			154
-	2P 5SLG/I-550/18T-311	4,5	-	8,3	2× 20	815	560	730	40	350	1250	75	75			158
-	2P 5SLG/I-600/20T-311	5	-	8,9	2× 20	815	560	730	40	350	1300	75	75			161
2P 7L/I-180/4T-109	2P 7L/I-180/4T-306	1,6	5,7	3,3	2× 20	760	560	670	40	350	667	50	50	2" ½ G	2" G	91
2P 7SL/I-180/4T-109	2P 7SL/I-180/4T-306	1,7	6,1	3,5												
2P 7L/I-250/5T-114	2P 7L/I-250/5T-306	2	6,9	4	2× 20	760	560	670	40	350	691	50	50			90
2P 7SL/I-250/5T-114	2P 7SL/I-250/5T-306	2,1	6,9	4												
2P 7L/I-300/6T-114	2P 7L/I-300/6T-306	2,4	8,1	4,7	2× 20	760	560	670	40	350	715	50	50			93
2P 7SL/I-300/6T-114	2P 7SL/I-300/6T-306	2,5	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	792	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	816	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	870	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	894	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	1142	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	1,7	6,1	3,5	2× 20	780	560	670	40	350	722	80	80	2" ½ G	2" G	96
2P 9SL/I-200/4T-109	2P 9SL/I-200/4T-306	1,8	6,2	3,6												
2P 9L/I-250/5T-114	2P 9L/I-250/5T-306	2,1	7,1	4,1	2× 20	780	560	670	40	350	752	80	80			95
2P 9SL/I-250/5T-114	2P 9SL/I-250/5T-306	2,2	7,3	4,2												
2P 9L/I-300/6T-114	2P 9L/I-300/6T-306	2,6	8,7	5	2× 20	780	560	670	40	350	782	80	80			97
2P 9SL/I-300/6T-114	2P 9SL/I-300/6T-306	2,6	8,7	5												
-	2P 9L/I-400/7T-309	3	-	5,8	2× 20	780	560	670	40	350	865	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	925	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	965	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	985	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	2,2	7,3	4,2	1× 80	850	620	750	40	350	684	90	90	3" G	2" ½ G	106
2P 18SL/I-250/3T-114	2P 18SL/I-250/3T-306	2,3	7,5	4,3												
-	2P 18L/I-400/4T-309	3	-	5,8	1× 80	850	620	750	40	350	805	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	882	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	920	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





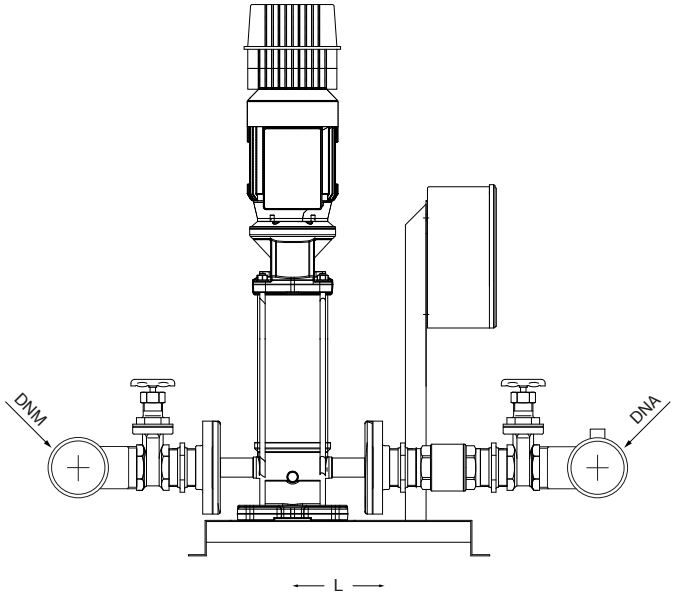
VERTICAL MODEL H (18-22)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230	3~ 400	kW (×2)		A (×2)		mm					
-	**2P 18HX-300/3T**	-	2,31	-	4,2	1000	700	800			128
-	**2P 18HX-400/4T**	-	3,2	-	5,1	1000	700	890			148
-	**2P 18HX-550/5T**	-	4,3	-	7,6	1000	700	980			167
-	**2P 18HX-750/6T**	-	5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

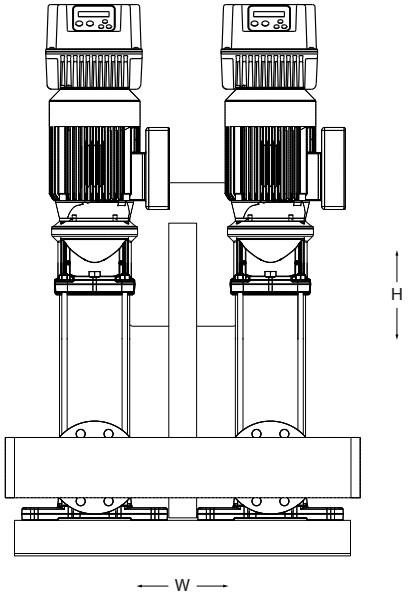
**On reqPest: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*

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

2P H (18-22)

Variable speed IPFC





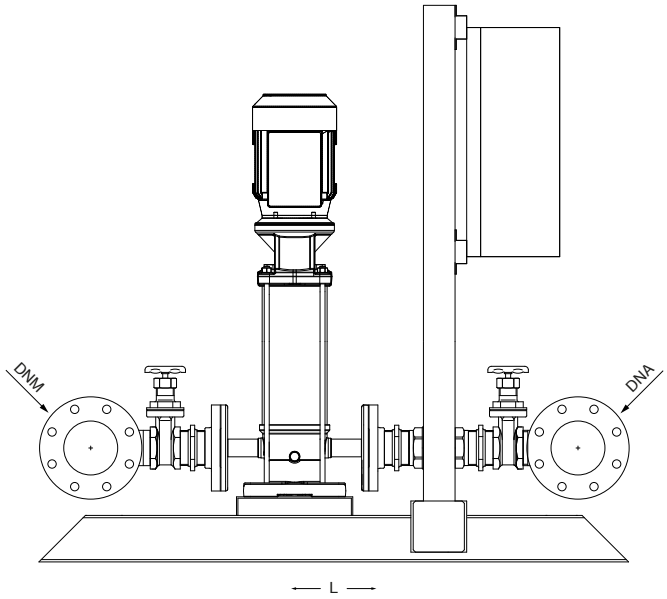
VERTICAL MODEL H (18-22) IPFC		P1	In		Required tank	DIMENSIONS					Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		L	W	H	DNA	DNM	
		kW (×2)	A (×2)		Lt	mm					
2P 18HX/I-300/3T-114	**2P 18HX/I-300/3T-306**	2,31	7,3	4,2	1× 80	1000	700	1052			144
2P 18HX/I-400/4T-114	**2P 18HX/I-400/4T-306**	3,2	8,8	5,1	1× 80	1000	700	1142			164
-	**2P 18HX/I-550/5T-309**	4,3	-	7,6	1× 80	1000	700	1232			183
	2P 18HX/I-750/6T-311	5	-	8,4	1× 80	1000	700	1322	3" G	2" ½ G	272
-	**2P 18HX/I-750/7T-311**	5,8	-	9,5	1× 80	1000	700	1372			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	1252			162
-	**2P 22HX/I-550/4T-309**	4,6	-	8,1	1× 80	1000	800	1302			180
-	**2P 22HX/I-750/5T-311**	5,9	-	9,5	1× 80	1000	800	1442	DN100	3" G *	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

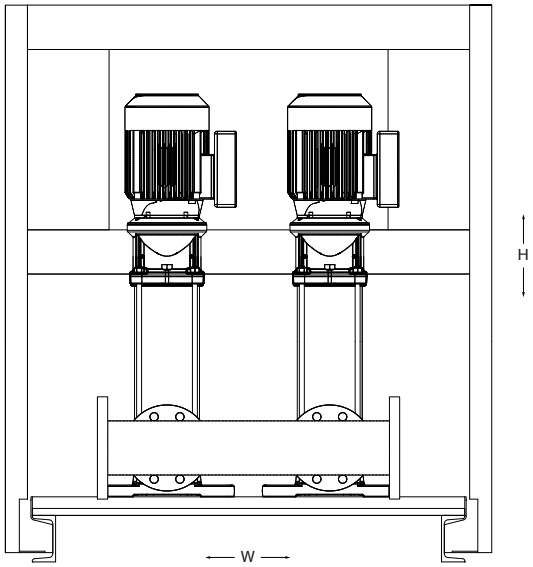
**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*

DIMENSIONS 2P VERTICAL

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

Fixed speed





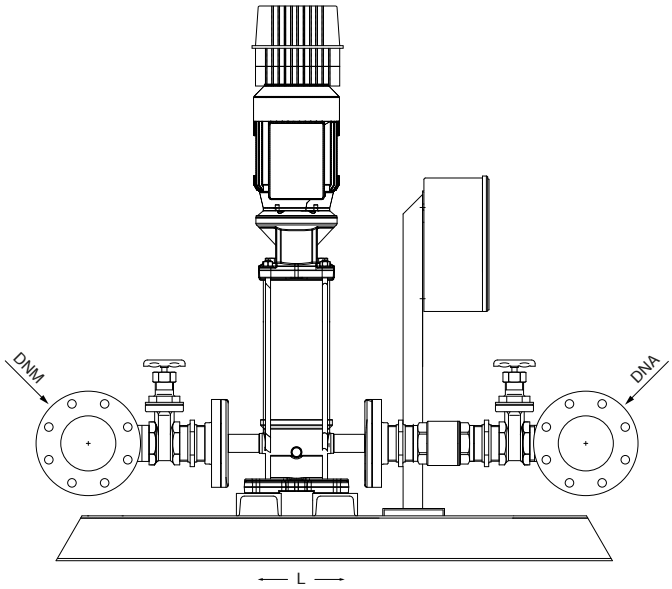
VERTICAL MODEL H (35÷90)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230V	3~ 400V	kW (×2)		A (×2)		mm					
-	**2P 35HS-750/2T**	-	5,0	-	8,3	1150	820	1550	DN100	DN100	450
-	**2P 35HS-1000/3T**	-	7,2	-	12,2	1150	820	1550			480
-	**2P 35HS-1000/4-2RT**	-	8,5	-	13,7	1150	820	1550			490
-	**2P 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

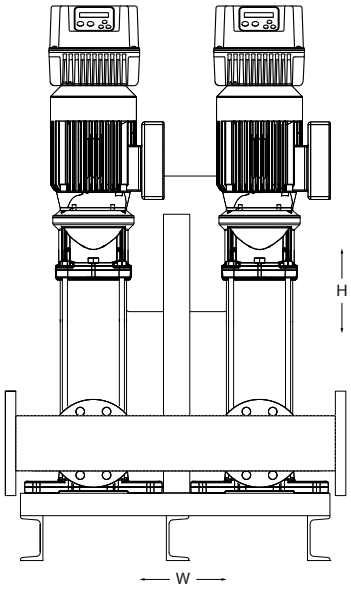
Dimensions and weights may differ slightly and therefore should be considered as indicative

DIMENSIONS 2P VERTICAL

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

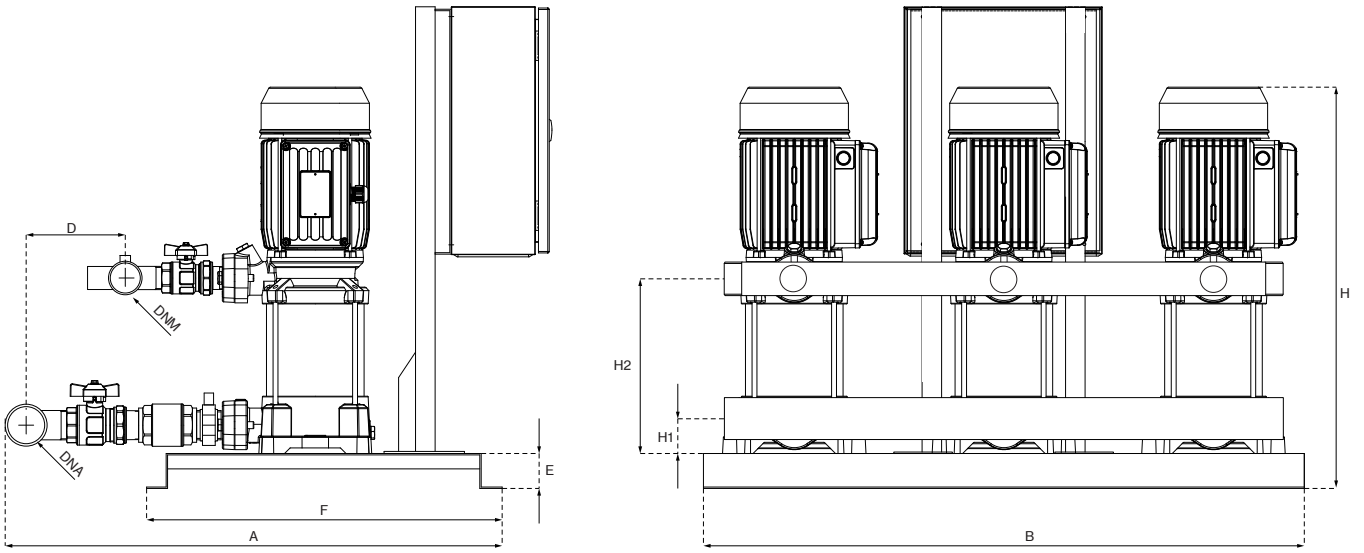
Variable speed IPFC





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 (×2)	A (×2)	Lt	mm					
2P 35HS/I-750/2T-311	5,0	8,3	1× 100	1150	820	1802	DN100	DN100	466
2P 35HS/I-1000/3T-314	7,2	12,2	1× 100	1150	820	1850			496
2P 35HS/I-1000/4-2RT-318	8,5	13,7	1× 100	1150	820	1850			506
2P 35HS/I-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

DIMENSIONS 3P VERTICAL



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	202	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	226			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**	1,3	1,2	6,1	3	711	860	141	50	509	571	40	250			110
3P 3SV-150/7	**3P 3SV-150/7T**	1,4	1,4	6,6	3,1											
3P 3V-180/8	**3P 3V-180/8T**	1,5	1,4	7	3,1	711	860	141	50	509	595	40	274			110
3P 3SV-180/8	**3P 3SV-180/8T**	1,5	1,5	7	3,2											
3P 3V-200/9	**3P 3V-200/9T**	1,6	1,5	7,4	3,2	711	860	141	50	509	619	40	298			113
3P 3SV-200/9	**3P 3SV-200/9T**	1,7	1,6	7,6	3,3											
3P 3V-250/10	**3P 3V-250/10T**	1,7	1,7	7,9	3,5	711	860	141	50	509	643	40	322			114
3P 3SV-250/10	**3P 3SV-250/10T**	1,9	1,7	8,6	3,5											
3P 3V-280/11	**3P 3V-280/11T**	2	1,8	9,4	3,8	711	860	141	50	509	667	40	346			118
3P 3SV-280/11	**3P 3SV-280/11T**	2,1	1,9	9,8	3,9											
3P 3V-300/12	**3P 3V-300/12T**	2,1	2	9,8	4	711	860	141	50	509	691	40	370			120
3P 3SV-300/12	**3P 3SV-300/12T**	2,2	2,1	10,2	4,1											
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**	1,4	1,4	6,6	3,1	740	860	155	50	509	523	40	202			107
3P 5SV-150/5	**3P 5SV-150/5T**	1,4	1,3	6,6	3,1											
3P 5V-180/6	**3P 5V-180/6T**	1,6	1,6	7,4	3,3	740	860	155	50	509	547	40	226			108
3P 5SV-180/6	**3P 5SV-180/6T**	1,6	1,6	7,4	3,3											
3P 5V-200/7	**3P 5V-200/7T**	1,9	1,8	8,6	3,6	740	860	155	50	509	571	40	250			110
3P 5SV-200/7	**3P 5SV-200/7T**	1,9	1,8	8,6	3,6											
3P 5V-250/8	**3P 5V-250/8T**	2,2	2,1	9,9	4,1	740	860	155	50	509	595	40	274			109
3P 5SV-250/8	**3P 5SV-250/8T**	2,2	2,1	9,9	4,1											
3P 5V-280/9	**3P 5V-280/9T**	2,4	2,3	10,9	4,3	740	860	155	50	509	619	40	298			110
3P 5SV-280/9	**3P 5SV-280/9T**	2,4	2,3	10,9	4,3											
3P 5V-300/10	**3P 5V-300/10T**	2,7	2,6	12,5	4,9	740	860	155	50	509	643	40	322			115
3P 5SV-300/10	**3P 5SV-300/10T**	2,7	2,6	12,5	4,9											
-	**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											

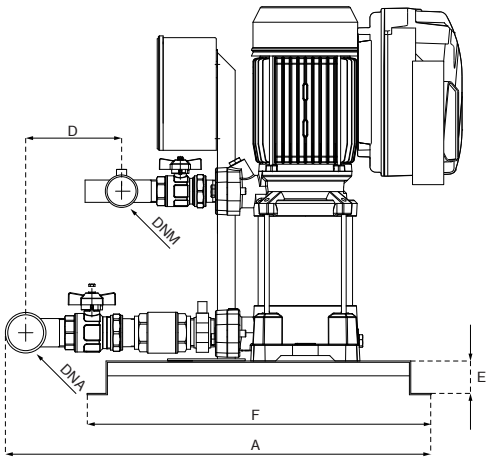
Dimensions and weights may differ slightly and therefore should be considered as indicative

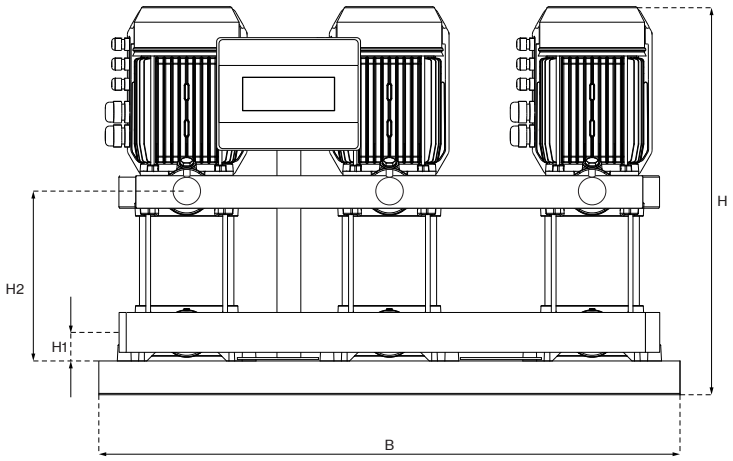
DIMENSIONS 3P VERTICAL

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

Fixed speed

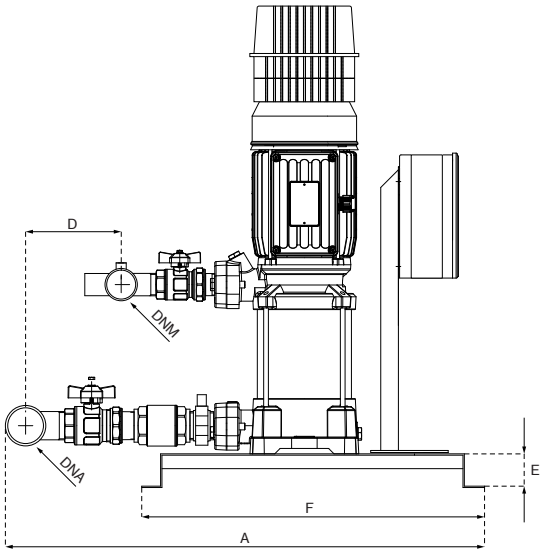
VERTICAL MODEL V (7-9)		P1		In		DIMENSIONS										Kg
		1~	3~	1~	3~	A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm										
3P 7V-180/4	**3P 7V-180/4T**	1,7	1,6	7,9	3,3	770	860	133	50	509	472	40	178			112
3P 7SV-180/4	**3P 7SV-180/4T**	1,8	1,7	8,3	3,5											
3P 7V-250/5	**3P 7V-250/5T**	2,2	2	9,9	4	770	860	133	50	509	523	40	202			109
3P 7SV-250/5	**3P 7SV-250/5T**	2,2	2,1	9,9	4											
3P 7V-300/6	**3P 7V-300/6T**	2,5	2,4	11,5	4,7	770	860	133	50	509	547	40	226			116
3P 7SV-300/6	**3P 7SV-300/6T**	2,6	2,5	12,1	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**	1,8	1,7	8,3	3,5	770	860	133	50	509	523	40	202			112
3P 9SV-200/4	**3P 9SV-200/4T**	1,8	1,8	8,3	3,6											
3P 9V-250/5	**3P 9V-250/5T**	2,3	2,1	10,4	4,1	770	860	133	50	509	553	40	232			111
3P 9SV-250/5	**3P 9SV-250/5T**	2,3	2,2	10,4	4,2											
3P 9V-300/6	**3P 9V-300/6T**	2,8	2,6	12,8	5	770	860	133	50	509	583	40	262			115
3P 9SV-300/6	**3P 9SV-300/6T**	2,8	2,6	12,8	5											
-	**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											

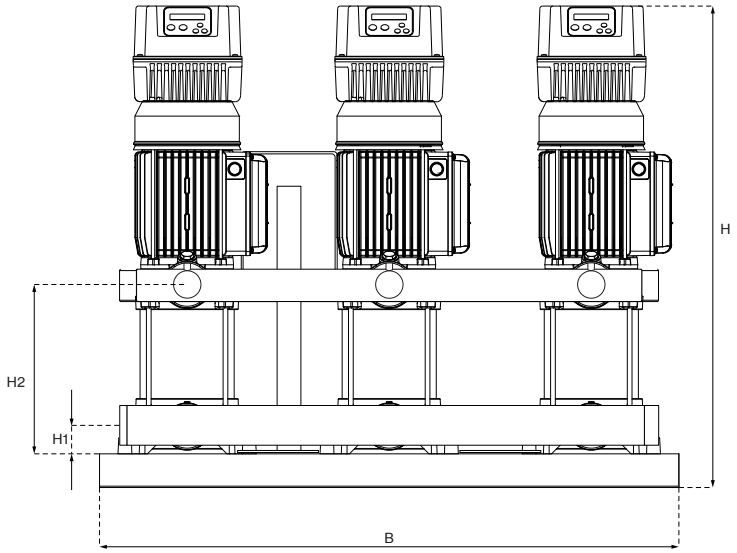




VERTICAL MODEL V (3-5)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 3V/A-100/5T-304**	1,01	-	1,9	3× 8	711	860	141	50	509	463	40	202	2" G	1" ½ G	94
-	**3P 3SV/A-100/5T-304**	0,92	-	1,7												
-	**3P 3V/A-120/6T-304**	1,23	-	2,6	3× 8	711	860	141	50	509	487	40	226			97
-	**3P 3SV/A-120/6T-304**	1,11	-	2,5												
-	**3P 3V/A-150/7T-304**	1,2	-	3	3× 8	711	860	141	50	509	571	40	250			118
-	**3P 3SV/A-150/7T-304**	1,4	-	3,1												
-	**3P 3V/A-180/8T-304**	1,4	-	3,1	3× 8	711	860	141	50	509	595	40	274			118
-	**3P 3SV/A-180/8T-304**	1,5	-	3,2												
-	**3P 3V/A-200/9T-304**	1,5	-	3,2	3× 8	711	860	141	50	509	619	40	298			121
-	**3P 3SV/A-200/9T-304**	1,6	-	3,3												
-	**3P 3V/A-250/10T-306**	1,7	-	3,5	3× 8	711	860	141	50	509	643	40	322			122
-	**3P 3SV/A-250/10T-306**	1,7	-	3,5												
-	**3P 3V/A-280/11T-306**	1,8	-	3,8	3× 8	711	860	141	50	509	667	40	346			126
-	**3P 3SV/A-280/11T-306**	1,9	-	3,9												
-	**3P 3V/A-300/12T-306**	2	-	4	3× 8	711	860	141	50	509	691	40	370			126
-	**3P 3SV/A-300/12T-306**	2,1	-	4,1												
-	**3P 5V/A-120/4T-304**	1,13	-	2,5	3× 20	740	860	155	50	509	439	40	178	2" ½ G	2" G	94
-	**3P 5SV/A-120/4T-304**	1,08	-	2,4												
-	**3P 5V/A-150/5T-304**	1,4	-	3,1	3× 20	740	860	155	50	509	523	40	202			115
-	**3P 5SV/A-150/5T-304**	1,3	-	3,1												
-	**3P 5V/A-180/6T-304**	1,6	-	3,3	3× 20	740	860	155	50	509	547	40	226			116
-	**3P 5SV/A-180/6T-304**	1,6	-	3,3												
-	**3P 5V/A-200/7T-304**	1,8	-	3,6	3× 20	740	860	155	50	509	571	40	250			118
-	**3P 5SV/A-200/7T-304**	1,8	-	3,6												
-	**3P 5V/A-250/8T-306**	2,1	-	4,1	3× 20	740	860	155	50	509	595	40	274			117
-	**3P 5SV/A-250/8T-306**	2,1	-	4,1												
-	**3P 5V/A-280/9T-306**	2,3	-	4,3	3× 20	740	860	155	50	509	619	40	298			118
-	**3P 5SV/A-280/9T-306**	2,3	-	4,3												
-	**3P 5V/A-300/10T-306**	2,6	-	4,9	3× 20	740	860	155	50	509	643	40	322			122
-	**3P 5SV/A-300/10T-306**	2,6	-	4,9												
-	**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												

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**	1,6	-	3,3	3× 20	770	860	133	50	509	472	40	178			120
-	**3P 7SV/A-180/4T-304**	1,7	-	3,5												
-	**3P 7V/A-250/5T-306**	2	-	4	3× 20	770	860	133	50	509	523	40	202			117
-	**3P 7SV/A-250/5T-306**	2,1	-	4												
-	**3P 7V/A-300/6T-306**	2,4	-	4,7	3× 20	770	860	133	50	509	547	40	226			124
-	**3P 7SV/A-300/6T-306**	2,5	-	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**	1,7	-	3,5	3× 20	770	860	133	50	509	523	40	202			120
-	**3P 9SV/A-200/4T-304**	1,8	-	3,6												
-	**3P 9V/A-250/5T-306**	2,1	-	4,1	3× 20	770	860	133	50	509	553	40	232			119
-	**3P 9SV/A-250/5T-306**	2,2	-	4,2												
-	**3P 9V/A-300/6T-306**	2,6	-	5	3× 20	770	860	133	50	509	583	40	262			123
-	**3P 9SV/A-300/6T-306**	2,6	-	5												
-	**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





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	625	40	202	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	649	40	226			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**	1,2	5,2	3	3× 8	711	860	141	50	509	733	40	250			125
3P 3SV/I-150/7T-109	**3P 3SV/I-150/7T-306**	1,4	5,4	3,1												
3P 3V/I-180/8T-109	**3P 3V/I-180/8T-306**	1,4	5,4	3,1	3× 8	711	860	141	50	509	757	40	274			125
3P 3SV/I-180/8T-109	**3P 3SV/I-180/8T-306**	1,5	5,5	3,2												
3P 3V/I-200/9T-109	**3P 3V/I-200/9T-306**	1,5	5,5	3,2	3× 8	711	860	141	50	509	781	40	298			128
3P 3SV/I-200/9T-109	**3P 3SV/I-200/9T-306**	1,6	5,7	3,3												
3P 3V/I-250/10T-114	**3P 3V/I-250/10T-306**	1,7	6,1	3,5	3× 8	711	860	141	50	509	805	40	322			128
3P 3SV/I-250/10T-114	**3P 3SV/I-250/10T-306**	1,7	6,1	3,5												
3P 3V/I-280/11T-114	**3P 3V/I-280/11T-306**	1,8	6,6	3,8	3× 8	711	860	141	50	509	829	40	346			133
3P 3SV/I-280/11T-114	**3P 3SV/I-280/11T-306**	1,9	6,8	3,9												
3P 3V/I-300/12T-114	**3P 3V/I-300/12T-306**	2	6,9	4	3× 8	711	860	141	50	509	853	40	370			135
3P 3SV/I-300/12T-114	**3P 3SV/I-300/12T-306**	2,1	7,1	4,1												
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	601	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**	1,4	5,4	3,1	3× 20	740	860	155	50	509	685	40	202			122
3P 5SV/I-150/5T-109	**3P 5SV/I-150/5T-306**	1,3	5,4	3,1												
3P 5V/I-180/6T-109	**3P 5V/I-180/6T-306**	1,6	5,7	3,3	3× 20	740	860	155	50	509	709	40	226			123
3P 5SV/I-180/6T-109	**3P 5SV/I-180/6T-306**	1,6	5,7	3,3												
3P 5V/I-200/7T-109	**3P 5V/I-200/7T-306**	1,8	6,2	3,6	3× 20	740	860	155	50	509	733	40	250			125
3P 5SV/I-200/7T-109	**3P 5SV/I-200/7T-306**	1,8	6,2	3,6												
3P 5V/I-250/8T-114	**3P 5V/I-250/8T-306**	2,1	7,1	4,1	3× 20	740	860	155	50	509	757	40	274			124
3P 5SV/I-250/8T-114	**3P 5SV/I-250/8T-306**	2,1	7,1	4,1												
3P 5V/I-280/9T-114	**3P 5V/I-280/9T-306**	2,3	7,5	4,3	3× 20	740	860	155	50	509	781	40	298			125
3P 5SV/I-280/9T-114	**3P 5SV/I-280/9T-306**	2,3	7,5	4,3												
3P 5V/I-300/10T-114	**3P 5V/I-300/10T-306**	2,6	8,5	4,9	3× 20	740	860	155	50	509	805	40	322			130
3P 5SV/I-300/10T-114	**3P 5SV/I-300/10T-306**	2,6	8,5	4,9												
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	884	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	908	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

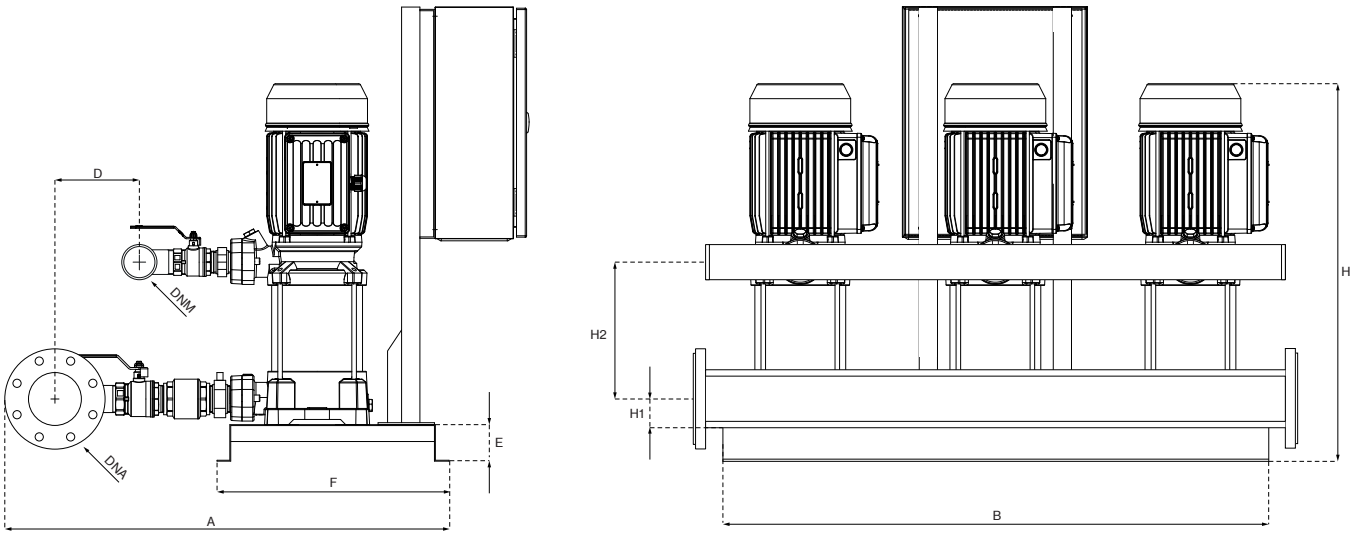
DIMENSIONS 3P VERTICAL

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

Variable speed IPFC

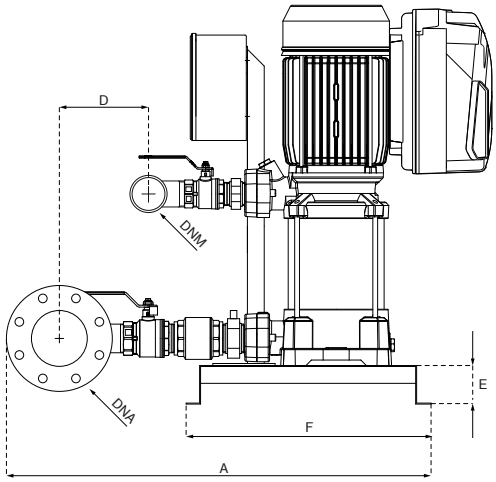
VERTICAL MODEL V (7-9) IPFC		P1	In		Required tank	DIMENSIONS									Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 7V/I-180/4T-109	**3P 7V/I-180/4T-306**	1,6	5,7	3,3	3× 20	770	860	133	50	509	634	40	178			127
3P 7SV/I-180/4T-109	**3P 7SV/I-180/4T-306**	1,7	6,1	3,5												
3P 7V/I-250/5T-114	**3P 7V/I-250/5T-306**	2	6,9	4	3× 20	770	860	133	50	509	685	40	202			124
3P 7SV/I-250/5T-114	**3P 7SV/I-250/5T-306**	2,1	6,9	4												
3P 7V/I-300/6T-114	**3P 7V/I-300/6T-306**	2,4	8,1	4,7	3× 20	770	860	133	50	509	709	40	226			131
3P 7SV/I-300/6T-114	**3P 7SV/I-300/6T-306**	2,5	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	787	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	812	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	865	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	888	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**	1,7	6,1	3,5	3× 20	770	860	133	50	509	685	40	202			127
3P 9SV/I-200/4T-109	**3P 9SV/I-200/4T-306**	1,8	6,2	3,6												
3P 9V/I-250/5T-114	**3P 9V/I-250/5T-306**	2,1	7,1	4,1	3× 20	770	860	133	50	509	715	40	232			126
3P 9SV/I-250/5T-114	**3P 9SV/I-250/5T-306**	2,2	7,3	4,2												
3P 9V/I-300/6T-114	**3P 9V/I-300/6T-306**	2,6	8,7	5	3× 20	770	860	133	50	509	745	40	262			130
3P 9SV/I-300/6T-114	**3P 9SV/I-300/6T-306**	2,6	8,7	5												
-	**3P 9V/I-400/7T-309**	3	-	5,8	3× 20	770	860	133	50	509	829	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	889	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	919	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	949	40	385			183
-	**3P 9SV/I-550/10T-311**	4,4	-	8,2												

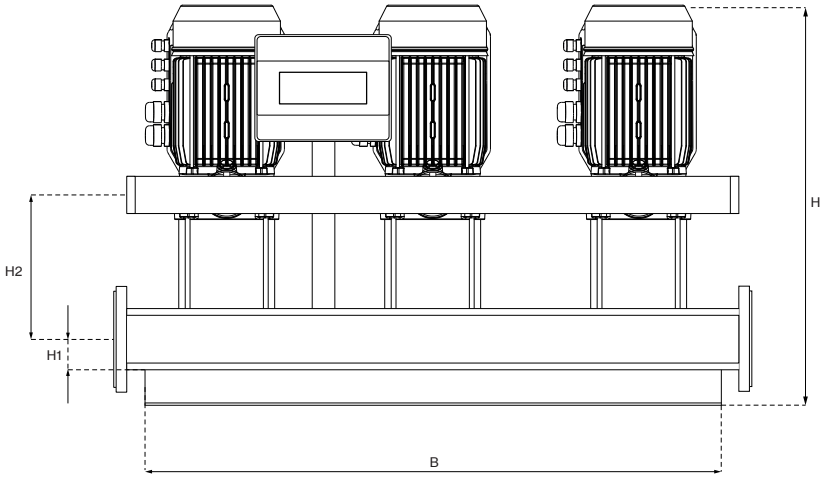
Dimensions and weights may differ slightly and therefore should be considered as indicative



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**	-	2,2	-	4,2	895	980	166	60	509	541	50	211	DN100	3" G *	121
-	**3P 18SV-250/3T**	-	2,3	-	4,3											
-	**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											

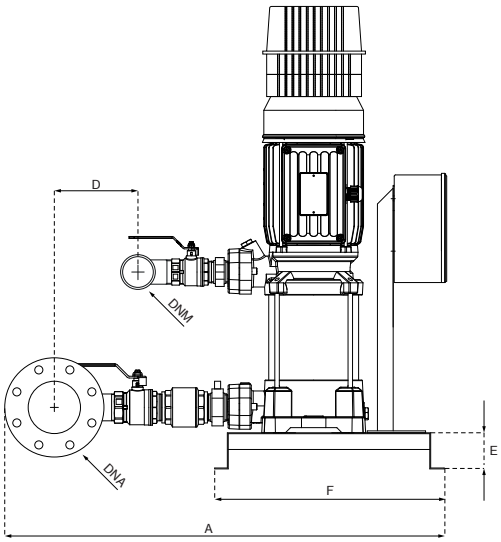
**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*

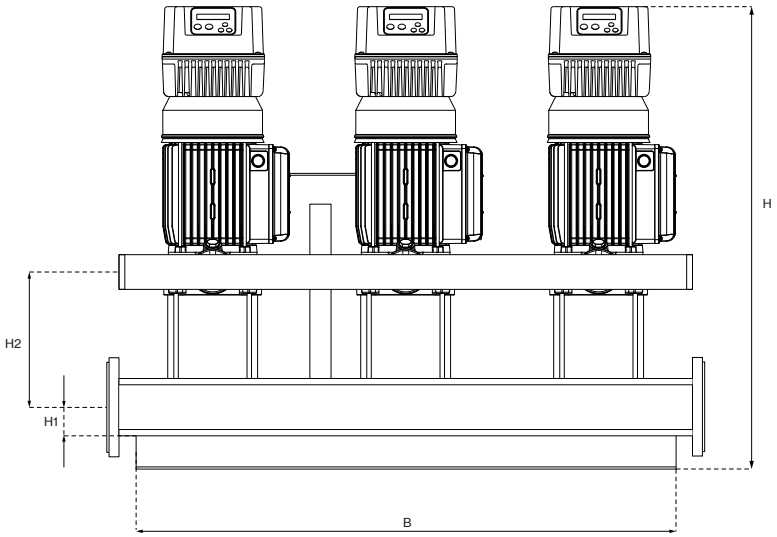




VERTICAL MODEL V (18)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 18V/A-250/3T-306**	2,2	-	4,2	1× 100	895	980	166	60	509	541	50	211			129
-	**3P 18SV/A-250/3T-306**	2,3	-	4,3												
-	**3P 18V/A-400/4T-309**	3	-	5,8	1× 100	895	980	166	60	509	633	50	248	DN100	3" G *	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												

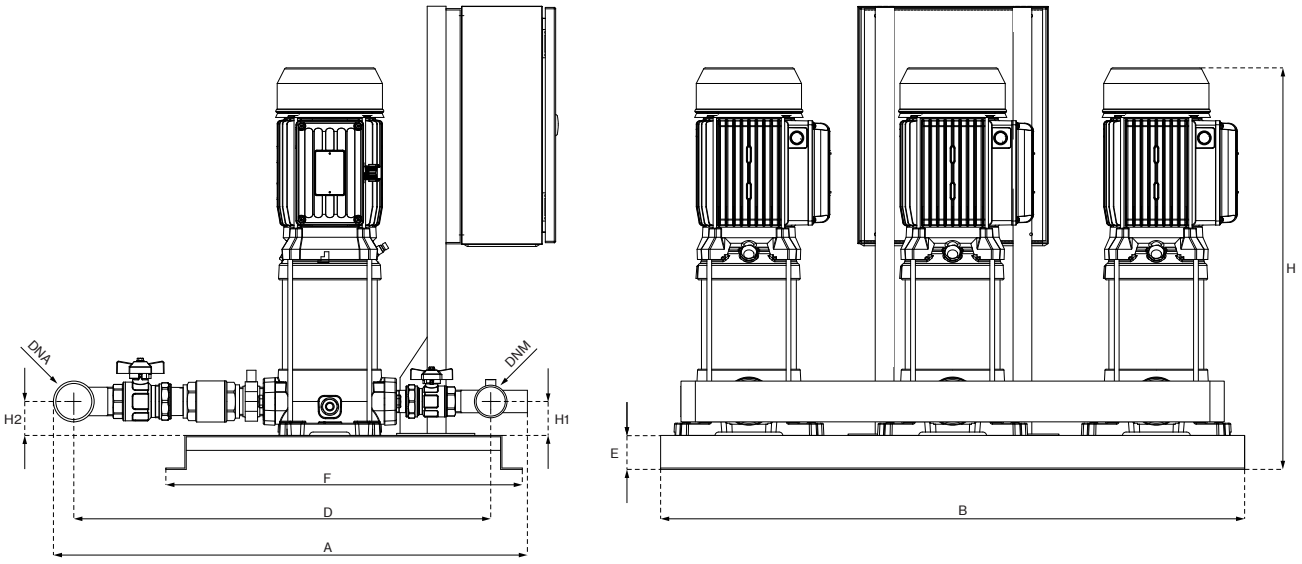
On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold





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**	2,2	7,3	4,2	1× 100	895	980	166	60	509	703	50	211			136
3P 18SV/I-250/3T-114	**3P 18SV/I-250/3T-306**	2,3	7,5	4,3												
-	**3P 18V/I-400/4T-309**	3		5,8	1× 100	895	980	166	60	509	795	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	862	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	900	50	326	DN100	3" G *	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												

**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*



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**	1,3	1,2	6,1	3	698	860	614	50	509	587	50	50			113
3P 3SL-150/7	**3P 3SL-150/7T**	1,4	1,4	6,6	3,1											
3P 3L-180/8	**3P 3L-180/8T**	1,5	1,4	7	3,1	698	860	614	50	509	611	50	50			113
3P 3SL-180/8	**3P 3SL-180/8T**	1,5	1,5	7	3,2											
3P 3L-200/9	**3P 3L-200/9T**	1,6	1,5	7,4	3,2	698	860	614	50	509	635	50	50			112
3P 3SL-200/9	**3P 3SL-200/9T**	1,7	1,6	7,6	3,3											
3P 3L-250/10	**3P 3L-250/10T**	1,7	1,7	7,9	3,5	698	860	614	50	509	659	50	50			120
3P 3SL-250/10	**3P 3SL-250/10T**	1,9	1,7	8,6	3,5											
3P 3L-280/11	**3P 3L-280/11T**	2	1,8	9,4	3,8	698	860	614	50	509	683	50	50			121
3P 3SL-280/11	**3P 3SL-280/11T**	2,1	1,9	9,8	3,9											
3P 3L-300/12	**3P 3L-300/12T**	2,1	2	9,8	4	698	860	614	50	509	707	50	50			123
3P 3SL-300/12	**3P 3SL-300/12T**	2,2	2,1	10,2	4,1											
-	**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**	1,4	1,4	6,6	3,1	759	860	667	50	509	539	50	50			108
3P 5SL-150/5	**3P 5SL-150/5T**	1,4	1,3	6,6	3,1											
3P 5L-180/6	**3P 5L-180/6T**	1,6	1,6	7,4	3,3	759	860	667	50	509	563	50	50			110
3P 5SL-180/6	**3P 5SL-180/6T**	1,6	1,6	7,4	3,3											
3P 5L-200/7	**3P 5L-200/7T**	1,9	1,8	8,6	3,6	759	860	667	50	509	587	50	50			111
3P 5SL-200/7	**3P 5SL-200/7T**	1,9	1,8	8,6	3,6											
3P 5L-250/8	**3P 5L-250/8T**	2,2	2,1	9,9	4,1	759	860	667	50	509	611	50	50			112
3P 5SL-250/8	**3P 5SL-250/8T**	2,2	2,1	9,9	4,1											
3P 5L-280/9	**3P 5L-280/9T**	2,4	2,3	10,9	4,3	759	860	667	50	509	635	50	50			115
3P 5SL-280/9	**3P 5SL-280/9T**	2,4	2,3	10,9	4,3											

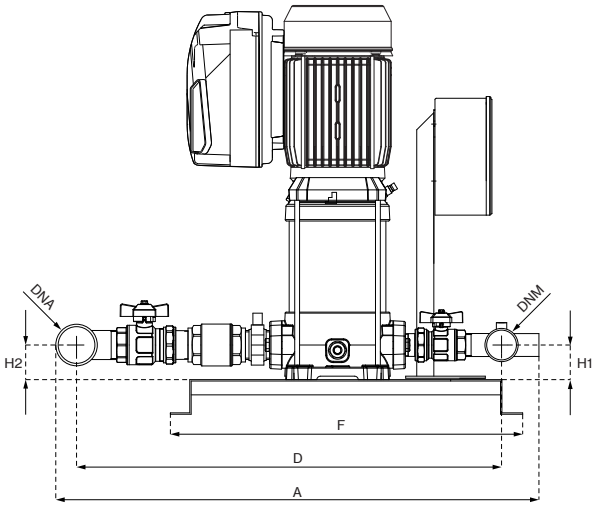
DIMENSIONS 3P VERTICAL

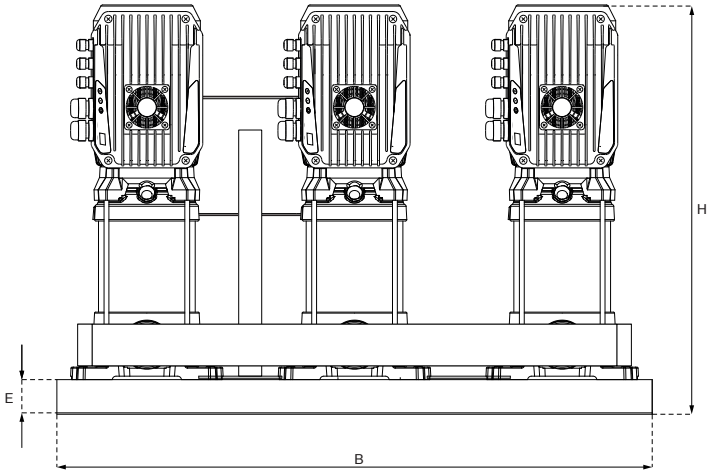
3P L (3-5-7-9)

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~	3~	kW (×3)		A (×3)		mm										
3P 5L-300/10	**3P 5L-300/10T**	2,7	2,6	12,5	4,9	759	860	667	50	509	659	50	50			118
3P 5SL-300/10	**3P 5SL-300/10T**	2,7	2,6	12,5	4,9											
-	**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**	1,7	1,6	7,9	3,3	811	860	712	50	509	515	50	50			118
3P 7SL-180/4	**3P 7SL-180/4T**	1,8	1,7	8,3	3,5											
3P 7L-250/5	**3P 7L-250/5T**	2,2	2	9,9	4	811	860	712	50	509	539	50	50			115
3P 7SL-250/5	**3P 7SL-250/5T**	2,2	2,1	9,9	4											
3P 7L-300/6	**3P 7L-300/6T**	2,5	2,4	11,5	4,7	811	860	712	50	509	563	50	50			122
3P 7SL-300/6	**3P 7SL-300/6T**	2,6	2,5	12,1	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**	1,8	1,7	8,3	3,5	811	860	712	50	509	570	50	50			132
3P 9SL-200/4	**3P 9SL-200/4T**	1,8	1,8	8,3	3,6											
3P 9L-250/5	**3P 9L-250/5T**	2,3	2,1	10,4	4,1	811	860	712	50	509	600	50	50			130
3P 9SL-250/5	**3P 9SL-250/5T**	2,3	2,2	10,4	4,2											
3P 9L-300/6	**3P 9L-300/6T**	2,8	2,6	12,8	5	811	860	712	50	509	630	50	50			135
3P 9SL-300/6	**3P 9SL-300/6T**	2,8	2,6	12,8	5											
-	**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

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





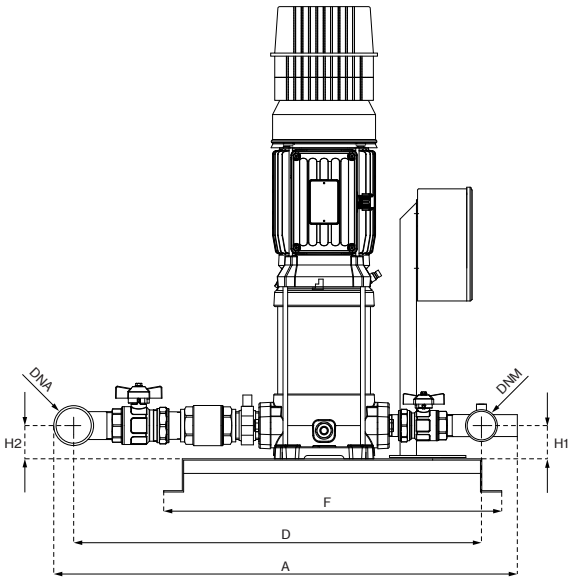
VERTICAL MODEL L (3÷9)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	3P 3L/A-100/5T-304	1,01	-	1,9	3× 8	698	860	614	50	509	479	50	50			95
-	3P 3SL/A-100/5T-304	0,92	-	1,7												
-	3P 3L/A-120/6T-304	1,23	-	2,6	3× 8	698	860	614	50	509	503	50	50			98
-	3P 3SL/A-120/6T-304	1,11	-	2,5												
-	3P 3L/A-150/7T-304	1,2	-	3	3× 8	698	860	614	50	509	587	50	50			121
-	3P 3SL/A-150/7T-304	1,4	-	3,1												
-	3P 3L/A-180/8T-304	1,4	-	3,1	3× 8	698	860	614	50	509	611	50	50			121
-	3P 3SL/A-180/8T-304	1,5	-	3,2												
-	3P 3L/A-200/9T-304	1,5	-	3,2	3× 8	698	860	614	50	509	635	50	50			120
-	3P 3SL/A-200/9T-304	1,6	-	3,3												
-	3P 3L/A-250/10T-306	1,7	-	3,5	3× 8	698	860	614	50	509	659	50	50	2" G	1" ½ G	128
-	3P 3SL/A-250/10T-306	1,7	-	3,5												
-	3P 3L/A-280/11T-306	1,8	-	3,8	3× 8	698	860	614	50	509	683	50	50			129
-	3P 3SL/A-280/11T-306	1,9	-	3,9												
-	3P 3L/A-300/12T-306	2	-	4	3× 8	698	860	614	50	509	707	50	50			131
-	3P 3SL/A-300/12T-306	2,1	-	4,1												
-	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	1,4	-	3,1	3× 20	759	860	667	50	509	539	50	50			116
-	3P 5SL/A-150/5T-304	1,3	-	3,1												
-	3P 5L/A-180/6T-304	1,6	-	3,3	3× 20	759	860	667	50	509	563	50	50			118
-	3P 5SL/A-180/6T-304	1,6	-	3,3												
-	3P 5L/A-200/7T-304	1,8	-	3,6	3× 20	759	860	667	50	509	587	50	50	2" ½ G	2" G	119
-	3P 5SL/A-200/7T-304	1,8	-	3,6												
-	3P 5L/A-250/8T-306	2,1	-	4,1	3× 20	759	860	667	50	509	611	50	50			120
-	3P 5SL/A-250/8T-306	2,1	-	4,1												
-	3P 5L/A-280/9T-306	2,3	-	4,3	3× 20	759	860	667	50	509	635	50	50			123
-	3P 5SL/A-280/9T-306	2,3	-	4,3												

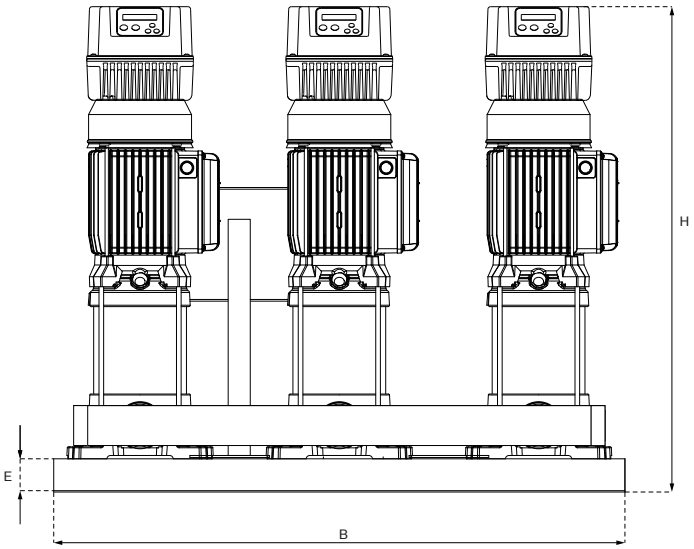
DIMENSIONS 3P VERTICAL

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

Variable speed EPIC-A

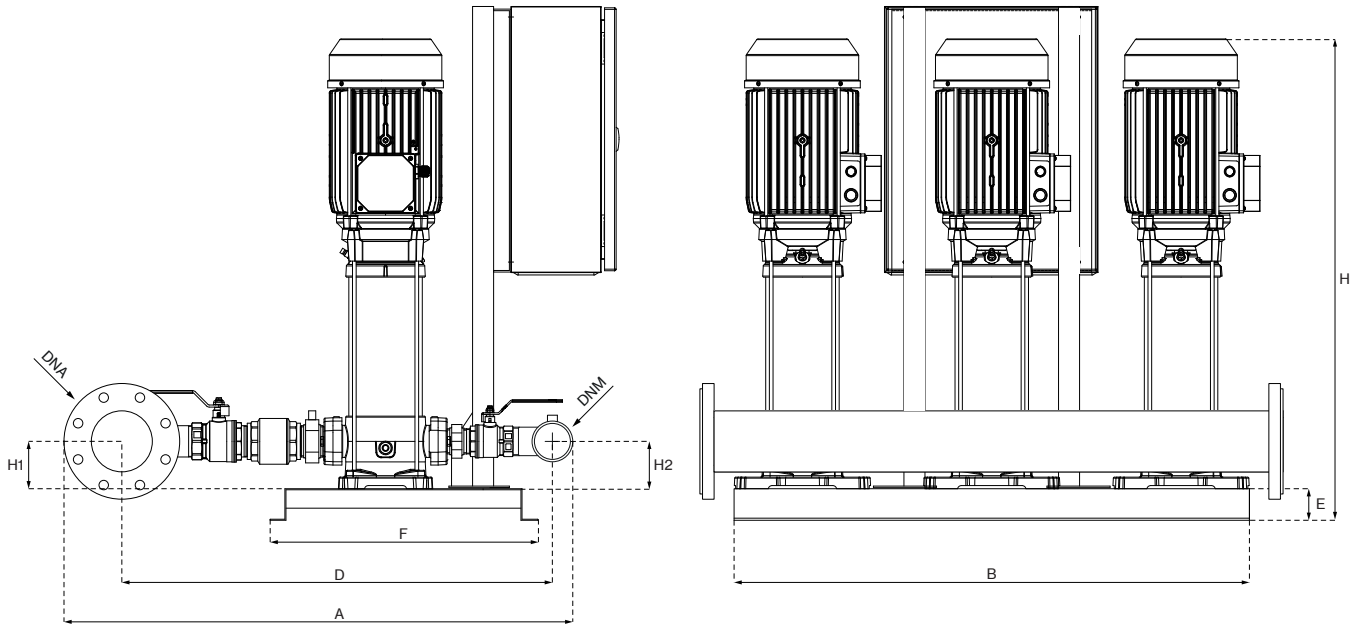
VERTICAL MODEL L (3÷9)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 5L/A-300/10T-306**	2,6	-	4,9	3× 20	759	860	667	50	509	659	50	50			126
-	**3P 5SL/A-300/10T-306**	2,6	-	4,9												
-	**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 7L/A-180/4T-304**	1,6	-	3,3	3× 20	811	860	712	50	509	515	50	50			126
-	**3P 7SL/A-180/4T-304**	1,7	-	3,5												
-	**3P 7L/A-250/5T-306**	2	-	4	3× 20	811	860	712	50	509	539	50	50			123
-	**3P 7SL/A-250/5T-306**	2,1	-	4												
-	**3P 7L/A-300/6T-306**	2,4	-	4,7	3× 20	811	860	712	50	509	563	50	50			130
-	**3P 7SL/A-300/6T-306**	2,5	-	4,8												
-	**3P 7L/A-350/7T-306**	2,8	-	5,1	3× 20	811	860	712	50	509	640	50	50	3" G	2" ½ G	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			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 9L/A-200/4T-304**	1,7	-	3,5	3× 20	811	860	712	50	509	570	50	50			140
-	**3P 9SL/A-200/4T-304**	1,8	-	3,6												
-	**3P 9L/A-250/5T-306**	2,1	-	4,1	3× 20	811	860	712	50	509	600	50	50			138
-	**3P 9SL/A-250/5T-306**	2,2	-	4,2												
-	**3P 9L/A-300/6T-306**	2,6	-	5	3× 20	811	860	712	50	509	630	50	50			143
-	**3P 9SL/A-300/6T-306**	2,6	-	5												
-	**3P 9L/A-400/7T-309**	3	-	5,8	3× 20	811	860	712	50	509	713	50	50	3" G	2" ½ G	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			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





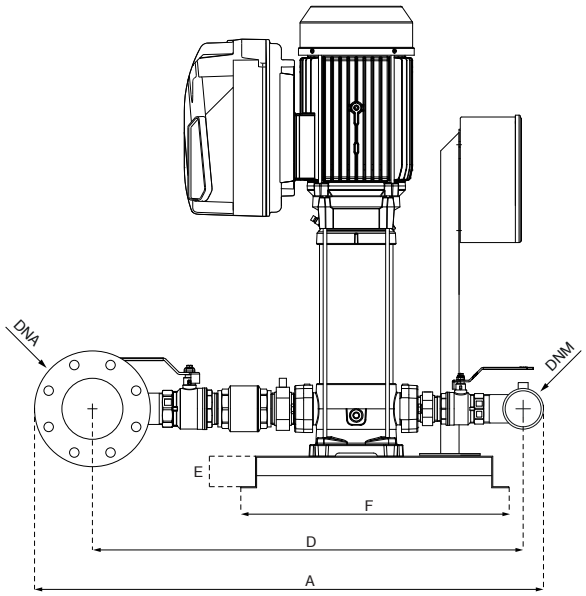
VERTICAL MODEL L (3÷9) IPFC		P1	In		Required tank	DIMENSIONS										Kg
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
3P 3L/I-100/5T-109	**3P 3L/I-100/5T-306**	1,01	3,3	1,9	3× 8	698	860	614	50	509	641	50	50			102
3P 3SL/I-100/5T-109	**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	665	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**	1,2	5,2	3	3× 8	698	860	614	50	509	749	50	50			128
3P 3SL/I-150/7T-109	**3P 3SL/I-150/7T-306**	1,4	5,4	3,1												
3P 3L/I-180/8T-109	**3P 3L/I-180/8T-306**	1,4	5,4	3,1	3× 8	698	860	614	50	509	773	50	50			128
3P 3SL/I-180/8T-109	**3P 3SL/I-180/8T-306**	1,5	5,5	3,2												
3P 3L/I-200/9T-109	**3P 3L/I-200/9T-306**	1,5	5,5	3,2	3× 8	698	860	614	50	509	797	50	50			126
3P 3SL/I-200/9T-109	**3P 3SL/I-200/9T-306**	1,6	5,7	3,3												
3P 3L/I-250/10T-114	**3P 3L/I-250/10T-306**	1,7	6,1	3,5	3× 8	698	860	614	50	509	821	50	50	2" G	1" ½ G	135
3P 3SL/I-250/10T-114	**3P 3SL/I-250/10T-306**	1,7	6,1	3,5												
3P 3L/I-280/11T-114	**3P 3L/I-280/11T-306**	1,8	6,6	3,8	3× 8	698	860	614	50	509	845	50	50			136
3P 3SL/I-280/11T-114	**3P 3SL/I-280/11T-306**	1,9	6,8	3,9												
3P 3L/I-300/12T-114	**3P 3L/I-300/12T-306**	2	6,9	4	3× 8	698	860	614	50	509	869	50	50			138
3P 3SL/I-300/12T-114	**3P 3SL/I-300/12T-306**	2,1	7,1	4,1												
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	1144	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	1189	50	50			204
-	**3P 3SLG/I-400/18T-309**	3,2	-	6	3× 8	698	860	614	50	509	1237	50	50			210
-	**3P 3SLG/I-450/20T-309**	3,6	-	6,5	3× 8	698	860	614	50	509	1310	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	617	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**	1,4	5,4	3,1	3× 20	759	860	667	50	509	701	50	50			123
3P 5SL/I-150/5T-109	**3P 5SL/I-150/5T-306**	1,3	5,4	3,1												
3P 5L/I-180/6T-109	**3P 5L/I-180/6T-306**	1,6	5,7	3,3	3× 20	759	860	667	50	509	725	50	50			125
3P 5SL/I-180/6T-109	**3P 5SL/I-180/6T-306**	1,6	5,7	3,3												
3P 5L/I-200/7T-109	**3P 5L/I-200/7T-306**	1,8	6,2	3,6	3× 20	759	860	667	50	509	749	50	50			126
3P 5SL/I-200/7T-109	**3P 5SL/I-200/7T-306**	1,8	6,2	3,6												
3P 5L/I-250/8T-114	**3P 5L/I-250/8T-306**	2,1	7,1	4,1	3× 20	759	860	667	50	509	773	50	50	2" ½ G	2" G	127
3P 5SL/I-250/8T-114	**3P 5SL/I-250/8T-306**	2,1	7,1	4,1												
3P 5L/I-280/9T-114	**3P 5L/I-280/9T-306**	2,3	7,5	4,3	3× 20	759	860	667	50	509	797	50	50			130
3P 5SL/I-280/9T-114	**3P 5SL/I-280/9T-306**	2,3	7,5	4,3												
3P 5L/I-300/10T-114	**3P 5L/I-300/10T-306**	2,6	8,5	4,9	3× 20	759	860	667	50	509	821	50	50			133
3P 5SL/I-300/10T-114	**3P 5SL/I-300/10T-306**	2,6	8,5	4,9												
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	899	50	50			135
3P 5SL/I-350/11T-114	**3P 5SL/I-350/11T-306**	2,9	9,2	5,3												

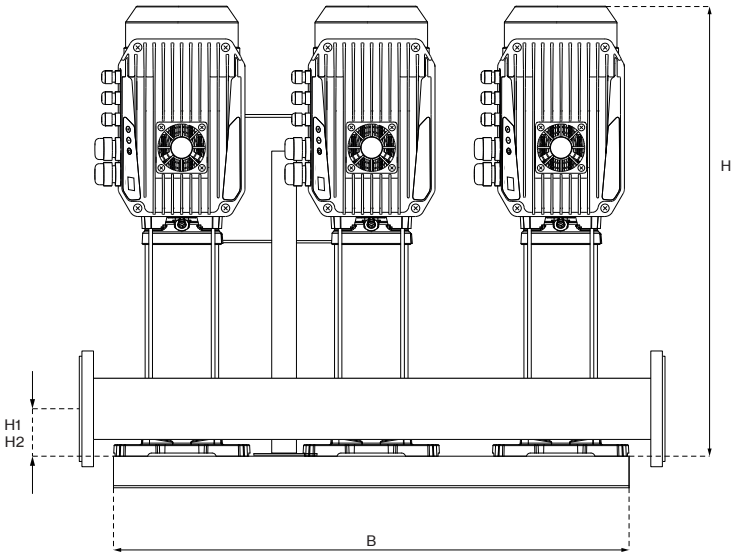
VERTICAL MODEL L (3÷9)		P1	In		Required tank	DIMENSIONS										Kg
IPFC																
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
		kW (×3)	A (×3)		Lt	mm										
-	**3P 5L/I-380/12T-309**	3,2	-	6	3× 20	759	860	667	50	509	923	50	50	2" ½ G	2" G	156
-	**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	1144	50	50			200
-	**3P 5SLG/I-450/16T-309**	4,1	-	7,9	3× 20	759	860	667	50	509	1212	50	50			236
-	**3P 5SLG/I-550/18T-311**	4,5	-	8,3	3× 20	759	860	667	50	509	1260	50	50			242
-	**3P 5SLG/I-600/20T-311**	5	-	8,9	3× 20	759	860	667	50	509	1310	50	50			246
3P 7L/I-180/4T-109	**3P 7L/I-180/4T-306**	1,6	5,7	3,3	3× 20	811	860	712	50	509	677	50	50	3" G	2" ½ G	133
3P 7SL/I-180/4T-109	**3P 7SL/I-180/4T-306**	1,7	6,1	3,5												
3P 7L/I-250/5T-114	**3P 7L/I-250/5T-306**	2	6,9	4	3× 20	811	860	712	50	509	701	50	50			130
3P 7SL/I-250/5T-114	**3P 7SL/I-250/5T-306**	2,1	6,9	4												
3P 7L/I-300/6T-114	**3P 7L/I-300/6T-306**	2,4	8,1	4,7	3× 20	811	860	712	50	509	725	50	50			137
3P 7SL/I-300/6T-114	**3P 7SL/I-300/6T-306**	2,5	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	802	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	826	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	880	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	904	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	1152	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**	1,7	6,1	3,5	3× 20	811	860	712	50	509	732	50	50	3" G	2" ½ G	147
3P 9SL/I-200/4T-109	**3P 9SL/I-200/4T-306**	1,8	6,2	3,6												
3P 9L/I-250/5T-114	**3P 9L/I-250/5T-306**	2,1	7,1	4,1	3× 20	811	860	712	50	509	762	50	50			145
3P 9SL/I-250/5T-114	**3P 9SL/I-250/5T-306**	2,2	7,3	4,2												
3P 9L/I-300/6T-114	**3P 9L/I-300/6T-306**	2,6	8,7	5	3× 20	811	860	712	50	509	792	50	50			150
3P 9SL/I-300/6T-114	**3P 9SL/I-300/6T-306**	2,6	8,7	5												
-	**3P 9L/I-400/7T-309**	3	-	5,8	3× 20	811	860	712	50	509	875	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	935	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	975	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	995	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



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**	-	2,2	-	4,2	1048	980	838	60	509	542	90	90	DN100	3" G *	138
-	**3P 18SL-250/3T**	-	2,3	-	4,3											
-	**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

**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*

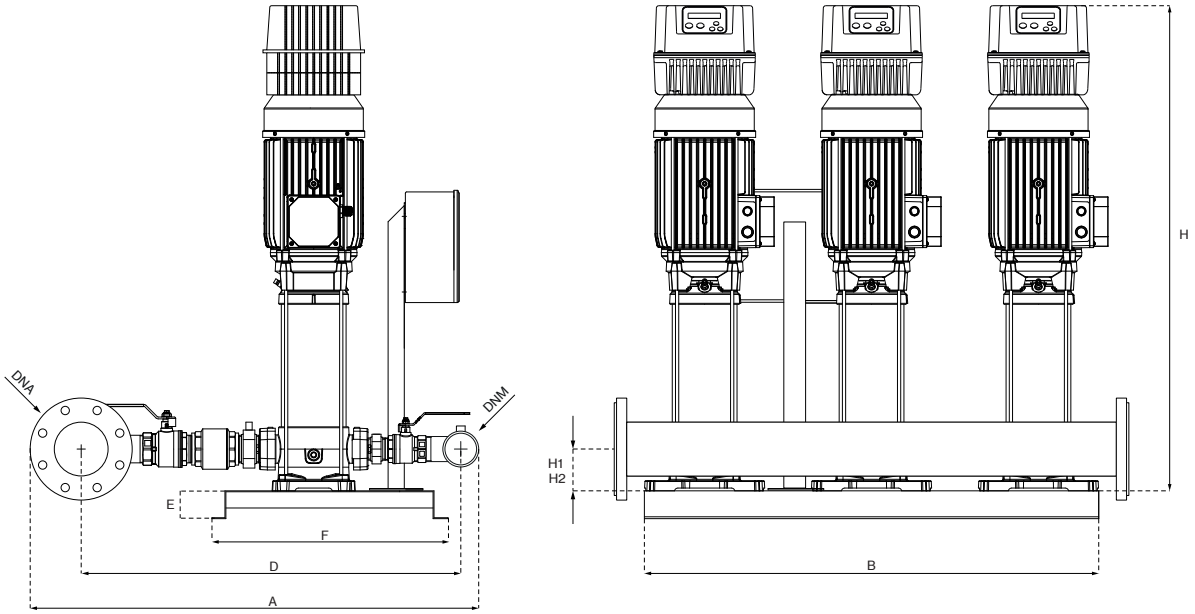




VERTICAL MODEL L (18)		P1	In		Required tank	DIMENSIONS										Kg
EPIC	EPIC-A		3~ 230V	3~ 400V		A	B	D	E	F	H	H1	H2	DNA	DNM	
1~ 230V-in 3~ 230V-out	3~ 400V-in 3~ 400V-out	kW (×3)	A (×3)		Lt	mm										
-	**3P 18L/A-250/3T-306**	2,2	-	4,2	1× 100	1048	980	838	60	509	542	90	90			146
-	**3P 18SL/A-250/3T-306**	2,3	-	4,3												
-	**3P 18L/A-400/4T-309**	3	-	5,8	1× 100	1048	980	838	60	509	663	90	90	DN100	3" G *	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												

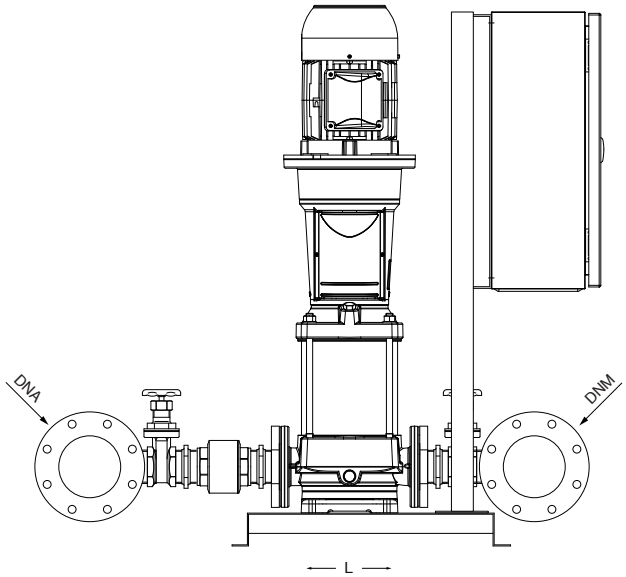
**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*

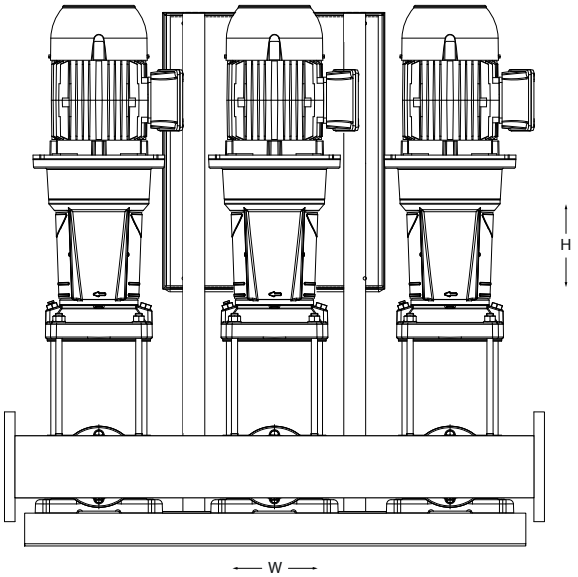
Dimensions and weights may differ slightly and therefore should be considered as indicative



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**	2,2	7,3	4,2	1× 100	1048	980	838	60	509	704	90	90			153
3P 18SL/I-250/3T-114	**3P 18SL/I-250/3T-306**	2,3	7,5	4,3												
-	**3P 18L/I-400/4T-309**	3	-	5,8	1× 100	1048	980	838	60	509	825	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	902	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	940	90	90	DN100	3" G *	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

On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold

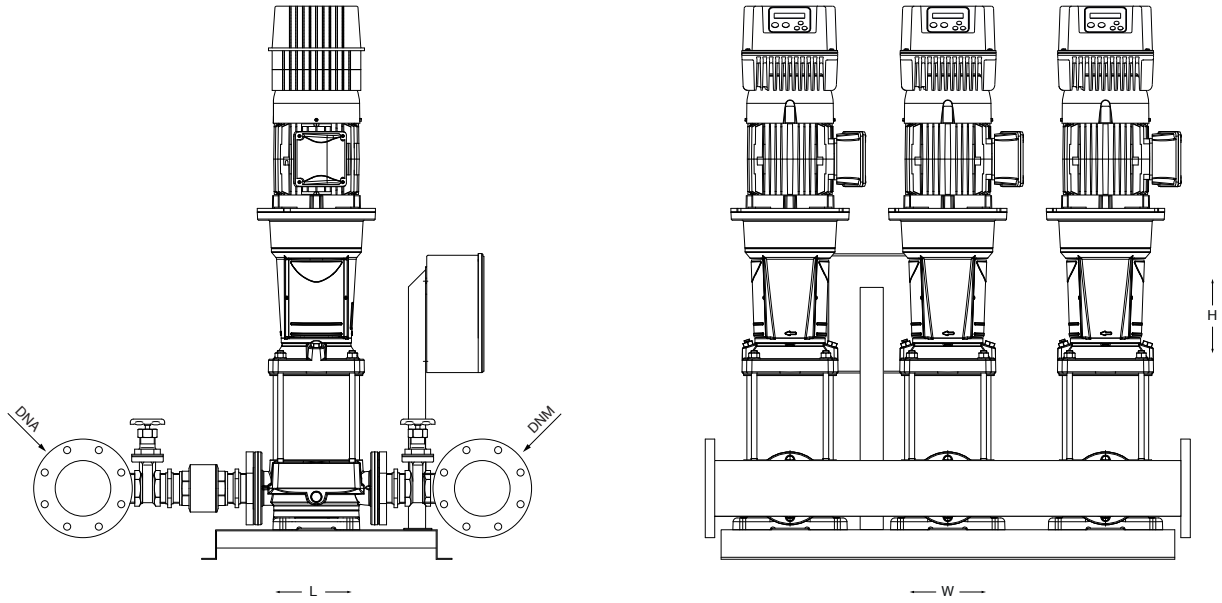




VERTICAL MODEL H (18-22)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230V	3~ 400V	kW (×3)		A (×3)		mm					
-	**3P 18HX-300/3T**	-	2,31	-	4,2	1000	1110	1260			189
-	**3P 18HX-400/4T**	-	3,2	-	5,1	1000	1110	1260			219
-	**3P 18HX-550/5T**	-	4,3	-	7,6	1000	1110	1260			247,5
-	**3P 18HX-750/6T**	-	5	-	8,4	1000	1110	1260	DN100	3" G *	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

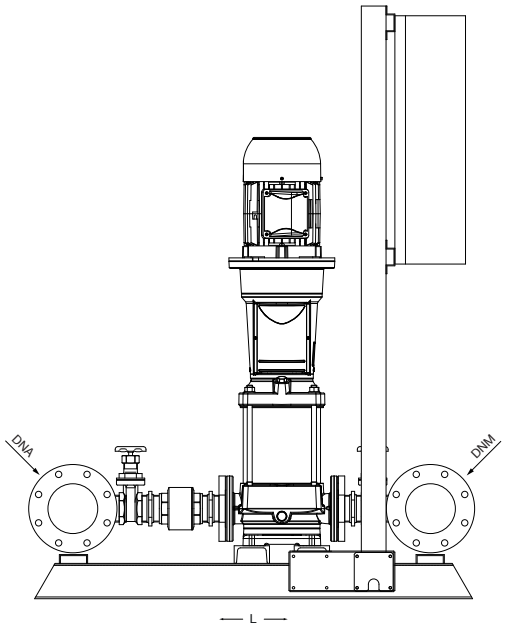
**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*

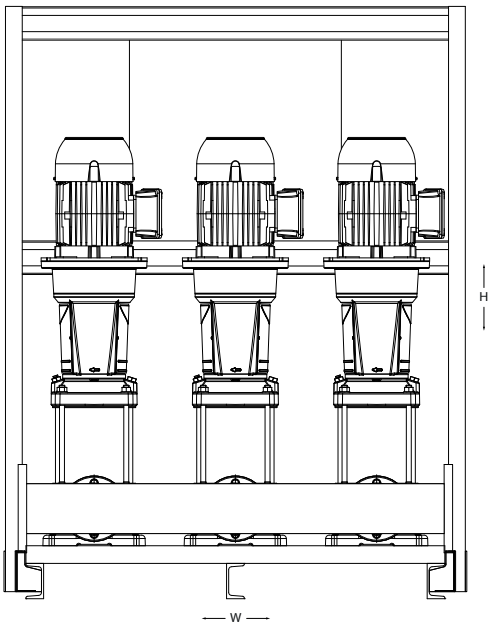
Dimensions and weights may differ slightly and therefore should be considered as indicative



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× 100	1000	1110	1052			219
3P 18HX/I-400/4T-114	**3P 18HX/I-400/4T-306**	3,2	8,8	5,1	1× 100	1000	1110	1142			249
-	**3P 18HX/I-550/5T-309**	4,3	-	7,6	1× 100	1000	1110	1232			277,5
-	**3P 18HX/I-750/6T-311**	5	-	8,4	1× 100	1000	1110	1322	DN100	3" G *	411
-	**3P 18HX/I-750/7T-311**	5,8	-	9,5	1× 100	1000	1110	1372			414
-	**3P 18HX/I-1000/8T-314**	6,5	-	11,3	1× 100	1000	1110	1500			435
-	**3P 18HX/I-1000/9T-314**	7,3	-	12,3	1× 100	1000	1110	1550			439,5
3P 22HX/I-400/3T-114	**3P 22HX/I-400/3T-306**	3,3	9,2	5,3	1× 100	1000	1110	1252			246
-	**3P 22HX/I-550/4T-309**	4,6	-	8,1	1× 100	1000	1110	1302			273
-	**3P 22HX/I-750/5T-311**	5,9	-	9,5	1× 100	1000	1110	1442	DN125	DN100	406,5
-	**3P 22HX/I-1000/6T-314**	6,7	-	11,4	1× 100	1000	1110	1540			432
-	**3P 22HX/I-1000/7T-318**	7,7	-	12,8	1× 100	1000	1110	1590			435

**On request: No. 1 DN80 flange to be screwed onto the thread of one of the two ends of the manifold*





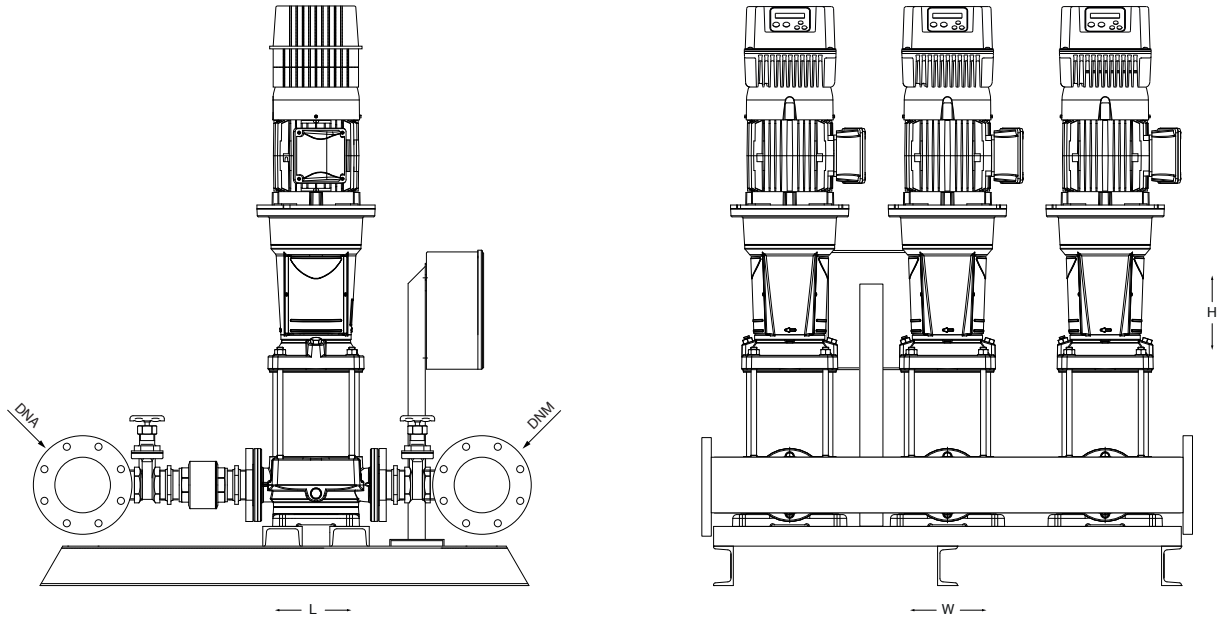
VERTICAL MODEL H (35-90)		P1		In		DIMENSIONS					Kg
		1~	3~	1~	3~	L	W	H	DNA	DNM	
1~ 230	3~ 400	kW (×3)		A (×3)		mm					
-	**3P 35HS-750/2T**	-	5,0	-	8,3	1150	1220	1550	DN125	DN125	698
-	**3P 35HS-1000/3T**	-	7,2	-	12,2	1150	1220	1550			744
-	**3P 35HS-1000/4-2RT**	-	8,5	-	13,7	1150	1220	1550			759
-	**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

DIMENSIONS 3P VERTICAL

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

Variable speed IPFC

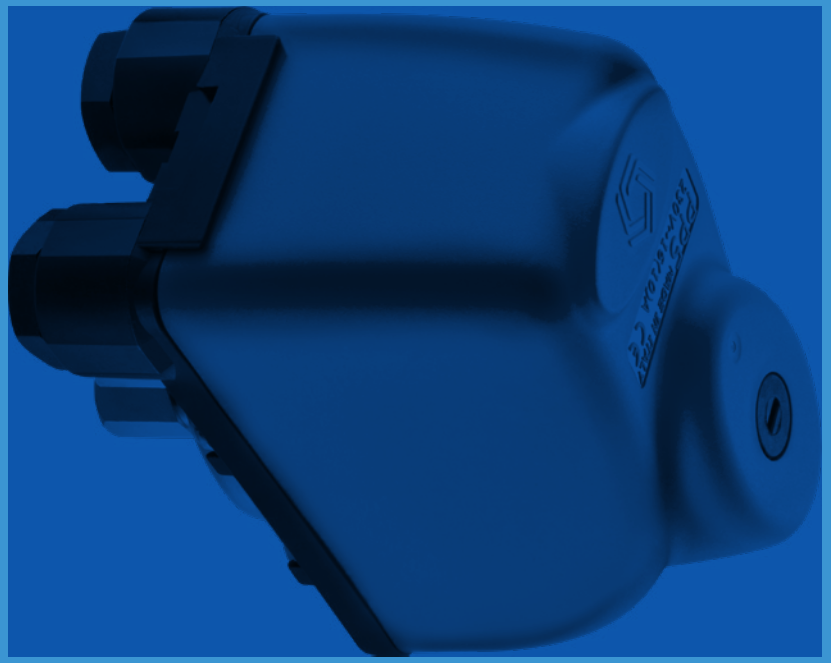


VERTICAL MODEL H (35-90) IPFC 3~ 400V-in 3~ 400V-out	P1	In	Required tank	DIMENSIONS					Kg
		3~ 400V		L	W	H	DNA	DNM	
	kW (×3)	A (×3)	Lt	mm					
3P 35HS/I-750/2T-311	5,0	8,3	1× 200	1150	1220	1802	DN125	DN125	728
3P 35HS/I-1000/3T-314	7,2	12,2	1× 200	1150	1220	1850			774
3P 35HS/I-1000/4-2RT-318	8,5	13,7	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

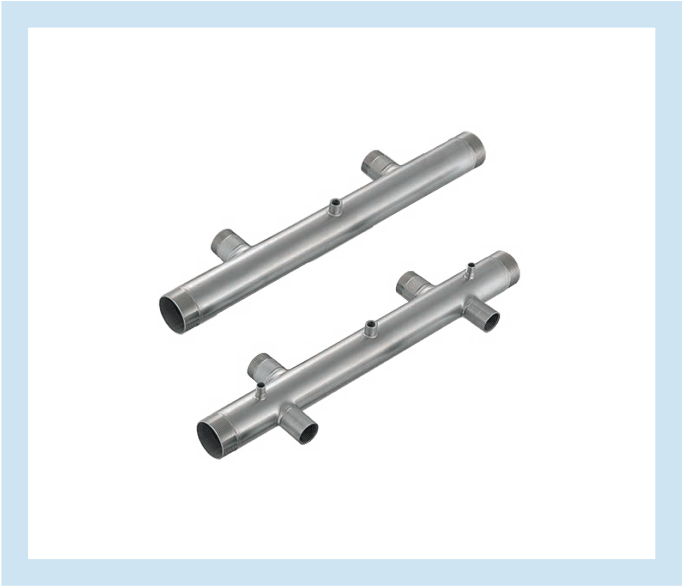
FORAS®

WATER PUMPS

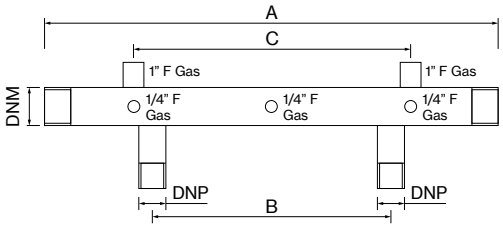


ACCESSORIES

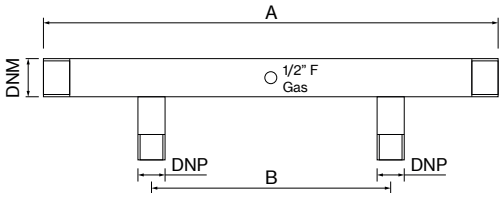
MANIFOLDS



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

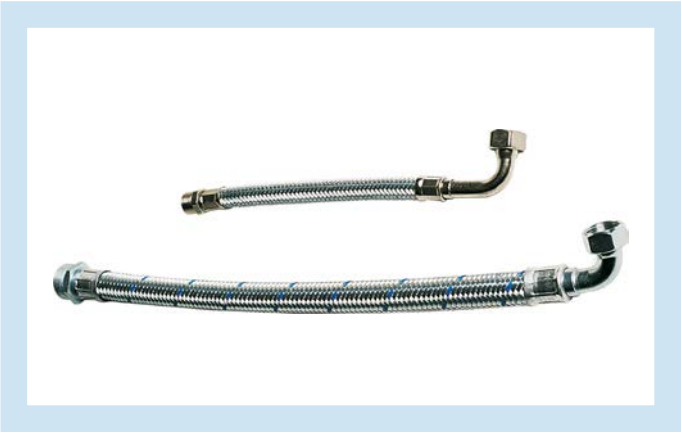
TYPE	DESCRIPTION	RANGE AT RISING PRESSURE (bar)
PP5	1- / 3~	1-5
PP12	1- / 3~	3-12

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

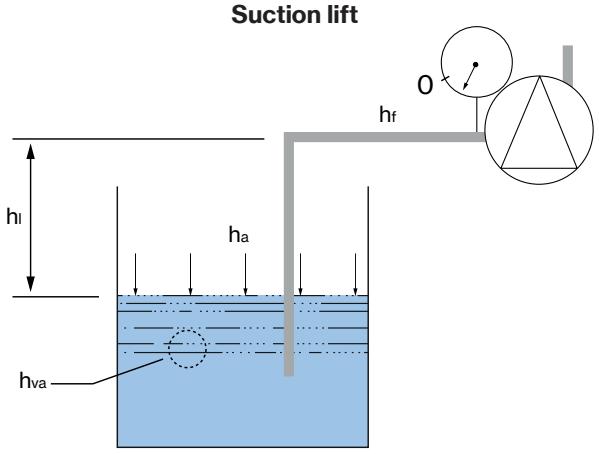
TECHNICAL APPENDIX

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.

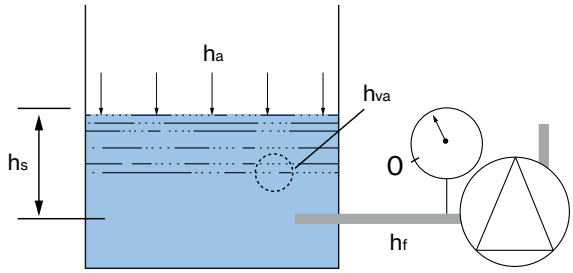
There are three equations to calculate NPSHA in a system depending upon whether the system has suction lift or flooded suction or looded suction from a pressurized suction tank.

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)

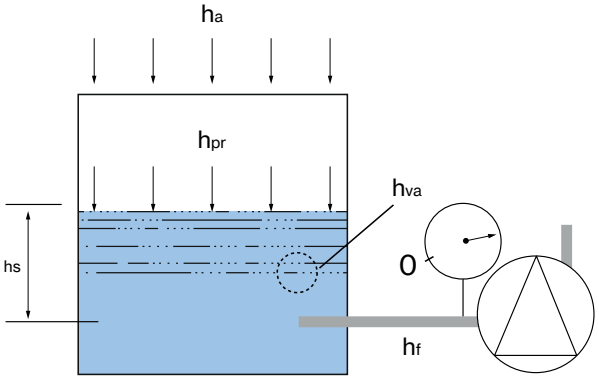
hf = friction head loss in the suction pipework (m)

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.

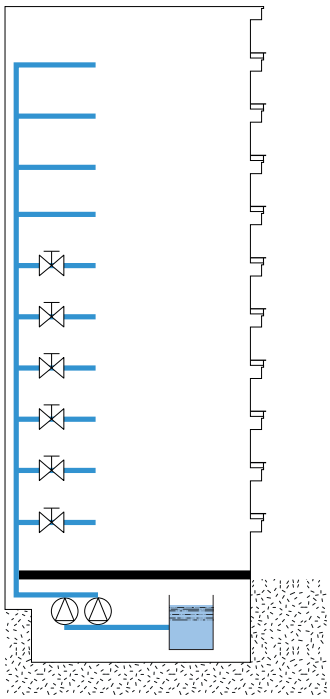
System layout

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.

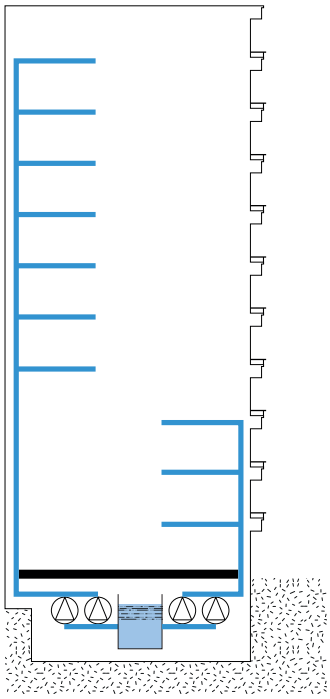
Advantages
Only one riser needed (simple design)
No space required on upper floors
Disadvantages
Excess pressure on lower floors in building exceed ten floors (pressure reduction valves and high pressure graded pipes needed)



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.

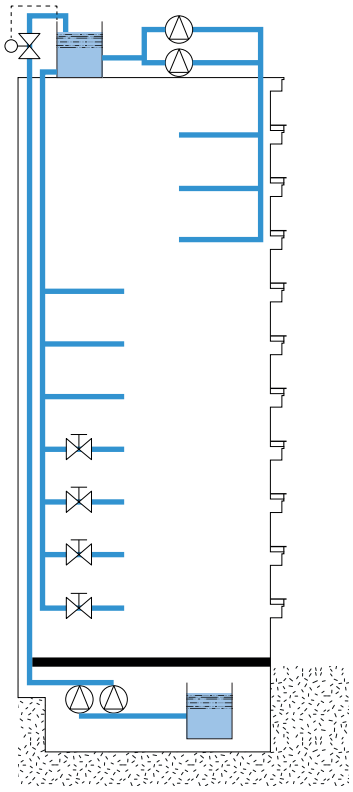
Advantages
Manageable pressure zones
Increased flexibility and security due to zoning
No space required on upper floors Low-cost operation due to no residual pressure
Disadvantages
Higher initial cost than single-zone systems
Higher static pressure in upper zones (high pressure graded pipes)



SYSTEM LAYOUT

Overhead tanks systems

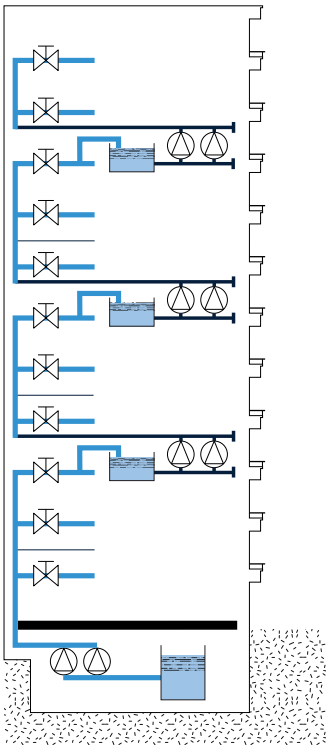
Fresh water tanks placed atop high-rise buildings are used in water supply applications mainly due to unstable water mains and unstable power supply. The transfer pumps in the basement fill the roof tank and then water is supplied to the majority of the apartments through gravity. For the apartments 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.

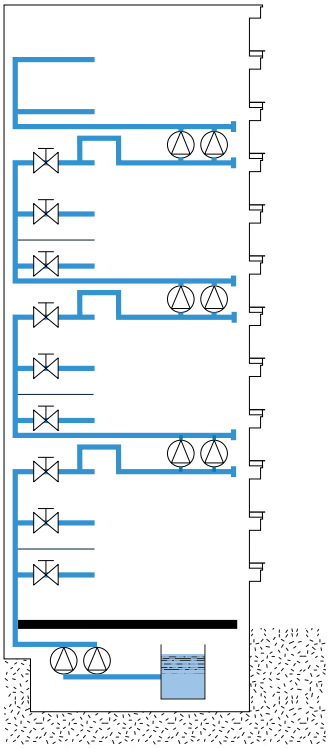


Advantages
Low pressure in each zone (no pressure reduction valves and less pressure-graded pipes needed)
Manageable pressure zones
Easy to size because each zone has its own supply tank
Disadvantages
Higher initial cost than single-zone systems
Higher static pressure in upper zones (high pressure graded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

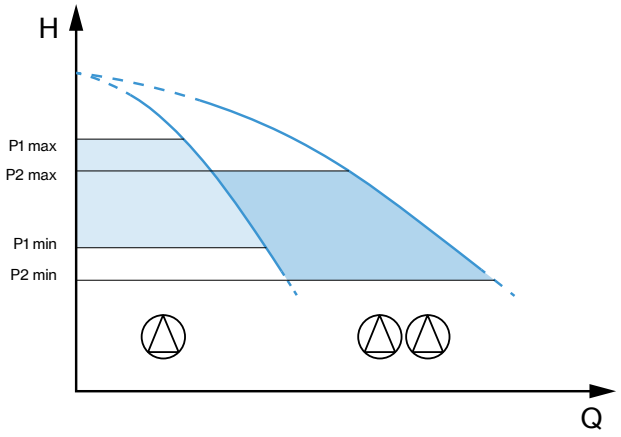
Series-connected systems without intermediate storage tanks

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

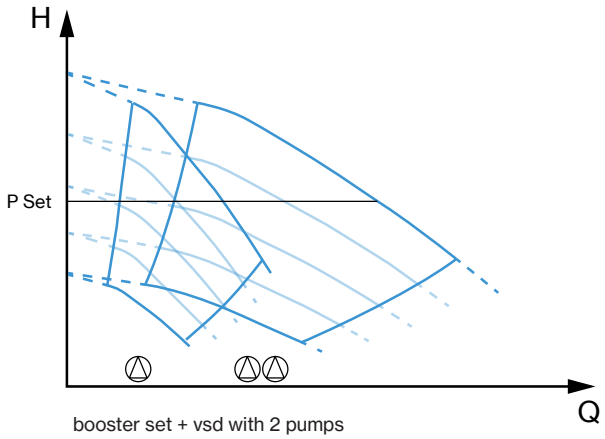
Operation principal of fixed speed control

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

<table>
<tr><th colspan="2">MEMBRANE TANK VOLUME CALCULATION</th></tr>
<tr><td>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 (m³/h)
S= Start pressure (bar)
D= Differential pressure “between stop and start (bar)
M= Maximum starts allowed per hour

$$V = \frac{Q \times 1000 \times S}{4 \times M \times (D + 0{,}2)}$$</td><td>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.</td></tr>
<tr><th colspan="2">MEMBRANE TANK PRE-CHARGE PRESSURE</th></tr>
<tr><td>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.</td><td>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</td></tr>
</table>

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

GENERAL SALES CONDITIONS

ART. 1 - DEFINITIONS

For the purpose of this Contract, the following expressions shall bear the respective meaning set forth below:

a) Seller/Producer: means "PENTAX INDUSTRIES S.P.A.";
b) Purchaser: means "natural or legal person who purchases the Seller's goods in business activities";
c) Product/s or Good/s: means "standard product and products which are personalized for the Purchaser, produced and/or sold by the Seller, such as: electric pumps, pumps, and accessories;"
d) Contract and/or General Sales Conditions: means "the present contract;
e) Orders or Request of quotation means "the written request from the Purchaser to buy the Products from the Seller";
f) Order Confirmation: means "the Order acceptance document from the Seller";
g) Party/Parties: means "Seller and/or Purchaser";
h) Technical assistance for installation of Products means "The Seller's assistance through its operators who will travel to the Site, to support the Purchaser's staff by transferring technical notions about ways to install the Products. The Operators will not provide the direct installation of the Products on the Site;
i) Site or Worksite: means "the place of installation of Products";
j) Operator/s: means "the owners of the company, employees and collaborator of the Seller who can go to the Site for Technical assistance for installation of Products.
k) Business day/Business days: means the days from Monday to Friday of each week, excluding Saturdays, Sundays, and public holidays as listed in the official calendar of national holidays in Italy, as well as any company closure days notified in writing by the Seller with at least 8 (eight) days' prior notice. If a contractual deadline falls on a day that is not considered a Business Day, such deadline shall be deemed extended to the next following Business Day.
l) Days: means calendar days, as opposed to Business Days as defined under letter k) above.

ART. 2 – CONTENT AND FORM OF THE CONTRACT

2.1 Replacement of previous agreements and application of present Contract to future sales. The present General Sales Conditions regulate the relationship between the Parties, replace any previous agreement or document signed and apply to all the purchases which will take place between the Parties even if not expressly referred to in subsequent reports, and prevail on the general Conditions of purchase of the Purchaser.
2.2 Modification of the General Sales Conditions. Every modification of the present General Sales conditions shall be expressly confirmed in writing by the Seller.
2.3 Binding Orders. Orders shall be considered binding only when:(i) they are accepted or confirmed in writing by the Seller's legal representative or by a person expressly authorized by the Seller, through the issuance of an Order Confirmation; and (ii) the Order Confirmation is signed by the Purchaser or, alternatively, if 2 (two) Business days have passed since its transmission to the Purchaser without any objections or responses being raised by the latter. The Order becomes irrevocable the moment the Seller has knowledge of it.
2.4 Refusal of Orders. Without prejudice to its own rights, the Seller reserves the right to refuse the Orders if not completed or to block the deliveries of the Products if the Purchaser does not carry out its obligations.
2.5 Modifications and suspension of Contract. If the Purchaser modifies or suspends the Contract, the Seller has the right to terminate the Contract and ask for damage compensation, or to increase the agreed price. It is understood that the Seller shall under no circumstances be obligated to reduce the previously agreed price.
2.6 Order Procedure. The Purchaser sends the Order or the Request of quotation to the Seller in writing. The Seller may send a quotation/offer and subsequently issue the Order confirmation.
2.7 Communication of Wrong Order Confirmations. Should the Purchaser find an error and/or omission of any kind in the Order confirmation, he shall within 2 (two) Business days communicate such circumstances to the Seller, to allow him to check the Order Confirmation and to make the necessary corrections or changes.
2.8. Modifications and improvement to the Products. The Seller reserves the right to modify the Products compared to what is outlined in the related offer and/or Order Confirmation, when such modifications are necessary and/or appropriate due to technical and/or production needs or are mandatory under applicable law governing the Contract, provided that they do not reduce and/or alter the performance and/or quality characteristics of the Products agreed upon between the Parties (by way of example and not limitation: variation of materials, accessories, finishes, color shades, etc.). In the event of modifications and/or improvements, the Seller commits to notifying the Purchaser, who shall not be entitled to terminate the Contract for such reasons.
2.9 Mandatory rules of country of Site. In case the country of the Site for the supply of the Products requests the enforcement of mandatory rules, the Purchaser shall be responsible for communicating to the Seller, the relevant regulations in English, before signing the Order Confirmation. Failure to communicate the above-mentioned regulations, the Purchaser shall not be liable in any way or for any reason for the non-compliance of such regulations.

ART. 3 – PAYMENT CONDITIONS

3.1 Price. The price of the Products shall be indicated in the Order Confirmation.
3.2. Currency. The amounts in the Confirmation Order shall be indicated by the Seller in Euro or in US Dollars (USD).
3.3 Payment conditions. The payment conditions shall be specified in the Order Confirmation, and the Purchaser undertakes to pay by the deadlines indicated in the Order Confirmation, or as otherwise agreed by the Parties.
3.4 Late Payments. If the payments are late, default interest is applied as indicated in D.Lgs 231/2002, as well as bank charges and financing costs incurred by the Seller because of late payment.
3.5 Obligation to pay in case of postponement request of delivery and/or Site is unsuitable to receive Goods. If the Purchaser asks for the postponement of the delivery date of the Goods as indicated in art. 5.2, the Seller has the right to ask the Purchaser for the balance of the price payment and a compensation for the deposit of the Goods at its own site or at a third party's site for its whole duration, with prior written communication to the Purchaser. With the sending of the request of the payment of the price balance, the Purchaser shall be considered as having received formal notice in accordance with the law. The costs and risks of transportation of Goods for their deposit at a third subject's shall be entirely borne by the Purchaser and shall be paid when the invoice is presented. Within the end of every month or at another due date at its discretion, the Seller shall issue an invoice to the Purchaser for the payment of the deposit costs.
3.6 Revision of prices in case of Purchaser's request to modify measurements and/or the Contract. In case the Purchaser requests modification to measurements of Goods in accordance with art. 4.3, or modifications of the Contract (by way of example and not limited to: request for extra Goods, change of material type, color variations, etc..), the Seller shall have the right to a revision of an increased price. The price agreed between the Parties shall not be in any case reduced. In case of non-acceptance of modifications by the Seller, the Purchaser shall pay the entire agreed price.
3.7 Clause limiting the pro position of exceptions. The Purchaser cannot avoid payment of owed amount, as there is a clause expressly called the clause "solve et repete", indicated in article 1462 of the Italian Civil Code.
3.8 Travel allowance. The Seller shall have the right to ask the Purchaser for a travel allowance and a reimbursement of any additional costs to those indicated in the Order Confirmation, as better described in art. 5.5.

ART. 4 – DELIVERY AND PASSING OF RISK

4.1 Delivery date. The delivery date is indicated in the Order Confirmation, the Seller is not liable for any delays in the delivery of Products, determined by fortuitous circumstances, force majeure or in any case circumstances beyond his control. The delivery dates do not have a peremptory or essential nature but are purely meant as approximate and non-binding for the Seller. Any delays in the delivery shall not entail a penalty or indemnity or compensation for damages, or application of default interests, or even a partial termination of the Contract.
4.2 Request for postponement of delivery and/or unsuitability of Site to receive Products. In case the Purchaser requests for any reason a postponement of delivery date of Products (by way of example and not limited to: delay in work progress on Worksite, delay in carrying out of work preparations to receive Products etc), the Seller shall store the Products at its own company or at a third party's and shall have the right to a reimbursement for the deposit of the Products for the whole duration of the deposit of Goods and moreover, shall have the right to the payment of the balance of the price of the Goods as referred to in the above article 3.4.
4.3 Delay in the delivery due to Purchaser. In case the Seller is late in the delivery for reasons caused by the Purchaser, the Seller shall not be liable for the delay or any allowance or damage compensation that may be requested from him, as indicated in art. 4.1.
4.4 Delivery clause. Unless otherwise agreed, the Seller delivers the Products according to Incoterms ® 2020, indicated in the Order Confirmation.
4.5 Passing of risk. Risk of loss or deterioration of Products goes to Purchaser at time of delivery of Products to Purchaser in accordance with art. 4.4.

4.6. Storage Obligation. The Purchaser undertakes to store the Products separately from other goods in the Worksite, in a dry, under shelter and supervised area, considering the particular climactic conditions of the place of destination and the nature of the material with which the Goods are built.
4.7. Communication of any damages during transportation. Upon receiving the Products at his own establishment, the Purchaser must check that the Products are intact and have not undergone deterioration or damages, and must communicate to the Seller and to the carrier any deterioration or damage of the Products within 2 (two) Business days of the receipt of the Products.

ART. 5 – TESTING, INSTALLATION AND TECHNICAL ASSISTANCE FOR INSTALLATION

5.1 Testing. The Purchaser may request, under penalty of forfeiture, the testing of the products in the Order. The testing, if requested, shall be carried out exclusively at one of the Seller's locations, chosen at the Seller's discretion, within 10 (ten) Business days from the notification to the Purchaser that the Products are ready for testing. The Seller may specify a cost for the execution of the testing in the Order Confirmation, which shall be borne by the Purchaser. The Seller shall prepare the "Testing Report," which shall be signed by both Parties. Any interventions for the removal of defects and/or faults shall be quantified and agreed upon by the Parties regarding the timing and methods of intervention, taking into account the Seller's production needs. The lapse of 15 (fifteen) Days without the Purchaser's participation in the testing will result in the Purchaser's waiver of the testing, and the Seller may proceed with the testing internally without any opposition.
5.2 Installation. The Installation of the Products at the Site shall be carried out by and at the expense of the Purchaser, in accordance with the procedures set forth in the "Instruction Manual" provided by the Seller.
5.3. Technical assistance for the installation at the Site. The Purchaser may ask for Technical assistance for the installation of the Goods in the Order, should he ask for it after filling out the Order, the Seller shall accept to carry out the Technical assistance at his discretion. Should the Seller accept to carry out the Technical assistance for installation the Seller shall communicate the relative costs which shall be entirely borne by the Purchaser as indicated in art. 5.7.
5.4. Number of persons. The number of persons (Operators, as defined in art. 1 lett. K) who will be in charge of the Technical assistance for the installation of the Goods shall be decided at the Seller's discretions. All the staff dedicated to the assistance is equipped with suitable individual protection (D.P.I.), based on pinpointed risks, and communicated to the Purchaser by the Seller in writing.
5.5. Extension of stay for Technical Assistance for installation of the Goods. In case the Technical assistance for installation of Goods days agreed on between the Parties should be modified and/or extended for any reason not liable to the Seller, any increased costs shall be borne by the Purchaser (ex. higher travel costs), as well as a daily allowance for each Operator, whose sum is specified in the Order Confirmation or subsequently following the request for Technical assistance for the installation. The Purchaser undertakes to pay for the owed amounts when paying the balance of the price.
5.6. Available spaces on the Site: restrooms and kitchen. The Purchaser undertakes to equip the Site with adequate sanitary facilities and suitable spaces to allow the Operators to cook and have meals. If no hotel is available near the Worksite, the Purchaser shall also arrange for decent and clean accommodation for the Operators' overnight stay.
5.7 Expenses to be borne by the Purchaser. If the Seller carries out the Technical assistance for the installation, the following expenses shall be borne by the Purchaser:
a) travelling expenses (round-trip airfare ticket) and of prophylaxis for each of the Seller's Operators, according to what the Farnesina suggests (Ministry of Foreign Affairs) or what is considered appropriate for each Operator;
b) extra travelling expenses (ex. surcharge or new airfare ticket) for each Operator, because of early or delayed return to Italy for whatever reason which is not attributable to Seller;
c) travel insurance expenses, accident, death, medical assistance in general extra, for each Operator beyond the duration of the stay for reasons not attributable to the Seller;
d) transfers in private car or in public means of transportation from the airport to the accommodation, from the accommodation to the Site and vice versa, of the Operators;
e) room and board expenses for each Operator: each Operator shall have a single room with private restroom at his disposal as well as a laundry service, a bar/restaurant service, a cleaning service and the room shall be in a secure, supervised area. The board shall include: breakfast, quick lunch (also on Worksite), dinner;
f) expenses for interpreting services in English and in the local language at the Site.

ART. 6 - RETENTION TITLE

The Products remain the property of the Seller until full payment of the price as per Article 3.1. Any formalities (e.g., contract registration) required in the Purchaser's country for the validity of this article shall be borne by the Purchaser. The Purchaser undertakes, in the event of resale of the Products to third parties before full payment to the Seller, to inform third parties that the Products belong to the Seller until full payment is made. In the event of termination of the Contract due to the Purchaser's breach, the price installments paid shall be retained by the Seller as compensation within the limits set by law, without prejudice to the right to claim further damages arising from such termination.

ART. 7 - GUARANTEE

7.1 Seller's liability. The Seller is liable for the defects of the Products, only if the defects are not due to the Purchaser's fraud or fault, and the Seller is able to verify the existence of the defects contested by the Purchaser.
7.2 Duration of the guarantee and of the deadline for reporting defects. The defects of the Goods shall be reported in writing to the Seller within 30 (thirty) Days of the discovery or from the time the Purchaser should have known about them. The guarantee shall expire within 2 (two) years of the delivery of the Goods.
7.3 Consequences in case of defects. The Seller may, at its discretion, repair, replace, or issue a credit note in the case of a Product defect, after receiving from the Purchaser photos of the defective Products via email, according to the procedures to be agreed upon by the Parties. If the Seller requests the Purchaser to send the Product to its premises or to those of its supplier for repair, the Purchaser shall bear the cost and risk of transporting the Product, including the cost and risk of returning the Product to the Site.
7.4 Prohibition for the Purchaser to repair the defective Product. The Purchaser is not authorized, in the case of defective Products, to proceed without the written consent of the Seller: a) to repair or replace the defective Product directly or indirectly through third parties; b) to send the Products to the Seller.
7.5. Exclusion of Warranty. The warranty is excluded in the following cases:
(a) failure, delayed, or partial payment of the price by the Purchaser; (b) alterations and/or modifications of the Products not authorized in writing by the Seller; (c) improper use of the Products; (d) storage and/or deposition of the Products in a manner not suitable for the nature and type of the Products; (e) electrical or hydraulic connection errors, or inadequate or absent protection of the Product; (f) improper installation of the Product; (g) the Product has been subjected to overloads beyond the rated limits; (h) contact of the Products with abrasive or corrosive liquids, or any other substances incompatible with the materials used in the construction of the Products; (i) normal wear and tear of the Products and/or their materials; (j) inadequate transportation methods if the transportation is managed by the Purchaser.
7.6 Exclusion of Liability. Without prejudice to the application of the laws regarding liability for damage caused by defective products, the Purchaser hereby waives any claim for damages and any right to cancel the Order, in whole or in part, and/or suspend payment for the Products, even if limited to the disputed batch, pursuant to Article 3.7 of this Contract.

ART. 8 - PACKAGING

8.1 Standard packaging. The standard packaging provided by the Seller for the Products and accessories is in pallets, cartons, or wooden crates.
8.2. Non-standard packaging. If the Purchaser requires a different type of packaging from the standard, it shall be communicated in the Order under penalty of forfeiture.

ART. 9- HARDSHIP CLAUSE

9.1 Bound to perform contractual duties. Each Party of this Contract is bound to perform its contractual duties even if the events have rendered performance more onerous than could reasonably have been anticipated at the time of the formation of the Contract.
9.2 Negotiation of new contractual terms. Notwithstanding art. 9.1, where a Party proves that:
a) the continued performance of its contractual duties has become excessively onerous due to an event beyond its reasonable control which it could not reasonably have been expected to have taken into account at the time of the formation of the Contract; and that
b) it could not reasonably have avoided or overcome the event or its consequences, the Parties are bound, within a reasonable time of the invocation of this article, to negotiate new contractual terms which reasonably allow for the consequences of the event.
9.3 Termination of the Contract because of lack of agreement between the Parties. Where art. 9.2 applies, but where new contractual terms which reasonably allow for the consequences of the event are not agreed by the other Party to the Contract as provided in that article, the Party invoking this article is entitled to termination of the Contract.
9.4 Consequences in case of termination of the Contract. If the Seller enforces the present article, and the Purchaser does not agree with the new contractual conditions, the Purchaser shall have the right to terminate the present Contract but shall not be entitled to a refund of what was already paid to the Seller.

ART. 10 - EARLY TERMINATION OF THE CONTRACT

10.1 Early termination of the Contract. The Seller may terminate this Contract with immediate effect, by means of an email notification followed by a written notice sent by means of communication ensuring evidence and date of receipt, in case of a breach of contractual obligations by the Purchaser, amounting to a justifiable reason for immediate contract termination or in case of occurrence of exceptional circumstances which justify the earlier termination, as set forth below.

10.2 Breach of Contractual obligation. The Parties jointly agree that the breach of the provisions under articles 2.5, 3.4, 3.6, 9.3, 11.2, 13.2, 15.2 is to be considered in any case, whatever the importance of the violation, as a justifiable reason for immediate Contract termination. Furthermore, the breach of any other contractual obligation, which is not remedied by the breaching party within 30 (Thirty) days after having been invited in writing to do so by the order Party, shall be considered as a justifiable reason for the immediate Contract termination.

10.3 Exceptional circumstances. Shall be considered as exceptional circumstances justifying the immediate Contract termination: bankruptcy, any kind of composition between the bankrupt and the creditors, death or Purchaser's failure, civil or criminal penalties and any other circumstance that could compromise the Purchaser's reputation, any important changes in the juridical structure or in the management of the Purchaser, as well as any circumstances which may affect the punctual carrying out of the obligations set forth in the Agreement.

10.4 Consequences in case of early termination. In the event of early termination of the contract, the Purchaser recognizes the Seller's right to retain the amounts received by him as an adjustment for the price of the Goods and to request any amount still owing until the complete attainment of the total price indicated in the Order Confirmation in accordance art. 3.1, except for any further damage.

ART.11 - VALIDITY OF THE CONTRACT

1.1 Invalid or unenforceable clause. Should any clause be considered invalid or unenforceable by the judgement of a Court of competent jurisdiction or award of an Arbitral Tribunal, all other provisions shall remain in full force and effect.

11.2 Replacement of any invalid prevision. The Parties agree, however, to replace, when possible, any provision declared invalid by a provision which shall reflect their initial intent, as objectively and consistently as possible and in accordance with the basic relationship existing between the Parties.

ART. 12- NO WAIVER

The non-enforcement of any provision contained in this Contract shall not be construed by the Seller as a waiver of the right to enforce the provision at another time under different circumstances and/or enforce other provisions of this Contract.

ART. 13 - FORCE MAJEURE

13.1 Force majeure events. In the event of an Act of God (including but not limited to a flood, earthquake, typhoon, epidemic or other natural calamity), war, civil war, or armed conflict or the serious threat of the same (including but not limited to a hostile attack, blockade, embargo, riot or insurrection), governmental order or regulation (including but not limited to prohibition or restriction of importation or exportation or the regulation or allocation of energy resources), labour disputes (including but not limited to a strike, slowdown, lockout or sabotage), or any other causes beyond the reasonable control of the parties hereto (including a fire, power failure, delay in the delivery of component and/or raw materials), neither Party shall be liable for any failure to perform any of its obligations hereunder.

13.2 Termination of the Contract due to force majeure. Any Party hereto shall have the right to terminate this Agreement upon prior written notice if either party is unable to fulfil its obligations under this Agreement due to any of the above-mentioned causes and such inability continues for a period of 6 (six) months.

ART. 14 - COMMUNICATION

14.1 Form of the communication. All correspondence, communications and documents between the Parties shall be in writing in English, Spanish or French (by e-mail, courier) and shall be sent to the last known address of the other Party.

14.2 Receiving of the communication. The communications sent by mail shall be deemed to be received after 7 (seven) days from the sending. The communications sent by e-mail shall be deemed to be received the same day of the sending.

ART.15 - INTELLECTUAL PROPERTY

15.1 Ownership of Intellectual Property. The Purchaser expressly recognizes the Seller's ownership of intellectual property rights relating to present Contract, by way of example and not limited to (brands, technical and commercial documentation related to samples, catalogues, schedules, ideas, photographic and audiovisual images etc.). Any use, reproduction, dissemination or representation of such document can occur exclusively following a written authorization written by the Seller and within the limits indicated in the same authorization. Such rights are protected by the Italian law and by International regulations.

15.2 Prohibition of anti-competitive behaviour. The Purchaser is prohibited from displaying anti-competitive behaviour of the intellectual property rights, which go against the aforementioned regulations and/or agreements between the Parties.

ART. 16 – MEDIATION AND JURISDICTION

16.1 Dispute resolution with Purchaser residing or having his registered office in the European Union (Mediation and Jurisdiction).

16.1.1 Mediation. Any dispute arising from the relationship between the Parties concerning the interpretation, execution, validity, and termination of this Contract shall be submitted to a mediation procedure conducted by a sole mediator, appointed, and proceeding in accordance with the Mediation Rules of the Mediation Centre for Europe, the Mediterranean and the Middle East having its seat in Strasbourg, which Rules are in force at the date of filing of the application for mediation.

16.1.2 Exclusive jurisdiction. In the event of a negative outcome of the conciliation attempt within forty-five (45) days from the filing of the conciliation request, or within any other term agreed upon by the Parties, the dispute will be exclusively referred to the Court of Verona (Italy).

16.1.3 Venue for mediation procedure. The venue for the mediation procedure is in Padua (Italy). The language of the procedure is English.

16.2 Dispute resolution with Purchaser residing or having its registered office in a Non-EU country (Mediation and Arbitration).

16.2.1 Mediation. Any dispute arising from the relationship between the Parties concerning the interpretation, execution, validity, and termination of this Contract shall be submitted to a mediation procedure conducted by a sole mediator, appointed, and proceeding in accordance with the Mediation Rules of the Mediation Centre for Europe, the Mediterranean and the Middle East having its seat in Strasbourg, which Rules are in force at the date of filing of the application for mediation.

16.2.2 Arbitration. In the event that the mediation is not successful, the arbitration proceedings shall be conducted in accordance with the Arbitration and Internal Rules of the European Court of Arbitration being part of the European Centre of Arbitration, having its seat in Strasbourg and of which adoption of this clause constitutes acceptance, by a sole arbitrator, who will be appointed, by the Central Registrar Strasburg.

16.2.3 Seat of mediation and arbitration, language and substantive law. The seat of the mediation and arbitration proceedings shall be Padua (Italy). The language of the proceedings shall be English. The applicable rules of substantive law shall be Italian law.

16.2.4 Emergency measures. In any case, the Parties reserve the right to seek the competent judicial authority in the event of the need to obtain emergency measures to protect their rights.

ART 17 - APPLICABLE LAW

The present Contract is governed by the United Nations Convention on the International Sales of Goods and, with respect to questions not covered by such Convention by the law of Italy.

ART. 18 - PRIVACY POLICY

In compliance with the Italian Personal Data Protection Code Legislative Decree No. 196/2003), and the General Data Protection Regulation (EU Regulation 2016/679) we inform you that your personal information will be recorded and handled for legal, fiscal and commercial purposes. The processing of your personal data may be performed also to send advertising materials or to carry out commercial communication activities related to PENTAX INDUSTRIES S.P.A. You are not obliged to give us your personal information. If you do not provide your personal information, it may be impossible for us to refer, respond to, or investigate your complaint or request. This provision does not apply to the processing of personal data performed to send advertising materials to carry out commercial communication activities. We may share your information with our employees, contractors acting on our behalf, consultants, any public or private authority that must access your data, who are subject to confidentiality agreements, only for the abovementioned purposes. Your data may be disseminated through our web site or our publications for commercial reasons. The abovementioned collection and handling of information, which may be automatically processed, will be made using those tools as are appropriate to guarantee its security and confidentiality. The collection and handling of your personal information will run for a period of ten (10) years after the termination of the contractual relationship. After that period, the information will be erased. You are entitled to the rights as per articles 15-22 of EU Regulation 2016/679 and you may access your personal information to correct, update, rectify, make anonymous, integrate, cancel and/or block it. The Data Controller is PENTAX INDUSTRIES S.P.A.

NOTES

2-3 UNITS BOOSTER SETS

50Hz

Technical Catalogue

registered trademark of
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