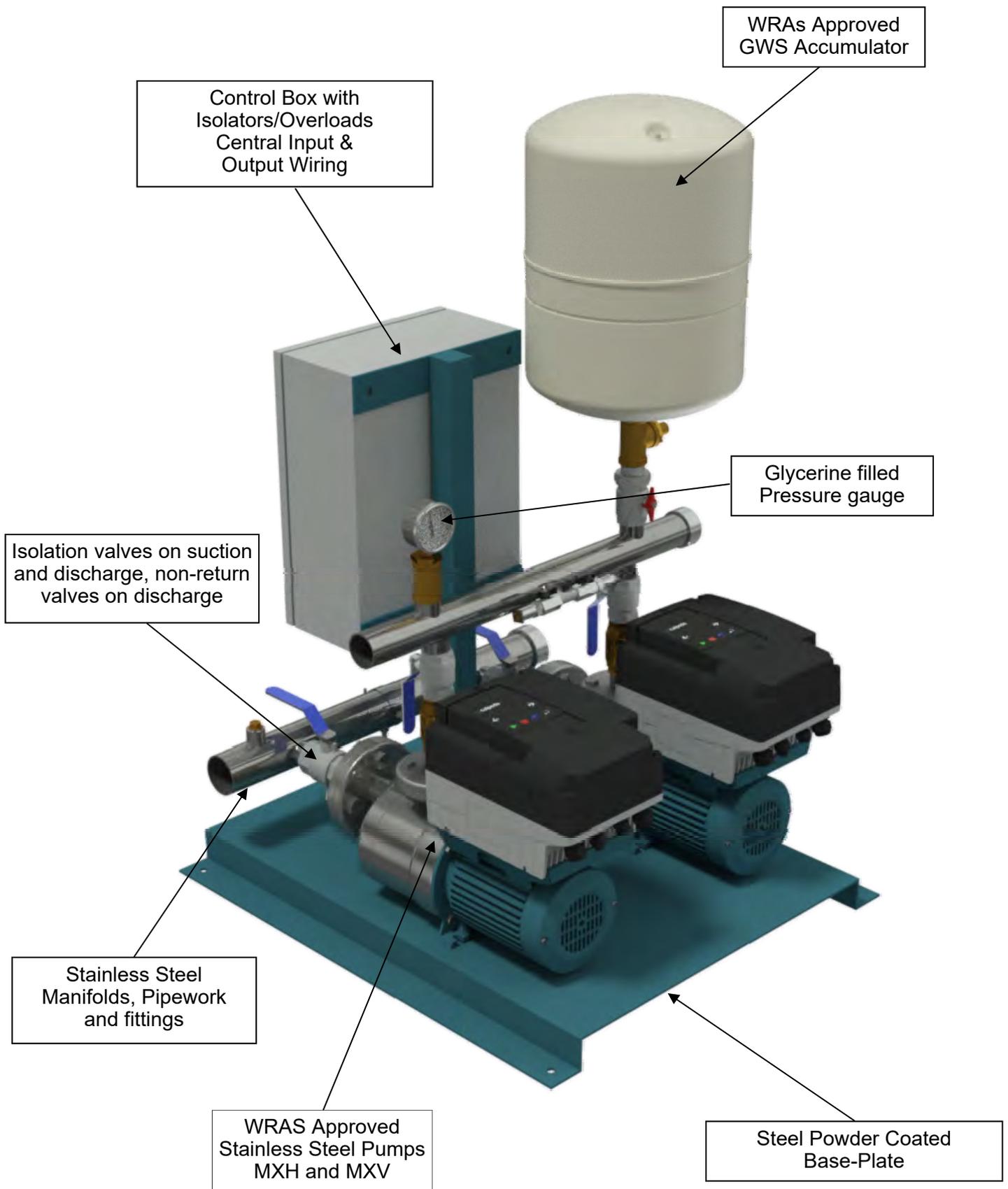


Variable Speed Booster Sets

With Easymat & IMAT Control



FEATURES



IMAT CONTROL



Benefits

Flexibility

I-MAT frequency converters are equipped with a software which provide different operating modes in order to cover a wide range of applications.

Reliability

The high efficiency heatsink with integrated fans allows to cool the frequency converter independently from the motor, to provide a higher reliability of the system.

Safety

The shape of the I-MAT frequency converters allows to separate the signal terminals area, from the power terminals area, in this way the user can operate on the signals connections in safety conditions.

Easy to use

The integrated control panel allows to program all the parameters directly on the frequency converters. Moreover it's possible to remove the control panel and remote it with a connection cable.

Communications between units

The system flexibility allows, with an optional electronic card, to assemble more units making them communicate together. The system is capable to manage variable speed pumps (up to 6) and fixed speed pump (up to 5).

Construction

Variable speed system driven by frequency converter for the motor control in the water supply applications and in the production/distribution of hot/cold water.

I-MAT is an integrated control system which, applied to the motor, allows to manage a wide range of applications and operating modes.

Applications

Frequency converter for automatic pump control suitable for:

- water supply
- water transport and distribution
- production and distribution of hot/cold water
- water treatment

For protection of the pumps:

- Against dry running
- Against operations with closed connection ports
- Against overcurrent of the motor
- Against overvoltage and undervoltage of the power supply
- Against unbalance or missing supply phases.

Operating conditions

Standard voltage: 400 V $\pm 10\%$ (380-415V) three-phase

Input voltage: 3~380V-10% \div 3~480V+5%

Output voltage: 0 \div 100% of the input voltage

Input frequency: 50-60 Hz

Output frequency: up to 70 Hz

Protection: IP55

Max Ambient Temperature: 50°C

Altitude: no higher than 1000 m, inside closed environment.

Construction

(standard execution)

The system comprises of:

- Frequency converter
- Removable control panel
- Power terminal board
- Signals terminal board
- Cable glands

On request:

- Adapter for motor mounting
- Adapter for wall mounting
- Pressure and temperature transducer
- Main switch
- Line filter and output filter

Type

Type (three-phase)	Frequency converter max current output A	Standard power motor 400V kW
I-MAT 5,2 TT-A	5,2	0,55 \div 1,8
I-MAT 11,2 TT-B	11,2	2,2 \div 4
I-MAT 25,8 TT-C	25,8	5,5 \div 11

IMAT SETS

General Information

A range of high specification variable speed cold water booster sets with multi-pump options up to 6 pumps. The sets feature the IMAT variable speed controller with either our stainless steel MXH series or MXV series multi-stage pumps. We can also build special systems with any of the pumps from our range to suit specific applications.

Pumps

MXH all stainless steel horizontal multi-stage centrifugal pumps (WRAs Approved)

MXV stainless steel vertical multi-stage centrifugal pumps (WRAs Approved)

Motors

Aluminium 2-pole (2900 rpm) induction motors, 400/3/50, class F insulation, IP54 and IP55 protection.

System

One piece stainless steel manifolds, and brass fittings with WRAs approved valves, WRAs approved GWS accumulator all mounted on a mild steel powder coated baseplate, fully wired and tested.

Operating Conditions

Fluid:	Clean Cold Water.	Control:	IMAT variable speed via Pressure Transducer, Differential Transducer or Temperature Transducer
Fluid Temp:	Max 25 Deg.C.	Max Press:	10 bar Operational Pressure
Air Amb:	Max 40 Deg.C	Rated:	Continuous Service



IMAT CONTROL

Control panel

The integrated control panel gives the customer the possibility to set all the parameters of the frequency converter.

Optional modules

On the front side of the frequency converter are predisposed compartments for connecting the optional modules. This solution allows to install the modules without dismantling the frequency converter.

Main switch

The frequency converters have the possibility (optional) to install a main switch.



Power connection area

The connection area is protected by a safety cover, there are dedicated clamps to connect one PTC probe.

I/O connection area

The connection area for the input/outputs is separated from the power connection area, this solution allows to connect external.

Heatsink

The high efficiency heat sink cooled by fans guarantees a high reliability. The side connection system allows an easy connection with the motors.

IMAT CONTROL

Operating modes



Constant pressure mode

Constant pressure keeps the pressure constant at a fixed value set by the user. This value of pressure is automatically kept by the system to provide to the final user a constant pressure even with different water demand, within the maximum performance of the motor-pump system.



Proportional pressure modes

Proportional pressure reduces the pressure of the pump (and as a consequence, the operating frequency) proportionally with the water demand of the system.



Constant temperature mode

In this operating mode the system is used to keep the temperature at a constant value in a specified system point.



Constant flow mode

Constant flow mode grants that system change the speed of the pump in order to keep constant the flow which pass inside a flow meter.



Fixed speed mode

In this operating mode the system work as a fixed speed pump. The speed of the pump could be set by the user between a range of speeds, or controlled by an external signal.



Night mode

The night mode is an optional mode which allows to reduce the speed of the pump if the temperature in the system decreases below a set value, this operating mode can be used with all operating modes over described.

Control Panel



I-MAT is equipped with a control panel that allows to carry out the set-up of the system and to monitor all system parameters.

The control panel is inside a IP55 enclosure which is possible to rotate and install in remote positions.

It is possible use the control panel in remote positions by means a cable with M12 connectors (standard cable).

The LCD custom display gives an easy overview of the system situation and of the operating parameters.

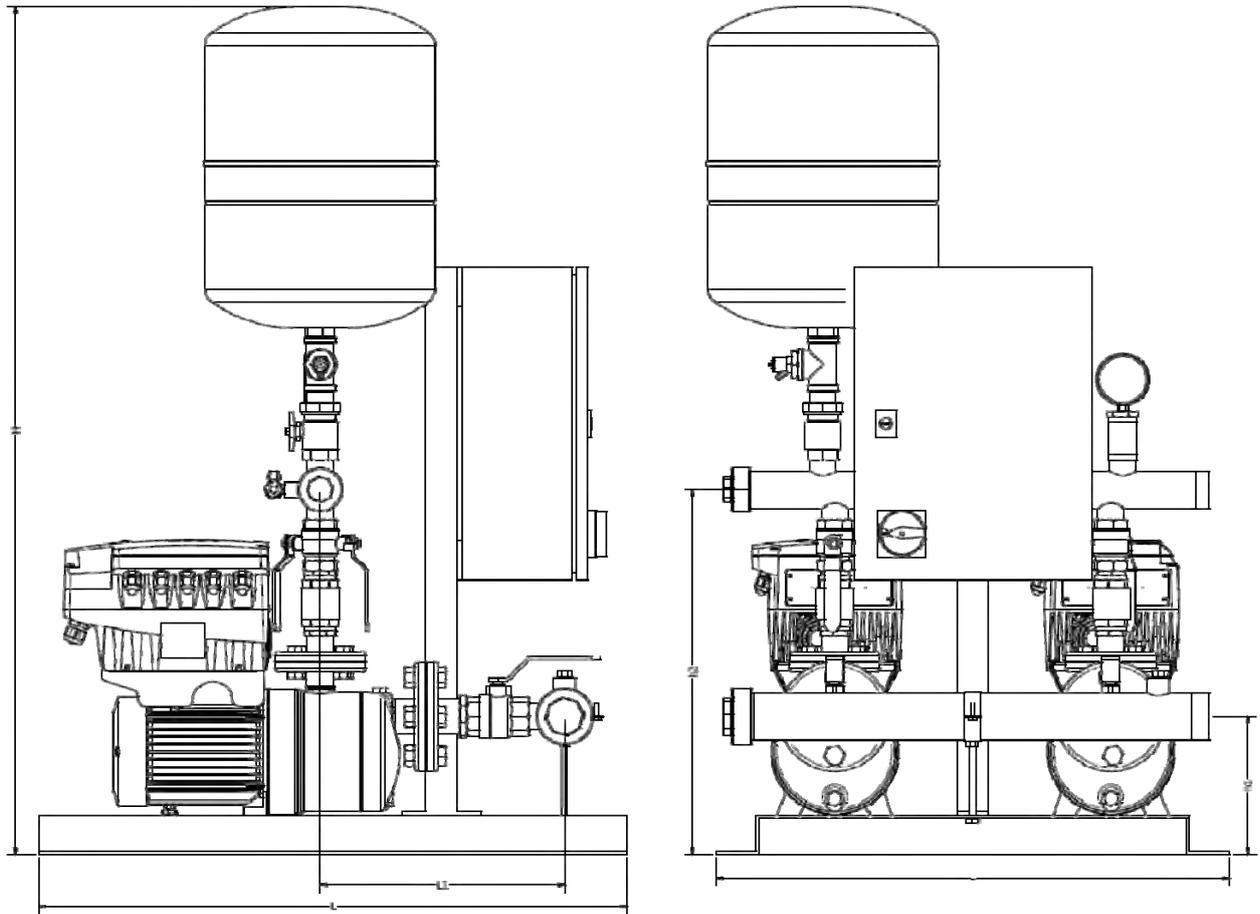
The icons on the top and below the display area explain in which way i-MAT is working and if there are some problems on the system.

The 2 scroll buttons are used to scroll the different operating parameters that i-MAT can show. At the same time you can use the 2 scroll buttons to move in the set up menu and to change the different options.

The 4 set-up buttons are created to enter and to move on the set-up menus and to start and to stop the pump. The symbols help to understand the function of each button. With these 4 buttons and the 2 scroll buttons you can manage all the set-up and operating parameters without the use of another control panel or computers.

DIMENSIONS

imat twin pump variable speed booster set with MXH pump



Model Number	DN1	DN2	mm					
			H	W	L	L1	h1	h2
2MXH202E-TTA-24	2" BSP	1-1/2" BSP	1180	650	745	305	175	485
2MXH203E-TTA-24			1180	650	745	305	175	485
2MXH204/A-TTA-24			1180	650	745	330	175	485
2MXH205/A-TTA-24			1180	650	745	355	175	485
2MXH206/B-TTA-24			1180	650	745	380	175	485
2MXH402E-TTA-24			1180	650	745	305	175	485
2MXH403/A-TTA-24			1180	650	745	305	175	485
2MXH404/A-TTA-24			1180	650	745	330	175	485
2MXH405/B-TTA-24			1180	650	745	355	175	485
2MXH406-TTA-24			1180	650	745	380	175	485
2MXH802/A-TTA-24	2-1/2" BSP	2" BSP	1200	650	950	365	175	500
2MXH803-TTA-24			1200	650	950	365	175	500
2MXH804-TTA-24			1200	650	950	395	175	500
2MXH805/A-TTA-24			1200	650	950	425	175	500

Note:
Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat twin pump variable speed booster set with MXH pump (continued)

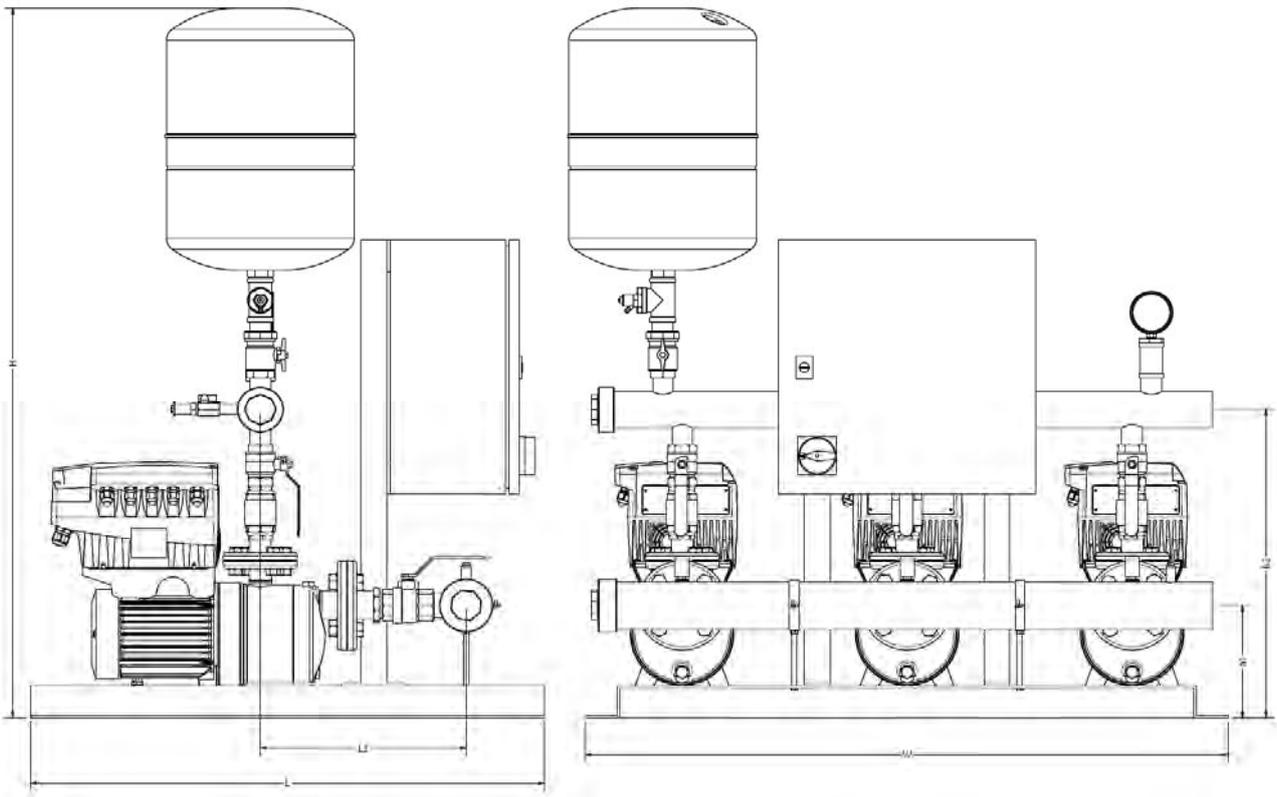
Model Number	DN1	DN2	mm					
			H	W	L	L1	h1	h2
2MXH1602-TTA-24	3" BSP	2-1/2" BSP	1300	650	1100	415	180	600
2MXH1603/A-TTA-24			1300	650	1100	415	180	600
2MXH1604/A-TTB-24			1300	650	1100	455	180	600
2MXH1605/A-TTB-24			1300	650	1100	480	180	600
2MXH1606/A-TTB-24			1300	650	1100	530	180	600
2MXH-F3201/A-TTB-24	DN100	DN80	1525	900	1200	500	225	785
2MXH-F3202/A-TTB-24			1525	900	1200	500	225	785
2MXH-F3203/A-TTC-24			1525	900	1200	545	225	785
2MXH-F3204/A-TTC-24			1525	900	1200	590	225	785
2MXH-F4801/A-TTB-24	DN125	DN100	1575	900	1200	550	225	830
2MXH-F4802/A-TTC-24			1575	900	1200	550	225	830
2MXH-F4803/A-TTC-24			1575	900	1200	610	225	830

Note:

Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat three pump variable speed booster set with MXH pump



Model Number	DN1	DN2	mm					
			H	W	L	L1	h1	h2
3MXH202E-TTA-24	2-1/2" BSP	2" BSP	1220	1000	800	320	175	510
3MXH203E-TTA-24			1220	1000	800	320	175	510
3MXH204/A-TTA-24			1220	1000	800	345	175	510
3MXH205/A-TTA-24			1220	1000	800	370	175	510
3MXH206/B-TTA-24			1220	1000	800	395	175	510
3MXH402E-TTA-24			1220	1000	800	320	175	510
3MXH403/A-TTA-24			1220	1000	800	320	175	510
3MXH404/A-TTA-24			1220	1000	800	345	175	510
3MXH405/B-TTA-24			1220	1000	800	370	175	510
3MXH406-TTA-24			1220	1000	800	395	175	510
3MXH802/A-TTA-24	3" BSP	2-1/2" BSP	1220	1000	950	370	175	520
3MXH803-TTA-24			1220	1000	950	370	175	520
3MXH804-TTA-24			1220	1000	950	400	175	520
3MXH805/A-TTA-24			1220	1000	950	430	175	520

Note:
Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat three pump variable speed booster set with MXH pump (continued)

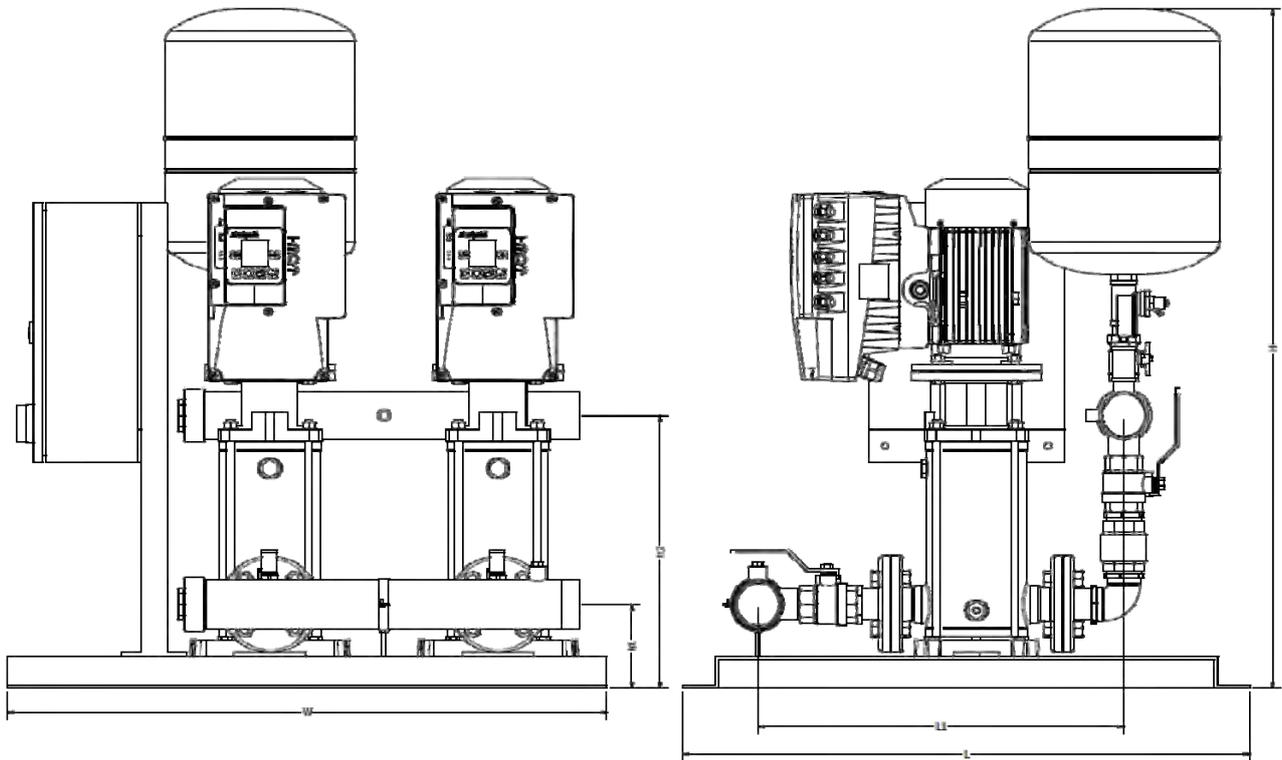
Model Number	DN1	DN2	mm					
			H	W	L	L1	h1	h2
3MXH1602-TTA-24	DN100	DN80	1380	1000	1200	425	180	640
3MXH1603/A-TTA-24			1380	1000	1200	425	180	640
3MXH1604/A-TTB-24			1380	1000	1200	460	180	640
3MXH1605/A-TTB-24			1380	1000	1200	495	180	640
3MXH1606/A-TTB-24			1380	1000	1200	530	180	640
3MXH-F3201/A-TTB-24	DN125	DN100	1575	1000	1300	550	225	800
3MXH-F3202/A-TTB-24			1575	1000	1300	550	225	800
3MXH-F3203/A-TTC-24			1575	1000	1300	595	225	800
3MXH-F3204/A-TTC-24			1575	1000	1300	640	225	800
3MXH-F4801/A-TTB-24	DN150	DN125	1650	1200	1300	610	300	840
3MXH-F4802/A-TTC-24			1650	1200	1300	610	300	840
3MXH-F4803/A-TTC-24			1650	1200	1300	670	300	840

Note:

Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat twin pump variable speed booster set with MXV pump



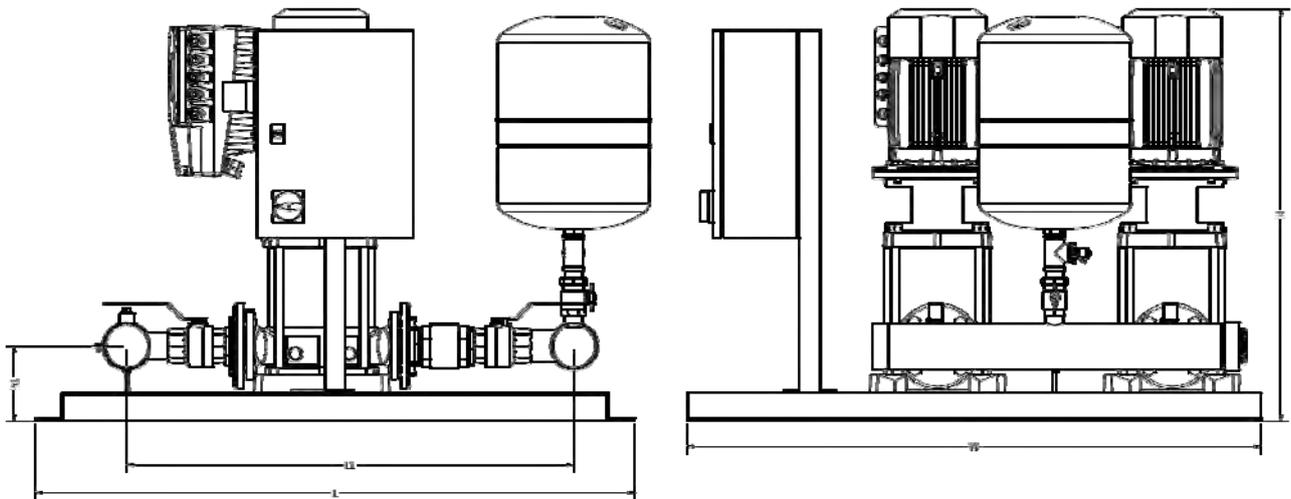
Model Number	DN1	DN2	mm					
			H	W	L	L1	h1	h2
2MXV25-204/C-TTA-24	1-1/2" BSP	1-1/2" BSP	990	900	725	540	125	350
2MXV25-205/C-TTA-24			990	900	725	540	125	350
2MXV25-206/C-TTA-24			990	900	725	540	125	350
2MXV25-207/C-TTA-24			990	900	725	540	125	350
2MXV25-208/C-TTA-24			990	900	725	540	125	350
2MXV25-210/C-TTA-24			990	900	725	540	125	350
2MXV32-404/C-TTA-24	2" BSP	2" BSP	1040	900	725	590	125	400
2MXV32-405/C-TTA-24			1040	900	725	590	125	400
2MXV32-406/C-TTA-24			1040	900	725	590	125	400
2MXV32-407/C-TTA-24			1040	900	725	590	125	400
2MXV32-408/C-TTB-24			1040	900	725	590	125	400
2MXV32-410/C-TTB-24			1040	900	725	590	125	400
2MXV40-804/C-TTA-24	2-1/2" BSP	2-1/2" BSP	1090	920	870	660	130	445
2MXV40-805/C-TTB-24			1090	920	870	660	130	445
2MXV40-806/C-TTB-24			1090	920	870	660	130	445
2MXV40-807/C-TTB-24			1090	920	870	660	130	445
2MXV40-808/C-TTB-24			1090	920	870	660	130	445
2MXV40-810/C-TTB-24			1090	920	870	660	130	445

Note:

Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat twin pump variable speed booster set with MXV pump



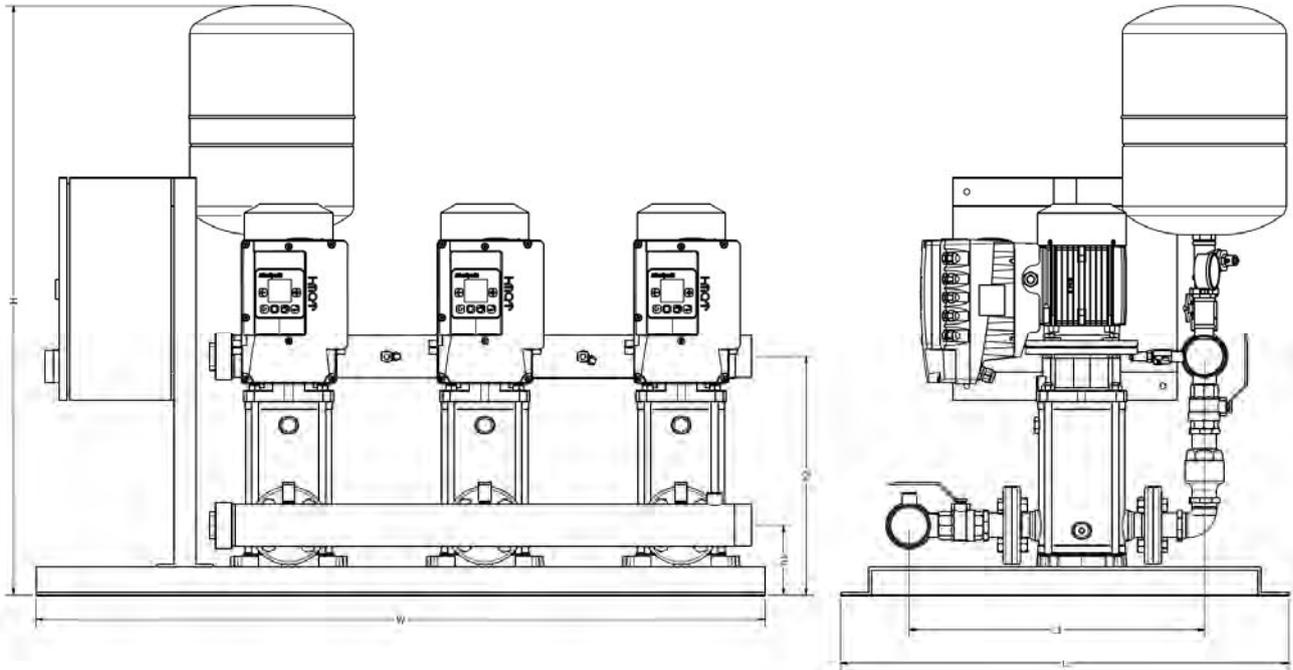
Model Number	DN1	DN2	mm				
			H	W	L	L1	h1
2MXV50-1603/C-TTB-24	3" BSP	3" BSP	795	1100	1200	880	140
2MXV50-1604/C-TTB-24			800	1100	1200	880	140
2MXV50-1605/C-TTC-24			875	1100	1200	880	140
2MXV50-1606/C-TTC-24			910	1100	1200	880	140
2MXV65-3202/C-TTB-24	DN100	DN100	795	1100	1200	1065	160
2MXV65-3203/C-TTC-24			865	1100	1200	1065	160
2MXV65-3204/C-TTC-24			910	1100	1200	1065	160
2MXV65-3205/C-TTC-24			1100	1100	1200	1065	160
2MXV80-4801/C-TTB-24	DN125	DN125	775	1100	1400	1235	160
2MXV80-4802/C-TTC-24			855	1100	1400	1235	160
2MXV80-4803/C-TTC-24			915	1100	1400	1235	160
2MXV80-4804/C-TTC-24			1125	1100	1400	1235	160

Note:

Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat three pump variable speed booster set with MXV pump

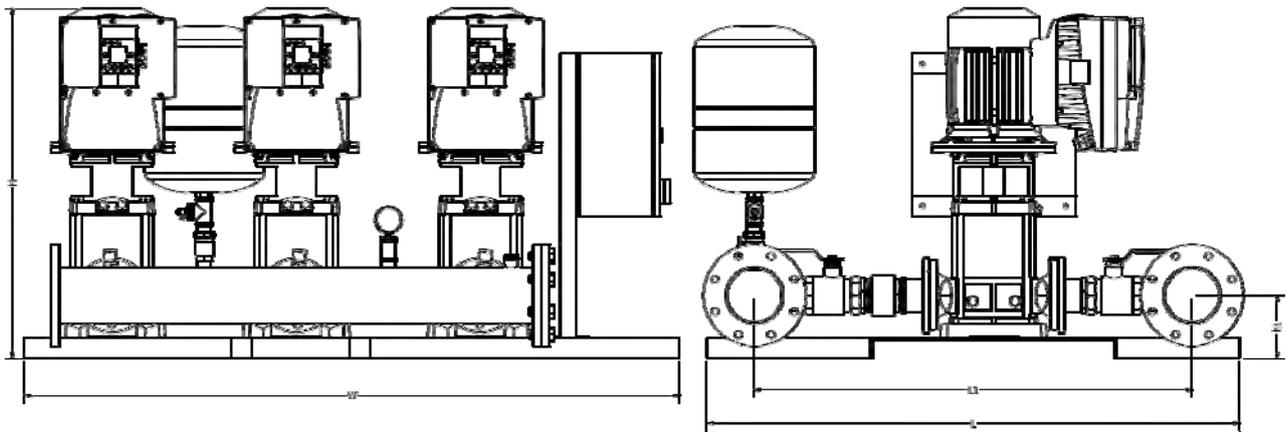


Model Number	DN1	DN2	mm					
			H	W	L	L1	h1	h2
3MXV25-204/C-TTA-24	2" BSP	2" BSP	1000	1300	900	550	125	365
3MXV25-205/C-TTA-24			1000	1300	900	550	125	365
3MXV25-206/C-TTA-24			1000	1300	900	550	125	365
3MXV25-207/C-TTA-24			1000	1300	900	550	125	365
3MXV25-208/C-TTA-24			1000	1300	900	550	125	365
3MXV25-210/C-TTA-24			1000	1300	900	550	125	365
3MXV32-404/C-TTA-24	2-1/2" BSP	2-1/2" BSP	1055	1300	900	605	125	460
3MXV32-405/C-TTA-24			1055	1300	900	605	125	460
3MXV32-406/C-TTA-24			1055	1300	900	605	125	460
3MXV32-407/C-TTA-24			1055	1300	900	605	125	460
3MXV32-408/C-TTB-24			1055	1300	900	605	125	460
3MXV32-410/C-TTB-24			1055	1300	900	605	125	460
3MXV40-804/C-TTA-24	3" BSP	3" BSP	1100	1300	900	680	130	460
3MXV40-805/C-TTB-24			1100	1300	900	680	130	460
3MXV40-806/C-TTB-24			1100	1300	900	680	130	460
3MXV40-807/C-TTB-24			1100	1300	900	680	130	460
3MXV40-808/C-TTB-24			1100	1300	900	680	130	460
3MXV40-810/C-TTB-24			1100	1300	900	680	130	460

Note:
Dimensions stated are Pre Production. Allow tolerance of 5%.

DIMENSIONS

imat three pump variable speed booster set with MXV pump



Model Number	DN1	DN2	mm				
			H	W	L	L1	h1
3MXV50-1603/C-TTB-24	DN100	DN100	820	1600	1400	1165	145
3MXV50-1604/C-TTB-24			820	1600	1400	1165	145
3MXV50-1605/C-TTC-24			875	1600	1400	1165	145
3MXV50-1606/C-TTC-24			910	1600	1400	1165	145
3MXV65-3202/C-TTB-24	DN125	DN125	830	1600	1400	1165	155
3MXV65-3203/C-TTC-24			865	1600	1400	1165	155
3MXV65-3204/C-TTC-24			910	1600	1400	1165	155
3MXV65-3205/C-TTC-24			1105	1600	1400	1165	155
3MXV80-4801/C-TTB-24	DN150	DN150	915	1600	1400	1165	155
3MXV80-4802/C-TTC-24			915	1600	1400	1165	155
3MXV80-4803/C-TTC-24			920	1600	1400	1165	155
3MXV80-4804/C-TTC-24			1125	1600	1400	1165	155

Note:

Dimensions stated are Pre Production. Allow tolerance of 5%.

