




**Company name:** Grundfos Canada Inc.  
**Created by:** Olfat Omar  
**Phone:** 778-773-4586  
**Fax:** -  
**Date:** 14-08-26

**Project:** Delta Hospital  
**Reference number:** P-11 & 12

**Client:** -  
**Client number:** -  
**Contact:** David Simmons

Position	Count	Description																												
	1	<p><b>2.5 LM 8/8.0 U-G-A-BUBE</b></p>  <p style="text-align: right;">Product photo could vary from the actual product</p> <p>Product No.: <a href="#">48Z90116</a>                      Single-stage centrifugal in-line single-head pump.</p> <p>The in-line design with opposite suction and discharge ports enables mounting in pipework or on a concrete foundation.</p> <p>The shaft seal is a corrosion-resistant maintenance-free mechanical seal.</p> <p><b>Liquid:</b></p> <table> <tr><td>Pumped liquid:</td><td>Water</td></tr> <tr><td>Liquid temperature range:</td><td>32 .. 284 °F</td></tr> <tr><td>Liquid temp:</td><td>140 °F</td></tr> <tr><td>Density:</td><td>61.35 lb/ft<sup>3</sup></td></tr> <tr><td>Kinematic viscosity:</td><td>1 cSt</td></tr> </table> <p><b>Technical:</b></p> <table> <tr><td>Rated flow:</td><td>145 US gpm</td></tr> <tr><td>Rated head:</td><td>60.4 ft</td></tr> <tr><td>Actual impeller diameter:</td><td>7.95 in</td></tr> <tr><td>Shaft seal:</td><td>BUBE</td></tr> </table> <p><b>Materials:</b></p> <table> <tr><td>Pump housing:</td><td>Cast iron EN-JL1040 ASTM 35 B - 40 B</td></tr> <tr><td>Impeller:</td><td>Stainless steel DIN W.-Nr. 1.4301 AISI 304</td></tr> </table> <p><b>Installation:</b></p> <table> <tr><td>Max pressure at stated temperature:</td><td>145 psi / 288 °F 232 psi / 212 °F</td></tr> <tr><td>Flange standard:</td><td>ANSI</td></tr> <tr><td>Pipe connection:</td><td>2 1/2"</td></tr> </table>	Pumped liquid:	Water	Liquid temperature range:	32 .. 284 °F	Liquid temp:	140 °F	Density:	61.35 lb/ft <sup>3</sup>	Kinematic viscosity:	1 cSt	Rated flow:	145 US gpm	Rated head:	60.4 ft	Actual impeller diameter:	7.95 in	Shaft seal:	BUBE	Pump housing:	Cast iron EN-JL1040 ASTM 35 B - 40 B	Impeller:	Stainless steel DIN W.-Nr. 1.4301 AISI 304	Max pressure at stated temperature:	145 psi / 288 °F 232 psi / 212 °F	Flange standard:	ANSI	Pipe connection:	2 1/2"
Pumped liquid:	Water																													
Liquid temperature range:	32 .. 284 °F																													
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Density:	61.35 lb/ft <sup>3</sup>																													
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**Contact:** David Simmons

Position	Count	Description
		Pressure stage: 125 Lb.  <b>Electrical data:</b> Number of poles: 4 Power (P2) required by pump: 5 HP  <b>Others:</b> Gross weight: 128 lb Shipping volume: 10.6 ft <sup>3</sup>



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**Contact:** David Simmons

Description	Value
Product name:	2.5 LM 8/8.0 U-G-A-BUBE
Product No.:	48Z90116
EAN:	5700394561808
Price:	On request

**Technical:**

Actual calculated flow:	136 US gpm
Resulting head of the pump:	61.8 ft
Actual impeller diameter:	7.95 in
Shaft seal:	BUBE
Pump version:	U
Model:	C

**Materials:**

Pump housing:	Cast iron EN-JL1040
Impeller:	Stainless steel DIN W.-Nr. 1.4301 AISI 304
Material code:	A

**Installation:**

Max pressure at stated temperature:	145 psi / 288 °F 232 psi / 212 °F
Flange standard:	ANSI
Connect code:	G
Pipe connection:	2 1/2"
Pressure stage:	125 Lb.

**Liquid:**

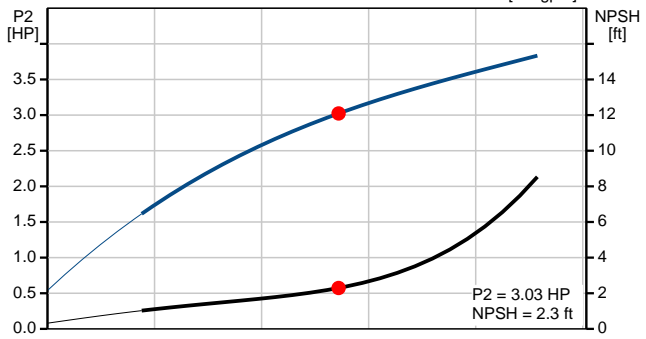
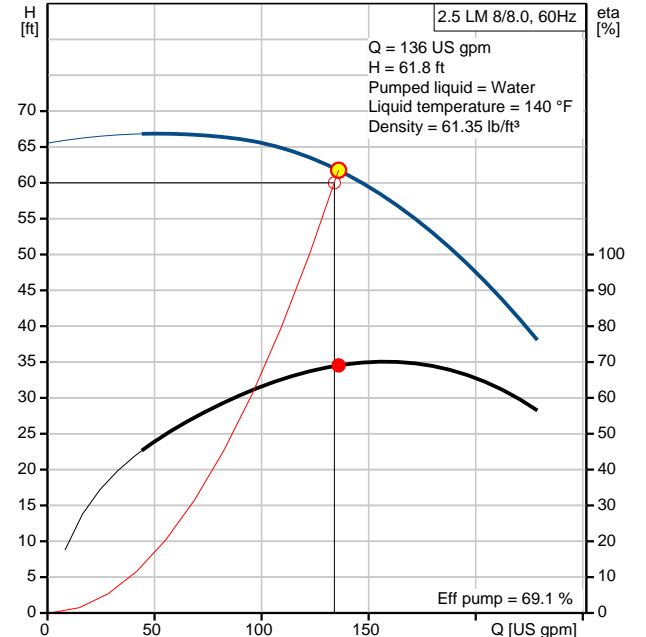
Pumped liquid:	Water
Liquid temperature range:	32 .. 284 °F
Liquid temp:	140 °F
Density:	61.35 lb/ft <sup>3</sup>
Kinematic viscosity:	1 cSt

**Electrical data:**

Number of poles:	4
Power (P2) required by pump:	5 HP

**Others:**

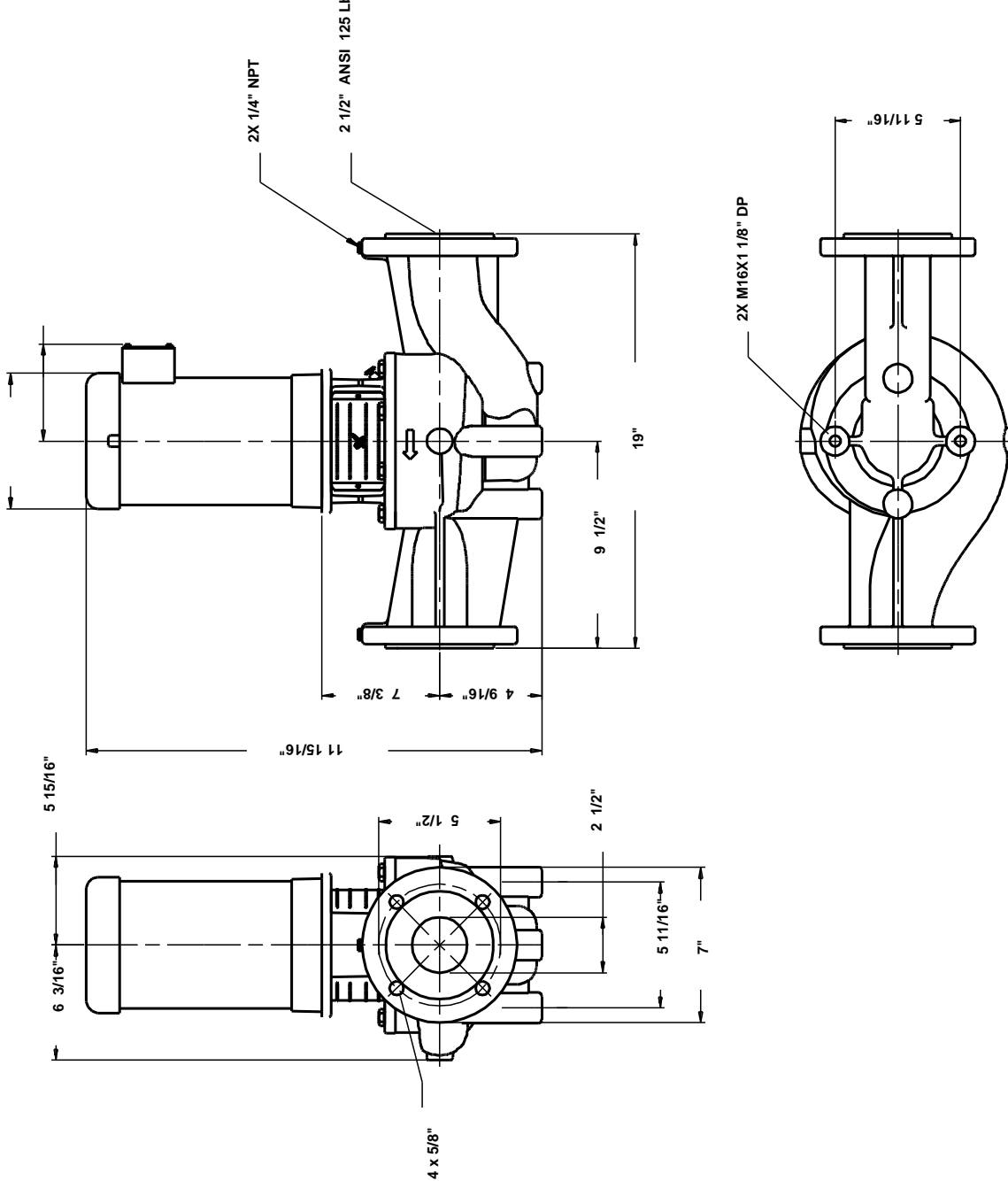
Gross weight:	128 lb
Shipping volume:	10.6 ft <sup>3</sup>
Sales region:	Namreg



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## 48Z90116 2.5 LM 8/8.0 60 Hz



Note! All units are in [mm] unless others are stated.  
 Disclaimer: This simplified dimensional drawing does not show all details.

**Project:** Delta Hospital  
**Reference number:** P-13 & 14 Option 1

**Client:** -  
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**Contact:** David Simmons

Position	Count	Description
	1	<p><b>MAGNA3 D 65-150 F</b></p>  <p>Product photo could vary from the actual product</p> <p>Product No.: <a href="#">98126863</a></p> <p>MAGNA3 – More than a pump            With its unrivalled efficiency, all-encompassing range and built-in communication capabilities plus functionalities replacing system components, the MAGNA3 is ideal for engineers and specifiers looking to create high-performance systems for buildings.</p> <p>This pump in the Grundfos Master Class will fit both heating and cooling applications perfectly, making it the obvious choice for almost any building project – old or new.</p> <p>The MAGNA3 is of the canned-rotor type, i.e. pump and motor form an integral unit without shaft seal and with only two gaskets for sealing. The bearings are lubricated by the pumped liquid. The innovative clamp with only one screw enables easy repositioning of the pump head. The MAGNA3 is a pump with no maintenance requirements and with extremely low Life Cycle Cost.</p> <p>The pump is characterised by the following:</p> <ul style="list-style-type: none"> <li>• controller integrated in the control box</li> <li>• control panel with TFT display on the control box</li> <li>• control box prepared for optional CIM modules</li> <li>• built-in differential-pressure and temperature sensor</li> <li>• cast-iron pump housing (depending on model)</li> <li>• carbon-fiber-reinforced composite rotor can</li> <li>• stainless-steel bearing plate and rotor cladding</li> <li>• aluminium alloy stator housing</li> <li>• air-cooled power electronics</li> </ul> <p>The MAGNA3 is a single-phase pump.</p> <p>Characteristic features</p> <ul style="list-style-type: none"> <li>• AUTOADAPT.</li> <li>• FLOWADAPT and FLOWLIMIT (more than a pump function as it reduces the need for pump throttling valves).</li> <li>• Proportional-pressure control.</li> <li>• Constant-pressure control.</li> <li>• Constant-temperature control.</li> <li>• Constant-curve duty.</li> </ul>



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**Client:** -  
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Position	Count	Description
		<ul style="list-style-type: none"> <li>• Max. or min. curve duty.</li> <li>• Automatic Night Setback.</li> <li>• No external motor protection required.</li> <li>• Insulating shells supplied with single-head pumps for heating systems.</li> <li>• Large temperature range where the liquid temperature and the ambient temperature are independent of each other.</li> </ul> <p>Communication</p> <p>The MAGNA3 enables communication via the following:</p> <ul style="list-style-type: none"> <li>• wireless Grundfos GO Remote</li> <li>• fieldbus communication via CIM modules</li> <li>• digital inputs</li> <li>• relay outputs</li> <li>• analog input (more than a pump function as heat energy meter)</li> </ul> <p>Motor and electronic controller</p> <p>The MAGNA3 incorporates a 4-pole synchronous, permanent-magnet motor (PM motor). This motor type is characterised by higher efficiency than a conventional asynchronous squirrel-cage motor.</p> <p>The pump speed is controlled by an integrated frequency converter.</p> <p>A differential-pressure and temperature sensor is incorporated in the pump.</p> <p><b>Liquid:</b></p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: 14 .. 230 °F</p> <p>Liquid temp: 140 °F</p> <p>Density: 61.35 lb/ft<sup>3</sup></p> <p>Kinematic viscosity: 1 cSt</p> <p><b>Technical:</b></p> <p>TF class: 110</p> <p>Approvals on nameplate: ETL, FCC W_RADIAL</p> <p><b>Materials:</b></p> <p>Pump housing: Cast iron EN-GJL-250 ASTM A48-250B</p> <p>Impeller: PES 30%GF</p> <p><b>Installation:</b></p> <p>Range of ambient temperature: 32 .. 104 °F</p> <p>Flange standard: GF</p> <p>Pressure stage: PN12</p> <p>Port-to-port length: 13 7/16 in</p> <p><b>Electrical data:</b></p> <p>Power input - P1: 29 .. 1301 W</p> <p>Maximum current consumption: 0.3 .. 5.68 A</p> <p>Main frequency: 60 Hz</p> <p>Rated voltage: 1 x 230 V</p>



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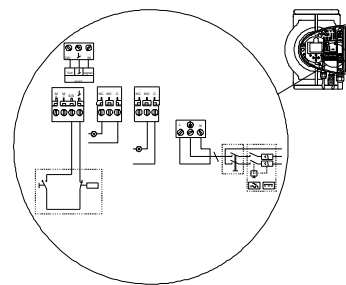
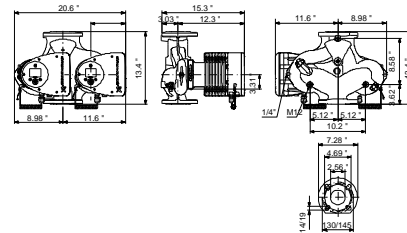
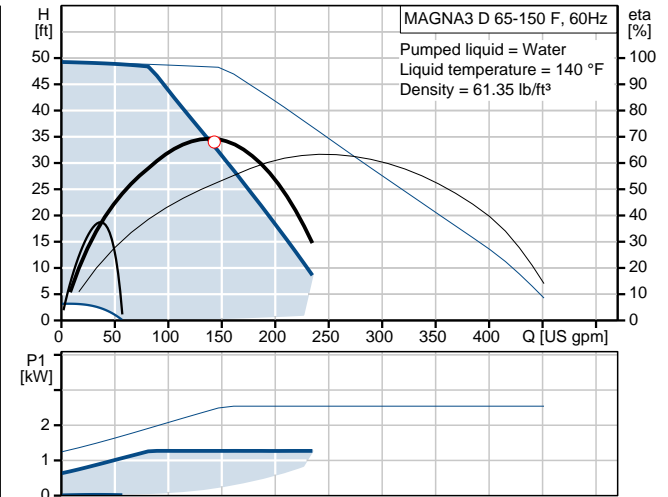
**Client:** -  
**Client number:** -  
**Contact:** David Simmons

Position	Count	Description
		Enclosure class (IEC 34-5): X4D Insulation class (IEC 85): F  <b>Others:</b> Energy (EEI): 0.17 Net weight: 101 lb Gross weight: 118 lb Shipping volume: 4.66 ft <sup>3</sup>

**Project:** Delta Hospital  
**Reference number:** P-13 & 14 Option 1

**Client:** -  
**Client number:** -  
**Contact:** David Simmons

Description	Value
Product name:	MAGNA3 D 65-150 F
Product No.:	98126863
EAN:	5710629500250
Price:	On request
<b>Technical:</b>	
Head max:	49.2 ft
TF class:	110
Approvals on nameplate:	ETL, FCC W_RADIAL
Model:	A
<b>Materials:</b>	
Pump housing:	Cast iron
	EN-GJL-250
	ASTM A48-250B
Impeller:	PES 30%GF
<b>Installation:</b>	
Range of ambient temperature:	32 .. 104 °F
Flange standard:	GF
Pressure stage:	PN12
Port-to-port length:	13 7/16 in
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	14 .. 230 °F
Liquid temp:	140 °F
Density:	61.35 lb/ft³
Kinematic viscosity:	1 cSt
<b>Electrical data:</b>	
Power input - P1:	29 .. 1301 W
Maximum current consumption:	0.3 .. 5.68 A
Main frequency:	60 Hz
Rated voltage:	1 x 230 V
Enclosure class (IEC 34-5):	X4D
Insulation class (IEC 85):	F
<b>Others:</b>	
Energy (EEL):	0.17
Net weight:	101 lb
Gross weight:	118 lb
Shipping volume:	4.66 ft³





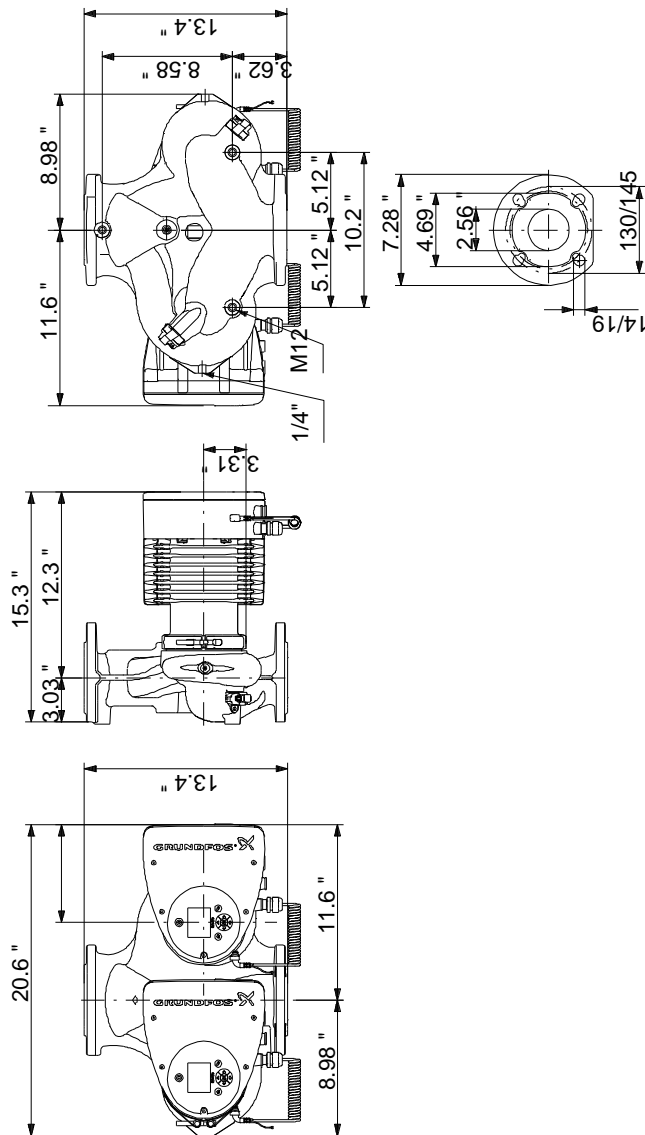


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Project: Delta Hospital  
Reference number: P-13 & 14 Option 1

Client: -  
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98126863 MAGNA3 D 65-150 F 60 Hz




Note! All units are in [mm] unless others are stated.  
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**Project:** Delta Hospital  
**Reference number:** P-13 & 14 Option 2

**Client:** -  
**Client number:** -  
**Contact:** David Simmons

Position	Count	Description
	1	<p><b>UPS 80-160 F</b></p>  <p style="text-align: center;">Product photo could vary from the actual product</p> <p>Product No.: <a href="#">96402920</a></p> <p>The pump is of the canned rotor type, i.e. pump and motor form an integral unit without shaft seal and with only two gaskets for sealing. The bearings are lubricated by the pumped liquid.</p> <p>In order to avoid problems in connection with disposal, great importance has been attached to using as few different materials as possible.</p> <p>The pump is characterized by:</p> <ul style="list-style-type: none"> <li>* 3 speed motor.</li> <li>* Ceramic radial bearings.</li> <li>* Carbon axial bearing.</li> <li>* Stainless steel rotor can, bearing plate and rotor cladding.</li> <li>* Aluminium alloy stator housing.</li> <li>* Cast iron pump housing.</li> <li>* Stator with built-in thermal switch.</li> </ul> <p>The motor is a 3-phase motor.</p> <p>The pump is supplied with a standard module in the terminal box. The standard module is to be connected to the mains supply via external contactor.</p> <p><b>Controls:</b></p> <p>Relay: without relay</p> <p><b>Liquid:</b></p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: 14 .. 248 °F</p> <p>Liquid temp: 140 °F</p> <p>Density: 61.35 lb/ft<sup>3</sup></p> <p>Kinematic viscosity: 1 cSt</p>



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**Client:** -  
**Client number:** -  
**Contact:** David Simmons

Position	Count	Description
		<p><b>Technical:</b></p> <p>Actual calculated flow: 144 US gpm            Resulting head of the pump: 37.3 ft            Approvals on nameplate: CUL</p> <p><b>Materials:</b></p> <p>Pump housing: Cast iron            EN-JL1040            ASTM 35 B - 40 B</p> <p>Impeller: Stainless steel            DIN W.-Nr. 1.4301            AISI 304</p> <p><b>Installation:</b></p> <p>Range of ambient temperature: 32 .. 104 °F            Maximum operating pressure: 145 psi            Flange standard: ANSI            Type of connection: F            Pipe connection: GF 80            Pressure stage: 145 psi            Port-to-port length: 19 in</p> <p><b>Electrical data:</b></p> <p>Power input in speed 1: 1500 W            Power input in speed 2: 1550 W            Max. power input: 2050 W            Main frequency: 60 Hz            Rated voltage: 3 x 208-230 V            Current in speed 1: 4.05 A            Current in speed 2: 4.2 A            Current in speed 3: 6.35 A            Cos phi in speed 1: 0,93            Cos phi in speed 2: 0,93            Cos phi: 0,81            Enclosure class (IEC 34-5): X4D            Insulation class (IEC 85): H</p> <p><b>Others:</b></p> <p>Net weight: 91.9 lb            Gross weight: 97.2 lb            Shipping volume: 3.46 ft³</p>

**Project:** Delta Hospital  
**Reference number:** P-13 & 14 Option 2

**Client:** -  
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Description	Value
Product name:	UPS 80-160 F
Product No.:	96402920
EAN:	5700390685973
Price:	On request

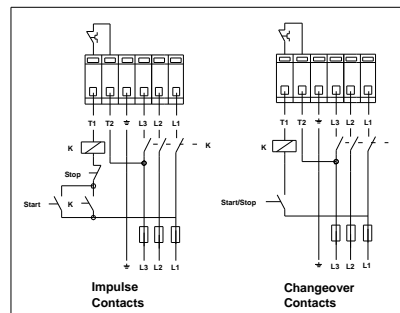
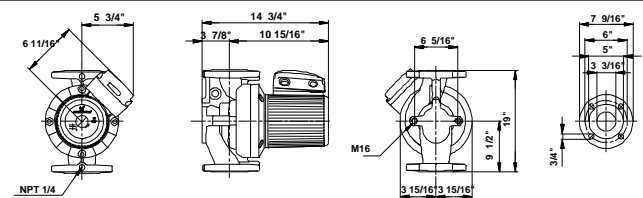
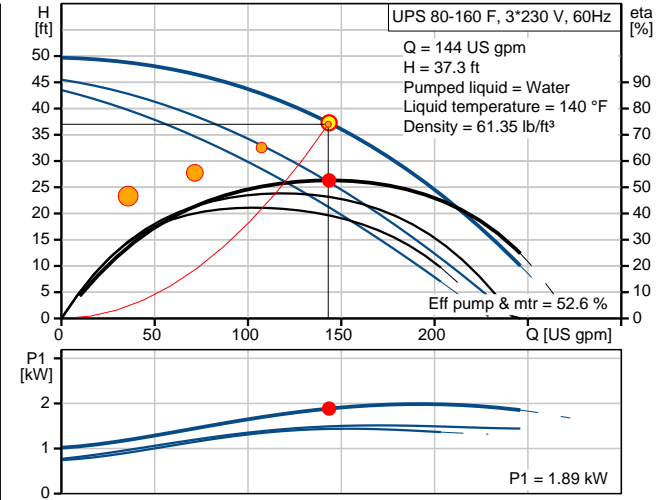
Technical:	
Speed Number:	3
Actual calculated flow:	144 US gpm
Resulting head of the pump:	37.3 ft
Head max:	52.5 ft
Approvals on nameplate:	CUL
Model:	C

Materials:	
Pump housing:	Cast iron EN-JL1040
	ASTM 35 B - 40 B
Impeller:	Stainless steel DIN W.-Nr. 1.4301 AISI 304

Installation:	
Range of ambient temperature:	32 .. 104 °F
Maximum operating pressure:	145 psi
Flange standard:	ANSI
Type of connection:	F
Pipe connection:	GF 80
Pressure stage:	145 psi
Port-to-port length:	19 in

Liquid:	
Pumped liquid:	Water
Liquid temperature range:	14 .. 248 °F
Liquid temp:	140 °F
Density:	61.35 lb/ft³
Kinematic viscosity:	1 cSt

Electrical data:	
Power input in speed 1:	1500 W
Power input in speed 2:	1550 W
Max. power input:	2050 W
Main frequency:	60 Hz
Rated voltage:	3 x 208-230 V
Current in speed 1:	4.05 A
Current in speed 2:	4.2 A
Current in speed 3:	6.35 A
Cos phi in speed 1:	0,93
Cos phi in speed 2:	0,93
Cos phi:	0,81
Enclosure class (IEC 34-5):	X4D
Insulation class (IEC 85):	H
Motor protection:	Contact
Thermal protec:	external
R:	7.8 - 10.2 ohm





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Description	Value
<b>Controls:</b>	
Relay:	without relay
Pos term box:	1.30H
<b>Others:</b>	
Net weight:	91.9 lb
Gross weight:	97.2 lb
Shipping volume:	3.46 ft <sup>3</sup>
Sales region:	Namreg

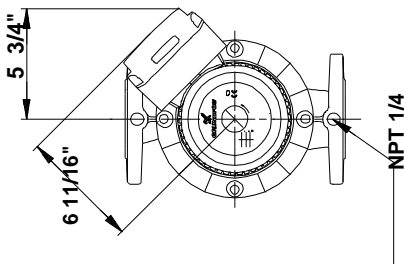
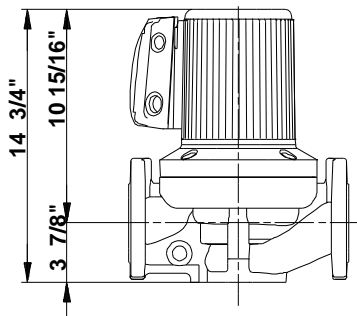
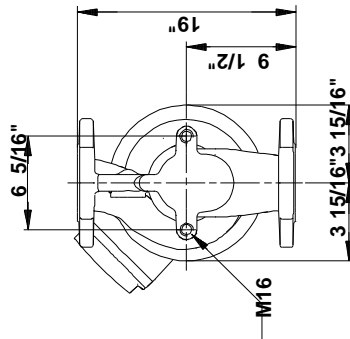
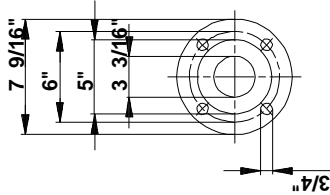


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## 96402920 UPS 80-160 F 60 Hz



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