



Concertor™

N, EA, DP, XPC

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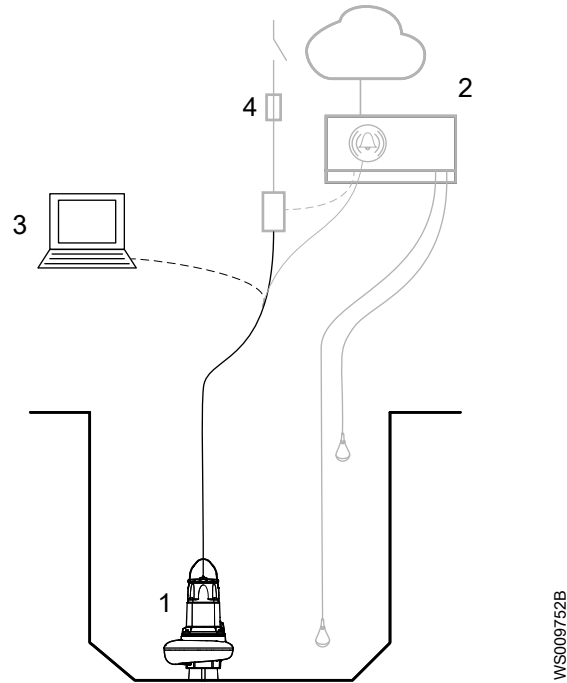
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1 System Description

1.1 System overview

FlygtConcertor™ is a wastewater pumping system with integrated intelligence. It senses the operation conditions of its environment, adapting its performance, in real time and giving feedback to pumping station operators.

1.1.1 Concertor™ N



Parts

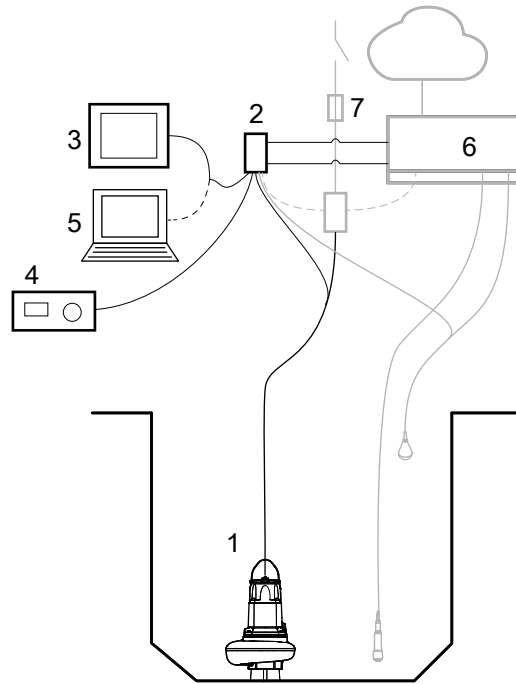
Number	Part	Description
1	Pump	A Concertor™ pump.
2	Connectivity options	<ul style="list-style-type: none"> • Controller / RTU / PLC • Level sensors • Cloud services • Pump sum-alarm I/O
3	PC application	The DST service tool gives access to settings and log files. Connection is made through cable leads T3 and T4.
4	Connection to power	Contactors, fuses, relays

Functions

- Pump clog detection
- Pump cleaning
- Soft-start
- Constant power
- Always correct rotation
- Pump sum-alarm I/O
- Change pump performance, DST Service Tool

1.1.2 Concertor™ EA

Parts



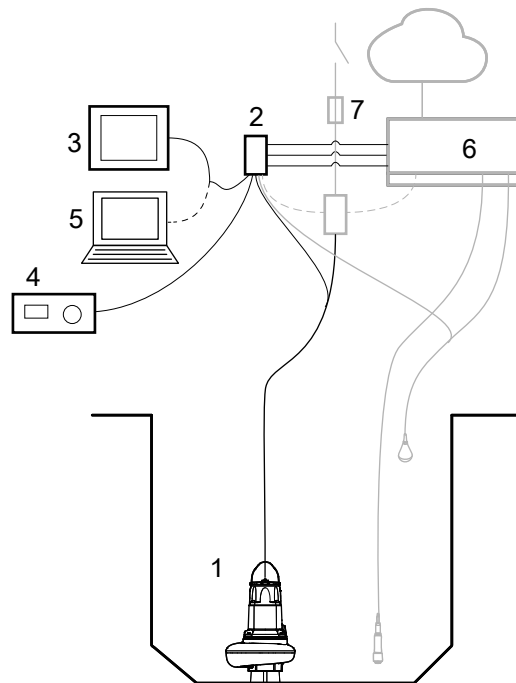
No.	Part	Product name	Description
1	Pump	6020	A Concertor™ pump.
2	Gateway	FPG 413	<ul style="list-style-type: none"> • A gateway with an embedded web server. <ul style="list-style-type: none"> - Digital input signal - Modbus - High level switch • All the alarms are sent back to the external control system. • The operator changes the pump settings through the gateway. • Data is logged by and stored in the gateway.
3	HMI	FOP 402	HMI - Alternative 1 <ul style="list-style-type: none"> • A touchscreen HMI that is used for navigation and selection in the menus. • The touchscreen HMI is connected to a web server that is embedded in the gateway.
4	HMI	FOP 315	HMI - Alternative 2 <ul style="list-style-type: none"> • A basic HMI with a jog wheel that is used for navigation and selection in the menus.
5	Computer	-	HMI - Alternative 3 <ul style="list-style-type: none"> • The computer gives access to the same menu system as the touchscreen HMI. • The computer is connected to a web server that is embedded in the gateway.
6	Connectivity options	-	<ul style="list-style-type: none"> • Controller / RTU / PLC • Level sensors • Cloud services
7	Connection to power	-	Contactors, fuses, relays

Functions

- External process control for dynamic pump performance
- Pump clog detection
- Pump cleaning
- Soft start
- Soft stop
- Constant power
- Always correct rotation
- Overload protection
- Software upgrade with USB drive
- Backup and restore of gateway configuration with USB drive
- Modbus RTU and TCP
- Setup wizard from HMI or webserver
- Pump alarms with priority A or B, through I/O
- Pump and motor control alarms, HMI or Modbus
- Alarm handling
- Status and alarm history
- User administration

1.1.3 Concertor™ DP

Parts



WS010901A

No.	Part	Product name	Description
1	Pump	6020	A Concertor™ pump.
2	Gateway	FPG 414	<ul style="list-style-type: none"> • A gateway with an embedded web server. <ul style="list-style-type: none"> - Digital input signal - Analog input signal - Modbus - High level switch • All the alarms are sent back to the external control system. • The operator changes the pump settings through the gateway. • Data is logged by and stored in the gateway.

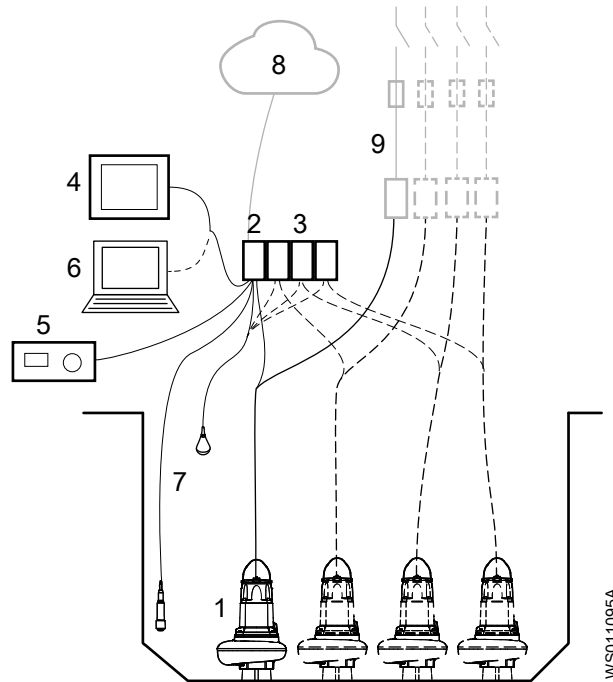
No.	Part	Product name	Description
3	HMI	FOP 402	HMI - Alternative 1 <ul style="list-style-type: none"> • A touchscreen HMI that is used for navigation and selection in the menus. • The touchscreen HMI is connected to a web server that is embedded in the gateway.
4	HMI	FOP 315	HMI - Alternative 2 <ul style="list-style-type: none"> • A basic HMI with a jog wheel that is used for navigation and selection in the menus.
5	Computer	-	HMI - Alternative 3 <ul style="list-style-type: none"> • The computer gives access to the same menu system as the touchscreen HMI. • The computer is connected to a web server that is embedded in the gateway.
6	Connectivity options	-	<ul style="list-style-type: none"> • Controller / RTU / PLC • Level sensors • Cloud services
7	Connection to power	-	Contactors, fuses, relays

Functions

- External process control for dynamic pump performance
- Pump clog detection
- Pump cleaning
- Soft start
- Soft stop
- Constant power
- Always correct rotation
- Overload protection
- Software upgrade with USB drive
- Backup and restore of gateway configuration with USB drive
- Modbus RTU and TCP
- Setup wizard from HMI or webserver
- Pump alarms with priority A or B, through I/O
- Pump and motor control alarms, HMI or Modbus
- Alarm handling
- Status and alarm history
- User administration

1.1.4 Concertor™ XPC

Parts



No.	Part	Product name	Description
1	Pump	6020	A Concertor™ pump.
2	Controller	APP 411	<ul style="list-style-type: none"> The controller starts and stops the pump based on input signals from, for example, level sensors and high-level switches. The operator changes the pump settings through the local HMI or through a SCADA system over Modbus. Data is logged by and stored in the controller. All the alarms are available on the local HMI and Modbus. System communication through the backplane.
3	Gateway	FPG 414	A gateway that is controlled by the APP 411. <ul style="list-style-type: none"> System communication through the backplane. All the alarms and data are sent to the controller.
4	HMI	FOP 402	HMI - Alternative 1 <ul style="list-style-type: none"> A touchscreen HMI that is used for navigation and selection in the menus. The touchscreen HMI is connected to a web server that is embedded in the controller.
5	HMI	FOP 315	HMI - Alternative 2 <ul style="list-style-type: none"> A basic HMI with a jog wheel that is used for navigation and selection in the menus.
6	Computer	-	HMI - Alternative 3 <ul style="list-style-type: none"> The computer gives access to the same menu system as the touchscreen HMI. The computer is connected to a web server that is embedded in the controller.
7	Level sensors	-	<ul style="list-style-type: none"> Analog sensor Digital switch
8	Cloud connection	-	Cloud services
9	Connection to power	-	Contactors, fuses, relays

Functions

Pump control functions

- Pump station management
- Setup wizard from HMI or webserver
- Soft start
- Soft stop
- Always correct rotation
- Overload protection
- Hand-Off-Auto control from the HMI
- Pump alternation
- High inflow operation
- Energy minimizer
- Maximum pump cycle time
- Overflow protection
- Redundancy mode
- Pipe flush start
- Maintenance run

Cleaning functions

- Pump clog detection
- Pump cleaning
- Sump cleaning, with snoring sensitivity
- Pipe cleaning
- Grease stripe minimization

Alarm and information functions

- Alarm handling
- Sum alarm with priority level A and B indication, LED and digital output
- Individual alarm indication, HMI or Modbus
- Status information and alarm history
- Station and pump alarms
- Software upgrade with USB drive
- Backup and restore of gateway and controller configuration with USB drive
- Modbus RTU and TCP
- Backplane communication
- Overflow alarm and statistics
- User administration

2 Product Description

2.1 N-pump

2.1.1 Pump design

The pump is submersible and based on the Dirigo™ platform, that consists of a control system and a permanent-magnet synchronous motor. For motor data, see [Technical Reference](#) on page 16.

Impeller material

- Gray iron
- Hard-Iron™
- Stainless steel

Pressure class, discharge connection

LT/150	Low head
MT/100	Medium head
HT/80	High head

Installation types

The pump can be used in the following installations:

- P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.
- S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.
- T Vertical permanent, dry well arrangement with flange connection to the suction and discharge piping.
- Z Horizontal permanent, dry well arrangement with flange connection to the suction and discharge piping.

Products included

Product	Approvals
6020.180	Standard
6020.090	Ex-approved

Illustrations

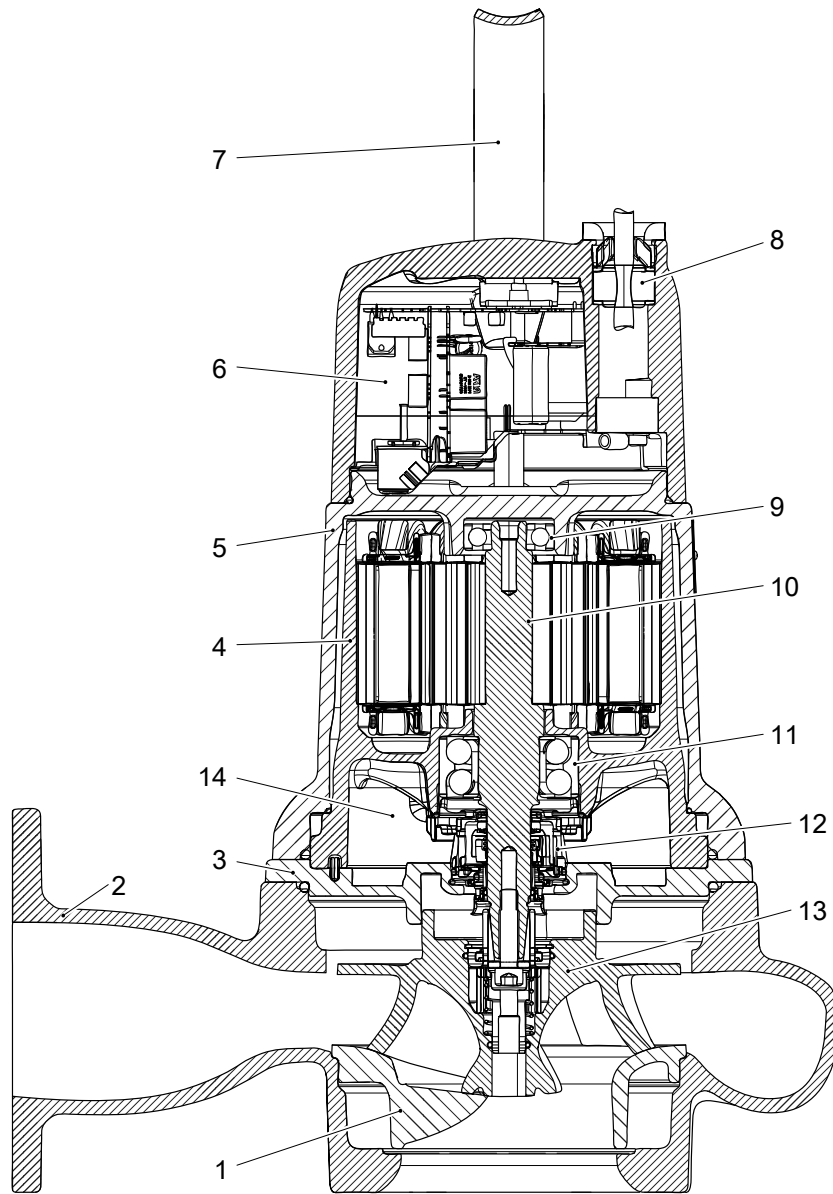


Figure 1: Outer casing of drive unit: Gray iron

W5009987B

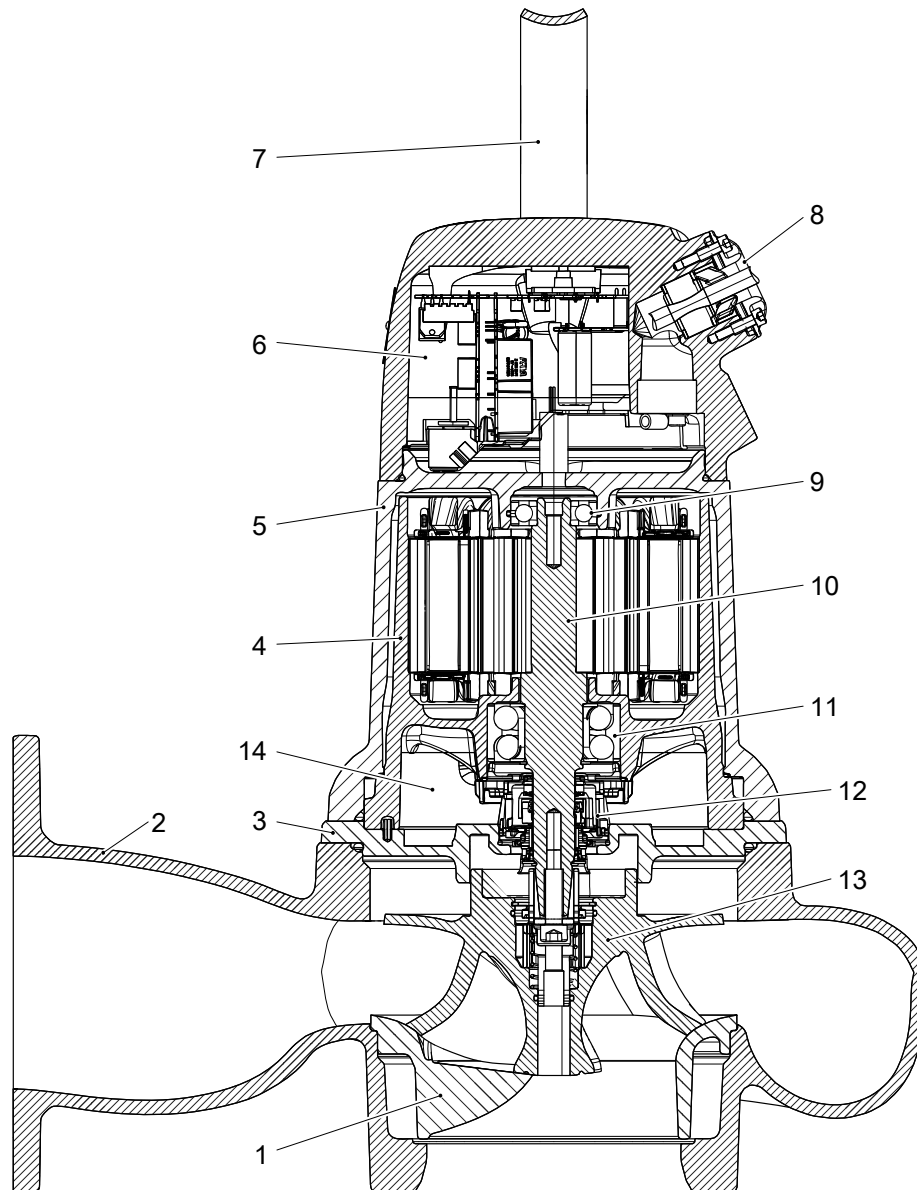


Figure 2: Outer casing of drive unit: Aluminum

WS009767B

Parts

Position	Part
1	Insert ring with a guide pin
2	Pump housing, without flush valve connection
3	Seal housing cover
4	Stator housing unit with a leakage sensor
5	Cooling jacket / outer casing
6	Connection housing with integrated control system
7	Lifting handle
8	Cable entry
9	Support bearing
10	Shaft unit with a permanent magnet rotor
11	Main bearing

Position	Part
12	Mechanical seal Plug in seal with active seal design.
13	Adaptive-N impeller
14	Oil

2.1.2 Cables

Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

2.1.3 Monitoring equipment

- Leakage sensor in the stator housing (FLS)
- Overtemperature sensors in the control system

Explosion-proof version: The stator incorporates three thermal contacts connected in series.

2.1.4 Options

- Surface treatment (Epoxy)
- Zinc anodes

2.1.5 Accessories

Example of accessories.

Item	Description
Pump controllers	FGC 400, MultiSmart, MyConnect
HMI	FOP 315, FOP 402
Monitoring relays	Supplied locally
Level sensors	LTU, ENM 10
SCADA systems	AquaView
Flow meters	MagFlux

Discharge connections, adapters, hose connections, and other mechanical accessories

2.2 FPG 413, FPG 414, APP411

2.2.1 Product design

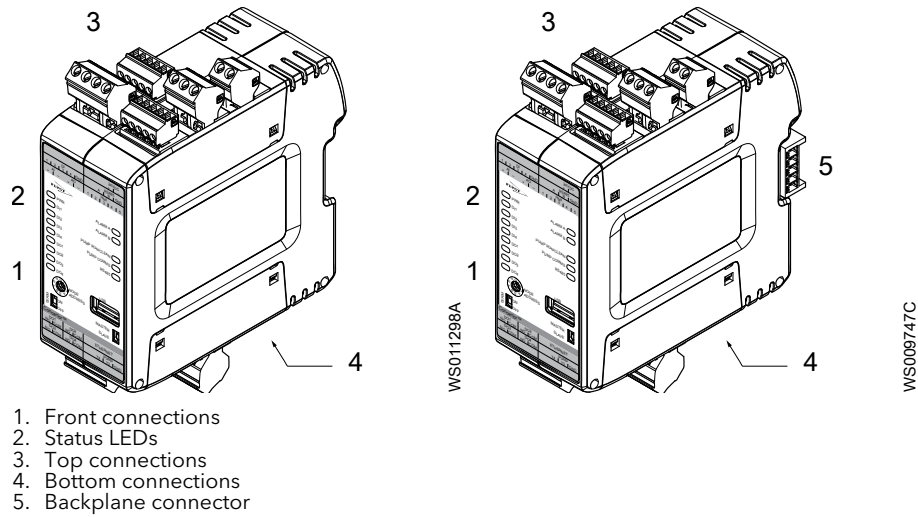
The product is part of the Concertor™ system.

Product name	Part number	Description
FPG 413	8156500	Gateway for Concertor™ EA. The pump performance is easily adjustable when the pump is stopped.
FPG 414	8164700	Gateway for Concertor™ DP or Concertor™ XPC. Dynamic pump performance change, through 4-20 mA or Modbus, or APP 411.
APP 411	8011900	Controller for Concertor™ XPC

2.2.2 Approvals

- CE
- UL
- CSA
- RCM

2.2.3 Parts



2.3 FOP 402

2.3.1 Product design

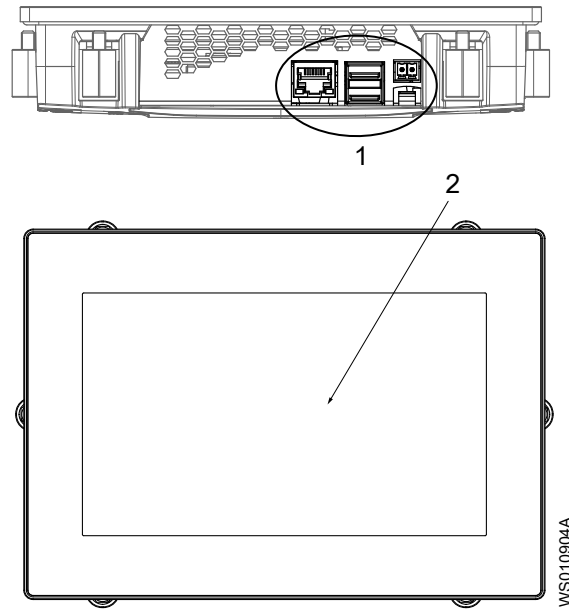
FOP 402 is a touchscreen HMI that is connected to one or more web servers. The HMI is installed on a wall or in the cabinet door.

Product name	Article number	Description
FOP 402	822 48 00	

2.3.2 Approvals

- CE
- UL

2.3.3 Parts



1. Terminals, see [Terminals](#) on page 25
2. Screen

2.4 FOP 315

2.4.1 Product design

The FOP 300 series are HMI units that are connected to a Flygt gateway or controller to provide a user-friendly interface. For information on how to use the HMI, see the Installation, Operation, and Maintenance manuals for the related products or the System Installation and Operation manual.

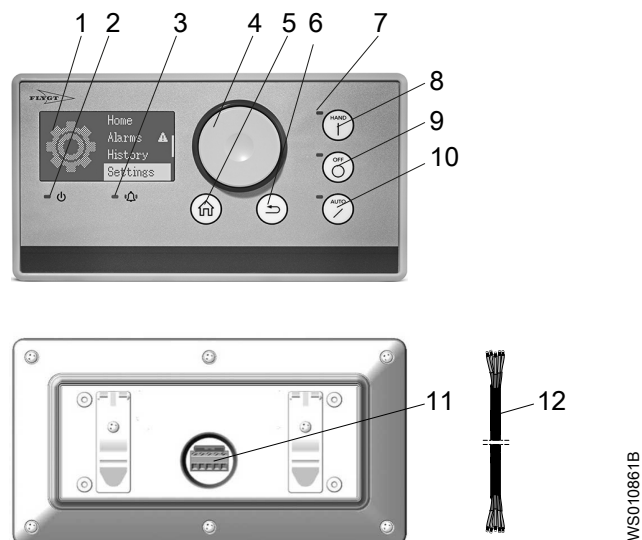
The HMI is handheld, or mounted in or on a cabinet door, or inside a cabinet.

Product name	Article number	Description
FOP 315	823 88 00	<ul style="list-style-type: none"> • Hand/Off/Auto for between one and eight mixers or pumps • One set of Hand, Off, Auto buttons

2.4.2 Approvals

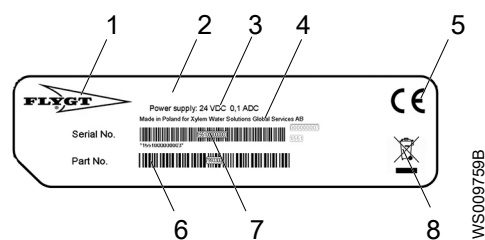
- CE
- CSA
- UL

2.4.3 Parts



Number	Part	Description
1	Screen	The screen shows the menu system.
2	Power on LED	The blue color shows that the unit is in operating mode.
3	Alarm LED	The light blinks red when there is an alarm.
4	Jog wheel	The jog wheel is used for navigation and selection in the menus. <ul style="list-style-type: none"> • Rotate it to navigate. • Press it to select.
5	Home button	The home button is used to return to the Home menu.
6	Back button	The back button is used to return to the previous menu.
7	Status LEDs	<ul style="list-style-type: none"> • Hand button: Orange when active • Off button: Red when stopped • Auto button: Green when active
8	Hand button	The hand button is used to change from auto mode to manual mode.
9	Off button	The off button is used to stop the unit or units, when manual mode is used.
10	Auto button	The auto button is used to change from manual to auto mode.
11	Terminals	See Terminals on page 26.
12	Cable	5-lead DeviceNet cable for connection to gateway or controller.

2.4.4 The data plate



1. Brand
2. Product
3. Power supply
4. Country of origin, manufacturer
5. Approvals
6. Part number
7. Serial number
8. Waste disposal symbol

3 Technical Reference

3.1 N-pump

3.1.1 Motor data

The drive unit includes a synchronous motor with IE4 equivalent efficiency.

NOTICE:

Do not connect a starter or a Variable Frequency Drive (VFD) to this unit.

Feature	Description
Input frequency	50–60 Hz
Input supply	3-phase <ul style="list-style-type: none"> • 380–480 V • 200–240 V
Maximum starts per hour	Pump only: 60 Pump with gateway or controller: 240
Design in applicable parts	According to IEC 60034-1
Voltage variation	<ul style="list-style-type: none"> • Continuously running: Maximum $\pm 5\%$ • Intermittently running: Maximum $\pm 10\%$
Voltage imbalance between the phases	Maximum of 2%
Stator insulation class	In accordance with class H (180°C, 356°F)

3.1.2 Application limits

Data	Description
Liquid temperature	Maximum 40°C (104°F)
Liquid density	Maximum 1100 kg/m ³ (9.2 lb per US gal)
pH of the pumped liquid	5.5–14
Depth of immersion	Maximum 20 m (65 ft)

3.1.3 Materials

Table 1: Major parts except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Cooling jacket, alternative 1	Cast iron, gray	35B	GJL-250
Cooling jacket, alternative 2	Aluminum	H5202-86-AC4A	1706:AC-43100+43000
Pump housing	Cast iron, gray	35B	GJL-250
Impeller, alternative 1	Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Impeller, alternative 2	Stainless steel, Duplex	CD-4MCuN	10283:1.4474
Insert ring	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 316L	1.4404, 1.4432, ...
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401, 1.4404, ...
O-rings	Nitrile rubber (NBR) 70° IRH	-	-

Denomination	Material	ASTM	EN
Oil	A medical white oil of paraffin type that fulfills FDA 172.878 (a) and viscosity close to VG32.	-	-

Table 2: Mechanical seals

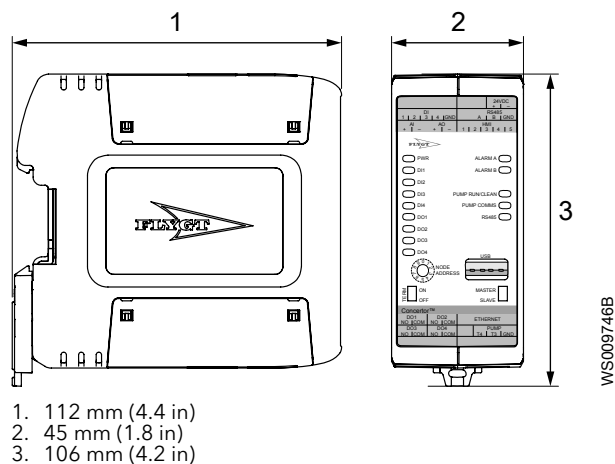
Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)

3.1.4 Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

3.2 FPG 413, FPG 414, APP411

3.2.1 Dimensions



3.2.2 Environmental requirements

Parameter	Value
Operating temperature	-20°C - +65°C (-4°F - 149°F)
Storage temperature	-20°C - +70°C (-4°F - 158°F)
Operating humidity	Relative humidity, non-condensing: 5 - 95%
Sunlight exposure	UV-resistant
Maximum altitude	<ul style="list-style-type: none"> With UL approval: Maximum 2000 m (6562 ft) Without UL approval: 4000 m (13 123 ft)

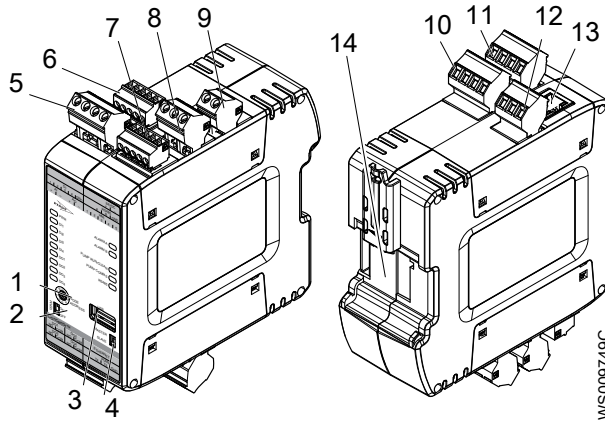
3.2.3 IP-rating

IP20

3.2.4 Electrical data

Parameter	Value
Supply voltage	+ 24 VDC
Supply voltage tolerance	21.5–28.5 VDC
Current consumption	< 700 mA. Typical: 150 mA

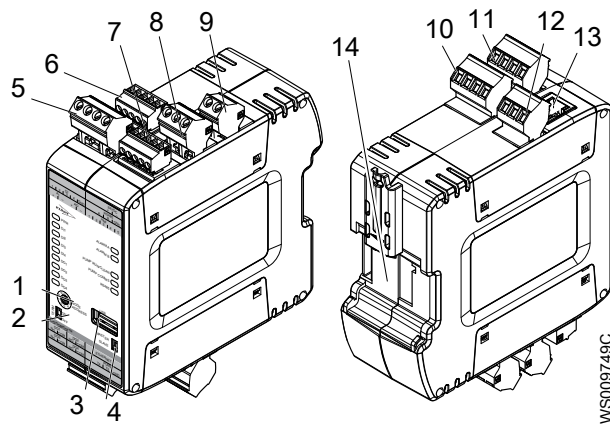
3.2.5 Terminals FPG 413



Section	Terminal	Default	Description
1	NODE ADDRESS	1	Node address 0–9, rotary switch. 0 is not used.
2	TERM	–	Backplane termination switch
3	USB	–	Standard type A USB socket
4	MASTER, SLAVE	–	MASTER: Always applicable. SLAVE: Not applicable for FPG 413
5	AI	+	None Isolated analog input, 4–20 mA Maximum 24 VDC Not applicable for FPG 413
		–	
	AO	+	Speed Analog output, 4–20 mA Maximum 24 VDC The output is configurable: <ul style="list-style-type: none"> • None • Speed, shaft • Power, the input power of the motor • Current, the input current of the motor
		–	
6	DI	1	Call to run
		2	Acknowledge alarms
		3	High level switch
		4	None
		GND	–
			Digital inputs Maximum 24 VDC The inputs are configurable: <ul style="list-style-type: none"> • Call to run • Acknowledge alarms • Hand • Auto • None • High level switch
			Common ground (earth)

Section	Terminal		Default	Description
7	HMI • Flygt FOP 315	1	-	Ground
		2		CAN low
		3		Shield
		4		CAN high
		5		+ 24 VDC output
8	RS-485	A	-	Modbus RTU
		B		
		GND		
9	24 VDC	+	-	24 VDC Tolerance: 21.5-28.5 VDC The power supply unit must fulfill isolation class II. < 700 mA. Typical: 150 mA Fuse: 1 A
		-		
10	D03	NO	Class B alarm status	Digital outputs Potential free relay output Maximum 250 VAC, or 30 VDC, 5 A External fuse required, 5 A The outputs are configurable: • None • Class A alarm status • Class B alarm status • Sum alarm status • Pump running • Pump cleaning • Energized unit Logic: • Normally open • Normally closed
		COM		
	D04	NO	Energized unit	
		COM		
11	D01	NO	Pump running	
		COM		
	D02	NO	Class A alarm status	
		COM		
12	PUMP	T4	-	Pump communication
		T3		
		GND		
13	Ethernet		-	<ul style="list-style-type: none"> • Modbus TCP • Web server
14	Backplane		-	Not applicable

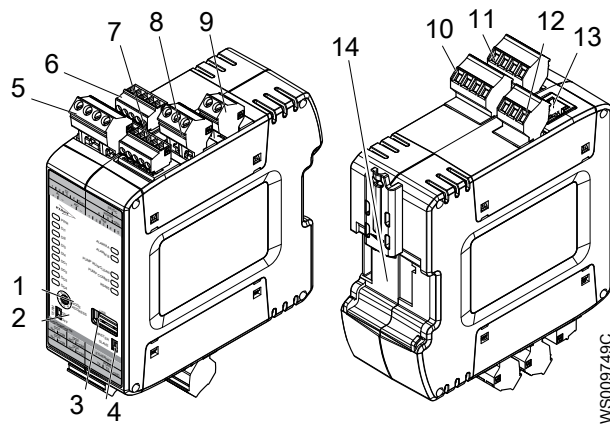
3.2.6 Terminals FPG 414



Section	Terminal	Default	Description
1	NODE ADDRESS	1	Node address 0-9, rotary switch. 0 is not used.
2	TERM	-	Backplane termination switch
3	USB	-	Standard type A USB socket
4	MASTER, SLAVE	-	MASTER: The gateway is not connected to a controller through the backplane. SLAVE: The gateway is connected to a controller through the backplane.
5	AI	+	Pump control reference Maximum 24 VDC The input is configurable: <ul style="list-style-type: none"> None Pump control reference Scaling: 0-100% Offset: 0
		-	
	AO	+	Speed Maximum 24 VDC The output is configurable: <ul style="list-style-type: none"> None Speed, shaft Power, the input power of the motor Current, the input current of the motor
		-	
6	DI	1	Call to run
		2	Acknowledge alarms
		3	High level switch
		4	None
		GND	-

Section	Terminal		Default	Description
7	HMI • Flygt FOP 315	1	-	Ground
		2		CAN low
		3		Shield
		4		CAN high
		5		+ 24 VDC output
8	RS-485	A	-	Modbus RTU
		B		
		GND		
9	24 VDC	+	-	24 VDC Tolerance: 21.5-28.5 VDC The power supply unit must fulfill isolation class II. < 700 mA. Typical: 150 mA Fuse: 1 A
		-		
10	D03	NO	Class B alarm status	Digital outputs Potential free relay output Maximum 250 VAC, or 30 VDC, 5 A External fuse required, 5 A The outputs are configurable: • None • Class A alarm status • Class B alarm status • Sum alarm status • Pump running • Pump cleaning • Energized unit Logic: • Normally open • Normally closed
		COM		
	D04	NO	Energized unit	
		COM		
11	D01	NO	Pump running	
		COM		
	D02	NO	Class A alarm status	
		COM		
12	PUMP	T4	-	Pump communication
		T3		
		GND		
13	Ethernet		-	<ul style="list-style-type: none"> • Modbus TCP • Web server
14	Backplane		-	Concertor™ XPC The controller communicates with the gateways through the backplane.

3.2.7 Terminals APP 411

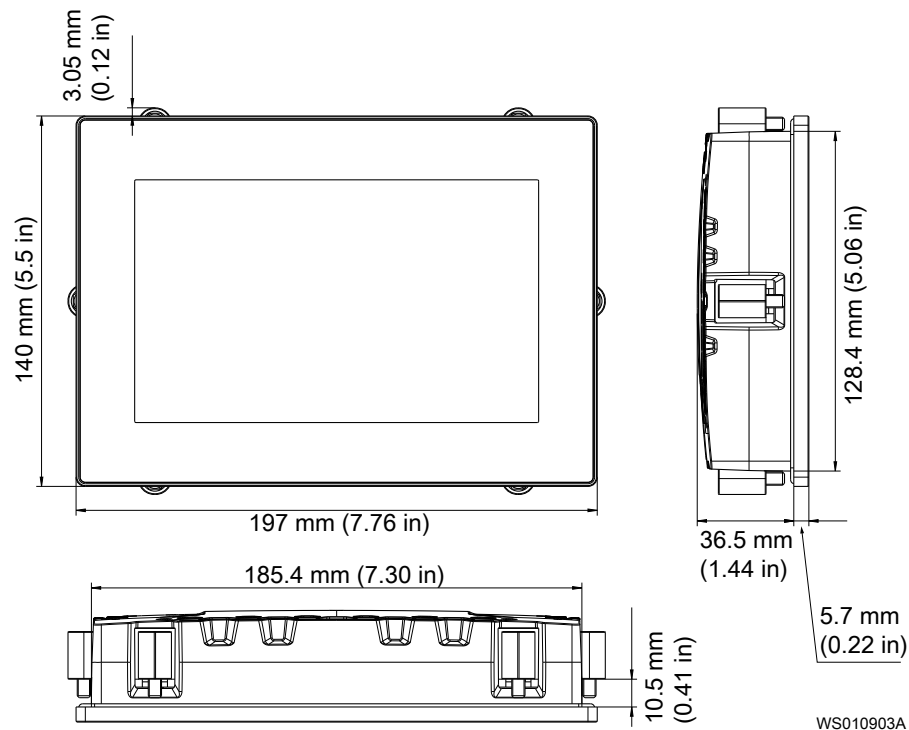


Section	Terminal	Default	Description
1	NODE ADDRESS	1	Node address 0-9, rotary switch. 0 is not used.
2	TERM	-	Backplane termination switch
3	USB	-	Standard type A USB socket
4	MASTER, SLAVE	-	Always MASTER
5	AI	+	None Isolated analog input, 4-20 mA Maximum 24 VDC The input is configurable: <ul style="list-style-type: none"> • None • Water level
		-	
	AO	+	Water level Analog output, 4-20 mA Maximum 24 VDC The output is configurable: <ul style="list-style-type: none"> • None • Speed, shaft • Power, the input power of the motor • Current, the input current of the motor • Water level
		-	
6	DI	1	Digital inputs Maximum 24 VDC The inputs are configurable: <ul style="list-style-type: none"> • None • Acknowledge alarms • Hand • Auto • High level switch • Overflow switch
		2	
		3	
		4	
		GND	
7	HMI <ul style="list-style-type: none"> • Flygt FOP 315 	1	Ground
		2	CAN low
		3	Shield
		4	CAN high
		5	+ 24 VDC output

Section	Terminal		Default	Description
8	RS-485	A	-	Modbus RTU
		B		
		GND		
9	24 VDC	+	-	24 VDC Tolerance: 21.5–28.5 VDC The power supply unit must fulfill isolation class II. < 700 mA. Typical: 150 mA Fuse: 1 A
		-		
10	D03	NO	Class B alarm status	Digital outputs Potential free relay output Maximum 250 VAC, or 30 VDC, 5 A External fuse required, 5 A The outputs are configurable: <ul style="list-style-type: none"> • None • Class A alarm status • Class B alarm status • Sum alarm status • Pump running • Pump cleaning Logic: <ul style="list-style-type: none"> • Normally open • Normally closed
		COM		
	D04	NO	None	
		COM		
11	D01	NO	Pump running	
		COM		
	D02	NO	Class A alarm status	
		COM		
12	PUMP	T4	-	Pump communication
		T3		
		GND	-	Not used
13	Ethernet		-	<ul style="list-style-type: none"> • Modbus TCP • Web server
14	Backplane		-	The controller communicates with the gateways through the backplane.

3.3 FOP 402

3.3.1 Dimensions



3.3.2 Environmental requirements

Parameter	Value
Operating temperature	-20°C - +60°C (-4°F - +140°F)
Storage temperature	-30°C - +80°C (-22°F - +176°F)
Operating humidity	Relative humidity: 20-90 %

3.3.3 IP-rating

- IP20, back side
- IP65, front side

3.3.4 Electrical data

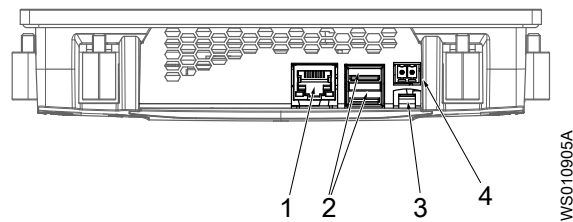
Parameter	Value
Supply voltage	24 VDC
Maximum current at nominal voltage	0.35 A at 24 VDC
Maximum power consumption	8.5 W
Voltage range	24 VDC (-15% / +20%)

3.3.5 Display data

Part	Description
Processor	ARM Cortex A9, dual core, 800 MHz
Display	7" TFT LED, resolution 800 x 480 pixels
Brightness	500 cd/m ²
Contrast ratio	600:1
Colors	16.7 M

Part	Description
Touch-panel type	Multi-touch, PCT
Memory	512 MB Flash, 1 GB RAM

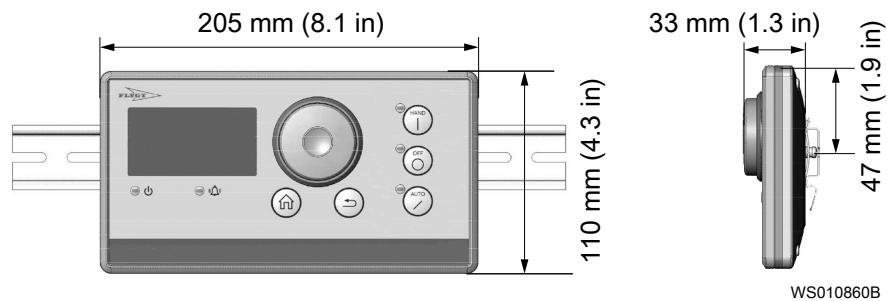
3.3.6 Terminals



Number	Terminal	Description
1	Ethernet	-
2	USB	The HMI is equipped with a USB 2.0 host controller with two USB interfaces.
3	Power supply	24 VDC
4	Grounding clip	-

3.4 FOP 315

3.4.1 Dimensions



3.4.2 Environmental requirements

Parameter	Value
Operating temperature	-20°C - +70°C (-4°F - 158°F)
Storage temperature	-20°C - +85°C (-4°F - 185°F)
Operating humidity	Relative humidity, non-condensing: 90%
Sunlight exposure	UV resistant, avoid direct sunlight

3.4.3 IP-rating

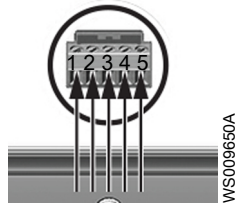
Installation	IP-rating
On a cabinet door	Front: IP54. Back: IP21
In a cabinet door	Front: IP54. Back: IP21
<ul style="list-style-type: none"> DIN rail Hand-held 	IP20

3.4.4 Electrical data

Parameter	Value
Supply voltage	24 VDC

Parameter	Value
Supply voltage tolerance	$\pm 10\%$
Current consumption	$< 100 \text{ mA}$

3.4.5 Terminals



Number	Terminal	Description	Cable color
1	GND	Ground (earth), 0 V	Black
2	L	CAN low	Blue
3	–	Screen. Not used.	Transparent
4	H	CAN high	White
5	+24 V	Power supply, +24 V	Red

The power supply unit must fulfill isolation class II.

4 Motor Rating and Performance Curves

4.1 Motor rating

380-480 V

Rated power (kW)	Rated power (Hp)	Voltage (V) / Rated current (A)	Voltage (V) / Starting current (A)	Power factor	Installation
7.3	10.0	380/13.1 - 480/10.4	380/13.1 - 480/10.4	0.95	P, S
5.5	7.5	380/10.0 - 480/7.9	380/10.0 - 480/7.9	0.95	P, S, T, Z
4.0	5.5	380/7.5 - 480/5.9	380/7.5 - 480/5.9	0.94	P, S, T, Z
2.2	3.0	380/4.6 - 480/3.7	380/4.6 - 480/3.7	0.91	P, S, T, Z

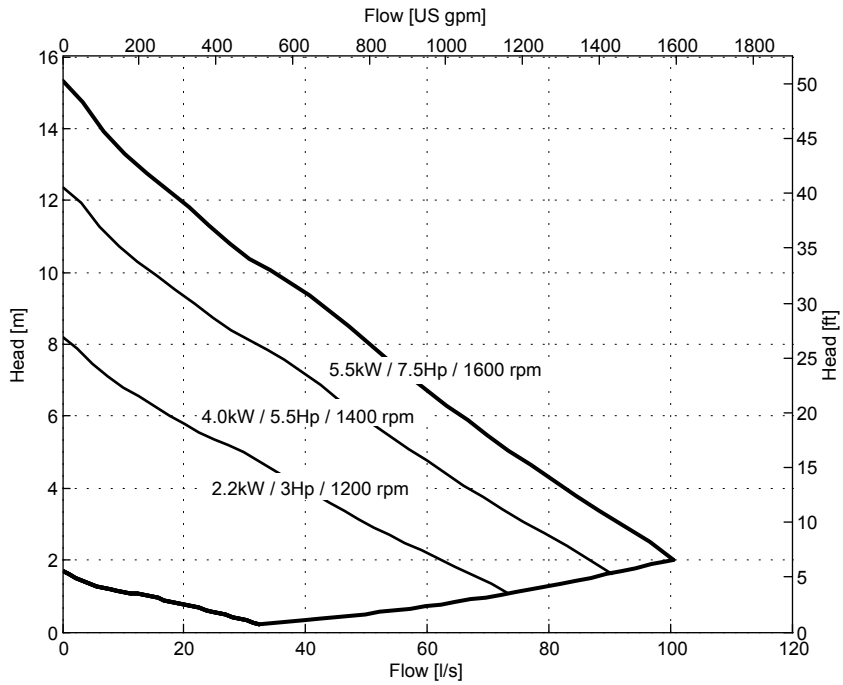
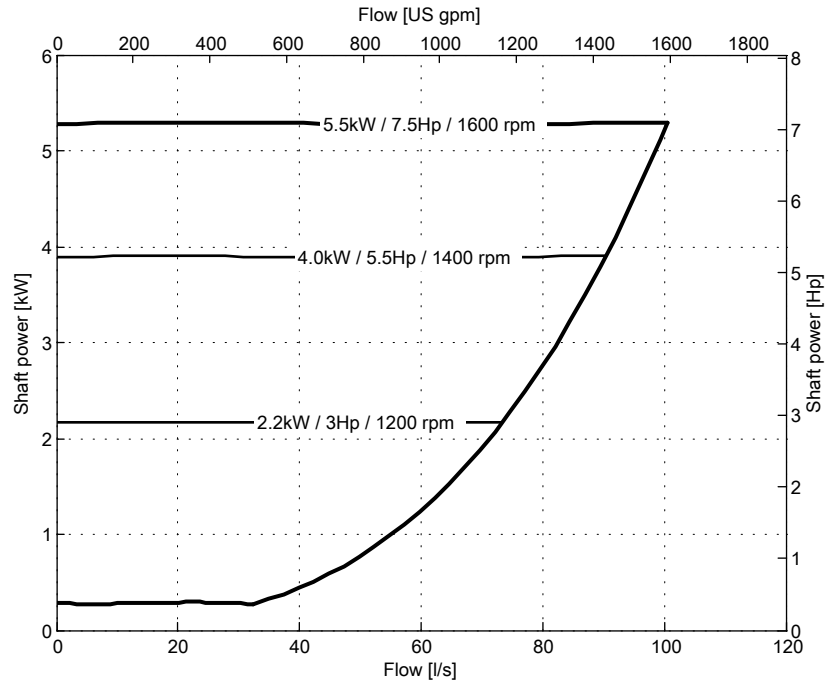
200-240 V

Rated power (kW)	Rated power (Hp)	Voltage (V) / Rated current (A)	Voltage (V) / Starting current (A)	Power factor	Installation
4.0	5.5	200/14 - 240/11.7	200/14 - 240/11.7	0.95	P, S, T, Z
2.2	3.0	200/7.3 - 240/6.1	200/7.3 - 240/6.1	0.95	P, S, T, Z

4.2 Performance curves

150 (LT)

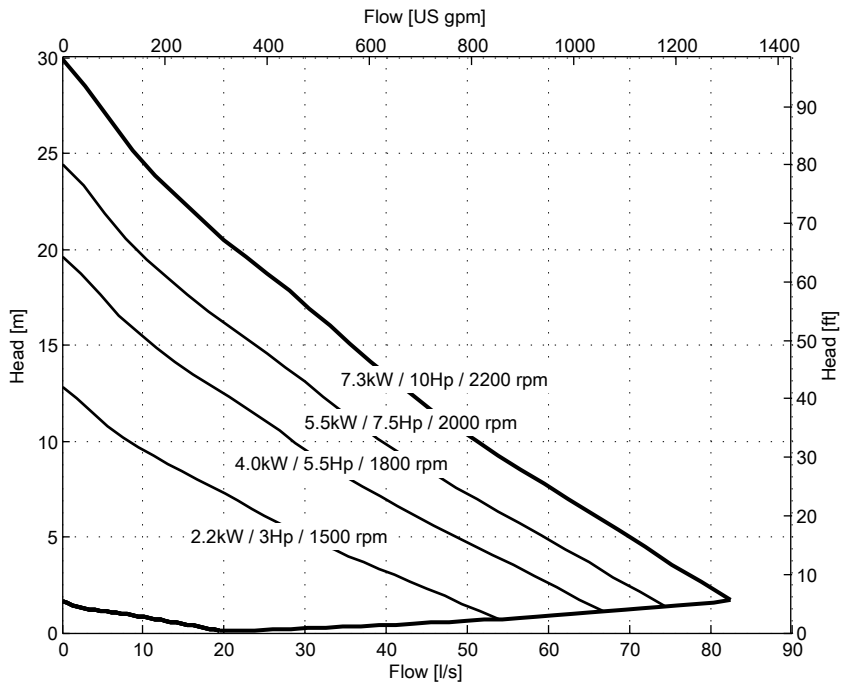
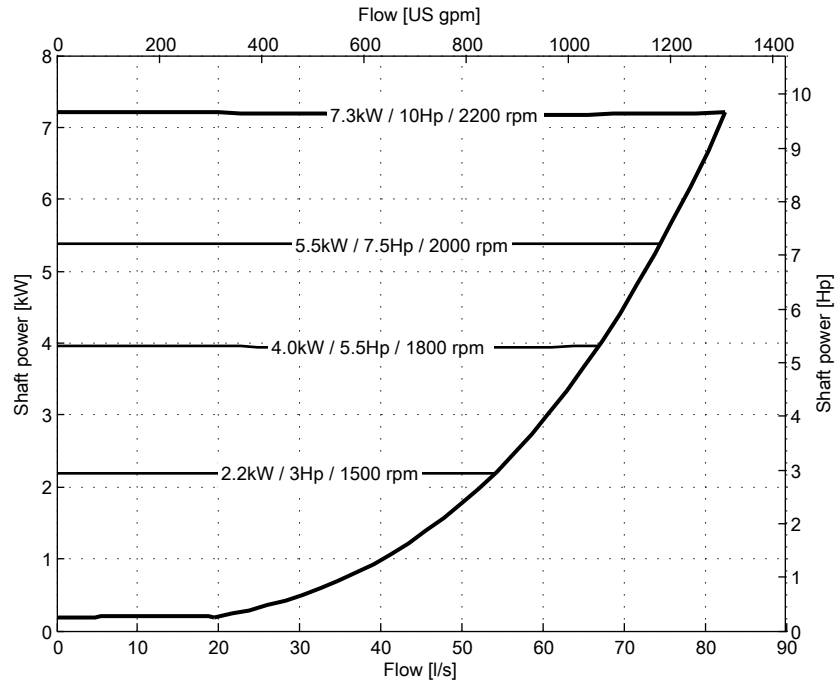
The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.



WS010000B

100 (MT)

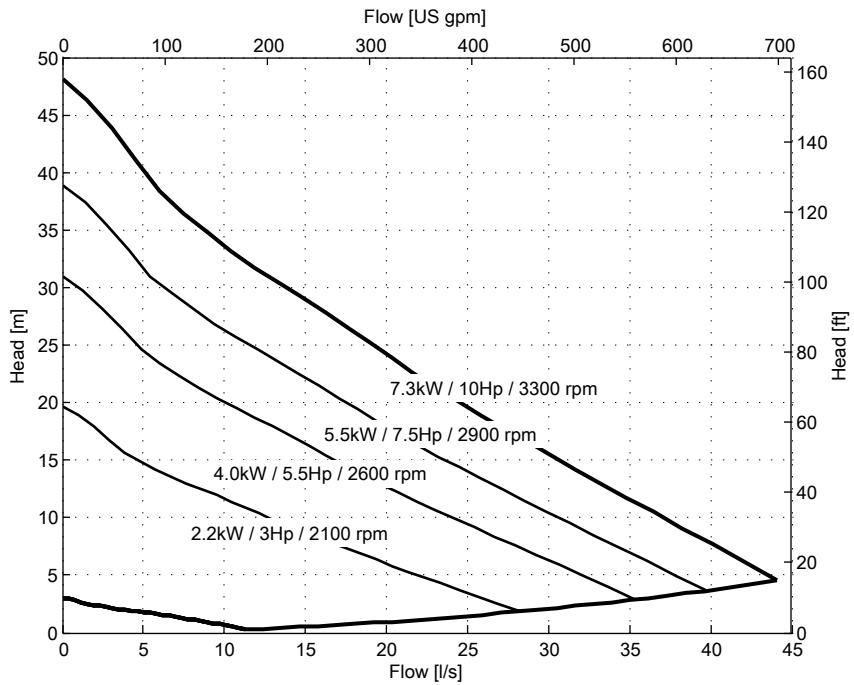
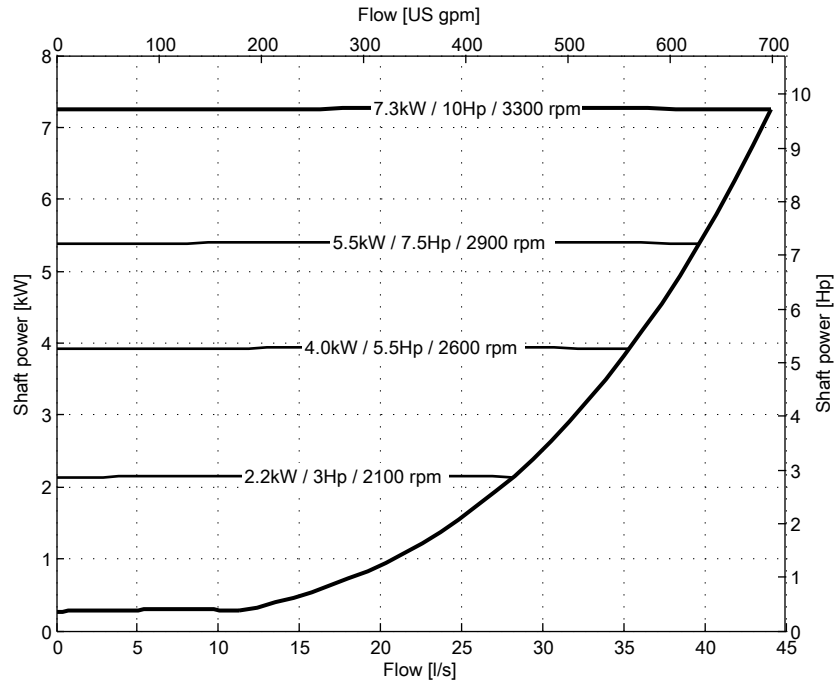
The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.



WS010001A

80 (HT)

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.



WS010002A

5 Dimensions and Weight

5.1 Drawings

All drawings are available as Acrobat documents (.pdf) and AutoCad drawings (.dwg). Contact a local sales and service representative for more information.

Drawings are found on Xylect or on TPI.

All dimensions are in mm.

Drawing number	Discharge connection	Installation
803 39 00	80 (HT)	P
803 40 00	150 (LT)	P
803 41 00	100 (MT)	P
803 42 00	80 (HT)	S
803 43 00	80 (HT), threaded	S
803 44 00	150 (LT)	S
803 45 00	150 (LT), threaded	S
803 46 00	100 (MT)	S
803 47 00	100 (MT), threaded	S
814 76 00	100/80 (HT)	X
814 77 00	150/100 (MT)	X
814 78 00	150/150 (LT)	X
813 89 00	80 (HT)	T
813 89 01	80 (HT), adapter	T
813 90 00	100 (MT), inlet 150	T
813 90 01	100 (MT), inlet 150, adapter	T
813 91 00	100 (MT), inlet 200	T
813 91 01	100 (MT), inlet 200, adapter	T
813 92 00	150 (LT), inlet 200	T
813 92 01	150 (LT), inlet 200, adapter	T
813 86 00	80 (HT)	Z
813 86 01	80 (HT), with service cart	Z
813 87 00	100 (MT)	Z
813 87 01	100 (MT), with service cart	Z
813 88 00	150 (LT)	Z
813 88 01	150 (LT), with service cart	Z

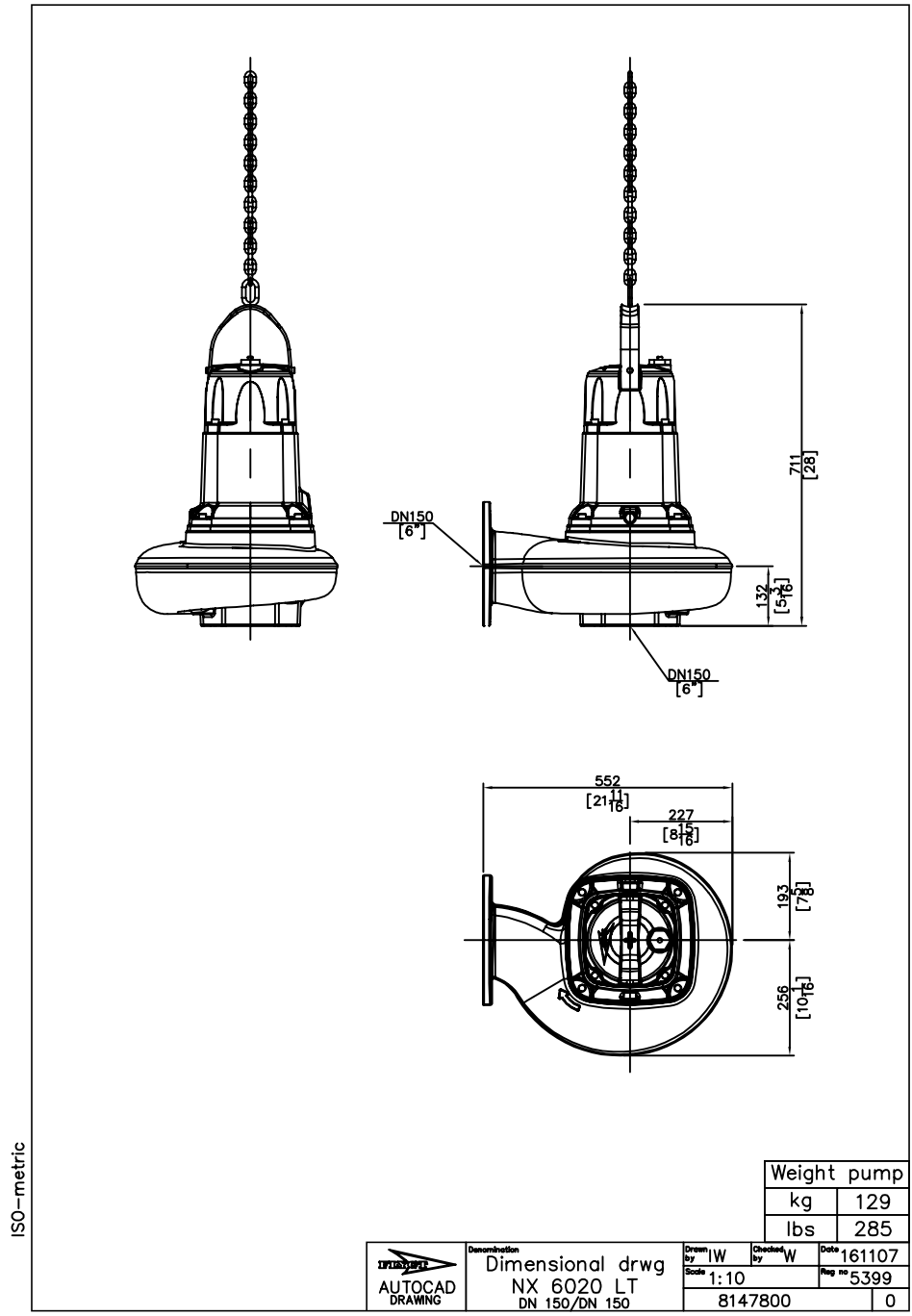


Figure 3: DN 150 (LT)

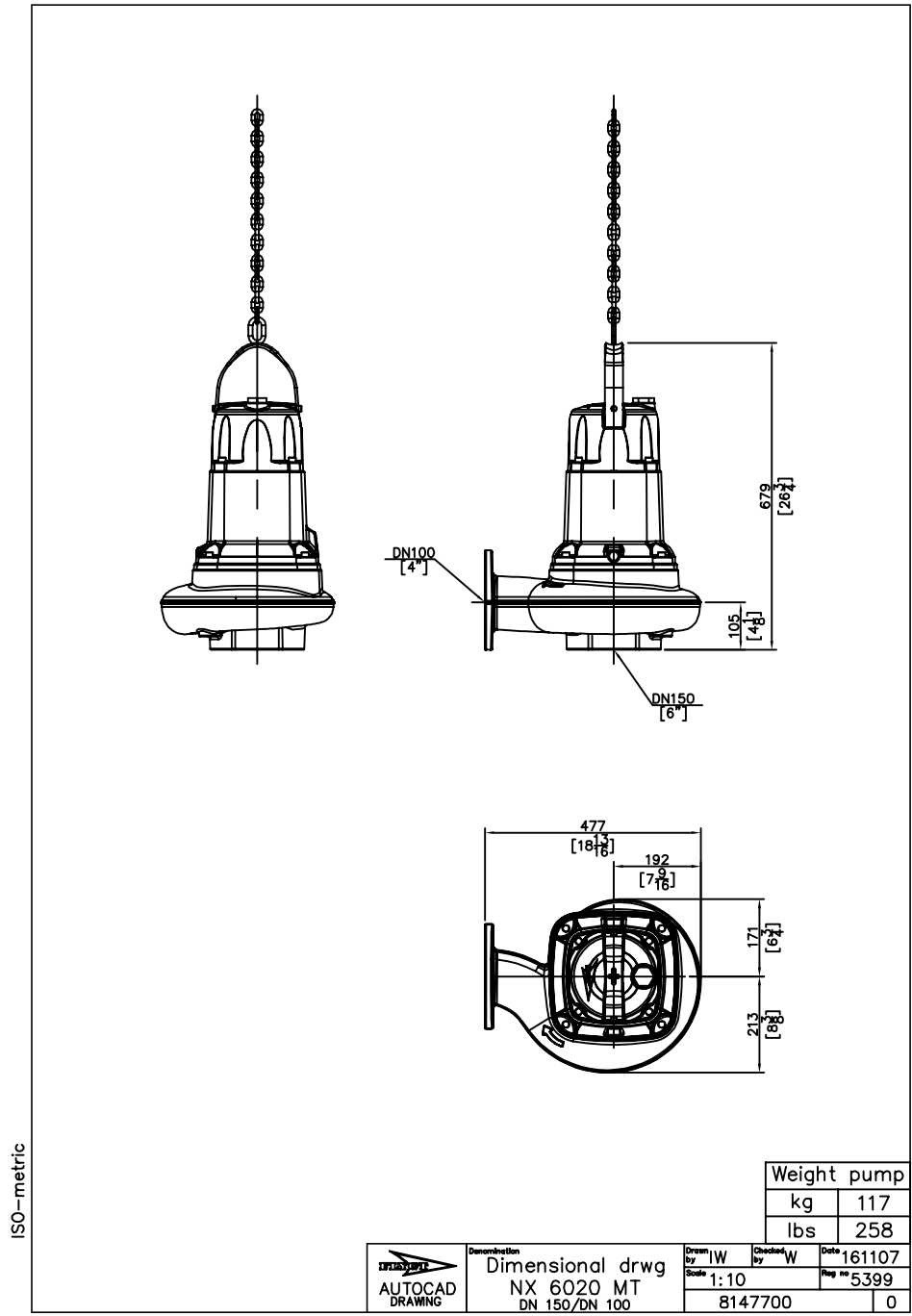


Figure 4: DN 100 (MT)

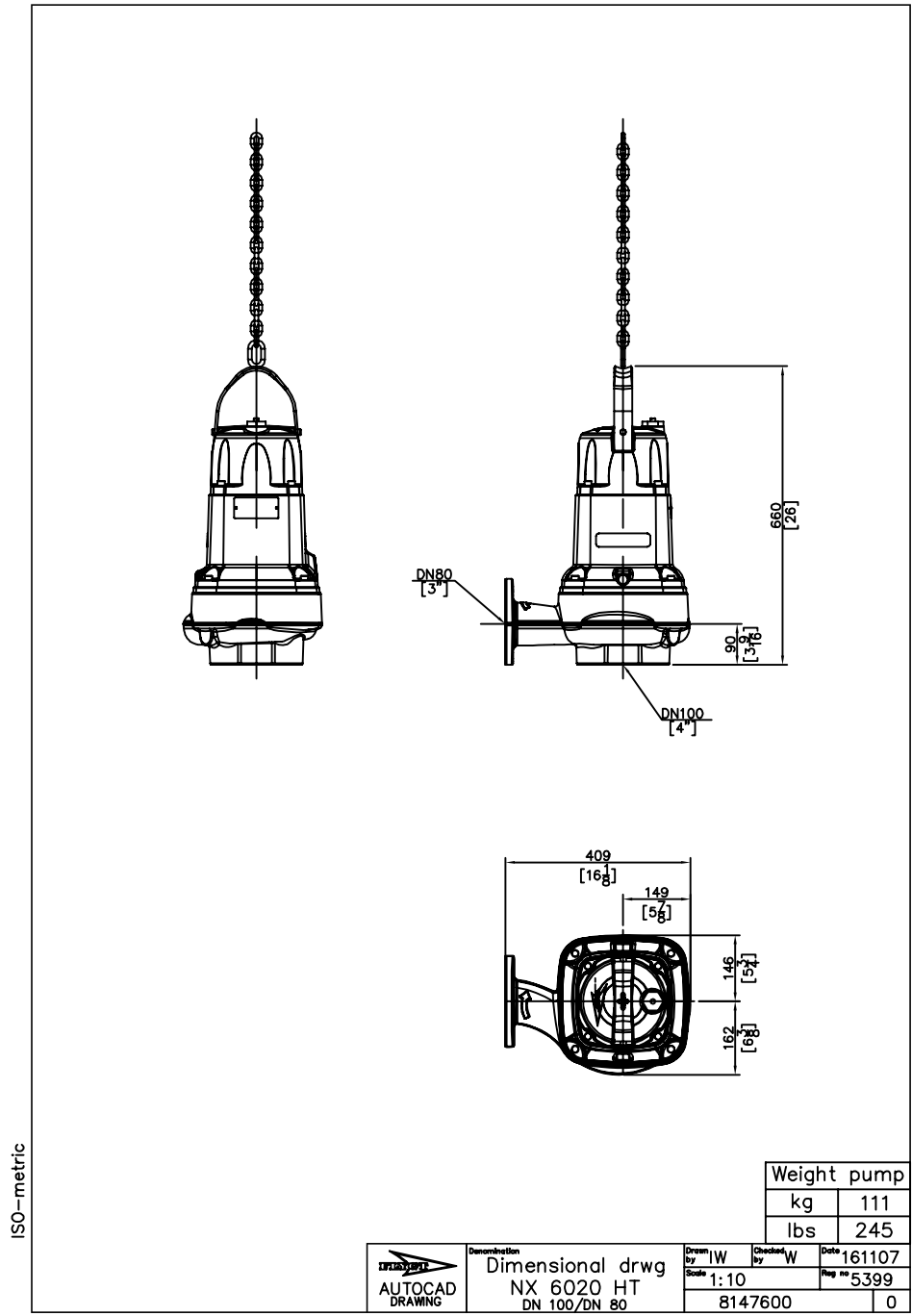


Figure 5: DN 80 (HT)

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

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For more information on how Xylem can help you, go to www.xylem.com



The original instruction is in English. All non-English instructions are translations of the original instruction.

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