

Concertor XPC N80-2400

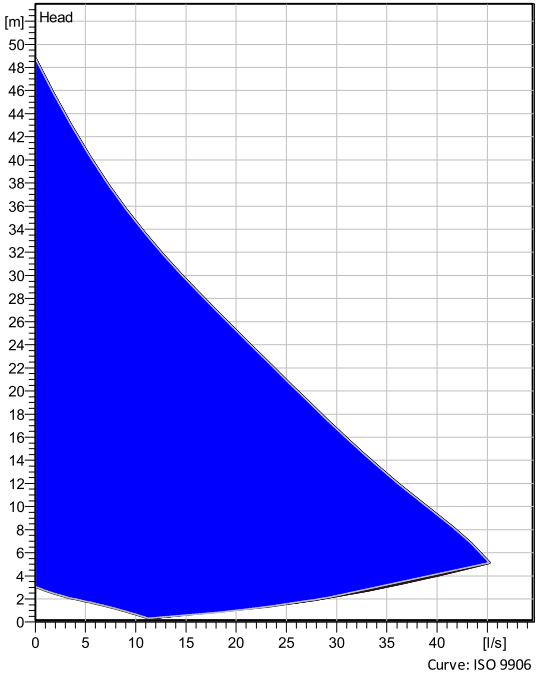
Designed for sewage pumping stations in collection systems, the XPC system powered by Nexicon consists of 1-4 pumps, the Nexicon control, and 1 Dirigo module for each of the pumps. Perfect for users who require the full functionality of the Concertor system, including maximum energy savings and clean wet well.



Technical specification



Curves according to: Water, pure [100%], 277 K, 999.9 kg/m³, 1.5692 mm²/s



Nominal (mean) data shown. Under- and over-performance from this data should be expected due to standard manufacturing tolerances. Please consult your local Flygt representative for performance guarantees.

Configuration

Motor number N6020.181 18-08-1AZ-W 2.2KW	Installation type X - Optional installation, Wet or Dry
Impeller diameter 170 mm	Discharge diameter 80 mm

Pump information

Impeller diameter 170 mm
Discharge diameter 80 mm
Inlet diameter 110 mm
Maximum operating speed 800-2094.6 1/min
Number of blades 2
Max. fluid temperature 40 °C

Materials

Impeller Hard-Iron

Project	Xylect-20837487	Created by	Becky Gadsden
Block		Created on	7/11/2023
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Technical specification



Motor - General

Motor number N6020.181 18-08-1AZ-W 2.2KW	Phases 3~	Rated speed 800-2095 1/min	Rated power 2.2 kW
Approval No	Insulation class H	Rated current 4.1 A	Type of Duty S1
Frequency 50 Hz	Rated voltage 400 V	Motor efficiency class IE4 according to IEC/TS 60034-30-2 Ed. 1	

Motor - Technical

Power factor - 1/1 Load 0.95	Motor efficiency - 1/1 Load 90.0 %	Nominal speed - 1/1 Load 2300 1/min
Power factor - 3/4 Load 0.95	Motor efficiency - 3/4 Load 91.0 %	Nominal speed - 3/4 Load 2070 1/min
Power factor - 1/2 Load 0.95	Motor efficiency - 1/2 Load 91.0 %	Nominal speed - 1/2 Load 1840 1/min
Starting current 4.1 A		

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Monitoring and Control equipment



Gateway

Yes

Power Supply

24 V DC

Ports

1 x USB

1 x RS485

1 X Ethernet RJ 45

1 x Display interface, CAN

Communication

Modbus RTU

Modbus TCP

Standard I/O

4 x Digital outputs

4 x Digital inputs

1 x Analog input

1 x Analog output

Pump Interface

1 x Pump Communication Port

User Interface

14 x LED

1 x Rotator Switch

Data Logging

1000 data points

Environment Class

Protection class: IP 20

Operation temperature: -20°C to +65°C

Software Version

XPC software – Pump station management, including Energy minimizer

Approvals

CE, UL, CSA

Interface (HMI)

Basic

Power Supply

24V DC

Ports

1 x Controller interface, CAN

Interface

To operator: screen & LEDs

From operator: jog wheel & buttons

Environment Class

Protection class: Front: IP54, Back: IP21

Operation temperature: -20 °C to +70°C

Approvals

CE, UL, CSA

WiFi

No

Communication

Standard

Additional I/O

No

Cloud connection

No

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Performance curve

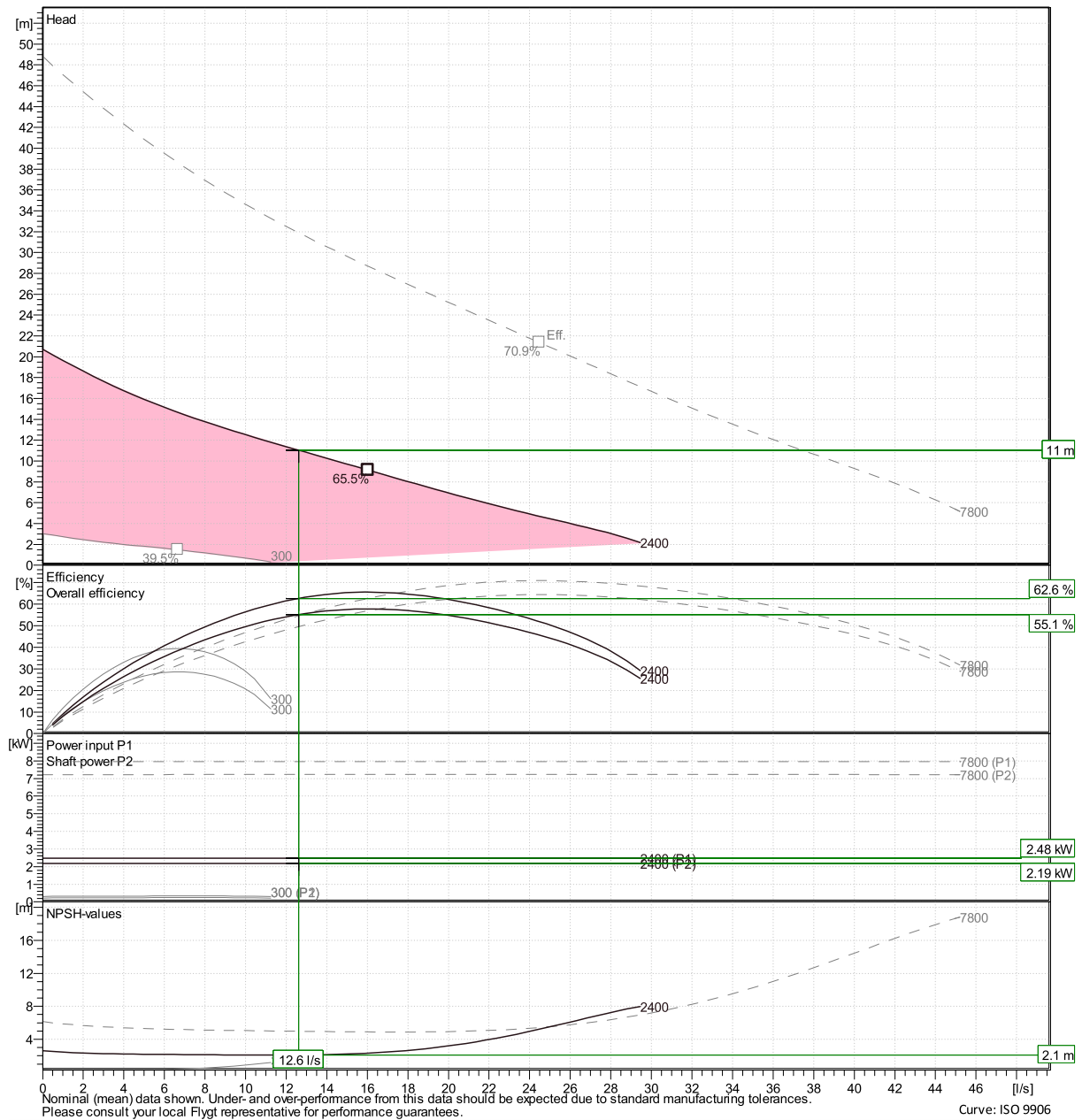


Duty point

Flow
12.6 l/s

Head
11 m

Curves according to: Water, pure [100%], 277 K, 999.9 kg/m³, 1.5692 mm²/s



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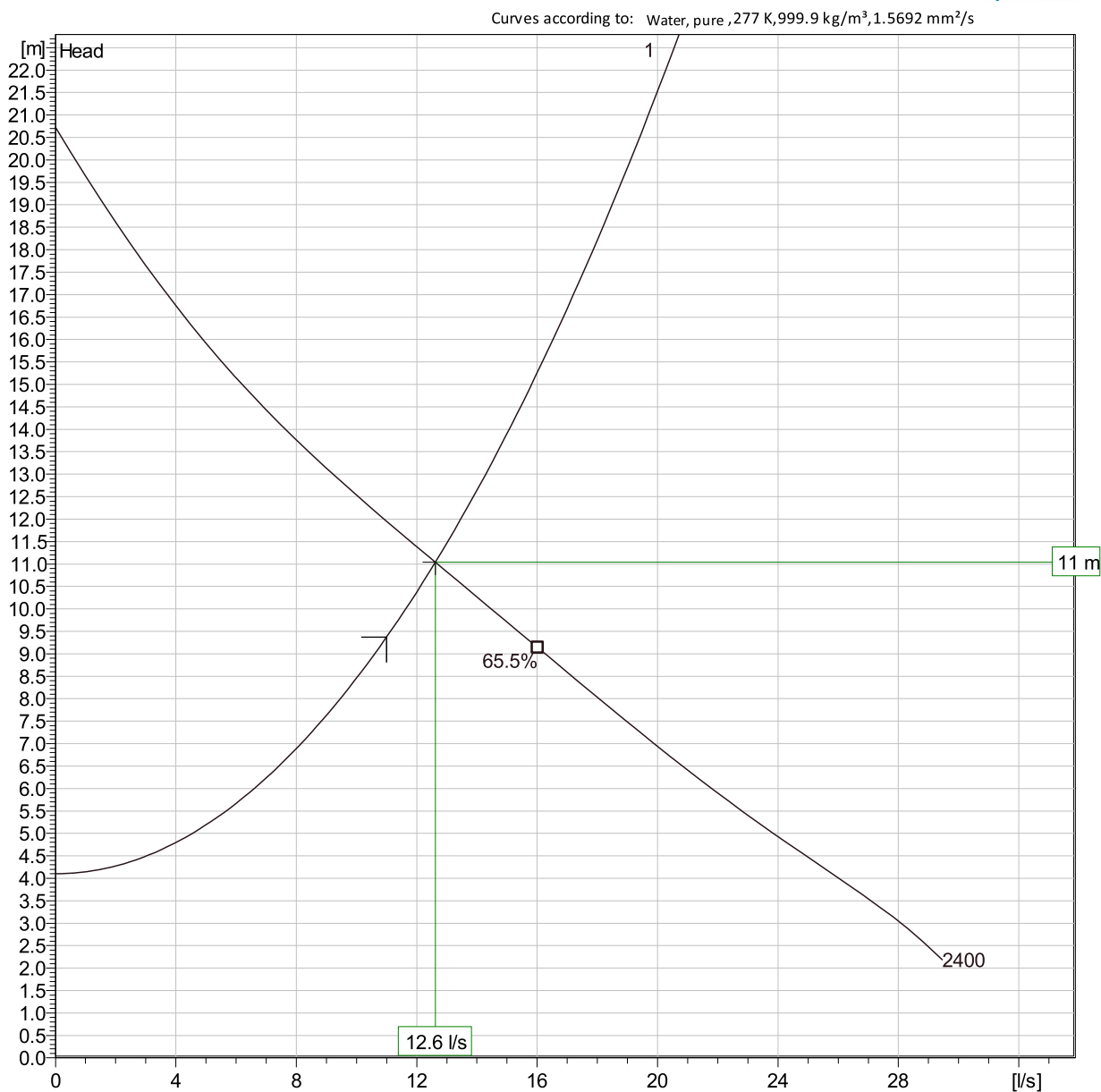
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Duty Analysis



Operating characteristics

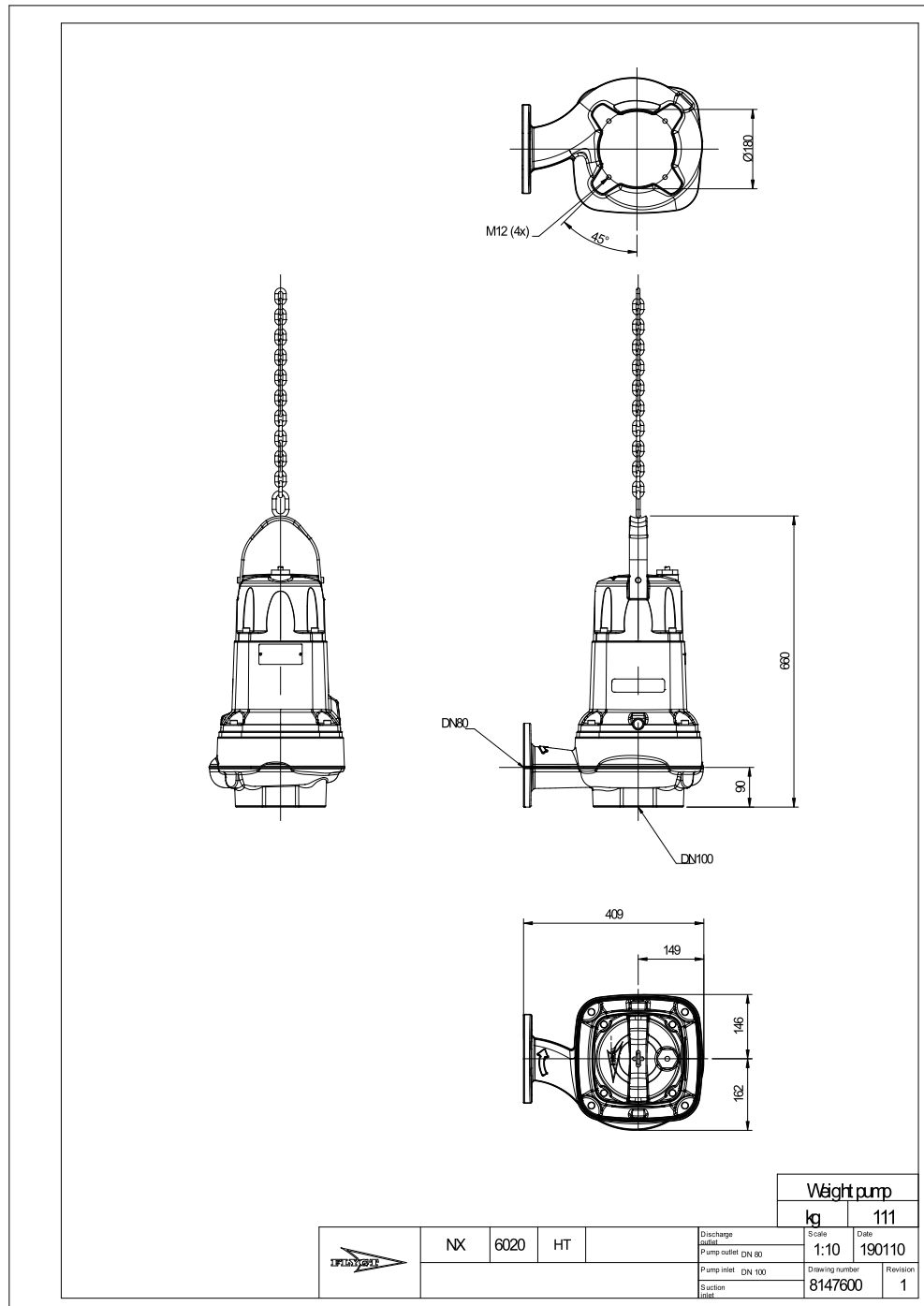
Pumps / Systems	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr.eff.	Specific Energy	NPSH _{re}
1	12.6 l/s	11 m	2.19 kW	12.6 l/s	11 m	2.19 kW	62.6 %	0.045 kWh/m ³	2.1 m

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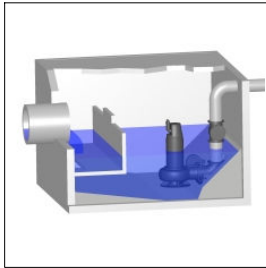
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Dimensional drawing



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Friction loss calculation

Pumped fluid Water, pure	Static head 4.1	Layout Wet well installation
Flow 11 l/s	Number of pumps 1	Calculation model Colebrook-White
Viscosity 1.569 mm ² /s	Nature of system Single head pump	

Type	Ø (mm)	? or L	Qty.	v (m/s)	k (mm)	ΔH (m)
Ø = Diameter v = Velocity k = Pipe roughness ΔH = Head loss						
Individual discharge side pipe - Metal / Ductile iron cement lining PN 16 / DN 80 (98x4x4 mm) / K factor for Wastewater acc. DWA-A110						
Pipe length	82	2.5 m	1	2.083	0.25	0.1851
Discharge Connection	82	0.3	1	2.083		0.06634
Elbows	82	0.3	1	2.083		0.06634
Inlet	82	1	1	2.083		0.2211
Non-return valves	82	0.9	1	2.083		0.199
Other	82	0	1	2.083		
T-piece	82	0.4	1	2.083		0.08845
Total friction head						0.8264
Friction loss head						0.8264 m
Total static head						4.1 m
Total head						4.926 m

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