Assumptions have been made regarding the future use of pump out from foul tanks on board visiting vessels at the Deep Water Quay.

- A dedicated foul pumping station for D.A.F.M. harbour usage has been proposed.
- This package pumping station will collect all foul at the quayside and pump it to the Údarás na Gaeltachta sewage treatment plant located to the south-east of the Deep Water Quay.
- The new rising main from the harbour is approx. 375m long and sewage is then connected into the existing gravity pipe for another 80m into the treatment plant.
- Typical maximum sewage volume from harbour/boats is predicted at 5m³ per day at a max. flow rate of 1.8 litres/sec
- A pressure pipe of DN63 SDR 11 PN16 in PE100 (HDPE) pipe is assumed.
- A buried sump tank will have a storage volume of minimum 700 litres between a maximum invert level of +2.0mCD and invert of the incoming pipe at +4.1mCD
- Float switches will be set to initiate discharge of the sump over a small height range so that the pumps should operate approximately 2-8 times per day depending upon the incoming flow rate. Duty and standby pups will be provided in the package pumping station.
- According to a study carried out on passenger vessel by ocean conservancy [1], a typical vessel with passengers will produce 0.0318m³ of waste per person per day. The proposed wastewater treatment system would thus have the equivalent capacity of circa. 5 vessels of 10 persons with foul holding tank over 3 days - all simultaneously dumping their foul systems in one particular day. This is considered more than sufficient for the predicted needs at Ros an Mhíl.

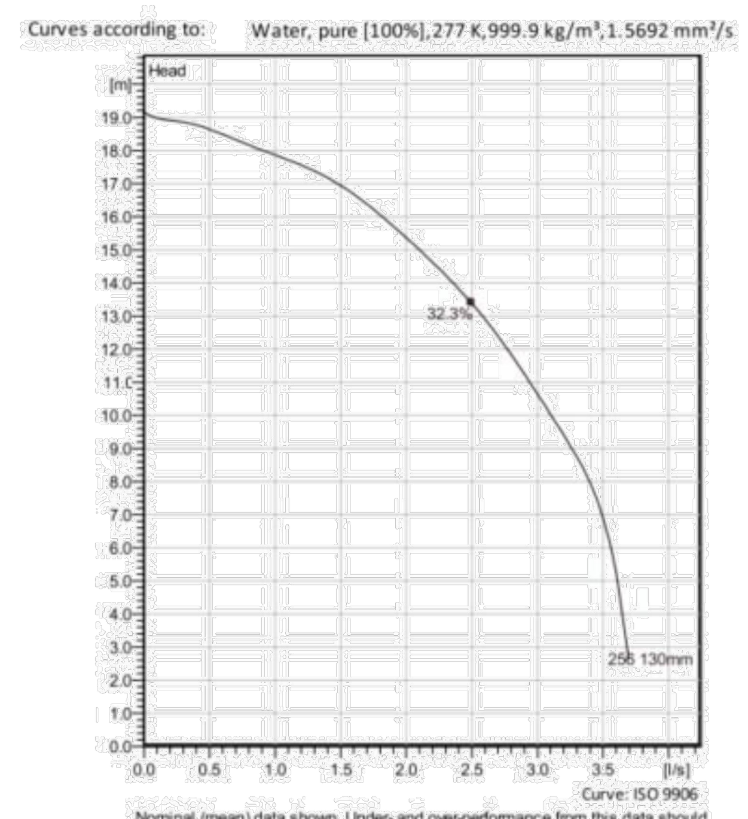
A specimen design for pump and rising main is shown below.

MP 3069 HT 3~ 256

Semi-open multi-channel impellers with integral grinder cutter in single volute casing for liquids containing solids and fibres.

FLYGT a xylem brand

Technical specification



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
M3069.170 13-08-2BB-W
1.7KW

Installation type
P - Semi permanent, Wet

Impeller diameter
130 mm

Discharge diameter
50 mm

Pump information

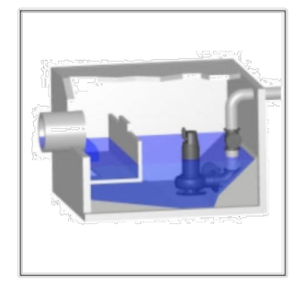
Impeller diameter
130 mm

Discharge diameter
50 mm

Materials

Impeller
Grey cast iron

Stator housing material
Grey cast iron

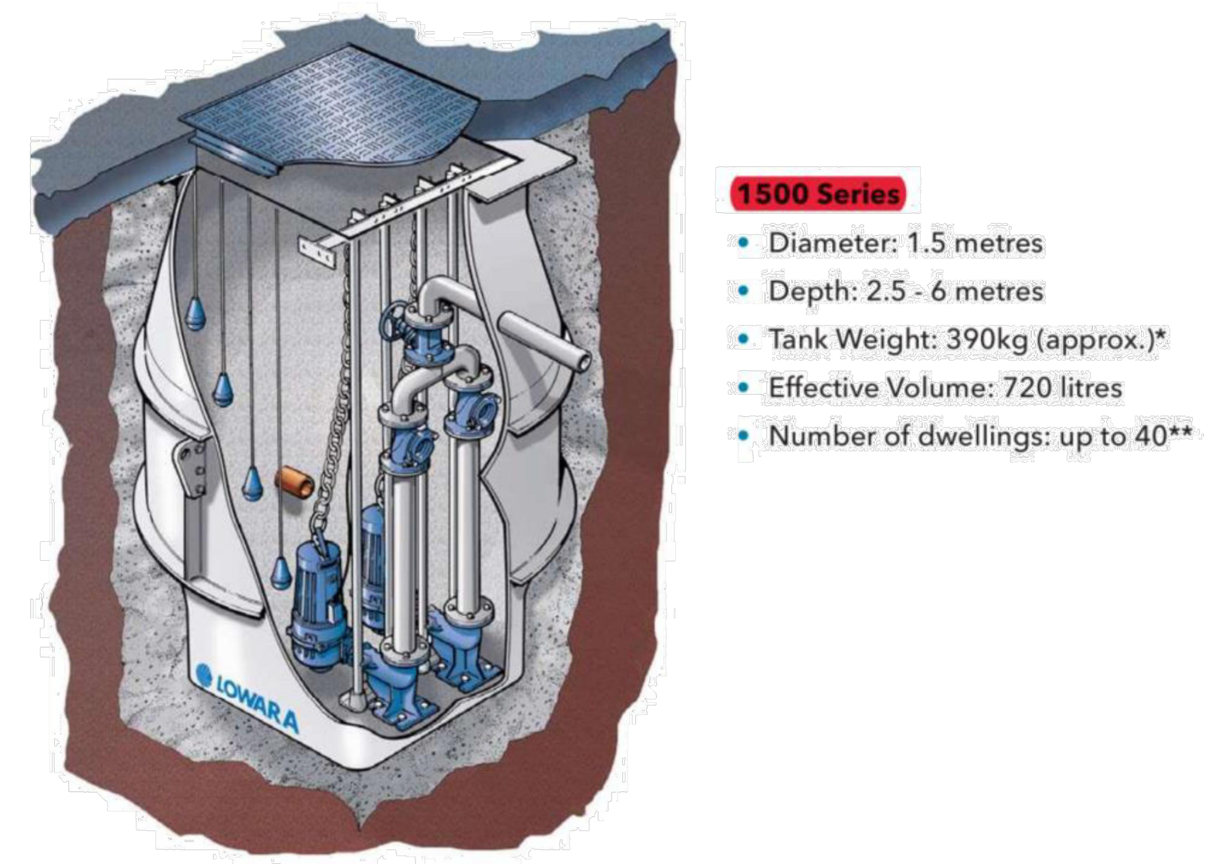


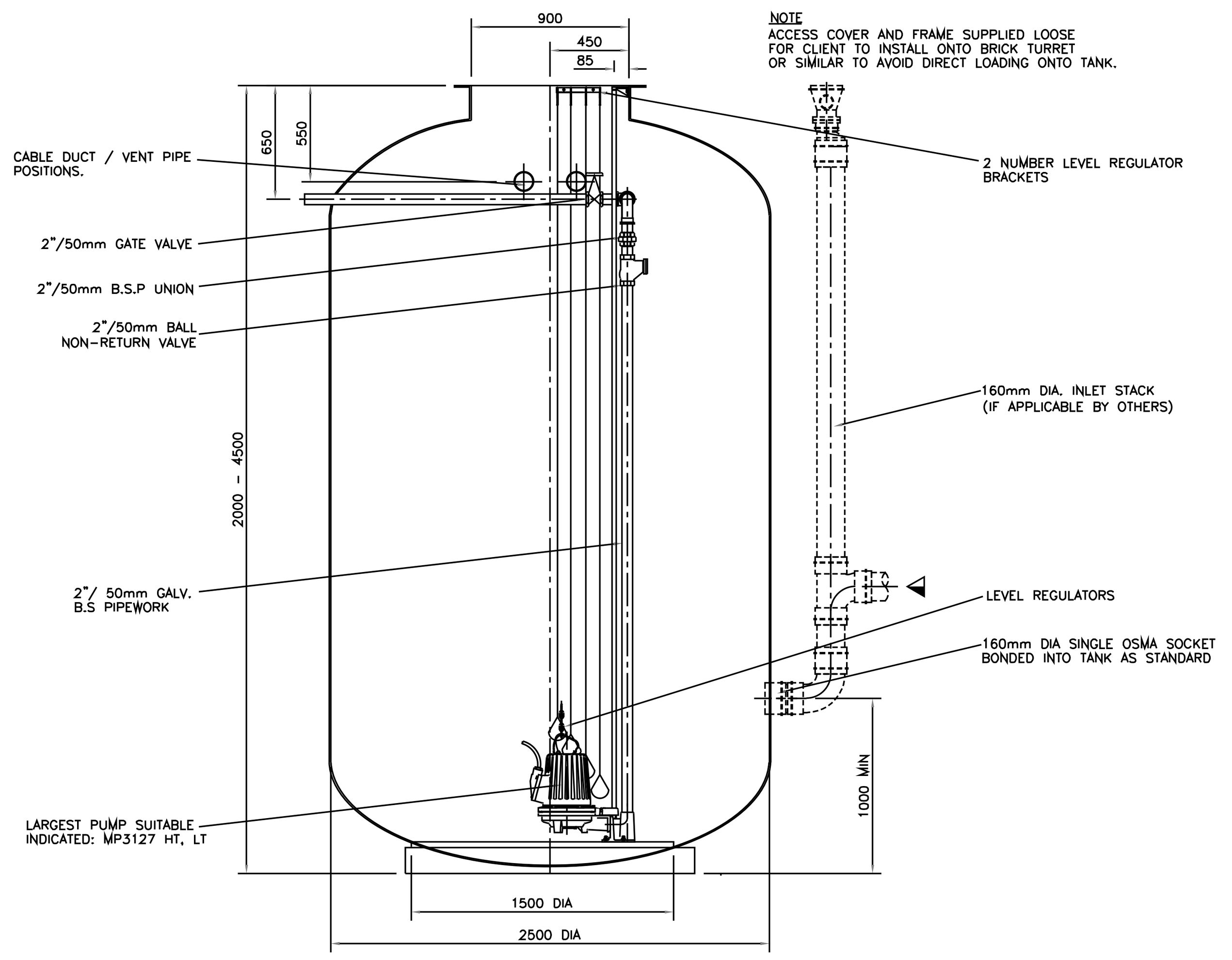
Friction loss calculation

Pumped fluid Water, pure	**Static head** 5	**Layout** Wet well installation
Flow 1.8 l/s	**Number of pumps** 1	**Calculation model** Colebrook-White
Viscosity 1.569 mm²/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						
Common discharge side pipe - Metal / Galvanized steel PN 16 / DN 50 (60,3x2,9 mm) / K factor for Wastewater acc. DWA-A110						
Pipe length	54.5	6 m	1	0.7716	0.25	0.1099
Discharge Connection	54.5	0.3	1	0.7716		0.009103
Elbows	54.5	0.3	1	0.7716		0.009103
Non-return valves	54.5	0.9	1	0.7716		0.02731
Other	54.5	0.7	1	0.7716		0.02124
T-piece	54.5	0.4	1	0.7716		0.01214
Valve	54.5	0.3	1	0.7716		0.009103
Total friction head						**0.1979**
Common discharge side pipe - Plastic / PE100 (HDPE) PE 4710 SDR 11 (PN 16) / DN 50 (63x5,8 mm) / K factor for Wastewater acc. DWA-A110						
Pipe length	51.4	420 m	1	0.8675	0.25	10.39
Elbows	51.4	1.2	4	0.8675		0.04603
Outlet	51.4	1	1	0.8675		0.03835
Total friction head						**10.48**
Friction loss head						10.68 m
Total static head						5 m
Total head						**15.68 m**

An indicative wet well chamber is as per the SPS (Southern Pumps Servicing Ltd) package pumping station as indicated below.





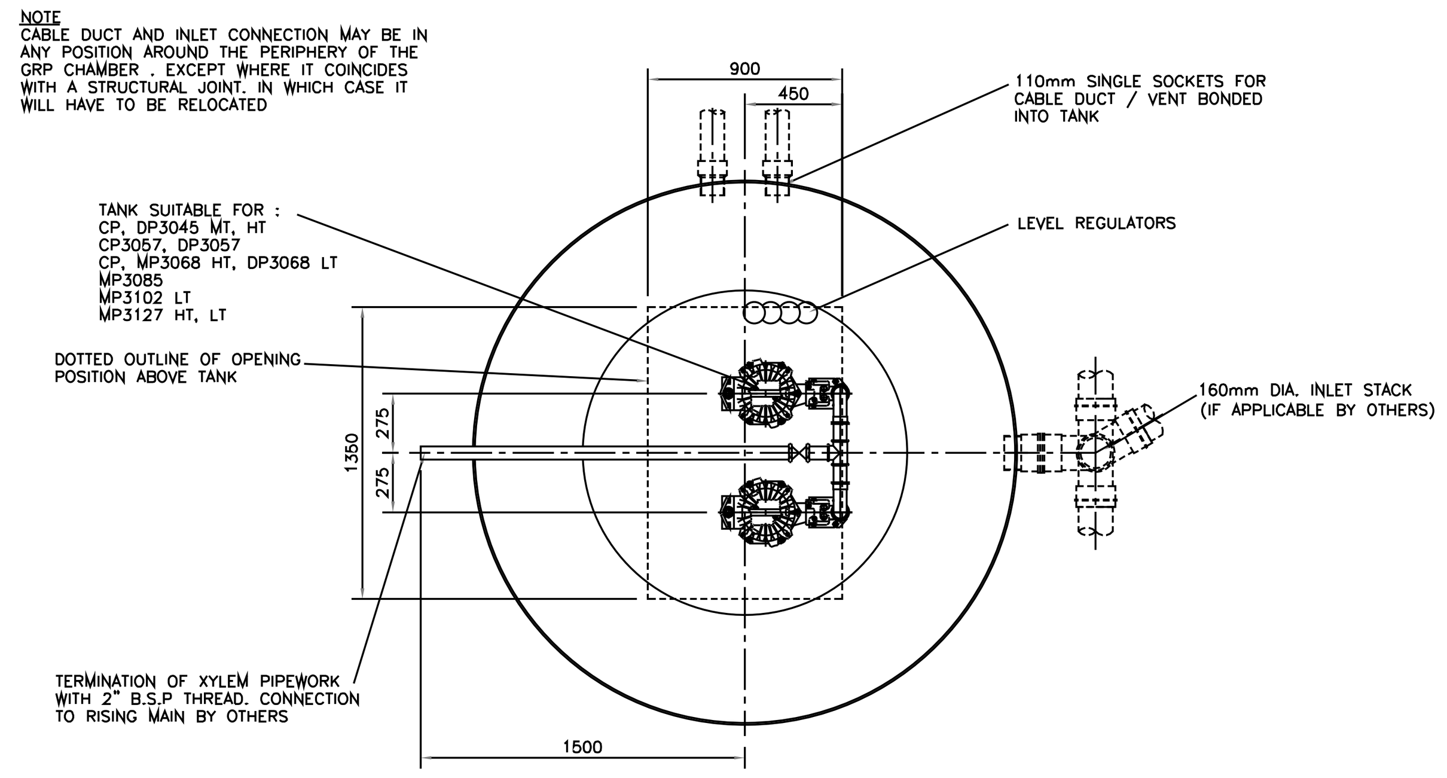
NOTE
TANK TO BE INSTALLED BY THE CIVIL CONTRACTOR IN ACCORDANCE WITH 'INSTALLATION INSTRUCTION BOOKLET' SUPPLIED BY XYLEM.

THE GRP CHAMBER IS DESIGNED TO ACT AS A PRE-FORMED LINER AND CONSEQUENTLY SHOULD NOT BE SUBJECT TO GROUND WATER OR ANY EXTERNAL PRESSURES.

THE SPECIFICATION FOR THE CONCRETE SURROUND IS THE RESPONSIBILITY OF THE CIVIL CONTRACTOR OR CONSULTANT.

THE PROVISION AND INSTALLATION OF VENTILATION PIPEWORK TO ATMOSPHERE IS THE RESPONSIBILITY OF THE CIVIL CONTRACTOR.

NOTE
CABLE DUCT AND INLET CONNECTION MAY BE IN ANY POSITION AROUND THE PERIPHERY OF THE GRP CHAMBER . EXCEPT WHERE IT COINCIDES WITH A STRUCTURAL JOINT. IN WHICH CASE IT WILL HAVE TO BE RELOCATED



XYLEM SPS PUMPING STATION - 1500 SERIES

NOTES:

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.
2. ALL LEVELS ARE IN METRES RELATED TO ORDNANCE DATUM MALIN HEAD.
3. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. DRAWINGS ARE NOT TO BE SCALED.
5. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE.

REV	DATE	DESCRIPTION	BY	APP
0	21.11.25	ISSUED FOR PLANNING	JK	CF

PROJECT:
ROS AN MHÍL DEEP WATER QUAY

TITLE:
FOUL DRAINAGE DESIGN INFORMATION

CLIENT:
DEPARTMENT OF AGRICULTURE, FOOD & THE MARINE

MWP
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
CORK | TRALEE | LONDON | LIMERICK
mwp.ie

DRAWN:	CHECKED:	APPROVED:
JK	CF	CF
PROJECT NUMBER: 24984	DATE: NOVEMBER 2025	SCALE @ A1: AS SHOWN
ACCEPTANCE CODE: S	PURPOSE OF ISSUE: ISSUED FOR PLANNING PERMISSION	PURPOSE CODE: P3
DRAWING NUMBER: 24984-XX-XXX-DR-MWP-CE-5417		REV: 0