

Specification Guide

Product Group: Manholes, Chambers & Tanks

Product Type: Packaged Pumping Station

Specification: PX-MH-SP-B.01

Packaged Pumping Station

Bespoke Pumping Stations are prefabricated for fast track site installation and available to suit a range of applications including foul water, surface/rain water, Trade Effluent Waste (TEW) & chemical pumping.

Dual contained pumping stations are available to provide additional security for the containment of hazardous chemicals, radioactive media or SAPO pathogens. Please contact us for further Details.

The bespoke pumping stations will be factory constructed to provide a fully welded, watertight seal for the containment of chemicals and Trade Effluent Waste (TEW) and the protection of local water tables and the environment.

Our pumping stations can be supplied as circular or rectangular chambers with internal pipe work, level controls, control panels, agitators, and alarm panels to suit the consultant's requirements. Each pumping station will be numbered with an indelible marker to correspond with the site layout drawings.

Pumping Station Detail Drawings

CAD detail drawings of each Pumping Station, based on consultants' design, will be submitted by FGS for approval by the client. Drawing details will indicate pump type, duty rating, cover and connection invert levels.

Pumps & Commissioning

Our pumping stations can be tailored to receive a wide range of pump makes and models, as required by end user. Pumps will be fitted after installation of pumping station. Commissioning of pump sets can be arranged through FGS.

Thermoplastic Materials of Construction

Holding tank and internal pipe work will typically be Homopolymer Polypropylene Din 8077 & 8078 or HDPE Din 8075 & 8074 subject to the temperature and type of chemicals present in the media for storage, as well as the final location of the tank i.e. above or below ground. Options for other materials of construction are available e.g. PVDF, CPVC, ECTFE, GRP to suit different trade effluent storage requirements. Our Chemical corrosion guide is available on request. Pipex thermoplastic waste material is 100% recyclable.

Methods of Construction

Thermoplastic welding completed in accordance with BS EN 13067-Plastics Welding personnel, under the Certification Scheme for Welders and Inspection Personnel (CSWIP). Approved by the Thermal Welders Institute (TWI).

British Standard Specifications

Rectangular and Circular pumping stations will be fabricated in general accordance to BS EN 12573, BS EN752:2008, Sewers for Adoption 7th Edition and Sewers for Scotland 1st Edition and generally tested to BSEN 13598(plastic inspection chambers for drains and sewers).

Pipe Connections

The inlets and outlets can be supplied as plain end or adapted to suit the connecting drainage system e.g. vitrified clay, PVC, cast iron, ductile iron, HDPE as required. Joint options – mechanical or push fit couplers.

Internal Benching

The pumping station can be supplied with conical benching at the base to circulate the flow towards the pump/s. The benching will be structurally supported on the underside with welded gussets.

Access Steps/Ladders

As in Sewers for Adoption.

Man-access systems should not be provided to the wet well unless expressly required by the undertaker.

Testing

The pumping stations will be tested at the factory, the chamber will be water filled to confirm 100% water tightness. For dual contained chambers we recommend a site integrity test before site handling and before and after site installation.

CDM Regulations 2007 - Confined Space Regulations 1997

Contrary to traditional pumping station construction methods, our pumping stations eliminate the need for confined space working. By providing an alternative approach, foreseeable health and safety risks are reduced from the outset.

Installation and Loading

For pumping station handling & installation refer to our Work Instruction WP42.

The pumping station shafts and bases are designed to meet the stiffness requirements (BSEN 13598) for installation up to the specified invert depth.

We must be notified of any poor site ground conditions and/or high water table conditions at the proposal stage. Additional tank reinforcement maybe required for locations with a high water table.

When the pumping stations are situated in D400 load areas e.g. road carriageways, a concrete surround will be required to take the load transmitted by the Reinforced Concrete cover slab.

Operation and Maintenance

When installed to our installation instructions the pumping stations will operate with minimum maintenance.

Due to the nature of the thermoplastic construction materials, the units will resist the build of Fat's, Oil's & Grease (FOG). If rodding is required use polypropylene rods, alternatively the pumping stations can be pressure jetted to a maximum pressure of 180 bar 2600 psi in accordance with WRc jetting standard. If alterations are required to the pumping station, FGS will be contacted to discuss the procedure.

Technical Certification

British Board of Agreement (BBA) Certificate No. 02/3927

Water Research Commission (WRC) Cert No.PT/262/0307

Testing to BS EN13598-2:2009, BS7158:2001

The following tests have been passed by the BBA technical approval certification:

BS EN13598-2 Table 3 Structural integrity test.

BS EN13598-2 Table 2 Durability test.

BS EN13598-2 Table 3 Impact resistance.

BS EN13598-2 Satisfies the step irons pull out & deformation test Table 4.

BS7158 Clause 7.2 and Appendix A - Water tightness of manholes when full of water and when surrounded by water

BS7158 Clause 7.5 and Appendix E - Resistance to thermal cycling

BS7158 Clause 7.6 and Appendix F - Specific tangential initial stiffness (STIS)

BS7158 Clause 7.8 and Appendix I - Negative internal pressure test

BS7158 Clause 7.7 and Appendix G - Vertical load test class A15

BS 1247-2 1990 – Clause 7.3 Step iron pull out test when installed in a FGS manhole.

Additional Testing

BS 1247-2:1990 – Clause 7.2 Step iron bending resistance test when installed within a FGS manhole.

BS EN 1277: 1996 Method 2 condition A - Positive high pressure 0.5 bar test on gasket within internal bolted inspection cover plate within FGS manhole.

Specification Guide

Product Options Available: Pumping Station Shuttering System

Optional HDPE shuttering can be supplied to suit the consultants' specification, factory fabricated for each pumping station to accept the poured concrete surround (150mm minimum surround).

Pumping Station Top Formwork and Access Turret

Optional reinforced top formwork with access turret with a clear opening to suit pumping station cover and frame, welded to the vessel to accept insitu poured concrete cover slab.

For Technical Assistance please contact:

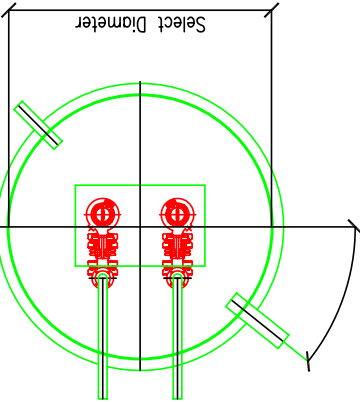
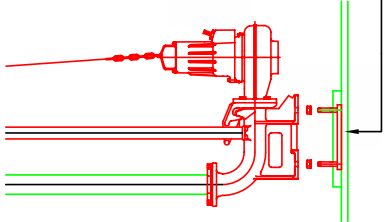
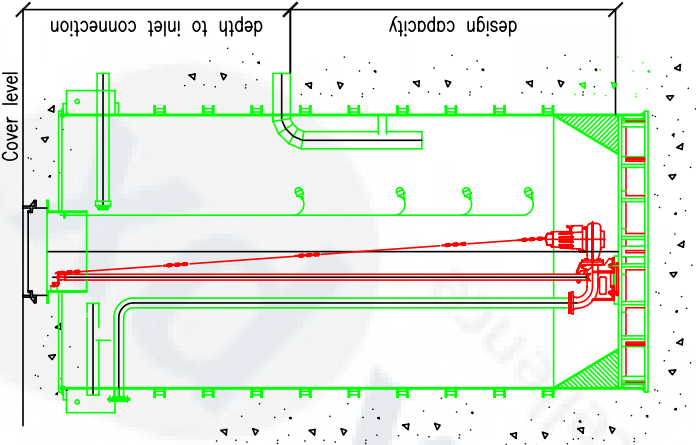

NOV Fiber Glass Systems
Devon Enterprise Facility,
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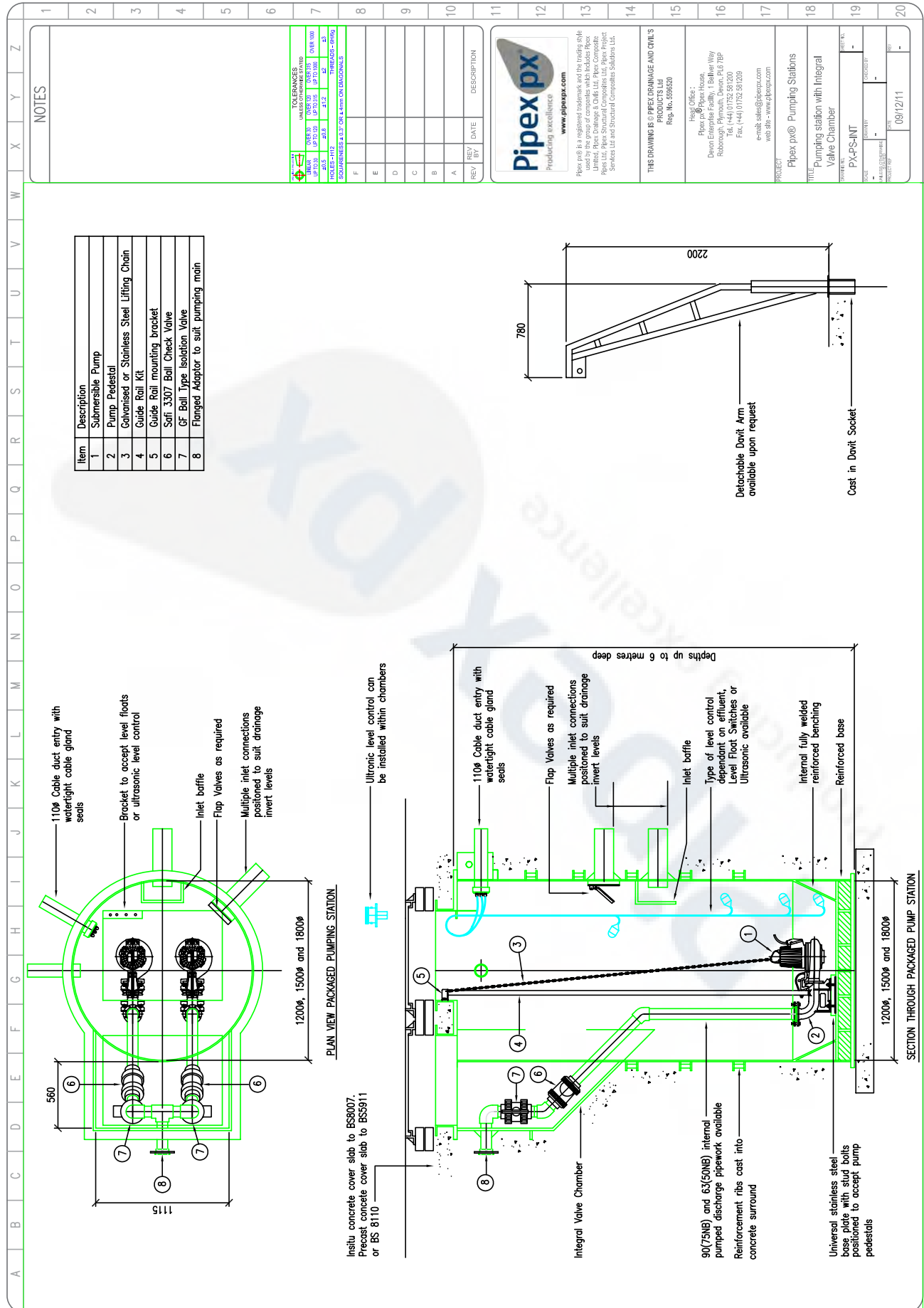
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National Oilwell Varco UK Limited (known as NOV Fiber Glass Systems UK) is registered in England, with registration number 00873028 and its registered office is Stonedale Road, Oldends Lane Industrial Estate, Stonehouse, Gloucestershire, GL10 3RQ. VAT GB 582 8958 76. NOV ledger number: 0972



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<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">  <p style="text-align: center;">Position inlets, pump delivery mains, cable inlets and vent pipe as required</p> </div> <div style="width: 30%;">  </div> <div style="width: 30%;"> <p style="text-align: center;">Dual Contained chambers can be supplied for radio-active or hazardous chemical waste.</p> </div> </div>																																																																																																																										
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p style="text-align: center;">Pumping Station check list</p> <ol style="list-style-type: none"> 1 Confirm type of media - Foul - Surface Water - Chemical - Industrial oily waste 2 Type of pump - Macerator - Solid Handling 3 Incoming flow rate expected - Pump Duty 4 Static head to overcome from pump to outfall level 5 Length of pumping main and number of bends 6 Check if 24hr storage is a requirement </div> <div style="width: 30%;">  </div> <div style="width: 30%;"> <p style="text-align: center;">Pipex Packaged Pumping Stations - Size Guidance Chart</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Diameter of Chamber</th> <th colspan="10">Depths Available</th> </tr> <tr> <th>1500</th> <th>2000</th> <th>2500</th> <th>3000</th> <th>3500</th> <th>4000</th> <th>4500</th> <th>5000</th> <th>6000</th> </tr> </thead> <tbody> <tr> <td>PX-PC-1200</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PX-PC-1500</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PX-PC-1800</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PX-PC-2000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PX-PC-2400</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PX-PC-3000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PX-PC-3500</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div> </div>																										Diameter of Chamber	Depths Available										1500	2000	2500	3000	3500	4000	4500	5000	6000	PX-PC-1200											PX-PC-1500											PX-PC-1800											PX-PC-2000											PX-PC-2400											PX-PC-3000											PX-PC-3500										
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Item	Description
1	Submersible Pump
2	Pump Pedestal
3	Galvanised or Stainless Steel Lifting Chain
4	Guide Rail Kit
5	Guide Rail mounting bracket
6	Safri 3307 Ball Check Valve
7	GF Ball Type Isolation Valve
8	Flanged Adaptor to suit pumping main

NOTES

REV	REV	DATE	DESCRIPTION
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PROJECT: Pipex px® Pumping Stations

TITLE: Pumping station with Integral Valve Chamber

PROJECT REF: PAXPS-INT

DATE: 09/12/11

