



**APPLICATION FOR AN ENVIRONMENTAL PERMIT
UNDER THE ENVIRONMENTAL PERMITTING
(ENGLAND AND WALES) REGULATIONS 2016
(AS AMENDED)**

APPLICATION REFERENCE PAN-024288

**NOT DULY MADE RESPONSE –
NOISE MANAGEMENT PLAN**



PB LEINER
The Clear Solution

**P B GELATINS U.K. LIMITED,
UNIT A6, SEVERN ROAD,
TREForest INDUSTRIAL ESTATE,
PONTYPRIDD, CF37 5SQ**

**ECL Ref: PBGE.01.09/NMP
Date: October 2024
Version: Issue 2**

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ACRONYMS / TERMS USED IN THIS REPORT

AMP	Accident Management Plan
BAT	Best Available Techniques
CCTV	Closed Circuit Television
DAA	Directly Associated Activity
ECL	Environmental Compliance Limited
EMS	Environmental Management System
EP	Environmental Permit
EPRP	Emergency Preparedness and Reporting Procedure
FRS	Fire and Rescue Service
Ha	Hectares
HGV	Heavy Goods Vehicle
NGR	National Grid Reference
NIA	Noise Impact Assessment
NMP	Noise Management Plan
NRW	Natural Resources Wales
NSR	Noise Sensitive Receptor
OS	Ordnance Survey
PBGE	P.B Gelatins UK Limited
PPMR	Planned Preventative Maintenance Regime
Ramsar	The Ramsar Convention on Wetlands of International Importance
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest
the Installation	P.B Gelatins UK Limited, Unit A6, Severn Road, Treforest Industrial Estate, Pontypridd CF37 5SQ

DOCUMENT CONTROL

Date	Version	Section	Description	Prepared by	Approved by
Oct 2024	Issue 2	All	All	ECL	

1. INTRODUCTION

1.1. Requirement for a Noise Management Plan

1.1.1. As part of the Natural Resources Wales (“NRW”) Not Duly Made Request for Information Letter (dated 22nd September 2024) related to P B Gelatins UK Limited (“PB Gelatins”) Permit variation (application reference PAN-024288), a Noise Impact Assessment was requested:

Environmental Risk Assessment – Noise

“Your application states that it is not considered the variation will result in noise nuisance. There is not enough information in the application to support this statement. Our understanding is that the new effluent treatment system will involve a series of pumps and a static mixer which may generate noise.

You need to carry out a Noise Impact Assessment and provide a Noise Management Plan. Refer to Noise and vibration management: environmental permits - GOV.UK (www.gov.uk) for further guidance.”

1.1.2. NRW has requested that a Noise Impact Assessment (“NIA”) is submitted as part of the variation application due to the new pumps and static mixer being installed. The impact assessment should be based on this new value, known as the ‘specific level’ in BS 4142:2014.

1.1.3. This NMP has been prepared in accordance with the EA online guidance ‘*Noise and vibration management; environmental permits*’¹ to justify in detail why an NIA isn’t required, and to provide detail of all the control measures in place to prevent any noise nuisance occurring.

1.1.4. The NMP has been prepared to demonstrate PBGE’s competence and commitment to controlling noise pollution. The NMP outlines all activities which have the potential to cause noise nuisance and details the systems and controls in place to manage that risk effectively.

1.1.5. The NMP addresses the following issues:

- the activities which could cause noise nuisance;
- identification of potential Noise Sensitive Receptors (“NSRs”);
- process controls and procedures;
- monitoring regime;
- emergency scenarios;
- potential corrective actions;
- complaints procedure; and
- record keeping.

¹ EA Online Guidance, ‘*Noise and vibration management: environmental permits*’, available at: <https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits/noise-and-vibration-management-environmental-permits>, updated January 2022, accessed October 2024.

- 1.1.6. The NMP provides a management framework comprising of proactive and reactive measures to manage and control noise emissions from the Installation. This proactive approach will facilitate the ongoing development of operational procedures and controls as part of an on-going commitment to improve environmental performance. Reactive procedures will also be established within the NMP for the logging, evaluation, and implementation of corrective actions in the event of any noise related complaints being received.
- 1.1.7. PBGE understand and accept responsibility for controlling noise impact from site activities. PBGE have experience and expertise regarding listed activities after being a regulated permit operator for many years.
- 1.1.8. It should be noted that no history of noise has ever been recorded by NRW in any CAR form, nor has NRW or any other regulatory body (who regulate noise) had cause to raise concern of any noise emanating from the site.
- 1.1.9. Noise impact and control will, however, be applied to the Severn Road site to ensure noise impact is prevented and reduced, when any report arises.
- 1.1.10. It is the Plant Manager who will be responsible for overseeing the effective implementation of the NMP and ensuring compliance is maintained.

2. DESCRIPTION OF THE SITE AND THE PROPOSED ACTIVITIES

2.1. Site Location and Settings

- 2.1.1. The Installation is located at Unit A6, Severn Road, Treforest Industrial Estate, Pontypridd, Rhondda Cynon Taff, CF37 5SQ. The Installation covers an area of approximately 3.85 hectares comprising several discrete parcels of land within the northern area of Treforest Industrial Estate.
- 2.1.2. The Site Layout Plan (PBGE.01.09-01) details the Environmental Permit Boundary (outlined in green) including the proposed additional area and is provided in Section 3 of this variation application submission.
- 2.1.3. Figure 1 provides the indicative location of the Installation (red outline) within the context of the surrounding environment.

Figure 1: Indicative Site Location



- 2.1.4. The immediate surroundings include industrial units and commercial buildings. The residential area of Tonteg is located approximately 0.6km to the west while the residential areas of Hawthorn and Rhydfelin are located approximately 0.6km and 1km to the northwest respectively.
- 2.1.5. The River Taff is located to the northeast of the Installation, the boundary of which is approximately 20m away at the closest point.

2.2. Description of the Current Activities

2.2.1. The Installation is currently subject to two Schedule 1 Activities under the Environmental Permitting (England and Wales) Regulations 2016 as amended (“EP Regulations”) as detailed in Table 1 below.

Table 1: Permitted Schedule 1 Activities

Schedule 1 Activity	Description of Specified Activity	Limits of Specified Activity
Section 6.8 Part A1 (c)	Disposing of or recycling animal carcasses or animal waste, at a plant with a treatment capacity exceeding 10 tonnes per day of animal carcasses or animal waste or both in aggregate.	From receipt of ossein and other raw materials to the extraction and storage of gelatin.
Section 5.4 Part A1 (a) (ii)	Disposal of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by physico-chemical treatment.	From collection of process effluent to discharge to sewer, including the Dissolved Air Flotation (“DAF”) plant.

2.2.2. The Directly Associated Activities (“DAA”) currently permitted are detailed in Table 2.

Table 2: Directly Associated Activities

DAA	Description of DAA	Limits of Specified Activity
Storage of waste	Storage and handling of by-products and wastes generated by the process	From receipt of by-products and wastes from the process to dispatch from site.
Finished product storage	Storage of finished products	From receipt of finished products to dispatch of finished products.
Raw materials storage	Raw materials storage and handling	From receipt of raw materials to transfer to the manufacturing process.
Chemical storage	Chemical storage and handling	From receipt of materials to their use on-site or disposal off-site.

3. POTENTIAL SOURCES

3.1. On-Site Sources

3.1.1. The potential sources of noise emissions from the Installation activities and its adjoining permitted area, are:

- heavy goods vehicle (“HGV”) movements delivering materials, such as animal bones and other raw materials, into the Installation via the gatehouse and weighbridge;
- forklift drive-by and reversing;
- biofilter Fans and pumps linked to the wet scrubber odour control processes;
- pumps and static mixer which serve the effluent treatment system; and
- other ancillary conveyors, which serve as part of the processes on site.

3.2. Other Local Contributors of Noise Emissions

3.2.1. The immediate setting around the Installation is industrial and commercial units. The Treforest Industrial Estate is bordered by a dense mixture of commercial and industrial units to the east, west and north.

3.2.2. The types of industry operating in proximity of the Installation that may contribute to the ambient sound levels in the area include a very busy waste transfer station directly adjacent, engineering fabricators, 275kv Upper Boat Substation, vehicle repair and storage, haulage supply and distribution, food manufacturing, material handling equipment supplies and materials processing.

3.2.3. These other local contributors of noise emissions should be considered in the event of a complaint being received at the Installation which needs to be substantiated. Community liaison and response to complaints is covered in Section 6.2 of this NMP.

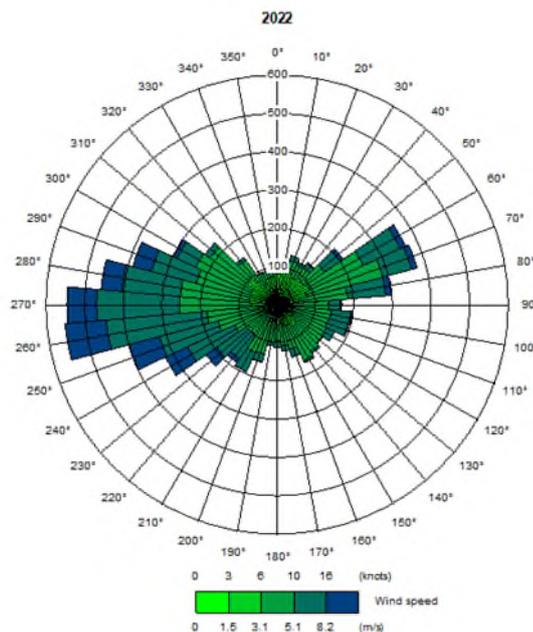
4. POTENTIAL SENSITIVE RECEPTORS

4.1. Consideration for Identifying Sensitive Receptors

4.1.1. To determine the severity of emission i.e., noise nuisance, which may arise from the Installation, the sensitivity of the receiving environment and potential receptors have been considered. The degree of sensitivity in a particular location is based on the characteristics of the land use, including the reason why people are at the location (e.g. for work, recreation or residence).

4.1.2. The noise climate can also be influenced by the meteorological conditions at the Installation and surrounding area. The nearest suitable met data available from the Meteorological Office (“Met Office”) is from St Athan. This site is located approximately 21 km south-southwest of the Installation. The 2022 wind rose from St Athan Meteorological Station, is shown in Figure 2. This shows the prevailing winds are predominantly westerly with observable easterly, consequently, noise emissions are likely to be blown away from the direction of the human sensitive receptors located to the east and west to a degree.

Figure 2: Annual Wind Rose (2022) – St Athan Meteorological Station



Additionally, the degree of sensitivity depends on the distance from the emission source as the closer the receptor is to the source, the higher the potential for nuisance will be at the receptor location.

4.1.3. It should be noted that there are receptors not highlighted here due to their own potential for noise counteracting any noise, which may emanate from the Installation and therefore would not be affected.

- 4.1.4. It should also be noted that those receptors outside of the 1km search radius are not considered likely to be affected by any potential noise emissions resulting from the Installation and therefore, are not considered further.
- 4.1.5. Potential sensitive human receptors within 1km of the EP boundary have been identified and are displayed in Figure 4 with nearest distances to the proposed Installation Boundary and direction given in Table 3. As the Installation is in discrete areas, three separate 1km circles are shown in Figure 4 to ensure all human receptors are identified within 1km.

Figure 3: Identified Sensitive Human Receptors within 1Km of the Installation

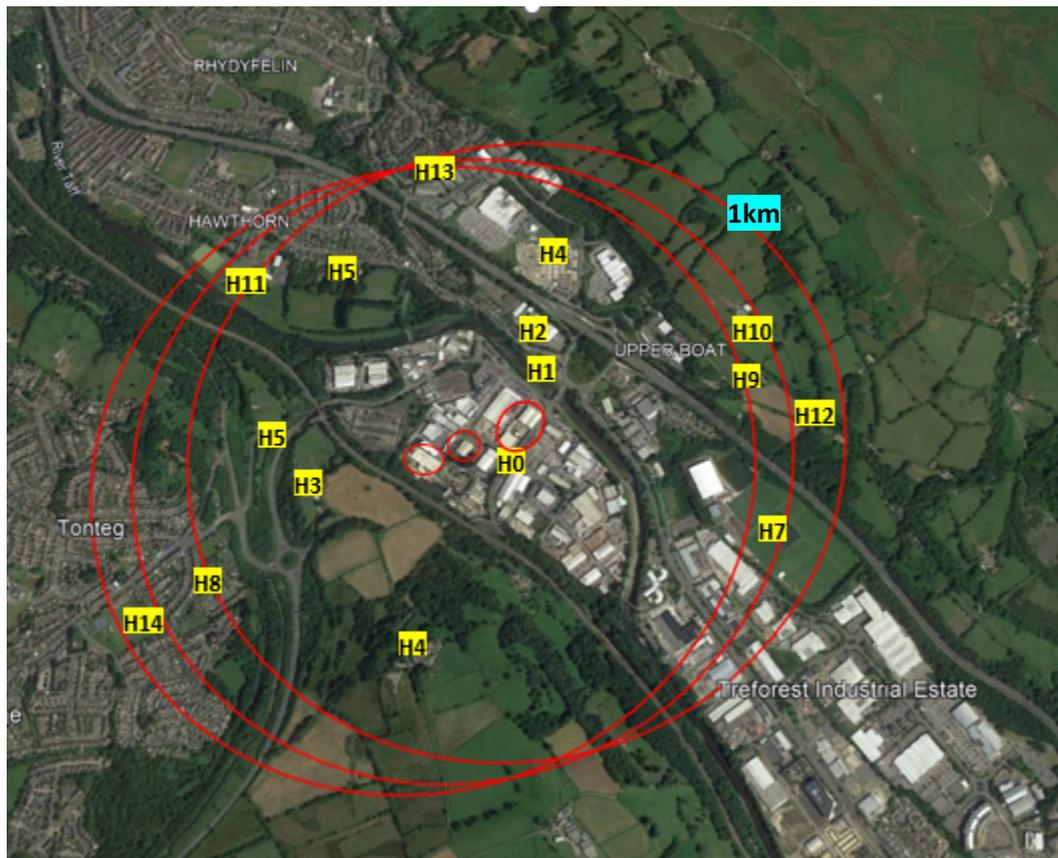


Table 3: Potentially Sensitive Human Receptors within 1km of the Installation

Ref	Name	Receptor Type	Easting	Northing	Distance from proposed EP boundary (km)	Direction
H0	Treforest Industrial Estate	Industry	310219	186755	Adjacent	E
H1	Williams Place	Residential	310484	187102	0.08	N
H2	Upper Boat Business Park	Commercial	310468	187239	0.16	N
H3	Farm – Pound Farm Lane	Farm/Commercial	309784	186746	0.26	W
H4	Gelli-Hirion Industrial Estate	Commercial	310626	187358	0.37	N
H5	Off Tonteg Road	Residential	309652	186899	0.43	NW
H6	University of South Wales Sports Ground	Educational/Recreational	311163	186607	0.46	SE
H7	Nursing Home	Residential	309831	187456	0.56	NW
H8	Tonteg Village	Residential	309562	186522	0.58	W
H9	Off Heol-Y-Bwnsi	Residential	311155	187062	0.65	NE
H10	Farm	Farm/Commercial	311111	187292	0.66	NE
H11	Hawthorn High School and Hawthorn Swimming Pool	Education and Leisure	309550	187365	0.72	NW
H12	Heol-Y-Bwnsi	Residential	311279	186931	0.78	NE
H13	Rhydyfelin	Residential	310051	187968	0.83	N
H14	Tonteg Park	Recreational	309275	186338	0.88	W

5. OPERATIONAL AND PROCESS CONTROLS

5.1. General Control Measures

- 5.1.1. The control measures detailed within this section of the NMP demonstrate compliance against the best available techniques (“BAT”) to prevent or, where that is not practicable, to reduce noise emissions.
- 5.1.2. The following BAT have been considered and implemented;
- appropriate location of equipment and buildings;
 - operational measures;
 - low-noise equipment;
 - noise attenuation; and
 - noise-control equipment and infrastructure.
- 5.1.3. During the conception and design phases of the Installation, the site layout and orientation, appropriate location of equipment and ancillary buildings were considered in relation to location of the nearby sensitive receptors. In addition, the use of buildings as noise screens, and to increase the distance from the emitter (Installation) to the receiver (sensitive receptors) was maximised, where this has not already been considered it will be reviewed as part of the NMP.
- 5.1.4. The internal processing at the Installation, operates (24/7); however, the delivery of raw materials, will be restricted to the following hours:
- Monday to Friday 07:00 – 16:00;
 - Saturday and Sunday 07:00 – 16:00; and
 - all bank holidays as per weekend hours except Christmas Day.
- 5.1.5. Personnel will be suitably trained to understand the conditions of the Environmental Permit and implementation of the Environmental Management System (“EMS”) which includes relevant management plans. The Installation will be managed in accordance with the EMS which will be reviewed regularly to ensure it remains appropriate and up to date and control measures will be in accordance with the risk assessment in Table 3.

5.2. Planned Preventative Maintenance Regime

- 5.2.1. All plant and machinery will be maintained in good working order in accordance with the Planned Preventative Maintenance Regime (“PPMR”).
- 5.2.2. Any malfunction or breakdown leading to abnormal noise emissions will be dealt with promptly and operations modified or suspended until normal working practices can be restored.
- 5.2.3. Under the PPMR, machinery will be subject to pre-use and daily checks as well as regular scheduled inspections at appropriate time intervals.

Table 3: NMP Risk Assessment and Control Measures

Potential Source	Receptor	Pathway	Control and Mitigation Measure	Probability of Exposure	Consequence	Overall Risk
Vehicle movements including transporting waste to the Installation, exporting materials and internal vehicle movements within the Installation.	NSRs in the local area – see Section 4	Releases to air	<p>The Installation site layout has been designed to incorporate a one-way system around the site for vehicles. The one-way system has been designed to reduce movements on site and hence reduce the intermittent beeping generated from reversing manoeuvres as required for the health and safety of all workers.</p> <p>Delivery operational hours are restricted in accordance with the site’s planning permission, but also raw materials will be limited as per section 5.1.4 of this report.</p> <p>All vehicles will be limited to 5mph on site. Vehicles will not be permitted to have their engines running for prolonged periods.</p> <p>PB Gelatin’s Transport Safety Guide is regularly reviewed by HR and a memo is passed to all personnel to read, understand and sign. All site vehicles are also subject to annual servicing and maintenance checks.</p>	Low	Possible noise nuisance	Insignificant
Bio filters across the site including A18 area.	NSRs in the local area – see Section 4	Releases to air	<p>The operation of the biofilters will be in accordance with the manufacturer manual and instructions. It is anticipated that noise will be controlled within reasonable limits to maintain biofilter performance. However, since installation is yet to be carried out, then a risk assessment will be carried out to measure readings prior to the consideration for enclosures. Once this has been carried out, the findings will be made available to the regulator.</p> <p>All site plant and equipment are covered by the planned preventative maintenance regime (“PPMR”) contained within the EMS to ensure</p>	Low	Possible noise nuisance	Insignificant

adequate maintenance of any parts of plant or equipment whose deterioration may give rise to increases in noise.

The biofilters will be located adjacent to the walled A18 'New Farm' location. The noise is not predicted to impact worst case receptor from the blower noise level attributed with the biofilter fans. Most processing activities are undertaken internally to provide sufficient noise attenuation, other than the 'A18' New Farm blowers just outside the building, which again will act as sufficient attenuation measure against the nearest NSR's. There is also reasonably mature conifers planted within the metal palisade fencing to act as noise attenuation in direct line between the biofilters and nearest receptors.

Relevant personnel trained in noise management will carry out prompt reporting of any abnormal noise so that it can be rectified immediately.

Table 3: NMP Risk Assessment and Control Measures (Cont.)

Potential Source	Receptor	Pathway	Control and Mitigation Measure	Probability of Exposure	Consequence	Overall Risk
Pumps associated with the Effluent Treatment Plan	NSRs in the local area – see Section 4	Releases to air	<p>All pumps are located within designated areas of the site (see associated plans – Appendix I). The pumps activities are located away from the Permit boundary wherever possible and will always be sited indoors where possible, or just behind associated buildings to reduce the likelihood of noise nuisance being experienced by sensitive receptors specifically those in residential areas as impact reduces with distance.</p>	Low		
			<p>Most of the pumps associated with the screening and balancing activities benefit from noise attenuation as it is undertaken the furthest distance possible to residential, but also behind the nearest building of the nearest receptors, such as Egan Waste at A15. The A18 and A21 pumps are within partial enclosures with the relevant buildings acting as noise barriers.</p>	Control measures will minimise noise emissions from reaching identified receptors.	Possible noise nuisance	Insignificant
			<p>Low noise centrifugal pumps or in the case of the submersible pumps (Closed impeller) will be used (see – Appendix I) and they will be covered by the planned preventative maintenance regime contained in the EMS to ensure adequate maintenance of any parts of plant or equipment whose deterioration may give rise to increases in noise.</p>			

5.3. Noise Monitoring

- 5.3.1. Operators will be trained in the prompt identification and reporting of abnormal noise generated on site.
- 5.3.2. A daily site walk over will be undertaken in which any abnormal noise or vibration issue internally or externally will be recorded, and actions raised. The noise monitoring locations will encompass all the site areas in which potential noise emitters have been identified (see Section 3.1.) and from all directions at the Installation Environmental Permit boundary (Appendix I). The noise monitoring and findings will be recorded on the Daily Environmental Monitoring Check sheet, which will form part of the EMS.
- 5.3.3. Ad hoc site safety walks and environmental audits will also be completed as part of the EMS and any actions are recorded.
- 5.3.4. Noise monitoring findings will also be discussed during monthly EHS meetings, if any arise.
- 5.3.5. Additionally, if deemed necessary, periodic boundary noise monitoring will be performed annually to determine any changes in the intensity of the sound over time.

5.4. Abnormal/Emergency Scenario Contingency Measures

- 5.4.1. In the event of an accident/unexpected incident such as fire, breakdown, extreme weather conditions and staff absences, the Emergency Preparedness and Response Plan (“EPRP”) and Accident Management Plan (“AMP”) highlights emergency measures will be implemented on site to manage the risk of noise emissions as shown in Table 4. In exceptional circumstances, Senior Management will discuss whether to cease part or all the site operations.

Table 4: Abnormal/Emergency Scenario Contingency Measures

Emergency Scenario	Contingency Measures
Extreme weather conditions – high wind, humidity and temperature	During extreme weather conditions of high wind, humidity and temperature when noise complaints are more likely due to residents opening windows and doors.
Fire/Explosion	<p>The Fire and Rescue Service (“FRS”) and the EA will be informed. PBGE personnel will be instructed to implement the emergency procedures such as those detailed in the approved Emergency Preparedness and Response Plan (“EPRP”) and Accident Management Plan (“AMP”)</p> <p>Raw materials will not be accepted at the site until operations re-commence.</p> <p>Once the site or affected area is deemed safe by the FRS, repairs will be undertaken and/or replacement equipment will be sourced. Start-up of equipment will be undertaken gradually by trained personnel to ensure optimal performance of equipment prior to full commencement of waste activities.</p>

Table 4: Abnormal/Emergency Scenario Contingency Measures (cont)

Emergency Scenario	Contingency Measures
Staff Absences	<p>PBGE has assigned responsible persons and deputies in the case of staff absence.</p> <p>At the start of each working day, the Site Manager will instruct the deputy in the case of staff absence to ensure all measures outlined in this NMP are undertaken.</p> <p>All employees will be fully trained in the NMP and nominated personnel are available to attend site out of normal working hours.</p>
Breakdown or malfunction of the process line and site equipment	<p>Staff will be alerted of any problems with the process and site equipment via system control panels and sounding of automatic alarms.</p> <p>Should the process or any associated site equipment fail or malfunction causing excess noise emissions, waste acceptance shall be monitored and ceased where necessary and certain processes isolated.</p> <p>Commencement of operations will only be permitted once the fault or malfunction has been rectified by qualified personnel.</p>

6. COMMUNITY LIAISON AND RESPONSE TO COMPLAINTS

6.1. Community Liaison

- 6.1.1. PBGE will maintain an open and transparent relationship with the local community.
- 6.1.2. Contact details are provided on the company website² including telephone numbers and a 'Contact Us' page. Site contact details will also be available from the security lodge and on a main entrance sign. PBGE welcome correspondence using these provided methods of communication. If necessary, an PBGE representative can also attend local community meetings.

6.2. Response to Complaints

Initial Response – Data Gathering

- 6.2.1. If a noise complaint is received either from a member of the public or NRW, the complaint will be fully investigated within 8 working hours. The Shift Supervisor will be responsible for leading the investigation and depending on the complaint, Senior Managers from Operations, Process Control and Engineering will be involved, as well as the appropriate Shift Supervisor.
- 6.2.2. PBGE will request as much information as possible from the complainant, such as:
- date and time the problem was first identified;
 - location of complainant;
 - description of the noise to help identify the likely source of the noise; and
 - frequency and/or intensity of problem.
- 6.2.3. This information will help inform and structure the investigation to be undertaken.

Noise Complaint Investigation

- 6.2.4. The investigation will include the following:
- undertaking a site inspection to establish whether any abnormal noise emissions can be identified and reviewing the completed noise monitoring findings at the time of the abnormal noise being experienced;
 - viewing Closed Circuit Television ("CCTV") footage to determine what operations were being undertaken at the time, such as unloading, processing, vehicle movements or other raw material deliveries were occurring at the time to aim to establish the potential origin;
 - speaking with operators and any contractors on site at the time of the event who may be able to provide further information regarding the occurrence or have observed the abnormal noise emissions;

² Company Website, available at: <https://www.pbleiner.com/en> accessed October 2024.

- reviewing the noise monitoring records to confirm inspections have been completed and to note whether any abnormal activities or observations were recorded; and
- discussions with operators to establish any changes to normal operating condition, for example, any malfunction of equipment.

Noise Complaint – Corrective and Preventative Measures

6.2.5. Once the investigation has been completed and the complaint substantiated, PBGE will determine and implement suitable corrective and preventative measures. The type and level of corrective and preventative measures will be dependent on the root cause and scale of the noise. Examples of the corrective and preventative measures may include:

- immediately ceasing of operations in areas of site where the abnormal noise emissions have been identified until preventative measures can be implemented; successfully;
- review and inspect all processing equipment and systems to ensure they are operating appropriately;
- undertake any maintenance required on equipment;
- investigate the need for any noise abatement; and
- further staff training on noise monitoring and control measures to be undertaken.

6.2.6. NRW will be informed of the noise complaint investigation findings and proposed corrective and preventative measures which have been implemented to rectify the situation.

Noise Complaint – Evaluation of Corrective and Preventative Measures

6.2.7. Daily housekeeping checks will be in place to ascertain whether the corrective and preventative measures above are successful in controlling and reducing noise emissions which will see a reduction in complaints. These inspections and associated findings will be recorded and reviewed during EHS Meetings.

Timescales

6.2.8. The timescales associated with the complaint procedures are as follows:

- investigate complaint – within 8 working hours;
- corrective measures – immediately or where specialist contractors are required within 1-2 working days; and
- preventative measures– within 5 working days.

Feedback to Complaints

- 6.2.9. PBGE will discuss complaint investigation findings and the associated corrective and preventative actions which have been implemented directly with the complainant.
- 6.2.10. A visit to site will be offered to the complainant to walk through the process and to discuss the measures taken to reduce noise on site.

Records

- 6.2.11. NMP records are kept in accordance with the procedures established in the EMS. The type of information that will be recorded relates to:
- detailed description of the complaint received;
 - the investigation findings including root cause;
 - all corrective and preventative measures implemented; and
 - evaluation of measures and complaint close out by Senior Management.

7. NMP REVIEW

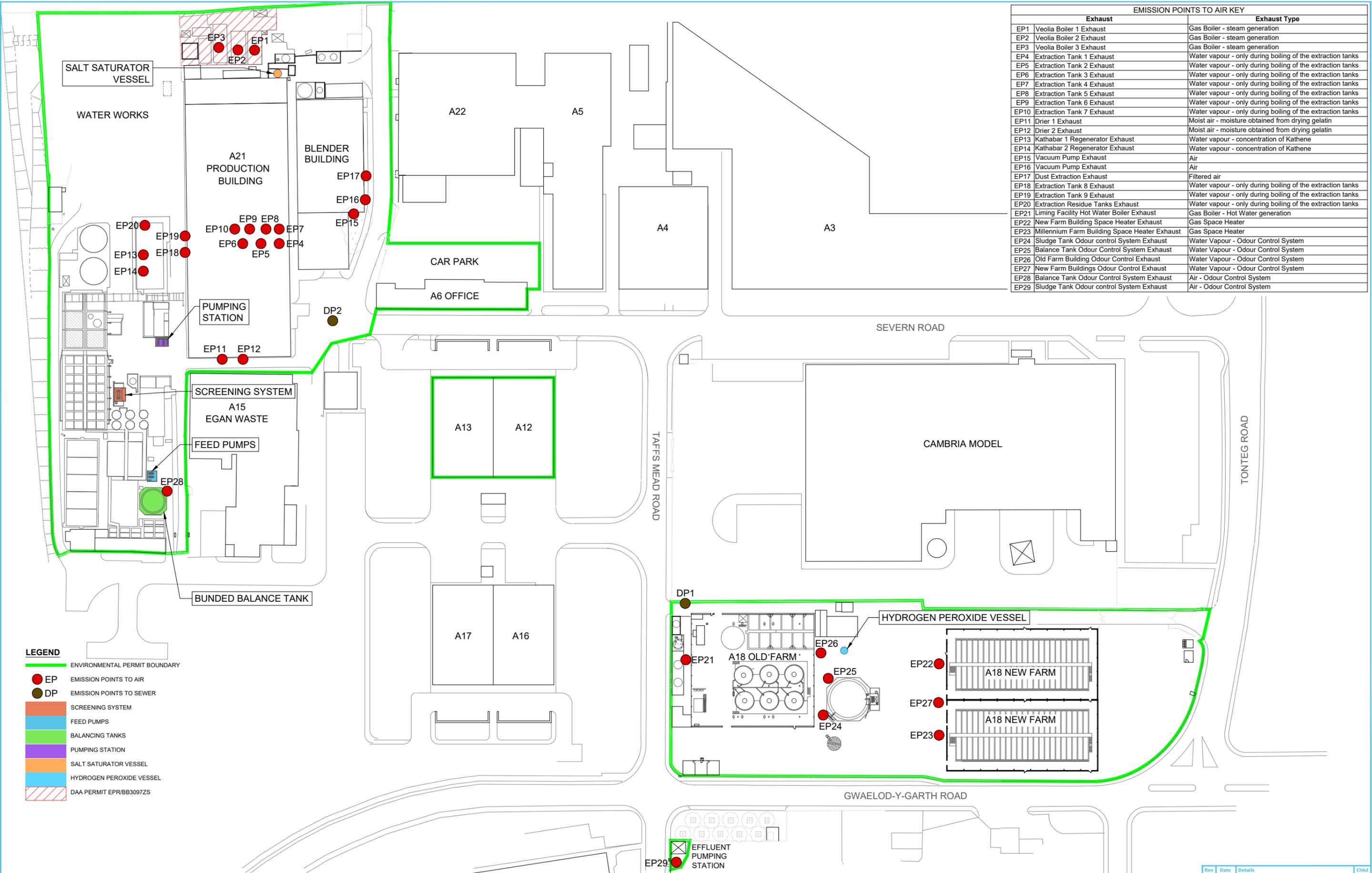
7.1. Frequency

- 7.1.1. The NMP will form part of the EMS and the continuing effectiveness of the NMP will be reviewed by Senior Management annually or in the event of the following:
- any surrounding land use changes and any future developments that may increase or alter the impact;
 - any changes to site activities which have the potential to result in noise nuisance; and/or
 - if a substantiated complaint is received and it is clear control measures have failed.
- 7.1.2. The reviews will consider monitoring records, compliance records, complaints history, site records and any recent sensitive developments on neighbouring land. The plan will be amended as necessary, including any changes to the control measures.

7.2. Summary

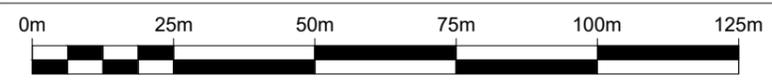
- 7.2.1. The site is regulated by NRW and has been for 10 years. The site sits in an existing industrial area and there is no history of complaints made to the company regarding noise pollution.
- 7.2.2. There are no sensitive receptors nearby and the nearest residential area to the Installation would not be impacted as it would be inaudible over the local main road and other industrial noise in proximation.
- 7.2.3. Based on the above assessment, PBGE concludes that the additional noise from the variation application will not have a detrimental effect nor add to noise in the area, this NMP has all the sufficient control measures required to deal with any reports that were received and as such a Noise Impact Assessment is not deemed justified in this instance.

APPENDIX I DRAWINGS AND DATA SHEETS



EMISSION POINTS TO AIR KEY		
Exhaust		Exhaust Type
EP1	Veolia Boiler 1 Exhaust	Gas Boiler - steam generation
EP2	Veolia Boiler 2 Exhaust	Gas Boiler - steam generation
EP3	Veolia Boiler 3 Exhaust	Gas Boiler - steam generation
EP4	Extraction Tank 1 Exhaust	Water vapour - only during boiling of the extraction tanks
EP5	Extraction Tank 2 Exhaust	Water vapour - only during boiling of the extraction tanks
EP6	Extraction Tank 3 Exhaust	Water vapour - only during boiling of the extraction tanks
EP7	Extraction Tank 4 Exhaust	Water vapour - only during boiling of the extraction tanks
EP8	Extraction Tank 5 Exhaust	Water vapour - only during boiling of the extraction tanks
EP9	Extraction Tank 6 Exhaust	Water vapour - only during boiling of the extraction tanks
EP10	Extraction Tank 7 Exhaust	Water vapour - only during boiling of the extraction tanks
EP11	Drier 1 Exhaust	Moist air - moisture obtained from drying gelatin
EP12	Drier 2 Exhaust	Moist air - moisture obtained from drying gelatin
EP13	Kathabar 1 Regenerator Exhaust	Water vapour - concentration of Kathene
EP14	Kathabar 2 Regenerator Exhaust	Water vapour - concentration of Kathene
EP15	Vacuum Pump Exhaust	Air
EP16	Vacuum Pump Exhaust	Air
EP17	Dust Extraction Exhaust	Filtered air
EP18	Extraction Tank 8 Exhaust	Water vapour - only during boiling of the extraction tanks
EP19	Extraction Tank 9 Exhaust	Water vapour - only during boiling of the extraction tanks
EP20	Extraction Residue Tanks Exhaust	Water vapour - only during boiling of the extraction tanks
EP21	Liming Facility Hot Water Boiler Exhaust	Gas Boiler - Hot Water generation
EP22	New Farm Building Space Heater Exhaust	Gas Space Heater
EP23	Millennium Farm Building Space Heater Exhaust	Gas Space Heater
EP24	Sludge Tank Odour control System Exhaust	Water Vapour - Odour Control System
EP25	Balance Tank Odour Control System Exhaust	Water Vapour - Odour Control System
EP26	Old Farm Building Odour Control Exhaust	Water Vapour - Odour Control System
EP27	New Farm Buildings Odour Control Exhaust	Water Vapour - Odour Control System
EP28	Balance Tank Odour Control System Exhaust	Air - Odour Control System
EP29	Sludge Tank Odour control System Exhaust	Air - Odour Control System

- LEGEND**
- ENVIRONMENTAL PERMIT BOUNDARY
 - EP EMISSION POINTS TO AIR
 - DP EMISSION POINTS TO SEWER
 - SCREENING SYSTEM
 - FEED PUMPS
 - BALANCING TANKS
 - PUMPING STATION
 - SALT SATURATOR VESSEL
 - HYDROGEN PEROXIDE VESSEL
 - DAA PERMIT EPR/BB3097ZS



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 Unit G1
 The Willowford
 Main Avenue
 Treforest Industrial Estate
 Pontypridd,
 CF37 5BF



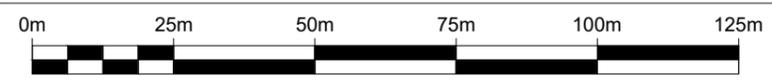
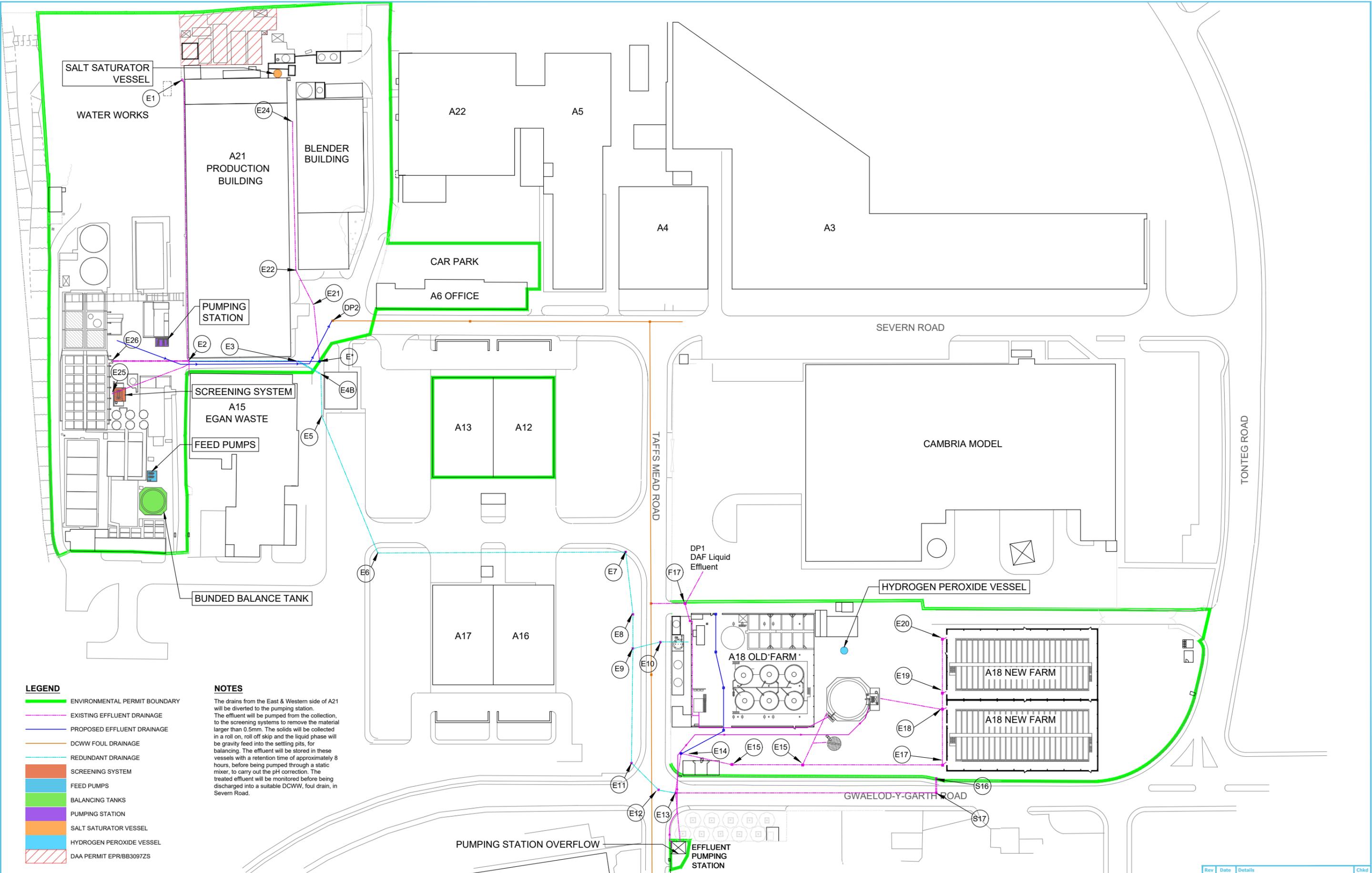
Client
 Tel: 01443 801215
 Email: info@ecl.world
 Web: www.ecl.world



Project Title
 PB GELATINS / PB LEINER UK
 UNIT A6, SEVERN ROAD
 TREForest INDUSTRIAL ESTATE
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 CF37 5SQ

Drawing Title
 SITE LAYOUT PLAN

Rev	Date	Details	Drawn	Checked	Approved	Chkd
	29/09/2023	Scale 1:1250 @ A3	by GTB	by SM	by SM	
Drawing Status						
WORKING DRAWING						
Drawing Number						
PBGE.01.09-01						
Rev						
						-



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 Unit G1
 The Willowford
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 Treforest Industrial Estate
 Pontypridd,
 CF37 5BF

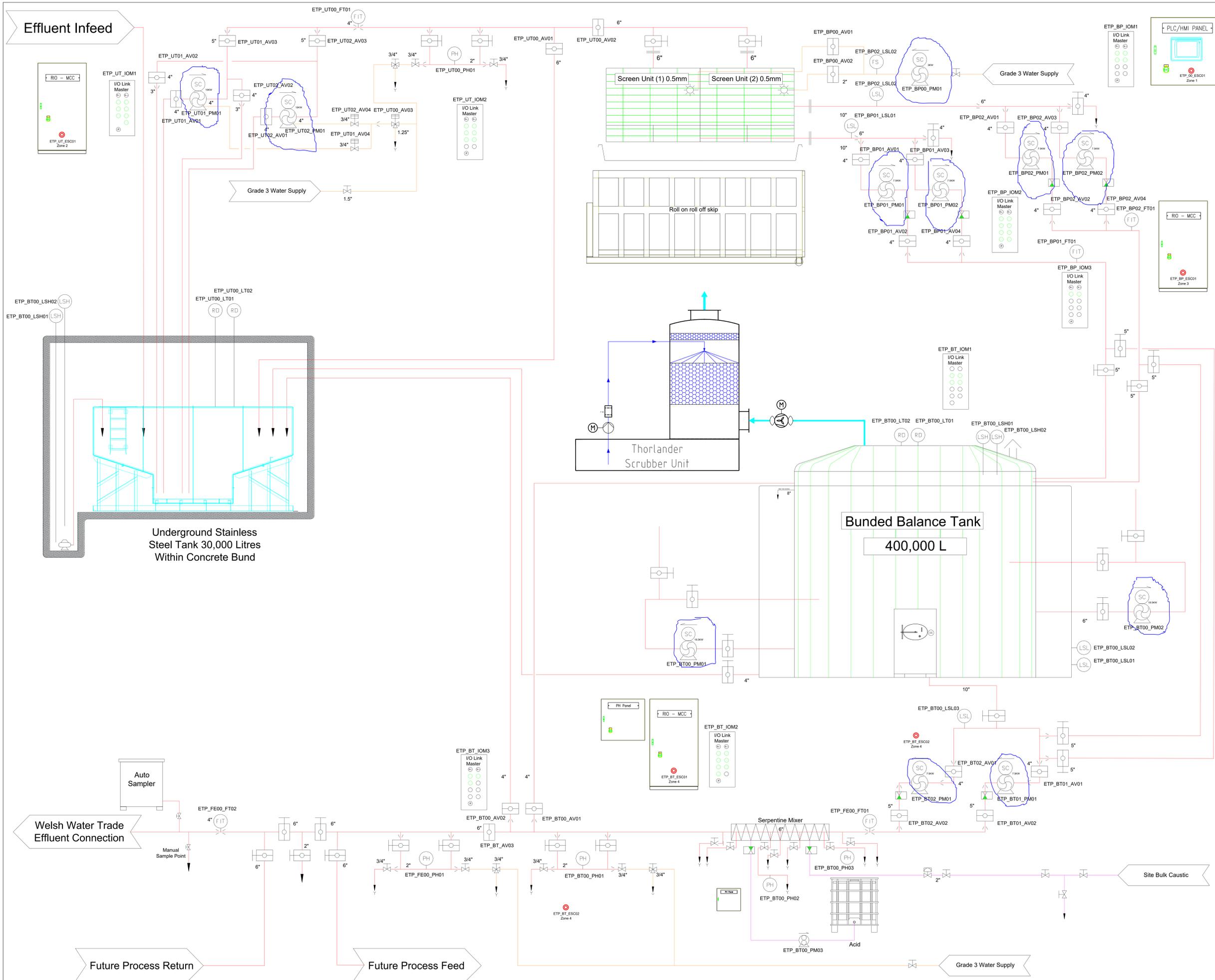
ecl
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 CF37 5SQ

Drawing Title
 DRAINAGE ARRANGEMENTS PLAN

Rev	Date	Details	Drawn	Checked	Approved	Chkd
10/05/2023	1:1250 @ A3	GTB	GTB	SM	SM	
Drawing Status						
WORKING DRAWING						
Drawing Number						
PBGE.01.09-02						
Rev						



Client Comments:-

Approval Status:-

Drawing Approved - No Comments	
Drawing Approved - Make alterations as per comments and proceed	
Drawing Rejected - Make alterations as per comments and re-issue for approval	

Sign & date:-

General Notes:-

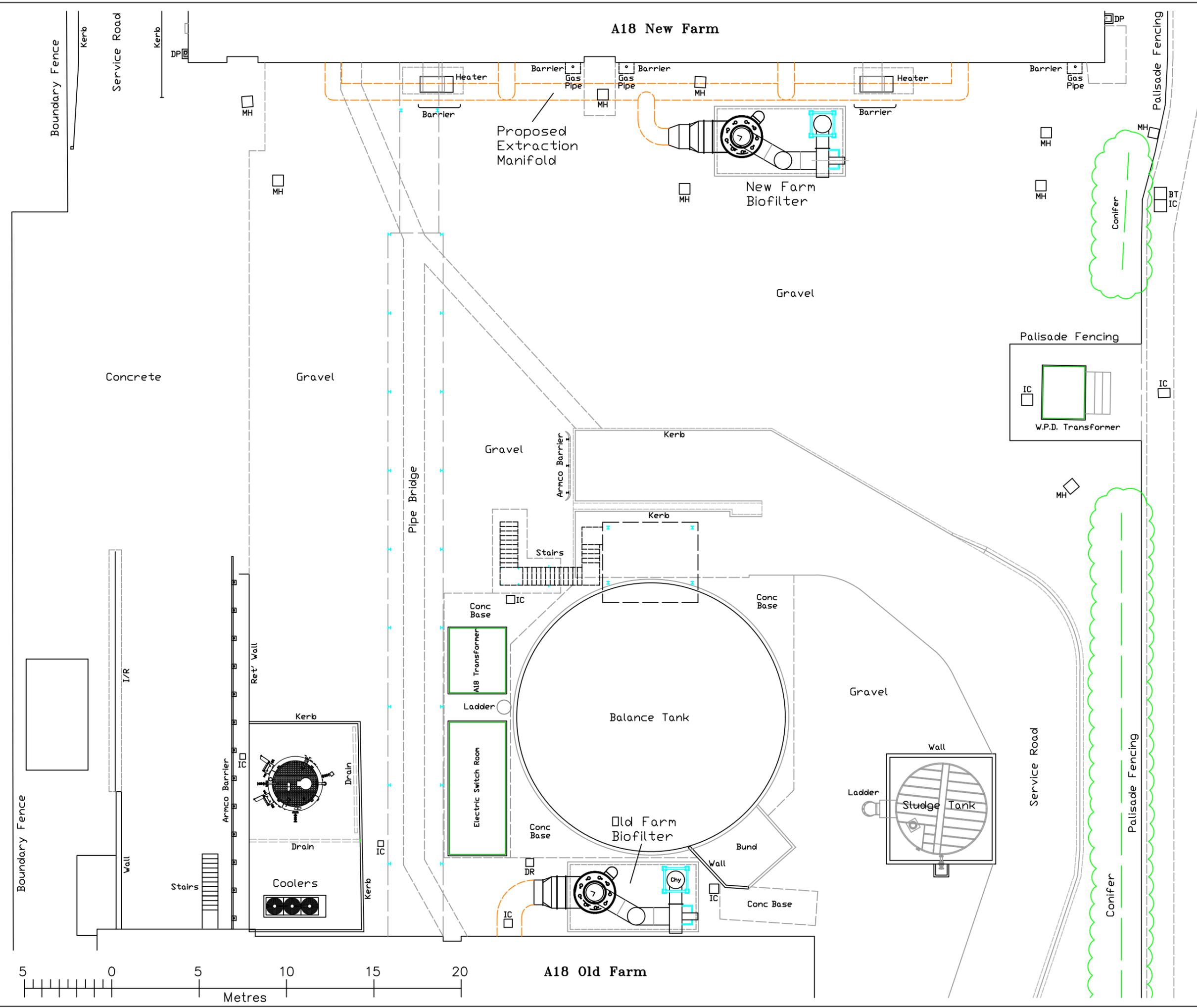
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- Scale With Caution as distortion can occur.

Rev	Reason For Issue	Drawn	Chkd	Appvd	Date
K	Added Screen building additional I/O link masters and Flow Transmitters	JM	JM	JM	18/06/24
J	Underground tank back flush arrangement updated	JM	JM	JM	18/06/24
I	Serpentine mixer / PH layout update Underground tank: NRV's added & sump level monitoring.	JM	JM	JM	11/12/23
H	Water flowswitch and Scrubber Layout added.	JM	JM	JM	11/12/23
G	Updated manual handles / actuators and water boost pump.	JM	JM	JM	17/10/23
F	Areas updated - General Layout	JM	JM	JM	31/08/23
E	Components / Areas updated: PH Manual isolation Screen inlet valve	JM	JM	JM	04/07/23
D	Components / Areas updated: Crude pit back flush. PH Sample lines with flush. Screen pumps. Caustic line feed valves	JM	JM	JM	30/06/23
C	Outfeed Line Valves added	JM	JM	JM	20/06/23
B	Issue for Information	JM	JM	JM	30/05/23
A	Issue for Information	JM	JM	JM	10/05/23

Drawing Status

Information	
Job Title	A21 - Effluent Plant Design
Client	PB Liner UK
Drawing Title	P&ID
Paper Size	A0
Scale	N.T.S.
Originator	JM
Job Number	9615
Date	10/05/2023
Drawing no.	RT-9615-05-001
Rev	J

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A	Planning	TJS	JM	16/2/24
Rev	Reason For Issue	Drawn	Appr'd	Date

Client
 P.B. Leiner UK
 Treforest
 Pontypridd
 Mid-Glamorgan
 CF37 5SU

Project
 Proposed A18 Farm Biofilters

Drawing Title
 Proposed Site Plan

Paper Size A3	Scale 1:200	Originator TJS
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Job Number RT-10720	Date 16/02/2024
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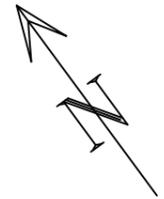
Drawing no. RT-10720-01-006	Rev A
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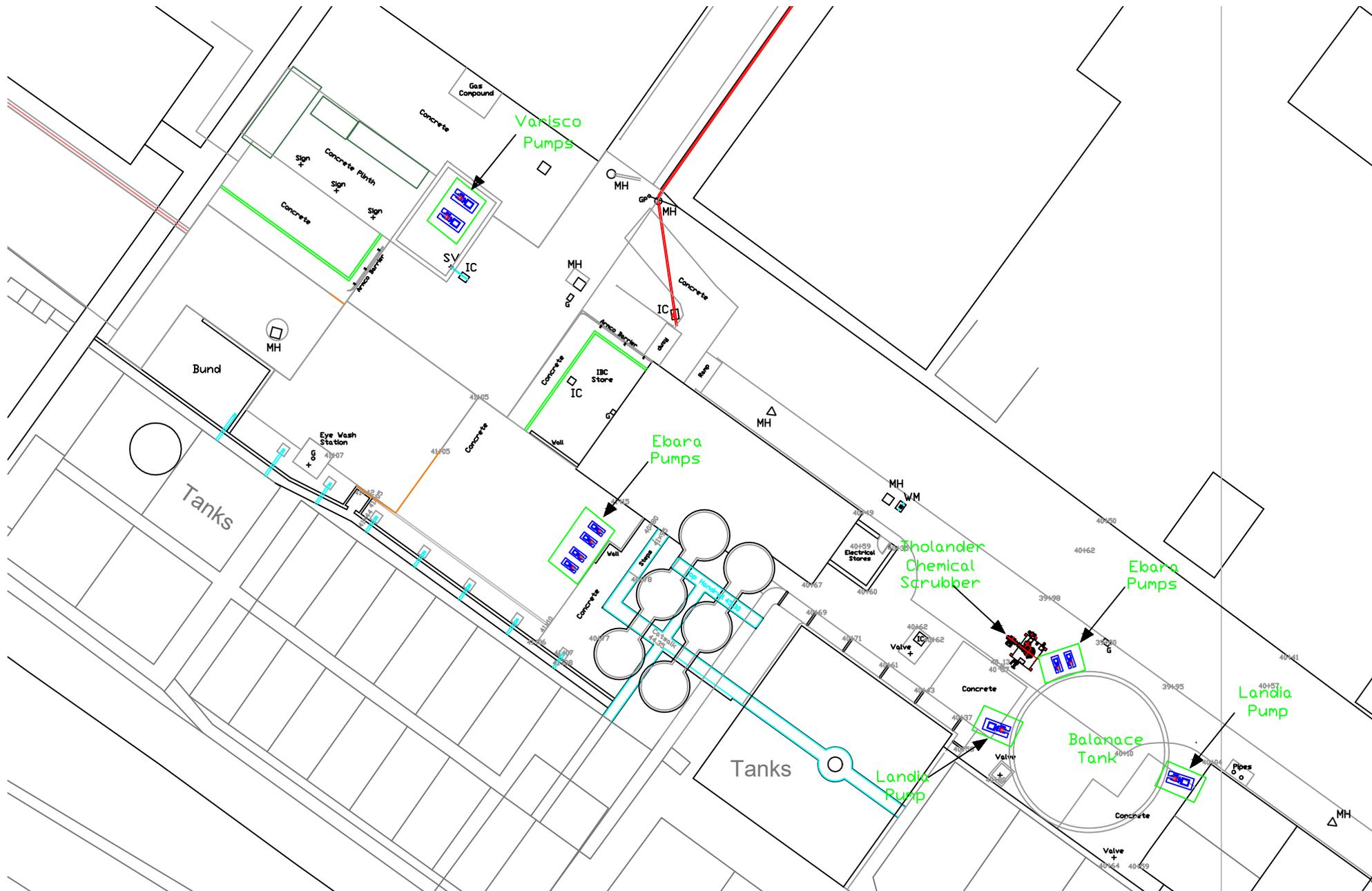


Gwaelod - Y - Garth Road

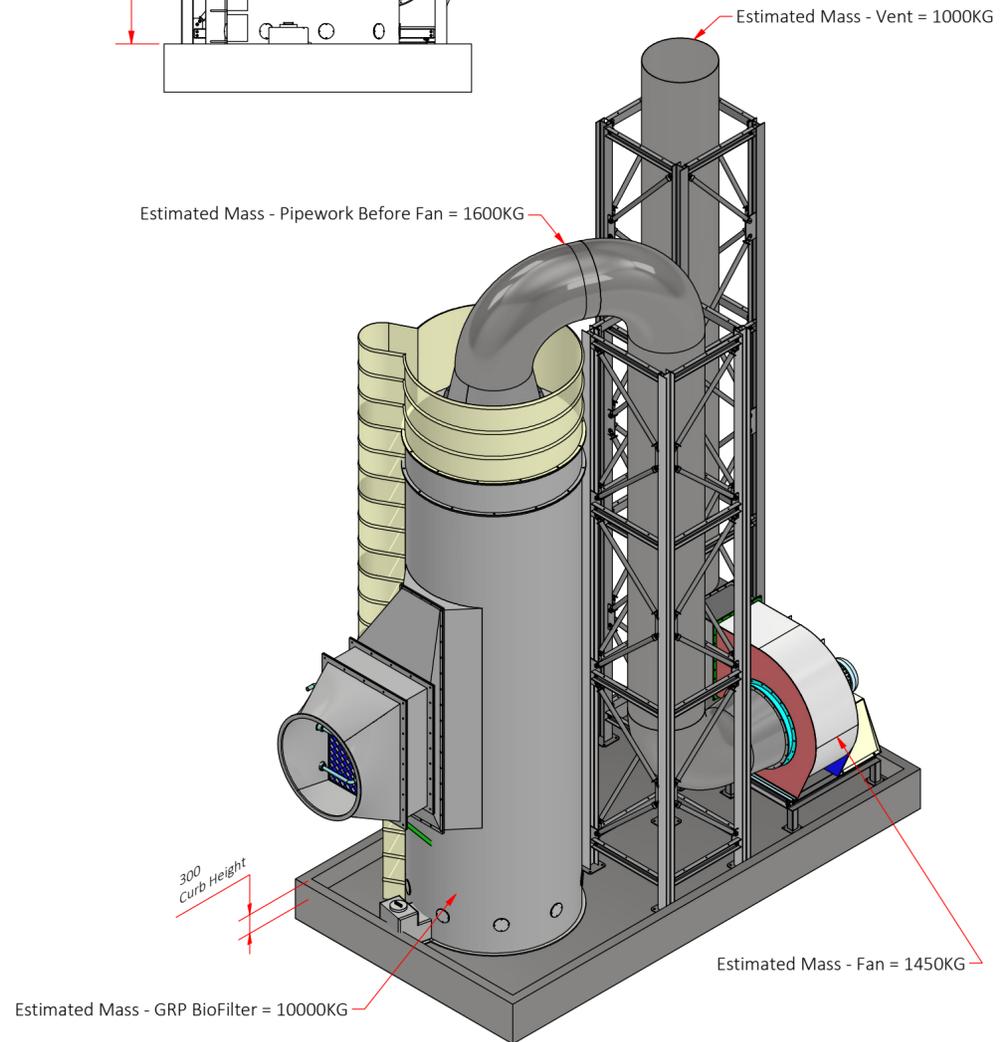
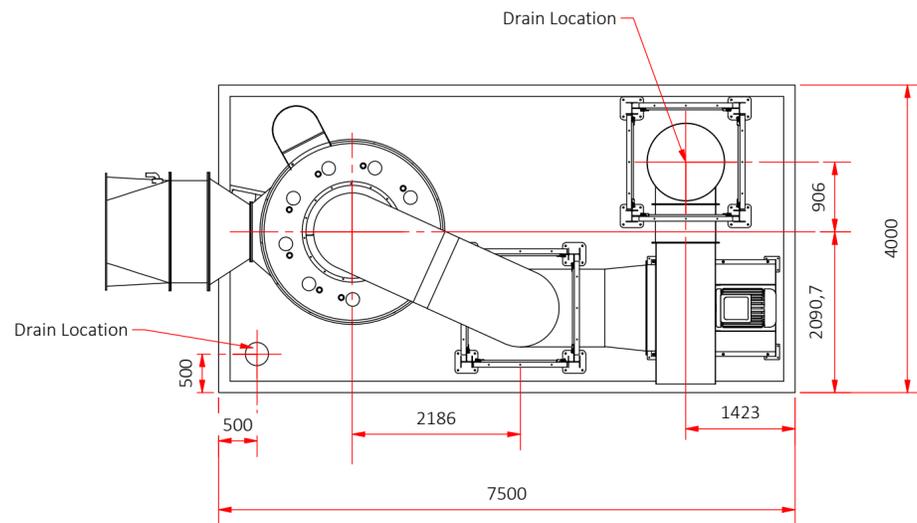
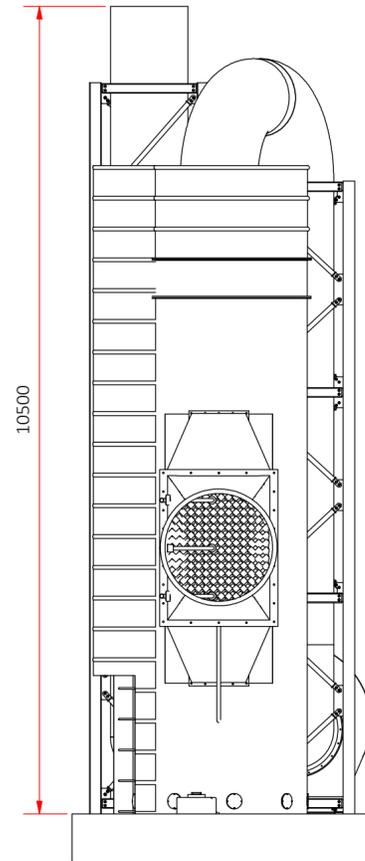
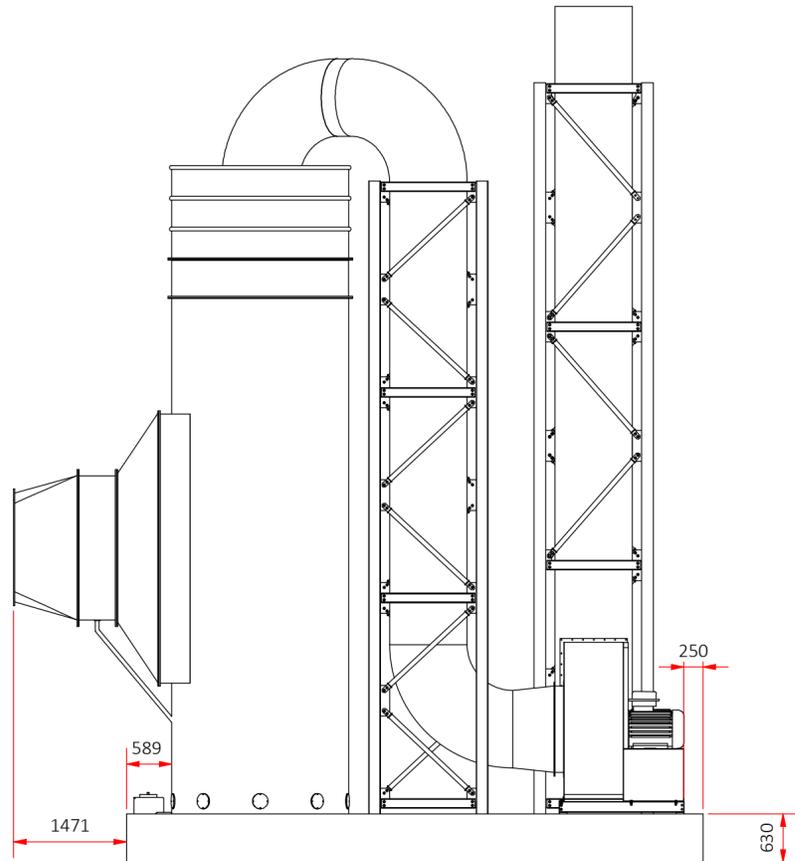
A18 New Farm

A18 Old Farm





RT-10720-2031
SCALE : (1 : 65)



Approval Status :-

Drawing Approved - No Comments	
Drawing Approved - Make alterations as per comments and proceed	
Drawing Rejected - Make alterations as per comments and re-issue for approval	

Sign & date :-

General Notes:
All Dimensions in mm and all levels in Metres.
Scale with caution as distortion can occur.

Tolerance unless otherwise stated:

X = ±2
X,X = ±0.5
X,XX = ±0.25

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A	INFORMATION	LP	LP	JM	16/07/2024
Rev	Reason For Issue	Drawn	Chkd	Appvd	Date

Client:
PB Gelatins UK Ltd

Project:
A18 Biofilter Project

Title:
RT-10720-2031

Paper Size
A2

FIRST ANGLE PROJECTION

Job No.
RT-10720-2031

Date.
16/07/2024

Drawing No.
RT-10720-2031

Rev
A



NOISE DATA 3(.)S-3(.)P

Pump type		Motor Size	Power		L _{pA} - dB(A) *
			[kW]	[HP]	
3(.)S(Z) 32-125/1.1	3(.)P 32-125/1.1	80	1.1	1.5	<70
3(.)S(Z) 32-160/1.5	3(.)P 32-160/1.5	90S	1.5	2	
3(.)S(Z) 32-160/2.2	3(.)P 32-160/2.2	90L	2.2	3	
3(.)S(Z) 32-200/3.0	3(.)P 32-200/3.0	100L	3	4	
3(.)S(Z) 32-200/4.0	3(.)P 32-200/4.0	112M	4	5.5	<70
3(.)S(Z) 32-200/5.5	3(.)P 32-200/5.5	132S	5.5	7.5	72
3(.)S(Z) 32-200/7.5	3(.)P 32-200/7.5	132S	7.5	10	
3(.)S(Z) 40-125/1.5	3(.)P 40-125/1.5	90S	1.5	2	<70
3(.)S(Z) 40-125/2.2	3(.)P 40-125/2.2	90L	2.2	3	
3(.)S(Z) 40-160/3.0	3(.)P 40-160/3.0	100L	3	4	
3(.)S(Z) 40-160/4.0	3(.)P 40-160/4.0	112M	4	5.5	<70
3(.)S(Z) 40-200/5.5	3(.)P 40-200/5.5	132S	5.5	7.5	72
3(.)S(Z) 40-200/7.5	3(.)P 40-200/7.5	132S	7.5	10	
3(.)S(Z) 40-200/11	3(.)P 40-200/11	160M	11	15	74
3(.)S(Z) 50-125/2.2	3(.)P 50-125/2.2	90L	2.2	3	<70
3(.)S(Z) 50-125/3.0	3(.)P 50-125/3.0	100L	3	4	
3(.)S(Z) 50-125/4.0	3(.)P 50-125/4.0	112M	4	5.5	
3(.)S(Z) 50-160/5.5	3(.)P 50-160/5.5	132S	5.5	7.5	72
3(.)S(Z) 50-160/7.5	3(.)P 50-160/7.5	132S	7.5	10	
3(.)S(Z) 50-200/9.2	3(.)P 50-200/9.2	132M	9.2	12.5	
3(.)S(Z) 50-200/11	3(.)P 50-200/11	160M	11	15	74
3(.)S(Z) 50-200/15	3(.)P 50-200/15	160M	15	20	
3(.)S(Z) 65-125/4	3(.)P 65-125/4	112M	4	5.5	<70
3(.)S(Z) 65-125/5.5	3(.)P 65-125/5.5	132S	5.5	7.5	72
3(.)S(Z) 65-125/7.5	3(.)P 65-125/7.5	132S	7.5	10	
3(.)S(Z) 65-160/7.5	3(.)P 65-160/7.5	132S			
3(.)S(Z) 65-160/9.2	3(.)P 65-160/9.2	132M	9.2	12.5	
3(.)S(Z) 65-160/11	3(.)P 65-160/11	160M	11	15	74
3(.)S(Z) 65-160/15	3(.)P 65-160/15	160M	15	20	
3(.)S(Z) 65-200/15	3(.)P 65-200/15	160M			
3(.)S(Z) 65-200/18.5	3(.)P 65-200/18.5	160L	18,5	25	
3(.)S(Z) 65-200/22	3(.)P 65-200/22	180	22	30	77
3LS 65-250/30	3LP 65-250/30	200	30	40	78
3LS 65-250/37	3LP 65-250/37	200	37	50	
3LS 80-160/11	3LP 80-160/11	160M	11	15	74
3LS 80-160/15R	3LP 80-160/15R	160M	15	20	
3LS 80-160/15	3LP 80-160/15	160M	15	20	
3LS 80-160/18.5	3LP 80-160/18.5	160L	18,5	25	
3LS 80-200/22	3LP 80-200/22	180	22	30	77
3LS 80-200/30	3LP 80-200/30	200	30	40	78
3LS 80-200/37	3LP 80-200/37	200	37	50	
3LS 80-250/37	3LP 80-250/37	200	37	50	
3LS 80-250/45	3LP 80-250/45	225	45	60	80
3LS 80-250/55	3LP 80-250/55	250	55	75	81

* Mean value of several measures at 1m distance around the pump.

Tolerance ± 2.5 dB.

Sound pressure level of motor pumps with AEG

Noise behaviour

The noise measurement is carried out at design output, design voltage and design frequency, as specified in DIN EN ISO 3741. According to DIN EN 60034-9, the spatial mean value of the sound pressure level L_{pA} measured at a 1 m distance from the machine outline will be given as the noise intensity in dB(A).

The A-weighted sound power level L_{WA} at the measurement area dimension L_S ($d = 1$ m) will be given as

$$L_{WA} = L_{pA} + L_S \quad (\text{dB})$$

The measurement area dimensions will be dependent on the geometry of the machine and are for

Size	L_S (dB)
56 - 132	12
160 - 225	13
250 - 315	14
355	15

The tabular value +4 dB(A) will apply as an approximate value for machines in the 60 Hz version. Binding data about 60 Hz is available on request. The noise data for the basic types is quoted in tabular form. Enquiries are necessary in the case of special series.

Noise data (dB(A))

Measurement area related sound pressure level L_{pA} for motors K21R, KU1R, K22R in standard version

	L_{pA} dB	L_{pA} dB	L_{pA} dB	L_{pA} dB
	2-pole	4-pole	6-pole	8-pole
63 K	46	41	40	-
63 G	46	41	40	-
71 K	48	42	41	37
71 G	48	42	41	37
80 K	52	44	41	40
80 G	52	44	41	40
90 S	56	49	43	42
90 L	56	49	43	42
100 L	59	50	49	47
100 LX	-	50	-	47
112 M	61	53	51	50
112 MX	61	-	-	-
132 S	65	58	54	52
132 SX	65	-	-	-
132 M	-	60	54	52
132 MX	-	-	56	-
160 M	66	60	56	57
160 MX	67	-	-	57
160 L	67	62	61	57
180 M	70	62	-	-
180 L	-	64	61	58
200 L	73	64	62	61
200 LX	73	-	62	-
225 S	-	66	-	59
225 M	74	66	63	59
250 M	74	68	63	63
280 S	75	69	65	61
280 M	75	69	65	61
315 S	78	72	68	65
315 M	78	72	68	65
315 MX	79	76	70	65
315 MY	79	76	68	66
315 L	79	76	68	66
315 LX	79	76	68	66
355 MY, M, MX ¹⁾	77 ²⁾	77	70	68
355 LY, L ¹⁾	77 ²⁾	77	70	68

Low noise version ²⁾

	L_{pA} dB
	2-pole
200 LX	65
225 S	-
225 M	65
250 M	65
280 S	66
280 M	66
315 S	68
315 M	68
315 MX	68
315 MY	68
315 L	70
315 LX	68

¹⁾ series K22R
²⁾ with axial fan, rotation-sense dependable fan

The data given in the table are valid for nominal output, nominal voltage, and 50 Hz with tolerances of +3 dB. Noise measurement according to DIN EN 21 680 p. 1

JE 6-250 G11 ST41 BASE

Electric - Qmax 320 m³/h (1,410 USGPM) - Hmax 18 m (59 ft)



Product data

Suction port	flanged - DN 150 D.I. 1882 (6")
Delivery port	flanged - DN 150 D.I. 1882 (6")
Qmax	320 m ³ /h (1,410 USGPM)
Hmax	18 m (59 ft)
Solids handling	76 mm (3")
Engine power	15 kW - 18,5 HP
Weight	420 kg (926 lb)

Indicative picture of the product

J

Self-priming centrifugal pumps

The J series self-priming centrifugal pumps are for applications where the main feature is the difficulty in priming: even with suction heights of several meters the machine quickly evacuates the air from the suction pipe and starts pumping. Furthermore, compared to other pumps, the semi-open impeller makes the J suitable for pumping liquids with solids in suspension.

Applications

Varisco S.r.l. has a long-standing experience in designing and producing self-priming pumps and now has a wide range of solutions and materials. The J have features that not only meet the needs of the market but make it an extremely versatile product suitable for professionals of Constructions, Industry and Emergency duty.

Drainage of excavations, canals and ponds
Ground water dewatering with wellpoint systems
Sewage by-pass
Naval platforms ballasting
Drainage after flooding or terrential rains

Benefits

Rapid self-priming

without foot valve up to a height of 7.5 m (24.5 ft)

High resistance

to abrasive liquids and turbid sandy waters

Semi-open impeller

solids handling up to 76 mm (3")

Wear plates

in cast iron lined with abrasion resistant rubber, easily replaceable, front and rear to the impeller

Easy maintenance

removable front cover for direct access to the impeller and eventual unclogging

JE 6-250 G11 ST41 BASE

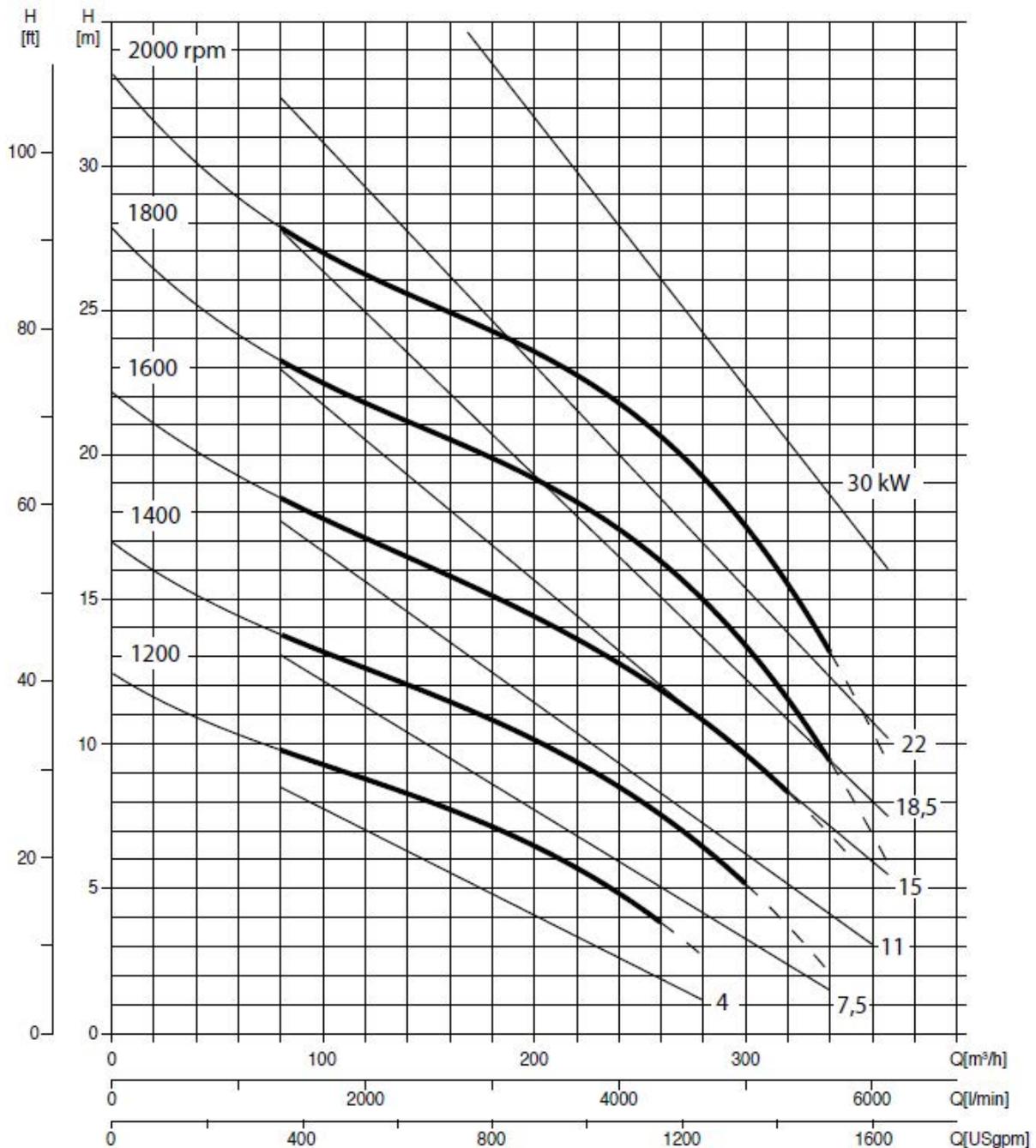


Performance curves

Speed [rpm] 1450							
Q [m³/h]							
	80	100	150	200	250	300	320
h suc. [m]	H delivery[m]						
0	15,0	14,0	12,5	11,0	9,0	6,0	4,5
1.5	13,0	12,0	10,5	8,5	6,0	2,5	1,0
3	11,5	10,5	9,0	7,0	4,5	-	-
4.5	10,0	9,0	7,0	5,5	-	-	-
6	8,5	7,5	5,5	-	-	-	-
7.5	7,0	-	-	-	-	-	-

Test according to UNI EN ISO 9906 standard - level 2
 Test liquid: clean water, density 1,000 kg/m³
 Spherical solids handling: D.76 mm (3")
 Priming time: 27 s from 1,5 m (4.9 ft)
 Max absorbed power: 11,2 kW - 15.0 HP (1.450 rpm)

Recommended operating range



dB(A)=max livello sonoro ad 1 m / dB(A)=max noise level at 1 m

JE 6-250 G11 ST41 BASE

Technical data

Pump

Pump model	J 6-250 G11
Qmax	320 m ³ /h - 5.330 l/min (1,400 USGPM)
Hmax	18 m (59 ft)
Suction port	flanged - DN 150 D.I. 1882 (6")
Delivery port	flanged - DN 150 D.I. 1882 (6")
Impeller type	semi-open, 2 vane
Solids handling	76 mm (3.0 ")
Casing	EN-GJL-200 cast iron
Impeller	EN-GJS-400 cast iron
Wear plates	EN-GJL-200 rubber lined cast iron
Non-return valve	check-valve, NBR
Shaft	39NiCrMo3 steel
Mechanical seal	Silicon carbide
Elastomers	NBR
Lubrication	grease



Motor

Supply	electric
Type	three-phase TEFC
No. poles	4
Tension supply	400-690 V
Frequency	50 Hz
Rated power	15 kW - 18,5 HP
Rated speed	1.450 rpm
Rated current, In (400V)	19,1 A
Class efficiency	IE3 - IEC 60034-30
Max efficiency	91,4 %
Protection rating	IP55
Insulation class	F
Thermal protection	No. 3 PTC thermistor
Rpm type	fixed
Service type	continuous - S1



JE 6-250 G11 ST41 BASE



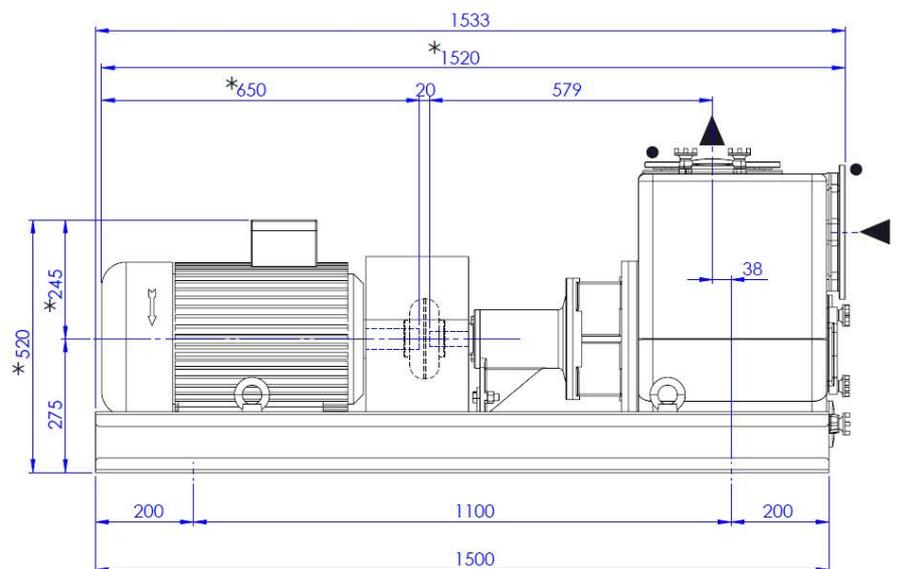
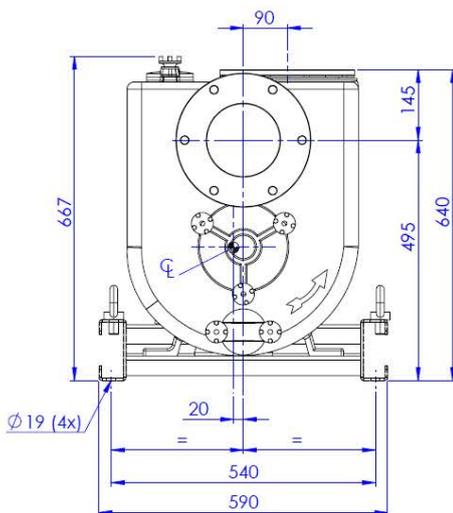
Arrangement

Model	BASE
Dimensions	590 x 1.533 x 670 mm (23 x 61 x 26 ")
Material	S275JR EN 10025-2 carbon steel
Coatings	bicomponent, average thickness of 80 µm
Color	RAL 5013 Blue (standard)
Features	flexible coupling
Lifting points	No.4 connections with lifting lugs
Height connection	0,5 m (1.6 ft)

Dimensions

Weight

Dry weight 420 kg (926 lb)



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tel +39 049 8294 111
E-mail : export.varisco@atlas copco.com

JS 4-250 K10

Qmax 150 m³/h - 2500 l/min (660 USgpm) - Hmax 36 m (118 ft)

Code 10021464



Product Data

Suction port
Threaded - 4" ISO 228 (BSP)

Delivery port
Threaded - 4" ISO 228 (BSP)

Qmax
150 m³/h - 2500 l/min (660 USgpm)

Hmax
36 m (118 ft)

Solids handling
50 mm (2")

Weight
130 kg (287 lb)

EX version



Pump with dedicated code, including thermowell predisposition for temperature sensor and glass oiler for mechanical seal quench fluid, according to **ATEX 2014/34/EU**.

Indicative picture of the product

Self-priming centrifugal bare shaft pump

Characteristics

The J series self-priming centrifugal pumps are used in applications where a rapid priming capacity is required from demanding suction heights combined with the ability to transfer and manage polluted fluids, dirty and abrasives with suspended large diameter solids. The system is based on an inspectable pump casing which also acts as a water tank allowing a first quick priming without auxiliary systems, simplifying management of the system and reducing the time for maintenance. Within the physically permitted suction height limits, J pumps are a more comfortable and reliable solution than submersible pumps and vertical submersed impeller pumps.

Benefits

- 1) Rapid self-priming**
Without foot valve up to a height of 7.5 m (24.5 ft)
- 2) High resistance**
To abrasive liquids which are turbid and sandy
- 3) Semi-open impeller**
High thickness casting impact resistant
- 4) Wear plate/plates**
Easily replaceable stainless steel wear plate/plates
- 5) Easy inspection and cleaning**
Removable front covers for access to the impeller

Applications

Industry:

clean, dirty, sandy, muddy, neutral, alkaline, acidic liquids; low viscous petroleum products, solvents even if dirty; milk of lime, caustic soda; washing, cooling, recirculation, smoke scrubbing.

Treatment:

pumping polluted corrosive wastewater containing sand, mud or solids in suspension; dosing neutralizing liquids; pumping out settled sludge.

Naval:

loading and unloading; bilge pumping; washing, fire-fighting, stripping, sanitary duty and circulation.

Agriculture:

surface irrigation; liquid manure oxygenation; transfer and spraying liquid manure or fertilizers; distribution of liquid animal feed; transfer of wine must; washing.

Varisco S.r.l. has certified its Quality, Environment and Safety Management System in accordance with the requirements of the international standard ISO 9001-14001-45001, recognized by the Lloyd Register.

Specification is subject to change without prior notice. Please check with your Varisco representative for the latest specifications.

Document release date: April 24th 2024

JS 4-250 K10



PERFORMANCE CURVES

Test according to **UNI EN ISO 9906 standard - level 2B**

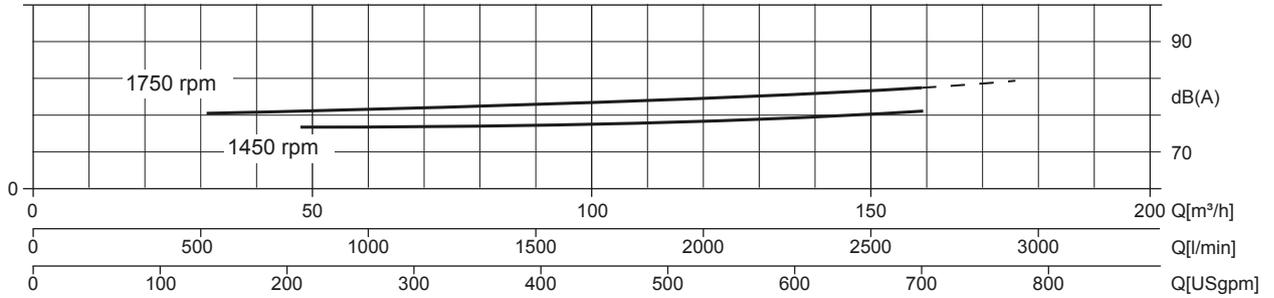
Max. applicable motor power: **18,5 kW - 25 HP (max 2.000 rpm)**

Test liquid: **clean water, density 1.000 kg/m³**

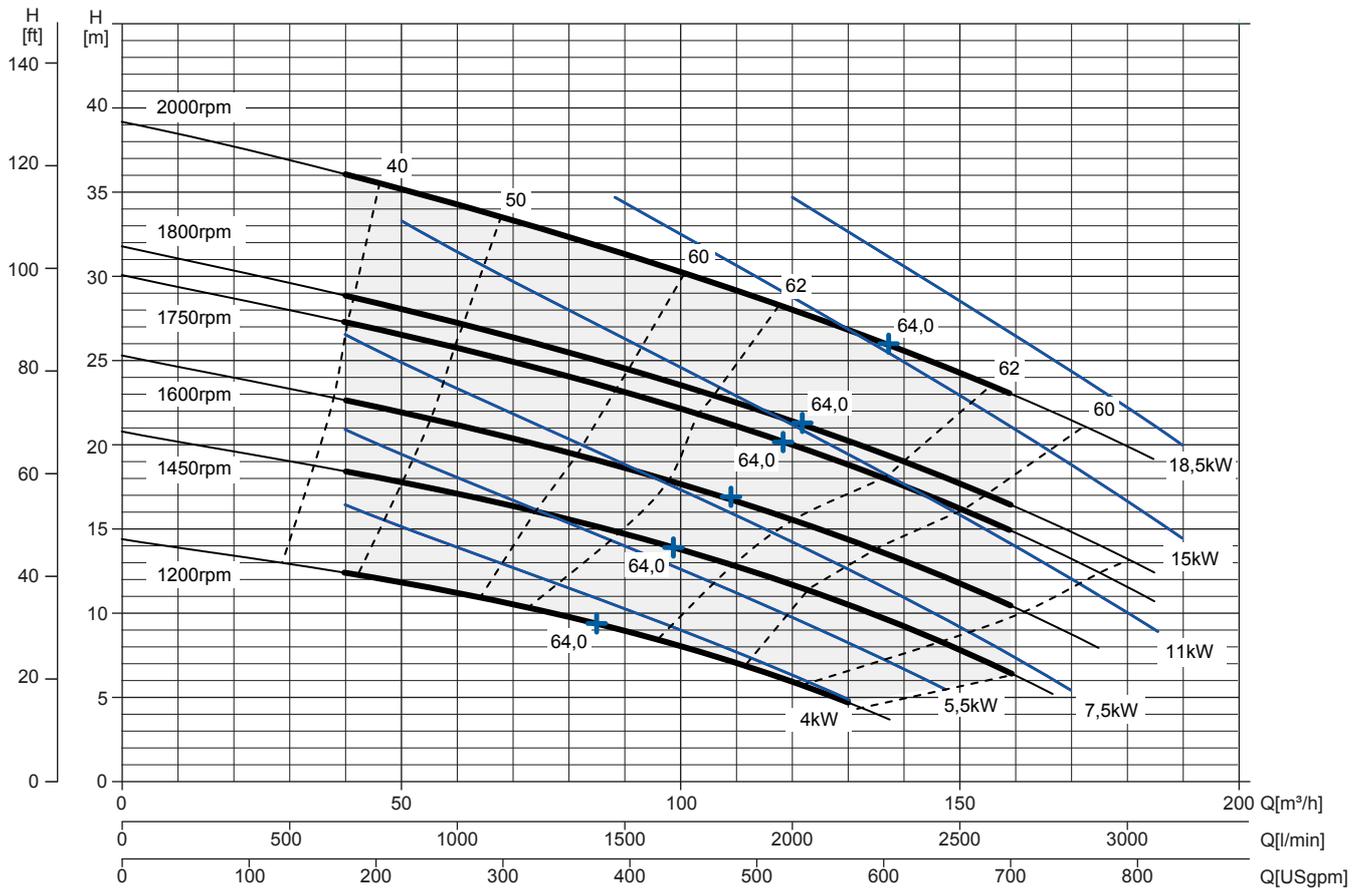
Spherical solids handling: **D.50 mm (2")**

Noise Curve

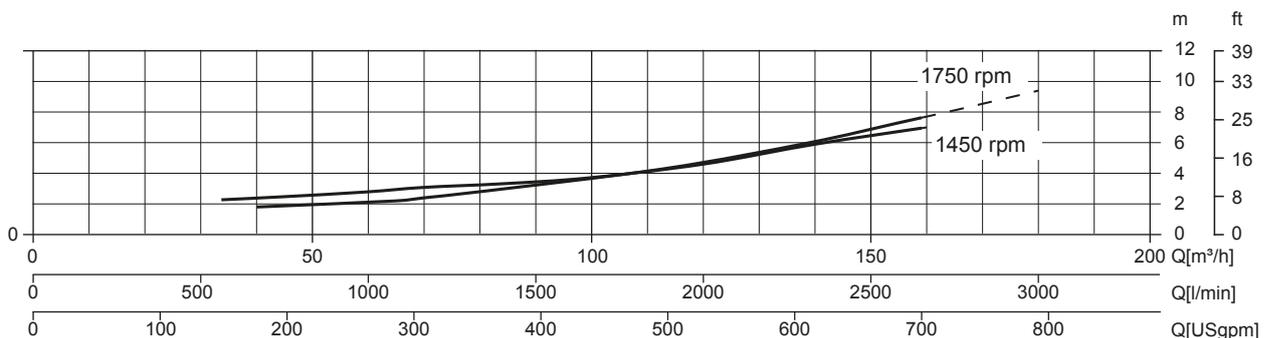
dB(A)=max noise level at 1 m



Multiple Speed Curve



NPSHr Curve



Specification is subject to change without prior notice. Please check with your Varisco representative for the latest specifications.

Document release date: April 24th 2024

JS 4-250 K10

TECHNICAL DATA

Pump

Pump model	JS 4-250 K10
Qmax [2.000 rpm]	150 m ³ /h - 2500 l/min (660 USgpm)
Hmax [2.000 rpm]	36 m (118 ft)
Suction port	Threaded - 4" ISO 228 (BSP)
Delivery port	Threaded - 4" ISO 228 (BSP)
Impeller type	Semi-open, 2 vanes
Solids handling	50 mm (2")
Casing	ASTM A351 CF3M stainless steel
Impeller	ASTM A351 CF3M stainless steel
Wear plate	ASTM A351 CF3M stainless steel
Non-return valve	check-valve, FKM
Shaft	SAF 2205 EN 10088 stainless steel
Mechanical seal	Silicon carbide / Silicon carbide
Elastomers	FKM
Lubrication	Grease
Bearing bracket	EN 1561 EN-GJL-200 cast iron, with grease lubricated ball bearings for life

Arrangement

Model	Bare shaft
Dimensions (L x W x H)*	741 x 421 x 490 mm (29,2 x 16,6 x 19,3")
Coating	Polyurethane enamel, average thickness of 100 µm
Color	RAL 5010 blue (standard)
Height connection	0,36 m (1,2 ft)

*without flanged ports

Optionals

Flanged ports DN100 PN16 EN1092-1 Type B	Complete pump set code available on request
Flanged ports 4" ANSI B16.1 Class 125 R.F.	Complete pump set code available on request
Automatic mechanical seal greaser	Code: 10008316
Thermocouple temperature sensor for ATEX pump	TC - Range temperature from 0 up to 300°C
Temperature sensors for ATEX pump	PT100 - Range temperature from 0 up to 300°C

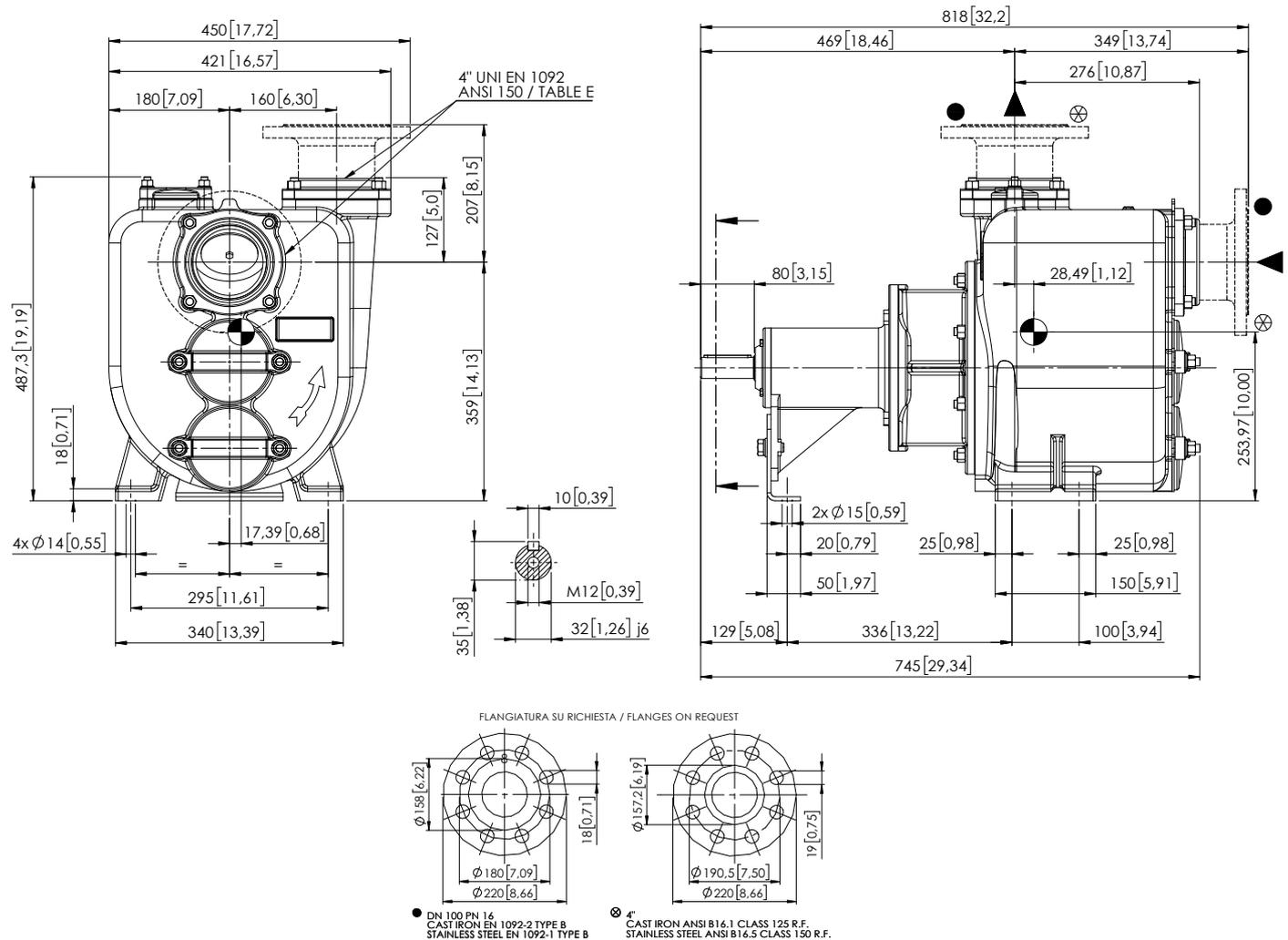
Weight

Net weight	130 kg (287 lb)
Gross weight (pump + packing)	143 kg (316 lb)

JS 4-250 K10

DIMENSIONS

mm [in]



PACKAGING DIMENSIONS

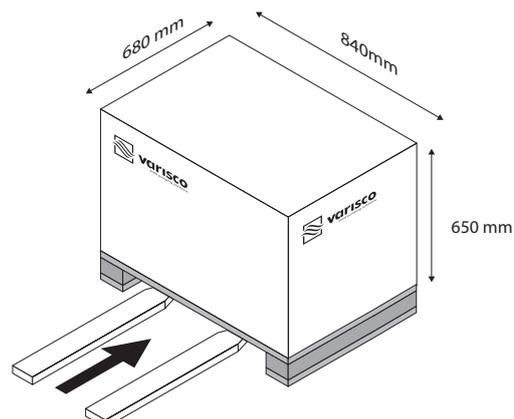
Dimensions

JS 4-250 K10 (L x W x H)

840 x 680 x 650 mm

Gross weight (pump + packing)

143 kg (316 lb)



Technical Data

Pump Name

3LS 32-200/3.0

Customer	Date	2024-10-23	Company
Contact	Item no.		Issued by
Phone	Project		Phone
E-mail	Project ID		E-mail

Requested data

1	Pump type	CENTRIFUGAL PUMPS	Fluid	Water
2	Number of pumps / Reserve	1 / 0	Liquid temperature	°C
3	Flow	m³/h	Kin. viscosity	mm²/s
4	Head	m	Vapour pressure	kPa
5	Geodetic head	m	PH value	
6	Inlet pressure (pin)	kPa	Density	kg/m³
7	Available system NPSH		Solids	Weight %
8	Ambient temperature	°C		

Pump

9	Pump Name	3LS 32-200/3.0	Frequency	Hz	50	
10	Design	CENTRIFUGAL PUMPS	Installation type		STANDARD	
11	Manufacturer	EPE	Impeller Diameter	Max.	mm	
12	Speed	1/min		2900	Designed	mm
13	No. of Stage			1	Min.	mm
14	Connection	Suction side	DIN 2532	Flow	Operating	
15	Connection	Discharge side	DIN 2532		Max-	m³/h
16	Max Working Pressure	kPa	1000		Min-	m³/h
17	Shut-off head	kPa	430.91	Head	Operating	
18	Total weight	kg	See the table of "Dimensions".		- (Qmax.)	m
19	Shaft power	kW			- (Qmin.)	m
20				Max. Shaft Power at max. impeller	kW	
21	Required pump NPSH	m		Efficiency	%	

Materials

22	Impeller	AISI 316L		
23	Casing	AISI 316L		
24	Shaft	AISI 316L		
25				
26				
27				

Motor

28	Manufacturer	LAFERT	Insulation class	F	
29	Type	TEFC_3S32-200/3.0_230_Three Phase	Phases	3~	
30	Specific design	IE3 / 50 Hz / Pole pairs 1	Frame size	100 L	
31	Rated power	kW	3	Weight	kg
32	Number of poles		2	Electric voltage	V
33	Speed	1/min	2900	Electric current	A
34	Degree of protection				
35					

Remarks

Performance Curve

Pump Name

3LS 32-200/3.0

Customer	Date	2024-10-23	Company
Contact	Item no.		Issued by
Phone	Project		Phone
E-mail	Project ID		E-mail

Requested data

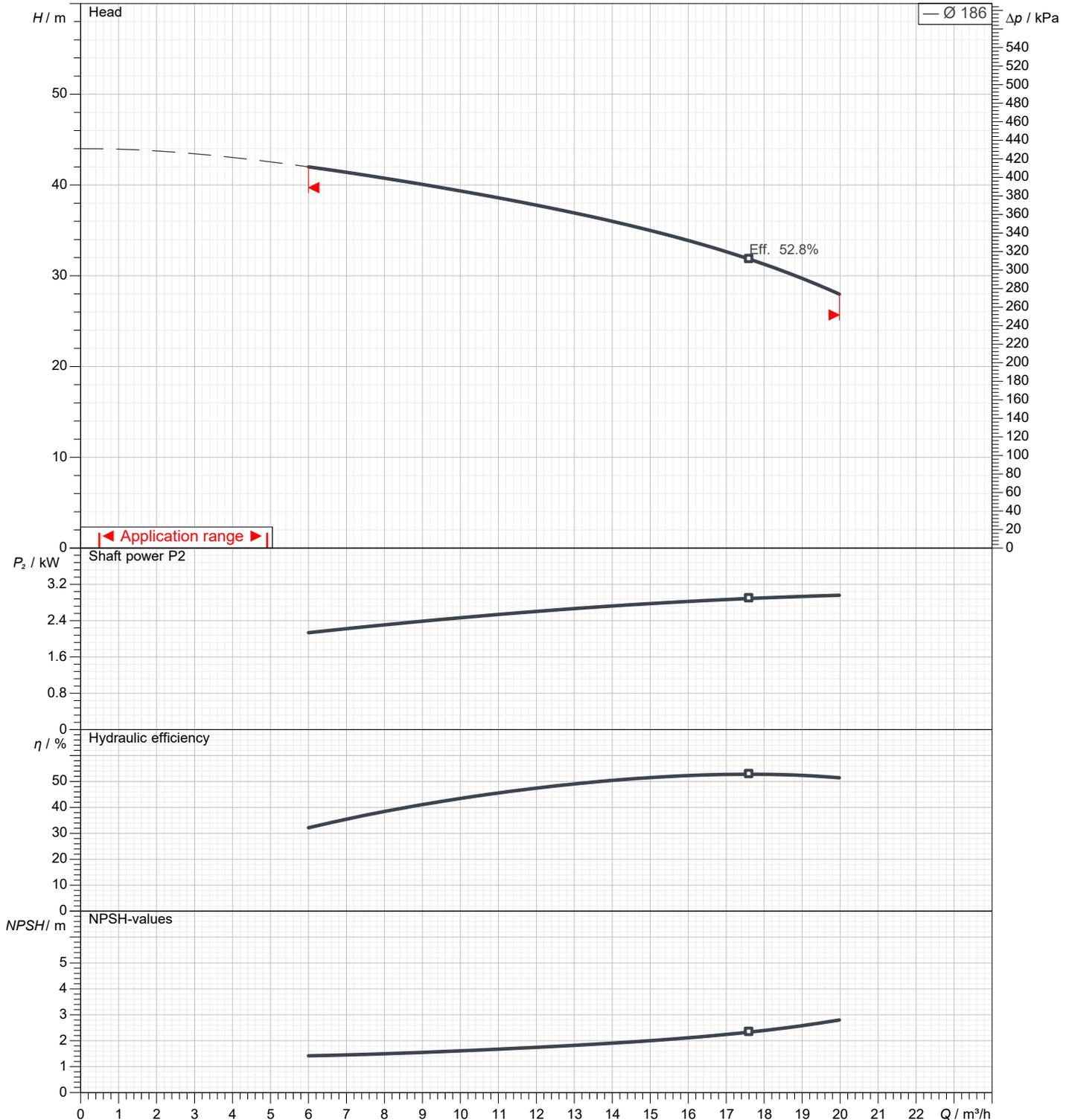
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

Pump

Operating flow	m³/h		Frequency	Hz	50
Operating head	m		Number of poles		2
Impeller diameter designed	mm	186	Speed	1/min	2900

Test standard: ISO 9906:2012 - Grade3B

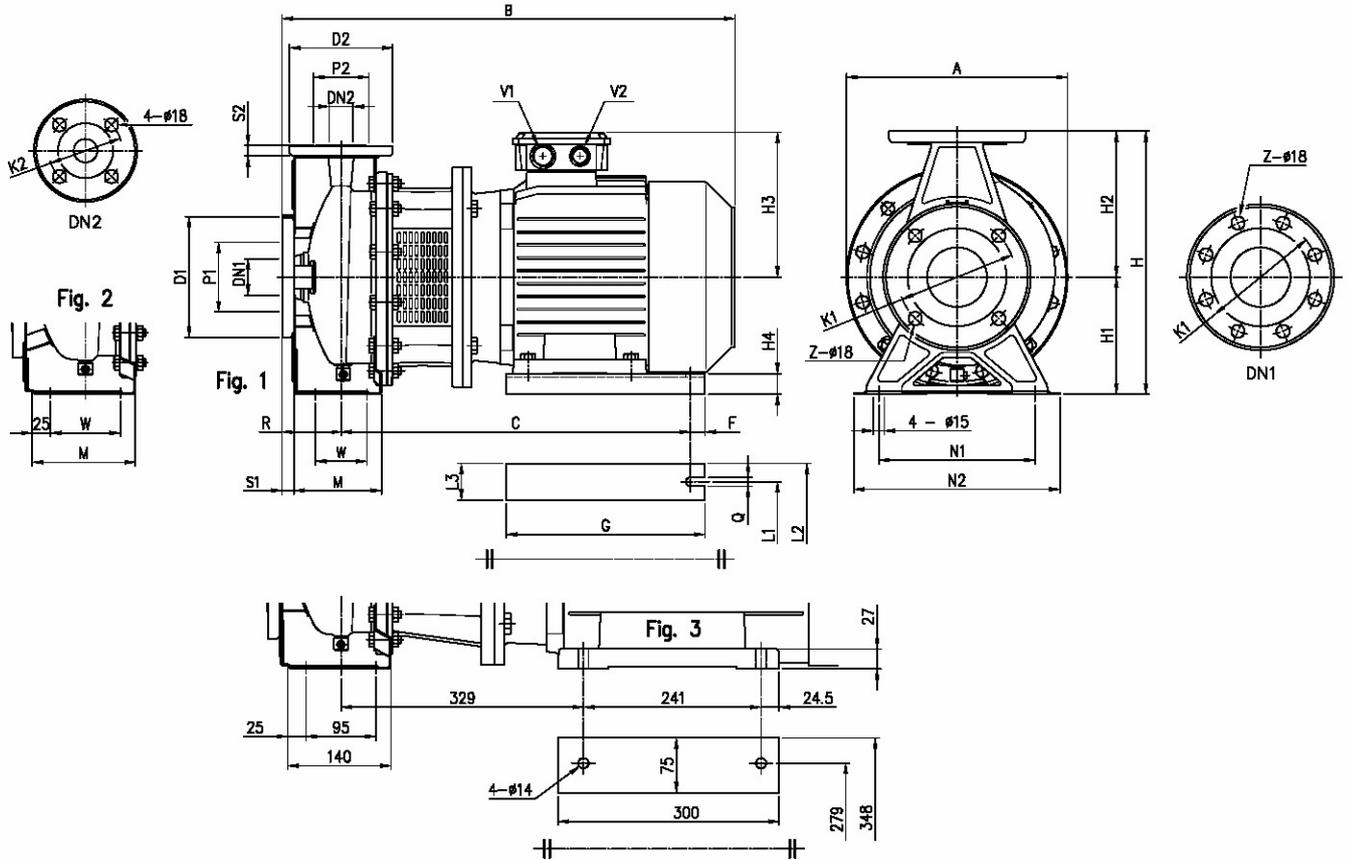
Water; 20°C; 998.3kg/m³; 1mm²/s



Dimensions

Pump Name 3LS 32-200/3.0

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail



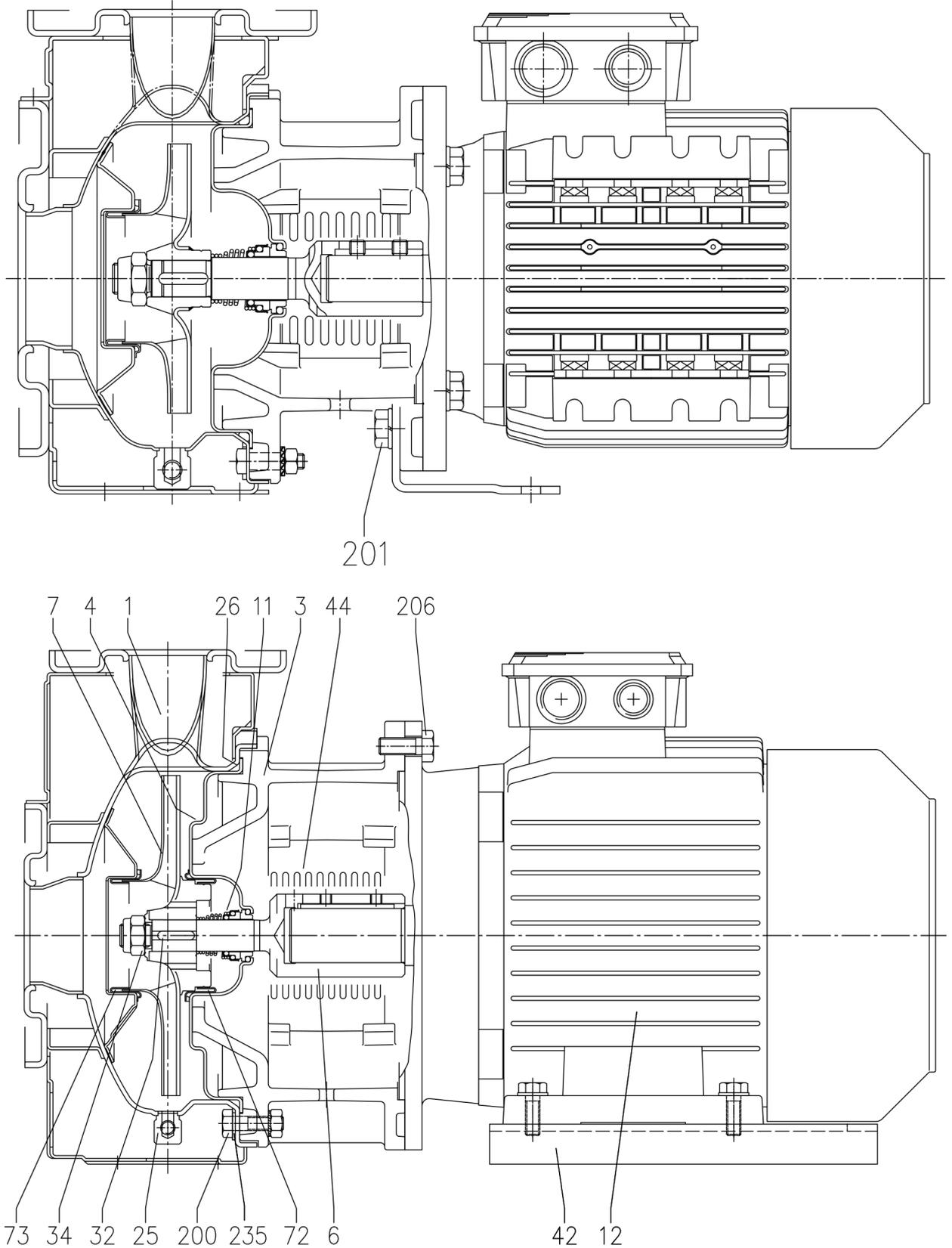
Dimensions in		mm		
1	A	296	L1	160
2	B	528	L2	202
3	C	205	L3	42
4	Dia D1	165	M	119
5	Dia D2	140	N1	190
6	Dia DN1	50	N2	240
7	Dia DN2	32	R	80
8	Dia K1	125	S1	16
9	Dia K2	100	S2	14
10	Dia P1	95	W	70
11	Dia P2	75	Weight P&M	46,9 kg
12	H	340	Z	4
13	H1	160		
14	H2	180		
15	H3	155		

(1/3)

Construction

Pump Name 3LS 32-200/3.0

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail



(2/3)

Construction

Pump Name 3LS 32-200/3.0

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail

N°	PART NAME	MATERIAL		DIMENSIONS	STANDARD	Q.TY
		3S	3LS			
1	Casing	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
3	Motor bracket	Cast iron EN-GJL-200-EN 1561				1
3 A	Adapter ring	Cast iron EN-GJL-200-EN 1561				1
4	Casing cover	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
6	Coupling - Part in contact with liquid	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
7	Impeller	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L) [9]			1
11	Mechanical seal	Carbon/Ceramic/NBR	SiC/SiC/FPM	[7]		1
12	Motor	-				1
25	Draing plug	EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1
26	"O" ring	NBR [8]	FPM	32-125, 40-125	158.11x5.34	OR 6625
				32-160, 40-160, 50-125, 65-125	183.52x5.34	OR 6720
				32-200, 40-200, 50-160, 50-200, 65-160, 65-200	227.96x5.34	OR 6895
32	Key	EN 1.4401 (AISI 316)		6x6x25	UNI 6604	1
				8x7x30		
34	Impeller nut	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	Up to 11kW	UNI 7474	1
				50-200/15		
				15 kW and above		
42	Foot	Aluminium / Galvanized steel				[2]
44	Protection	EN 1.4301 (AISI 304)			EBARA DRAWING	1
72	Casing ring	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
73	Casing ring (not for 65 version)	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
200	Screw	Stainless steel A2 70 class ISO 3506/1		M 8x30	UNI 5739	8
				M 10x35	UNI 5739	[4]
201	Screw	Galvanized Steel 8.8 strenght class ISO 898/1		M 10x16	UNI 5739	[5]
206	Screw for bracket	Galvanized Steel 8.8 strenght class ISO 898/1		M 10x40	UNI 5739	4
206-2	Screw adapter ring	Galvanized Steel 8.8 strenght class ISO 898/1			UNI 5931	4
235	Washer	Stainless steel A2 70 class ISO 3506/1		M 8.4x17	UNI 6592	8
				M 10.5x21	UNI 6592	[4]
244	Pin	-	EN 1.4301 (AISI 304)		UNI 5931	4

[1] Only for version 65-125/5.5 and 65-125/7.5

[2] Quantity =0 for version 65-200/22

Quantity =1 for version for 32, 40, 50, 65-125/5.5, 65-125/7.5, 65-160/11, 65-160/15, 65-200/15, 65-200/18.5

Quantity =2 for version for 65-125/4, 65-160/7.5, 65-160/9.2

[3] Only for version 32-200, 40-200, 50-160, 50-200

[4] Quantity =10 for 32-160, 40-160, 50-125, 65-125

Quantity =12 for 32-200, 40-200, 50-160, 50-200, 65-160, 65-200

[5] Only for version 32-125/1.1, 32-160/1.5, 32-160/1.5, 32-160/2.2, 40-125/1.5, 40-125/2.2, 50-125/2.2

[6] Only for 65-160/15, 65-200

[7] Special version: see CONSTRUCTION 3

[8] PM for H-HS-HW-HSW version

EPDM for E version, Q1AEGG, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG

U3U3EGG not available for 65-150/15 and 65-200

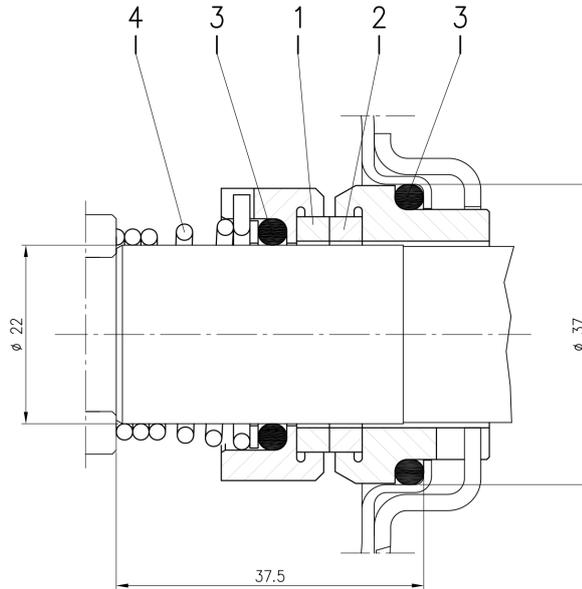
[9] CF8M – EN 1.4408 (AISI316) material for 65-125 up to 65-200

(3/3)

Construction

Pump Name 3LS 32-200/3.0

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail



Version	Pump type	Material			
		1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
L $\phi 22$	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)

Technical Data

Pump Name

3LS 65-160/7.5

Customer	Date	2024-10-23	Company
Contact	Item no.		Issued by
Phone	Project		Phone
E-mail	Project ID		E-mail

Requested data

1	Pump type	CENTRIFUGAL PUMPS	Fluid	Water	
2	Number of pumps / Reserve	1 / 0	Liquid temperature	°C	20
3	Flow	m³/h	Kin. viscosity	mm²/s	1.005
4	Head	m	Vapour pressure	kPa	2.34
5	Geodetic head	m	PH value		
6	Inlet pressure (pin)	kPa	Density	kg/m³	998.3
7	Available system NPSH		Solids	Weight %	0
8	Ambient temperature	°C	20		

Pump

9	Pump Name	3LS 65-160/7.5	Frequency	Hz	50		
10	Design	CENTRIFUGAL PUMPS	Installation type		STANDARD		
11	Manufacturer	EPE	Impeller Diameter	Max.	mm	153	
12	Speed	1/min		2900	Designed	mm	153
13	No. of Stage	1		Min.	mm	153	
14	Connection	Suction side	DIN 2532	Flow	Operating	m³/h	
15	Connection	Discharge side	DIN 2532		Max-	m³/h	126
16	Max Working Pressure	kPa	1000		Min-	m³/h	42
17	Shut-off head	kPa	313.42	Head	Operating	m	
18	Total weight	kg	See the table of "Dimensions".		- (Qmax.)	m	14.2
19	Shaft power	kW			- (Qmin.)	m	29.9
20				Max. Shaft Power at max. impeller	kW	7.50	
21	Required pump NPSH	m		Efficiency	%		

Materials

22	Impeller	CF8M		
23	Casing	AISI 316L		
24	Shaft	AISI 316L		
25				
26				
27				

Motor

28	Manufacturer	LAFERT	Insulation class	F		
29	Type	TEFC_3S65-160/7.5_400_Three Phase	Phases	3~		
30	Specific design	IE3 / 50 Hz / Pole pairs 1	Frame size	132 S		
31	Rated power	kW	7.5	Weight	kg	53
32	Number of poles	2	Electric voltage	V	400	
33	Speed	1/min	2900	Electric current	A	13.1
34	Degree of protection					
35						

Remarks

Performance Curve

Pump Name

3LS 65-160/7.5

Customer	Date	2024-10-23	Company
Contact	Item no.		Issued by
Phone	Project		Phone
E-mail	Project ID		E-mail

Requested data

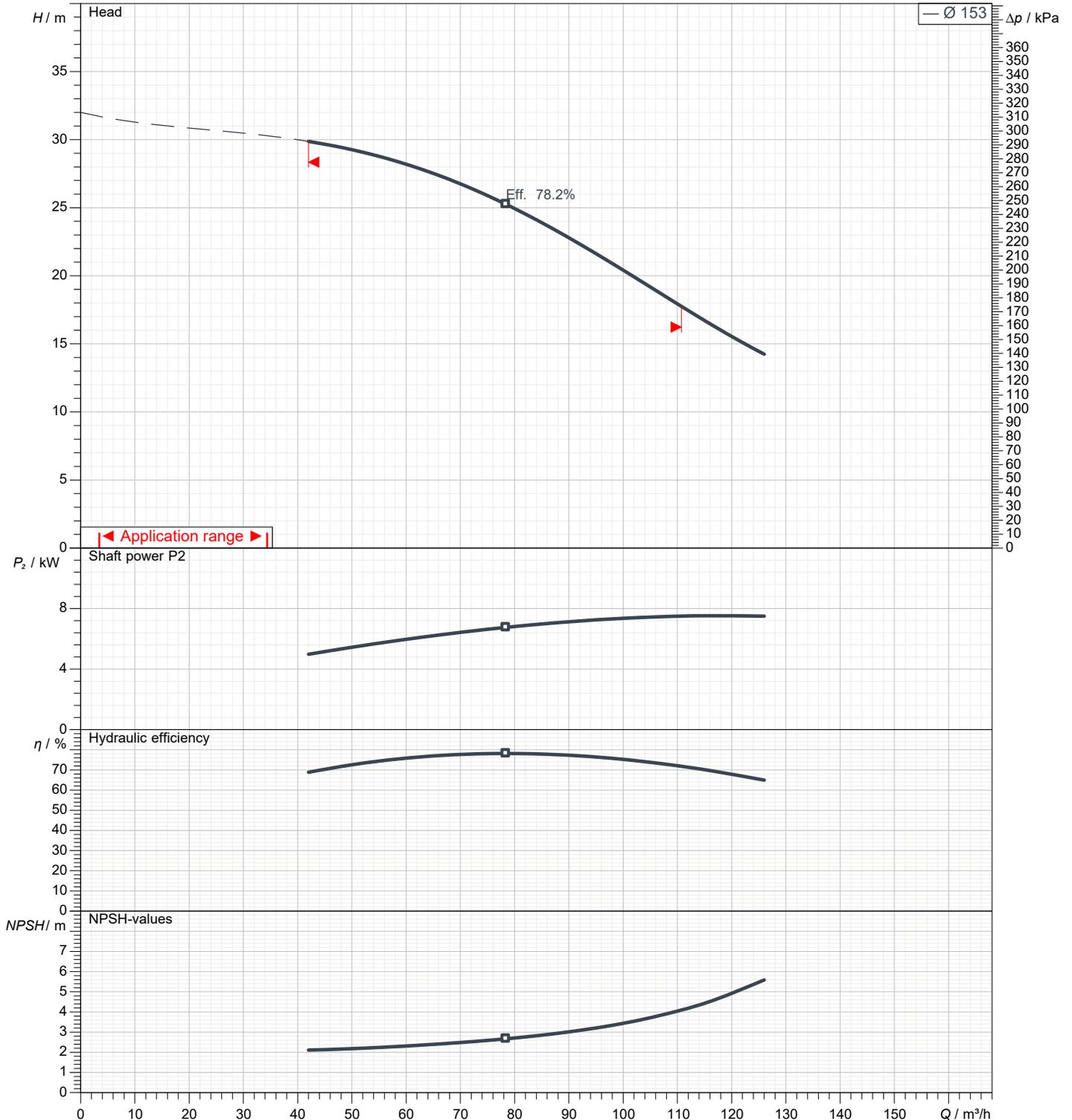
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

Pump

Operating flow	m³/h		Frequency	Hz	50
Operating head	m		Number of poles		2
Impeller diameter designed	mm	153	Speed	1/min	2900

Test standard: ISO 9906:2012 - Grade3B

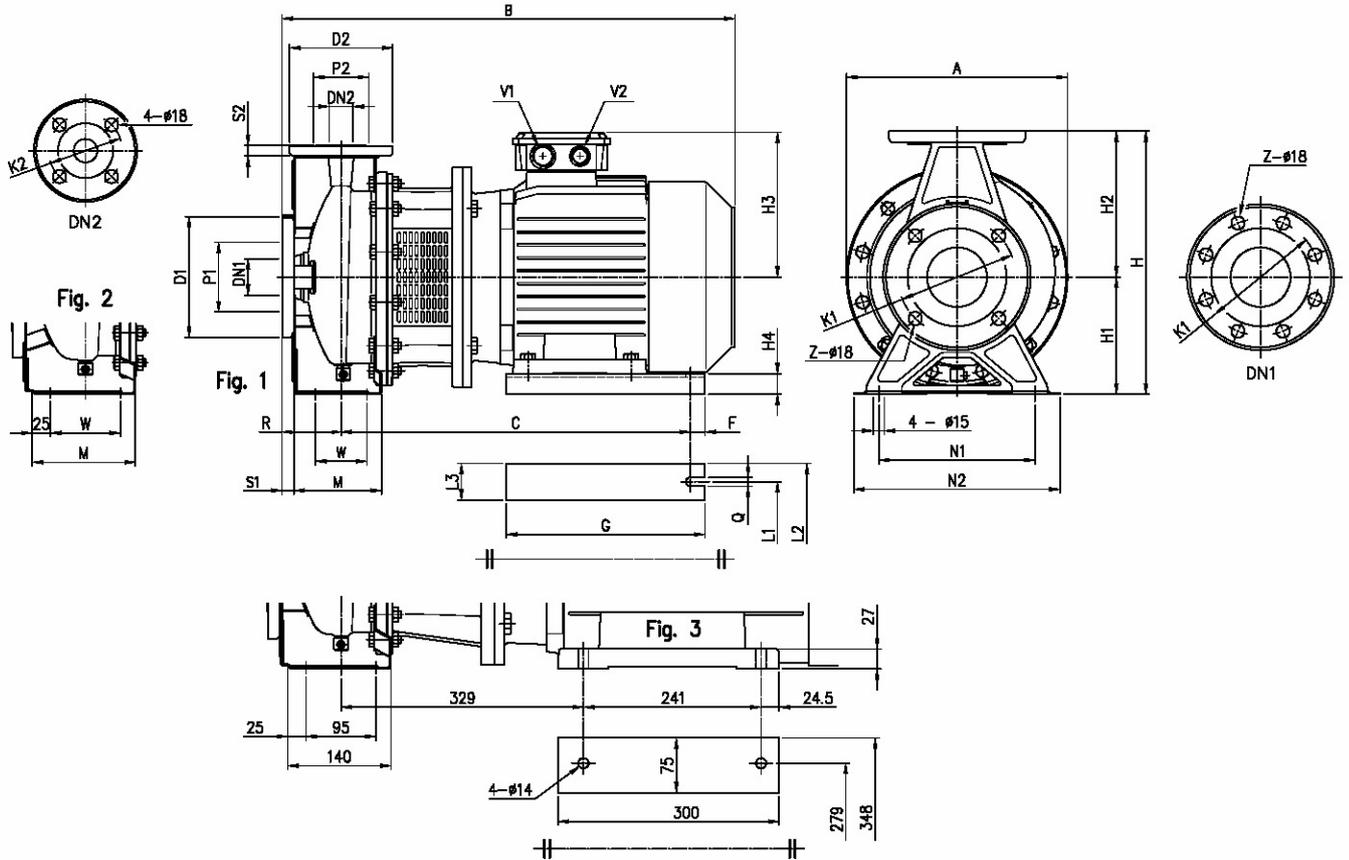
Water; 20°C; 998.3kg/m³; 1mm²/s



Dimensions

Pump Name 3LS 65-160/7.5

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail



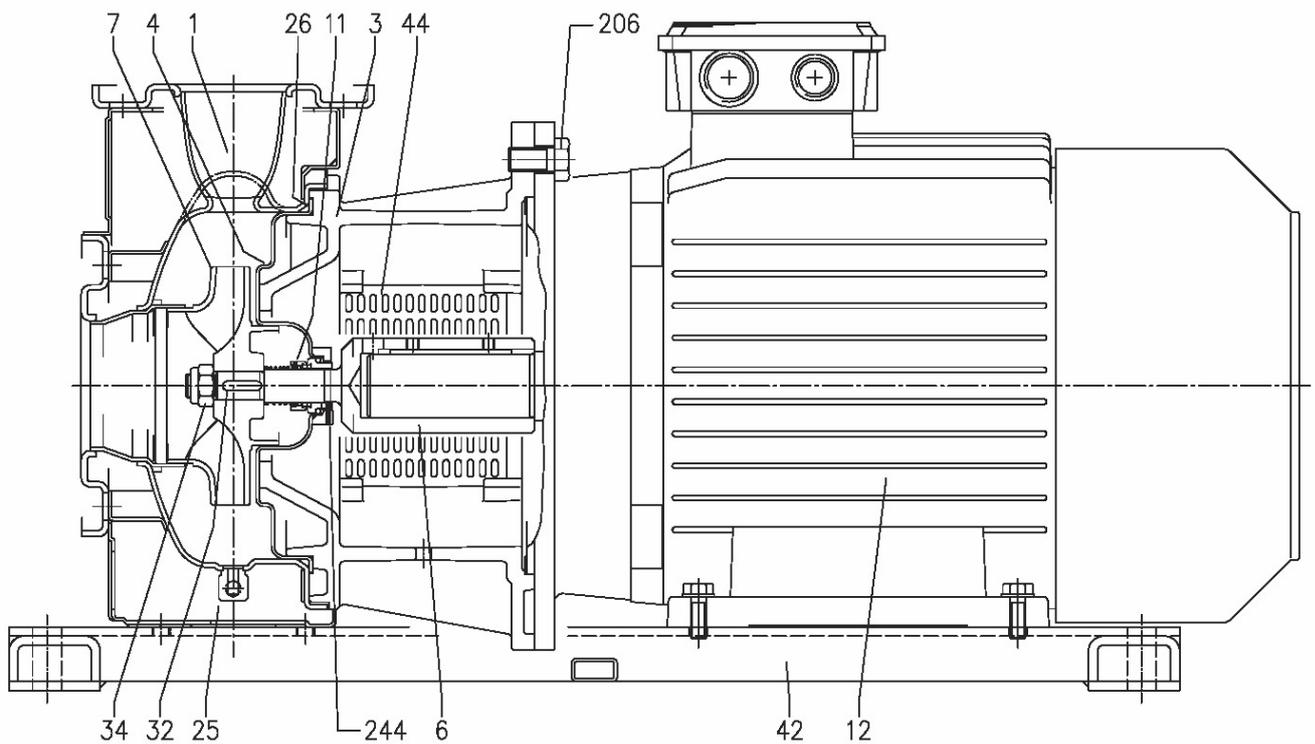
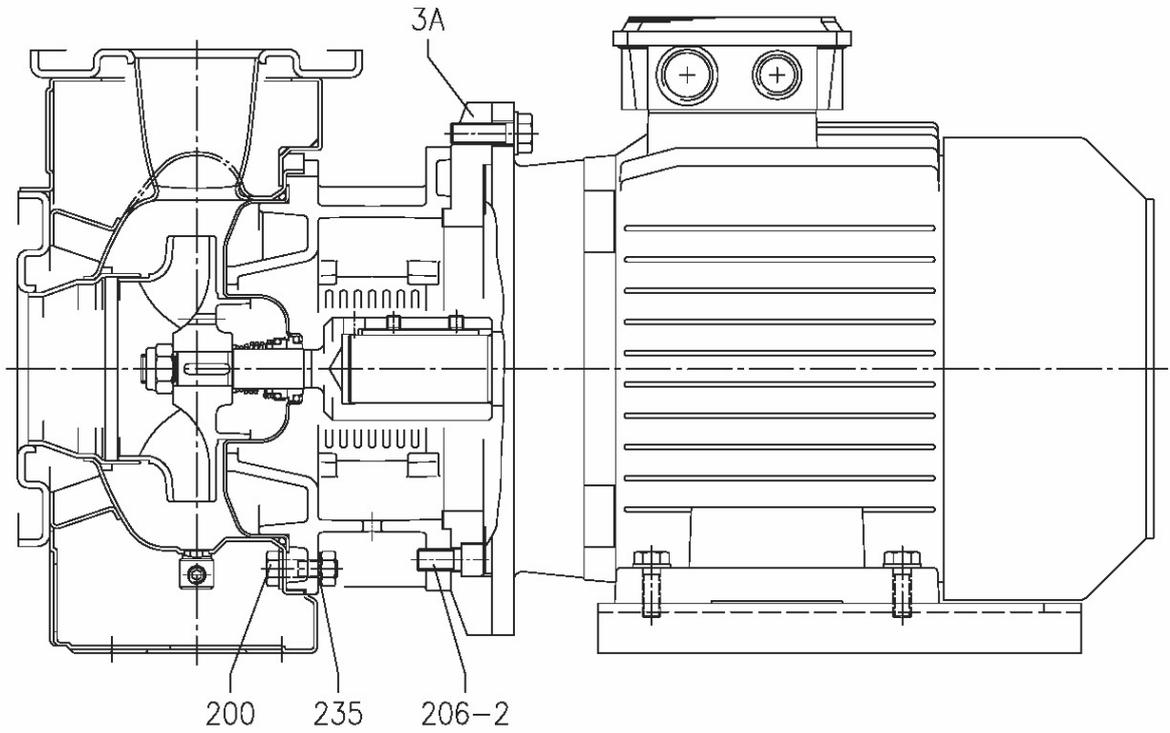
Dimensions in		mm				
1	A	300	H2	200	W	95
2	B	627	H3	198	Weight P&M	82.4 kg
3	C	479	H4	28	Z	8
4	Dia D1	200	L1	216	Z option	4
5	Dia D2	185	L2	266		
6	Dia DN1	80	L3	50		
7	Dia DN2	65	M	140		
8	Dia K1	160	N1	212		
9	Dia K2	145	N2	280		
10	Dia P1	134	Q	12		
11	Dia P2	115	R	100		
12	F	15	S1	18		
13	G	270	S2	16		
14	H	360	V1	[M32x1].5		
15	H1	160	V2	[M32x1].5		

(1/3)

Construction

Pump Name 3LS 65-160/7.5

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail



(2/3)

Construction

Pump Name 3LS 65-160/7.5

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail

N°	PART NAME	MATERIAL		DIMENSIONS	STANDARD	Q.TY	
		3S	3LS				
1	Casing	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1	
3	Motor bracket	Cast iron EN-GJL-200-EN 1561				1	
3 A	Adapter ring	Cast iron EN-GJL-200-EN 1561				1	
4	Casing cover	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1	
6	Coupling - Part in contact with liquid	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1	
7	Impeller	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L) [9]			1	
11	Mechanical seal	Carbon/Ceramic/NBR	SiC/SiC/FPM	[7]		1	
12	Motor	-				1	
25	Draing plug	EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1	
26	"O" ring	NBR [8]	FPM	158.11x5.34	OR 6625	1	
				183.52x5.34	OR 6720		
				227.96x5.34	OR 6895		
32	Key	Up to 11 kW 15 kW and above	EN 1.4401 (AISI 316)		UNI 6604	1	
			6x6x25	8x7x30			
34	Impeller nut	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	M16x1.5	UNI 7474	1	
				M18x1.5			
				M20x1.5			
42	Foot	Aluminium / Galvanized steel				[2]	
44	Protection	EN 1.4301 (AISI 304)			EBARA DRAWING	1	
72	Casing ring	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1	
73	Casing ring (not for 65 version)	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1	
200	Screw	32-125, 40-125 50-200, 65-125, 65-160, 65-200	Stainless steel A2 70 class ISO 3506/1		M 8x30	UNI 5739	8
			M 10x35	UNI 5739	[4]		
201	Screw		Galvanized Steel 8.8 strenght class ISO 898/1	M 10x16	UNI 5739	[5]	
206	Screw for bracket		Galvanized Steel 8.8 strenght class ISO 898/1	M 10x40	UNI 5739	4	
206-2	Screw adapter ring	[1]	Galvanized Steel 8.8 strenght class ISO 898/1		UNI 5931	4	
235	Washer	32-125, 40-125 50-200, 65-125, 65-160, 65-200	Stainless steel A2 70 class ISO 3506/1		M 8.4x17	UNI 6592	8
			M 10.5x21	UNI 6592	[4]		
244	Pin	[6]	-	EN 1.4301 (AISI 304)	UNI 5931	4	

[1] Only for version 65-125/5.5 and 65-125/7.5

[2] Quantity =0 for version 65-200/22

Quantity =1 for version for 32, 40, 50, 65-125/5.5, 65-125/7.5, 65-160/11, 65-160/15, 65-200/15, 65-200/18.5

Quantity =2 for version for 65-125/4, 65-160/7.5, 65-160/9.2

[3] Only for version 32-200, 40-200, 50-160, 50-200

[4] Quantity =10 for 32-160, 40-160, 50-125, 65-125

Quantity =12 for 32-200, 40-200, 50-160, 50-200, 65-160, 65-200

[5] Only for version 32-125/1.1, 32-160/1.5, 32-160/1.5, 32-160/2.2, 40-125/1.5, 40-125/2.2, 50-125/2.2

[6] Only for 65-160/15, 65-200

[7] Special version: see CONSTRUCTION 3

[8] PM for H-HS-HW-HSW version

EPDM for E version, Q1AEGG, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG)

U3U3EGG not available for 65-150/15 and 65-200

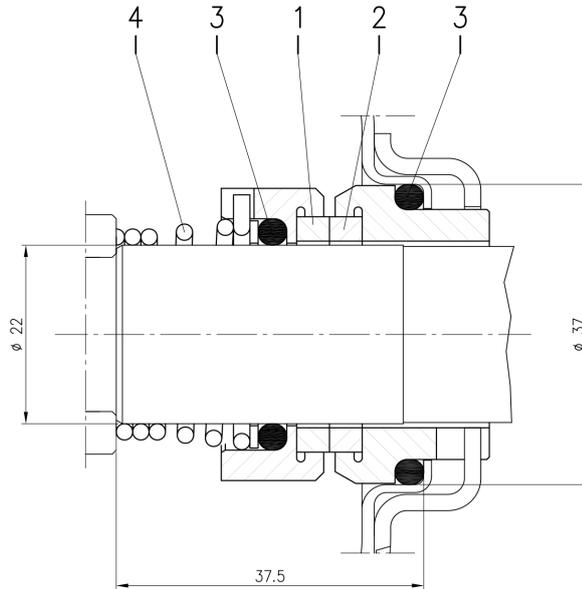
[9] CF8M – EN 1.4408 (AISI316) material for 65-125 up to 65-200

(3/3)

Construction

Pump Name 3LS 65-160/7.5

Customer	Date 2024-10-23	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail



Version	Pump type	Material			
		1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
L $\phi 22$	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)

PU

STÜBBE

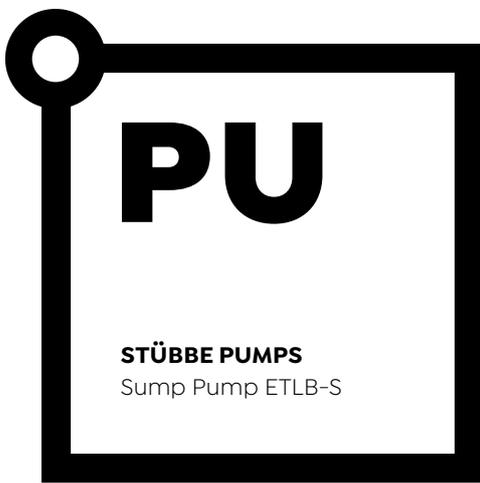
PUMPS FOR EVERY
TASK

STÜBBE VERTICAL PUMP

SUMP PUMP ETLB-S
WITH PROTECTION AGAINST DRY RUNNING

- Delivery volume up to 104 m³/h
- Delivery height up to 42 m
- Drive rating 0.37–7.5 kW
- Temperature of the medium up to 100 °C
- Immersion depth up to 495 mm
- Suction tube extension up to 1500 mm





FEATURES

- vertical single-stage immersion pump in block design
- equipped with a freewheeling shaft for protection against dry running
- broad range of applications through diverse construction and material combinations
- excellent operating reliability even under extreme operating conditions
- high availability due to simple modular design in the immersion depths 275/295, 375/395, 475/495
- special mounting plate and connection designs available on request
- optional design with dry set-up
- Impeller fastened on the motor shaft independent of the rotational direction
- Screwless plastic spiral housing made of PP or PVDF
- Sealing elements: EPDM, FPM
- Corrosion protection through 2-component protective paint

PRIMING

The pump is not self-priming.

ACTUATOR

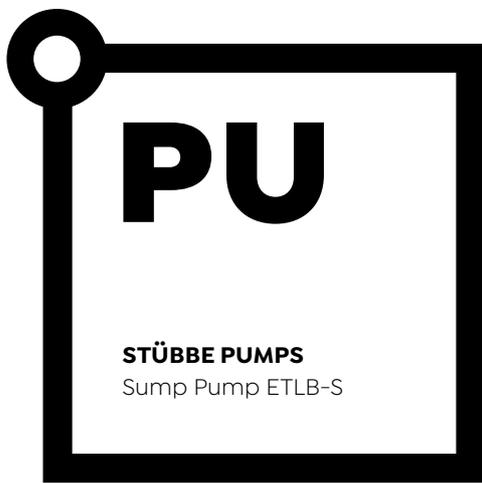
- Three-phase motor manufactured by STÜBBE with 0.37–7.5 kW, extended shaft and reinforced bearing.
- vEquipped with PTC for motor protection as a standard

TESTS

Hydraulic acceptance test in accordance with DIN EN ISO 9906

ATTENTION

Observe the installation dimensions and filling heights during planning and installation to ensure the fault-free operation of the immersion pumps.



APPLICATION

For transporting neutral and aggressive medium types such as acids, lyes, solutions with solid particles in open or closed depressurized containers or pump sumps, provided the pump components in contact with the medium are resistant at the operating temperature according to the STÜBBE resistance list.

USE

- Chemical industry
- Water treatment
- Electroplating plants
- Printed circuit board industry

DESIGN

- vertical single-stage immersion pump, not self-priming
- protected against running dry through bearing-free design

SIZE

ETLB-S 15-60 to ETLB-S 80-200

PERFORMANCE DATA

see characteristics (pg. 10) and motor ratings (pg. 4)

TECHNICAL DESIGN

- Immersion depth up to 495 mm
- Material: PP, PVDF
- Screwless thermoplastic spiral casing
- Closed impeller, fastened on the motor shaft independent of the rotational direction
- Stainless steel shaft encapsulated by thick-walled plastic protection tube
- Shaft lead-through at the mounting plate equipped with lip seals
- Corrosion protection through 2-component protective paint

ACCESSORIES

- Pump monitor: Pressure and temperature sensor PTM
- Suction strainer
- Suction tube extension of 150–1500 mm in 50 mm increments for draining containers

PTC RESISTOR PROTECTION

The temperature sensors can be used for protecting the motor coil. They abruptly change their resistance value when the thermal class of the motor is reached (155 °C). Connect to only one trigger unit.

PRESSURE CONNECTION

- Socket union end according to DIN 8063
- optionally with pressure connection bend with socket union end according to DIN 8063
- optionally with PP/steel flange DIN or ANSI

SUCTION CONNECTION

- Suction socket (standard)
- optionally with suction strainer on the pump housing
- optionally with suction tube extension for draining containers

ACTUATOR

- manufactured by STÜBBE
- IEC three-phase motor with extended shaft
- reinforced motor bearings
- Power range 0.37–7.5 kW
- Size IM71–IM 132
- Corrosion protection through 2-component protective paint
- Rotational speed: 1450/1750 rpm, 50/60 Hz
- Rotational speed: 2900/3500 rpm, 50/60 Hz
- Protection type: IP 55
- Protection cap
- PTC resistor

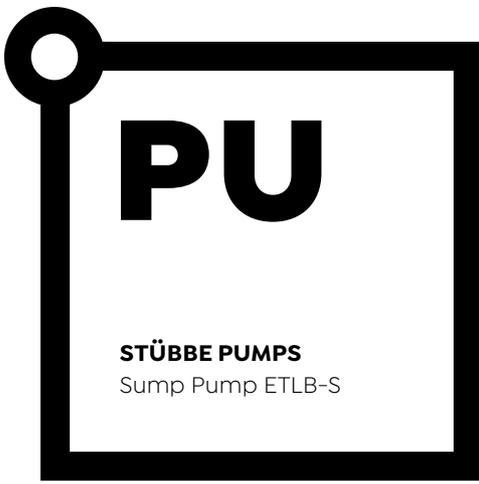
FLUID TEMPERATURE

- PP: up to 80 °C
- PVDF: up to 100 °C

The temperature limits are maximum values and depend on the sealing material and feed pressure used. Depending on the medium and concentration, additional reduction factors must be taken into account.

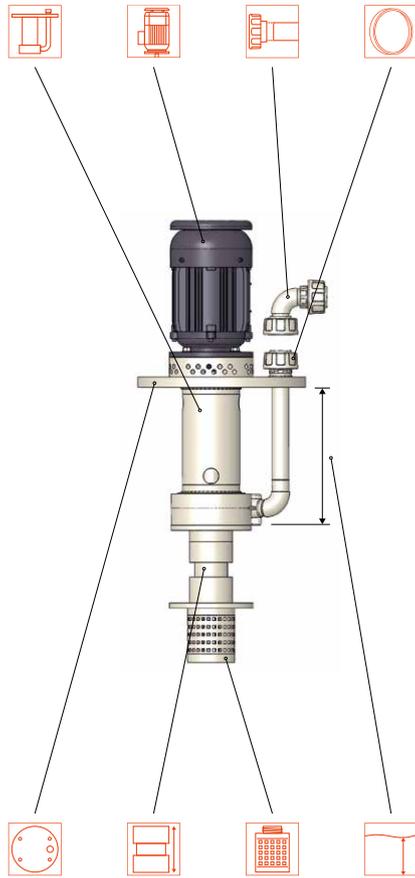
VISCOSITY

Fluids up to approx. 160 mm²/s (kinematic viscosity)

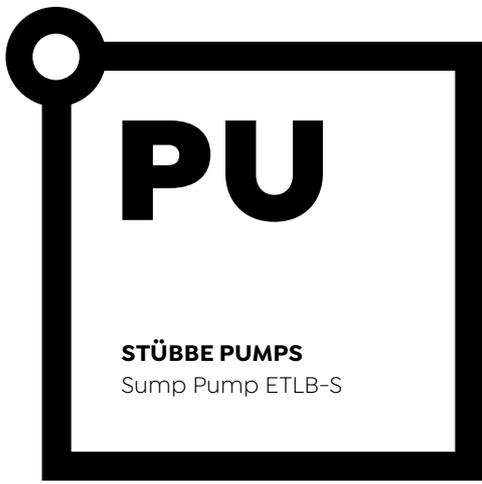


✓ STANDARD
• OPTIONAL/
ON REQUEST

VARIANTS



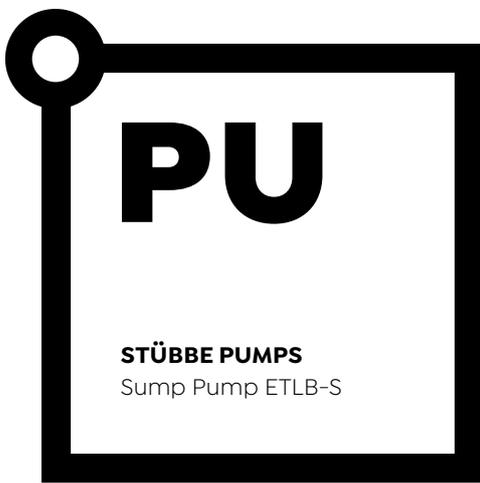
	15-60	20-100	25-125		32-125	32-160	40-125	40-160	50-125	80-200
			S		L					
Delivery height, delivery volume (H₂O 2900 rpm 50 Hz / *H₂O 1450 rpm 50 Hz)										
H _{max} (m) H ₂ O	6.5	15	20	23	27	42	27	42	31	17*
Q _{max} (m ³ /h) H ₂ O	2.9	4.9	10	13	28	31	39	48	64	104*
Housing										
PP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PVDF	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Connection										
Screw connection DIN 8063 socket	DN 15	DN 20	DN 25	DN 25	DN 32	DN 32	DN 40	DN 40	DN 50	DN 80
Seal										
EPDM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FPM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Immersion depth										
mm	275	275	275	275	275	275	275	275	295	295
mm	375	375	375	375	375	375	375	375	395	395
mm	475	475	475	475	475	475	475	475	495	495
Mounting plate										
Round	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rectangular	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special geometry	•	•	•	•	•	•	•	•	•	•
Motor (Hz)										
2900/3500 rpm 50/60 Hz	0.37 kW	✓	✓	✓	✓					
	0.55 kW	✓	✓	✓	✓					
	0.75 kW	✓	✓	✓	✓	✓				
	1.10 kW			✓	✓	✓				
	1.50 kW			✓	✓	✓	✓			
	2.20 kW			✓	✓	✓	✓	✓		
	3.00 kW					✓	✓	✓		
	4.00 kW					✓	✓	✓	✓	
	5.50 kW					✓	✓	✓	✓	✓
	7.50 kW						✓	✓	✓	✓
1450/1750 rpm 50/60 Hz	0.37 kW	✓	✓	✓	✓					
	0.55 kW	✓	✓	✓	✓					
	0.75 kW	✓	✓	✓	✓	✓				
	1.10 kW				✓	✓				
	1.50 kW				✓	✓	✓			
	2.20 kW				✓	✓	✓	✓		
	3.00 kW					✓	✓	✓		
	4.00 kW					✓	✓	✓	✓	
	5.50 kW					✓	✓	✓	✓	✓
	7.50 kW						✓	✓	✓	✓



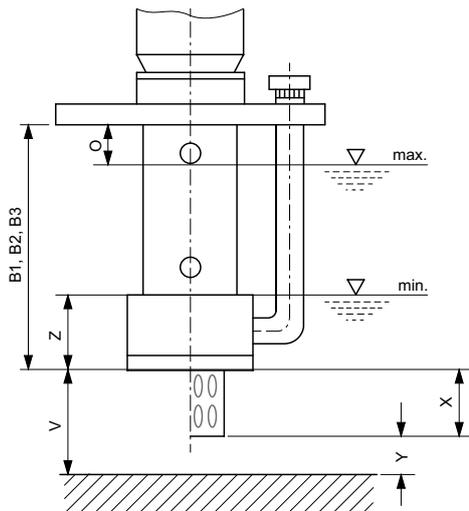
✓ STANDARD
• OPTIONAL/
ON REQUEST

ACCESSORIES

		15-60	20-100	25-125		32-125	32-160	40-125	40-160	50-125	80-200
				S	L						
Suction tube extension											
	150-1500 mm in 50 mm increments	•	•	•	•	•	•	•	•	•	•
Suction strainer											
	PP	•	•	•	•	•	•	•	•	•	•
	PVDF	•	•	•	•	•	•	•	•	•	•
Connection											
	Pressure connection bend 90°	Screw connection DIN 8063 socket		•	•	•	•	•	•	•	•
		Flange DIN EN 1092		•	•	•	•	•	•	•	•
		Flange ANSI		•	•	•	•	•	•	•	•
	Flange adapter 180°	Flange DIN EN 1092						•	•	•	•
		Flange ANSI						•	•	•	•
	Union end	DIN ISO adapter		•	•	•	•	•	•	•	•
Special version											
	Anti-foaming system	•	•	•	•	•	•	•	•	•	•
	For dry installation	•	•	•	•	•	•	•	•	•	•
Paintwork											
	Standard RAL 7016	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Other RAL colors	•	•	•	•	•	•	•	•	•	•
	Special paintwork	•	•	•	•	•	•	•	•	•	•
Impeller											
	Closed impeller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Semi-open impeller	•	•	•	•	•	•	•	•	•	•
	PE impeller		•	•	•	•	•	•	•	•	•



PUMP PRIMING BEHAVIOR



- For problem-free installation of the STÜBBE immersion pumps, observe the installation dimensions O, Z, V and Y listed in the dimension table for planning and installation!
- The dimensions O, Z, V and Y are minimum dimensions.
- If these minimum dimensions are not adhered to, this may result in reduced capacity, vibrations and/or damage to the pump.
- Whenever the container has been emptied, fill the container above the minimum fluid level before restarting the pump unit.
- Adhere to the min. covering area »Z« of the pump housing prior to starting the pump unit!
- For higher operating temperatures, observe the vapor pressure of the fluid and increase »Z«, if required!

MAX. FLUID LEVEL

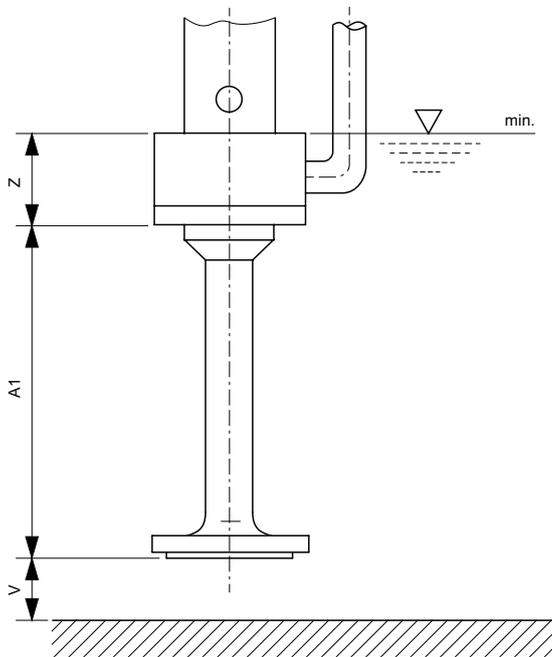
- the maximum permissible fluid level
- top switching point with level control

MIN. FLUID LEVEL

lowest permissible fluid level when activating the pump

BOTTOM SWITCHING POINT WITH LEVEL CONTROL

- without suction tube extension: $V + Z$
- with suction tube extension: $V + 50 \text{ mm}$

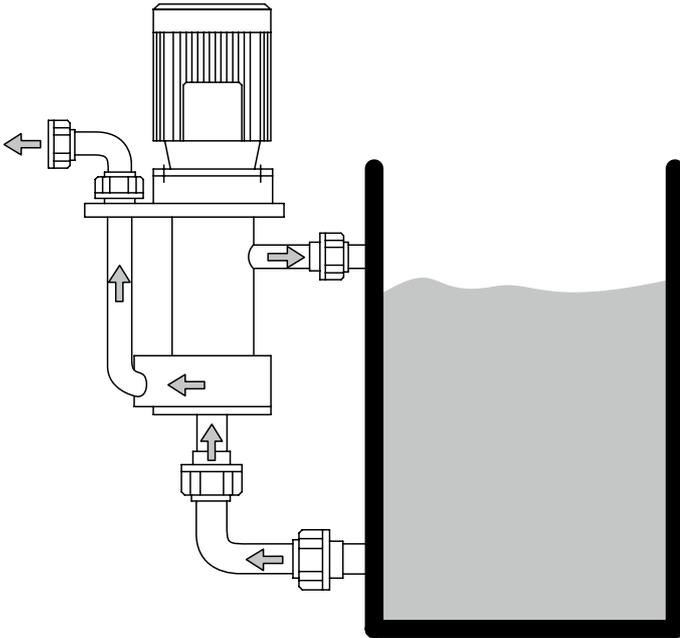


A1: available from 150–1500 mm in 50 mm increments

PU

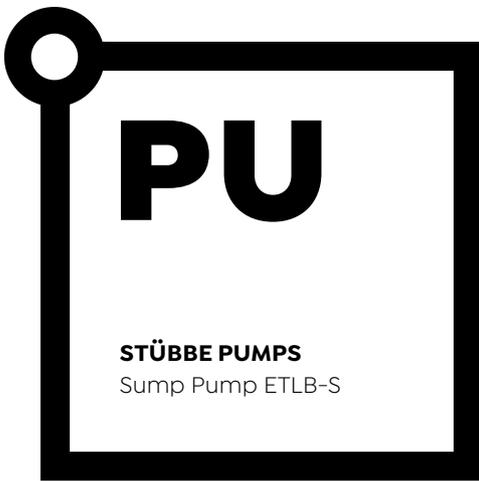
STÜBBE PUMPS
Sump Pump ETLB-S

SPECIAL VERSION



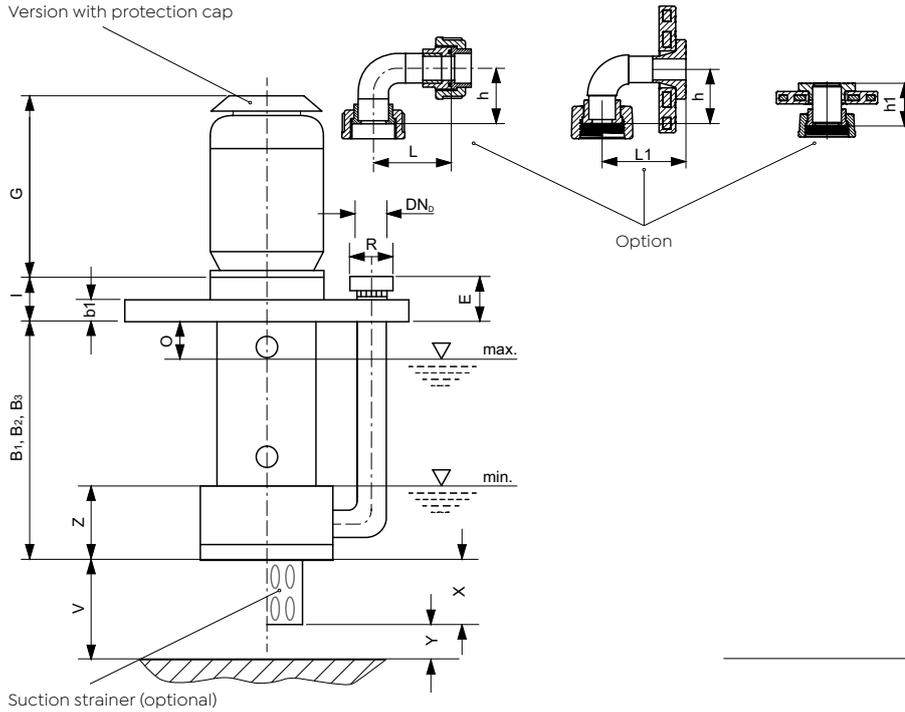
ETLB-S PUMPS FOR DRY INSTALLATION

- In the case of dry installation, the pump is installed outside of the container
- Special version ETLB-ST, information on request



STÜBBE PUMPS
Sump Pump ETLB-S

DIMENSIONS PUMPS/MOTORS



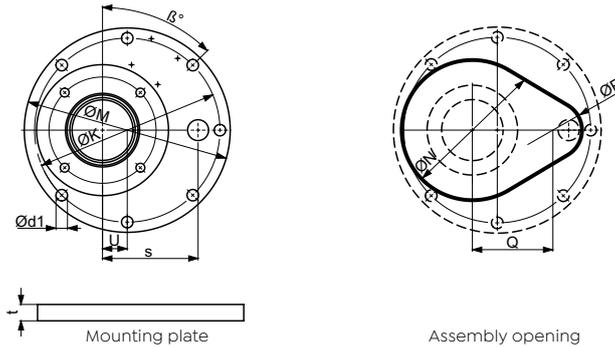
Motor rating (kW)	DN 15-60 ... DN 50-125	DN 80-200	
	G (mm)	G (mm)	
		50 Hz	60 Hz
0.37	233		
0.55	233		
0.75	263		
1.10	279		
1.50	322		
2.20	322		
3.00	397		
4.00	360		
5.50	409	423	475
7.50	409	475	

Type	NW	DIMENSIONS PUMPS															
	DND	B1	B2	B3	b1	E	h	h1	L	L1	I	O	R	Vmin.	Z	X	Ymin.
ETLB-S 15-60	15	275	375	475	20	46	41		49	63	45.5	30	G 1"	20	78.5	125	10
ETLB-S 20-100	20	275	375	475	20	46	46		55	70	58	30	G1 1/4"	20	82	125	10
ETLB-S 25-125	25	275	375	475	20	50	58		67	83	58	30	G1 1/2"	20	70.1	125	10
ETLB-S 32-125	32	275	375	475	30	64	65		75.5	93	68	30	G2"	20	92	155	10
ETLB-S 32-160	32	275	375	475	30	64	65		75.5	93	111	60	G2"	40	120	155	10
ETLB-S 40-125	40	275	375	475	30	69	76.5	70	89	105.5	68	60	G2 1/4"	40	103	155	10
ETLB-S 40-160	40	275	375	475	30	69	76.5	70	89	105.5	111	60	G2 1/4"	40	120	155	10
ETLB-S 50-125	50	295	395	495	30	77.5	94.5	84	112	129	111	60	G2 3/4"	40	140	155	10
ETLB-S 80-200	80	295	395	495	40	118	132	87.5	208	130.5	121	60	G4"	60	168	100	10

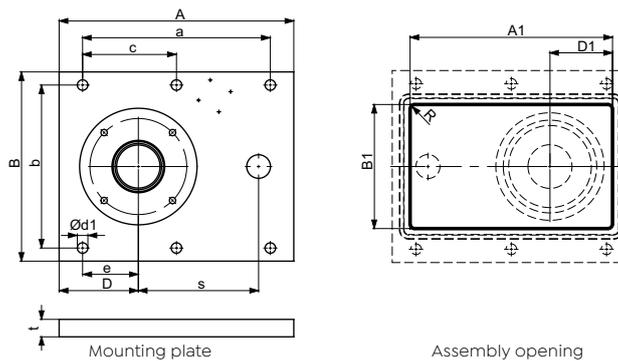
PU

STÜBBE PUMPS
Sump Pump ETLB-S

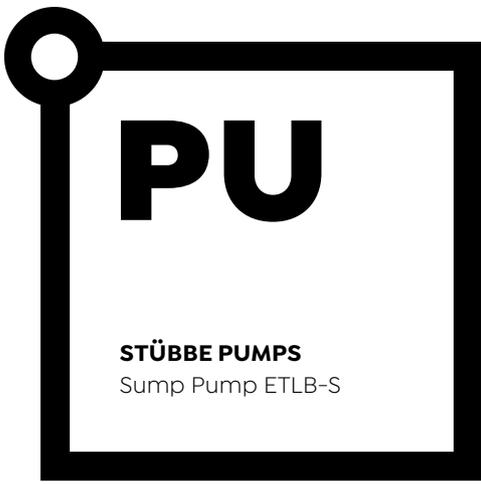
DIMENSIONS MOUNTING PLATE/ ASSEMBLY OPENING



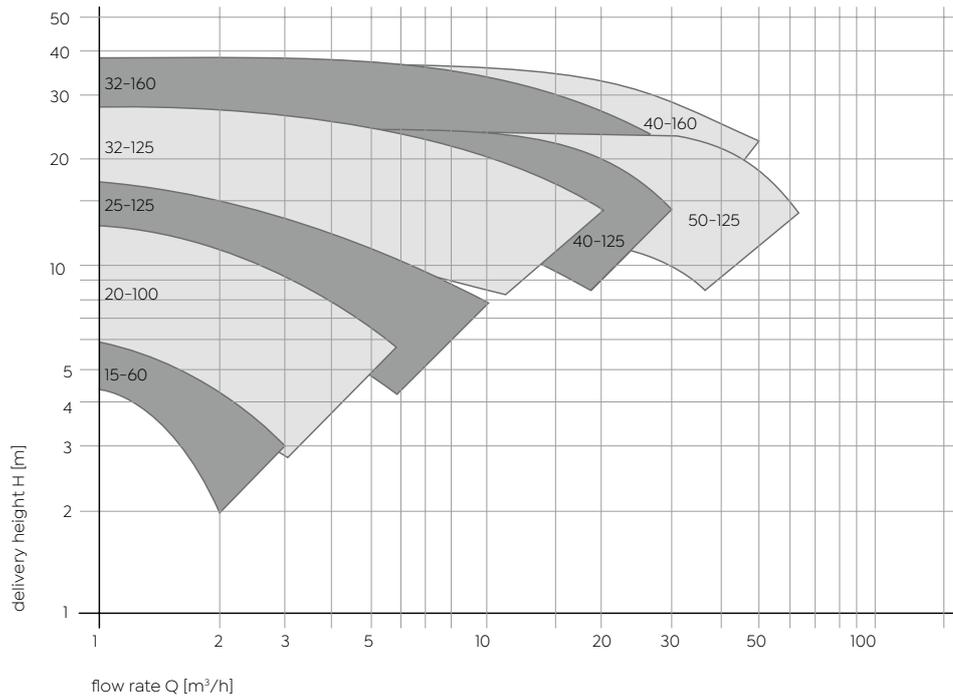
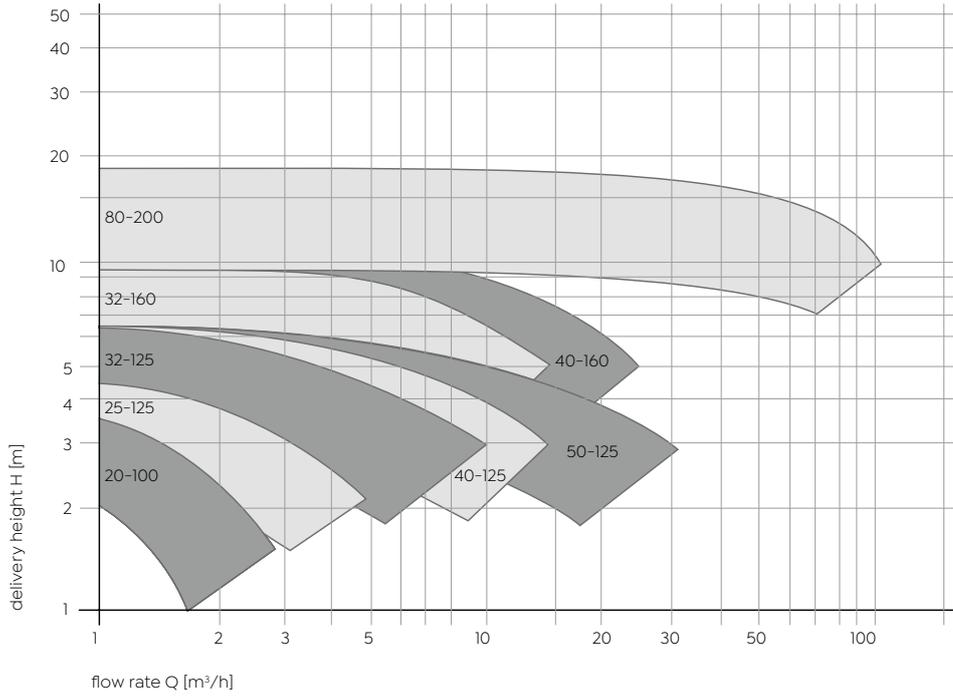
Round Type	Mounting plate							Assembly opening		
	β°	d1	$\varnothing K$	$\varnothing M$	s	t	U	Q	$\varnothing N$	$\varnothing P$
ETLB-S 15-60	45	14	225	250	110	20	30	0	200	0
ETLB-S 20-100	45	14	225	250	116	20	30	97	170	70
ETLB-S 25-125	45	14	270	320	132.5	20	20	112	180	80
ETLB-S 32-125	45	18	350	400	205	30	60	200	210	80
ETLB-S 32-160	45	18	408	440	205	30	60	205	290	90
ETLB-S 40-125	45	18	350	400	205	30	60	200	210	80
ETLB-S 40-160	45	18	408	440	205	30	60	205	290	90
ETLB-S 50-125	45	18	408	440	205	30	60	205	290	90
ETLB-S 80-200	45	18	556	595	290	40	72.5	290	400	110

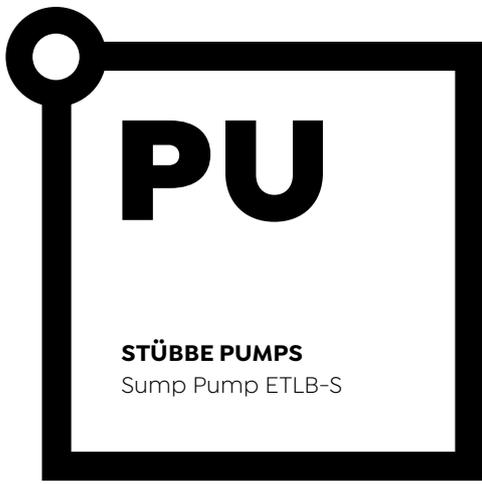


Rectangular Type	Mounting plate										Assembly opening			
	d1	A	B	a	b	c	e	s	t	D	A1	B1	R	D1
ETLB-S 15-60	14	230	230	180	180	0	53	110	20	85	190	130	8	65
ETLB-S 20-100	14	250	250	220	220	0	80.5	116	20	103	215	170	8	85
ETLB-S 25-125	14	280	280	230	230	0	78	132.5	20	110	240	180	8	90
ETLB-S 32-125	18	400	325	320	280	160	86	205	30	135	340	210	8	105
ETLB-S 32-160	18	490	390	440	350	220	151	205	30	185	380	290	10	130
ETLB-S 40-125	18	400	325	320	280	160	86	205	30	135	340	210	8	105
ETLB-S 40-160	18	490	390	440	350	220	151	205	30	185	380	290	10	130
ETLB-S 50-125	18	490	390	440	350	220	151	205	30	185	380	290	10	130
ETLB-S 80-200	18	610	485	500	450	250	168.5	290	40	230	545	400	10	200



CHARACTERISTICS





SOUND PRESSURE LEVEL

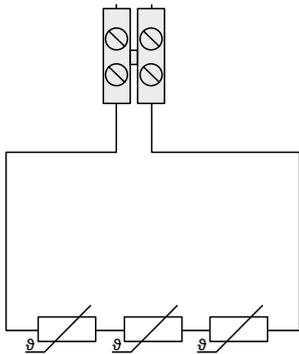
max. sound pressure level LpA for 2-pole motors 50Hz/60Hz in dB(A)

Motor rating (kW)	0.37		0.55		0.75		1.10		1.50		2.20		3.00		4.00		5.50		7.50	
Type	50 Hz	60 Hz																		
ETLB-S 15-60	59	61	59	61	61	63														
ETLB-S 20-100	59	61	59	61	61	63														
ETLB-S 25-125 S	59	61	59	61	61	63	61	63	65	67	65	67								
ETLB-S 25-125 L					61	63	61	63	65	67	65	67								
ETLB-S 32-125									65	67	65	67	68	70	70	72	70	72		
ETLB-S 32-160															70	72	70	72	70	-
ETLB-S 40-125									65	-	65	67	68	70	70	72	70	72	70	-
ETLB-S 40-160															70	-	70	72	70	-
ETLB-S 50-125															70	-	70	72	70	-
ETLB-S 80-200*																	66	68	66	-

* 4 poles

Determination of the sound power by sound intensity measurement (DIN EN ISO 9614-2) and determination of the work-related emission values (sound pressure level) LpA according to DIN EN ISO 11203

PTE RESISTOR CONNECTION (TERMINAL STRIPS IN TERMINAL BOX)



CONNECTION	PTE RESISTOR
polarity	as required
max. testing voltage	2.5 V
Evaluation	only with trigger unit
Trigger temperature	155 °C
Shut-down	3x PTC thermistor

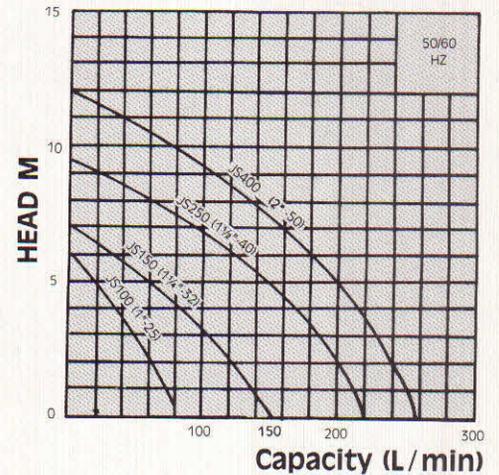
SUBMERSIBLE PUMP. MULTIPURPOSE

Model JS & JST series for various applications, for drainage slightly waste water for portable use or permanent installation equipped with level controller for automatic operation. (For instance JS-400A)

Suitable for the dewatering of cellars, garages, basins pools, ditches, pits, for water transfer, gardening, horticulture, civil engineering, agriculture purposes.

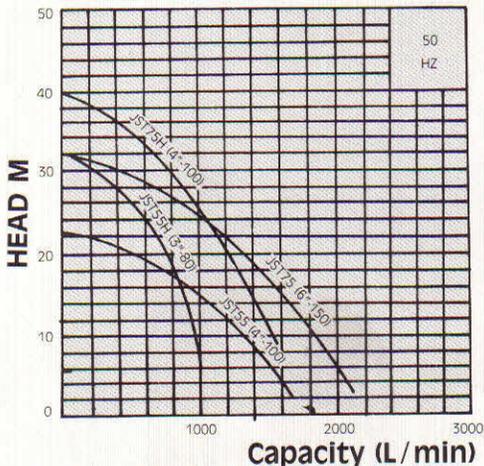
- Motor with built in overload protector.
- Shaft with heat treatment for long lasting continuous operation.
- Mechanical seals in oil chamber with extra external lip seal.
- Rugged & Durable construction Stainless Steel & Cast Iron.
- Potted Leads: Sealed with epoxy resin.
- Extra Service:
3 Function Selector Switch-for control of "MANUAL-OFF-AUTO" (For Instance JS-400MA)

JS100, 150, 250, 400

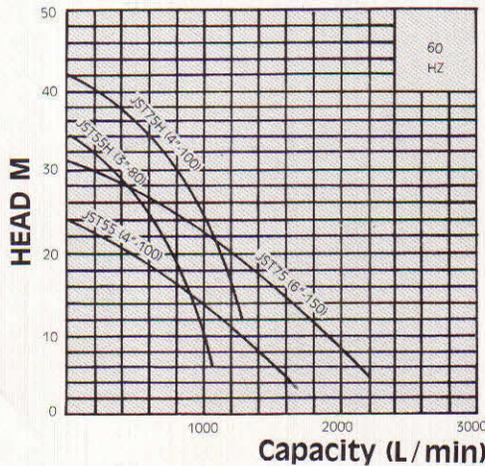


ALL KINDS OF PUMP AVAILABLE WITH FLOAT SWITCH

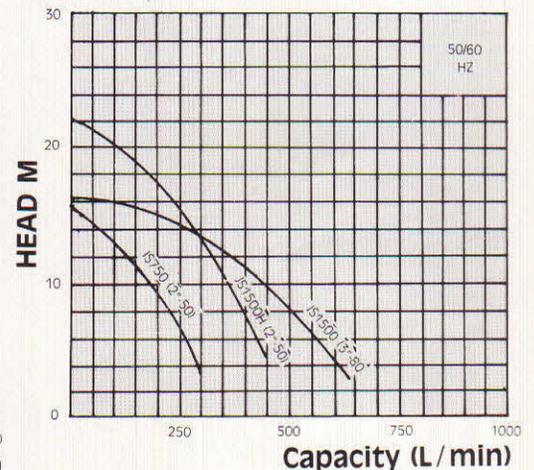
JST55, T55H-50HZ
JST75, T75H-50HZ



JST55, T55H-60HZ
JST75, T75H-60HZ



JS750, 1500(H)



Pump Type	Outlet Diameter Inch (mm)	Output Watts	Voltage 1 Phase 50 or 60Hz	Continuous		Maximum		Cable c x mm ² x m	Auto	Weight KG
				Head m.	Capacity L./min	Total Head m.	Max Capacity L./min			
JS-100	1" (25)	100	100V	2	60	6	85	3 x 0.75 x 3.5	JS-100A	5
JS-150	1 1/4" (32)	150		4	80	7	130	3 x 0.75 x 3.5	JS-150A	5.5
JS-250	1 1/2" (40)	250	240V	6	120	10	200	3 x 1 x 6	JS-250A	9
JS-400	2" (50)	400		8	130	12	240	3 x 1 x 6	JS-400A	10
JS-750	2" (50)	750	200V	10	200	15.5	380	3 x 1.6 x 10	JS-750A	24
JS-1500H	2" (50)	1500		15	250	22	450	3 x 2.0 x 10	JS-1500HA	49
JS-1500	3" (80)	1500	240V	8	500	17	700	3 x 2.0 x 10	JS-1500A	49

3 PHASE-JXT SERIES:

Pump Type	Outlet Diameter	Output Power	Voltage	Head m.	Capacity L./min	Total Head m.	Max Capacity L./min	Cable	Auto	Weight KG
JST-8	2" (50)	0.75 KW	50 or 60Hz	10	200	15.5	380	4 x 1.6 x 10	JST-8A	21
JST-15H	2" (50)	1.5KW		15	250	23	450	4 x 1.6 x 10	JST-15HA	26
JST-15	3" (80)	1.5KW	200V	8	500	17	700	4 x 1.6 x 10	JST-15A	26
JST-22H	2" (50)	2.2KW		20	300	30	650	4 x 2.0 x 10	JST-22HA	39
JST-22	3" (80)	2.2KW	480V	10	600	20	850	4 x 2.0 x 10	JST-22A	39
JST-37H	2" (50)	3.7KW		30	200	35	850	4 x 2.0 x 10	JST-37HA	45
JST-37	2 1/4" (100)	3.7KW	I	20	500	31	1050	4 x 2.0 x 10	JSDT-37A	45
JST-55H	3" (80)	5.5KW		25	600	32	1050	4 x 3.5 x 10	JST-55HA	65
JST-55	4" (100)	5.5KW	II	15	1000	22	1800	4 x 3.5 x 10	JST55A	65
JST-75H	4" (100)	7.5KW		30	800	40	1600	4 x 5.5 x 10	JST-75HA	75
JST-75	6" (150)	7.5KW	15	1600	31	2200	4 x 5.5 x 10	JST-75A	75	

JST8, T15, T15H
JST22, T22H, T37, T37H

