ASSET DATA DICTIONARY DEFINITION DOCUMENT (AD4) L7171 - PUMPS

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1 Introduction

1.1 Asset Details

Class Code:	L7171
Class Name:	Pumps
Class Lineage:	Construction Products>Services>Construction Products Supply-storage-distribution of liquids and gases>General>Pumps

1.2 Description

A pump is a device used to move fluids (liquids or gases) or sometimes slurries by mechanical action. This class covers all types of pumps to be used on Crossrail, the type of pump will be identified as one of the attributes.

1.3 Related Functions

All information on the configuration of asset classes (L-Class) to functions is contained within the latest revision of the Asset Data Dictionary Master Configuration document (eB ref: CRL1-XRL-Z3-ADDSD-CR001-50186)

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2 Asset Tag Identification Rules

Assets will be identified as required by the Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031) in the following format:

<LCS Code>-<Function Code>-<Incremental number to ensure uniqueness>

e.g. CR076-BAF-12345

Information and guidance on the standard naming convention for all asset classes is contained within the latest revision of the Asset Naming Convention Document (eB ref: CRL1-XR1-Z3-ADDSD-CR001-50413).

2.1 Example Images

Submersible pump

Sewage Pump

Macerator pump

Chilled Water Pump

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3 Attributes

3.1 Generic Attributes

All Classes of assets will have a set of Generic Attributes for which data is collected without exception. Full details relating to these assets can be found at:

AD4 – Generic Attributes CRL1-XRL-Z3-ADDSD-CR001-50069

3.2 Class Specific Attributes

Below is a table of the further specific attributes which are associated with this asset class.

Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
Pump Description		CH			Description of the pump type
Duty Flow (Litres/Sec)	Litres/Sec	NU	2		This is the flow rate at the required duty.
Duty Working Pressure (kPa)	kPa	NU	2		The duty working pressure
Electrical Start		PD		DOL SD Inverter	Is the start Direct online (DOL), Star-Delta (SD) or Inverter driven
Input Voltage (Volts)	Volts	NU	0		The rated voltage of the unit
IP rating		CH			The ingress protection rating IPXXX
Macerator		PD		Yes No	Does the pump have the ability to breakdown waste into a slurry form?
Outlet Diameter (Millimetres)	Millimetres	NU	0		Size of the outlet connection.
Pipework Coupling		PD		Flanged Screwed Ducksfoot	The type of pump coupling

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Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
Power Rating (kW)	kW	NU	2		The power rating of the pump at the duty point
Submersible		PD		Yes No	Is the pump designed to be immersed in the liquid it is pumping?
Meterage (Metres)	Metres	NU	0		Meterage (Chainage) location of asset. To be populated only when the asset is located on track.
LRS Code		PD		C.EB C.EB.CRW5 C.EB.CR1 C.EB.CR7 C.EB.TBC C.WB C.WB.CRW9 C.WB.CRW6 C.WB.CR2 C.WB.CR5 C.WB.TBA C.WB.TBB CNE.EB CNE.WB CSE.EB CSE.EB.CR11 CSE.WB CSE.EB.CR13 CSE.WB.CR15 Non Track	The Crossrail Linear Referencing Standard code (CRL1-XRL-O6-STD-CR001-00026) where the asset is located. When the asset is not located on track then non track should be selected. The LRS codes are as follows: C.EB - Central Section Eastbound C.EB.CRW5 - Crossover between W5 and W4 Points C.EB.CR1 - Crossover between C1 and C4 Points C.EB.CR7 - Crossover between C7 and C8 Points C.EB.TBC - Turnback C C.WB - Central Section Westbound C.WB.CRW9 - Crossover between W9 and W8 Points C.WB.CRW6 - Crossover between W6 and W3 Points C.WB.CR2 - Crossover between C2 and C3 Points C.WB.CR5 - Crossover between C5 and C6 Points C.WB.TBA - Turnback A C.WB.TBB - Turnback B CNE.EB - Central Section North East Spur Eastbound CNE.WB - Central Section North East Spur Westbound CSE.EB - Central Section South East Spur Eastbound CSE.EB.CR11 - Crossover between C11 and C12 Points CSE.WB - Central Section South East Spur Westbound CSE.EB.CR13 - Crossover between C13 and C14 Points CSE.WB.CR15 - Crossover between C15 and C16 Points Non Track - Non Track Assets
Is Backup Pump		PD		Yes No	Does the pump serve as a backup pump?

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Attribute Name	Base Unit or Formula	Value Type (See Below)	Decimal Places (nu Only)	Defined Values List (pd only)	Description
Impeller Reference		CH			The impeller reference number (where known). (This is only marked as required on one LU pump type (PU001) and I suggest we go back to LU and state this is not being collected.
Rotational Speed (RPM)	RPM	NU	0		The nominal rotational speed of the pump measured in RPM.
Static Head (Metres)	Metres	NU	2		The static head length (pressure head) of the pump in metres.
Weight (Kilograms)	Kilograms	NU	2		The overall weight in Kg of the pump excluding fixings and connected assets.
Cable Length (Metres)	Metres	NU	2		Length of cable from power source e.g. isolator to pump unit.
Effluent Type		PD		Foul/sewage Non-Foul	Foul/sewage – Includes water from toilets, sinks and baths but does not include surface water unless it has been in contact with foul water Non-Foul – Surface water and other drainage not contaminated by sewage or chemically contaminated water
Integral Float Switch		PD		Yes No	Is Integral Float Switch fitted to pump?
Starting Current (Amps)	Amps	NU	0		The current measured in Amps of electricity required to start the pump in normal operation

pd = Predefined List (Listed Values Only)
nu = Numeric (dp and number format can be stipulated)
ch = Free text (Max 255 Characters)
da = Date (dd-mm-yyyy)

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me = Memo (Free text 1GB Limit)

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4 Performance Data

This section is to be used to specify the performance data to be gathered from this Class of asset when in operation. To be populated once the performance measures have been agreed with the Infrastructure Managers.

5 Labelling

Information and guidance on the standard labelling convention for all asset classes is contained within the latest revision of the Asset Naming and Labelling Convention Document (eB ref: CRL1-XR1-Z3-ADDSD-CR001-50413).

6 Other Information

Not Applicable

7 Reference Material

- Asset Data Dictionary Master Configuration - CRL1-XRL-Z3-ADDSD-CR001-50186
- Asset Identification Standard -CRL1-XRL-O6-STD-CR001-00031
- AD4 – Generic Attributes - CRL1-XRL-Z3-ADDSD-CR001-50069
- Asset Naming Convention Document - CRL1-XR1-Z3-ADDSD-CR001-50413

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8 Crossrail Technical Approvals

Name	Role	Date
[redacted]	Lead Mechanical & Electrical Plant (MEP) Engineer	19-Sep-2014

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