

**APPENDIX M – DATASHEETS**



## Flowmeter Instrument

DATA SHEET NO. **DST-FIT-F07703** REV. **0**

### Magnetic

SHEET	1	OF	1
BY	CHK'D	PROC.	APPR.
DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F07703</b>	Serial No:	Loop Wiring Diagrams:	1-0101-AILD-F223-001		
Asset No:	P&ID:	1-0101-PPID-F007-001	Line / Vessel Number:	15-FC-PV04-0722		
Description:	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION		Manufacturer:	Siemens		
Purchase Order:	Vendor:	Trans-West				
Requisition Number:	Job Number:					
Model:	Sitrans F M Mag 6000 & F M Mag 1100					

**PROCESS CONDITIONS**

Fluid:	Ferric Chloride				
Fluid State:	Liquid				
Process Data Case (Flow):	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	8	167	792	L/hr	
Pressure:	60	60	60	psig	
Temperature:	0	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	-10 to 50	°C	Viscosity:	N/A	
Lower SG / Density:	1.39		Compressibility (Z):	N/A	
Higher SG / Density:	1.46		Special Condition:	N/A	
Pipe Material	PVC				

**METER**

Connection Size:		Mounting Orientation:			
End Connection:		Mounting Kit:			
End Connection Material:		Flange / Wafer Rating:	Note 2		
Lining Material:	Note 2	Flange Type:			
Lining Protector:	Note 2	Flange Material:			
Electrode Type:	Note 2	Allow. Operating Velocity:		to	
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X		
Grounding Rings:		Element Model Number:	Note 2		

**TRANSMITTER**

Stainless Steel Tag:	FIT-F07703	Wetted O-Ring Material:			
Application:		Fill Fluid:			
Type:		Elevation:			
Enclosure Class:	NEMA 4X	Suppression:			
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:		to	
Mounting:	Local	Calibration Range:		to	
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:		to	
Power Supply:	24 VDC	Static Pressure Range:		to	
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:		to	
Accuracy:	0.25%	Allow. Oper Temperature:		to	
Response Time:		Maximum Static Pressure			
Element Material:		Manufacturer:	Siemens		
		Model:	Sitran F M Mag Series 6000		

**OPTION**

Integral Meter:		Hydrostatic Testing:			
Scale:		Mounting Brackets:			

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

DATA SHEET NO. **DST-FIT-F07713** REV. **0**

### Magnetic

SHEET	1	OF	1
BY	CHK'D	PROC.	APPR.
DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F07713</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AILD-F224-001
		Spec No:		Line / Vessel Number:	15-FC-PV04-0723
<b>Asset No:</b>		P&ID:	1-0101-PPID-F007-001	Line ID:	Size: 15mm Schedule:
<b>Description:</b>	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens
				Model:	Sitran F M Mag 6000 & F M Mag 1100
<b>Purchase Order:</b>		<b>Vendor:</b>	Trans-West		
<b>Requisition Number:</b>		<b>Job Number:</b>			

**PROCESS CONDITIONS**

Fluid:	Ferric Chloride			
Fluid State:	Liquid			
<b>Process Data Case (Flow):</b>	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:
Flow:	8	167	792	L/hr
Pressure:	60	60	60	psig
Temperature:	0	20	30	°C
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A
Design Temperature:	-10 to 50	°C	Viscosity:	N/A
Lower SG / Density:	1.39		Compressibility (Z):	N/A
Higher SG / Density:	1.46		Special Condition:	N/A
Pipe Material	PVC			

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	
Lining Protector:	Note 2	Flange Material:	
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**

Stainless Steel Tag:	FIT-F07713	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitran F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

DATA SHEET NO. **DST-FIT-F07723** REV. **0**

### Magnetic

SHEET	1	OF	1
BY	CHK'D	PROC.	APPR.
DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

NO.	DATE	REVISION
0	2022 18 05	Issued for Construction

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F07723</b>	Serial No:	Loop Wiring Diagrams:	1-0101-AILD-F225-001
		Spec No:	Line / Vessel Number:	15-FC-PV04-0724
<b>Asset No:</b>		P&ID:	1-0101-PPID-F007-001	Line ID:
				Size:
				15mm
				Schedule:
<b>Description:</b>	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION		Manufacturer:	Siemens
			Model:	Sitran F M Mag 6000 & F M Mag 1100
<b>Purchase Order:</b>		<b>Vendor:</b>	Trans-West	
<b>Requisition Number:</b>		<b>Job Number:</b>		

**PROCESS CONDITIONS**

Fluid:	Ferric Chloride			
Fluid State:	Liquid			
<b>Process Data Case (Flow):</b>	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:
Flow:	8	167	792	L/hr
Pressure:	60	60	60	psig
Temperature:	0	20	30	°C
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A
Design Temperature:	-10 to 50	°C	Viscosity:	N/A
Lower SG / Density:	1.39		Compressibility (Z):	N/A
Higher SG / Density:	1.46		Special Condition:	N/A
Pipe Material	PVC			

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	
Lining Protector:	Note 2	Flange Material:	
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**

Stainless Steel Tag:	FIT-F07723	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitran F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

DATA SHEET NO. **DST-FIT-F08303** REV. **0**

### Magnetic

SHEET	1	OF	1
BY	CHK'D	PROC.	APPR.
DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F08303</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001
<b>Asset No:</b>		Spec No:		Line / Vessel Number:	15-SHD-PV04-0817
<b>Description:</b>	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens
<b>Purchase Order:</b>		P&ID:	1-0101-PPID-F008-001	Model:	Sitrans F M Mag 6000 & F M Mag 1100
<b>Requisition Number:</b>		<b>Vendor:</b>		Trans-West	
		<b>Job Number:</b>			

**PROCESS CONDITIONS**

Fluid:	Sodium Hydroxide				
Fluid State:	Liquid				
<b>Process Data Case (Flow):</b>	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	8	67	792	L/hr	
Pressure:	60	60	60	psig	
Temperature:	15	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	10 to 50	°C	Viscosity:	36 cP	
Lower SG / Density:	N/A		Compressibility (Z):	N/A	
Higher SG / Density:	1.53		Special Condition:	N/A	
Pipe Material	PVC				

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	Note 2
Lining Protector:	Note 2	Flange Material:	Note 2
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**

Stainless Steel Tag:	FIT-F08303	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitrans F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

Magnetic

DATA SHEET NO. **DST-FIT-F08313** REV. **0**

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F08313</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001
		Spec No:		Line / Vessel Number:	15-SHD-PV04-0818
<b>Asset No:</b>		P&ID:	1-0101-PPID-F008-001	Line ID:	Size: 15mm Schedule:
<b>Description:</b>	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens
				Model:	Sitrans F M Mag 6000 & F M Mag 1100
<b>Purchase Order:</b>		<b>Vendor:</b>	Trans-West		
<b>Requisition Number:</b>		<b>Job Number:</b>			

PROCESS CONDITIONS

Fluid:	Sodium Hydroxide				
Fluid State:	Liquid				
<b>Process Data Case (Flow):</b>	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	8	67	792	L/hr	
Pressure:	60	60	60	psig	
Temperature:	15	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	10 to 50	°C	Viscosity:	36	cP
Lower SG / Density:	N/A		Compressibility (Z):	N/A	
Higher SG / Density:	1.53		Special Condition:	N/A	
Pipe Material	PVC				

METER

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	Note 2
Lining Protector:	Note 2	Flange Material:	Note 2
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

TRANSMITTER

Stainless Steel Tag:	FIT-F08313	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitrans F M Mag Series 6000

OPTION

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

NOTES

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

DATA SHEET NO. **DST-FIT-F08323** REV. **0**

### Magnetic

SHEET 1 OF 1  
BY DG CHK'D JP PROC. *[Signature]* APPR. *[Signature]*

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F08323</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001	
Asset No:		Spec No:		Line / Vessel Number:	15-SHD-PV04-0818	
Description:	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens	
Purchase Order:		P&ID:	1-0101-PPID-F008-001	Model:	Sitrans F M Mag 6000 & F M Mag 1100	
Requisition Number:		Vendor:			Trans-West	
		Job Number:				

**PROCESS CONDITIONS**

Fluid:	Sodium Hydroxide				
Fluid State:	Liquid				
Process Data Case (Flow:)	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	8	67	792	L/hr	
Pressure:	60	60	60	psig	
Temperature:	15	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	10 to 50	°C	Viscosity:	36	cP
Lower SG / Density:	N/A		Compressibility (Z):	N/A	
Higher SG / Density:	1.53		Special Condition:	N/A	
Pipe Material	PVC				

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	Note 2
Lining Protector:	Note 2	Flange Material:	Note 2
Electrode Type:	Note 2	Allow. Operating Velocity:	
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**

Stainless Steel Tag:	FIT-F08323	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	
Mounting:	Local	Calibration Range:	
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	
Power Supply:	24 VDC	Static Pressure Range:	
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	
Accuracy:	0.25%	Allow. Oper Temperature:	
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitrans F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

**Magnetic**

DATA SHEET NO. **DST-FIT-F87021** REV. **0**

SHEET **1** OF **1**

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F87021</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001	
Asset No:		Spec No:		Line / Vessel Number:	80-FC-PV04-0748	
Description:	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens	
Purchase Order:		P&ID:	1-0101-PPID-F004-001	Model:	Sitrans F M Mag 6000	
Requisition Number:		Vendor:			Trans-West	
		Job Number:				

**PROCESS CONDITIONS**

Fluid:	Ferric Chloride				
Fluid State:	Liquid				
Process Data Case (Flow):	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	3.0	5.4	7.0	L/s	
Pressure:	60	60	60	psig	
Temperature:	0	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	-10 to 50	°C	Viscosity:	N/A	
Lower SG / Density:	1.39		Compressibility (Z):	N/A	
Higher SG / Density:	1.46		Special Condition:	N/A	
Pipe Material	PVC				

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	Note 2
Lining Protector:	Note 2	Flange Material:	Note 2
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**

Stainless Steel Tag:	FIT-F87021	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitran F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module





## Flowmeter Instrument

### Magnetic

DATA SHEET NO. **DST-FIT-F87031** REV. **0**

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-F87031</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001
Asset No:		Spec No:		Line / Vessel Number:	80-FC-PV04-0747
Description:	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens
Purchase Order:		P&ID:	1-0101-PPID-F004-001	Model:	Sitran F M Mag 6000
Requisition Number:		Vendor:			Trans-West
		Job Number:			

**PROCESS CONDITIONS**

Fluid:	Ferric Chloride				
Fluid State:	Liquid				
Process Data Case (Flow:)	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	3.0	5.4	7.0	L/s	
Pressure:	60	60	60	psig	
Temperature:	0	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	-10 to 50	°C	Viscosity:	N/A	
Lower SG / Density:	1.39		Compressibility (Z):	N/A	
Higher SG / Density:	1.46		Special Condition:	N/A	
Pipe Material	PVC				

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	Note 2
Lining Protector:	Note 2	Flange Material:	Note 2
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**

Stainless Steel Tag:	FIT-F87031	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitran F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module



## Flowmeter Instrument

DATA SHEET NO. **DST-FIT-W08801** REV. **0**

### Magnetic

SHEET	1	OF	1
-------	---	----	---

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>FIT-W08801</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001
<b>Asset No:</b>		Spec No:		Line / Vessel Number:	80-SHD-PV04-0800
<b>Description:</b>	MAGNETIC FLOWMETER TRANSMITTER WITH LOCAL INDICATION			Manufacturer:	Siemens
<b>Purchase Order:</b>		P&ID:	1-0101-PPID-F005-001	Model:	Sitrans F M Mag 6000
<b>Requisition Number:</b>		<b>Vendor:</b>		Trans-West	
		<b>Job Number:</b>			

**PROCESS CONDITIONS**

Fluid:	Sodium Hydroxide				
Fluid State:	Liquid				
<b>Process Data Case (Flow):</b>	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:	
Flow:	3.0	5.4	7.0	L/s	
Pressure:	60	60	60	psig	
Temperature:	15	20	30	°C	
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A	
Design Temperature:	10 to 50	°C	Viscosity:	36	cP
Lower SG / Density:	N/A		Compressibility (Z):	N/A	
Higher SG / Density:	1.53		Special Condition:	N/A	
Pipe Material	PVC				

**METER**

Connection Size:		Mounting Orientation:	
End Connection:		Mounting Kit:	
End Connection Material:		Flange / Wafer Rating:	Note 2
Lining Material:	Note 2	Flange Type:	Note 2
Lining Protector:	Note 2	Flange Material:	Note 2
Electrode Type:	Note 2	Allow. Operating Velocity:	to
Electrode Material:	Note 2	Enclosure Class:	NEMA 4X
Grounding Rings:		Element Model Number:	Note 2

**TRANSMITTER**


Stainless Steel Tag:	FIT-W08801	Wetted O-Ring Material:	
Application:		Fill Fluid:	
Type:		Elevation:	
Enclosure Class:	NEMA 4X	Suppression:	
Housing:	Fiberglass-Reinforced Polyimide	Instrument Range:	to
Mounting:	Local	Calibration Range:	to
Signal / Protocol:	Profibus PA (Note3)	Controller Display Range:	to
Power Supply:	24 VDC	Static Pressure Range:	to
Electrical Connection:	4x1/2" NPT	Allow. Oper Pressure:	to
Accuracy:	0.25%	Allow. Oper Temperature:	to
Response Time:		Maximum Static Pressure	
Element Material:		Manufacturer:	Siemens
		Model:	Sitrans F M Mag Series 6000

**OPTION**

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

**NOTES**

1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
2. Information to be provided by Vendor.
3. Complete with option Card Profibus PA Module

	<b>Level Element</b>			DATA SHEET NO.		REV.	
	<b>Ultrasonic Level Meter</b>			DST-LIT-F07301		0	
	NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
	0	2022 18 05	Issued for Construction	DG	JP	JPB	JPB

<b>Project:</b>	<b>21-0107-015</b>
-----------------	--------------------

<b>TAG NO:</b>	<b>LIT-F07301</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001
Asset No:		Spec No:		Line / Vessel Number:	TK-F0730
Description:	ULTRASONIC LEVEL TRANSMITTER			Manufacturer:	Siemens
Purchase Order:		P&ID:	1-0101-PPID-F004-001	Model:	Sitran Probe LU
Requisition Number:		Vendor:			Trans-West
		Job Number:			


Fluid:	Ferric Chloride
Fluid State:	Liquid

<b>PROCESS CONDITIONS</b>		Min:	Normal (Operating):	Max (Full Scale):	Units
	Flow:				
	Pressure:	60	60	60	psig
	Temperature	0	20	30	°C
	Design Pressure:	150	psig	Tank Top Style:	Flat
	Design Temperature:	-10 to 50	°C	Tank Bottom Style:	Flat
	Vessel Height:	10.6 meters		Width / Diameter:	4.3 meters
	Fluid Dielectric Constant:	N/A		Higher Viscosity:	N/A
	Level Empty:	0 meters		Ambient Temperature:	20 °C
	Level Full:	10.6 meters		Area Classification:	Non Hazardous, Corrosive
Special Condition:	N/A				

<b>TRANSDUCER</b>	Transducer Type:	Ultrasonic	Rated Temperature:	
	Measurement Type:		Rated Pressure:	
	Body Material:	Note 2	Signal Type:	
	Flange Material:	Note 2	Frequency:	
	Element Material:	Note 2	Cable Length:	
	Vessel I.D.:		Conduit Connection:	
	Measurement Range:	0 - 10.5 meters	NDE Test Category:	
	Mounting Position:	Vertical	Ambient Temperature:	
	Process Connection:	50MM (2") NPT	Manufacturer:	Siemens
	Connection Material:	Fibre Glass	Model:	Sitrans Probe LU

<b>TRANSMITTER</b>	Function:	Transmitter	Approval(s):	CSA
	Mounting:	Local (Note 2)	Mounting Kit:	Flange adapter for mating 80mm ANSI flange
	Enclosure Class:	NEMA 4X	Cable Entries:	2 x 1/2" NPT
	Display:	LCD Display	Power Wiring:	Profibus PA
	Case Material:	To be filled-out by Vendor	Volume Calculation:	Yes
	Output:	ProfibusPA	SS Tag:	
	Communication Protocol:	ProfibusPA	Accuracy:	0.15%
	Range:			

<b>NOTES</b>	1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
	2. Information to be provided by Vendor.

	<b>Level Element</b> <b>Ultrasonic Level Meter</b>			DATA SHEET NO.		REV.	
				DST-LIT-F07401		0	
	NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
	0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

<b>Project:</b>	<b>21-0107-015</b>
-----------------	--------------------

<b>TAG NO:</b>	<b>LIT-F07401</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F202-001
Asset No:		Spec No:		Line / Vessel Number:	TK-F0740
Description:	ULTRASONIC LEVEL TRANSMITTER			Manufacturer:	Siemens
Purchase Order:		P&ID:	1-0101-PPID-F004-001	Model:	Sitran Probe LU
Requisition Number:		Vendor:			Trans-West
		Job Number:			

Fluid:	Ferric Chloride
Fluid State:	Liquid

	Min:	Normal (Operating):	Max (Full Scale):	Units
Flow:				
Pressure:	60	60	60	psig
Temperature:	0	20	30	°C


  


Design Pressure:	150	psig	Tank Top Style:	Flat
Design Temperature:	-10 to 50	°C	Tank Bottom Style:	Flat
Vessel Height:	10.6 meters		Width / Diameter:	4.3 meters
Fluid Dielectric Constant:	N/A		Higher Viscosity:	N/A
Level Empty:	0 meters		Ambient Temperature:	20 °C
Level Full:	10.6 meters		Area Classification:	Non Hazardous, Corrosive
Special Condition:	N/A			

Transducer Type:	Ultrasonic	Rated Temperature:	
Measurement Type:		Rated Pressure:	
Body Material:	Note 2	Signal Type:	
Flange Material:	Note 2	Frequency:	
Element Material:	Note 2	Cable Length:	
Vessel I.D.:		Conduit Connection:	
Measurement Range:	0 - 10.5 meters	NDE Test Category:	
Mounting Position:	Vertical	Ambient Temperature:	
Process Connection:	50MM (2") NPT	Manufacturer:	Siemens
Connection Material:	Fibre Glass	Model:	Sitrans Probe LU

Function:	Transmitter	Approval(s):	CSA
Mounting:	Local (Note 2)	Mounting Kit:	Flange adapter for mating 80mm ANSI flange
Enclosure Class:	NEMA 4X	Cable Entries:	2 x 1/2" NPT
Display:	LCD Display	Power Wiring:	Profibus PA
Case Material:	To be filled-out by Vendor	Volume Calculation:	Yes
Output:	ProfibusPA	SS Tag:	
Communication Protocol:	ProfibusPA	Accuracy:	0.15%
Range:			

<b>NOTES</b>	1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
	2. Information to be provided by Vendor.

		<b>Level Element</b> <b>Ultrasonic Level Meter</b>			DATA SHEET NO.		REV.	
					DST-LIT-W08101		0	
		NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
		0	2022 18 05	Issued for Construction	DG	JP	JMB	JMB
<b>Project:</b>	<b>21-0107-015</b>							
<b>TAG NO:</b>	<b>LIT-W08101</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F204-001			
Asset No:		Spec No:		Line / Vessel Number:	TK-F0810			
Description:	ULTRASONIC LEVEL TRANSMITTER			Manufacturer:	Siemens			
Purchase Order:		P&ID:	1-0101-PPID-F005-001	Model:	Sitran Probe LU			
Requisition Number:		Vendor:			Trans-West			
		Job Number:						
PROCESS CONDITIONS	Fluid:	Sodium Hydroxide						
	Fluid State:	Liquid						
		Min:	Normal (Operating):	Max (Full Scale):	Units			
	Flow:							
	Pressure:	60	60	60	psig			
	Temperature	15	20	30	°C			
	Design Pressure:	150	psig	Tank Top Style:	Flat			
	Design Temperature:	10 to 50	°C	Tank Bottom Style:	Flat			
	Vessel Height:	4.8 meters		Width / Diameter:	3.7 meters			
	Fluid Dielectric Constant:	N/A		Higher Viscosity:	1.53		cP	
Level Empty:	0 meters		Ambient Temperature:	20		°C		
Level Full:	4.8 meters		Area Classification:	Non Hazardous, Corrosive				
Special Condition:	N/A							
TRANSDUCER	Transducer Type:	Ultrasonic		Rated Temperature:				
	Measurement Type:			Rated Pressure:				
	Body Material:	Note 2		Signal Type:				
	Flange Material:	Note 2		Frequency:				
	Element Material:	Note 2		Cable Length:				
	Vessel I.D.:			Conduit Connection:				
	Measurement Range:	0 - 4.8 meters		NDE Test Category:				
	Mounting Position:	Vertical		Ambient Temperature:				
	Process Connection:	50MM (2") NPT		Manufacturer:	Siemens			
	Connection Material:	Fibre Glass		Model:	Sitrans Probe LU			
TRANSMITTER	Function:	Transmitter		Approval(s):	CSA			
	Mounting:	Local (Note 2)		Mounting Kit:	Flange adapter for mating 80mm ANSI flange			
	Enclosure Class:	NEMA 4X		Cable Entries:	2 x 1/2" NPT			
	Display:	LCD Display		Power Wiring:	Profibus PA			
	Case Material:	To be filled-out by Vendor		Volume Calculation:	Yes			
	Output:	ProfibusPA		SS Tag:				
	Communication Protocol:	ProfibusPA		Accuracy:	0.15%			
	Range:							
NOTES	1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.							
	2. Information to be provided by Vendor.							

	<b>Level Element</b>			DATA SHEET NO.		REV.	
	<b>Ultrasonic Level Meter</b>			DST-LIT-W08201		0	
	NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
	0	2022 18 05	Issued for Construction	DG	JP	<i>JMS</i>	<i>JMS</i>

<b>Project:</b>	<b>21-0107-015</b>
-----------------	--------------------

<b>TAG NO:</b>	<b>LIT-W08201</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AIFS-F204-001
Asset No:		Spec No:		Line / Vessel Number:	TK-F0820
Description:	ULTRASONIC LEVEL TRANSMITTER			Manufacturer:	Siemens
Purchase Order:		P&ID:	1-0101-PPID-F005-001	Model:	Sitran Probe LU
Requisition Number:		Vendor:			Trans-West
		Job Number:			


Fluid:	Sodium Hydroxide
Fluid State:	Liquid


<b>PROCESS CONDITIONS</b>		Normal (Operating):	Max (Full Scale):	Units		
	Flow:	3.0				
	Pressure:	60	60	60	psig	
	Temperature	15	20	30	°C	
	Design Pressure:	150	psig	Tank Top Style:	Flat	
	Design Temperature:	10 to 50	°C	Tank Bottom Style:	Flat	
	Vessel Height:	4.8 meters		Width / Diameter:	3.7 meters	
	Fluid Dielectric Constant:	N/A		Higher Viscosity:	1.53	cP
	Level Empty:	0 meters		Ambient Temperature:	20	°C
	Level Full:	4.8 meters		Area Classification:	Non Hazardous, Corrosive	
Special Condition:	N/A					

<b>TRANSDUCER</b>	Transducer Type:	Ultrasonic	Rated Temperature:	
	Measurement Type:		Rated Pressure:	
	Body Material:	Note 2	Signal Type:	
	Flange Material:	Note 2	Frequency:	
	Element Material:	Note 2	Cable Length:	
	Vessel I.D.:		Conduit Connection:	
	Measurement Range:	0 - 4.8 meters	NDE Test Category:	
	Mounting Position:	Vertical	Ambient Temperature:	
	Process Connection:	50MM (2") NPT	Manufacturer:	Siemens
	Connection Material:	Fibre Glass	Model:	Sitran Probe LU


<b>TRANSMITTER</b>	Function:	Transmitter	Approval(s):	CSA
	Mounting:	Local (Note 2)	Mounting Kit:	Flange adapter for mating 80mm ANSI flange
	Enclosure Class:	NEMA 4X	Cable Entries:	2 x 1/2" NPT
	Display:	LCD Display	Power Wiring:	Profibus PA
	Case Material:	To be filled-out by Vendor	Volume Calculation:	Yes
	Output:	ProfibusPA	SS Tag:	
	Communication Protocol:	ProfibusPA	Accuracy:	0.15%
	Range:			


<b>NOTES</b>	1. Manufacturer and models were standardized by the City via RFP 449-2014, no alternates or substitutes will be accepted.
	2. Information to be provided by Vendor.

		EQUIPMENT DATASHEET PUMP			DATA SHEET NO.		REV.
					DST-P-F0770,P-F0771,P-F0772		0
		NO.	DATE	REVISION	BY	CHK'D	APPR.
		0	2022-05-18	ISSUED FOR CONSTRUCTION	JP	<i>RAC</i>	<i>JS</i>
PROJECT: NEWPCC INTERIM PHOSPHOROUS REMOVAL							
EQUIPMENT NO. P-F0770, P-F0771, P-F0772		DESCRIPTION: FERRIC CHLORIDE METERING PUMPS					
o Vendor to Verify/Specify						Rev.	
<b>GENERAL</b>							
Number Required:		Three (3)					
Type:		Gear Type Pump					
Duty:		Continuous, Duty/Standby					
<b>PROCESS DATA</b>							
Fluid:		Ferric Chloride					
Corrosive Compounds:		pH	<1				
Composition:		% wt/wt	37-42%				
Flowing Temperature:		°C	20				
Specific Gravity at Flow Temp.:		1.39-1.46					
Viscosity at Flow Temp.:		cp	N/A				
Vapor Pressure at Flow Temp.:		psia	N/A				
<b>HYDRAULIC DATA</b>							
Condition:			<u>Minimum Flow</u>	<u>Normal Flow</u>	<u>Maximum Flow</u>		
Flow Capacity:		l/hr	8	167	792		
Suction Pressure: (Note 1)		psig	16.7	16.7	16.7		
NPSH Available:		m	4.2	4.2	4.2		
Design Cutoff Pressure:		psig	100	100	100		
Design Total Head Required:		m	27	27	31		
Operating Pressure:		psig	80	80	80		
NPSH Required:		m	0.6	0.6	0.6		
o Pump Speed		rpm	300	600	1750		
o % of Full Rated Speed		%	17%	34%	100%		
<b>CONSTRUCTION</b>							
Casing:		PVDF					
o Connection, flange rating:		150#					
o Packing or Seal:		Sealless					
o Gears:		Carbon-reinforced PTFE					
Impeller Diameter:		N/A					
Manufacturer, Model No.:		Basis of Design: Pulsafeeder Eclipse, E12KLEF-X or approved equal as per Section B8.					
o Pump Size:		3/4" x 3/4" (20mm x 20mm)					
o Drive Configuration:		Seal-less mag drive					
o Pump Full Speed		rpm	1750				
<b>DRIVER</b>							
Variable or Constant Speed		Variable (Note 2)					
Type:		Inverter Duty electric motor					
o Horsepower and RPM Rating:		hp	0.5				
o Motor Rated Speed		rpm	1800				
Electric Characteristics:		575V / 3PH / 60 Hz					
o Motor Enclosure:		TEFC (Note 3)					
Service Factor:		1.25					
<b>BASE</b>							
Base Type:		Pump shall be mounted and factory assembled on triplex skid with all associated piping and components. Stand alone frame shall be HSS tubing. Frame shall be painted with chemical resistant paint. All backboards for mounting of piping and components shall be HDPE.					
<b>NOTES</b>							
1 Suction pressure is dependent on height of fluid in the tank. Thus, suction pressure is subject to change. Noted pressure is based on full tank.							
2 VFD to be provided and mounted by others.							
3 Nameplate shall indicate the IP rating and state the Zone, Class, and/or Division areas in which the motors are certified.							
4 Reference general arrangement drawings (1-0101-MGAD-A001-001, 1-0101-MGAD-F211-001, 1-0101-MGAD-F025-001) and process and instrumentation diagrams (1-0101-PPID-F007-001) for additional information.							
5 All electrical factory installed components on the skid shall be terminated in an electrical junction box for connection to the process control system.							
Junction box shall be mounted directly on the skid.							

		EQUIPMENT DATASHEET PUMP			DATA SHEET NO.		REV.
					DST-P-F0780,P-F0781		0
		NO.	DATE	REVISION	BY	CHK'D	APPR.
0	2022-05-18	ISSUED FOR CONSTRUCTION	JP	<i>JKL</i>		<i>P</i>	
PROJECT: NEWPCC INTERIM PHOSPHOROUS REMOVAL							
EQUIPMENT NO. P-F0780, P-F0781		DESCRIPTION: FERRIC CHLORIDE TRANSFER PUMPS					
o Vendor to Verify/Specify						Rev.	
<b>GENERAL</b>							
Number Required:		Two (2)					
Type:		Gear Type Pump					
Duty:		Continuous, Duty/Standby					
<b>PROCESS DATA</b>							
Fluid:		Ferric Chloride					
Corrosive Compounds:		pH	<1				
Composition:		% wt/wt	37-42%				
Flowing Temperature:		°C	20				
Specific Gravity at Flow Temp.:		1.39-1.46					
Viscosity at Flow Temp.:		cp	N/A				
Vapor Pressure at Flow Temp.:		psia	N/A				
<b>HYDRAULIC DATA</b>							
Condition:		<u>Minimum Flow</u>		<u>Normal Flow</u>		<u>Maximum Flow</u>	
Flow Capacity:		l/hr	90	1500	1700		
Suction Pressure: (Note 1)		psig	16.7	16.7	16.7		
NPSH Available:		m	4.2	4.1	4.1		
Design Cutoff Pressure:		psig	100	100	100		
Design Total Head Required:		m	0.2	32	40		
Operating Pressure:		psig	80	80	80		
NPSH Required:		m	0.6	0.6	0.6		
o Pump Speed		rpm	300	1600	1750		
o % of Full Rated Speed		%	17%	91%	100%		
<b>CONSTRUCTION</b>							
Casing:		PVDF					
o Connection, flange rating:		150#					
o Packing or Seal:		Sealless					
o Gears:		Carbon-reinforced PTFE					
Impeller Diameter:		N/A					
Manufacturer, Model No.:		Basis of Design: Pulsafeeder Eclipse, E25NFVF-X or approved equal as per Section B8.					
o Pump Size:		1"x1" (25mm x 25mm)					
o Drive Configuration:		Seal-less mag drive					
o Pump Full Speed		rpm	1750				
<b>DRIVER</b>							
Variable or Constant Speed		Variable (Note 2)					
Type:		Inverter duty electric motor					
o Horsepower and RPM Rating:		hp	1.5				
o Motor Rated Speed		rpm	1800				
Electric Characteristics:		575V / 3PH / 60 Hz					
o Motor Enclosure:		TEFC (Note 3)					
Service Factor:		1.25					
<b>BASE</b>							
Base Type:		Pump shall be mounted and factory assembled on duplex skid with all associated piping and components. Stand alone frame shall be HSS tubing. Frame shall be painted with chemical resistant paint. All backboards for mounting of piping and components shall be HDPE.					
<b>NOTES</b>							
1 Suction pressure is dependent on height of fluid in the tank. Thus, suction pressure is subject to change. Noted pressure is based on full tank.							
2 VFD to be provided and mounted by others.							
3 Nameplate shall indicate the IP rating and state the Zone, Class, and/or Division areas in which the motors are certified.							
4 Reference general arrangement drawings (1-0101-MGAD-A001-001, 1-0101-MGAD-F211-001, 1-0101-MGAD-F025-001) and process and instrumentation diagrams (1-0101-PPID-F009-001) for additional information.							
5 All electrical factory installed components on the skid shall be terminated in an electrical junction box for connection to the process control system.							
Junction box shall be mounted directly on the skid.							



		EQUIPMENT DATASHEET			DATA SHEET NO.		REV.	
					DST-P-F0830,P-F0831,P-F0832		0	
		PUMP			SHEET	1	OF	1
		NO.	DATE	REVISION	BY	CHK'D	APPR.	
0	2022-05-18	ISSUED FOR CONSTRUCTION	JP	<i>RAC</i>	<i>R</i>			
PROJECT: NEWPCC INTERIM PHOSPHOROUS REMOVAL								
EQUIPMENT NO. P-F0830, P-F0831, P-F0832		DESCRIPTION: SODIUM HYDROXIDE METERING PUMPS						
o Vendor to Verify/Specify								
<b>GENERAL</b>								
Number Required:		Three (3)						
Type:		Gear Type Pump						
Duty:		Continuous, Duty/Standby						
<b>PROCESS DATA</b>								
Fluid:		Sodium Hydroxide						
Corrosive Compounds:		pH	>14					
Composition:		% wt/wt	50%					
Flowing Temperature:		°C	20					
Specific Gravity at Flow Temp.:		1.53						
Viscosity at Flow Temp.:		cp	36.0					
Vapor Pressure at Flow Temp.:		psia	N/A					
<b>HYDRAULIC DATA</b>								
Condition:		<u>Minimum Flow</u>		<u>Normal Flow</u>		<u>Maximum Flow</u>		
Flow Capacity:		l/hr	8	67	792			
Suction Pressure: (Note 1)		psig	7.01	7.01	7.01			
NPSH Available:		m	5.1	5.1	5.1			
Design Cutoff Pressure:		psig	100	100	100			
Design Total Head Required:		m	27	27	31			
Operating Pressure		psig	80	80	80			
NPSH Required:		m	0.6	0.6	0.6			
o Pump Speed		rpm	300	300	1750			
o % of Full Rated Speed		%	17%	17%	100%			
<b>CONSTRUCTION</b>								
Casing:		PVDF						
o Connection, flange rating:		150#						
o Packing or Seal:		Sealless						
o Gears:		Carbon-reinforced PTFE						
Impeller Diameter:		N/A						
Manufacturer, Model No.:		Basis of Design: Pulsafeeder Eclipse, E12KLEF-X or approved equal as per Section B8.						
o Pump Size:		3/4" x 3/4" (20mm x 20mm)						
o Drive Configuration:		Seal-less mag drive						
o Pump Full Speed		rpm	1750					
<b>DRIVER</b>								
Variable or Constant Speed		Variable (Note 2)						
Type:		Inverter Duty electric motor						
o Horsepower and RPM Rating:		hp	0.5					
o Motor Rated Speed		rpm	1800					
Electric Characteristics:		575V / 3PH / 60 Hz						
o Motor Enclosure:		TEFC (Note 3)						
Service Factor:		1.25						
<b>BASE</b>								
Base Type:		Pump shall be mounted and factory assembled on triplex skid with all associated piping and components. Stand alone frame shall be HSS tubing. Frame shall be painted with chemical resistant paint. All backboards for mounting of piping and components shall be HDPE.						
<b>NOTES</b>								
1		Suction pressure is dependent on height of fluid in the tank. Thus, suction pressure is subject to change. Noted pressure is based on full tank.						
2		VFD to be provided and mounted by others.						
3		Nameplate shall indicate the IP rating and state the Zone, Class, and/or Division areas in which the motors are certified.						
4		Reference general arrangement drawings (1-0101-MGAD-A001-001, 1-0101-MGAD-F203-001, 1-0101-MGAD-F027-001) and process and instrumentation diagrams (1-0101-PPID-F008-001) for additional information.						
5		All electrical factory installed components on the skid shall be terminated in an electrical junction box for connection to the process control system. Junction box shall be mounted directly on the skid.						

		EQUIPMENT DATASHEET			DATA SHEET NO.		REV.
					DST-P-G0751		0
		PUMP			SHEET	1	OF
NO.	DATE	REVISION		BY	CHK'D	APPR.	
0	2022-05-18	ISSUED FOR CONSTRUCTION		JP	<i>KW</i>	<i>JS</i>	
PROJECT:		NEWPCC INTERIM PHOSPHOROUS REMOVAL					
EQUIPMENT NO.		P-G0751		DESCRIPTION:			FERRIC CHLORIDE METERING PUMP FOR DP-2.1A/B
o Vendor to Verify/Specify							Rev.
<b>GENERAL</b>							
Number Required:		One (1)					
Type:		Diaphragm					
Duty:		Continuous					
<b>PROCESS DATA</b>							
Fluid:		Ferric Chloride					
Corrosive Compounds:		pH	<1				
Composition:		% wt/wt	37-42%				
Flowing Temperature:		°C	20				
Specific Gravity at Flow Temp.:		1.39-1.46					
Viscosity at Flow Temp.:		cp	N/A				
Vapor Pressure at Flow Temp.:		psia	N/A				
<b>HYDRAULIC DATA</b>							
Condition:		<u>Minimum Flow</u>		<u>Normal Flow</u>		<u>Maximum Flow</u>	
Flow Capacity:		l/hr	-	200	271		
Suction Pressure: (Note 1)		psig	-	1	1		
NPSH Available:		m	-	21	20		
Design Cutoff Pressure:		psig	-	100	100		
Design Total Head Required:		m	-	25	25		
Operating Pressure:		psig	-	80	80		
o NPSH Required:		m	-				
o Pump Speed		rpm	-				
o % of Full Rated Speed		%	-				
<b>CONSTRUCTION</b>							
Casing:		PVDF					
o Connection, flange rating:		PVDF, DN25					
o Packing or Seal:		EPDM/PTFE					
Impeller:		N/A					
Impeller Diameter:		N/A					
o Manufacturer, Model No.:		Basis of design: ProMinent Sigma 2, S2CBH07220PVTS070UD81001EN or approved equal as per Section B8.					
Pump Size:		N/A					
o Drive Configuration:		Motor-driven diaphragm					
o Pump Full Speed		Strokes/min	160				
<b>DRIVER</b>							
Variable or Constant Speed		Variable (Note 2)					
Type:		Inverter duty electric motor					
o Power Rating:		W	220				
o Motor Rated Speed		rpm					
Electric Characteristics:		120V / 1PH / 60 Hz					
o Motor Enclosure:		TEFC (Note 3)					
Service Factor:		1.25					
<b>BASE</b>							
Base Type:		Pump shall be mounted and factory assembled on triplex skid with all associated piping and components. Stand alone frame shall be HSS tubing. Frame shall be painted with chemical resistant paint. All backboards for mounting of piping and components shall be HDPE.					
<b>NOTES</b>							
1 Suction pressure is dependent on height of fluid in the tank. Thus, suction pressure is subject to change. Noted pressure is based on full tank.							
2 VFD to be provided and mounted by others.							
3 Nameplate shall indicate the IP rating and state the Zone, Class, and/or Division areas in which the motors are certified.							
4 Reference general arrangement plan drawings (1-0101-MGAD-A001-001, 1-0101-MGAD-G014-001, 1-0101-MGAD-G015-001) and process and instrumentation diagrams (1-0101-PPID-G012-001) for additional information.							
5 All electrical factory installed components on the skid shall be terminated in an electrical junction box for connection to the process control system. Junction box shall be mounted directly on the skid.							
6 Pump skid shall be installed on top of chemical containment pallet system (Specification Section 40 06 01). and connected to remote dosing tank, TK-G0750 (Specification Section 40 05 01).							



# Pressure Instrument

DATA SHEET NO.

REV.

DST-PIT-F07801

0

## Pressure Transmitter

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

Project: 21-0107-015

<b>TAG NO:</b>	<b>PIT-F07801</b>	Serial No:		Loop Wiring Diagrams:	
Asset No:		Spec No:		Line / Vessel Number:	25-FC-PV04-0732
Description:	PRESSURE INDICATING TRANSMITTER	P&ID:	1-0101-PPID-F009-001	Line ID:	Size: 15mm Schedule:
Purchase Order:		Vendor:		Manufacturer:	Siemens
Requisition Number:		Job Number:		Model:	Sitran P420
					Transwest

Fluid:	Ferric Chloride
Fluid State:	Liquid

PROCESS CONDITIONS

	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:
Flow:	90	1500	1700	L/hr
Pressure:	60	60	60	psig
Temperature:	0	20	30	°C

Design Pressure:	150	psig	Vapor Pressure Pv:	N/A
Design Temperature:	-10 to 50	°C	Viscosity:	N/A
Lower SG / Density:	1.39		Compressibility (Z):	N/A
Higher SG / Density:	1.46		Area Classification:	Non Hazardous, Corrosive
Pipe Rating:	Class 150		Ambient Temperature:	20 °C
Pipe Material:	PVC		Special Condition:	N/A

TRANSMITTER

Stainless Steel Tag:		Wetted O-Ring Material:	N/A
Application:	Pressure	Fill Fluid:	Note 2
Type:	Indicating Transmitter	Elevation:	
Enclosure Class:		Mounting:	
Housing:		Instrument Range:	to
Signal / Protocol:	Profibus	Calibration Range:	to
Power Supply:	24 VDC	Controller Display Range:	to
Electrical Connection:	NPT 1/2	Static Pressure Range:	to
Accuracy:	Note 2	Allowable Operating Pressure:	to
Output at Tx Failure:		Temperature:	to
Response Time:		DCS Range:	to
Process Conn. / Rating:	1/2" NPT	Max. Static Pressure:	
Element Material:		Suppression:	

MANIFOLD

Manifold Type:		Max Temperature Rating:	
Body Material:		Process Connection:	
Trim:		Process Connection Rating:	
Packing:		Manufacturer:	
Max Pressure Rating:		Model:	

SEAL DIAPHRAGM

Diaphragm	High	Low	Top Housing Material:
Size & Type:	15MM (1/2" NPT)		Bottom Housing Material:
Process Connection:	Threaded		Instrument Connection:
Material:	Note 2		Temperature Rating:
Flush Connection:	8mm (1/4")		Pressure Rating:
Capillary	Length:		Manufacturer:
	Fill Fluid:		Model:
	Material:		

OPTION

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

NOTES

1. Manufacturer and series were standardized by the City via RFP 449-2014, no alternatives or substitute will be accepted.
2. To be filled out by Vendor





# Pressure Instrument

DATA SHEET NO.

REV.

DST-PIT-F8711

0

## Pressure Transmitter

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>[Signature]</i>	<i>[Signature]</i>

Project: 21-0107-015

<b>TAG NO:</b>	<b>PIT-F8711</b>	Serial No:		Loop Wiring Diagrams:	
Asset No:		Spec No:		Line / Vessel Number:	25-SEA-CU01-0601
Description:	PRESSURE INDICATING TRANSMITTER	P&ID:	1-0101-PPID-F002-001	Line ID:	Size: 25mm Schedule:
Purchase Order:		Vendor:		Manufacturer:	Siemens
Requisition Number:		Job Number:		Model:	Sitran P420
					Transwest

### PROCESS CONDITIONS

Fluid:	Service Air			
Fluid State:	Gas			
	Minimum:	Normal (Operating):	Maximum (Full Scale):	Units:
Flow:	3.0	5.4	7.0	L/s
Pressure:	0	10	100	psig
Temperature:	0	20	30	°C
Design Pressure:	150	psig	Vapor Pressure Pv:	N/A
Design Temperature:	-40 to 100	°C	Viscosity:	N/A
Lower SG / Density:	N/A		Compressibility (Z):	1.00
Higher SG / Density:	1.00		Area Classification:	Non Hazardous, Corrosive
Pipe Rating:	N/A		Ambient Temperature:	20 °C
Pipe Material:	Copper Type L		Special Condition:	N/A

### TRANSMITTER

Stainless Steel Tag:		Wetted O-Ring Material:	N/A
Application:	Pressure	Fill Fluid:	Note 2
Type:	Indicating Transmitter	Elevation:	
Enclosure Class:		Mounting:	
Housing:		Instrument Range:	to
Signal / Protocol:	Profibus	Calibration Range:	to
Power Supply:	24 VDC	Controller Display Range:	to
Electrical Connection:	NPT 1/2	Static Pressure Range:	to
Accuracy:	Note 2	Allowable Operating Pressure:	to
Output at Tx Failure:		Temperature:	to
Response Time:		DCS Range:	to
Process Conn. / Rating:	1/2" NPT	Max. Static Pressure:	
Element Material:		Suppression:	

### MANIFOLD

Manifold Type:		Max Temperature Rating:	
Body Material:		Process Connection:	
Trim:		Process Connection Rating:	
Packing:		Manufacturer:	
Max Pressure Rating:		Model:	

### SEAL DIAPHRAGM

Diaphragm	High	Low	Top Housing Material:
Size & Type:	15MM (1/2" NPT)		Bottom Housing Material:
Process Connection:	Threaded		Instrument Connection:
Material:	Note 2		Temperature Rating:
Flush Connection:	8mm (1/4")		Pressure Rating:
Capillary	Length:		Manufacturer:
	Fill Fluid:		Model:
	Material:		

### OPTION

Integral Meter:		Hydrostatic Testing:	
Scale:		Mounting Brackets:	

### NOTES

1. Manufacturer and series were standardized by the City via RFP 449-2014, no alternatives or substitute will be accepted.
2. To be filled out by Vendor



# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO.

REV.

**DST-PSH-F07701**

**0**

SHEET	1	OF	1
-------	---	----	---

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
-----	------	----------	----	-------	-------	-------

0	2022 18 05	Issued for Construction	DG	JP	<i>JMB</i>	<i>JMB</i>
---	------------	-------------------------	----	----	------------	------------

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>PSH-F07701</b>	Serial No.		Loop Wiring Diagrams:	1-0101-AILD-F216-001
		Spec No:		Line / Vessel Number:	15-FC-PV04-0722

Asset No:		P&ID:	1-0101-PPID-F007-001	Line ID:		Size:	15mm	Schedule:	
-----------	--	-------	----------------------	----------	--	-------	------	-----------	--

Description:	PRESSURE SWITCH HIGH			Manufacturer:	
				Model:	Ashcroft B-Series

Purchase Order:		Vendor:	
-----------------	--	---------	--

Requisition Number:		Job Number:	
---------------------	--	-------------	--

Fluid:	Ferric Chloride
Fluid State:	Liquid

<b>PROCESS CONDITIONS</b>	Process Data Case (Flow.):	Min:	Normal (Operating):	Max (Full Scale):	Units
	Flow:	8	167	792	L/hr
	Pressure:	60	60	60	psig
	Temperature:	0	20	30	°C

Design Pressure:	150	psig	Vapour Pressure Pv:	N/A
Design Temperature:	-10 to 50	°C	Compressibility (Z):	N/A
Lower SG / Density:	1.39		Lower Viscosity:	N/A
Higher SG / Density:	1.46		Higher Viscosity:	N/A
Pipe Rating:	Class 150		Ambient Temperature:	20 °C
Pipe Material:	PVC		Area Classification:	Non Hazardous, Corrosive
Special Condition:	N/A			

<b>SWITCH</b>	Type:	Pressure Switch	Blow Out Protection:	
	Function:	SPDT	Pressure Element Material:	Note 1
	Switch Range:	to psi	Actuator Seal:	
	Switch Setpoint:	to psi	Connection Size:	1/2" NPTM
	Deadband:	Fixed	Connection Location:	
	Power Supply:		Enclosure Class:	NEMA4X
	Power Wiring:	24 VDC	Manufacturer:	
	Case Material:	Epoxy Coated Aluminum	Model:	

<b>SEAL DIAPHRAGM</b>	Diaphragm:		Element Material:	
	Size & Type:		Suppression:	
	Process Connection:		Instrument Range:	to
	Material:		Calibration Range:	to
	Flush Connection:		Controller Display Range:	to
	Capillary Length:		Static Pressure Range:	to
	Capillary Fill Fluid:		Allow. Oper Pressure:	to
	Capillary Material:		Allow. Oper Temperature:	to

<b>OPTIONS</b>	Syphon Type:		Snubber Type:	
	Syphon Material:		Snubber Material:	
	Fill Fluid:		Customer SS Tag:	
	Movement Damping:		Mounting Bracket:	

<b>NOTES</b>	1. To be filled out by Vendor



# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO.

REV.

**DST-PSH-F07711**

**0**

SHEET	1	OF	1
-------	---	----	---

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
-----	------	----------	----	-------	-------	-------

0	2022 18 05	Issued for Construction	DG	JP	<i>JMS</i>	<i>JMS</i>
---	------------	-------------------------	----	----	------------	------------

**Project: 21-0107-015**

<b>TAG NO:</b>	<b>PSH-F07711</b>	Serial No.		Loop Wiring Diagrams:	1-0101-AILD-F217-001
		Spec No:		Line / Vessel Number:	15-FC-PV04-0723

Asset No:		P&ID:	1-0101-PPID-F007-001	Line ID:		Size:	15mm	Schedule:	
-----------	--	-------	----------------------	----------	--	-------	------	-----------	--

Description:	PRESSURE SWITCH			Manufacturer:	
				Model:	Ashcroft B-Series

Purchase Order:		Vendor:	
-----------------	--	---------	--

Requisition Number:		Job Number:	
---------------------	--	-------------	--

Fluid:	Ferric Chloride
Fluid State:	Liquid

<b>PROCESS CONDITIONS</b>	Process Data Case (Flow.):	Min:	Normal (Operating):	Max (Full Scale):	Units
	Flow:	8	167	792	L/hr
	Pressure:	60	60	60	psig
	Temperature:	0	20	30	°C

Design Pressure:	150	psig	Vapour Pressure Pv:	N/A
Design Temperature:	-10 to 50	°C	Compressibility (Z):	N/A
Lower SG / Density:	1.39		Lower Viscosity:	N/A
Higher SG / Density:	1.46		Higher Viscosity:	N/A
Pipe Rating:	Class 150		Ambient Temperature:	20 °C
Pipe Material:	PVC		Area Classification:	Non Hazardous, Corrosive
Special Condition:	N/A			

<b>SWITCH</b>	Type:	Pressure Switch	Blow Out Protection:	
	Function:	SPDT	Pressure Element Material:	Note 1
	Switch Range:	to psi	Actuator Seal:	
	Switch Setpoint:	to psi	Connection Size:	1/2" NPTM
	Deadband:	Fixed	Connection Location:	
	Power Supply:		Enclosure Class:	NEMA4X
	Power Wiring:	24 VDC	Manufacturer:	
	Case Material:	Epoxy Coated Aluminum	Model:	

<b>SEAL DIAPHRAGM</b>	Diaphragm:		Element Material:	
	Size & Type:		Suppression:	
	Process Connection:		Instrument Range:	to
	Material:		Calibration Range:	to
	Flush Connection:		Controller Display Range:	to
	Capillary Length:		Static Pressure Range:	to
	Capillary Fill Fluid:		Allow. Oper Pressure:	to
	Capillary Material:		Allow. Oper Temperature:	to

<b>OPTIONS</b>	Syphon Type:		Snubber Type:	
	Syphon Material:		Snubber Material:	
	Fill Fluid:		Customer SS Tag:	
	Movement Damping:		Mounting Bracket:	

**NOTES**

1. To be filled out by Vendor



# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO.

DST-PSH-F07721

REV.

0

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>JMS</i>	<i>JMS</i>

**Project:** 21-0107-015

<b>TAG NO:</b>	<b>PSH-F07721</b>	Serial No.:		Loop Wiring Diagrams:	1-0101-AILD-F218-001				
		Spec No.:		Line / Vessel Number:	15-FC-PV04-0724				
<b>Asset No:</b>		P&ID:	1-0101-PPID-F007-001	Line ID:		Size:	15mm	Schedule:	
<b>Description:</b>	PRESSURE SWITCH			Manufacturer:					
				Model:	Ashcroft B-Series				
<b>Purchase Order:</b>				<b>Vendor:</b>					
<b>Requisition Number:</b>				<b>Job Number:</b>					

<b>Fluid:</b>	Ferric Chloride
<b>Fluid State:</b>	Liquid

Process Data Case (Flow):	Min:	Normal (Operating):	Max (Full Scale):	Units
Flow:	8	167	792	L/hr
Pressure:	60	60	60	psig
Temperature:	0	20	30	°C

<b>Design Pressure:</b>	150	psig	<b>Vapour Pressure Pv:</b>	N/A
<b>Design Temperature:</b>	-10 to 50	°C	<b>Compressibility (Z):</b>	N/A
<b>Lower SG / Density:</b>	1.39		<b>Lower Viscosity:</b>	N/A
<b>Higher SG / Density:</b>	1.46		<b>Higher Viscosity:</b>	N/A
<b>Pipe Rating:</b>	Class 150		<b>Ambient Temperature:</b>	20 °C
<b>Pipe Material:</b>	PVC		<b>Area Classification:</b>	Non Hazardous, Corrosive
<b>Special Condition:</b>	N/A			

<b>Type:</b>	Pressure Switch	<b>Blow Out Protection:</b>	
<b>Function:</b>	SPDT	<b>Pressure Element Material:</b>	Note 1
<b>Switch Range:</b>	to psi	<b>Actuator Seal:</b>	
<b>Switch Setpoint:</b>	to psi	<b>Connection Size:</b>	1/2" NPTM
<b>Deadband:</b>	Fixed	<b>Connection Location:</b>	
<b>Power Supply:</b>		<b>Enclosure Class:</b>	NEMA4X
<b>Power Wiring:</b>	24 VDC	<b>Manufacturer:</b>	
<b>Case Material:</b>	Epoxy Coated Aluminum	<b>Model:</b>	

<b>Diaphragm:</b>		<b>Element Material:</b>	
<b>Size &amp; Type:</b>		<b>Suppression:</b>	
<b>Process Connection:</b>		<b>Instrument Range:</b>	to
<b>Material:</b>		<b>Calibration Range:</b>	to
<b>Flush Connection:</b>		<b>Controller Display Range:</b>	to
<b>Capillary Length:</b>		<b>Static Pressure Range:</b>	to
<b>Capillary Fill Fluid:</b>		<b>Allow. Oper Pressure:</b>	to
<b>Capillary Material:</b>		<b>Allow. Oper Temperature:</b>	to

<b>Syphon Type:</b>		<b>Snubber Type:</b>	
<b>Syphon Material:</b>		<b>Snubber Material:</b>	
<b>Fill Fluid:</b>		<b>Customer SS Tag:</b>	
<b>Movement Damping:</b>		<b>Mounting Bracket:</b>	

**NOTES**

1. To be filled out by Vendor





# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO.

DST-PSH-F08301

REV.

0

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>JPB</i>	<i>JPB</i>

**Project:** 21-0107-015

<b>TAG NO:</b>	<b>PSH-F08301</b>	Serial No.:		Loop Wiring Diagrams:	
		Spec No.:		Line / Vessel Number:	15-SHD-PV04-0817
<b>Asset No:</b>		P&ID:	1-0101-PPID-F008-001	Line ID:	
				Size:	15mm Schedule:
<b>Description:</b>	PRESSURE SWITCH HIGH			Manufacturer:	
				Model:	Ashcroft B-Series
<b>Purchase Order:</b>		<b>Vendor:</b>			
<b>Requisition Number:</b>		<b>Job Number:</b>			

<b>Fluid:</b>	Sodium Hydroxide
<b>Fluid State:</b>	Liquid

Process Data Case (Flow:)	Min:	Normal (Operating):	Max (Full Scale):	Units
Flow:	8	67	792	L/hr
Pressure:	60	60	60	psig
Temperature	15	20	30	°C

<b>Design Pressure:</b>	150	psig	<b>Vapour Pressure Pv:</b>	N/A
<b>Design Temperature:</b>	10 to 50	°C	<b>Compressibility (Z):</b>	N/A
<b>Lower SG / Density:</b>	N/A		<b>Lower Viscosity:</b>	N/A
<b>Higher SG / Density:</b>	1.53		<b>Higher Viscosity:</b>	36 cP
<b>Pipe Rating:</b>	N/A		<b>Ambient Temperature:</b>	20 °C
<b>Pipe Material:</b>	PVC		<b>Area Classification:</b>	Non Hazardous, Corrosive
<b>Special Condition:</b>	N/A			

<b>Type:</b>	Pressure Switch	<b>Blow Out Protection:</b>	
<b>Function:</b>	SPDT	<b>Pressure Element Material:</b>	Note 1
<b>Switch Range:</b>	to psi	<b>Actuator Seal:</b>	
<b>Switch Setpoint:</b>	to psi	<b>Connection Size:</b>	1/2" NPTM
<b>Deadband:</b>	Fixed	<b>Connection Location:</b>	
<b>Power Supply:</b>		<b>Enclosure Class:</b>	NEMA4X
<b>Power Wiring:</b>	24 VDC	<b>Manufacturer:</b>	
<b>Case Material:</b>	Epoxy Coated Aluminum	<b>Model:</b>	

<b>Diaphragm:</b>		<b>Element Material:</b>	
<b>Size &amp; Type:</b>		<b>Suppression:</b>	
<b>Process Connection:</b>		<b>Instrument Range:</b>	to
<b>Material:</b>		<b>Calibration Range:</b>	to
<b>Flush Connection:</b>		<b>Controller Display Range:</b>	to
<b>Capillary Length:</b>		<b>Static Pressure Range:</b>	to
<b>Capillary Fill Fluid:</b>		<b>Allow. Oper Pressure:</b>	to
<b>Capillary Material:</b>		<b>Allow. Oper Temperature:</b>	to

<b>Syphon Type:</b>		<b>Snubber Type:</b>	
<b>Syphon Material:</b>		<b>Snubber Material:</b>	
<b>Fill Fluid:</b>		<b>Customer SS Tag:</b>	
<b>Movement Damping:</b>		<b>Mounting Bracket:</b>	

**NOTES**

1. To be filled out by Vendor



# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO.

DST-PSH-F08311

REV.

0

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>JPB</i>	<i>JPB</i>

**Project:** 21-0107-015

<b>TAG NO:</b>	<b>PSH-F08311</b>	Serial No.:		Loop Wiring Diagrams:	1-0101-AILD-F244-001
		Spec No.:		Line / Vessel Number:	15-SHD-PV04-0818
<b>Asset No:</b>		P&ID:	1-0101-PPID-F008-001	Line ID:	
				Size:	15mm Schedule:
<b>Description:</b>	PRESSURE SWITCH HIGH			Manufacturer:	
				Model:	Ashcroft B-Series
<b>Purchase Order:</b>		<b>Vendor:</b>			
<b>Requisition Number:</b>		<b>Job Number:</b>			

<b>Fluid:</b>	Sodium Hydroxide
<b>Fluid State:</b>	Liquid

Process Data Case (Flow:)	Min:	Normal (Operating):	Max (Full Scale):	Units
Flow:	8	67	792	L/hr
Pressure:	60	60	60	psig
Temperature	15	20	30	°C

<b>Design Pressure:</b>	150	psig	<b>Vapour Pressure Pv:</b>	N/A
<b>Design Temperature:</b>	10 to 50	°C	<b>Compressibility (Z):</b>	N/A
<b>Lower SG / Density:</b>	N/A		<b>Lower Viscosity:</b>	N/A
<b>Higher SG / Density:</b>	1.53		<b>Higher Viscosity:</b>	36 cP
<b>Pipe Rating:</b>	N/A		<b>Ambient Temperature:</b>	20 °C
<b>Pipe Material:</b>	PVC		<b>Area Classification:</b>	Non Hazardous, Corrosive
<b>Special Condition:</b>	N/A			

<b>Type:</b>	Pressure Switch	<b>Blow Out Protection:</b>	
<b>Function:</b>	SPDT	<b>Pressure Element Material:</b>	Note 1
<b>Switch Range:</b>	to psi	<b>Actuator Seal:</b>	
<b>Switch Setpoint:</b>	to psi	<b>Connection Size:</b>	1/2" NPTM
<b>Deadband:</b>	Fixed	<b>Connection Location:</b>	
<b>Power Supply:</b>		<b>Enclosure Class:</b>	NEMA4X
<b>Power Wiring:</b>	24 VDC	<b>Manufacturer:</b>	
<b>Case Material:</b>	Epoxy Coated Aluminum	<b>Model:</b>	

<b>Diaphragm:</b>		<b>Element Material:</b>	
<b>Size &amp; Type:</b>		<b>Suppression:</b>	
<b>Process Connection:</b>		<b>Instrument Range:</b>	to
<b>Material:</b>		<b>Calibration Range:</b>	to
<b>Flush Connection:</b>		<b>Controller Display Range:</b>	to
<b>Capillary Length:</b>		<b>Static Pressure Range:</b>	to
<b>Capillary Fill Fluid:</b>		<b>Allow. Oper Pressure:</b>	to
<b>Capillary Material:</b>		<b>Allow. Oper Temperature:</b>	to

<b>Syphon Type:</b>		<b>Snubber Type:</b>	
<b>Syphon Material:</b>		<b>Snubber Material:</b>	
<b>Fill Fluid:</b>		<b>Customer SS Tag:</b>	
<b>Movement Damping:</b>		<b>Mounting Bracket:</b>	

**NOTES**

1. To be filled out by Vendor



# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO.

DST-PSH-F08321

REV.

0

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>JPB</i>	<i>JPB</i>

**Project:** 21-0107-015

<b>TAG NO:</b>	<b>PSH-F08321</b>	Serial No:		Loop Wiring Diagrams:	1-0101-AILD-F244-001
		Spec No:		Line / Vessel Number:	15-SHD-PV04-0819
<b>Asset No:</b>		P&ID:	1-0101-PPID-F008-001	Line ID:	
				Size:	15mm Schedule:
<b>Description:</b>	PRESSURE SWITCH HIGH			Manufacturer:	
				Model:	Ashcroft B-Series
<b>Purchase Order:</b>		<b>Vendor:</b>			
<b>Requisition Number:</b>		<b>Job Number:</b>			

<b>Fluid:</b>	Sodium Hydroxide
<b>Fluid State:</b>	Liquid

Process Data Case (Flow:)	Min:	Normal (Operating):	Max (Full Scale):	Units
Flow:	8	67	792	L/hr
Pressure:	60	60	60	psig
Temperature	15	20	30	°C

<b>Design Pressure:</b>	150	psig	<b>Vapour Pressure Pv:</b>	N/A
<b>Design Temperature:</b>	10 to 50	°C	<b>Compressibility (Z):</b>	N/A
<b>Lower SG / Density:</b>	N/A		<b>Lower Viscosity:</b>	N/A
<b>Higher SG / Density:</b>	1.53		<b>Higher Viscosity:</b>	36 cP
<b>Pipe Rating:</b>	N/A		<b>Ambient Temperature:</b>	20 °C
<b>Pipe Material:</b>	PVC		<b>Area Classification:</b>	Non Hazardous, Corrosive
<b>Special Condition:</b>	N/A			

<b>Type:</b>	Pressure Switch	<b>Blow Out Protection:</b>	
<b>Function:</b>	SPDT	<b>Pressure Element Material:</b>	Note 1
<b>Switch Range:</b>	to psi	<b>Actuator Seal:</b>	
<b>Switch Setpoint:</b>	to psi	<b>Connection Size:</b>	1/2" NPTM
<b>Deadband:</b>	Fixed	<b>Connection Location:</b>	
<b>Power Supply:</b>		<b>Enclosure Class:</b>	NEMA4X
<b>Power Wiring:</b>	24 VDC	<b>Manufacturer:</b>	
<b>Case Material:</b>	Epoxy Coated Aluminum	<b>Model:</b>	

<b>Diaphragm:</b>		<b>Element Material:</b>	
<b>Size &amp; Type:</b>		<b>Suppression:</b>	
<b>Process Connection:</b>		<b>Instrument Range:</b>	to
<b>Material:</b>		<b>Calibration Range:</b>	to
<b>Flush Connection:</b>		<b>Controller Display Range:</b>	to
<b>Capillary Length:</b>		<b>Static Pressure Range:</b>	to
<b>Capillary Fill Fluid:</b>		<b>Allow. Oper Pressure:</b>	to
<b>Capillary Material:</b>		<b>Allow. Oper Temperature:</b>	to

<b>Syphon Type:</b>		<b>Snubber Type:</b>	
<b>Syphon Material:</b>		<b>Snubber Material:</b>	
<b>Fill Fluid:</b>		<b>Customer SS Tag:</b>	
<b>Movement Damping:</b>		<b>Mounting Bracket:</b>	

**NOTES**

1. To be filled out by Vendor



# Pressure Instrument

## Generic Pressure Switch

DATA SHEET NO. REV.

DST-PSH-F8712 0

SHEET 1 OF 1

NO.	DATE	REVISION	BY	CHK'D	PROC.	APPR.
0	2022 18 05	Issued for Construction	DG	JP	<i>JPB</i>	<i>JPB</i>

**Project:** 21-0107-015

<b>TAG NO:</b>	<b>PSH-F8712</b>	Serial No.:		Loop Wiring Diagrams:	1-0101-AILD-F215-001
		Spec No.:		Line / Vessel Number:	25-SEA-CU01-0601
<b>Asset No:</b>		P&ID:	1-0101-PPID-F002-001	Line ID:	
				Size:	25mm Schedule:
<b>Description:</b>	PRESSURE SWITCH			Manufacturer:	
				Model:	Ashcroft B-Series
<b>Purchase Order:</b>		<b>Vendor:</b>			
<b>Requisition Number:</b>		<b>Job Number:</b>			

PROCESS CONDITIONS

<b>Fluid:</b>	Service Air				
<b>Fluid State:</b>	Gas				
<b>Process Data Case (Flow.):</b>	Min:	Normal (Operating):	Max (Full Scale):	Units	
<b>Flow:</b>	3.0	5.4	7.0	L/s	
<b>Pressure:</b>	0	10	100	psig	
<b>Temperature:</b>	0	20	30	°C	
<b>Design Pressure:</b>	150	psig	<b>Vapour Pressure Pv:</b>	N/A	
<b>Design Temperature:</b>	-40 to 100	°C	<b>Compressibility (Z):</b>	1.00	
<b>Lower SG / Density:</b>	N/A		<b>Lower Viscosity:</b>	N/A	
<b>Higher SG / Density:</b>	1.00		<b>Higher Viscosity:</b>	N/A	
<b>Pipe Rating:</b>	N/A		<b>Ambient Temperature:</b>	20	°C
<b>Pipe Material:</b>	Copper Type L		<b>Area Classification:</b>	Non Hazardous, Corrosive	
<b>Special Condition:</b>	N/A				

SWITCH

<b>Type:</b>	Pressure Switch		<b>Blow Out Protection:</b>		
<b>Function:</b>	SPDT		<b>Pressure Element Material:</b>	Note 1	
<b>Switch Range:</b>	to	psi	<b>Actuator Seal:</b>		
<b>Switch Setpoint:</b>	to	psi	<b>Connection Size:</b>	1/2" NPTM	
<b>Deadband:</b>	Fixed		<b>Connection Location:</b>		
<b>Power Supply:</b>			<b>Enclosure Class:</b>	NEMA4X	
<b>Power Wiring:</b>	24 VDC		<b>Manufacturer:</b>		
<b>Case Material:</b>	Epoxy Coated Aluminum		<b>Model:</b>		

SEAL DIAPHRAGM

<b>Diaphragm:</b>		<b>Element Material:</b>			
<b>Size &amp; Type:</b>		<b>Suppression:</b>			
<b>Process Connection:</b>		<b>Instrument Range:</b>	to		
<b>Material:</b>		<b>Calibration Range:</b>	to		
<b>Flush Connection:</b>		<b>Controller Display Range:</b>	to		
<b>Capillary Length:</b>		<b>Static Pressure Range:</b>	to		
<b>Capillary Fill Fluid:</b>		<b>Allow. Oper Pressure:</b>	to		
<b>Capillary Material:</b>		<b>Allow. Oper Temperature:</b>	to		

OPTIONS

<b>Syphon Type:</b>		<b>Snubber Type:</b>	
<b>Syphon Material:</b>		<b>Snubber Material:</b>	
<b>Fill Fluid:</b>		<b>Customer SS Tag:</b>	
<b>Movement Damping:</b>		<b>Mounting Bracket:</b>	

NOTES

1. To be filled out by Vendor

		EQUIPMENT DATASHEET PUMP				DATA SHEET NO.		REV.
						DST-P-Y0791,P-Y0792,P-Y0793		0
		NO.	DATE	REVISION	BY	CHK'D	APPR.	
0	2022-05-18	ISSUED FOR CONSTRUCTION	JP	<i>RW</i>	<i>J</i>			
PROJECT: NEWPCC INTERIM PHOSPHOROUS REMOVAL								
EQUIPMENT NO.	P-Y0791, P-Y0792, P-Y0793	DESCRIPTION:	FERRIC CHLORIDE METERING PUMPS FOR DP-4.1, 4.2, 4.3					
<input type="checkbox"/> Vendor to Verify/Specify							Rev.	
<b>GENERAL</b>								
Number Required:	Three (3)							
Type:	Solenoid-driven diaphragm							
Duty:	Continuous							
<b>PROCESS DATA</b>								
Fluid:	Ferric Chloride							
Corrosive Compounds:	pH	<1						
Composition:	% wt/wt	37-42%						
Flowing Temperature:	°C	20						
Specific Gravity at Flow Temp.:	1.39-1.46							
Viscosity at Flow Temp.:	cp	N/A						
Vapor Pressure at Flow Temp.:	psia	N/A						
<b>HYDRAULIC DATA</b>								
Condition:		<u>Minimum Flow</u>	<u>Normal Flow</u>	<u>Maximum Flow</u>				
Flow Capacity:	l/hr	-	30	30				
Suction Pressure: (Note 1)	psig	-	1	1				
NPSH Available:	m	-	21	21				
Design Cutoff Pressure:	psig	-	100	100				
Design Total Head Required:	m	-	0	0				
Operating Pressure:	psig	-	80	80				
<input type="checkbox"/> NPSH Required:	m	-	-	-				
<input type="checkbox"/> Pump Speed	Strokes/min	-	200	200				
<input type="checkbox"/> % of Full Rated Speed	%	-	100%	100%				
<b>CONSTRUCTION</b>								
Casing:	PVDF							
<input type="checkbox"/> Connection, flange rating:	PVDF, DN10							
<input type="checkbox"/> Packing or Seal:	PTFE							
Impeller:	N/A							
Impeller Diameter:	N/A							
<input type="checkbox"/> Manufacturer, Model No.:	Basis of Design: ProMinent Gamma XL, GXLAUS0730PVT2Q000UDC130EN or approved equal as per Section B8.							
Pump Size:	N/A							
<input type="checkbox"/> Drive Configuration:	Solenoid-driven diaphragm							
<input type="checkbox"/> Pump Full Speed	Strokes/min	200						
<b>DRIVER</b>								
Variable or Constant Speed	Variable (Note 2)							
Type:	Inverter duty electric motor							
<input type="checkbox"/> Mean Power Consumption:	W	78						
<input type="checkbox"/> Motor Rated Speed	rpm							
Electric Characteristics:	120V / 1PH / 60 Hz							
<input type="checkbox"/> Motor Enclosure:	TEFC (Note 3)							
Service Factor:	1.25							
<b>BASE</b>								
Base Type:	Pump shall be mounted and factory assembled on simplex skid with all associated piping and components. Stand alone frame shall be HSS tubing. Frame shall be painted with chemical resistant paint. All backboards for mounting of piping and components shall be HDPE.							
<b>NOTES</b>								
1 Suction pressure is dependent on height of fluid in the tank. Thus, suction pressure is subject to change. Noted pressure is based on full tank.								
2 VFD to be provided and mounted by others.								
3 Nameplate shall indicate the IP rating and state the Zone, Class, and/or Division areas in which the motors are certified.								
4 Reference site plan drawings (1-0101-MGAD-A001-001, 1-0101-MGAD-Y301-001, 1-0101-MGAD-Y001-001) and process and instrumentation diagrams (1-0101-PPID-Y001-001) for additional information.								
5 All electrical factory installed components on the skid shall be terminated in an electrical junction box for connection to the process control system. Junction box shall be mounted directly on the skid.								
6 Pump skid shall be installed on top of chemical containment pallet system (Specification Section 40 06 01) and connected to remote dosing tank TK-Y0790 (Specification Section 40 05 01).								