

**WorleyParsons**

resources & energy

PROJECT: Keystone XL Pipeline
Canadian Pump Stations
INSTRUMENT DATA SHEET

FLOW TRANSMITTER

SHT 1 OF 3

DATASHEET No.

25472-101-JFD-JF00-W0001

REV:

04

JOB NUMBER:

08E4490

DATE:

12-Jul-12

REQUISITION No.

25472-101-MRA-JF00-W0002

P.O. No.

APPR.

WZ

GENERAL	1	Tag Number	See Attached List		
	2	Service	Mainline Pump Seal Leak Detection		
	3	P & ID Number	See Attached List		
	4	Line Number / Vessel Number	See Attached List		
	5	Pipeline/Schedule/Insulation	*1 1/2" Union Female x Female/CL3000/A105(Note 3)		
	6	Application	Flow/Level		
PROCESS CONDITIONS	7	Fluid	Diluent Bitumen/Synthetic Crude		
	8	Unit	Min	Max	
	9	Pressure	kPag	0	1900
	10	Temperature	°C	0	70
	11	Specific Gravity		0.815	0.953
	12	Viscosity	cSt	2	350
	13	Flow	m3/hr	0	0.45/5.4 (Note 5)
	14	Velocity	m/s	0	0.14 /1.68
	15	Thermal Conductivity	W/mK		
	16	Clean or Dirty	Clean		
	17	% Solids	< 0.5% of Solid & Water		
	18				
	19				
	20				
TRANSMITTER	21	Type	Thermal Dispersion		
	22	Transmitter Output	4-20mA		
	23	Power Supply	24V DC, External		
	24	Housing Material	*Copper free Aluminum (Note 6)		
	25	Agency Approval	CSA		
	26	Accuracy	*Flow service: +/- 1% of set point velocity Level service: +/- 0.64cm		
	27	Repeatability	*Flow service: +/- 1% of set point velocity Level service: +/- 0.64cm		
	28	Flow Velocity			
	29	Calibration range	0-100%		
	30	Switch Point range			
	31	Electrical Area Classification	Class I, Zone II, Group IIA		
	32	Enclosure Type	*Type 4/IP55, Flameproof		
	33	Electrical Connection	*1" NPT		
	34	Electrical Secondary Seal	*Single Seal Approval		
PROBE	35	Type	Thermal Dispersion		
	36	Wetted Parts Material	*316/136L SST		
	37	Temperature Range	*-55°C to 200°C		04
	38	Pressure Range	*24MPa(at 21°C)		
	39	Thermal Conductivity			
	40	Process Connection Size	*1 1/2" CL150 RF Flange		
	41	Response Rate	*0.5 to 30 sec		
	42	Insertion Length	*7" (Note 3)		
SWITCHES	43	Type	*SPDT (Note 4)		
	44	No. of Switches	*2		
	45	Output Rating	*5 Amps @ 24V DC Max		
	46				
	47				
	48				
	49				
PURCHASE	50	Manufacturer	Kayden		
	51	Model Number	*812-RAA131A-I0070-C1G0A1E		04
	52				
	53	CRN Number	N/A		

Notes:

- Supply 316SS Tag, nameplate containing tag number, model/serial number, body ratings, operating conditions/limitations.
- Ambient Temperature is -40 °C to 40 °C (-40 °F to 104 °F).
- The Seal Leak Detection is fully pre-assembled by the vendor. Transmitter is mounted vertically.
Refer to installation detail 1399-05-00-ID-029.
- Switches are not used. Action is taken on the basis of analog input to PLC.
- Flowrate 0.45 m3/hr @ 350cSt with specific gravity of 0.953. Flowrate 5.4 m3/hr @ 2 cSt with specific gravity of 0.815.
- Material not to exceed 0.4% Copper.
- I, _ _ _ Indicates Expansion

* Information supplied by Manufacturer & Vendor .

Instrument Tag List		FLOW TRANSMITTER	SHT 2 OF 2	
			DATASHEET No. 25472-101-JFD-JF00-W0001	REV: 04
	Tag Number	P & ID Number	Line/Equipment Number	
1	121-HRDBP-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
2	121-HRDBP-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
3	121-HRDBP-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
4	121-HRDBP-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
5	121-HRDBP-B4-FT-1045	TMPL-01-00-02-027	B4-MP-04	
6	121-HRDBP-B4-FT-1046	TMPL-01-00-02-027	B4-MP-04	
7	121-HRDBP-B5-FT-1055	TMPL-01-00-02-027	B5-MP-05	
8	121-HRDBP-B5-FT-1056	TMPL-01-00-02-027	B5-MP-05	
9	122-LKSDE-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
10	122-LKSDE-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
11	122-LKSDE-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
12	122-LKSDE-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
13	122-LKSDE-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
14	122-LKSDE-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
15	123-MTRSP-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
16	123-MTRSP-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
17	123-MTRSP-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
18	123-MTRSP-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
19	123-MTRSP-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
20	123-MTRSP-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
21	124-OYENS-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
22	124-OYENS-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
23	124-OYENS-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
24	124-OYENS-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
25	124-OYENS-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
26	124-OYENS-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
27	125-BDLSS-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
28	125-BDLSS-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
29	125-BDLSS-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
30	125-BDLSS-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
31	125-BDLSS-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
32	125-BDLSS-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
33	126-FXVLY-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
34	126-FXVLY-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
35	126-FXVLY-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
36	126-FXVLY-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
37	126-FXVLY-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
38	126-FXVLY-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
39	127-PIAPT-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
40	127-PIAPT-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
41	127-PIAPT-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
42	127-PIAPT-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
43	127-PIAPT-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
44	127-PIAPT-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
45	128-GRSSY-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
46	128-GRSSY-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
47	128-GRSSY-B2-FT-1025	TMPL-01-00-02-027	B2-MP-02	
48	128-GRSSY-B2-FT-1026	TMPL-01-00-02-027	B2-MP-02	
49	128-GRSSY-B3-FT-1035	TMPL-01-00-02-027	B3-MP-03	
50	128-GRSSY-B3-FT-1036	TMPL-01-00-02-027	B3-MP-03	
51	121-HRDBP-B1-FT-1015	TMPL-01-00-02-027	B1-MP-01	
52	121-HRDBP-B1-FT-1016	TMPL-01-00-02-027	B1-MP-01	
53	121-HRDBP-B6-FT-1065	TMPL-01-00-02-027	B6-MP-06	
54	121-HRDBP-B6-FT-1066	TMPL-01-00-02-027	B6-MP-06	
55	122-LKSDE-B4-FT-1045	TMPL-01-00-02-027	B4-MP-04	
56	122-LKSDE-B4-FT-1046	TMPL-01-00-02-027	B4-MP-04	
57	122-LKSDE-B5-FT-1055	TMPL-01-00-02-027	B5-MP-05	
58	122-LKSDE-B5-FT-1056	TMPL-01-00-02-027	B5-MP-05	
59	123-MTRSP-B4-FT-1045	TMPL-01-00-02-027	B4-MP-04	
60	123-MTRSP-B4-FT-1046	TMPL-01-00-02-027	B4-MP-04	
Additional Comments:				

[illegible]