



SUITE 1300, 717 - 7TH AVENUE S.W. CALGARY, ALBERTA T2P 0Z3 PHONE (403) 265-6633 FAX (403) 266-2770

SCOPE OF WORK Rev 0
Job No: W202414

Project Coordinator: Jeff Christensen

Sales Rep:

Quote Reference: -

Client:

TBD

Commercial Contact:

Customer P.O.: -

Email:

Phone:

Technical Contact:

Email:

Phone:

EPCM Contact:

Email:

Phone:

Shipping Contact:

Email:

Phone:

Mechanical Inspection Contact:

Email:

Phone:

One (1) 60"OD x 15'-0"S/Sx720 PSI Separator Package – Sour Service



1.0 COMMERCIAL

1.1. Firm Pricing

Item 1:

60" OD x 15'-0"S/Sx720 PSI Separator Package – Sour Service

As per quotation

- Buyout Canadian Funds
- Package is E.X.W. Nisku, Alberta
- Bid Validity 30 days
- All Applicable Taxes are Extra

1.2. Options

Provision in layout and piping to allow for the following:

- Inlet or Outlet PCV/ESD
- Future Liquid metering/provers/bypass and associated valves
- Scrubber PSV tie into Vessel PSV Discharge

1.3. Delivery

Allow approximately one to two weeks, based on options after receipt of approval,

Subject to:

- Work on hand at time of order.
- Expedient receipt of material from supplier.
- Additional options requested by customer

1.4. Payment Milestones

Terms of payment are net 30 days on progress invoicing:

- 15% on Approved Drawings
- 35% on Order of Major Material (non-priced POs can be provided)
- 20% on Mechanical Completion
- 25% on Readiness to ship
- 5% on Submittal of Final Tank Documentation

Note: Progress invoicing may be waived for smaller orders



1.5. Cancellation Schedule

10%	After Receipt of Purchase Order
15%	After Completion of Approved Drawings
50%	After Major Materials have been ordered
85%	After Construction has commenced
100%	After Mechanical Completion

*Cancellation charges for sub-vendors to be determined at time of cancellation.

1.6. Warranty

Material and workmanship – 18 months from completion or 12 months from equipment start-up.

2.0 TECHNICAL

2.1. 60"OD x 15'-0" x 720 PSI Separator

Diameter:	60"	OD	Design Pressure:	720	PSI
Length:	15'-0"	S/S	Design Temperature:	52	°C
Corrosion Allowance:	.125"		MDMT:	-29	°C

Horizontal sour vessel designed, fabricated, tested and inspected in accordance with the ASME Code, Section VIII, Div. 1.

Registered in the Province of Alberta. Vessel is PWHT, 1150°F for 75 Min.

Materials of Construction

Shell:	SA-516-70N
2:1 SE Head:	SA-516-70N
Wear Pads:	SA-516-70N
Attachments:	SA-516-70N
Flanges (nozzles):	SA-105N
Piping (nozzles):	SA-106B
Studs /Nuts /Gasket (ext):	B7M/2HM/ 316SS spiral wound
Studs /Nuts /Gasket (int):	B7M/2HM/ 316SS spiral wound

Thickness

1.250"	Nominal Thk.
1.1875"	Minimum Thk.

Internals

- (1) Inlet Diverter
- (1) Removable Demister Pad
- (1) Wave Breaker
- (1) Weir plate
- (4) Vortex Breaker at N3, N4, N8, N10



Externals

- (2) Standard Saddles c/w Wear Plates
- (2) Lifting Lugs

Connections

Nozzles (all connections shipped with plugs or PVC flange protectors unless otherwise noted):

Tag	QTY	Size	Connection Type	Service
M1	1	18"	300# RF	Manway c/w Davit Arm
N1	1	8"	300# RFLWN	Inlet c/w Dirverter
N2	1	8"	300# RFLWN	Gas Outlet
N3	1	2"	300# RF	Water Drain
N4	1	3"	300# RFHBWN	Water Out
N5	1	4"	300# RFLWN	Water LLC
N6	1	3"	300# RFHBWN	PSV
N7	1	4"	300# RFLWN	Oil LLC
N8	1	3"	300# RFHBWN	Oil Out
N9	1	3"	300# RFHBWN	LSDH
N10	1	2"	300# RF	Oil Drain
N11a/b	2	2"	300# RF	Water LG
N12a/b	2	2"	300# RF	Oil LG
N13	1	2"	300# RF	TI
N14	1	2"	300# RF	PI

Vessel Testing:

- RT-1
- Hydrotest to 1.3x DP
- Any additional testing or requirements requested by customer will be at extra cost.

2.2. Structural Steel

13' X 25' FLAT SKID

- 10" @ 45# /FT Wide Flange Main Members
- 6" @ 8.2# /FT Channel Cross Members
- 1/4" Checker Plate Floor
- (4) Lifting Lugs



2.3. Building

13' X 25' X 11'-0" GABLE TYPE (4:12) BUILDING

- 22 GAUGE GALVALUME EXTERIOR
- 24 GAUGE WHITE FLUTED ALUMINUM INTERIOR
- INSULATION R-12 WALLS AND ROOF, 6 MIL VAP.BARRIER
- (2) 3' X 7' INSULATED STEEL MANDOOOR c/w
 - IWG window
 - Panic hardware
 - Lock set
 - Weather-stripping
 - Aluminum threshold
 - Check chain
- (1) 30" X 36" DOUBLE GLAZED SLIDING WINDOW, C/W SCREEN
- (2) 12" X 12" LOUVER C/W SLIDER AND SCREEN - to be installed

2.4. Piping

Process piping will be designed as per ASME B31.3.

Spool Testing:

- 100% RT Buttwelds
- 100% MT Fillets
- PWHT

2.5. Manual Valves

BA-050	3	Balon Ball Valve 1/2" NPT 3M FP connections NACE
BA-075	4	Balon Ball Valve 3/4" NPT 3M FP connections NACE
BA-100	1	JAG Ball Valve 1" NPT 3M RP connections NACE
BAF-203	1	WKM Ball Valve Model 310, NACE 2" 300# RF FP connections



BAF-303	2	Nutron Ball Valve Model T3-R30R03S, NACE 3" 300# RF RP connections
CH-050	1	Wheatley Check Valve 1/2" NPT 3600 MAWP NACE
NV-025	5	WGI Needle Valve 1/4" FNPT x FNPT 6000# connections 316SS
NV-050	1	WGI Needle Valve 1/2" FNPT x FNPT 6000# connections 316SS

2.6. Instrumentation

LC 1001/1002	Two (2)	Norris Series 1001A Liquid Level Controller 2" NPT process connection Direct, snap acting Vertical Displacer NACE process
LCV 1001/1002	Two (2)	Fisher D4 Control Valve 2" 600# RF connections 1 1/4" Port ATO/FC Size 40 Actuator NACE
LG 1001	One (1)	Level Gauge - Transparent Quality Q18T20 Transparent Level Gauge (1,125 psig @ 100°F) Nace service construction One (1) Glass with 11 -7/8" visible length each Model 146 gauge valves - 3/4" MNPT end connection
LG 1002	One (1)	Level Gauge - Reflex Quality Q18R20 Reflex Level Gauge (2,125 psig @ 100°F) Nace service construction One (1) Glass with 11 -7/8" visible length each Model 146 gauge valves - 3/4" MNPT end connection



PSV 1001	One (1)	Mercer Pressure Relief Valve Set @ 720 PSI Gas, No BP – NACE Primary Series 91-84J11T90U1XF 3" 300 J orifice (1.287 sq in API) 4" 150 RF x RF Temperature Range: -20F to 600F WCB/WCC Body & Bonnet / Stainless Steel Spring
PI 1001	One (1)	Wika, 4" FACE, 1500PSI, SS, BTM, ½", LF
TI/TW 1001	One (1)	WGI, 3"F x 12"ST, 0/250F, C/W 316SS TOW
<u>Fuel Gas</u>		
V-200	One (1)	Fuel Gas Scrubber 8"NPS x 24"S/S x 375PSI, Sour, c/w LSHH
PI-2001	One (1)	Pressure Indicator Wika Pressure gauge 0-200 psi, 2.5" dial, Dual scale, ¼" NPT bottom mount, liquid filled
PRV-2000	One (1)	Pressure Control Valve Fisher 627 Series 1" NPT, 1/4" Orifice, NACE Spring Range 70-150 psig
PRV-2001/2002	Two (2)	Pressure Regulating valve Fisher 67CFR, 1/4", 0-35psi, Non-Vented, NACE
PSV-2001	One (1)	Pressure Safety valve Farris27DA33-M20 1" MNPT x 1" FNPT, NACE "D" orifice Set @ 150 Psig

2.7. Electrical

NONE

2.8. Painting & Coating Schedule

2.8.1. Internal Finish (vessel, piping)

- Blast: nil
- Coating: nil



2.8.2. External Finish (vessel, skid, piping)

- Blast: SSPC-SP7 Commercial Blast
- Primer: 1.5 – 2.0 mils DFT Cloverdale Alkyd Primer
- Paint: 1.5 – 2.0 mils DFT Cloverdale Alkyd Marine Enamel - Grey

2.9. Insulation

2.9.1. Vessel

- Nil

2.9.2. Skid

- Nil

2.9.3. Piping

- Nil

3.0 DEVIATIONS AND CLARIFICATIONS

- a) Price based on Argo Sales Inc. standard fabrication practices. If the customer has additional specification requirements, please provide a copy for review as it may impact the final equipment cost and/or delivery.
- b) Client is responsible for ensuring quoted equipment meets provincial and municipal regulations for the area it will be installed.
- c) Client is responsible for ensuring quoted equipment meets end user requirements.
- d) Quotation includes one drafting turnaround by the customer, any additional drafting costs beyond this will be charged at \$120/hr.
- e) MTRs provided for wetted materials only.
- f) Electrical installation has not been included in our proposal.
- g) One electronic copy of data book included in quotation. Data book content as per Argo Sales Inc. standard index.