



GE Oil & Gas

GE Oil & Gas ESP (Canada), Ltd  
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Canada  
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Alta Gas  
Calgary, Alberta

27 Feb 2014

Quotation number: 320516 - Rev 3

Attn: Carol Forbes  
E-mail: carol.forbes@altagas.ca

Project: INJ Pumphos P-320,321,322  
Your reference: ALTON NATURAL GAS

### Surface Pumping Systems - Quotation

We thank you for your above referenced inquiry, and are pleased to submit our quotation for your consideration.

Please see the next page for a summary of our offer. Full details can be found in subsequent pages. We hope you find our quotation in line with your requirements. However, if you have any questions, please do not hesitate to contact us.

This system was quoted based on customer supplied information.  
Shipping Point: FCA Oklahoma

We hope you find our quotation in line with your requirements. However, if you have any questions, please do not hesitate to contact us.

Sincerely,

Micheal Richer 403-813-3092  
GE Oil & Gas

CC: A.E. Tim Osborne  
780-955-2165

## Quotation Summary

The following is a price summary for this project. Please see item specific pages for more details.

Item number	Service	Size	Unit Price	Qty	Extended Price
616 GPM REV 3	INJECTION PUMP	SM0540	C\$ 214,158.85	3	C\$ 642,476.55
Grand Total					C\$ 642,476.55

**SPS PUMP FEATURES:** GE's Surface Pumps are designed to reduce maintenance costs through greater pump reliability, minimal routine maintenance, and improved mean time between failure. The modular design allows for field replacement of key components thus reducing down time. The companies patented designs lead the industry.

**QUALITY STANDARDS:** The GE's Manufacturing Facility is an ISO 9001-2000 certified plant.

**SCOPE OF SUPPLY:** Only the material detailed in this quotation is being offered. No assumption should be made that anything not specifically listed or defined is included.

**VALIDITY:** This offer is valid for 30 days from date issued. Quoted prices will be held firm thru shipment if order is released for manufacture within 60 days from order entry date. Otherwise, a price adjustment may be applied.

**PRICE:** The price quoted is for all items purchased at one time. Orders where the delivery is delayed at the customers request, or partial orders may be subject to a price increase.

**PAYMENT TERMS:** Progress payments may apply, please refer to attached T&C's clause 2.4.

**SHIPPING POINT:** Refer to cover letter for details.

**SHIPMENT:** Approximately TBD weeks from receipt of order, and approval to proceed with uninterrupted manufacture, subject to prior sale and confirmation at time of order.

**WARRANTY:** 12 months from commissioning or 18 months from shipment whichever should occur first.

**START-UP / ASSISTANCE:** Start-up assistance is not included, this can be provided at regular field service rates.

**EXPORT CONTROL (Commercial only Applies):** The commodities, technology or software in this Quotation are subject to the US Export Administration Regulations (EAR). Exporting from the United States may require an export license. Diversion of these items contrary to US law is prohibited. Please contact us if you have any questions.

**TERMS & CONDITIONS:** Our Standard Terms and conditions apply, and are attached.

**Taxes:** Price quoted excludes any applicable taxes, these should be added as required.

**Sales Note:** All sales & terms are subject to Credit Approval.

The company reserves the right to use factory reconditioned parts in the assembly of its products.

## Customer Price Sheet

Customer	Alta Gas	Size / Stages	SM0540 / 17
Item number	616 GPM REV 3	Pump speed	3,570 rpm
Customer reference	ALTON NATURAL GAS	Quote number	320516 - Rev 3

### Totals

Grand Total	C\$ 642,476.55	Lead Time Total	N/A
Pump Total	C\$ 270,371.04		11,000 lbs per unit
Motor Total	C\$ 97,066.80		
Starter Total	C\$ 261,555.00		
Pump Accessories Total	C\$ 13,483.71		
Special Adders/Deducts Total	C\$ 0.00		

### Pump

Qty	Description	Average Unit Price	Extended Price
3	SM0540 - 17 stages <b>Construction</b> DUPLEX STAGES 316ss head and base Nitronic 50 shaft material SM - Standard Housing (9.00" UHP) Left side suction (from drive end) 6 inch suction diameter 150# RF 316ss suction housing (rated to 250 PSI) Low pressure pump adapter 4 inch discharge flange diameter 900# RF discharge flange (316ss wetted components) 1:1 AR Tungsten Carbide stage bushings Standard thrust chamber Oil ring lubrication Nitrile o-rings <b>Baseplate/Coupling options</b> FM 1000 baseplate Drip Pans Piped to edge of Skid Motor mounting hardware Falk 1080T Flex coupling <b>Seal Options</b> Champion 501C metal bellows component seal No seal flush plan <b>Testing</b> Non-witnessed hydrostatic test Non-witnessed pump performance test Non-witnessed complete system run test MTR's on pump wetted parts The pumps shall be hydro-tested at 1.5 times the design pressure for 2 hours. <b>Painting</b> Standard GE Paint	C\$ 90,123.68	C\$ 270,371.04

## Motor

Qty	Description	Average Unit Price	Extended Price
3	<b>Driver</b> <b>Driver Details</b> Non C-Face Power rating for sizing baseplate, coupling, etc. GE 600HP 2pole 60 575 Volt 3600 rpm 3 phase TEFC Class 1 Div 2 CSA Inverted Duty Rated VFD Compatible Brg & Winding RTDS Insulated Brg NDE Space Heater Motor Jacking Bolts	C\$ 32,355.60	C\$ 97,066.80

## Starter

Qty	Description	Average Unit Price	Extended Price
3	<b>Driver</b> <b>Starters</b> ABB ACS800-37-0870-7+C134+H359 600hp 545 amps 600VAC Input Voltage: 600 VAC Rated Output Current: 545 AMPS - 150% 1 min - Heavy Duty Construction: Cabinet Drive (Ultra Low Harmonic) Enclosure: NEMA/UL Type 1 Nominal Horsepower: 750 Frame Size: 2xR8i Input Disconnecting Means: Fusible Disconnect Switch Bypass: None Input Impedance: 10% LCL High frequency filter Short Circuit Current Rating: Communication Protocols: None Other Options: dv/dt Choke - Included, Common Mode Filter - Included, EMC/RFI Filter 2nd Envir. - Included, Coated Boards - Included, 115VAC aux ctrl voltage & US conduit plate - For CSA Approval (Deletes +C129), Common Motor terminal cubicle - Included,	C\$ 87,185.00	C\$ 261,555.00

## Pump Accessories

Qty	Description	Average Unit Price	Extended Price
3	<b>Pump Accessories</b> Suction transmitter Discharge transmitter Metrix vibration transmitter Instrumentation not wired 6" 150# suction flex joint	C\$ 4,494.57	C\$ 13,483.71

**Special Adders/Deducts**

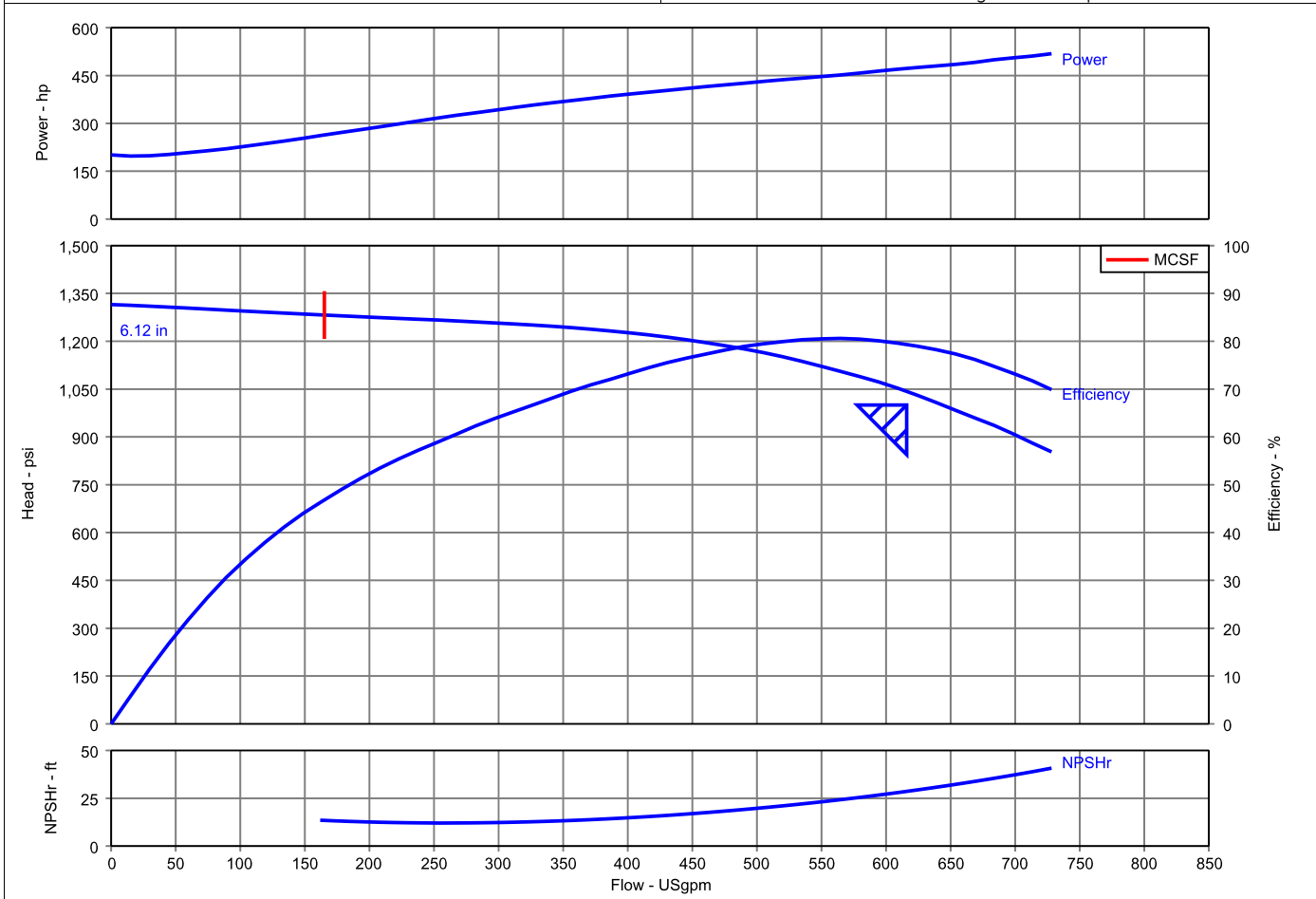
Qty	Description	Average Unit Price	Extended Price
3	<b>Special Options</b> 316SS Housing \$19,830.00 per pump (NOT INCLUDED IN PRICE) . . Freight Charge of \$12,000.00 for freight. (NOT INCLUDED IN PRICE)	C\$ 0.00	C\$ 0.00

### Pump Performance Datasheet

Customer	: Alta Gas	Quote number	: 320516 - Rev 3
Customer reference	: ALTON NATURAL GAS	Size	: SM0540
Item number	: 616 GPM REV 3	Stages	: 17
Service	: INJECTION PUMP	Based on curve number	: SM0540
Quantity	: 3	Date last saved	: 27 Feb 2014 3:48 PM

Operating Conditions		Liquid	
Flow, rated	: 616.0 USgpm	Liquid type	: User Defined
Differential head / pressure, rated (requested)	: 1,000.0 psi	Additional liquid description	: PRODUCED WATER
Differential head / pressure, rated (actual)	: 1,042.9 psi	Solids diameter, max	: 0.00 in
Suction pressure, rated / max	: 20.00 / 25.00 psi.g	Solids concentration, by volume	: 0.00 %
NPSH available, rated	: 50.30 ft	Temperature, max	: 11.00 deg C
Frequency	: 60 Hz	Fluid density, rated / max	: 1.011 / 1.011 SG
		Viscosity, rated	: 1.00 cP
		Vapor pressure, rated	: 0.00 psi.a

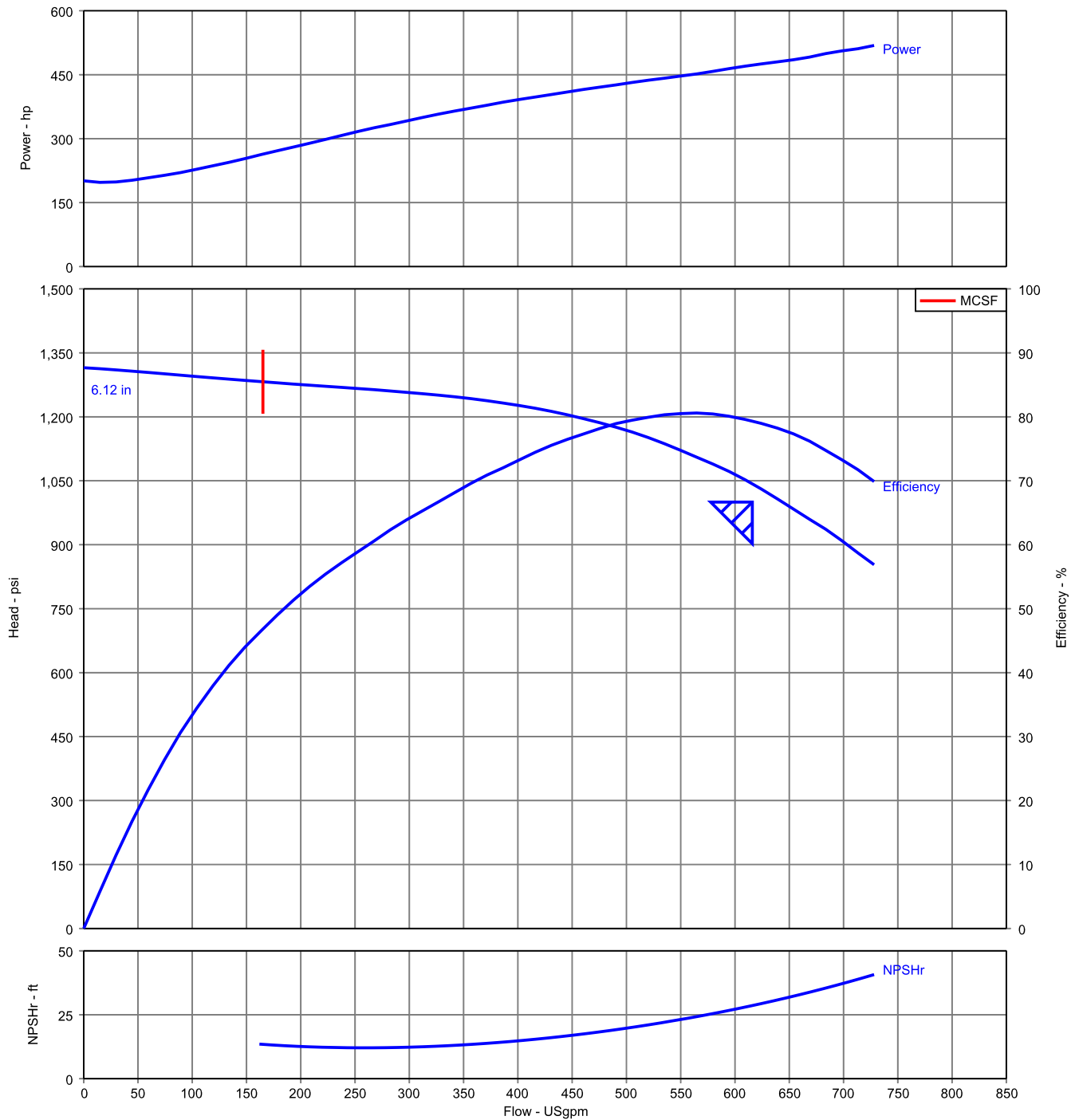
Performance		Material	
Speed, rated	: 3,570 rpm	Material selected	: Standard
Impeller diameter, rated	: 6.12 in		
Impeller diameter, maximum	: 6.12 in	Pressure Data	
Impeller diameter, minimum	: 6.12 in	Maximum working pressure	: 1,340.1 psi.g
Efficiency	: 79.33 %	Maximum allowable working pressure	: N/A
NPSH required / margin required	: 28.59 / 3.00 ft	Maximum allowable suction pressure	: N/A
Ns (imp. eye flow) / Nss (imp. eye flow)	: 1,993 / 7,765 US Units	Hydrostatic test pressure	: 2,010.1 psi.g
MCSF	: 165.1 USgpm	Driver & Power Data	
Head, maximum, rated diameter	: 1,315.1 psi	Driver sizing specification	: Maximum power
Head rise to shutoff	: 26.09 %	Margin over specification	: 0.00 %
Flow, best eff. point (BEP)	: 564.5 USgpm	Service factor	: 1.00
Flow ratio (rated / BEP)	: 109.13 %	Power, hydraulic	: 375 hp
Diameter ratio (rated / max)	: 100.00 %	Power, rated	: 472 hp
Head ratio (rated dia / max dia)	: 100.00 %	Power, maximum, rated diameter	: 519 hp
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00	Minimum recommended motor rating	: 600 hp / 447 kW
Selection status	: Acceptable		



## Construction Datasheet

1	Customer	: Alta Gas	Quote number	: 320516 - Rev 3			
2	Customer reference	: ALTON NATURAL GAS	Pump Size	: SM0540			
3	Item number	: 616 GPM REV 3	Number of Stages	: 17			
4	Service	: INJECTION PUMP					
5	Quantity of pumps	: 3	Date last saved	: 27 Feb 2014 3:48 PM			
6	Pump Design			Seal & Flush			
7	Nozzle	Size	Rating	Face	Position	Arrangement	: single component
8	Suction	6 inch	150#	RF	Side	Size	: 1.5 Inch
9	Discharge	4 inch	900#	RF	End	Manufacturer / Model	: Champion/501C
10						Type	: metal bellows
11	Pump Type	: BB5				API Material Code	: -
12	Pump Model	: SM				Gland Material	: n/a
13	Pump Size	: SM0540				Rotating Face	: carbon
14	Number of Stages	: 17				Stationary Face	: silicon carbide
15	Rotation (From Drive)	: Clockwise				O-rings	: Nitrile o-rings
16	Impeller Type	: Closed				Springs/Bellows	: Hastelloy C
17	Casing Mounting	: Foot				Flush	: n/a
18	Casing Split	: Radial				Vent	: n/a
19	Casing Type	: Carbon Steel Housing				Drain	: n/a
20	Materials					Seal Flush Plan	: -
21	Barrel/Case	: DUPLEX STAGES				Flush Piping Material/Type	: -
22	Driver Information						
23	Impeller	: DUPLEX STAGES				Manufacturer	: GE
24	Diffuser	: DUPLEX STAGES				Power	: 600HP
25	Shaft	: Nitronic 50 shaft material				Speed	: 3600
26	Suction Housing	: 316 stainless steel				Driver Type	: NEMA
27	Discharge Flange	: 316 stainless steel				Efficiency Rating	: -
28	Head & Base	: 316ss head and base				Enclosure	: TEFC
29	Stage Bushing	: 1:1 AR Tungsten Carbide stage bushings				Voltage	: 575
30	Baseplate, Coupling, & Guard					Frame Size	: 5013ST
31	Baseplate Type	: FM 1000 baseplate				Hertz	: 60
32	Baseplate Material	: Fabricated steel				Motor RTD's	: YES
33	Pump Supports	: Cast Iron				Space Heater	: YES
34	Coupling Manufacturer	: Falk					
35	Coupling Size	: 1080T				Starter/VFD Information	
36	Coupling Guard	: Aluminum				Type	: -
37	Bearing Thrust Chamber					Manufacturer	: -
38	Radial Bearing Type	: Deep groove ball				Size	: -
39	Thrust Bearing Type	: Tandem 40 degree angular contact				Voltage	: -
40	Bearing Lubrication	: Ring oil				Enclosure	: -
41	Oil Cooler	: N/A				Controller	: -
42	Oil Temp Monitor /Level Switch	: N/A				Pulse	: -
43	Accessories					Weight (Approx.)	
44	Suction Monitor	: Suction transmitter				Pump & base	: -
45	Discharge Monitor	: Discharge transmitter				Motor	: -
46	Vibration Switch	: Metrix vibration transmitter				Starter/Drive	: -
47	Suction Flex Joint	: 6" 150# suction flex joint				Total	: 11,000 lbs per unit

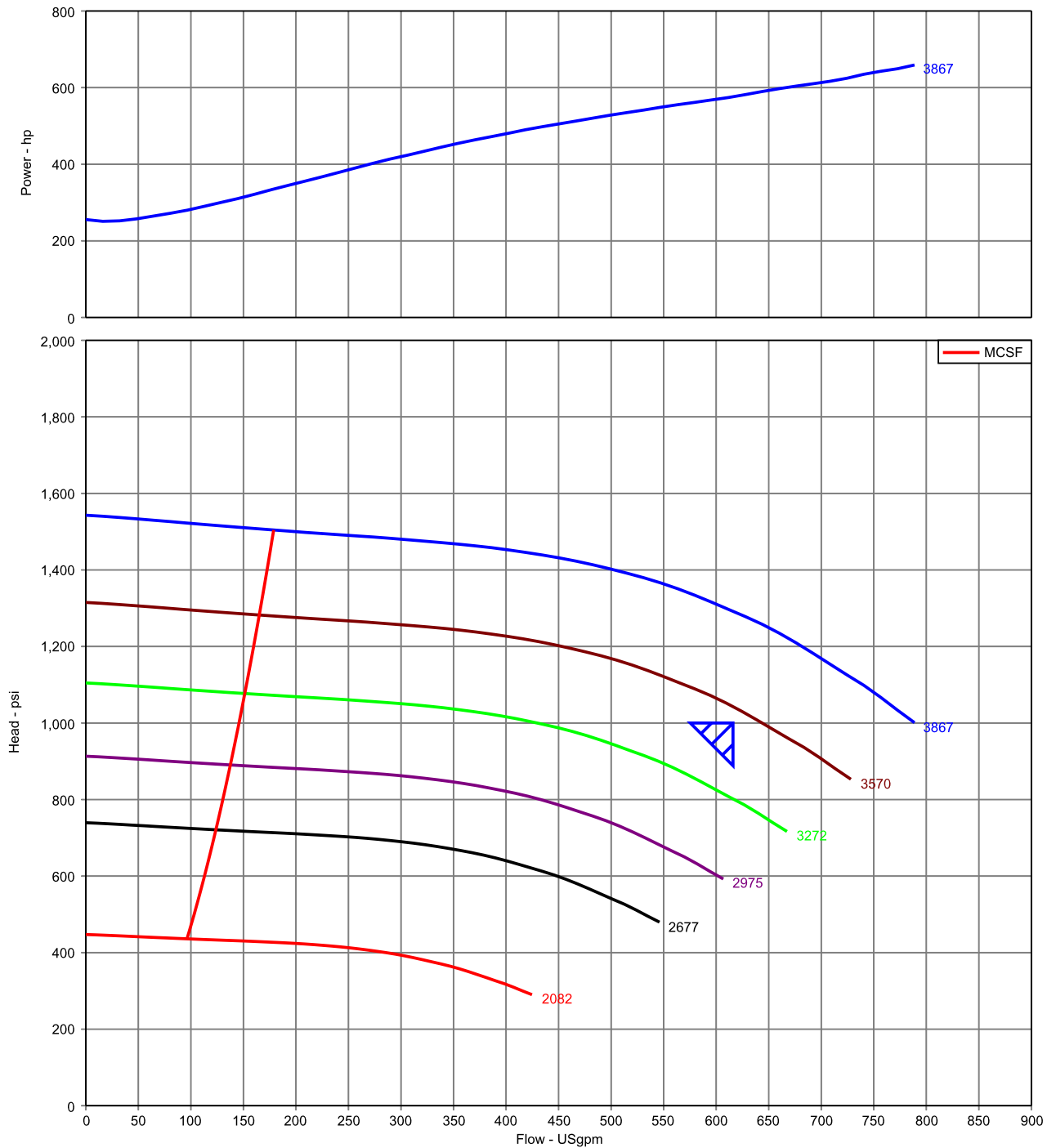
Pump Performance Curve



Customer	: Alta Gas	Size	: SM0540
Customer reference	: ALTON NATURAL GAS	Stages	: 17
Item number	: 616 GPM REV 3	Speed, rated	: 3,570 rpm
Service	: INJECTION PUMP	Based on curve number	: SM0540
Quantity	: 3	Efficiency	: 79.33 %
Quote number	: 320516 - Rev 3	Power, rated	: 472 hp
Date last saved	: 27 Feb 2014 3:48 PM	NPSH required	: 28.59 ft
Flow, rated	: 616.0 USgpm	Viscosity	: 1.00 cP
Differential head / pressure, rated	: 1,000.0 psi	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Fluid density, rated / max	: 1.011 / 1.011 SG		



Multi-Speed Performance Curve



Customer	: Alta Gas	Size	: SM0540
Customer reference	: ALTON NATURAL GAS	Stages	: 17
Item number	: 616 GPM REV 3	Speed, rated	: 3,570 rpm
Service	: INJECTION PUMP	Based on curve number	: SM0540
Quantity	: 3	Efficiency	: 79.33 %
Quote number	: 320516 - Rev 3	Power, rated	: 472 hp
Date last saved	: 27 Feb 2014 3:48 PM	NPSH required	: 28.59 ft
Flow, rated	: 616.0 USgpm	Viscosity	: 1.00 cP
Differential head / pressure, rated	: 1,000.0 psi	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Fluid density, rated / max	: 1.011 / 1.011 SG	Impeller diameter, rated	: 6.12 in

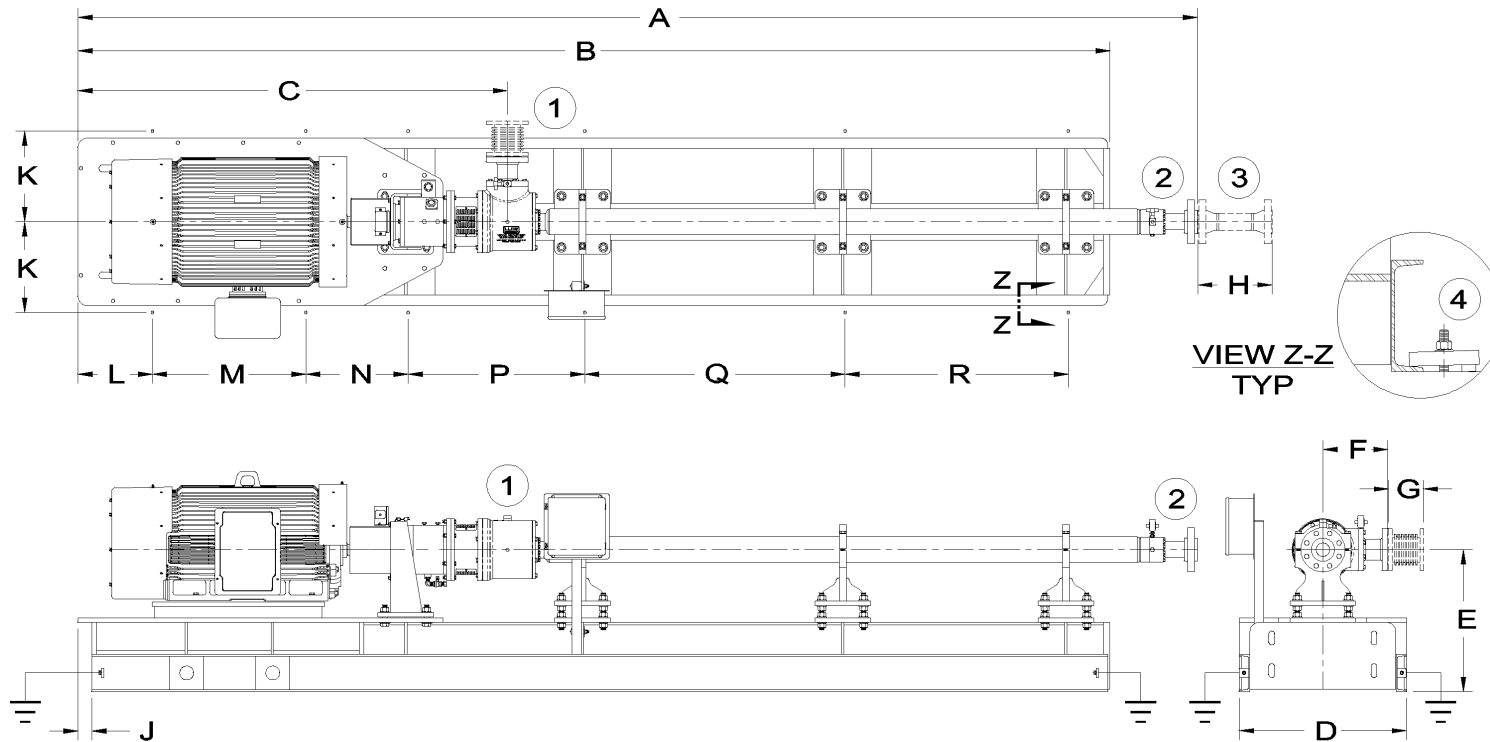
## General Arrangement Drawing - SM0540 with

Symbol	Nozzle	Size	Standard	Rating	Face	Position
1	Suction	6 inch	ANSI	150#	RF	Side
2	Discharge	4 inch	ANSI	900#	RF	End

Symbol	Comment
1	Suction housing and nozzle may be rotated @ 45 deg. increments.
3	Recommended customer supplied drop-out spool for mechanical seal change out.
4	Suggested frame hold down clamps, customer supplied.
5	Quantity of R for this configuration = 1

For information only - not for construction.

Not to scale.



Unless noted, all dimensions are in inches

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	-	-
243	216	90.00	36.00	30.50	12.00	0.00	18.00	3.00	19.50	16.00	33.00	22.00	38.00	44.00	48.00	0.00	0.00

Customer	: Alta Gas	Quote number	: 320516 - Rev 3	Driver Rating	: 600HP
Customer reference	: ALTON NATURAL GAS	Pump size	: SM0540	Driver Frame Size	: 5013ST
Item number	: 616 GPM REV 3	Stages	: 17	Quantity of pumps	: 3
Service	: INJECTION PUMP	Pump speed	: 3,570 rpm	Date last saved	: 27 Feb 2014 3:48 PM



## API 610 (ISO 13709-2003) Specification - Clarifications

The following is a summary of the GE Oil & Gas Surface Pumping System (SPS) design as it relates to the requirements of API 610, 10<sup>th</sup> Edition (ISO 13709-2003) Centrifugal Pumps for General Refinery Services.

### 5.0 BASIC DESIGN

#### 5.1 General

- 5.1.6 GE Oil & Gas SPS are assembled with maximum diameter impellers. A 5% head increase is possible with either a variable speed drive or selecting a pump with blank stages.
- 5.1.27 GE Oil & Gas SPS can be provided with an optional discharge drop out spool allowing the pump housing section to be removed without removing the suction piping. Neither driver movement nor breaking discharge piping is required to remove the pump housing.
- 5.1.31 Fasteners may have UNF threads and may be smaller than 12mm (0.5") diameter.

#### 5.3 Pressure Casings

- 5.3.7 Pressure casings are designed per paragraph 5.3.1. Pump housings can be provided with thicker wall dimensions where required.

#### 5.4 Nozzles and pressure casing connections

- 5.4.3 Auxiliary connections
  - 5.4.3.10 GE Oil & Gas SPS does not have standard vent or drain connections. These connections can be provided at customer request.

#### 5.6 Rotors

- 5.6.8 GE Oil & Gas SPS's standard design is 0.004" TIR or less at shaft ends and 0.003" TIR along the shaft length.
- 5.6.9 GE Oil & Gas SPS has a design limit of 0.004" TIR at seal or shaft end.

#### 5.7 Wear rings and running clearances

- 5.7.1 GE Oil & Gas SPS does not include wear rings.
- 5.7.4 GE Oil & Gas SPS's standard clearances are proven to provide dependable service life. Clearance data is available upon request.

#### 5.9 Dynamics

- 5.9.1 through 5.9.2.6 GE Oil & Gas and purchaser will mutually agree to the extent, method, and acceptance criteria for these analysis. These types of analysis are not included in our standard scope of supply but can be offered at customer request.
- 5.9.3 Vibration
  - 5.9.3.6 GE Oil & Gas SPS limits for a fully assembled system running on the test stand are: 0.156 in/sec RMS, unfiltered.



5.9.4 Balancing

5.9.4.1

Impellers only are dynamically balanced to ISO 1940-1:2003 G6.3 as our standard.

5.10 Bearings and Bearing Housings

5.10.2 Bearing Housings

5.10.2.10

GE Oil & Gas SPS uses a vibration map to locate and record vibration values.

5.11 Lubrication

5.11.1 through 5.11.4. Pump inner-stage bearings are product lubricated.

5.12 Materials

5.12.1.1

GE Oil & Gas SPS's standard materials of construction are listed in the table below. Additional materials and coatings are available when requested or specified.

COMPONENT	MATERIAL	ASTM	AISI	AMIS
Heads, Bases, etc. Stainless Steel	316(L) Stainless Steel	A276		
Housing or Casing Carbon Steel	C1026	A513		
Optional Housing Material	9cr-1moly	A387, A691		
Pump shaft-Nitronic 50	Nitronic 50	A484		4676
Pump shaft-Inconel	Inconel 625	B446		5666
Stages-Ni-Resist Impellers & Diffusers	Ni-Resist Type 1	A436		5392
Fasteners-Steel	Steel		3140, 4037 4140, 5137	
Fasteners-Monel	K500			4677

6.0 ACCESSORIES

6.1 Drivers

6.1.10 GE Oil & Gas SPS uses shimming under the skid clamps, which are used for alignment of the pump to skid and driver.

6.3 Base plates

GE Oil & Gas SPS's standard skid design does not meet all requirements set forth in this section. All skid design modifications/requirements to be mutually agreed upon between GE Oil & Gas and purchaser.



- 6.6 Special Tools  
GE Oil & Gas SPS provides a list of standard mechanics tools needed to perform maintenance work. The only special tool required is a rolling hydraulic jack used for pump replacement.

## 7.0 INSPECTION, TESTING, AND PREPARATION FOR SHIPMENT

- 7.3 Testing
  - 7.3.1 General
    - 7.3.1.1 GE Oil & Gas SPS conducts a performance test on each pump. Testing is based upon API RP 11S2. GE Oil & Gas also conducts a complete unit mechanical string test after assembly.
  - 7.3.2 Hydrostatic Test
    - 7.3.2.1 through 7.3.2.6 Each pump assembly is hydrostatically tested to 1.5 times MAWP.
  - 7.3.4 Optional tests
    - 7.3.4.1 through 7.3.4.7 Optional tests can be developed jointly by GE Oil & Gas and the purchaser at time of order placement.
- 7.4 Preparation for Shipment
  - 7.4.3.5 GE Oil & Gas SPS uses plastic or wood covers on major flange connections as a standard.

VENDOR DATA  
5.1 Proposals  
5.2 Contract Data

# Clarifications and Exceptions to Specification and Terms

The comments and clarifications that follow are offered in response to the specification items identified below. Please refer to the specification section and paragraph indicated. Any contract executed based on this proposal is done based acceptance of the exceptions noted herein.

Item ID	Title	Clarifications and Exceptions
4.3	Commissioning	Contracted locally
4.5	Certifications	CSA
4.16	Line Harmonics	Active Front End Drive instead of line side reactors and filters
4.17, 4.18	Load Harmonics	Dv/dt filter on the drive output; sine filter available as an option

### Submittal Schedule Details for

Item	Tag / Equipment ID	Product ID
1		ACS800-37-0870-7+C134+H359

Item Description
<p><b>Input Voltage:</b> 600 VAC  <b>Rated Output Current:</b> 545 AMPS - 150% 1 min - Heavy Duty  <b>Construction:</b> Cabinet Drive (Ultra Low Harmonic)  <b>Enclosure:</b> NEMA/UL Type 1  <b>Nominal Horsepower:</b> 750  <b>Frame Size:</b> 2xR8i  <b>Input Disconnecting Means:</b> Fusible Disconnect Switch  <b>Bypass:</b> None  <b>Input Impedance:</b> 10% LCL High frequency filter  <b>Short Circuit Current Rating:</b>  <b>Communication Protocols:</b> None  <b>Other Options:</b> dv/dt Choke - Included, Common Mode Filter - Included, EMC/RFI Filter 2nd Envir. - Included, Coated Boards - Included, 115VAC aux ctrl voltage &amp; US conduit plate - For CSA Approval (Deletes +C129), Common Motor terminal cubicle - Included,  <b>Recommended Spare Parts Package :</b></p>

Drive Input Fuse Ratings	
<b>Amps (600 V)</b>	<b>Bussmann Type</b>
1250	170M6416

Wire Size Capacities of Power Terminals				
Circuit Breaker	Disconnect Switch	Terminal Block	Overload Relay	Ground Lug
N/A N/A	N/A	up to 8 x 500 MCM 52 ft-lb 4 x 2 busbar holes, 1.75" spacing, 1/2" bolts	N/A	up to 8 x 500 MCM 52 ft-lb

Dimensions and Weights				
Height in / mm	Width in / mm	Depth in / mm	Weight lbs / kg	Dimension Drawing
83.9 / 2131	107.5 / 2731	25.4 / 644	4982 / 2260	N/A

Heat Dissipation & Airflow Requirements			
Power Losses		Airflow	
Watts	BTU/Hr	CFM	CM/Hr
36918	126000	3770	6406

Reference Drawings		
Power Wiring	Connection Diagram	Dimension Detail
68585732 sheet 209	68585732 sheet 217 68585732 sheet 219	N/A



# ACS800 Ultra Low Harmonic Product Overview

## Description

The ACS800 Ultra Low Harmonic (ULH) drive series is a microprocessor based Direct Torque Controlled (DTC) adjustable speed AC drive. The ACS800 ULH drive takes advantage of sophisticated microprocessor control and advanced IGBT power switching technology to deliver high-performance control of AC motors for a wide range of applications.

In the ACS800 ULH drive the solution for harmonics mitigation is incorporated into the drive. The drive is equipped with an active, controlled supply unit and low harmonic line filter instead of conventional diode bridge supply. The result is exceptionally low line harmonic content meeting IEEE 519 at the drive's input terminals. The ACS800 ULH drive meets IEEE 519 at terminals with even 3% line imbalance. Consequently, the ACS800 ULH drive does not require 18-pulse transformer or additional external input filter for harmonic mitigation, and is thus simple, compact solution for the drive installations where low harmonic content is required.

The ACS800 ULH drive is available as wall mounted drive (type ACS800-U31) in power range from 10 to 125 Hp and as cabinet-built drive (type ACS800-37) in power range from 75 to 2800 Hp.

With drives ranging from 10 to 2800 HP, the ACS800 ULH series features a universal alphanumeric interface that "speaks" to the operator in plain English phrases, greatly simplifying set-up, operation, and fault diagnosis. The interface also provides an intelligent start-up assistant that actively guides the operator through the start-up procedure. The ACS800 ULH is programmable in fourteen languages.

Each ACS800 ULH drive comes equipped with inbuilt, pre-programmed application macros for rapid configuration of inputs, outputs, and performance parameters. In addition to this, the ACS800 ULH drive provides a possibility for function block programming as standard with its 15 programmable function blocks. The ACS800 ULH series can handle the most demanding commercial applications in an efficient, dependable, and economic manner.





## ACS800 ULH Standard Features

UL, cUL labeled (-37 with option selection) and CE marked  
EMI/RFI Filter (2<sup>nd</sup> Environment) (-37, optional in -U31)

Input Fuses and Disconnect (-37)

Intelligent Start-Up Assistants

Operator Panel Parameter Backup (read/write)

4 line by 20 Character Multilingual Alphanumeric Display  
for Operator Control, Parameter Set-Up and Operating

Data Display (examples):

Output Frequency (Hz)

Speed (RPM)

Motor Current

Calculated % Motor Torque

Calculated Motor Power (kW)

DC bus Voltage

Output Voltage

Heatsink Temperature

Elapsed Time Meter (reset-able)

KWh (reset-able)

Fault Text

Warning Text

Adaptive Programming with fifteen (15) logic  
controller type function blocks

Three (3) programmable Analog Inputs

Seven (7) Digital inputs, (6) Programmable & (1)  
dedicated Start Interlock

Two (2) programmable Analog Outputs

Three (3) Programmable Form C Relay Outputs

Adjustable filters on Analog inputs and outputs

Mathematical Functions on Analog Reference Signals

All Control Inputs Isolated from Ground and Power as  
Groups

Fibre Optic Interface RDCO-03

Input Speed Signals

Two (2) Current 0 (4) - 20 mA

One (1) Voltage +/- 0 (2)- 10VDC

Increase/Decrease reference Contacts

Serial Communications

Start/Stop

2 wire control (dry contact closure)

3 wire control (momentary dry contacts)

Serial Communications

Start Functions

Ramp

Flying Start

Premagnetization on Start

Automatic Torque Boost

Automatic Torque Boost with Flying Start

Auto Restart (Reset) – Customer Selectable and  
Adjustable

Stop Functions

Ramp or Coast to Stop

Emergency Stop

DC Braking / Hold at Stop

Flux Braking

Accel/Decel

Two (2) sets of Independently Ramps

Linear or Adjustable 'S' Curve Accel/Decel Ramps

Fifteen (15) Preset Speeds

Three (3) Critical Speed Lockout Bands

Electronic Reverse

Self-Tuning speed controller

Maximum Frequency Programmable up to 300 Hz

Reference Trim

Master/Follower

Supervision Functions

Adjustable Current Limit

Adjustable Torque Limit

Automatic Extended Power Loss Ride Through (Selectable)

Integral Programmable PID Setpoint Controller

Preprogrammed Protection Circuits

Overcurrent

Short Circuit

Overvoltage

Undervoltage

Input Phase Loss

Ambient temperature

Output Device (IGBT) Overtemperature

Internal Fault

Overfrequency

UL508C approved Electronic Motor Overload (I<sup>2</sup>T)

Programmable Fault Functions for Protection Include

Loss of Analog Input

Panel Loss

External Fault

Motor Thermal Protection

Stall

Underload

Motor Phase Loss

Ground Fault

Communications Fault

Supervision of optional I/O

Adjustable Current Limit

Adjustable Torque Limit

Inbuilt harmonic mitigation

Active Supply Unit

Low harmonic line filter (LCL type)

### OPTIONAL FEATURES

I/O Extension Options

Analog I/O Extension RAIO-01

Digital I/O Extension RDIO-01

Pulse Encoder Interface RTAC-03

Seven (7) Serial Communication Protocols

DeviceNet

LONWorks

Profibus-DP

CANOpen

Modbus

ControlNet

Ethernet

NBAA

Johnson Controls Incorporated (JCI) Metasys N2

Siemens Building Technologies (SBT) Apogee FLN

EMC/RFI Filters (1st and 2nd Environments) (Note! 2<sup>nd</sup>

Environment filter as standard in -37)

Dynamic Braking Choppers

DriveWindow® - a Start-up and Programming Tool

Windows® based Adaptive Programming Tool

# ACS800 ULH Specifications

## Input Connection

Input Voltage (U <sub>1</sub> ) .....	208/220/230/240Vac 3-phase +/-10% (ACS800-U31)
.....	380/400/415/440/460/480/500Vac 3-phase +/-10%
.....	525/575/600/690Vac 3-phase +/-10%
Frequency: .....	48 - 63 Hz
Line Limitations: .....	Max +/-3% of nominal phase to phase input voltage
Fundamental Power Factor (cos φ): .....	1.0
Connection: .....	U <sub>1</sub> , V <sub>1</sub> , W <sub>1</sub>
Output (Motor) Connection .....	
Output Voltage: .....	0 to U <sub>1</sub> , 3-phase symmetrical, UN at the field weakening
Output Frequency: .....	-300 to +300 Hz, in DTC mode (0-3.2((U <sub>1</sub> input voltage/UN motor)*fN motor))with dU/dT choke limited 120Hz
Frequency Resolution: .....	0.01 Hz
Continuous Output Current: .....	1.0 * I <sub>2N</sub> (normal use)
.....	1.0* I <sub>2hd</sub> (heavy-duty use)
Short Term Overload Capacity.....	I <sub>Nmax</sub> = 1.1 * I <sub>2N</sub> (1 min / 5 minutes @ 40°C), typical I <sub>hdmax</sub> = 1.5 * I <sub>2hd</sub> (at least 1 min / 5 min @ 40°C)
Peak Overload Capacity .....	I <sub>max</sub> (400 Vac and 500 Vac) (at least 10 seconds at start)
Field Weakening Point.....	8 to 300 Hz
Switching Frequency.....	3 kHz (average), DTC dynamically varies from 1 to 12kHz
Acceleration & Deceleration Time .....	0.00 to 1800 Sec
Efficiency .....	97% at nominal power level
Short circuit withstand rating .....	65,000 AIC (UL) R2-R8; U31 = 65ka; 37 = 100ka
Connection .....	U <sub>2</sub> , V <sub>2</sub> , W <sub>2</sub>
Enclosure	
Style: .....	UL (NEMA) Type 1 or Type 12 (ACS800-37 only)
Agency Approval	
Listing and Compliance:.....	UL, cUL, CE

## Ambient Conditions, Operation

Air Temperature.....	0° to 40°C (104°F), above 40°C the maximum output current is Current is de-rated 1% for every additional 1°C (up to 50°C) (122°F) maximum limit)
Relative Humidity .....	.5 to 95%, no condensation allowed, maximum relative humidity is 60% in the presence of corrosive gasses
Contamination Levels	
IEC .....	60721-3-1, 60721-3-2 and 60721-3-3
Chemical Gasses.....	3C1 (w/o coating), 3C2 (with coating)
Solid Particles .....	3S2
Installation Site Altitude.....	0 to 1000m (3300ft) above sea level. At sites over 1000m (3300ft) above sea level, the maximum power is de-rated 1% for every additional 100m (330ft). If the installation site is higher than 2000m (6600ft) above sea level, please contact your local ABB distributor or representative for further information.
Vibration Max.....	1mm (0.04") 5 to 13.2 Hz, Max 7 m/s <sup>2</sup> (23 ft/s <sup>2</sup> ) 13.2 to 100 Hz sinusoidal

## Ambient Conditions, Storage and Transportation (in Protective Shipping Package)

Air Temperature.....	-20° to 70°C (-4° to 158°F)
Relative Humidity .....	Less than 95%, no condensation allowed
Atmospheric Pressure.....	70 to 106 kPa (10.2 to 15.4 PSI)
Vibration Max.....	1mm (0.04") 5 to 13.2 Hz, Max 7 m/s <sup>2</sup> (23 ft/s <sup>2</sup> ) 13.2 to 100 Hz
Shock (IEC 60068-2-29) .....	Max 100 m/s <sup>2</sup> (330 ft/s <sup>2</sup> ) 11 ms
Free Fall .....	250mm for weight less than 100Kg / 100mm for weight greater than 100Kg



## ACS800 ULH Specifications (continued)

### Analog Inputs

Three (3) Programmable Differential Inputs	
Two (2) Current Signals .....	0 (4) to 20 mA, Input Resistance RI = 100 ohms
One (1) Voltage Signal .....	-10Vdc / 0(2) to +10Vdc, Input Resistance RI = 200 k-ohms
Common Mode Voltage .....	+/-15 Vdc, max.
Common Mode Rejection Ratio .....	> 60 dB at 50 Hz
Resolution .....	0.025% (12 bit)
Accuracy .....	+/- 0.5%
Input Updating Time .....	6 ms (Standard Application Software)
Optional Isolation .....	Available through optional external module

### Reference Power Supply

Voltage .....	+10Vdc, 0, -10Vdc +/- 0.5% at 25° C (77° F)
Maximum Load .....	10 mA
Applicable Potentiometer .....	1 k-ohm to 10 k-ohm

### Analog Outputs

Two (2) Programmable Current Outputs	
Signal Level .....	0 (4) to 20 mA
Resolution .....	0.025% (12 bit)
Accuracy .....	+/-1% Full Scale Range at 25°C (77°F)
Maximum Load Impedance .....	700 ohms
Output Updating Time .....	24 ms (Standard Application Software)

### Digital Inputs

Six (6) Programmable Digital Inputs (Common Ground), plus One (1) Start Interlock	
Isolation .....	Isolated, can be divided in two isolated groups
Isolation Test Voltage .....	500 VAC, 1 minute
Signal Level .....	24Vdc, -15% to +20%
Logical switch thresholds .....	< 8Vdc at "0", >12Vdc at "1"
Input Current .....	10 mA, Digital Input 1 to Digital Input 5, 5 mA Digital Input 6
Filtering Time Constant .....	1 ms
Input Updating Time .....	6 ms (Standard Application Software)
Internal 24 Vdc Supply for Digital Inputs	
Voltage .....	24Vdc
Maximum Current .....	100 mA
Connector .....	X22:7
Protection .....	Short Circuit Proof
An external 24 Vdc supply may be used instead of the internal supply	

### Relay Outputs

Three Programmable Relay Outputs	
Switching Capacity .....	8 A at 24Vdc or 250Vac, 0.4 A at 120Vdc
Maximum Continuous Current .....	IC = 2 Amps RMS
Contact Material .....	Silver Cadmium Oxide (AgCdO)
Isolation Test Voltage .....	4 kVac, 1 minute
Output Updating Time .....	100 ms (Standard Application Software)

### Protections

Single Phase .....	Protected (input & output)
Over Voltage Trip Limit .....	1.3 * U1max
Under Voltage Trip Limit .....	0.65 * U1min
Over Temperature .....	Protected
Auxiliary Voltage .....	Short Circuit Protected
Ground Fault .....	Protected
Microprocessor Fault .....	Protected
Motor Stall Protection .....	Protected
Motor Over Temperature .....	Protected (I2t)

Specifications are subject to change without notice. Please consult the factory when specifications are critical.

## ACS800 ULH Control Panel



The LCD type display has 4 lines of 20 characters.  
The language is selected at start-up (parameter 99.01).  
The control panel has four operation modes:

- Actual Signal Display Mode (ACT key)
- Parameter Mode (PAR key)
- Function Mode (FUNC key)
- Drive Selection Mode (DRIVE key)

The use of single arrow keys, double arrow keys and ENTER depend on the operation mode of the panel.

No.	Use
1	Start
2	Stop
3	Activate reference setting
4	Forward direction of rotation
5	Reverse direction of rotation
6	Fault reset
7	Change between Local/Remote Control

## Control Modes

### Drive control with the panel

The user can control the drive with the panel as follows:

- start, stop, and change direction of the motor
- give the motor speed reference or torque reference
- give a process reference (when the process PID control is active)
- reset the fault and warning messages
- change between local and external drive control.

The panel can be used for control of the drive control always when the drive is under local control and the status row is visible on the display.

### Actual signal display mode

In the Actual Signal Display Mode, the user can:

- show three actual signals on the display at a time
- select the actual signals to display
- view the fault history
- reset the fault history.

The panel enters the Actual Signal Display Mode when the user presses the ACT key, or if he does not press any key within one minute.

### Parameter mode

In the Parameter Mode, the user can:

- view the parameter values
- change the parameter settings.



## Control Modes (continued)

The panel enters the Parameter Mode when the user presses the PAR key.

### Function mode

In the Function Mode, the user can:

- start a guided procedure for adjusting the drive settings (assistants)
- upload the drive parameter values and motor data from the drive to the panel.
- download group 1 to 97 parameter values from the panel to the drive. 1)
- adjust the contrast of the display.

The panel enters the Function Mode when the user presses the FUNC key.

## Cable Connections

Terminal	Description	Note
U1, V1, W1	3~ power supply input	
L1, L2, L3	3~ power supply input	
PE / GND	Protective Ground	Follow local rules for cable size.
U2, V2, W2	Power output to motor	
Uc+, Uc-	DC bus	Not accessible in ACS800-37
X20 to X23	Control Wiring	Low voltage control – Use shielded cable
X25 to X27	Control Wiring	Low voltage or 115VAC

Follow local codes for cable size. To avoid electromagnetic interference, use separate metallic conduits for input power wiring, motor wiring, control and communications wiring. Keep these four classes of wiring separated in situations where the wiring is not enclosed in metallic conduit. Also, keep 115VAC control wiring separated from low voltage control wiring and power wiring. Use shielded cable for control wiring.

Ampacity is based on the use of 60 °C rated power cable up to 100 Amps (75 °C over 100 Amps).

Refer to the included tables for current ratings, fuse recommendations and maximum wire size capacities and tightening torques for the terminals. The ACS800 ULH drive is suitable for use on a circuit capable of delivering not more than 100,000 RMS symmetrical amperes, 600V maximum. The ACS800 ULH has an electronic motor protection feature that complies with the requirements of the National Electric Code (NEC) 430.126(A)(2). When this feature is selected and properly adjusted. Additional overload protection is not required unless more than one motor is connected to the drive or unless additional protection is required by applicable safety regulations.

For CE installation requirements, see ABB publication CE-US-02 "CE Council Directives and Variable Speed Drives." Contact your local ABB representative for specific IEC installation instructions.

## ACS800 Control Terminals

X20	Identification	Description
1	VREF-	Reference voltage -10 VDC, 1 kohm $\leq$ RL $\leq$ 10 kohm
2	AGND	
X21	Identification	Description
1	VREF+	Reference voltage 10 VDC, 1 kohm $\leq$ RL $\leq$ 10 kohm
2	AGND	
3	AI1+	Speed reference 0(2) .. 10 V, Rin > 200 kohm
4	AI1-	
5	AI2+	By default, not in use. 0(4) ... 20 mA, Rin = 100 ohm
6	AI2-	
7	AI3+	By default, not in use. 0(4) ... 20 mA, Rin = 100 ohm
8	AI3-	
9	AO1+	Motor speed 0(4) ... 20 mA = 0...motor Nom. speed, RL < 700 ohm
10	AO1-	
11	AO2+	
12	AO2-	
X22	Identification	Description
1	DI1	Start ( )
2	DI2	Stop ( )
3	DI3	Forward/Reverse 1)
4	DI4	Acceleration & deceleration select 2)
5	DI5	Acceleration & deceleration select 2)
6	DI6	Constant speed select 3)
7	+24VD	+24 VDC max. 100 mA
8	+24VD	
9	DGND1	Digital ground
10	DGND2	Digital ground
11	DIIL	Start interlock (0 = stop) 4)
X23	Identification	Description
1	+24V	Auxiliary voltage output, non-isolated, 24 VDC 250 mA
2	GND	
X25	Identification	Description
1	RO1	Relay output 1: ready
2	RO1	
3	RO1	
X26	Identification	Description
1	RO2	Relay output 2: running
2	RO2	
3	RO2	
X27	Identification	Description
1	RO3	Relay output 3: fault (-1)
2	RO3	
3	RO3	

### Notes:

1) Only effective if par. 10.03 is set to REQUEST by the user.

2) 0 = open, 1 = closed

DI4.....Ramp times according to  
0.....parameters 22.02 and 22.03  
1 .....parameters 22.04 and 22.05

3) See par. group 12 CONSTANT SPEEDS.

DI5	DI6	Operation
1	0	Constant speed 1
0	.....1	Constant speed 2
1	.....1	Constant speed 3

4) See parameter 21.09 START

## Cabinet-built Drive Standard Features

### ACS800 ULH Cabinet-built Drive – Overview



The cabinet-built drive is ACS800 ULH drive in an integrated UL Type 1 or UL Type 12 enclosure with an input disconnect switch, fuses and either contactor or circuit breaker (depending on power rating of the drive). The enclosure is of floor standing type.

The ACS800 ULH cabinet-built drive provides an input disconnect switch or circuit breaker with door mounted, interlocked operator (padlockable in the OFF position), a local operator keypad with indicating lights, and provisions for optional auxiliary devices and for external control connections.

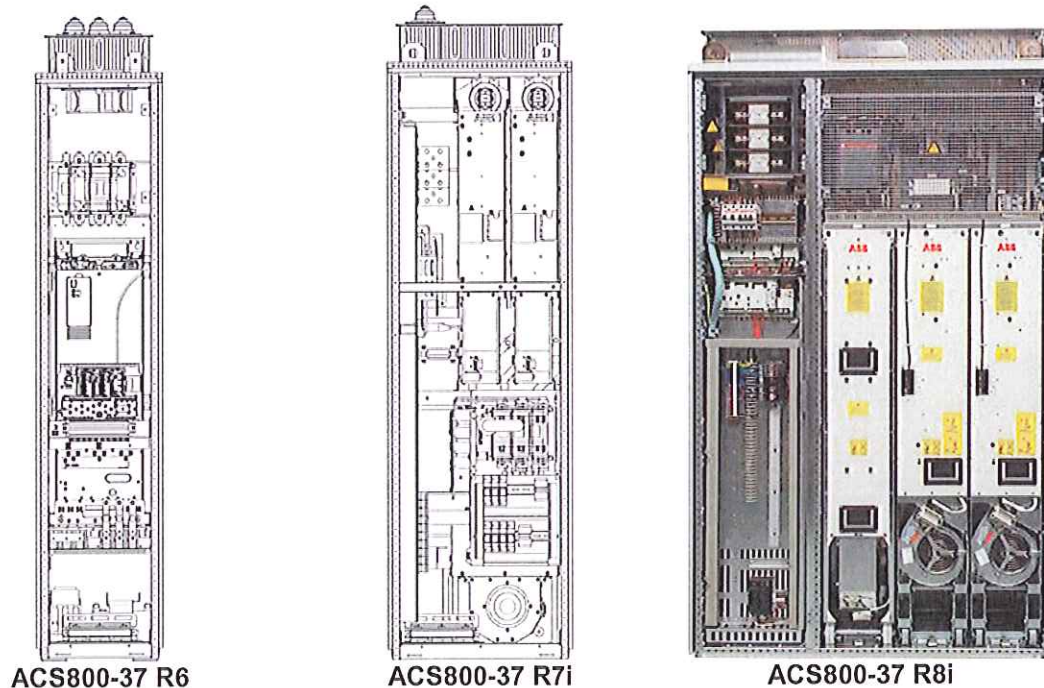
## Cable Connections

The ACS800 ULH cabinet-built drive series consists of eight different frame sizes according to power rating. The following illustrations show the main component location and cable connection points for the various frame sizes. The illustrations indicate the location of input and output power connections as well as equipment placement inside the enclosure. The frame sizes covering power range below 500 Hp are shown here, for high power units please see the detailed dimensional drawing.

The ACS800 ULH cabinet-built drives are configured for cabling and wiring access from the top as standard. At least three separate metallic conduits are required, one for input power, one for output power to the motor and one for control signals. Configuration for the access from bottom is available as a separately ordered option (requires selection by option code).

## Terminal Sizes

Power and motor cable terminal sizes are shown in the *Submittal Schedule Details* and in the *Wire Size Capacities of Power Terminals* Table. The table also lists torque that should be applied when tightening the connections.



# Engineering Data and Ratings Tables

## Fuses

Drive input fuses are recommended to disconnect the drive from power in the event that a component fails in the drive's power circuitry. Recommended drive input fuse specifications are listed in the *Submittal Schedule Details* and in the *Fuse Ratings Table*. Fuse rating information is provided for customer reference.

Item	Catalog Number	Drive Input Fuse Ratings	
		Amps (600V)	Bussmann Type
1	ACS800-37-0870-7+C134+H359	1250	170M6416

## Terminal Sizes / Cable Connection Requirements

Power and motor cable terminal sizes and connection requirements are shown in the *Submittal Schedule Details* and in the *Terminal Sizes / Cable Connection Requirements Table*. The information provided below is for connections to input power and motor cables. These connections may be made to an input circuit breaker or disconnect switch, a motor terminal block, overload relay, and/or directly to bus bars and ground lugs. The table also lists torque that should be applied when tightening terminals and spacing requirements where multiple mounting holes are provided in the bus bar.

Item	Catalog Number	Circuit Breaker	Disconnect Switch	Terminal Block	Overload Relay	Ground Lug
1	ACS800-37-0870-7+C134+H359	N/A N/A	N/A	up to 8 x 500 MCM 52 ft-lb 4 x 2 busbar holes, 1.75" spacing, 1/2" bolts	N/A	up to 8 x 500 MCM 52 ft-lb

## Heat Dissipation Requirements

The cooling air entering the drive must be clean and free from corrosive materials. The *Submittal Schedule Details* and the *Heat Dissipation Requirements table* below give the heat dissipated into the hot air exhausted from the drives. If the drives are installed in a confined space, the heat must be removed from the area by ventilation or air conditioning equipment.

Item	Catalog Number	Power Losses		Airflow	
		Watts	BTU/Hr	CFM	CM/Hr
1	ACS800-37-0870-7+C134+H359	36918	126000	3770	6406

## Dimensions and Weights

Dimensions and weights of the drives provided are given in the *Submittal Schedule Details* and in the *Dimensions and Weights Table*. The table also lists the applicable dimension drawings that include additional detail. Dimension drawings may be provided in the back of this submittal.

Item	Catalog Number	Height mm / in	Width mm / in	Depth mm / in	Weight kg / lbs	Dimension Drawing
1	ACS800-37-0870-7+C134+H359	2131 / 83.9	2731 / 107.5	644 / 25.4	2260 / 4982	N/A

## Schematics and Wire Diagrams

Detailed wiring diagrams and schematics may be included for the products covered in this submittal. Please reference the following ABB part numbers for the drawings included with this submittal:



Item	Catalog Number	Power Wiring	Connection Diagram	Dimension Detail
1	ACS800-37-0870-7+C134+H359	68585732 sheet 209	68585732 sheet 217 68585732 sheet 219	N/A

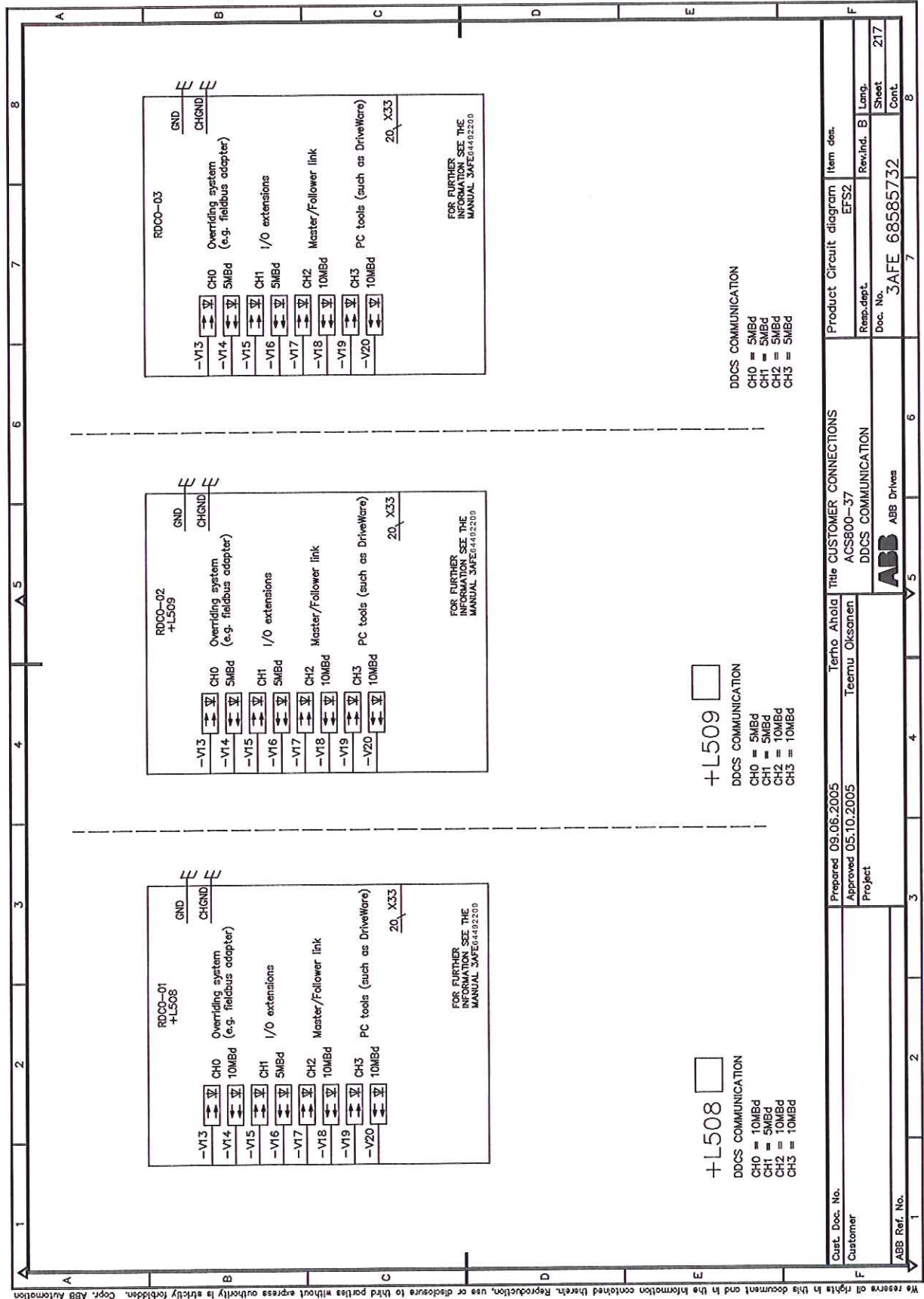
***Product short Circuit Current Rating***

Short circuit ratings shown below are as show on the device rating label.

Item	Catalog Number	Short Circuit Current Rating
1	ACS800-37-0870-7+C134+H359	

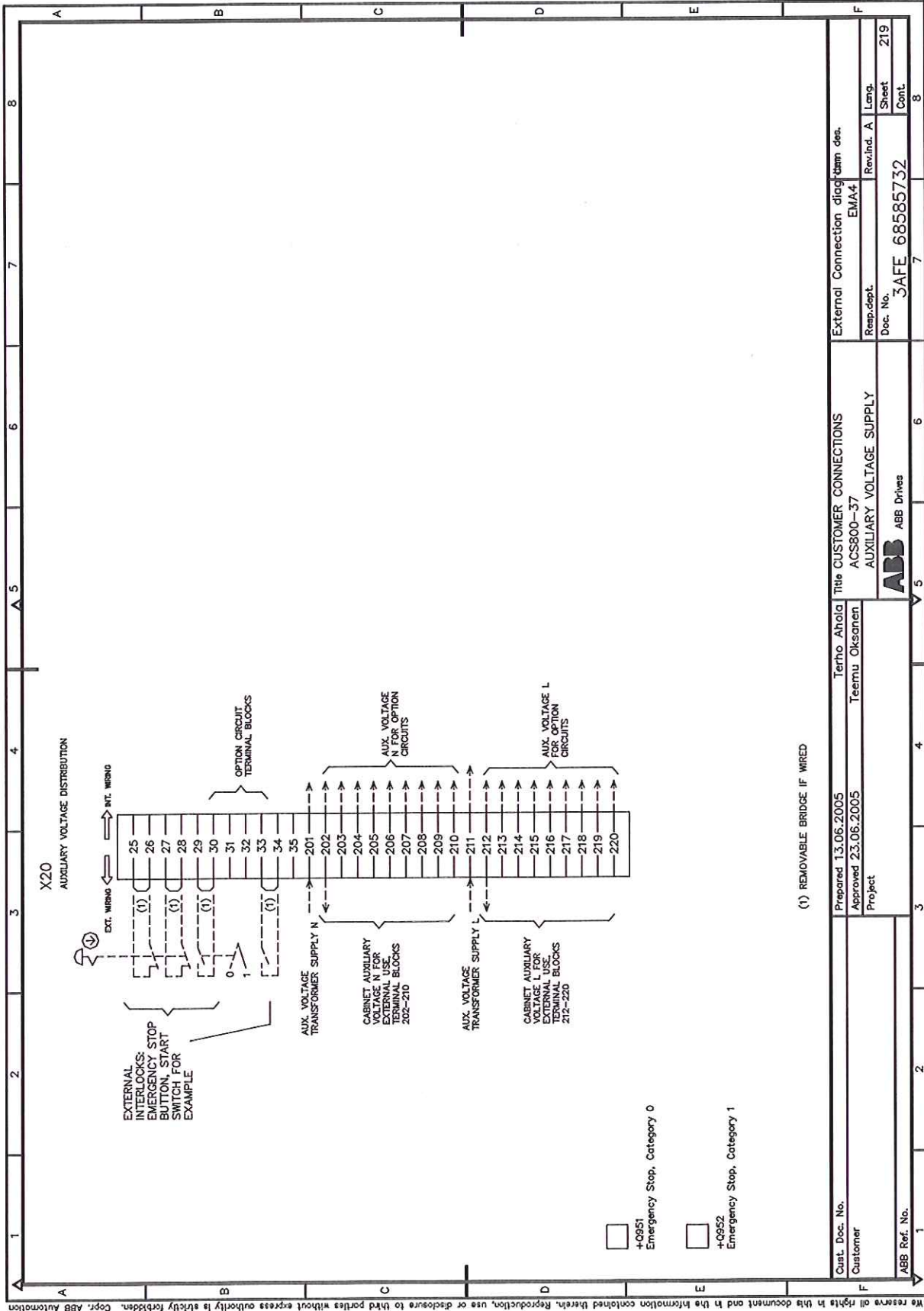
**Dimension Drawing for**

# Connection Drawing for



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# Connection Drawing for

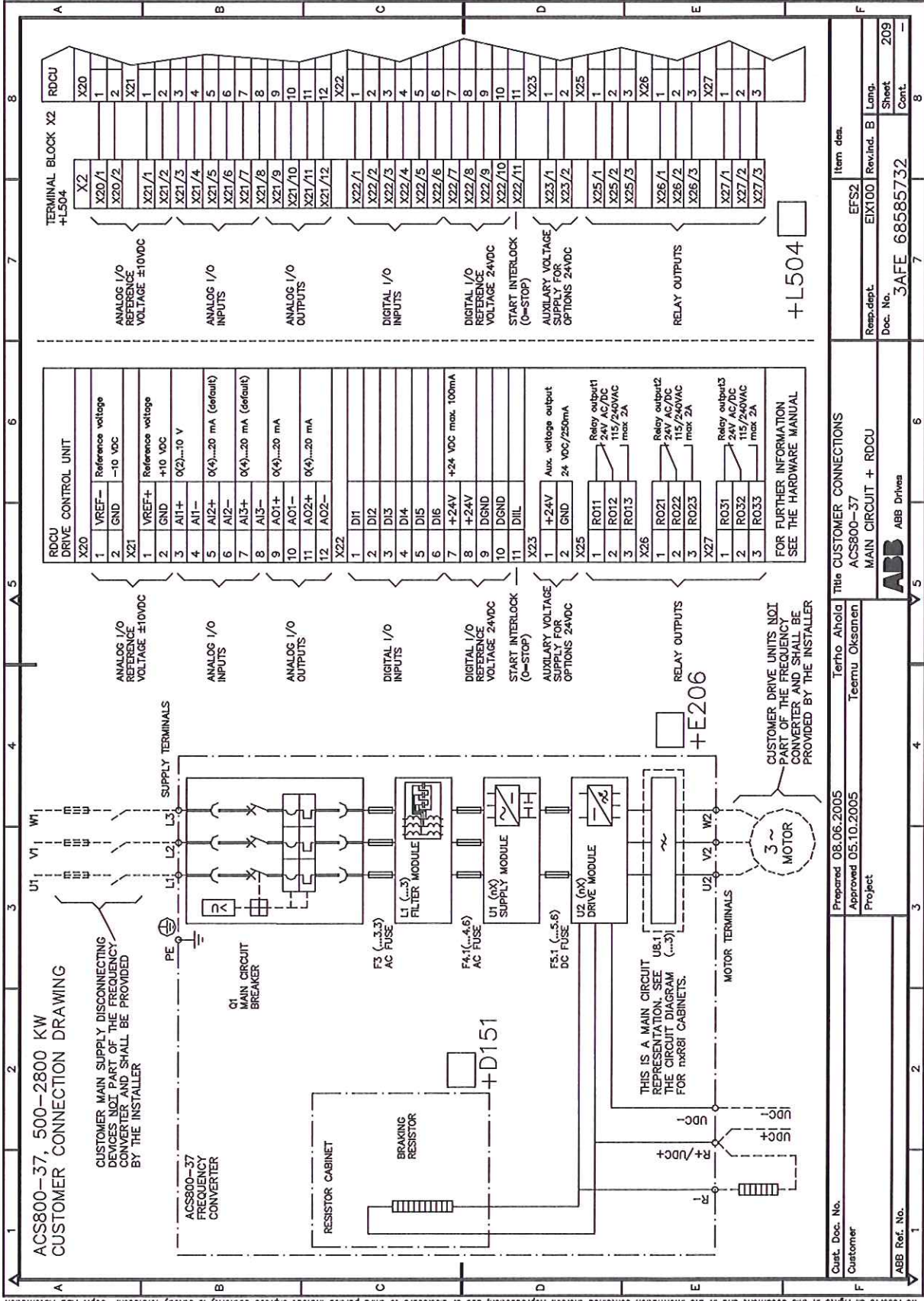


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Customer	Terho Ahola	Title	CUSTOMER CONNECTIONS	External Connection diagram des.
Customer	Teemu Oksanen	Project	ACSB00-37	EMA4
ABB Ref. No.		Doc. No.	3AFE 68585732	Rev. Ind. A
				Sheet
				219
				Cont.
				8



Power Drawing for



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Item No.	EFS2	Item des.	
Rev. No.	EIX100	Rev. Ind.	B

Rep. Dept.	SAFE
Doc. No.	68585732
Sheet	209
Cont.	-

Customer	Tierho, Ahola
Customer	Teernu Oksanen
Project	
Customer	ACS800-37 MAIN CIRCUIT + RDCU

ABB Ref. No.	
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Customer	Tierho, Ahola
Customer	Teernu Oksanen
Project	
Customer	ACS800-37 MAIN CIRCUIT + RDCU

Customer	Tierho, Ahola
Customer	Teernu Oksanen
Project	
Customer	ACS800-37 MAIN CIRCUIT + RDCU

Customer	Tierho, Ahola
Customer	Teernu Oksanen
Project	
Customer	ACS800-37 MAIN CIRCUIT + RDCU

Customer	Tierho, Ahola
Customer	Teernu Oksanen
Project	
Customer	ACS800-37 MAIN CIRCUIT + RDCU

Customer: Tierho, Ahola

Project: Teernu Oksanen

Doc. No.: 68585732

Rev. No.: EIX100





## WS-AL, Rev. 3 (Canada) - GENERAL TERMS AND CONDITIONS FOR THE SALE OF PRODUCTS, PARTS AND SERVICES AND EQUIPMENT RENTAL

**NOTICE:** Sale by Contractor of any Products, Parts and/or Services and/or Equipment rental is expressly conditioned on the Company's consent to these Terms and Conditions. Any additional or different terms proposed by Company are expressly objected to and will not be binding upon Contractor unless specifically accepted to in writing by Contractor's authorized representative. Any order for Products Parts and/or Services and/or Equipment rental, or any statement of intent to purchase Products Parts and/or Services and/or Equipment rental, or any direction to perform work followed by Contractor's performance of work shall constitute assent to this Terms and Conditions.

### 1. INTERPRETATION

In these Standard Terms and Conditions:

**"Company"** means the person, firm or company with whom the Contract is made;

**"Company Group"** means (i) Company and its client, the owner and/or end-user its and their respective parent, co-venturers, affiliates and subsidiaries, (ii) Company's other contractors of any tier (excluding Contractor) and (iii) the officers, directors, employees, (including agency personnel) agents and invitees of all of the foregoing.

**"Confidential Information"** means (a) all pricing for Parts, Products, Equipment rental and Services, (b) all Contract terms, (c) all information that is designated in writing as "confidential" or "proprietary" by Disclosing Party at the time of written disclosure, and (d) all information that is orally designated as "confidential" or "proprietary" by Disclosing Party at the time of oral disclosure and is confirmed to be "confidential" or "proprietary" in writing within ten (10) days after oral disclosure.

**"Contract"** means the contract between the Contractor and the Company for the sale and purchase of the Products and/or Services and/or the rental of Equipment, incorporating these Standard Terms and Conditions;

**"Order Acknowledgement"** means the written acceptance by Contractor of Company's purchase order or specification which shall incorporate these Standard terms and Conditions which forms the Contract;

**"Product(s)"** means any products or parts agreed in the Contract to be sold to the Company by the Contractor; **"Contractor"** means the selling entity identified in the Order Acknowledgement, or if none, the quotation;

**"Rental Equipment"** or **"Equipment"** means the personal property (herein individually and collectively called the "Equipment") described on the Rental Equipment Proposal Schedule A executed and delivered by Company to Contractor from time to time hereunder upon agreement of Contractor and Company (the "Schedule" or "Schedules"), which shall be in the form attached hereto as: the "Equipment Lease and/or Well Test Proposal."

**"Contractor Group"** means (i) Contractor, its parent, subsidiary and affiliated companies, (ii) its subcontractors of any tier and (iii) the officers, directors, employees, (including agency personnel) agents and invitees of all of the foregoing.

**"Services"** means any services agreed in the Contract to be supplied to the Company by the Contractor;

**"Special Conditions"** means those Special Terms and Conditions set out in the Order Acknowledgement or other document issued by the Contractor.

### 2. PRICES, QUOTATIONS & TERMS OF PAYMENT FOR PRODUCTS AND SERVICES

2.1 All prices are subject to change without notice. Prices do not include packing and preparation of export shipment, inland or ocean freight, loading, unloading, carriage, insurance or forwarding fees, taxes, or duties of any kind or other similar charges applicable to the Products, Services and/or the Contract. Company agrees to pay such charges incurred by Contractor on Company's behalf together with additional handling charges upon receipt of Contractor's invoice for the same.

2.2 Unless Contractor and Company otherwise agree in writing to payment terms other than those specified herein, payment shall be made in U.S. dollars in accordance with remittance instructions furnished by Contractor

2.3 All payments shall be made within thirty (30) days after date of Contractor's invoice. Time for payment shall be of the essence.

2.4 If the Contract Price is less than U.S., Two Hundred Fifty Thousand Dollars (\$250,000), Contractor shall issue invoices upon shipment of Products and as Services are performed. If the Contract Price is U.S. Two Hundred Fifty Thousand Dollars (\$250,000) or more, progress payments shall be invoiced starting with twenty-five percent (25%) of the Contract Price for Products and Services upon the earlier of Contract signature or issuance of Contractor's order acknowledgement, and continuing such that ninety percent (90%) of the Contract Price for Products is received before the earliest scheduled Product shipment and Services are invoiced as performed ("Progress Payments")

2.5 As and if requested by Contractor, Company shall at its expense establish and keep in force payment security in the form of an irrevocable, unconditional, sight letter of credit or bank guarantee allowing for pro-rata payments as Products are shipped and Services are performed, plus payment of cancellation and termination charges, and all other amounts due from Company under the Contract ("Payment Security"). The Payment Security shall be (a) in a form, and issued or confirmed by a bank acceptable to Contractor, (b) payable at the counters of such acceptable bank or negotiating bank, (c) opened at least sixty (60) days prior to both the earliest scheduled shipment of Products and commencement of Services, and (d) remain in effect until the latest of ninety (90) days after the last scheduled Product shipment, completion of all Services and Contractor's receipt of the final payment required under the Contract. Company shall, at its expense, increase the amount(s), extend the validity period(s) and make other appropriate modifications to any Payment Security within ten (10) days of Contractor's notification that such adjustment is necessary in connection with Company's obligations under the Contract.

2.6 Contractor is not required to commence or continue its performance unless and until any required Payment Security is received, operative and in effect and all applicable Progress Payments have been received. For each day of delay in receiving Progress Payments or

acceptable Payment Security, Contractor shall be entitled to a matching extension of the schedule. If at any time Contractor reasonably determines that Company's financial condition or payment history does not justify continuation of Contractor's performance, Contractor shall be entitled to require full or partial payment in advance or otherwise restructure payments, request additional forms of Payment Security, suspend its performance or terminate the Contract.

2.7 The Company shall make all payments due under the Contract in full without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise. All payments payable to the Contractor under the Contract shall become due immediately on its termination despite any other provision. If the Company fails to pay the Contractor any sum due pursuant to the Contract, the Company shall be liable to pay interest to the Contractor on such sum from the due date for payment at the rate of eighteen percent (18%) per annum or at the highest rate allowed by law.

2.8 In addition to other remedies under the Contract, for each calendar month, or fraction thereof, that payment is late, Company shall pay a late payment charge computed at the rate of 1.5% per month, not to exceed the lesser of eighteen percent (18%) per annum or the maximum amount permitted by applicable law, on all amounts not timely paid in accordance with the Contract.

### 3. TAXES AND DUTIES

3.1 Contractor shall be responsible for Contractor Taxes and shall pay Contractor Taxes in accordance with local law to the applicable government authority.

3.2 If Company deducts or withholds Contractor Taxes from the Contract Price, for each deducted or withheld amount of Contractor Taxes, Company shall provide Contractor, within one (1) month from payment, with the official receipt issued by the appropriate governmental authority to which the Contractor Taxes have been paid. Company shall be responsible for, and shall pay directly when due and payable, any and all Company Taxes, , and all payments due and payable by Company to Contractor under this Contract shall be grossed-up for withholding tax and made in the full amount of the Contract Price except as may be prohibited by local law.

3.3 If Company does not comply with the legislation of the country where the Services are rendered and/or Parts, Products, or Rental Equipment delivered, Company will indemnify Contractor for any cost, risk and responsibility including, but not limited to, fees, taxes, duties, charges, penalties, legal expenses, and interest which Contractor might suffer as a result of Company's breach in compliance.

3.4 If the law of the country where the Services are rendered, Rental Equipment provided and/or Parts or Products delivered, or the law of the country of incorporation of Company, requires the Contract to be subject to stamp duty, fee, or registration with any local authority, Company will be responsible of the required formalities and bear the related costs. Company shall return to Contractor a copy of the registration certificate or a registered copy of the Contract within ten (10) days from the due date provided by the above-mentioned laws to apply for the fee, duty or registration.

3.5 If Company benefits from any tax, fee or duty exemption applicable to the Contractor and its sub-contractors, Company agrees to provide Contractor, without charge, before the execution of the contract with documentation acceptable to the taxing or customs authorities supporting the tax, fee or duty exemption and with instructions for Contractor and its sub-contractors about the procedure to apply for the exemption.

3.6 Should the Contractor be refused to have the right to apply for the tax, fee or duty exemption, or should the Company not send the Contractor such documentation, the Contractor shall invoice and the Company shall pay unconditionally the applicable tax, fee or duty.

3.7 Company will promptly inform Contractor about the revocation, expiry or any other change to the mentioned exemption by means of written communication sent to the Contractor. If such communication is late or does not occur, the Company will compensate the Contractor for any tax, duty, fee and fine, penalties, interest and court or administrative costs assessed against or incurred by Contractor.

3.8 The Contract Price does not include any tax, duty, fee, or charge, including but not limited to VAT, GST and other sales, turnover, consumption or service taxes, or corporate income tax levied by any governmental authority other than the Contractor's country of incorporation. Therefore if any of such taxes are applied, they will be added to the Contract Price.

### 4. PRODUCTS: SHIPPING, DELIVERY, TITLE & RISK OF LOSS

4.1 Products shall be delivered EXW (at location named by the Contractor) (Incoterms 2010). Risk for loss or damage shall pass to Company upon Contractor's delivery to Company. Title shall pass when the delivery obligations are met. For shipments that involve export from a Contractor facility or warehouse outside the U.S., title shall pass to Company upon delivery in accordance with this section. For shipments from the U.S. to another country, title shall pass to Company immediately after each item departs from the territorial land, seas and overlying airspace of the U.S. For this purpose, the Parties acknowledge that the territorial seas of the United States extend to twelve nautical miles from the baseline of the country determined in accordance with the 1982 United Nations Convention of the law of the Sea. Title to Services shall pass to Company as performed.

4.2 Contractor may deliver the Products in installments. Each installment shall be a separate Contract and no cancellation or termination of any one Contract relating to an installment shall entitle the Company to repudiate or cancel any other Contract or installment. Delivery dates are intended to be an estimate and time and date for delivery shall not be made of the essence by notice or otherwise and are dependent on prompt receipt by Contractor of all information and assistance required or requested by Contractor to permit Contractor to carry out its obligations under the Contract. Contractor shall not be liable for any damage, losses or expenses incurred by Company if Contractor fails to meet the estimated delivery dates.

4.3 In the event that Products are not collected by Company on actual date of delivery, Contractor may (at its sole discretion) place Products in storage at the sole cost, expense and risk of the Company.

### 5. RENTAL EQUIPMENT:

5.1 The supply of Rental Equipment by the Contractor is subject to availability of Equipment at placement of order. The rental period commences on the date that tools/equipment are available for collection EXW (Incoterms 2010) or dispatched from Contractor's facility and terminates on the return of Equipment in their entirety to the originating Contractor facility in good order at Contractor's sole expense.

5.2 The Company agrees to supply at its cost all necessary resources to safely mobilize Equipment to work site. This includes but is not limited to all relevant shipping containers, crossovers, umbilical clamping, sampling kits, handling equipment and, where flow bases are to be run, a suitable function reel and associated equipment. Any other equipment not specifically included in this quotation, but deemed necessary to fulfill the contract safely and on time will be to the Company's account.

5.3 Company shall be responsible for the provision of all export/import license requirements.

5.4 Installation: Contractor shall provide advice on the installation, removal or operation of the Equipment. Contractor shall have free access to the Installation Site at all times and shall have the right to order Company to stop the use of the Equipment, in Contractor's sole discretion, if such action is necessary to safeguard Contractor's interests therein. Company shall pay Contractor the cost of transportation, and field service charges at Contractor's published rates for the time in transit and at the Installation Site for Contractor's representative providing the field service for the Equipment.

5.5 Use and Operation: Company will exercise care in the use and operation of the Equipment. Regular production and operation data, shall be provided to Contractor upon Contractor's request. Company agrees not to adjust the operational parameters (ex. overload, underload, or restart settings, etc.) without agreement of Contractor.



5.6 Risk Of Loss: During the period commencing on the delivery of the Rental Equipment to Company and ending on the date that Company returns the Equipment to Contractor as provided for in this Agreement, Company will bear the responsibility of all damage to or loss of the Equipment except for normal wear, as determined by Contractor based upon data provided by the Company, and Contractor's evaluations made pursuant to standard dismantle and inspection procedures. Damages to the Equipment determined to be caused by parted tubing, casing problems, well or operating conditions or the Company operating equipment outside of specified parameters or standard industry operating procedures, resulting in the loss or damage of our equipment, will be billed to Company replacement costs, at Contractor's published pricing. Submersible Equipment that has been dropped down hole will be charged to Company for replacement at Contractor's published pricing, plus incidental recovery charges incurred by Contractor.

5.7. Non-Standard Equipment: Any special buy-out equipment or special system components required by Company are not included in this Agreement and must be purchased by Company. Contractor will sell such special buy-out equipment and/or special system components to Company subject to Contractor's Standard Terms And Conditions Of Sale. In the event equipment resize is requested by Company because of well or operating conditions, the Agreement shall be amended by execution of a revised Schedule.

5.8 Additional Charges: Company shall pay all freight charges. Company will pay Contractor's published list price for items not returned including, but not limited to, shipping boxes, cable reels, and cable reel supports.. Company will purchase from Contractor all consumable items including, but not limited to, flat cable extensions, cable guards, and check and bleeder valves. Company shall be responsible for all third party charges, such as installation, crane, backhoe, pulling unit, spooler, pneumatic bander, blowout preventers, etc. Company shall pay all equipment testing charges for Surface Pumping Systems and those for down hole systems in the event it is deemed necessary upon the pulling of the well for well work or low production.

5.9 Power Issues: Company will be responsible for Equipment replacement due to power issues including but not limited to lightning or power failures.

5.10 Indemnification: Company will indemnify Contractor and hold Contractor harmless in respect of any liability, damage, expense or judgment arising from injury to any person or damage to any property caused by the Equipment, arising from Company's possession, use or operation of the Equipment or arising from the Equipment.

5.11 Title: Company agrees not to sell, assign, let, transfer, mortgage, charge, part with or loose possession of the rental Equipment. Title of Rental Equipment remains with Contractor.

## 6. NON-DELIVERY [& SHIPPING DAMAGE]

The quantity of any consignment of Products as recorded by the Contractor on dispatch from the Contractor's place of business or other designated location shall be conclusive evidence of the quantity received by Company on delivery unless Company can provide evidence proving the contrary. Contractor shall not be liable for non-delivery of Products (even if caused by Contractor's negligence) unless Company gives written notice to the Contractor of the non-delivery within forty eight (48) hours of the date and time when the Product would in the ordinary course of events have been received. Any liability of the Contractor for non-delivery of the Products shall be limited to, at Contractor's sole discretion, either replacing the Products or issuing a credit note against any invoice raised for the Products.

## 7. INSPECTION

The quality control exercised by Contractor in its manufacture of Products shall be in accordance with Contractor's normal quality control policies, procedures and practices. Contractor shall attempt to accommodate Company's requests to witness Contractor's factory tests of Products, if such witnessing can be arranged without delaying the work. Such access shall be limited to areas directly concerned with Products ordered by Company and shall not include restricted areas where development work or work of a proprietary nature is being conducted.

## 8. FORCE MAJEURE

Contractor reserves the right to defer the date of delivery of Products, Rental Equipment and/or the date of performance of Services, to cancel the Contract, or reduce the volume of the Products, Rental Equipment and/or amend the scope of the Services ordered by Company (without liability to Company) if it is prevented from or delayed in the carrying out of its business due to circumstances beyond its reasonable control, including but not limited to, natural disasters, forces of nature, earthquake, tidal wave, landslide, flood, lightening, hurricane, typhoon, storm or other weather condition not included in normal planning, epidemic and plague; changes in law or regulations, governmental actions; acts of civil or military authority; fire; explosion; lock-outs, strikes and/or labor disputes (whether or not relating to either party's workforce); civil commotion; protests; war; national emergency; riot; civil insurrection; acts of terrorism; restraints or delays in transportation; restraints or delays in manufacturing and inability of Contractor to obtain adequate or suitable supplies from usual sources, or acts or omissions of Company Group or Company suppliers resulting in commercial impracticality. In the event of any such delay, the date of delivery and/or performance shall be deferred for a period equal to the time lost by reason of the delay plus such additional time as may be reasonably necessary to overcome the effect of such delay. Contractor shall notify Company, as soon as practicable, of the revised delivery date. If Contractor is delayed by acts (or omissions) of Company, or by the prerequisite work of Company's other contractors or suppliers, Contractor shall also be entitled to an equitable price adjustment.

## 9. COMPLIANCE WITH LAWS, CODES AND STANDARDS

9.1 The Contract Price is based on Contractor's design, manufacture, testing and delivery of the Parts, Products, Services and Rental Equipment pursuant to (i) its design criteria, manufacturing processes and procedures and quality assurance program, where applicable, (ii) those portions of industry specifications, codes and standards in effect as of the date of Contractor's Proposal to Company which Contractor has deemed applicable to the Products, (iii) the United States Federal, State and local laws, the local laws of the country of manufacturing of the Products or Parts or of the place of incorporation of Contractor and any regulations or rules in effect on the date of Contractor's Proposal to Company and (iv) any other specifications agreed upon in writing by Contractor and Company.

9.2 The Contract Price, performance evaluation criteria, performance dates and Delivery will be equitably adjusted to reflect additional costs or delays incurred by Contractor resulting from (i) a change in applicable laws, rules, standards and regulations described in Article 9.1(ii), Article 9.1(iii) or Article 9.1(iv) after the date of Contractor's proposal to Company which affect the Parts, Products, Rental Equipment and/or Services and (ii) changes required to comply with regulatory or industrial requirements in the country where the Products and Parts will be installed or the Services will be rendered and/or Rental Equipment used. Company shall advise Contractor of requirements affecting the Parts, Products, Rental Equipment and/or Services resulting from the applicability of any laws, rules or regulations in the location where the Products or Parts will be installed or the Services will be rendered.

9.3 Company agrees not to re-export United States origin goods supplied by Contractor contrary to the export control laws of the United States and European Union, as may be amended.

9.4 In the event of any change in law, regulation, rule or otherwise, at any time after Contractor's proposal or the effective date of this Agreement which prevent Contractor from executing its obligations under the Contract without breaching applicable United States and/or European Union laws, regulations, rules or otherwise, Contractor shall have the right to withdraw its proposal or terminate the Contract without any liability.

9.5 Notwithstanding any other provisions herein, Company shall be responsible for timely obtaining of any required authorization, such as an export license, import license, foreign exchange permit, work permit or any other governmental authorization, even though any such authorization may be applied for by Contractor. Company and Contractor shall provide each other reasonable assistance in obtaining required authorizations. Contractor shall not be liable if any authorization is

delayed, denied, revoked, restricted or not renewed and Company shall not be relieved thereby of its obligations to pay Contractor for the work.

9.6 Contractor acknowledges that, in connection with the performance of this Contract, the import and customs laws and regulations of the country in which Contractor's facility is located apply to the furnishing and shipment of the Rental Equipment, Parts, Products, materials and any components thereof.

9.7 For direct and indirect U.S. government contracts only, all Products, Rental Equipment and Services provided by Contractor shall be considered "commercial items" as defined in FAR Part 2, 2.101 and in accordance with FAR 52.244-6. If the reasonableness of the price cannot be established, if cost or pricing data is required for any other reason, or if the Products or Services cannot be considered "commercial items," Contractor may cancel the Contract without liability.

## 10. WARRANTY

### 10.1 Warranty for Products and Services

10.1.1 Subject to the limitations hereafter set forth, Contractor warrants that Products manufactured by Contractor, when properly stored, commissioned, installed, used and maintained by the Contractor, shall be free from defects in material and workmanship. Contractor warrants that the services performed by the Contractor shall be performed in a competent, diligent manner in accordance with any mutually agreed specifications. All services being performed BY the Contractor hereunder are being performed at Company's direction. Contractor's obligation under this warranty shall be limited to replacing or repairing the part or parts or, the Products, at Contractor's option, which prove to be defective in material or workmanship within twelve (12) months from the date of installation or eighteen (18) months from the date of delivery, whichever shall occur first, or reperforming Services within twelve (12) months of the Services being supplied ("WARRANTY PERIOD"), provided the Company gives Contractor prompt notice of any defect and provides proof in a form and substance satisfactory to the Contractor (acting in its sole discretion) including all relevant data and documentation needed to assess well and equipment performance and operations. Any defective part or parts must be returned freight prepaid by Company to an authorized service center designated by Contractor for inspection. Contractor will deliver any replacements for defective Products to Company prepaid to the delivery destination provided by the original order. Products returned to the Contractor for which Contractor provides replacement under this warranty shall become the property of the Contractor.

10.1.2 THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR GUARANTEES, WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY, AND CONTRACTOR MAKES NO WARRANTY AS TO FITNESS FOR PURPOSE OR MERCHANTABILITY. CONTRACTOR'S WARRANTY OBLIGATIONS AND COMPANY'S REMEDIES ARE SOLELY AND EXCLUSIVELY AS STATED HEREIN.

10.1.3 THE WARRANTY PERIOD SHALL NOT BE EXTENDED FOR REPAIRED OR REPLACED PARTS OR PRODUCTS OR REPERFORMED SERVICES. SUCH PARTS OR PRODUCTS OR SERVICES SHALL REMAIN UNDER WARRANTY ONLY FOR THE UNEXPIRED PORTION OF THE WARRANTY PERIOD. CONTRACTOR'S SOLE LIABILITY SHALL BE AT ITS OPTION TO REPAIR OR REPLACE PARTS OR PRODUCTS OR REPERFORM SERVICES UNDER THIS CONDITION. CONTRACTOR MAY IN ITS SOLE DISCRETION CREDIT COMPANY'S ACCOUNT FOR A PORTION OF SUCH PARTS OR PRODUCTS AND/OR SERVICES DETERMINED BY CONTRACTOR TO BE DEFECTIVE

10.1.4 The foregoing warranty does not apply to: (a) defect caused or contributed to by abrasive materials, corrosion due to aggressive fluids, lightning, improper voltage supply,

mishandling or misapplication; (b) Products or parts which are normally consumed in operation, or have a normal life inherently shorter than the WARRANTY PERIOD; (c) alterations or repairs carried out without prior written approval of the Contractor, or using equipment and accessories for a purpose other than that for which such equipment and accessories are intended; (d) installations carried out by the Company unless Company's engineers have been appropriately trained and certified by Contractor; (e) installations in which Company has not used the application engineering practices for the Products as approved by Supplier; (f) defective Products or Services where Company makes further use of the Products after the earlier of the Company's awareness of the defect or the time when the Company ought to have become aware of such defect; (g) defects arising from or in connection with information, drawings, chart interpretations, technical specifications or instructions provided by the Company to the Contractor.

### 10.2 Warranty for Rental Equipment

10.2.1 Contractor warrants the Equipment leased by Contractor to be in good working condition at delivery and will operate, upon proper installation and adjusting per the performance curves developed at Contractor's test facility, subject to actual operating or well conditions and other conditions beyond the control of Contractor that may affect performance.

10.2.2 Contractor will not be responsible for the failure of, or defect in any, equipment which has been in any way tampered with or altered by anyone other than an authorized representative of Contractor. In addition, failure by the Company through lack of compliance with any recommended maintenance procedures, or equipment which has been repaired or altered in such a way (in Contractor's judgment) as to affect the equipment adversely shall not be warranted and all resultant costs related to the repair or replacement of the equipment shall be charged to Company.

10.2.3 THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESS, IMPLIED OR STATUTORY. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE SHALL NOT APPLY. CONTRACTOR'S WARRANTY OBLIGATIONS AND COMPANY'S REMEDIES THEREUNDER (EXCEPT AS TO TITLE) ARE SOLELY AND EXCLUSIVELY AS STATED HEREIN

## 11. PATENT INFRINGEMENT AND INTELLECTUAL PROPERTY OWNERSHIP

### 11.1 Patent Infringement

11.1.1 Contractor agrees to indemnify and hold harmless Company from any rightful claim of any third party that the Products or any Part manufactured by Contractor and furnished hereunder infringes any patent of the United States or national patent resulting from the grant by the European Patent Office upon termination of any opposition procedure, provided that: (a) Company promptly notifies Contractor in writing of any such Claim; (b) Company makes no admission of liability and does not take any position adverse to Contractor regarding such claim and gives Contractor sole authority, at Contractor's expense, to direct and control all defense, settlement and compromise negotiations; and (c) Company provides Contractor with full disclosure and assistance that may be reasonably required to defend any such claim.

11.1.2 Contractor shall have no obligation or liability with respect to any claim based upon: (a) any Products, Parts or Services that have been altered, modified, or revised; (b) the combination, operation, or use of any Products, Parts or Services with other products or services when such combination is part of any allegedly infringing subject matter; (c) failure of Company to implement any update provided by Contractor that would have prevented the claim; (d) unauthorized use of Products, Parts or Services, including, without limitation, a breach of the provisions of the Contract; or (e) Products, Parts or Services made or performed to Company's specifications.

11.1.3 Should any Product, Parts or Service, or any portion thereof, become the subject of a claim, Contractor may at its option (a) procure for Company the right to continue using the Product, Part or Service, or portion thereof, (b) modify or replace it in whole or in part to make it non-infringing, or (c) failing (a) or (b), take back Products, Parts or Services and refund any fees received by Contractor attributable to the infringing Product, Part or Service.

11.1.4 The foregoing states Contractor's entire liability for indemnifications for intellectual property rights infringement, for Products, Parts and Services. Company waives any moral rights.)

## 11.2 Intellectual Property Ownership

Each Party shall retain ownership of all Confidential Information and intellectual property it had prior to the Contract. All intellectual property conceived, created, or provided by Contractor, whether alone or with any contribution from Company or its personnel, shall be owned exclusively by Contractor. To the extent that Company may acquire any right or interest therein, Company irrevocably assigns all such right and interest exclusively to Contractor and agrees to execute assignments and other documentation as necessary to achieve that result. Nothing in this Contract shall be deemed to grant a license directly or by implication, estoppel, or otherwise, to any such intellectual property, although the Parties may provide for such a license in a separate written agreement.

## 12. INDEMNITIES

All exclusions and indemnities given under this Article 12 (save for those under Sections 12.1(c) and 12.2(c) and Article 13.1, shall apply irrespective of cause and notwithstanding the negligence in any form, or fault, or strict liability or absolute liability, or breach of duty (whether statutory or otherwise) of the indemnified party or any other person, natural or otherwise, and/or the unseaworthiness of any vessel, any defects in any premises or vessel whether pre-existing this contract or not and whether such damages, losses, liabilities, claims or demands arise from tort, contract, quasi-contract or otherwise. For the purposes of Sections 12.1(c) and 12.2(c), "third party" shall mean any party which is not a member of the Company Group nor the Contractor Group.

12.1 The Contractor shall be responsible for and shall save, indemnify, defend and hold harmless the Company Group from and against all claims, losses, damages, costs (including legal costs) expenses and liabilities in respect of:

- (a) Subject to Section 12.2(d), loss of or damage to property (other than the Products after delivery pursuant to Section 4 and Equipment rented by Company Group from the Contractor) of the Contractor Group whether owned, hired, leased or otherwise provided by the Contractor Group arising from or relating to the performance of the Contract;
- (b) Personal injury including death or disease to any person employed by the Contractor Group arising from or relating to the performance of the Contract; and
- (c) Subject to Section 12.3, personal injury including death or disease or loss of or damage to the property of any third party to the extent that any such injury, loss or damage is caused by the negligence or breach of duty (whether statutory or otherwise) of the Contractor Group.

12.2 Company shall be responsible for and shall save, indemnify, defend and hold harmless Contractor Group from and against all claims, losses, damages, costs (including legal costs) expenses and liabilities in respect of:

- (a) loss of or damage to property of the Company Group, whether :
  - (i) Owned by the Company Group, or
  - (ii) Hired, leased or otherwise provided by or for the Company Group (including the Products after delivery pursuant to Section 4 and Equipment rented by Company Group from the Contractor); and

- (b) Personal injury including death or disease to any person employed by the Company Group arising from relating to or in connection with the performance or non-performance of the Contract;
- (c) Subject to any other express provisions of the Contract, personal injury including death or disease or loss of or damage to the property of any third party to the extent that any such injury, loss or damage is caused by the negligence or breach of duty (whether statutory or otherwise) of the Company Group; and
- (d) At Contractor's option, either the repair or replacement or reimbursement of the full cost of Contractor's equipment, tools and/or instruments which are lost or damaged down-hole in the Company's well during the provision of Services or are lost or damaged due to abrasion or corrosion occasioned by well effluents, unless such loss or damage is due to the sole negligence of the Contractor.

12.3 Notwithstanding Section 12.1, Company shall be liable for, and shall defend, indemnify and hold Contractor Group harmless from and against, any and all claims which arise out of the performance or non-performance of the Contract in relation to the following, regardless of whether caused by the negligence, in any form, or fault, or strict liability or absolute liability of any member of Contractor group, or any other person natural or otherwise and/or the unseaworthiness of any vessel, any defects in any premises or vessel whether pre-existing this contract or not and whether such damages, losses, liabilities, claims or demands arise from tort, contract, quasi-contract or otherwise; (i) loss of or damage to any well or hole or any third party oil and gas production facilities; (ii) reservoir seepage or pollution originating underground or above-ground or from the property of the Company or third party howsoever arising; (iii) blow-out, fire, explosion, cratering of any well or reservoir or any other uncontrolled well condition (including the costs to control a wild well and the removal of debris); (iv) damage to or escape of product, or substance from any facility including any pipeline or other subsurface facility (v) or loss of any property rights in and to any oil, gas, water or other mineral substance.

12.4 Notwithstanding anything to the contrary in the Contract, Company shall be responsible for and shall save, indemnify, defend and hold harmless Contractor Group from and against all claims, losses, damages, costs (including legal costs) expenses and liabilities in respect of any acts or omissions of the employees or agents of the Contractor Group in connection with the performance of the Services (or any part of the Services), where, in accordance with the Contract, the employees of the Contractor Group are under the supervision, direction or control of the Company in respect of those Services or part of the Services.

## 12.5 Insurance.

(a) Buyer and Seller each agree that the indemnity obligations in this Article 12 shall be supported by insurance or qualified self-insurance maintained by Buyer and Seller, respectively as set forth in this Contract. Buyer and Seller agree to procure and maintain during the term of this Contract, at their sole expense, from insurers licensed in the jurisdiction where the work is to be performed and maintaining a minimum rating of AM Best's A- IX or S&P A, policies of insurance, as follows:

i) Workers Compensation insurance, including coverage for United States Longshoreman and Harbor Workers and Jones Acts, with statutory limits. Each party, and their insurer(s), agrees to Waive Right of Subrogation against Company Group and Contractor Group, respectively, and to issue a policy endorsement evidencing such waiver.

ii) Marine, to the extent applicable, and Non-Marine Employers Liability insurance with a minimum limit of US\$1MM per injury or disease. Each Party, and their insurer(s), agrees to Waive Right of Subrogation against Company Group and Contractor Group, respectively, and to issue a policy endorsement evidencing such waiver.

iii) Commercial General Liability including Product and Completed Operations Liability insurance, written on an occurrence-basis, with contractual and cross-liability coverage, worldwide coverage territory, and Sudden and Accidental Pollution Liability with a limit of \$1MM per occurrence. Each Party, and their insurers, shall name the other Party as Additional Insured for their independent acts, solely to the extent of the indemnity provided in this Article 12, and shall issue a policy endorsement evidencing such coverage. Coverage provided by each Party shall apply on a primary and non-contributory basis. Each Party, and their insurer(s), agrees to Waive Right of Subrogation against Company Group and Contractor Group, respectively, and to issue a policy endorsement evidencing such waiver.

iv) Protection & Indemnity insurance, to the extent applicable, written on an occurrence-basis, with contractual and cross-liability coverage, worldwide coverage territory, and Sudden and Accidental Pollution Liability with a limit of \$1MM per occurrence. Each Party, and their insurers, shall name the other Party as Additional Insured for their independent acts, solely to the extent of the indemnity provided in this Article 12, and shall issue a policy endorsement evidencing such coverage. Coverage provided by each Party shall apply on a primary and non-contributory basis. Each Party, and their insurer(s), agrees to Waive Right of Subrogation against Company Group and Contractor Group, respectively, and to issue a policy endorsement evidencing such waiver.

v) Excess Liability in the amount of \$100MM per occurrence and in the annual aggregate. Coverage shall attach directly excess of Article 12.5(a)(ii), (iii) and (iv) above and "follow form" of the underlying coverage terms and conditions. Coverage shall be written on an occurrence basis with contractual and cross liability coverage and worldwide coverage territory. Each Party, and their insurers, shall name the other Party as Additional Insured for their independent acts, solely to the extent of the indemnity provided in (section and agreement reference), and to issue a policy endorsement evidencing such coverage. Coverage provided by each Party shall apply on a primary and non-contributory basis. Each Party, and their insurer(s), agrees to Waive Right of Subrogation against Company Group and Contractor Group, respectively, and to issue a policy endorsement evidencing such waiver.

vi) Property Damage and Business Interruption insurance on property utilized under the scope of this Agreement, including, as applicable, hull, rig, machinery and equipment, on an All-Risk and Replacement Cost basis without application of co-insurance. Each Party, and their insurer(s), agrees to Waive Right of Subrogation against Company Group and Contractor Group, respectively, and to issue a policy endorsement evidencing such waiver.

(b) Any policy deductibles, self-insured retentions, or premium obligations remain the responsibility of the policy holder and not the Additional Insured.

(c) Each Party shall cause their insurers to issue, before the date of this Contract, certificates of insurance and policy endorsements evidencing the required coverage are in force, and providing that not less than thirty (30) days written notice shall be given to the other prior to cancellation or non-renewal.

(d) Each Party shall require all of its sub-contractors to maintain insurance as outlined in Article 12.5(a)(i) thru (vi).

### 13. CONSEQUENTIAL LOSSES

13.1 Consequential Losses. Notwithstanding any other provision to the contrary contained in the Agreement, and in no event whether as a result of breach of contract, warranty, tort (including negligence), strict liability, indemnity or otherwise, except to the extent of any liquidated damages and/or pre-determined termination fees provided for in the Agreement:

13.1.1 Contractor shall not be liable for, and Company shall save, release, indemnify, defend and hold harmless Contractor Group from, the Consequential Loss of Company Group, and

13.1.2 Company shall not be liable for, and Contractor shall save, release, indemnify, defend and hold harmless Company Group from, the Consequential Loss of Contractor Group.

13.2 For the purposes of this Article 13 the term "Consequential Loss" shall mean:

13.2.1 Consequential or indirect loss of any type under the law of the Contract; and

13.2.2 Unless specifically provided for as an indemnity obligation of a Party elsewhere under the Contract, loss and/or deferral of production, loss of product, loss of use, exclusion and loss of revenue, profit or anticipated profit (if any), cost of capital, overhead, cost of substitute Goods or Services, downtime costs, increased cost of working, loss of contract or business interruption, facility, vessel or rig downtime, costs relating to cleanup, removal, release or threatened release, remediation, or disposal of or any response to any hazardous material, or claims of Company's customers for any of the foregoing. special, incidental, exemplary, punitive, speculative or indirect loss of any type, no matter how characterized.

13.2.3 In each case whether direct or indirect, to the extent that these are not included in 13.2.1 and whether or not foreseeable at the date of Contractor commencing the performance of the Agreement.

### 14. LIMITATION OF LIABILITY

14.1 EXCEPTING THE INDEMNITY OBLIGATIONS OF THE CONTRACTOR IN ARTICLE 12.1 THE TOTAL LIABILITY OF CONTRACTOR GROUP ON ANY CLAIM WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE WHETHER SOLE OR CONCURRENT), STRICT LIABILITY, OR OTHERWISE, ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM THE MANUFACTURE, SALE, DELIVERY, RESALE, REPAIR, REPLACEMENT OR USE OF ANY PRODUCT, OR THE FURNISHING OF ANY SERVICE AND/OR RENTAL EQUIPMENT, OR THE PERFORMANCE OR NON-PERFORMANCE OF THE CONTRACT SHALL NOT EXCEED THE PRICE RECEIVED BY THE CONTRACTOR AND ALLOCABLE TO THE PRODUCT OR PART THEREOF, OR THE COST OF FURNISHING OF ANY SERVICE WORK AND/OR RENTAL EQUIPMENT WHICH GIVES RISE TO THE CLAIM.

14.2 COMPANY UNDERSTANDS AND AGREES THAT THE FOREGOING LIABILITY LIMITATIONS ARE ESSENTIAL ELEMENTS OF THE CONTRACT AND THAT IN THE ABSENCE OF SUCH LIMITATIONS THE MATERIAL AND ECONOMIC TERMS OF THIS CONTRACT WOULD BE SUBSTANTIALLY DIFFERENT. ALL LIABILITY OF CONTRACTOR GROUP UNDER THIS CONTRACT SHALL TERMINATE UPON EXPIRATION OF THE WARRANTY PERIOD AS DEFINED IN THE CONTRACT.

14.3 IF COMPANY IS SUPPLYING CONTRACTOR'S SERVICES AND/OR RENTAL EQUIPMENT TO A THIRD PARTY (INCLUDING ANY OWNERS OR OPERATORS OF THE PIPELINE, WELL BORE OR SITE THAT ARE NOT PARTIES TO THIS AGREEMENT), COMPANY SHALL REQUIRE THE THIRD PARTY TO AGREE TO BE BOUND BY CONTRACTOR'S LIMITATION OF LIABILITY EXPRESSED IN THIS ARTICLE 14. IF COMPANY DOES NOT OBTAIN THIS AGREEMENT FOR CONTRACTOR'S BENEFIT, COMPANY SHALL INDEMNIFY, DEFEND AND HOLD CONTRACTOR HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS MADE BY THE THIRD PARTY IN EXCESS OF THE LIMITATIONS AND EXCLUSIONS OF THIS ARTICLE.

### 15. HEALTH AND SAFETY MATTERS

15.1 General Requirements. At all times Company shall take all necessary and legally required actions for the health and safety of Contractor's personnel at Company's Site. This includes, but is not limited to, instruction of Company's safety practices, proper and safe handling of Hazardous Materials, protection of Contractor's personnel

from exposure thereto, energization / de-energization of all power systems (electrical, mechanical and hydraulic) using a safe and effective lock-out tag procedure, communication of information necessary for Contractor's personnel to work in a safe and legally compliant manner while present at Company's Site, including supplying relevant material safety data sheets (MSDS), job hazard analyses, and industrial hygiene monitoring results, where appropriate, and conducting periodic safety meetings during construction and start-up. Contractor may at any time conduct safety audits to insure safe conditions exist. Neither the conduct or non-conduct of safety audits nor the making of any recommendation by Contractor shall relieve Company of the responsibility to provide a safe place to work. Company shall provide Contractors copies of any applicable safety policies, work instructions, rules, procedures or practices in advance of the commencement of work at Company's Site.

**15.2 Medical Treatment and Transport from Company Controlled or Offshore Site.** If Contractor personnel require first response medical attention while at Company's Site or working offshore, Company shall provide appropriate medical care consistent with international industry standards, including medical transport, where necessary, for emergency or urgent medical examination or treatment to a suitable medical services provider. For offshore work, Company shall be responsible for the medical evacuation of Contractor's personnel from the offshore Site or installation to the departure point on the mainland or Company's designated medical services, provided, hospital or health care center. Company's provision for the medical evacuation of Contractor's personnel shall cease upon their arrival at the designated medical services provider, hospital or health care center. In the interests of clarity and for the avoidance of all doubt, the Contractor shall be solely responsible for arranging any and all medical examinations and/or treatment and/or any further medical evacuation to other healthcare facilities on the mainland or overseas and/or any subsequent repatriation of Contractor personnel back to their point of origin. Company shall have in place during the term of this Contract suitable arrangement with a bona fide person to carry out such medical emergency evacuation. Notwithstanding the foregoing, the Contractor may, after prior consultation with the Company's representative, make its own arrangements to evacuate any Contractor personnel from the departure point on the mainland (or other suitable onshore location) to another location for medical treatment. The Contractor shall be reimbursed by the Company at documented cost.

**15.3 Excusable Delay for Unsafe Conditions.** If, in Contractor's reasonable opinion, security, health or safety of personnel, or the safe performance of work is, or is apt to be, imperiled by security, health or safety concerns (including but not limited to inability to obtain adequate security protections), local conditions, war (declared or undeclared), armed conflict or threatened conflict, civil unrest, terroristic acts or threats, kidnapping risk, or threat to the safety or wellbeing of the Site, Contractor may, in addition to other rights and remedies available to it, remove some or all of its personnel from the Site, suspend performances of all or any part of the Contract, and/or evacuate its personnel. In such event, Contractor shall communicate its concerns to Company's representatives. In the event of an evacuation, Company shall provide said evacuation. Any delay that results from the foregoing shall be considered to be an Excusable Delay.

**15.4 Maximum Working Hours.** Contractor's personnel shall not be required to work in excess of maximum time periods prescribed by applicable law.

**15.5 Asbestos.** While performing work at Company's Site, Contractor's personnel shall not be required to handle any asbestos containing materials (ACM), abate asbestos in equipment, or work in the presence of ACM materials that pose a reasonable health risk. If such conditions are present, the provisions of Article 13.2 shall apply.

**15.6 Personal Protective Equipment.** Contractor shall provide standard Personal Protection Equipment (PPE) for its employees in accordance with relevant legal requirements. Such equipment shall include safety glasses and goggles, safety shoes/boots, hardhat, hearing protection, work gloves, and high visibility anti-flame coveralls. Other PPE or safety equipment if determined necessary by Company or through risk assessment for the scope of work will be provided by Company. Company approved survival suits shall be provided by Company and

worn by all personnel during helicopter flights to and from the offshore work when required.

**15.7 Communication of Applicable Legal Requirements.** If Contractor's work at Company's Site is subject to local, state or national legal requirements that are not reasonably available or ascertainable, Company shall notify Contractor in writing and furnish copies of such legal requirements it reasonably understands applies to the work.

**15.8 Security.** When Contractor's personnel are performing services on Company's Site; Company shall take all necessary precautions for their security. Contractor's personnel shall comply with Company's Site security requirements communicate to Contractor.

## **16. DIFFERING SITE CONDITIONS; HAZARDOUS MATERIALS**

**16.1 Differing Site Conditions.** Contractor shall promptly and, if feasible, before such conditions are disturbed, notify Company in writing of unknown physical conditions at the Site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in the work of the character provided for in the Contract. Company shall promptly investigate the conditions. If it is determined that such conditions do materially differ and cause an increase in Contractor's cost of, or the time required for, performance of any part of the work under the Contract, an equitable adjustment in price and time of performance shall be made and the Contract modified in writing accordingly.

**16.2 Responding to Hazardous Materials and Conditions.** If Contractor encounters Hazardous Materials at the Site, which require special handling and/or disposal, Company shall immediately take whatever precautions are required to legally eliminate or minimize such hazardous conditions so that the work under the Contract may safely proceed, including but not limited to, providing specialized training, equipment and alarms, consistent with legal requirements and international industry. Contractor shall provide personal monitoring alarms. If such Hazardous Material cause an increase in Contractor's cost of or the time required for performance of any part of the services, an equitable adjustment shall be made in the contract price and time of performance.

**16.3 Responsibility for Hazardous Materials.** Company agrees to assume full responsibility and properly manage, transport and dispose in accordance with applicable legal requirements of all Hazardous Materials and packing produced or generated in the course of Contractor's work at the Site.

**16.4 Hazardous Materials Transportation.** Company shall be responsible for the receipt and transportation of materials and equipment, including material subject to hazardous materials transportation regulatory requirements, between the Company's nominated supply base or such other location as mutually agreed between the Parties, and Company's Site. At the conclusion of the work performed by Contractor's personnel, Company shall be responsible at its cost to manage and transport any surplus materials that would be considered Hazardous Materials under applicable requirements.

**16.5 Decontamination of Equipment.** Company shall assume responsibility for decontaminating any equipment of Hazardous Materials prior to shipment to Contractor's designated facility.

**16.6 Naturally Occurring Radioactive Material (NORM).** Prior to its shipment or return to Contractor, Company shall de-contaminate any of its owned or rented tools, or any Contractor furnished equipment, tools or supplies brought to the job Site, including but not limited to Rental Equipment, that have been used for production, exploration or production testing and become contaminated with NORM. If Contractor receives equipment from Company that has been contaminated with NORM, Company shall be responsible for all costs of de-contamination.

**16.7 Indemnification for Hazardous Materials.** Company shall indemnify Contractor for any and all claims, damages, losses, causes of action, demands, judgments and expenses arising out of or relating to (i) the presence of any Hazardous Materials which are present on the Site prior to the commencement of Contractor's work or (ii) improperly handled or disposed of by Company or its representatives or (iii) brought on to the Site or produced thereon by parties other than Contractor.

## 17. CONFIDENTIALITY

17.1 In connection with the Contract, Contractor and Company (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information. "Confidential Information" means (a) all pricing for Parts, Products, Rental Equipment and Services, (b) all Contract terms, (c) all information that is designated in writing as "confidential" or "proprietary" by Disclosing Party at the time of written disclosure, and (d) all information that is orally designated as "confidential" or "proprietary" by Disclosing Party at the time of oral disclosure and is confirmed to be "confidential" or "proprietary" in writing within ten (10) days after oral disclosure. The obligations of this Article shall not apply as to any portion of the Confidential Information that: (i) is or becomes generally available to the public other than from disclosure by Receiving Party, its representatives or its affiliates; (ii) is or becomes available to Receiving Party or its representatives or affiliates on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing Party; (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information; (iv) is required to be disclosed by law, a valid legal process or a government agency; (v) is approved for disclosure in writing by an authorized representative of Disclosing Party or (vi) Contractor discloses to its financial advisors for analytical purposes, provided that such financial advisors are subject to an obligation as to confidentiality no less onerous than that set out in Article 17.

17.2 Receiving Party agrees: (i) to use the Confidential Information only in connection with the Contract and permitted use(s) and maintenance of Products, Rental Equipment and Services, (ii) to take reasonable measures to prevent disclosure of the Confidential Information, except to its employees, agents or financing parties who have a need to know for Company to perform its obligations under the Contract or to use and maintain Products, Rental Equipment or Services, and (iii) not to disclose the Confidential Information to a competitor of Disclosing Party. Receiving Party agrees to obtain a commitment from any recipient of Confidential Information to comply with the terms of this Article. Confidential Information shall not be reproduced without Disclosing Party's written consent, and Receiving Party shall return all copies of Confidential Information to Disclosing Party upon request except to the extent that the Contract entitles Receiving Party to retain the Confidential Information. Contractor may also retain one copy of Company's Confidential Information until all its potential liability under the Contract terminates.

17.3 If Receiving Party or any of its affiliates or representatives is required by law, legal process or a government agency to disclose any Confidential Information, that party agrees to provide Disclosing Party with prompt written notice to permit Disclosing Party to seek an appropriate protective order or agency decision or to waive compliance by Receiving Party with the provisions of this Article. In the event that efforts to secure confidential treatment are unsuccessful, Receiving Party may lawfully revise the Confidential Information to make it non-proprietary or to minimize the loss of its proprietary value.

17.4 Nothing in Article grants Receiving Party any license to any invention, patent, trademark or copyright now or later owned or controlled by Disclosing Party.

17.5 Company shall not disclose Confidential Information to Contractor unless it is required to do so to enable Contractor to perform work under the Contract. If Company does disclose Confidential Information, Company warrants that it has the right to disclose the information, and Company shall indemnify and hold Contractor harmless against any claims or damages resulting from improper disclosure by Company.

17.6 Company shall not make any public announcement about the Contract or related documents, including its existence, without prior written Contractor approval and on Contractor approved terms.

17.7 As to any individual item of Confidential Information, the restrictions of this Article shall survive the termination or expiration of this Agreement and shall expire or terminate only upon the occurrence of an event listed in 17.1 (i) – (iii).

17.8 This Article does not supersede any separate confidentiality or nondisclosure agreement signed by the Parties.

## 18. CANCELLATION AND CHANGES

18.1 Each party may at any time propose changes in the schedule or scope of Parts, Products, Rental Equipment or Services in the form of a draft change order. Contractor is not obligated to proceed with the changed schedule or scope until both Parties agree to such change in writing. If mutually agreed, the changes will be documented in a written document signed by representatives of each party who have actual authority to legally bind Company or Contractor, along with any equitable adjustments in the Contract price and Delivery.

18.2 Any such cancellation or rescheduling of Product and/or Services by Company may result in a charge to Company to be determined by the Contractor. All specially designed or modified Products cancelled after commencement of manufacture will be subject to a cancellation charge which will include all costs and a reasonable margin for time employed, as determined by Contractor. Cancellation charges for accessories and components sourced from third parties will be charged at full price. Contractor shall, at its sole discretion, adjust the price or delivery dates or make such other amendments as may be required as a result of any change order agreed to be issued by the Company and Contractor. No amendment to a purchase order or Order Acknowledgement or change order shall be valid unless agreed in writing by the Company and Contractor.

18.3 Any changes in applicable laws, rules and regulations shall be treated as a change within the meaning, and subject to the requirements, of Article 18. Unless otherwise agreed by the parties, pricing for additional work arising from changes in laws, rules and regulations shall be at time and material rates.

## 19. TERMINATION AND SUSPENSION

19.1 Either Party (the "Non-Defaulting Party") may terminate this Contract if the other Party (the "Defaulting Party") (i) becomes insolvent or (ii) the Defaulting Party commits a material breach of this Contract, which does not otherwise have a specified contractual remedy, and fails to cure the breach within thirty (30) days of notice from the Non-Defaulting Party, or if it is not possible to cure such breach within thirty (30) days of such notice, fails to commence to cure the breach within thirty (30) days or fails to thereafter continue diligent efforts to complete the cure as soon as reasonably possible.

19.2 If Company fails to fulfill any condition of its payment obligations, Contractor may suspend performance and delivery. Any cost incurred by Contractor in accordance with such suspension (including storage, demobilization and re-mobilization costs) shall be payable by Company upon submission of Contractor's invoices. Performance of Contractor's obligations shall be extended for a period equaling the period of Company's no fulfillment of any portion of the payment terms, whether or not Contractor suspends performance and such additional time as may be reasonably necessary in the circumstances.

## 20. ARBITRATION

The parties agree that any claim, controversy or dispute arising out of or in connection with this matter shall be resolved by alternative dispute resolution (ADR), the manner and form of which shall include negotiation, mediation and/or arbitration under the commercial rules of arbitration in effect at the time of the dispute. Any dispute arising out of or in connection with the Contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved through alternative dispute resolution (ADR), the manner of which shall include the following alternatives: (a) binding mediation utilizing the services of the Alternative Dispute Resolution Centres of Canada or another authorized ADR provider; or (b) binding arbitration under the Commercial Arbitration Act, R.S.C. 1985, c. 17 utilizing the services of the Arbitration and Mediation Institute of Canada or another authorized provider.

## 21. WAIVER

Any waiver by Contractor of any breach or default by Company of any of the Company's obligations under the Contract, or any failure by Contractor to enforce any rights arising under the Contract shall not be

construed as a waiver of any other or subsequent breach or default by Company or of Contractor's right to enforce its rights arising hereunder in any circumstances. In the event of any default by Company, Contractor may decline to make further shipments. If Contractor elects to continue to make deliveries, Contractor's action shall not constitute a waiver of any such default or affect Contractor's remedies for any such default.

## 22. GOVERNING LAW

This Contract shall be governed by the laws of the Province of Alberta, Canada, without giving effect to any conflicts of laws principles.

## 23. ASSIGNMENT

The Contractor may assign or novate this Contract or any part of it to any person, firm or company. The Company shall not be entitled to assign the Contract or any part of it without the prior written consent of the Contractor.

## 24. BUSINESS ETHICS

Neither Contractor nor Company shall make any payment or take any action that could be construed to be the payment of money or other thing of value to any government official, political party, or political party candidate for the purpose of influencing any act or inducing any government official to use his or its influence to assist in obtaining or retaining business in any country in a manner which is illegal or which would subject the Contractor to civil or criminal penalties, or which is inconsistent with Contractor's Business Ethics Policy.

## 25. MISCELLANEOUS

25.1 All samples, drawings, descriptive matter, specifications and advertising issued by the Contractor and any descriptions or illustrations contained in the Contractor's catalogues or brochures are issued or published for the sole purpose of giving an approximate idea of the Products, Rental Equipment and/or Services described in them. They shall not form part of the Contract.

25.2 In case Products and/or Rental Equipment are to be exported outside the EU and an authorization is required for the export in accordance with any applicable laws, Company shall provide Contractor, upon Contractor's written notice, with any and all information requested by Contractor. In case of Company's delay in providing the abovementioned information, Contractor shall not have any liability or be considered in breach or default of any its obligations under the Contract.

25.3 Nothing in this Contract shall restrict Contractor from subcontracting portions of its work, provided that Contractor shall remain responsible to Company for performance of subcontracted scope.

25.4 Except as provided in the Articles entitled "Indemnities" and "Limitation of Liability", these provisions are for the benefit of the Parties hereto and not for any other third party.

25.5 The invalidity or unenforceability in whole or in part of any part of any provision in this Contract shall not affect the validity of the remainder of the Contract. Any provision of this Contract held invalid or unenforceable only in part or in degree will remain in full force and effect to the extent not held invalid or unenforceable. 24.6 Company shall notify Contractor immediately upon any change in the ownership of more than

fifty percent (50%) of Company's voting rights or in Company's controlling interest. If Company fails to do so or Contractor objects to the change, Contractor may (a) terminate the Contract, (b) require Company to provide adequate assurance of performance (including but not limited to payment), or (c) put in place special controls regarding Contractor's Confidential Information.

25.6 The following Articles shall survive termination or cancellation of the Contract: Article 3 (Taxes and Duties); Articles 9.3, 9.4, 9.6, and 9.7 (Compliance with Laws, Codes and Standards); Article 10 (Warranties); Article 12 (Indemnities); Art. 13 (Consequential Losses); Article 14 (Limitation of Liability); Article 15 (Health and Safety Matters); Article 16 (Differing Site Conditions; Hazardous Materials); Article 17 (Confidentiality); Article 18 (Cancellation and Changes); Article 19 (Termination and Suspension); Article 20 (Arbitration); Article 25 (Miscellaneous).

25.7 This Contract may be executed in multiple counterparts that together shall constitute one agreement.

25.8 The Company shall at its own expense secure any permits or any other authorizations (including but not limited to work permits and visas for employees of the Contractor) which may be required to permit the Contractor to perform the Services. The Company agrees to indemnify the Contractor against any costs, claims, actions, demands or expenses incurred or suffered in connection with the Company's failure to obtain any permits or authorizations required to perform the Services.

25.9 If any provision of the Contract is found by any court, tribunal or administrative body of competent jurisdiction to be wholly or partly illegal, invalid, void, voidable, unenforceable or unreasonable it shall to the extent of such illegality, invalidity, voidness, voidability, unenforceability or unreasonableness be deemed severable and the remaining provisions of the Contract and the remainder of such provision shall continue in full force.

25.10 These Standard Terms and Conditions are subject to change without prior written notice at any time and from time to time at the Contractor's sole discretion. All communications between the parties about the Contract shall be in writing and delivered by hand or sent by fax to its registered office or such other address as shall be notified to the other party. Communications shall be deemed to have been received if delivered by hand, on the day of delivery or if sent by fax on a business day at the time of transmission and otherwise on the next working day.

## 26. ENTIRE AGREEMENT

The Order Acknowledgement, any Special Conditions and these Standard Terms and Conditions constitute the entire agreement between the parties relating to the sale of the Products and/or Services and/or provision of Rental Equipment and supersedes all previous communications, representations, or agreements, either oral or written, with respect to the subject matter hereof. No prior representations or statements relating to the sale of the Products and/or Services and/or provision of Rental Equipment made by any Contractor representative, which are not stated herein, shall be binding on Contractor.