


Rev.	By	Rev. Description	Rev. Date	PROJECT INFORMATION										Num.	NOTE	
				Customer: INTI Power Inc. Customer PO: 20090811-002 End User: -- Project: EDC Tacoa Skid Tag: TBD IFS Job Number: 24877 IFS Document: EQ-2877-01  Duplex Gas Fuel Filter Skid										1	One (1) Unit shown,Two (2) units required.	
														2	The equipments tags for one skid will be 400 and 500 for the other.	
A	AP	For approval	3-Sep-09													
EQUIPMENT LIST																
Seq.	Qty.	Tag Number (Note 2)	Item Type	Connections			Design Pressure (psig)	Design Temp. (deg F)	Operating Pressure (psig)	Operating Temp. (deg F)	Description	Service	Reference P&ID	Manufacturer	Model Number	Comments
				(inches)	Type	Class										
1	2	FV-400 A/B	Gas Fuel Filter	1- 4" Inlet 1 - 4" Outlet 1 - 3/4" Lower Liquid out	RF	300#	500	250	400	140	Duplex Gas Fuel Filter Vertical Dimensions: 10.75" OD x 96" S-S Rated Flow: 7 MMSCFD Construction Material: 316 / 316L SS Elements No./Type: 3 / APEX Vapor / Liquid Coalescer	Duplex Gas Fuel Filter	P-24877-01	Vessel: IFS Internal: IFS	Vessel: NA Internal: IFSA3803V	
				2 - 3/4" LowerLevel Guage 2 - 3/4" Upper Level Guage 1 - 3/4" Upper Liquid out 1 - 3/4" Relief / Vent	SW	3000#	500	250	400	140						
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# POROUS MEDIA ULTISEP® HIGH-PERFORMANCE SEPARATOR DATA SHEET

Customer <b>INTI Power Inc.</b>			Job No. <b>24877</b>				
Location <b>Texas</b>			Item No. <b>FV-400 A/B, FV-500 A/B</b>				
Service <b>Gas Fuel Filter</b>			No. of Units <b>4</b>				
Porous Media System <b>ULTISEP®</b>			Vessel Model No.				
<b>Design Data</b>							
Design Code <b>ASME Sec. VIII</b>			Gas Flow (MMSCFD)		<b>7.00</b>		
Stamp Required <b>Yes</b>			Molecular Weight		<b>20.30</b>		
Orientation <b>Vertical</b>			Gas Density (lb/ft3)		<b>1.40</b>		
Seam to Seam (in) <b>96"</b>			Viscosity (cP)		<b>0.012</b>		
Vessel O. D. (in) <b>10.75"</b>			Contaminants				
Operating Pressure (psig) <b>400</b>			Interception Efficiency				
Design Pressure (psig) <b>500</b>			Liquid Flow (gpm)				
Operating Temperature (F) <b>140</b>			Liquid Density (lb/ft3)				
Design Temperature (F) <b>250</b>			Element Specification				
Min. Design Temp (F) <b>-20</b>			Number Req'd		<b>3</b>		
Wall Thickness (in) <b>0.365</b>			Part No.		<b>IFSA3803V</b>		
Corrosion Allowance (in) <b>0.630</b>			Media Type		<b>Grade 03 (0.3micron)</b>		
Earthquake Factor (Cm/s2)			Pressure Drop (psid)				
Radiography			Clean <b>Less Than 2 PSID</b>				
Stress Relieve			Max Allowed <b>75.00</b>				
UT			Project Specific Specs.				
Mag. Particle			Special Tools <b>Included</b>				
Other Tests							
<b>Materials of Construction</b>			<b>Schedule of Connections</b>				
	Material	Specification	No.	Size	Qty	Rating/Type	Description
Shell	<b>SA-106 Gr.B</b>		<b>N1</b>	<b>4"</b>	<b>1</b>	<b>300# / RF</b>	<b>Inlet</b>
Heads	<b>SA-234 WPB</b>		<b>N2</b>	<b>4"</b>	<b>1</b>	<b>300# / RF</b>	<b>Outlet</b>
Flanges	<b>SA-105</b>		<b>N3 A/B</b>	<b>3/4"</b>	<b>2</b>	<b>3000# / CPL</b>	<b>Lower Level Gauge</b>
Couplings	<b>SA-105</b>		<b>N4 A/B</b>	<b>3/4"</b>	<b>2</b>	<b>3000# / CPL</b>	<b>Upper Level Gauge</b>
Pipe	<b>SA-106 Gr.B</b>		<b>N5</b>	<b>3/4"</b>	<b>1</b>	<b>300# / RF</b>	<b>Lower Liquid Outlet</b>
Supports	<b>SA-36</b>		<b>N6</b>	<b>3/4"</b>	<b>1</b>	<b>3000# / CPL</b>	<b>Upper Liquid Outlet</b>
Bolting	<b>SA-193-B7</b>		<b>N7</b>	<b>3/4"</b>	<b>1</b>	<b>3000# / CPL</b>	<b>Relief / Vent</b>
Nuts	<b>SA-194-2H</b>		<b>N8</b>	<b>10"</b>	<b>1</b>	<b>300# / RF</b>	<b>Maintenance</b>
Internals	<b>CS/SS</b>						
Lifting Lugs	<b>SA-36</b>						
Gaskets							
Platform & Ladder	<b>No</b>						
Platform & Ladder Clips	<b>No</b>						
Insulation	<b>No</b>						
Insulation Clips	<b>No</b>						
Shipping Weight (lbs)	<b>728</b>						
Painting							
<b>Notes:</b>							
1:							
2:							
3:							
4:							
5:							
6:							
Proposal No.	Project	9/3/2009					
		Sheet 1 of 1					

# APEX<sup>®</sup> SIZING PROGRAM

Project No.:	INTI Power Inc.
Customer:	
Prjct/Tag No:	EDC Tacoa / IFS Job 24877
Quantity:	4

Design Consideration	
Conservative	FALSE
Standard	FALSE

Operating Pressure:	400 psig
Operating Temperature:	140 °F
Compressibility Factor, Z:	0.92
Specific Gravity:	0.700
Density @ Stnd Conditions	0.053 lb/ft³
Density @ Op. Conditions:	1.403 lb/ft³
Viscosity @ Stnd Conditions:	0.012 cP
Flow Rate @ Stnd Conditions:	7.000 MMSCFD
Flow Rate @ Stnd Conditions:	4861 SCFM
Flow Rate @ Op. Conditions:	182 ACFM
Identity:	IFS
Apex Style:	A
Series:	IFSA38
Media Grade:	Grade 03 (0.3micron)
Seals:	V
Element Part Number:	IFSA3803V
Riser Material:	CS/SS
Riser Part Number:	GA3830P222SS
Est Minimum Number of Elements:	4
Number of Elements:	3
<b>ELEMENT FIT CHECK</b>	<b>YES</b>
Min. Vessel ID:	7.65 inch
Actual Vessel ID:	12.000 inch
Inlet Nozzle Diameter:	4 inch
Outlet Nozzle Diameter:	4 inch
Inlet Nozzle Velocity:	34.68 ft/s
Outlet Nozzle Velocity:	34.68 ft/s
Inlet Nozzle Pressure Drop:	0.18 psid
Tube Sheet Pressure Drop:	0.43 psid
Outlet Nozzle Pressure Drop:	0.08 psid
Element Pressure Drop:	0.09 psid
<b>TOTAL CLEAN PRESS DROP:</b>	<b>0.784 psid</b>

VESSEL DESIGN CONDITIONS		
OD:	10	inch
MAWP:	500	PSIG
CA:	0.63	inch
TEMP:	250	F
	250	F
Wall Thk	0.164	inch
ID (min.):	8.411	inch

