Fuel Gas Conditioning - Membrane Packages

Integrated Flow Solutions **Fuel Gas Conditioning Membrane Packages are designed to optimize natural gas fuel for natural gas engines and natural gas turbines. IFS Membrane Packages are utilized for Natural Gas Dewpoint Control, Natural Gas Processing (H2O/H2S/CO2 Removal), and Enhanced Oil Recovery.**

Industries

Applications for IFS Membrane Systems

- Remote Compressor Stations with raw fuel de-rates and requiring BTU value adjustments
- Generator sets with fuel quality de-rates
- Sour Gas Production sites w/o access to clean gas
- N2 & CO2 removal at wellhead
- Compression sites requiring Emissions reductions

Features of IFS Membranes Systems

- Hydrocarbon specific separation technology
- Simple Passive, Compact packaged System
- 100 % USA Technology & Manufacture
- On Site Tech/Cmrcl Analysis including
  - Aspen Process Sim & PFD Generation
  - System PAYBACK ANALYSIS
- Process Guarantee
- Factory Trained/Certified Technicians
- 24/7 USA Customer service (800-527-8724)

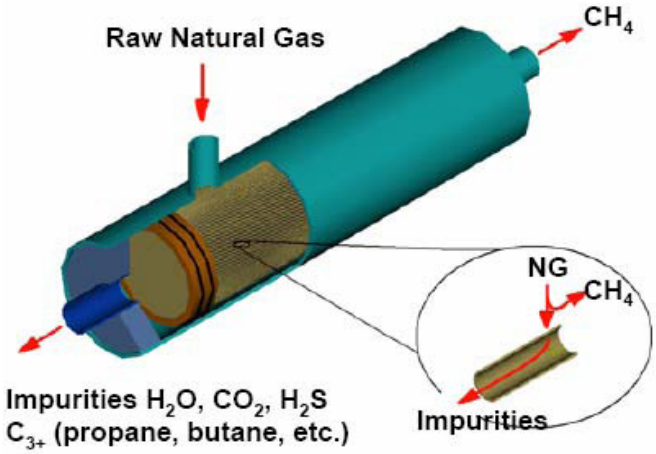
Industry Standards

- Membrane & vessels code stamped ASME Section VIII & National Board Registered
- Piping Designed to ANSI B31.1 / B31.3
- Pipe Fab to ASME Section IX
- ISO 9001 : 2008

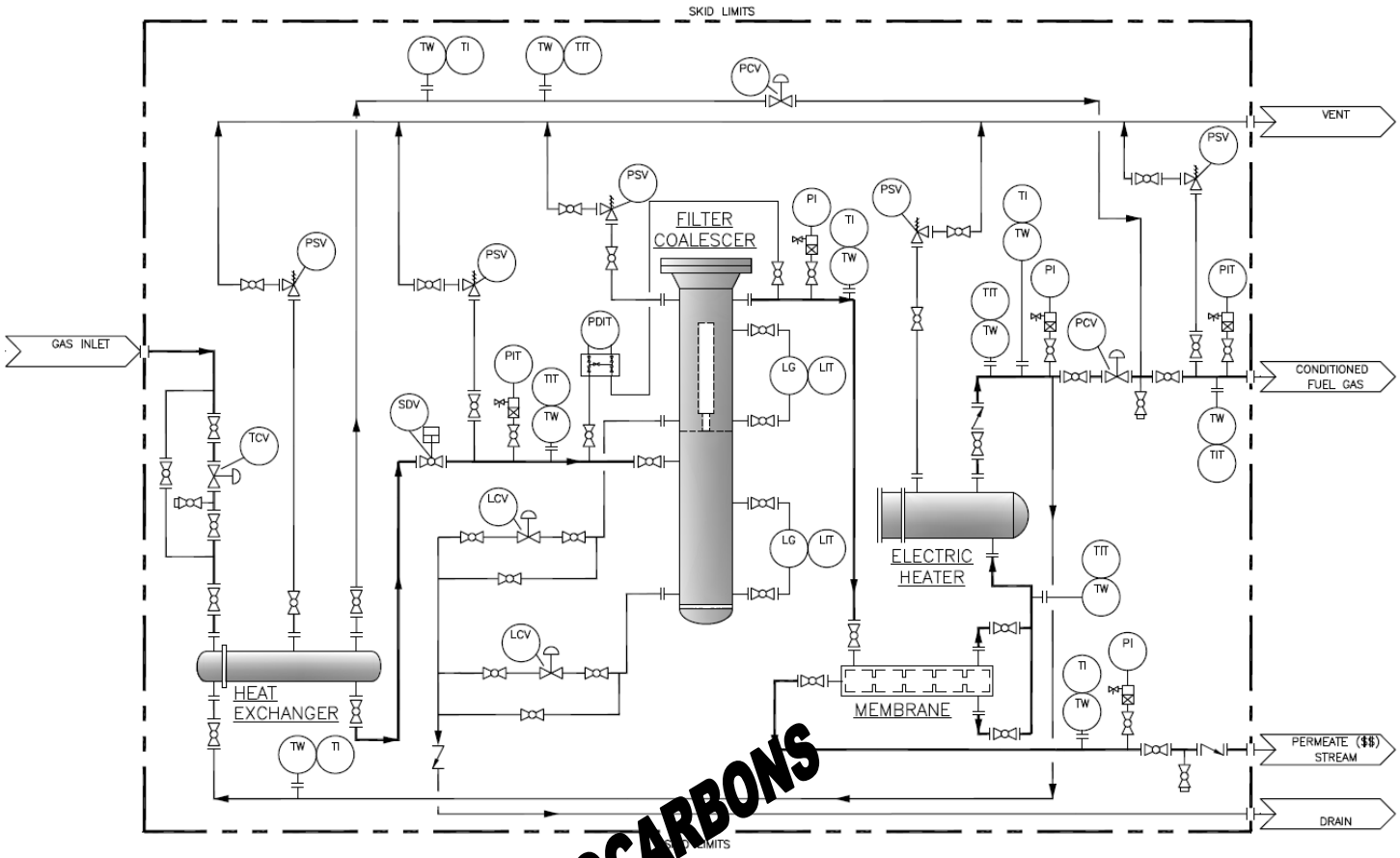
Benefits of IFS Membrane Systems:

- Optimize fuel gas heating (BTU) value
  - Reduce Emissions
  - Increase Engine Life
  - Lower Engine Operating Temp.
  - Increase Available Engine HP
  - Maintain OEM Engine Warranty
- Recover saleable hydrocarbons > $$
- Small footprint, easily transportable
- Low Maintenance – no moving parts
- Low Capital & Operating Costs
- Low Power Consumption

Principle of Membrane Separation:



Fuel Gas Conditioning - Membrane Package



Fuel Gas Stream - No Membrane	
Temperature deg F	95.884
Pressure psia	124.69
Mass flow lb/h	10[illegible]
Avg. mol. wt.	19.481
Flowrate MMscfd	5.009
Nitrogen	1.9561
Methane	85.3589
Carbon Dioxide	7.8557
Ethane	2.7615
Propane	0.6318
I-Butane	0.[illegible]
N-Butane	0.[illegible]
I-Pentane	0.1695
Pentane	0.1515
N-Hexane	0.092
N-Heptane	0.0452
N-Octane	0.0038
N-Nonane	0.0038

Fuel Gas Stream - With Membrane	
Temperature deg F	99.0
Pressure psia	124.[illegible]
Mass flow lb/h	98[illegible].079
Avg. mol. wt.	17.91
Flowrate MMscfd	5.012
Nitrogen	0.2008
Methane	91.2709
Carbon Dioxide	1.2064
Ethane	5.079
Propane	1.4874
I-Butane	0.2585
N-Butane	0.2487
I-Pentane	0.0882
N-Pentane	0.0606
N-Hexane	0.0525
N-Heptane	0.0315
N-Octane	0.0143
N-Nonane	0.0011

BTU VALUE OF FUEL GAS W/O MEMBRANE	1033.8
BTU VALUE OF FUEL GAS W MEMBRANE	973.1
ANNUAL RECOVERED HYDROCARBONS ($/YR)	$1,586,757.00

ANNUAL RECOVERED HYDROCARBONS
$1,586,757.00/YEAR
IFS CAN HELP WITH PAYBACK ANALYSIS

INTEGRATED FLOW SOLUTIONS 28377 Freeman Road, Katy, TX 77493 281-638-9870
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