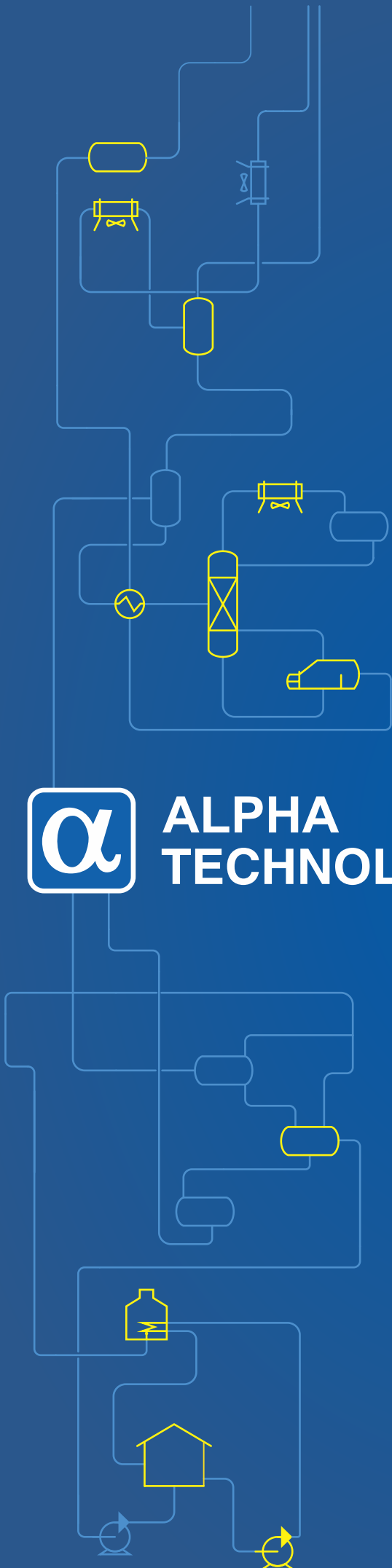


2020



**ALPHA
TECHNOLOGY**





**ALPHA
TECHNOLOGY**

**COMPANY
PROFILE**

ALPHA TECHNOLOGY IS AN OIL AND GAS TECHNOLOGIES SUPPLIER.

ALPHA TECHNOLOGY PROVIDES HIGH RELIABLE PROCESS, PRODUCTION AND ENVIRONMENTAL OIL AND GAS EQUIPMENT.

ALPHA TECHNOLOGY PROVIDES STANDARD EQUIPMENT WITH COMPETITIVE DELIVERY TIME AND COST.

SPECTRIUM OF SERVICES

ISO 45001:2018

BUREAU VERITAS
Certification



ISO 9001:2015

BUREAU VERITAS
Certification



ISO 14001

BUREAU VERITAS
Certification



FABRICATION OF NEW OIL & GAS EQUIPMENT.

SUPPLY OF NEW OIL & GAS EQUIPMENT.

INTEGRATION OF OIL & GAS PACKAGES.

RETROFITTING OF EXISTING OIL & GAS EQUIPMENT.

SUPPLY OF USED EQUIPMENT ON DEMAND.

REPAIR OF OIL & GAS EQUIPMENT.



**ALPHA
TECHNOLOGY**

**STANDARD
SUPPLY**

STANDARD CAPACITIES COVERING MOST OF THE INDUSTRY NEEDS.

PRE-ENGINEERED, PRE-HAZOPED, PRE-'SIL'LED, CERTIFIED PACKAGES.

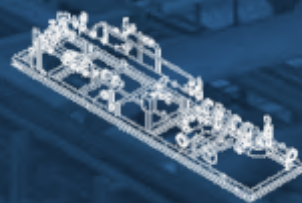
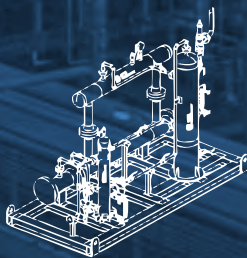
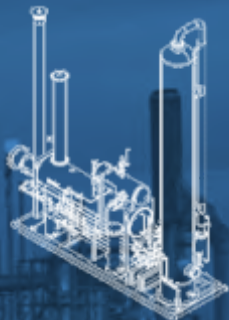
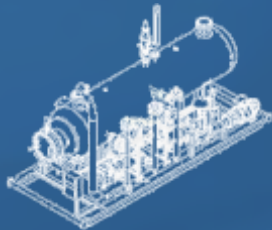
FLEXIBILITY TO MATCH SPECIFIC NEEDS OF CUSTOMERS (I.E. SPECIAL INSTRUMENTATION & CONTROL, AND CRITICAL CONTROL FEATURES)

OFF-THE-SHELF EQUIPMENT AVAILABLE

QUICK DELIVERY TIME / LOW COST.

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OIL SEPARATION & TREATMENT EQUIPMENT

PRODUCTION SEPARATORS

TEST SEPARATORS

MOBILE TEST SEPARATORS

INDIRECT FIRE HEATERS

HEATERS TREATERS

PRESSURIZED WATER SKIMMERS



II FEATURES

ALPHA TECHNOLOGY's Production separator is a 3-phase separator used to separate oil, gas and water. The production separator is a pressurized vessel designed to efficiently separate effluents. Design of Separators is performed according to API 12J and ASME VIII latest editions and other international codes and standards. The separator's design was performed to meet the production and environment requirements of most fields and plants.

II STANDARD FEATURES

- Lifting Lugs
- Inlet Diverter
- Vortex Breakers
- Wire Mesh / Mist Extractor
- Level Switch High and High High for Oil and Water Compartments
- Level Switch Low and Low Low for Oil and Water Compartments
- Level Controllers for Oil and Water Compartments
- Oil Line Level Control Valve
- Water Line Level Control Valve
- Gas Line Pressure Control Valve
- Pressure Controller
- Pressure Safety Valve
- Level Gauges
- Pressure and Temperature Indicators

II STANDARD OPTIONS

- Electronic Instrumentation
- Flowmeters and Flowmonitors
- PLC System
- Nace Materials

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

II STANDARD CAPACITIES

SEPARATOR MODEL	CAPACITY		MAWP Psig
	GAS MMSCFD	OIL BOPD	
TS - 4805A	6	16000	230
TS - 4805B	10	16000	600
TS - 4805C	13	16000	1000
TS - 4805D	16	16000	1440
TS - 4802A	10	16000	230
TS - 4802B	18	16000	600
TS - 4802C	23	16000	1000
TS - 4802D	29	16000	1440
TS - 6002A	26	36000	230
TS - 6002B	30	36000	600
TS - 6002C	38	36000	1000
TS - 6002D	47	36000	1440

ALPHA TECHNOLOGY provides different sizes and capacities of Production Separators to be used in oil and gas fields.

Production Separators' sizes range from 30 inch to 60 inch Outside Diameter (OD) and from 10 feet to 20 feet Length (S/S).

Maximum Allowable Working Pressure varies from 230 Psi to 1440 Psi.

Our Separators offer high reliability and performance that allows better operating aspects and more flexibility to Operators.

Suitable and reliable internals are designed and installed to insure perfect and optimized separation.

Installed instruments, Valves and accessories are from well-known international brands and suppliers.



CODES II



OIL SEPARATION & TREATMENT EQUIPMENT

PRODUCTION SEPARATORS
TEST SEPARATORS
MOBILE TEST SEPARATORS
INDIRECT FIRE HEATERS
HEATERS TREATERS
PRESSURIZED WATER SKIMMERS



FEATURES

Test Separators are a mandatory equipment for the exploration of oil and gas fields. The multi-meter system installed through the test separator skid allows engineers to perform efficient analysis of wells capacities and flowrates. ALPHA TECHNOLOGY presents to oil and gas market highly reliable and efficient test separators completely assembled on skid with all necessary instruments, valves and accessories.

STANDARD FEATURES

- Lifting Lugs
- Inlet Diverter
- Vortex Breakers
- Wire Mesh Mist Extractor
- Level Switch High and High High for Oil and Water Compartments
- Level Switch Low and Low Low for Oil and Water Compartments
- Level Controllers for Oil and Water Compartments
- Oil Line Level Control Valve
- Water Line Level Control Valve
- Gas Line Pressure Control Valve
- Flowmeters and Flowmonitors for Water and Oil lines
- Flowmeter and Flowmonitor for Gas line
- Pressure Controller
- Pressure Safety Valve
- Level Gauges
- Pressure and Temperature Indicators

STANDARD OPTIONS

- Electronic Instrumentation & Control
- PLC System
- Nace Material

APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

STANDARD CAPACITIES

SEPARATOR MODEL	CAPACITY		MAWP Psig
	GAS MMSCFD	OIL BOPD	
TS - 4805A	6	16000	230
TS - 4805B	10	16000	600
TS - 4805C	13	16000	1000
TS - 4805D	16	16000	1440
TS - 4802A	10	16000	230
TS - 4802B	18	16000	600
TS - 4802C	23	16000	1000
TS - 4802D	29	16000	1440
TS - 6002A	26	36000	230
TS - 6002B	30	36000	600
TS - 6002C	38	36000	1000
TS - 6002D	47	36000	1440

ALPHA TECHNOLOGY provides different sizes and capacities of Test Separators to be used in oil and gas fields.

Our Separators offer high reliability and performance that allows better operating aspects and more flexibility to Operators.

Suitable and reliable internals are designed and installed to insure perfect and optimized separation. Provided instrument, Valves and accessories are from well-known international brands and suppliers.



CODES





OIL SEPARATION & TREATMENT EQUIPMENT

PRODUCTION SEPARATORS
TEST SEPARATORS
MOBILE TEST SEPARATORS
INDIRECT FIRE HEATERS
HEATERS TREATERS
PRESSURIZED WATER SKIMMERS



FEATURES

ALPHA TECHNOLOGY's mobile well test separator is a three-phase horizontal separator designed to provide high efficient separation of well effluents into Oil, Water and Gas. Our separator enables measurement of three separated effluents flowrates through efficient flowmeters. the separator is self-contained unit that contains control valves and pneumatic controllers in order to regulate vessel levels and pressure during operation.

STANDARD FEATURES

- Lifting Lugs
- Inlet Diverter
- Vortex Breakers
- Wire Mesh Mist Extractor
- Level Switches High and Low for Oil and Water Compartments
- Level Controllers for Oil and Water Compartments
- Oil Line Level Control Valve
- Water Line Level Control Valve
- Gas Line Pressure Control Valve
- Pressure Controller
- Pressure Safety Valve
- Level Gauges
- Pressure and Temperature Indicators
- Flowmeters and Flowmonitors

STANDARD OPTIONS

- Electronic Instrumentation
- Wireless Instrumentation
- PLC System
- Choke Valves for Water, Oil and Gas Lines.

APPLICATIONS

- Onshore and Offshore well testing
- Extended Production Tests
- Early Production Facilities

DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

BENEFITS

- Enables easy Transportation and well operatbility
- Low maintenance and long operational life
- Efficient separation of Gas, Oil and Water from well effluents
- Povidess large flow measurement range

SPECIFICATION

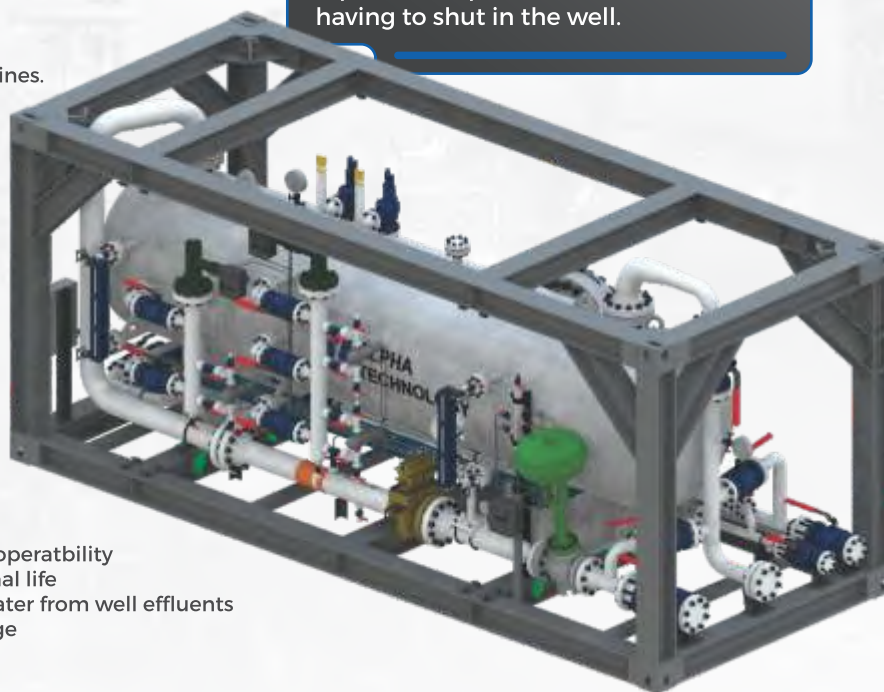
Vessel Size (D x L) (in x ft / m)
Design Pressure (Psi / bar)
Design Temperature (°F / °C)
Maximum Liquid Flowrate (bbl/d)
Maximum Gas Flowrate (MMSCFD)
Service Conditions
Skid Dimensions (L x W x H - ft / m)
Gas Measurement Equipment
Oil Measurement Equipment
Water Measurement Equipment
Pressure Control Equipment
Oil Level Control Equipment
Water Level Control Equipment
Safety Devices
Vessel Manway

48 x 15 (1.2 x 4.8)
1 440 (99)
- 20° to 250° (-29° to 120°)
16000
76
H2S / CO2
20 x 7.7 x 7.9 / 5.9 x 2.35 x 2.4 (20 ft Container)
Orifice Meter / Differential Pressure Recorder
Turbine Flowmeter / Flow Monitor
Turbine Flowmeter / Flow Monitor
Pneumatic Pressure Control Valve / Pressure Controller
Pneumatic Level Control Valve / Level Controller
Pneumatic Level Control Valve / Level Controller
2 x Pressure Safety Valve
18" Diameter / 600#

The Mobile Test Separator is designed using many years of experience in oil & gas fields operation and well testing. It provides high reliability and efficient operating aspects.

Our Test Separator can operate as stand-alone unit or can be connected to other process components. During normal operation, the Test Separator maintains constant pressure and levels, through its accurate instrumentation material, to optimize measurement accuracy.

The Test Unit provides also Bypass capabilities that allow maintenance, repair and replacements without having to shut in the well.



CODES II





OIL SEPARATION & TREATMENT EQUIPMENT

PRODUCTION SEPARATORS
TEST SEPARATORS
MOBILE TEST SEPARATORS
INDIRECT FIRE HEATERS
HEATERS TREATERS
PRESSURIZED WATER SKIMMERS



II FEATURES

Indirect Fired Heaters are used to increase the temperature of well effluents and Process Fluids. ALPHA TECHNOLOGY's heaters are designed in full compliance with API 12K latest edition requirements, and offers multiple features that allow best performance. Our heaters offer also high thermal efficiency that means lower operating costs through fuel gas saving.

Typical applications of Indirect Fired Heaters are heating wellhead gas or oil in order to prevent hydrate formation, reduce viscosity and/or breakdown emulsions.

II STANDARD FEATURES

- Flame Arrested Burner Assembly
- Water Expansion Tank
- Level Switch and Level Gauge for Water expansion Tank
- Water Bath
- Removable Coil Bundle
- Removable Fire Tube Assembly
- Fuel Gas line assembly
- Fuel Gas Shut-off Valve
- Fuel Gas Regulating and Pressure Safety Valves
- Fuel Gas Pre-heat Coil
- Fuel Gas Scrubber
- Exhaust Stack with Spark Arrestor
- Structural Skid
- Water Bath Temperature Controller
- Insulation

ALPHA TECHNOLOGY's skid-mounted indirect fired heater offers wide range of standard firetube duties available from 100 000 BTU/hour to 5 000 000 BTU/hour.

We can offer customized design or duty following customer request. Burner and pilot assembly is chosen to match fire tube duty to provide safe and efficient operation under variable operating and weather conditions.

II STANDARD OPTIONS

- Electric Instrumentation
- Diesel Burner Assembly
- Dual Fuel (Gas and Diesel) Burner Assembly
- Burner Management System
- Single and Split pass design
- Nace Material

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- API 12K
- ASME VIII
- ASME B31.3 & B31.8
- ASME B16.5
- NACE MR 0175

II STANDARD CAPACITIES

HEATER MODEL	DUTY BTU / Hour
IFH - 10	100 000
IFH - 25	250 000
IFH - 50	500 000
IFH - 75	750 000
IFH - 100	1 000 000
IFH - 150	1 500 000
IFH - 200	2 000 000
IFH - 250	2 500 000
IFH - 300	3 000 000
IFH - 400	4 000 000
IFH - 500	5 000 000

We provide Multiple Pressure ratings from 230 psi to 5000 psi.



CODES II





OIL SEPARATION & TREATMENT EQUIPMENT

PRODUCTION SEPARATORS
TEST SEPARATORS
MOBILE TEST SEPARATORS
INDIRECT FIRE HEATERS
HEATERS TREATERS
PRESSURIZED WATER SKIMMERS



II FEATURES

Heater Treater (known also by Emulsion Treater) is a combined equipment aiming to dehydrate (or dewater) the produced crude oil to a specified level of Basic Sediment and Water (BS&W). Incoming Emulsion enters the vessel by the top. The emulsion flows over the fire tube shroud where it is heated to the desired temperature (The heated water serves to wash the emulsion and to aid in the coalescing of the water droplets). The emulsion and oil continue to rise into the oil treating compartment of the vessel where the emulsion breaking process continues. The clean oil exits the vessel near the top third of the vessel and the water is drawn off directly under the emulsion distribution pan.

II STANDARD FEATURES

- Flame Arrested Burner Assembly
- Fire Tube Assembly
- Fuel Gas Line Assembly
- Fuel Gas Line Shut Off Valve
- Fuel Gas Regulating and Pressure Safety Valves
- Fuel Gas Pre-Heat Coil
- Fuel Gas Scrubber
- Exhaust Stack
- Fire Tube Assembly
- Inlet Oil/Emulsion shroud
- Oil Level Controller
- Oil Level Control Valve
- Water Level Controller
- Water Level Control Valve
- Temperature Controller
- Manway
- Insulation

ALPHA TECHNOLOGY performs the design, fabrication and assembly of Heaters / Emulsion treaters according to recommendations and guidelines of API 12L. Its standard design offers the best cost and delivery time to Customers.

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- API12L
- ASME VIII
- ASME B31.3
- ASME B16.5



II STANDARD CAPACITIES

HEATER TREATER MODEL	DESIGN PRESSURE PSIG	HEAT DUTY BTU / H	TREATED OIL CAPACITY BPD
HT - 1000	50	1 000 000	2500
HT - 1500	50	1 500 000	4000
HT - 2500	50	2 500 000	7000

CODES II



OIL SEPARATION & TREATMENT EQUIPMENT

PRODUCTION SEPARATORS
TEST SEPARATORS
MOBILE TEST SEPARATORS
INDIRECT FIRE HEATERS
HEATERS TREATERS
PRESSURIZED WATER SKIMMERS



FEATURES

ALPHA TECHNOLOGY designs and fabricates Pressurised Skim Tanks in standard and customized capacities that allows the oil droplets and solids separation from produced oily water using adequate and efficient coalescing internals.

STANDARD FEATURES

- Cylindrical Vessel with nozzles
- Pressurized or atmospheric vessel
- Coalescing Internals
- Level High and Low switches
- Mechanical Dump Valves
- Level Guages
- Control Valves
- Skid Mounted
- Lifting Lugs

STANDARD OPTIONS

- Electronic Instrumentation & Control
- Flowmeters and Flowmonitors
- PLC System
- Nace Materials

APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175



Skim Tanks are completely assembled on skid, with adequate instrumentation providing high reliability and operatbility. They are designed with accurate residence time to allow efficient coalescence and gravity separation.

STANDARD CAPACITIES

SKIMER MODEL	CAPACITY WATER BPD
PWS - 4215A	2200
PWS - 4815A	2800
PWS - 6015A	3300



CODES





GAS TREATMENT EQUIPMENT

GAS SEPARATORS

JOULE-THOMSON UNITS

GLYCOL DEHYDRATION UNITS

DESICCANT DEHYDRATORS

AMINE PLANTS

COMPRESSION UNITS



FEATURES

The Gas Separator is a two phase separator and is generally used to separate as much as possible liquids from wellhead gas. Two Phase Separator could be in Horizontal or Vertical Configuration. Liquids (Oil, Water, Emulsions) leave the separator at the bottom through a level control or dump valve. The gas leaves the two phase separator at the top, passing through a vane mist extractor to remove liquid droplets in suspension.

STANDARD FEATURES

- Inlet Diverter
- Vortex Breakers
- Vane type Mist Extractor
- Level Switch High and High High for Liquid
- Level Controller for Liquid
- Liquid Level Control Valve
- Gas Pressure Control Valve
- Pressure Controller
- Pressure Safety Valve
- Level Gauges
- Pressure and Temperature Indicators
- Lifting Lugs

STANDARD OPTIONS

- Electronic Instrumentation
- Flowmeters and Flowmonitors
- PLC System
- Nace Materials

APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

DESIGN STANDARDS

- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

SPECIFICATIONS

SEPARATOR MODEL	CAPACITY GAS MMSCFD	MAWP PSIG
HGS - 4805A	6	230
HGS - 4805B	10	600
HGS - 4805C	13	1000
HGS - 4805D	16	1440
HGS - 4802A	10	230
HGS - 4802B	18	600
HGS - 4802C	23	1000
HGS - 4802D	29	1440
HGS - 6002A	26	230
HGS - 6002B	30	600
HGS - 6002C	33	1000
HGS - 6002D	47	1440



CODES





ALPHA
TECHNOLOGY

GAS TREATMENT EQUIPMENT

GAS SEPARATORS

JOULE-THOMSON UNITS

GLYCOL DEHYDRATION UNITS

DESICCANT DEHYDRATORS

AMINE PLANTS

COMPRESSION UNITS

FEATURES

Joule-Thomson Units are used to remove heavy hydrocarbons from gas before transmission through pipelines. Gas pressure drop creates Joule-Thomson Cooling effect that allows condensation of heavy hydrocarbons and gas will meet customer's required Water and Hydrocarbon Dew Point specifications.

STANDARD FEATURES

- Gas Gas Heat Exchanger
- Gas Condensate Heat Exchanger
- Low Temperature Separator
- J.T. Valve
- Dump Valve
- Temperature Control Valve
- Level Controller
- Temperature Controller
- Pressure Controller
- Pressure Safety Valve
- Level Indicator
- Pressure and Temperature Indicators
- Insulation
- Structural Skid with Lifting Lugs

ALPHA TECHNOLOGY provides a full self-automated J.T. skids with pneumatic controls. Our J.T. skids are efficient and economical by cooling natural gas and providing maximum liquid recovery. We offer different standard J.T. Skids' Capacities that allow offering competitive delivery times and costs.

STANDARD OPTIONS

- Electronic Instrumentation & Control
- PLC System
- Nace Materials

APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

DESIGN STANDARDS

- API 12J
- TEMA
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

STANDARD CAPACITIES

JT SKID MODEL	Capacite MMSCFD
JT - 01	1
JT - 03	3
JT - 05	5
JT - 10	10
JT - 15	15
JT - 30	30



CODES





GAS TREATMENT EQUIPMENT

GAS SEPARATORS
JOULE-THOMSON UNITS
GLYCOL DEHYDRATION UNITS
DESICCANT DEHYDRATORS
AMINE PLANTS
COMPRESSION UNITS



FEATURES

Glycol dehydration unit main function is to remove water vapor from gas to prevent the formation of hydrates and protect downstream equipment from corrosion. ALPHA TECHNOLOGY's Teg Dehydration Unit provides reliable and efficient Dehydration System with best and proven operatbility and maintainability. The dehydration unit contains the Teg contractor as well as the Teg regeneration unit on the same skid or on separate skids.

STANDARD FEATURES

Glycol Regeneration Unit

- Glycol Pumps
- Glycol / Glycol Heat Exchanger
- Three-Phase Flash Tank with Level Gauges and Level Controllers
- Pressure Safety Valve for Flash Tank
- Particulate and Carbon filters
- Glycol Reboiler
- Still column with packing
- Fire Tube with Flame Arrested Burner
- Fire Tube Stack with Stack Arrestor
- Fuel Gas Train piping Assembly
- Fuel Gas Shut-Off and Pressure Regulating Valves
- Fuel Gas Scrubber
- Insulation
- Lifting Lugs
- Structural Skid

Absorber

- Bubble Caps Trays with downcomer
- Random Packed Tower
- Structured Packed Tower
- Mist Extractor
- Gas/Glycol Heat Exchanger
- Pneumatic Level Controller
- Pressure Safety Valve
- Level Gauge
- Level Control Valve
- Pressure and Temperature Gauges
- Drain Valve
- Lifting Lugs

ALPHA TECHNOLOGY's engeneering staff has chosen the right combination to offer best balance between high efficiency of dehydration and unit cost. We have the experience and design capabilities to fabricate Glycol Dehydration Units capacities over 70 MMSCFD and Water Content less than 5lb/MMSCF.

STANDARD OPTIONS

Glycol Regeneration Unit

- Electric Instrumentation
- Burner Management System
- PLC System
- Glycol Metering
- Nace Materials

Absorber

- Electric Instrumentation
- Additional Packing or Bubble cup trays
- Nace Materials

APPLICATIONS

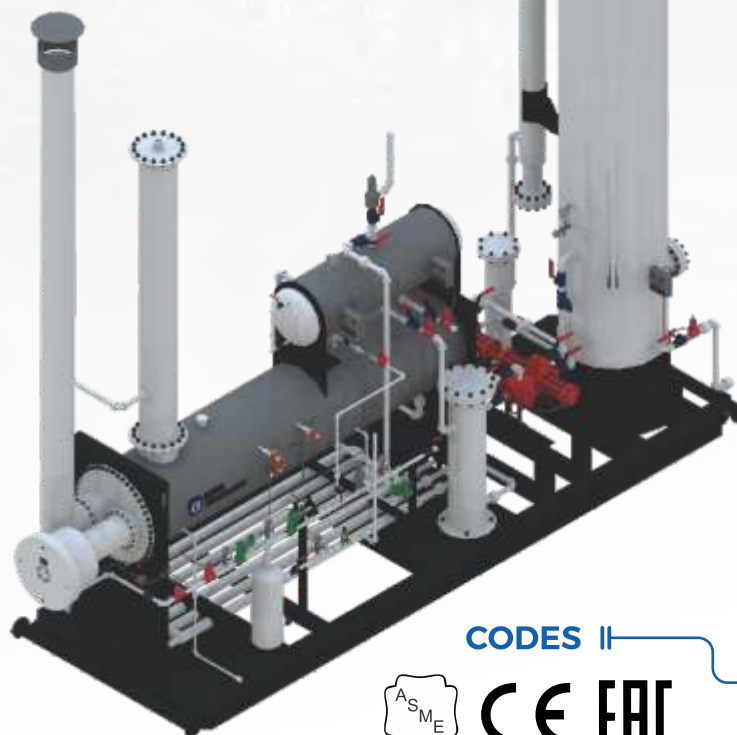
- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

DESIGN STANDARDS

- API 12 GDU
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

STANDARD CAPACITIES

HEATER MODEL	GAS CAPACITY MMSCFD @1440 psig
TR - 125	6
TR - 200	10
TR - 300	15
TR - 400	21
TR - 500	26
TR - 750	38
TR - 1000	51
TR - 1250	64
TR - 1500	77



CODES II





GAS TREATMENT EQUIPMENT

GAS SEPARATORS
JOULE-THOMSON UNITS
GLYCOL DEHYDRATION UNITS
DESICCANT DEHYDRATORS
AMINE PLANTS
COMPRESSION UNITS

II FEATURES

Produced gas is generally dehydrated using dewatering agents such as triethylene glycol (TEG) and other similar products. Solid desiccant dehydration is an alternative technology for gas dehydration by using moisture-absorbing salts to remove water from the gas, such as CaCl₂.

Process Description

Wet gas enters the bottom of CaCl₂ dehydrator, below the desiccant bed. it flows up through the solid CaCl₂ bed and gets in contact with the surface of the desiccant pellets which removes water vapor from the gas.

Desiccants

Other Desiccants can be used such as potassium and lithium chlorides. These salts naturally attract and absorb moisture and gradually dissolving to form a brine solution.

Cost Effective

Several process and economical analysis have shown that dehydration using the desiccant dehydrators is cost effective than using glycol dehydration especially in low gas flow rates (less than 1~2 MMSCFD).

Benefits of using desiccant dehydration process doesn't deal only with CAPEX but also with OPEX as it doesn't require fuel gas for regeneration and maintenance, and operation costs are very low.

Environmental Benefits

Unlike the glycol dehydration, use of desiccant dehydration has more advantage regarding the conservation of the environment as there is no continuous emission of vent gas to the atmosphere like in glycol regeneration.

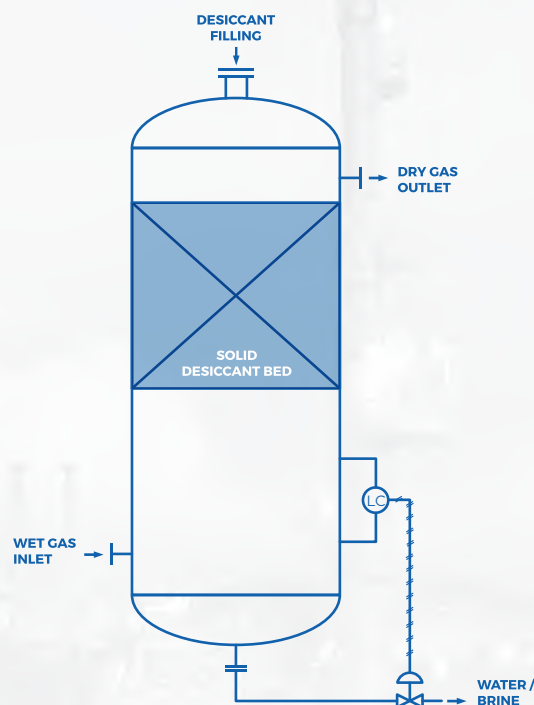


Figure : Typical Solid Desiccant Dehydrator

II STANDARD FEATURES

- Dehydrator Vessel/Tower
- Vessel Internals (Gas Distributor, Desiccant Bed Supports, ...)
- Pressure Indicator
- Temperature Indicator
- Level Controller
- Level Control Valve
- Desiccant Filling Nozzle
- Lifting Lugs
- Structural Skid

II STANDARD OPTIONS

- Electronic Instrumentation and Control

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

ALPHA TECHNOLOGY performs the design and fabrication of Solid Desiccant dehydrators as per Customer's requirements, needs and specifications and we make sure that the solution we propose will be economically and environmentally beneficial for the customer.

CODES II



FEATURES

Amine Sweetening unit uses Di-Ethanol Amine (DEA) or Methyl Di-Ethanol Amine (MDEA) to remove H₂S and CO₂ from hydrocarbon gases. An Amine Sweetening unit includes two stages; First stage is an Amine contactor where gases are brought in contact with Amine solution, where H₂S and CO₂ get absorbed. Second stage is an Amine Regenerator where H₂S and CO₂ are stripped off the rich Amine solution to generate a Lean Amine solution to be recirculated to the Amine contactor column.

AMINE STRIPPER / STILL COLUMN

Amine Regeneration Skid aims mainly to strip-off Rich Amine from absorbed H₂S or CO₂.

CONTACTOR

The Contactor Skid includes mainly the gas absorber which is a typical counter current gas-liquid contactor equipped with trays or with random or structured packings.

HEAT EXCHANGERS / COOLERS

Amine Regeneration process requires several variations in temperatures what can be assured by dedicated Heat Exchangers and Air Coolers. Economizers are used to increase the energetic efficiency of the plant.

AMINE REBOILER

Amine Reboiler is a part of the Amine Regeneration Unit. Its main role is to release acid gases from Rich Amine.

II FEATURES

Standard Design: Pre-engineered Amine Unit Packages with offered capacities allow quick delivery times.
Modulation: Modular design offers quick field deployment time and optimized layout.
Flexibility: Flexibility to use amine solvents as per Customer's choice and to adapt to changing conditions.

II STANDARD FEATURES

CONTACTOR SKID

- Bubble Caps Trays with downcomer
- Random Packed Towers
- Structured Packed Towers
- Inlet Gas Filter
- Gas / Amine Filter Coalescer
- Pneumatic Level Controllers
- Pressure Safety Valves
- Level Gauges
- Level Control Valves
- Pressure and Temperature Gauges
- Nace Compliant
- Lifting Lugs
- Structural Skid

AMINE REGENERATION SKID

- AMINE Flash Tank
- AMINE Charcoal Filter
- AMINE Particulate Filter
- AMINE Circulation Pumps
- AMINE Booster Pumps
- Lean / Rich AMINE Heat Exchanger
- AMINE Cooler
- AMINE Reflux Condenser
- Reflux Pumps
- Still / Reflux Accumulator
- AMINE Reboiler with Burner Management System
- Insulation
- Lifting Lugs
- Nace Compliant
- Structural Skids

II STANDARD OPTIONS

CONTACTOR SKID

- Electric Instrumentation
- Additional Packing or Bubble cup trays

Absorber

- Electronic Instrumentation
- PLC System with remote Monitoring
- AMINE Metering
- Amine Make-up Tanks & Pumps

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- ASME VIII
- ASME B31.3
- ASME B16.5
- API 12J
- NACE MR 0175

II STANDARD CAPACITIES

AMINE UNIT MODEL	CAPACITY
AU - 030	30 GPM
AU - 060	60 GPM
AU - 100	100 GPM
AU - 400	400 GPM



CODES II





GAS TREATMENT EQUIPMENT

GAS SEPARATORS
JOULE-THOMSON UNITS
GLYCOL DEHYDRATION UNITS
DESICCANT DEHYDRATORS
AMINE PLANTS
COMPRESSION UNITS



II FEATURES

ALPHA TECHNOLOGY offers for its customers complete integrated solutions for gas compression. Solutions include all types of gas compressors depending on process conditions and project specifications, and other treatment equipment needed for safe and prompt operation of the compression unit.

II GAS COMPRESSOR TYPES

- Reciprocating Compressors
- Centrifugal Compressors
- Screw Compressors

II APPLICATIONS

- Gas Export

Export compressors are usually used to export gas (raw or treated) from oil and gas processing facilities and gas treatment plants

- Gas Lift

Gas lift is a method of artificial lift that uses an external source of high-pressure gas for supplementing formation gas to lift the well fluids.

- Vapor Recovery

A VRU is a compression system used to collect and compress low volume gas streams for injection into the suction of a larger compressor, a meter run, a local site fuel gas system or directly into a gas gatheringline.



II CODES





ALPHA
TECHNOLOGY

FILTRATION & COALESCENCE EQUIPMENT

FILTER SEPARATORS
LIQUID-LIQUID COALESCERS
GAS SCRUBBERS

FEATURES

Filters Separators are usually used in order to remove damaging contaminants from liquid-free natural gas. ALPHA TECHNOLOGY offers a range of standard capacities and sizes of filters separators that goes up to 1400 psig. Customized capacities can be developed according to Customers' Requests.

STANDARD FEATURES

- Lifting Lugs
- Mist Extractor
- Filtering Elements
- Liquid Level Controller
- Liquid Level Control Valve
- Pressure Safety Valve
- Level Gauges
- Pressure Indicator
- Temperature Indicator

STANDARD OPTIONS

- Electronic Instrumentation & Control
- Nace Materials
- Structural Steel Skid

APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

DESIGN STANDARDS

- ASME VIII
- ASME B16.5
- NACE MR 0175

Natural gas goes through the filtering elements that stops damaging particles as lubricating oil and glycol, then mist extractor will eliminate all remaining liquid droplets in the treated gas. We choose adequate filter elements and internals to insure adequate and optimized Separation / Filtration efficiency. Our Filters Separators are provided in single and double sump.



SPECIFICATIONS

FILTER SEPARATOR MODEL	DIMENSIONS OD (inch)
FS - 008	8
FS - 010	10
FS - 012	12
FS - 014	14
FS - 016	16
FS - 020	20
FS - 024	24
FS - 030	30
FS - 036	36
FS - 042	42

CODES





FILTRATION & COALESCENCE EQUIPMENT

FILTER SEPARATORS
LIQUID/LIQUID COALESCERS
GAS SCRUBBERS

II FEATURES

Liquid Coalescers, are in general, used when simple gravity separators can't reach desired liquid separation performance.

ALPHA TECHNOLOGY fabricates Liquid-Liquid coalescers offering high liquid separation capabilities to separate light from heavy liquid phases. We use well-known coalescer internals (Cartridges & Wafers) to guarantee better contaminants removal.

Liquid-Liquid Coalescers provide the advantage to have reduced vessel size against classic gravity separators.

II STANDARD FEATURES

- Coalescer Media
- Liquid Level Controller
- Liquid Level Control Valve
- Pressure Safety Valve
- Level Gauges
- Pressure Indicator
- Temperature Indicator
- Supports & Lifting Lugs

II STANDARD OPTIONS

- Electronic Instrumentation & Control
- Nace Material
- Structural Steel Skid

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

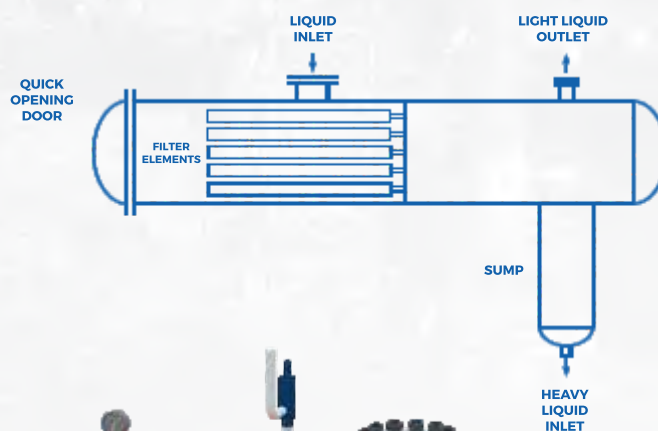
II DESIGN STANDARDS

- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

II CODES



ALPHA TECHNOLOGY provides pre-engineered liquid coalescers with different standard capacities and sizes. Liquid Coalescers are available in Horizontal or Vertical configurations. Sump could be in bottom or top position depending on the desired phase to be removed (oil or water)





FILTRATION & COALESCENCE EQUIPMENT

FILTER SEPARATORS
LIQUID-LIQUID COALESCERS
GAS SCRUBBERS

II FEATURES

ALPHA TECHNOLOGY provides gas scrubbers that remove liquid droplets from produced gas in order to protect downstream equipment such as compressors, metering skids, Dehydrators,...etc. Scrubbers are available in standard capacities and can be supplied with customized End User Needs. Gas scrubbers are provided fully equipped with adequate and efficient instrumentation and internals that provide increased efficiency and reliability.

II STANDARD FEATURES

- Lifting Lugs
- Inlet Diverter
- Vortex Breaker
- Wire Mesh / Mist Extractor
- Liquid Level controller
- Liquid Level Control Valve
- Pressure Safety Valve
- Level Gauges
- Pressure and Temperature Indicators
- Structural Skid

II STANDARD OPTIONS

- Electronic Instrumentation & Control
- Flowmeters and Flowmonitors
- Nace Materials

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

II STANDARD CAPACITIES

GAS SCRUBBER MODEL	CAPACITY MMSCFD	MAWP Psig
GSS - 1605A	1.25	230
GSS - 1605B	3	600
GSS - 1605C	3.9	1000
GSS - 1605D	4.8	1440
GSS - 2406A	4.1	230
GSS - 2406B	6.3	600
GSS - 2406C	8.8	1000
GSS - 2406D	11.2	1440
GSS - 3607A	9.4	230
GSS - 3607B	14.7	600
GSS - 3607C	20.7	1000
GSS - 3607D	25.7	1440
GSS - 4809A	16.7	230
GSS - 4809B	27.1	600
GSS - 4809C	36.9	1000
GSS - 4809D	45.3	1440

ALPHA TECHNOLOGY's Gas Scrubbers are available with different sizes and capacities that allow fast delivery time. Scrubbers skids are self-automated through pneumatic controllers.



CODES II



**UTILITIES
EQUIPMENT**

PIG TRAPS
CHEMICAL INJECTION SKIDS
GAS GENERATORS
DIESEL GENERATORS



II FEATURES

ALPHA TECHNOLOGY provides different sizes, classes and types of Pig Traps according to Customers's needs. Pig Traps are used to launch and receive standard and intelligent pigs through pipelines during commissioning, operation and maintenance phases.

II STANDARD FEATURES

- Major and Minor Barrels
- Quick Opening Door
- Pig Signaller
- Kicker Line Connection
- Bypass Line Connection
- Pressure Indicator
- Pressure Safety Valve
- Saddles
- Structural Skid
- Lifting Lugs

II STANDARD OPTIONS

- Electronic Instrumentation & Control
- Manual and Actuated Valves
- Interconnecting Piping
- Interlock Systems

Pig Traps are designed and manufactured according to international Codes and Standards (ASME, API, BS, ...). Pig Traps can be supplied with different Design Pressure Classes from ANSI #150 to #2500 and are supplied from simple launcher or receiver barrel to completely assembled skid with piping, instrumentation, valves, and control system.

STANDARD CAPACITIES II

PIG TRAPS MODEL	Minor Barrel Diameter Inch	Major Barrel Diameter Inch
PLR / PRE-64	4	6
PLR / PRE-86	6	8
PLR / PRE-108	8	10
PLR / PRE-1210	10	12
PLR / PRE-1612	12	16
PLR / PRE-1814	14	16
PLR / PRE-1816	16	18
PLR / PRE-2018	18	20
PLR / PRE-2420	20	24
PLR / PRE-2422	22	24
PLR / PRE-2624	24	26
PLR / PRE-3028	28	30

II APPLICATIONS

- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

II CODES



**UTILITIES
EQUIPMENT**

PIG TRAPS
CHEMICAL INJECTION SKIDS
GAS GENERATORS
DIESEL GENERATORS



II FEATURES

ALPHA TECHNOLOGY designs and integrates chemical injections systems according to Customer's needs to provide a high quality and reliable solutions. Our Chemical Injection Systems can be used for a wide range of chemicals using well known pump brands and manufacturers.

Complete Turnkey Solution

We offer a complete Turnkey solution to Our customers where we perform engineering, fabrication and integration of the solution with all necessary instruments, valves, interconnecting piping/ Turbing, Supports, Control Panels, Junction Boxes, etc...

More Safety

Our Packages include all necessary protection and safety devices, such as pressure safety valves, that allow the safe running of the whole system.

Control and Operability

We design Chemical Injection System Controls taking into consideration the integration of our skid into the Customer's DCS / Control System.

Standardization and Flexibility

ALPHA TECHNOLOGY has already 'Pre-Engineered' Chemical Injection Packages that allow optimization in delivery time and cost and we can update our design according to customers specifications and requirements.

II OPTIONAL FEATURES

- Level Transmitters
- Solar Panels
- Flow Transmitters
- Back-up Pump
- Remote Control

II APPLICATIONS

- Wellsites
- Onshore and Offshore Fields
- Early Production Facilities
- Permanent Production Facilities

II DESIGN STANDARDS

- ATEX / NEMA Standards
- ASME VIII
- ASME B16.5
- NACE MR 0175

II CODES



Chemical Injection Systems are used to inject chemicals in order to protect process and facilities such as :

- Corrosion inhibitors,
- Anti-scale,
- Anti-foam,
- Biocides,
- Demulsifiers,
- Wax Inhibitors,
- Oxygen Scavengers,
- Methanol,
- Glycol,
- ...





UTILITIES EQUIPMENT

PIG TRAPS
CHEMICAL INJECTION SKIDS
GAS GENERATORS
DIESEL GENERATORS



II FEATURES

ALPHA TECHNOLOGY performs the assembly and packaging of Gas Generators to provide the market fit-for-purpose power generators adopted to all industry needs. We choose for our customers well known gas engines and alternators' brands to offer a guaranteed reliable and performant Gas Generator packages.

II STANDARD FEATURES

- Gas Engine
- Engine Cooling System
- Generator End / Alternator
- Control Panel / Control System
- Structural Skid
- Weather Proof Enclosure

II STANDARD OPTIONS

- Silent Enclosures and Mufflers
- Remote Control & Monitoring
- 60 Hz / 120 VAC
- Single Phase Alternator
- Hybrid Solution (Gas+ Photovoltaic)
- IOT Ready / Smart Cities Ready
- Tier 2 / Tier 3/ Tier 4 compliant

II CAPACITIES

Our Gas Generator Sets are available with wide capacity range from 20 to 2000 KVA to meet the largest range of customers' needs.

II APPLICATIONS

- Healthcare
- Industry
- Mining
- Oil and Gas
- Buildings

II ENGINE BRANDS

- CATERPILLAR
- ARROW ENGINES
- MWM
- DEUTZ
- PERKINS

II ALTERNATOR BRANDS

- MECC ALTE
- STAMFORD
- LEROY SOMER



CATERPILLAR





ALPHA
TECHNOLOGY

UTILITIES EQUIPMENT

PIG TRAPS
CHEMICAL INJECTION SKIDS
GAS GENERATORS
DIESEL GENERATORS



II FEATURES

ALPHA TECHNOLOGY performs the assembly and packaging of Diesel Generators to provide the market fit-for-purpose power generators adopted to all industry needs. We choose for our customers well known diesel engines and alternators brands to offer a guaranteed reliable and performant Diesel Generator.

We offer Diesel Generator Sets to be used for emergency need or for continuous use and could be offered with either local or remote starting.

Emergency Gensets monitor continuously electrical needs in your workshop, factory or field and start-up automatically if power is interrupted and shut-down automatically when electricity returns.

II STANDARD FEATURES

- Diesel Engine
- Engine Cooling System
- Generator End / Alternator
- Control Panel / Control System
- Structural Skid
- Weather Proof Enclosure

II STANDARD OPTIONS

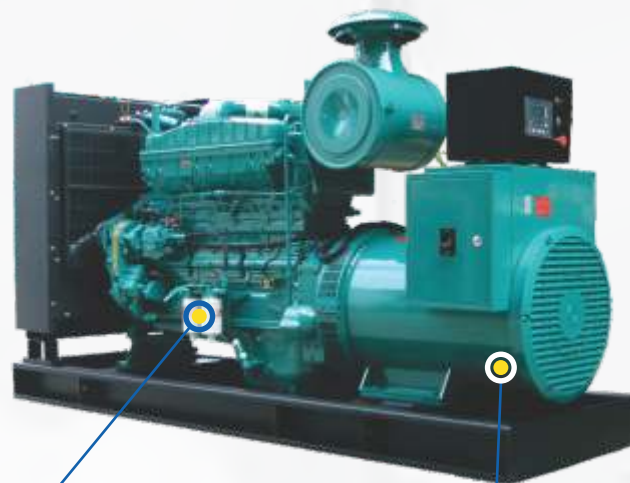
- Silent Enclosures and Mufflers
- Integrated Fuel Tank
- Remote Control & Monitoring
- 60 Hz / 120 VAC
- Single Phase Alternator
- Hybrid Solution (Diesel + Photovoltaic)
- Tier 2 / Tier 3/ Tier 4 compliant

II CAPACITIES

Our Diesel Generator Sets are available with wide capacity range from 20 to 2000 KVA to meet the largest range of customers needs.

II APPLICATIONS

- Agriculture
- Healthcare
- Industry
- Construction
- Mining
- Oil and Gas
- Buildings
- Data Centers



DIESEL ENGINE

Brands:

- DEUTZ
- CATERPILLAR
- PERKINS
- MWM

ALTERNATOR

Brands:

- MECC ALTE
- STAMFORD
- LEROY SOMER



CATERPILLAR

DEUTZ

MWM
Energy. Efficiency. Environment.

Perkins



INNOVATION

IN-LINE SEPARATOR

IN-LINE SEPARATOR

FEATURES

The Inline Separator IN-SEP® is an innovative package integrated with a set of new technologies allowing the separation of Clean Fuel Gas from multiphase flowlines at immediate vicinity of wellhead in remote wellsites. The Fuel Gas can be used for Power Generation at wellsites to run Sucker Rod Pumps, Jet Pumps, ESPs, Multiphase Pumps or any other rotating machinery.

The Inline Separator can be installed in-line as a continuation of the Well Production Flowline, or can be fitted to the well-testing connections at wellsite.

The Inline Separator is a fully static equipment and has almost no moving parts, therefore it requires very limited maintenance.

STANDARD FEATURES

- Inline Separator
- Gas Scrubber
- Filter Coalescer
- Pressure Safety Valve
- Pressure Regulating Valve
- Level Guages
- Pressure Guages
- Isolating Valves
- Structural Skid
- Lifting Lugs

STANDARD OPTIONS

- Electronic Instrumentation & Controls
- Nace Material
- Fuel Gas Heater
- Fuel Gas Buffer Tank

APPLICATIONS

- Onshore and Offshore Remote Wellsites
- Gas-Engine Powered Early Production Facilities (EPF)
- Autonomous Artificial Lifted Wells

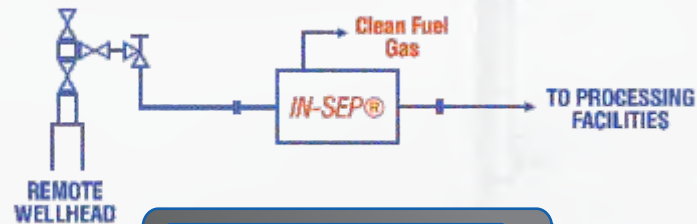
DESIGN STANDARDS

- API 12J
- ASME VIII
- ASME B31.3
- ASME B16.5
- NACE MR 0175

ADVANTAGES

- Compact Footprint
- In-line installation
- Large Turndown
- Self-Operated
- Low Maintenance

CODES



HOW IT WORKS

Wellhead Multiphase effluent flows through the lower barrel of the Inlet Separator which contains static devices that force the multiphase flow to take a quasi-stratified regime. The vapor phase is picked-up to the upper barrel through the stand pipes containing liquid blocking devices. The separated vapor is demisted through demister media and flows to the Gas Scrubber where it gets scrubbed from any entrained liquid droplets. The scrubbed gas out of the scrubber flows through a Filter Coalescer to get a high-quality Fuel Gas that can be fed to Gas Engines or Turbines.





ALPHA
TECHNOLOGY

OTHER
EQUIPMENT

OTHER EQUIPMENT

II HEAT EXCHANGE EQUIPMENT

- Air Coolers
- Chillers
- Heat Exchangers

II GAS TREATMENT PACKAGES

- Fuel Gas Treatment Skid
- Molecular sieves
- Dew Point Control Skids
- Fractionation Columns

II NGL & LPG PACKAGES

- NGL Recovery
- NGL/LPG Fractionation
- LPG Bullets
- LPG Transfer equipment
- Stabilizers

II MACHINERY

- Process Pumps
- Fire Fighting Pumps
- Mechanical Refrigeration
- Turbo Expander Packages

II INSTRUMENTATION & CONTROL

- Flow Metering
- Fiscal Metering
- Instruments and Analyzers
- Control Systems

II MISCELLANEOUS EQUIPMENT & MATERIAL

- Hot Oil & Surge Drum
- Oil Stripping / Stabilization Column
- Water Deoxygenation Tower
- Desalter Drum
- Atmospheric Skimmer
- Flare KO Drums
- Flares





TURNKEY
PLANTS

GAS - OIL SEPARATION PLANT GOSP
GAS TREATMENT PLANT - GTP

II FEATURES

ALPHA TECHNOLOGY provides a complete turnkey solution of oil and gas separation plants consisting in providing a "Ready for use" / "plug & play" plants with all its main process equipment and utilities.

The GOSP consists in an integrated oil and gas processing plant aiming to separate the three phases of crude oil (Oil, water and gas) than each phase gets treated and stored/ exported through pipelines or other forms of hydrocarbon transportation.

II BENEFITS

"Ready for use" / "Plug & Play"

- Our GOSP plants are already "Pre-Engineered" with all engineering aspects such as, Process Simulation, Safety Studies, Control Architecture, Mechanical Calculations, Piping Design,...etc

Standard design

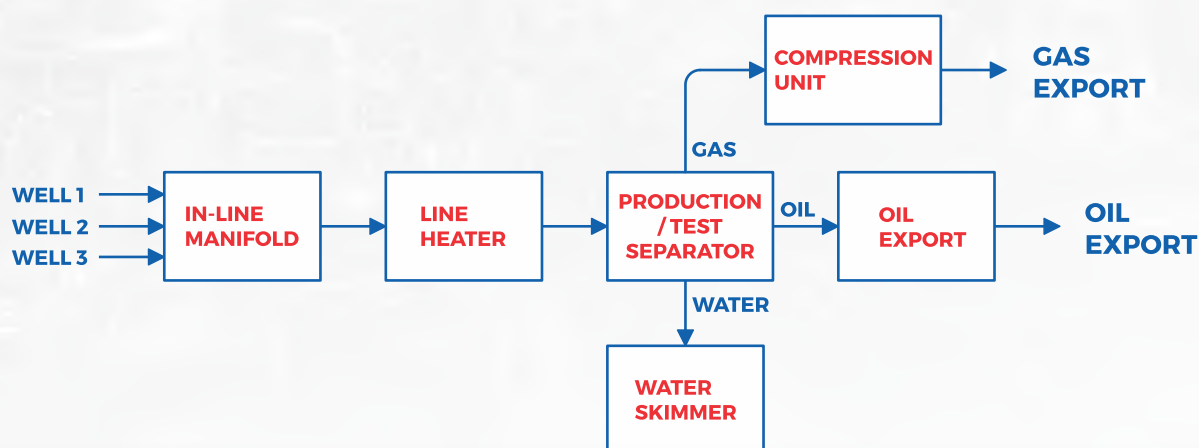
- ALPHA TECHNOLOGY benefited from its large equipment spectrum with all different standard sizes and capacities that allows fast track design, fabrication and installation of the Plants.

II GOSP Main Equipment

- Inlet Manifold
- Indirect Fired Heater
- Test Separator
- Production Separator
- Water Skimmer
- Gas Scrubber
- Gas Compressor
- Flare
- Oil Storage Tanks
- Export Pumps
- Loading Arms
- Pig Launcher



ALPHA TECHNOLOGY, with its large experience in oil separation plants design and installation, will provide best delivery time and cost-effective solutions for customers taking into consideration all process conditions and projects' challenges with all aspects





TURNKEY PLANTS

GAS - OIL SEPARATION PLANT GOSP
GAS TREATMENT PLANT - GTP



II FEATURES

Natural-gas processing plants purify raw natural gas by removing common contaminants such as water, carbon dioxide (CO₂) and hydrogen sulfide (H₂S). Some of the substances which contaminate natural gas have economic value and are further processed as Commercial Products.

A fully operational plant delivers pipeline-quality dry natural gas that can be used as fuel by residential, commercial and industrial consumers.

Its proven design and experience provides ALPHA TECHNOLOGY the advantage to propose competitive prices and delivery times.

II BENEFITS

Complete Turnkey Solution

- We offer a complete turnkey solution to our Customers where we perform Engineering, Fabrication, Construction, Installation, Commissioning and Start-up the plant.

Standardization and Flexibility

- ALPHA TECHNOLOGY provides also Licensed Processes having standard and proven design to optimize plant design cost and installation time.
ALPHA TECHNOLOGY provides also low CAPEX solutions for special applications where economics are tight, such as low production flowrates (1-5 MMSCFD).

Modular Design

- One of key fast delivery time factors is the modular design of the plants we deliver. It consists in maximizing equipment shop fabrication on skids which will have positive impact on installation time.

Reliable and Operational

- Our proven design and high quality equipment will offer to Customer a guaranteed reliable plants with very good integrity and excellent operability.



Our biggest Challenge is to offer to our Customers the best NGL recovery rates in order to obtain cost-effective plants.

