

# DP4000Q MTU DUAL FUEL MOBILE FRAC UNIT



EPS-01\_037DP4000Q MTU DUAL FUEL MOBILE  
FRAC UNIT  
02/05/2024

**EQUIPMENT AND SUPPORT IN EVERY SHALE PLAY**



THE DRAGON MTU 4000 DUAL FUEL MOBILE FRAC UNIT IS DESIGNED FOR CONTINUOUS DUTY OPERATIONS WITH A 2-ROD COMPRESSION SYSTEM. THIS ALLOWS FOR REMOVAL AND REPLACEMENT OF THE FLUID END WITHOUT LOSING COMPRESSION AND ALIGNMENT OF THE POWER END. THE POWER END TIE RODS WILL LAST THE LIFE OF THE PUMP AND ONLY NEED TO BE REMOVED AT THE POWER END OVERHAUL. FLUID END TIE RODS MAY NEED PERIODIC REPLACEMENT (THOUGH THIS IS FAR LESS THAN THE LEGACY STYLE STAY RODS). THE DP4000Q MAJOR COMPONENTS WERE CHOSEN AND DESIGNED TO GIVE YOU LONGER LIFE BEFORE HAVING TO REBUILD OR REFRESH THE POWER END. ROUTINE MAINTENANCE SCHEDULE TO EXTEND THE LIFE OF THE POWER END IS HIGHLY



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## STANDARD FEATURES

### GENERAL UNIT DESCRIPTION:

EACH STANDARD UNIT FEATURES THE FOLLOWING COMPONENTS:

- MTU T95 4000 DUAL FUEL CAPABLE ENGINE
- PETROLEUM TRANSMISSION
- DRAGON 4000Q PUMP AND STAINLESS STEEL FLUID END
- DRAGON CONTROLS

### TRAILER

DRAGON MANUFACTURED SUPPORT STRUCTURE WITH A QUAD AXLE AND COMES WITH REAR LIFT AXLE SKELETAL CHASSIS, FABRICATED FROM T-1 STEEL PLATE.

- KING PIN SETTING: 18"
- KING PIN MOUNTING HEIGHT: 51"
- AXLES: 25,000 LB., 77.5" TRACK, UNIVERSAL OIL SEALS AND BEARINGS, OPEN BRAKE CAMS, AUTO SLACK ADJUSTERS
- BRAKES: 16.5" X 7" Q BRAKES WITH 30/30 SPRINGS
- ABS: BENDIX 4S/2M
- TIRES: 255/70R22.5
- LANDING GEAR: JOST, 2-SPEED, 50,000 LB. CAPACITY
- BUMPER: OILFIELD STYLE WITH TOW EYE
- ELECTRICAL: SEALED MODULAR SYSTEM WITH SEALED BEAM LED LIGHTS
- TRAILER AXLES INCLUDE AIR DUMP VALVE
- (2) 200 US GALLON FUEL TANKS (190 NET GALLON CAPACITY)

### TRAILER DIMENSIONS

- CAPACITY: 98,000 LB.
- OVERALL LENGTH: 50'
- HEIGHT: 13'6"
- OVERALL WIDTH: 8' 6"

### ENGINE

MTU ENGINE IS MOUNTED ON THE DECK OF THE TRAILER.

- AIR FILTERS: MFG. SUPPLIED
- EXHAUST SYSTEM: MFG. SUPPLIED
- ALTERNATOR: 24VDC
- STARTER: ELECTRIC
- OIL AND FILTERS: MFG. SUPPLIED
- BATTERIES: (4) 12VDS, OPERATING IN SERIES, 24VDC

### SYSTEM

#### COOLING PACKAGE

A CUBE STYLE COOLING PACKAGE IS INSTALLED ON THE FRONT OF THE TRAILER.

- COOLERS: LUBE, HYDRAULIC, FUEL
- HYDRAULICS: HYDRAULIC MOTOR, ANTI-CAVITATION VALVE, FLUSHING VALVE
- MISCELLANEOUS: SURGE TANK, RAD CAP AND SIGHT GLASS, ACCESS PANEL, FRONT AND REAR TRI-MOUNT, AND SUPPORT STRUCTURE, STEEL SIGNBOARDS

#### TRANSMISSION

A PETROLEUM TRANSMISSION WITH INTEGRAL TORQUE CONVERTER IS MATED TO THE DECK ENGINE. DRIVELINE INCLUDES A STEEL FABRICATED ROTATION GUARD THAT IS CONNECTED TO THE PUMP.

- MODEL: PETROLEUM TRANSMISSION
- FLYWHEEL: MFG. RECOMMENDED
- DRIVELINE: MFG. RECOMMENDED
- OIL AND FILTER: MFG. RECOMMENDED
- TRANSMISSION OIL: MFG. RECOMMENDED
- COOLER: TRANSMISSION COOLER INCLUDED
- MISCELLANEOUS: MAG PICKUP FOR DRIVELINE ROTATION, CONVERTED TO BPM RATE BY SYSTEM CONTROLS.

#### PUMP

QUINTUPLEX POSITIVE DISPLACEMENT PUMP IS MOUNTED ON THE REAR OF THE UNIT.

- PUMP: DRAGON 4000Q PUMP AND FLUID END
- FLUID END: DRAGON STAINLESS STEEL VALVE OVER VALVE
- RATED POWER: 4,000 BHP
- STROKE: 8"
- GEAR BOX RATIO: 6.963:1
- MAXIMUM PRESSURE: DEPENDENT ON FLUID END SIZE
- LUBE OIL (POWER END): AS RECOMMENDED BY OEM
- GREASE LUBE (FLUID END): AS RECOMMENDED BY OEM
- MISCELLANEOUS: DRIVELINE FLANGE AS RECOMMENDED BY OEM.

A DRIP TRAY IS INSTALLED BELOW THE FLUID END, WHICH INCLUDES A 3/4" DRAIN PLUG LOCATED ON BOTH ENDS FOR WATER TO DRAIN.



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THERE IS ALSO A 3" COLLAR WITH A REMOVABLE PLUG FOR CLEAN- OUT UNDERNEATH THE DRIP PAN.

## **SUCTION MANIFOLD**

THE SUCTION MANIFOLD INCLUDES A 6" CHARGE LINE TO THE PUMP THAT IS EQUIPPED WITH (2) 4" FLAPPER VALVES WITH 4" 206 CONNECTIONS LOCATED OUT THE REAR OF THE TRAILER FOR EASE OF HOOK UP. THE 4" CONNECTIONS HAVE REMOVABLE CAPS ATTACHED TO THE MANIFOLD BY A CHAIN.

## **PLUNGER LUBE SYSTEM**

THE PUMP'S FLUID END IS LUBRICATED VIA A 24V GREASE SYSTEM THAT IS ENCLOSED IN PROTECTED HOUSING WITH A VIEW THROUGH THE FRONT. GREASE IS DISTRIBUTED THROUGH AN INDEPENDENT HOSE FOR EACH CYLINDER FROM THE SYSTEM PUMP. SYSTEM IS ACTIVATED WHEN THE TRANSMISSION ROTATION OUTPUT DRIVELINE IS ABOVE PRESENT MINIMUM RPM.

## **POWER END LUBE SYSTEM**

THE POWER END LUBRICATION PUMP IS HYDRAULICALLY DRIVEN BY PTO OFF OF THE TRANSMISSION.

- SIGHT GLASS
- HIGH FLOW FILTERS (25 MICRON)
- TEMPERATURE AND PRESSURE SENSOR (DISPLAYED ON PUMP CONTROL DATA SCREEN) A COOLER IS INSTALLED TO PREVENT OVERHEATING OF THE OIL. THE THERMOSTATIC VALVE CONTROLS THE FLOW THROUGH THE COOLER, WHICH ALLOWS THE OIL TO BYPASS THE COOLER UNTIL THE MINIMUM OIL TEMPERATURE IS REACHED. THE SYSTEM IS ALSO EQUIPPED WITH A RELIEF VALVE THAT OPTIMIZES THE FLOW OF OIL TO THE POWER END. LUBE TANK HAS A MANUAL SHUT OFF VALVE FOR MAINTENANCE PURPOSES.

## **HYDRAULIC SYSTEM**

THE FAN CIRCUIT IS A CLOSED LOOP VARIABLE SPEED SYSTEM, CONTROLLED BY ENGINE COOLANT TEMPERATURE. IT UTILIZES A 33 USG STAINLESS STEEL HYDRAULIC OIL RESERVOIR. A HYDRAULIC OIL COOLER IS MOUNTED IN THE RADIATOR TO COOL THE FAN DRIVE SYSTEM FLUID. THE FAN DRIVE FLUID IS

FILTERED THROUGH A 2 MICRON RETURN LINE FILTER. THE TANK INCLUDES A FILLER/BREATHING CAP, 2" FILL PORT, A SIGHT GLASS, AND A SUCTION LINE SHUT OFF VALVE.

## **ELECTRONICS**

THE FRAC PUMP IS EQUIPPED WITH A LOCAL AND REMOTE CONTROL. THE LOCAL CONTROL COMPONENTS ARE HOUSED IN A WEATHER TIGHT STAINLESS STEEL ENCLOSURE AND PROTECTED ON THE TOP, BACK AND SIDED BY AN ALUMINUM MOUNTING ENCLOSURE. THE PANEL IS PROTECTED FROM VIBRATION WITH CABLE ISOLATORS. THE REMOTE CONTROL PANEL IS MOUNTED IN A SUITCASE STYLE ENCLOSURE AND STORED ON THE UNIT IN THE ALUMINUM TOOL BOX LOCATED ON THE PASSENGER SIDE OF THE UNIT. INCLUDED WITH THE UNIT IS A 200 FOOT REMOTE CABLE. THE CABLE IS STORED ON A FIXED STYLE WRAP DESIGNED TO HOLD 200 FEET OF CABLE AND MOUNTED TO THE SIDE OF THE LOCAL PANEL PROTECTIVE SUPPORT FRAME.

## **LOCAL CONTROL PANEL**

- ENGINE DIAGNOSTIC LIGHT
- ENGINE PROTECTION LIGHT ENGINE DIAGNOSTIC PORT (ON ENGINE)
- MAIN POWER ON/OFF SWITCH
- ENGINE IGNITION ON/OFF SWITCH
- WORK LIGHTS ON/OFF SWITCH
- REMOTE CONTROL CABLE CONNECTION PORT
- OVER PRESSURE INSTANT NEUTRAL SYSTEM
- 15K PRESSURE TRANSDUCER
- EMERGENCY SHUTDOWN BUTTON

## **REMOTE CONTROL PANEL**

- REMOTE CONTROL PANEL
- REMOTE CONTROL TOUCH SCREEN
- REMOTE CABLE CONTROL PORT



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## REMOTE CONTROL PANEL

- EMERGENCY SHUTDOWN BUTTON
- NEUTRAL DIRECT BUTTON
- THROTTLE/RATE CONTROL/PUMP PRESSURE CONTROLS AND DISPLAY

## STORAGE

TOP HINGED LID TOOL BOX, LOCATED ON THE PASSENGER SIDE OF THE TRAILER BEHIND THE FUEL TANK.

## DOCUMENTATION

EACH UNIT IS PROVIDED COMPLETE WITH TWO (2) SETS OF DATA AND EQUIPMENT MANUALS FOR THE PURCHASED COMPONENTS, AS AVAILABLE FROM AND SUPPLIED BY THE COMPONENT MANUFACTURER. DOCUMENTS WILL BE SUPPLIED AS MANUALS AND (1) SET IN ELECTRONIC FORM, WHERE APPLICABLE.

## PAINT

PAINT COLOR SPECIFICATION TO BE SUPPLIED BY CUSTOMER, (2) COLOR MAXIMUM. ADDITIONAL COLORS ARE AVAILABLE FOR AN ADDITIONAL CHARGE.

## OPTIONS

- DISCHARGE BRIDLE
- COLD WEATHER PACKAGE
- MULTI-PUMP SYSTEM
- DATA TRACS DATA ACQUISITION SYSTEM



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