Dmix International AIRCRAFT REFUELLER 40.000 L. WITH PLATFORM

MOUNTED ON IVECO TRACTOR AD400T38TH 4X2, EURO 3, WHEEL BASE 3500mm, WITH ADR, MECHANICAL SUSPENSION EUROTRONIC GEARBOX, AIR CONDITIONING, POWER 420 HP, FIFTH WHEEL, FIRST AID KIT OR SIMILAR TRUCK

Technical specifications

Preliminary remarks:
The refueller has a geometric capacity of **40.000 liters + 3%** and is designed for aircraft refueling in compliance with EN 12312-5:2005+A1 (April 2009).

Dimensions:
The refueller meets the following dimensions:

- Total lenght: 17.80 m (max) approx;
- Total width: 2.96 m (max) approx;
- Height: 2.90 m (max) approx;
- Total Weight: 20.000 kgs. approx;

Performances:

- Maximum capacity: **4.000 L/min.** approx.;
- Underwing aircraft refueling with suction from the tank and delivery with 2 ½" hose reel and pressure nozzle (maximum flow rate 1.700 L/MIN);
- Underwing aircraft refueling with suction from the tank and delivery with 2 ½" deck hoses and pressure nozzle s(maximum flow rate 2.000 L/min for each line);
- Overwing aircraft refueling with suction from the tank and delivery with a 1 ½" hose and nozzle (maximum flow rate 250 L/min);
- Recovery from the aircraft tanks by a nozzle, and delivery to the tank after filtering;
- Bottom loading, diam. 2 ½ right and left side (maximum rate 1.500 L/min. approx.);
- Unloading for gravity operation diam. 3";
- External suction diam. 3";
- Flushing into the tank by hose reel hose;

Tractor fitting out:
We supply a tractor model IVECO **AD400T38TH** 4x2, equipped with an automatic gearbox, with ADR wheelbase 3500 mm.
We provide for adjusting the truck according to the specific requirements with the installation of a speed control at 30 Km/h for apron circulation (equipped with a disconnecting device for road traffic);

Heavy duty:

- Diesel engine operating at high temperature & dusty weather, compliance to internal standards
- Water-cooling with thermostat
- Turbocharged engine with intercooler.
- Oil filter ,fuel filter,& air filter, suitable for tropical & dusty area.
- 380 Horse Power (HP) is according to load capacity & speed as manufacturer design recommendations for each type of refueller.
- Automatic transmission & compliance to international standards
- heavy duty chassis according to dead load capacity & to be constructed a long line of the trailer.

Brake system:

- Anti-lock braking system (ABS)
- Tell gent braking system
- Dual-circuit full air brakes.
- Automatic brake adjustment

- Roll back prevention

Steering:

- Stabilizer front axle
- Steering column-rake & high adjustment W. plenum lock implement carrier, left.
- Multi-function steering wheel

Engine fuel consumption tank capacity:

- Fuel pre-filter, heated water separator
- Tank cap lock
- Screen, tank filter neck
- Engine will be covered with suitable cover

Cabinet:

- Single Cab.

Cab Exterior

- Windshield
- Ramp mirror
- Rear view mirror
- Front bumper
- Overhead glass or slide proof electrically move

Cab Interior

- Air conditioning system
- Driver comfort seat
- safety belt for driver &co=driver
- Sun visor for driver & co-driver
- Heater & ventilation with multi speed fan
- Multi speed wind screen wiper &pressure ,engine water
- Alarm sound when vehicle over speed
- Gauges for engine oil pressure ,engine water temperature, air brake system & fuel.

Electricity

- Batteries 2x12 V ,battery master switch,+Alternator,28v/80A,or acc.to recommendation designing of the manufacturer

Wheel & tires

- 6+1 Tires size 12.00R20
- Complete spare wheels & tires
- Complete wheel spanner & jug
- The vehicle is already equipped with a visual and hearing horn on the panel instrument if the driver doesn't engage parking brake; manual air-conditioner and a ball bearing fifth wheel.

Other components:

- Hydraulic oil reservoir equipped with level, filler cap, thermometer and drain strainer;
- Rigid extruded tubes and flexible hoses for connecting the different components of the hydraulic system;
- no. 1 electric control for the electropneumatic engagement of the power take off and the related parametrization of the junction box;
- no. 1 power take off;
- no. 1 white warning light for detecting power take off engagement;
- no. 1 cab board on the right side of the driver to detect the working interlock by led warning lights and equipped with interlock override (sealed) control and hourmeter;
- no. 1 amber bleeper equipped with a buzzer for detecting releasing interlock (*interlock override*);
- no. 1 red warning light for detecting working interlock;
- no. 3 engine power off buttons: one near the driver 's cab (front right angle), one near the flow station and one into the platform which provide for the engine power off in case of emergency;
- no. 1 horning system if the driver doesn't use safety belt;
- no. 1 reverse repeating alarm connected to a buzzer which is in the rear part of the semitrailer-tanker;

- no. 1 fire screen and spark arrestor on the engine exhaust silencer;
- no. 1 battery boast-socket for external supply battery;

Self-supporting semitrailer tank:

Chassis

- The semitrailer is equipped with a ball bearing fifth wheel, no. 2 axles with mechanical suspensions. The braking system with EBS device is in compliance with the ECE regulations, series 11 and to the guidelines no. 71/320/EEC.
- no. 8+1 antistatic tyres 12.00R24.
- Electronic system according to ADR equipped with lighting equipment, side obstruction lights and couplings for connecting the tractor according to ISO 1728.
- Pair of manual lifting jacks (to be used only with an empty tank).

Tank

- Self-supporting tank with capacity of 40.000 liters, made of stainless steel 304 (EN 1.4307, 1.4301), one compartment, realized according to EN 12312-5:2005+A1, internally equipped with a suitable number of open and welded baffles on the reinforcing plates.
- Supporting seats are assembled and welded on the reinforcing plates. Compartments are open with a lower capacity than 7500 liters.

Transportable material

- ONU number: 1863
- Name: FUEL FOR AERONAUTIC TURBINE ENGINES

On the lower part, the following items are installed:

- no. 2 suction foot valve balanced diam. 4” (EN13316),
- no. 1 bottom loading foot valve pressure balanced diam. 4”(EN13316),
- no. 1 foot valve diam. 3” for gravity discharge and no. 1 ball valve diam. 3”(EN13308);
- ½” sampling line with a ½” Apollo ball valve;

On the lowest part of the tank, a sump is realized to collect possible dirty water and impurity.
The following items are installed in the upper part of the tank:

- no. 3 flanged manholes with 24 bolts (EN13317) internal diam. 500 equipped with:
- pneumatically operated vent valve with integrated pressure vacuum valve according to EN13082 and EN14595, explosion proof flame trap;
- dip-stick holder, black and matt metric dip-stick;
- a 10” quick-acting trap door made of tinplated steel;

Service equipments are protected by roll over bars.

- no. 1 foot valve for gravity unloading operations diam. 3” and no. 1 ball valve diam. 3”.
- no. 1 sampling piping diam. ½”’ equipped with an ½” Apollo ball valve and a cam-lock cap;
- no. 1 bottom loading foot valve pressure balanced diam 4”;
- no. 2 suction foot valves diam. 4” pressure balanced;
- no. 2 male coupler (ISO 45) aviation type for bottom loading and recycle operations diam. 2½” equipped with a ball valve diam. 3”;
- no. 1 overfilling pneumatic device (*Hi level*);
- no. 1 pneumatically operated device for overfilling protection (*Hi-Hi level*);
- no. 1 Bayham gauge diam. 10”, calibration in liters, range 5000 l;
- no. 1 swivel joint DN 150.

Fueling station

- The fueling station is behind the tank with operating side on the left and provided with:
- no. 1 self-priming centrifugal pump, suitable to supply 4.000 L/min, ATEX certified, with a visible identifying weight;

- no. 1 filter separator according to API 5th publication, with a filtration capacity 1.100 GPM;
- no. 2 bulkmeter, maximum capacity of 2.600 L/min/each, equipped with Vega T electronic counter dual type, no.2 large illuminated led displays (one on the instrument panel and one on the platform) and no.1 PT100 temperature probe;
- no. 1 Alfons Haar automatic control valve diam. 4 " equipped with a pressure and deadman controller on the panel instrument side;
- refueling and defueling circuit combination made of light alloy valves and carried out by manual ball valves diam. 3";
- automatic pressure relief device (*Pressure-relief*), manual override and an Apollo valve for manual relief;
- the piping system of the fueling station is made of stainless steel: the pipes, upstream of the bulkmeter, are designed to support a working pressure of 10 bar and an hydrostatic testing pressure of 16 bar (230 psi), while the pipes, downstream of the bulkmeter, are designed to support a testing pressure of 20 bar (290 psi). All the pipes are tested at a pressure of 20 bar (290 psi).
- manual ball valves made of alloy for controlling fueling lines;
- no. 3 adjustable venturi DN80;
- no. 1 single volute reel hose, made of stainless steel to contain 25 m. of aviation hoses diam. 2 ½";
- no. 1 single volute reel hose, made of stainless steel to contain 25 m. of aviation hoses diam. 1 ½";
- recovery tank with a capacity of 50 l., inspection cover diam. 190mm, strainer 100 mesh, vent valve, sight glass to check fuel level, float level switch, drain piping system diam. ¾" equipped with an Apollo stop valve and cam-lock fittings. Pressure relief lines, drain line testing differential pressure gauge and the V.C.F.S. drain line flow together in the recovery reservoirs;
- a diaphragm pump for emptying the recovery reservoir with return into the tank;
- no. 3 refueling nozzle diam. 2 ½", with pressure regulator 45 psi, 100 mesh strainer, vacuum breaker, grounding cable;
- no. 1 Elaflex hose, diam. 2 ½"; 25m, HD-63 type C, equipped with span-lock female fittings and testing certificate according to EN ISO 1825:2011;
- no. 1 Elaflex hose, diam. 1 ½"; 25m, HD-50 type C, equipped with span-lock female fittings and testing certificate according to EN ISO 1825:2011;
- no. 1 ZVF40 manual aviation fuelling nozzle Elaflex , 1 ½"; female BSP, equipped with ZRS-38J selective nozzle, filter 100 mesh, EKG earthing 1200 mm, nozzle Ø44 ER583;
- no. 2 Elaflex hoses diam. 2" ½ 3.5 m, HD-63 type C, equipped with span-lock female fittings, testing certificate according to EN ISO 1825:2011.
- All the pipes are equipped with drain points including the fuel feed pipe in the platform.

LIFTING PLATFORM

The platform is positioned rear of the tank with 4.5 m maximum height of the walking floor . It is hydraulically liftable and double pantograph. The gate can be opened when the platform is not working. Antiskid walking floor is of galvanaized steel; handrail is in stainless steel. Into platform are installed:

- no. 2 hoses diam. 2.½" 3.5m length;
- no. 2 pressure nozzles, a bulkmeter large illuminated display repeater, pushbutton panel for lifting and lowering, emergency, lighting work lamp.;
- no. 2 pushbuttons for emergency lowering, no.1 in the platform, no.1 on the back of the vehicle near the platform base;
- no. 2 ball valves which allows to test both of the supply hoses at the same time;
- no. 2 sensing device system to prevent contact with aircraft during raising of platform ("wand" type sensors);
- maximum capacity of 200 kg (2 people);
- dead-Man device, coiled cable lenght 1.5m;

Platform is certified according EN 280.

The refueller is provided with a timed dead-man device intrinsically safe equipped with a remote control with High visibility yellow coiled cable, length 15 m, a green bleeper and a bitonal exponential horn.

- Panel instrument:The operator interface with the related check and reporting instrument hereunder listed, are positioned in a panel instrument case made of stainless steel.

- no. 2 pressure gauge Ø100, glicerine filled, pressure Venturi;
- no. 1 pressure gauge Ø100, glicerine filled, delivery pressure pump;
- no. 1 pressure gauge Ø63, glicerine filled, intake pressure pump;
- no. 1 pressure gauge Ø100, glicerine filled, pneumatic system pressure;
- no. 1 pressure gauge Ø100, glicerine filled, hydraulic system pressure;
- no. 2 differential pressure gauges 0-14 psi with test tap;
- no. 2 taps for pressure gauge test connections;
- no. 1 selecting switch for circuits equipped with pneumatic monitors for the selected circuits;
- no. 1 start pushbutton with pneumatic monitor;
- no. 1 automatic override switch dead-man (sealed);
- no. 1 pushbutton for manual dead-man;
- no. 1 pushbutton for electronic throttle;
- no. 1 setting pushbutton for the number of turns;
- no. 1 switch for lighting the instrument panel;
- no. 1 green light for dead-man;
- no. 1 red light for high level in the recovery reservoir;
- no. 1 manual pushbutton for relief pressure;
- no. 1 pump rev counter;
- no. 1 pneumatic visual indicator for filter sump drainage state;
- fuel flow chart;
- control for hydraulic distributors, right and left hose (pull to roll up, push to unroll up);
- no. 1 fuel sampling system for the *V.C.F.S.* equipped with a Shell Water Detector. The drained product flows from the *V.C.F.S* to the recovery reservoir and then to the tank by a pneumatic pump;

The pneumatic junction box is inside a plastict case with a IP 55 protection degree.

Hydraulic system
The handling of the fuel pump and rollers is by means of the respective hydraulic engines. Rigid pipes, connected with swivels and extruded hoses, are in compliance with DIN.
All the oil-pressure extruded hoses are coated with a suitable plastic coil.

Interlock device
The vehicle is provided with warning lights to signal the corrisponding interlock point not exactly in the right position. Some examples: the handrail is lifted, the bottom loading couplings are connected, the coupling or the fuelling nozzle are not in their right seat, the non-selective sleeve nozzle is not in the right position, the clip is not in its right seat. The signal will appear in the cab thanks to an amber warning light and the vehicle results blocked. The interlock action, let's say the block of the vehicle, is gradual in 6 – 8 seconds: if the vehicle is moving, the interlock action is by stop lights, not by the engagement of the parking brake.
An appropriate interlock override switch unblocks the vehicle in case of emergency.

Standard equipment
The refueller is provided with:

- no. 2 rewind bonding cable reels 30 m., automatic rewinding, equipped with *superclamp* clips (specifications no. M83413/7-1).
- no. 2 earthing strips;
- no. 2 fire extinguishers kg. 12 BC class, positioned on the semitrailer and no. 1 fire extinguisher kg. 6 for the tractor, ABC class; the fire extinguishers of 12 kg are into watertight unpadlockable cases;
- no. 2 orange panels for dangerous materials (ONU number 30-1863) according to the relevant technical guidelines of the ADR 2011 agreement;
- no. 3 inflammable stickers and no. 1 environmental pollution risk sticker;
- reflective panels and bands according to C.d.S.;

- JET A-1 stickers according to API-1542 rules;
- no. 2 reflective, sticky, square flags, 50x50cm;
- no. 4 aircrafts lights on the semitrailer and no. 2 on the tractor;
- no. 1 orange flashing light on the tractor;
- no. 1 headlight for the apron in front of the the fueling station;
- no. 1 black, matt and antiglare metric dip-stick firmly positioned inside the tank;
- no. 1 camera for reverse (right position underwing) equipped with a 5" color monitor in the cab;
- a stainless steel small cabinet is inside the fueling station in order to vertically shelve the thermodensimeter and the SWD;
- a compartment positioned near the fuelling station in order to shelve the OIL-SPILL kit is provided;
- housing for ladder;
- no. 2 hose carrier one on each side;
- catwalk with handrail;
- rear ladder;
- steel sheet rear mudguards for trailer and semitrailer;
- lockable tool box
- rear bumper
- electrostatic discharge chain

Painting:

- Sand blasting for all steel surfaces for better paint adhesion
- One coat of antirust paint
- Two coat of high quality paint in your social color

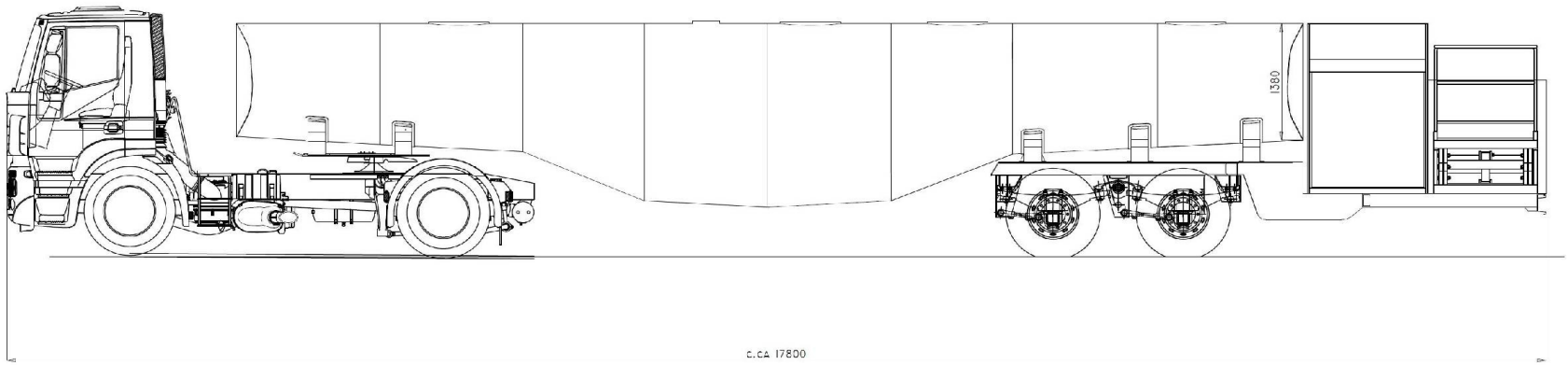
Additional documents of the vehicle

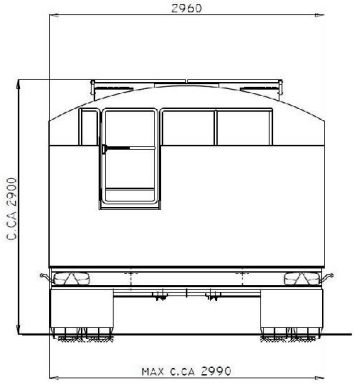
- Calibration chart of the tank content with heights in mm (with an interval of 10 mm) and quantity in litres. This chart will also certify unremovable volumes (dead stock) of the lines and of the tank;
- No 2 use and maintenance manuals, with the refueller spare parts, will be delivery with the vehicles .

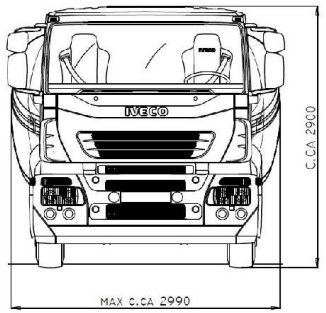
Test, delivery, starting up and training.

- The test of the refueller will be made, with your technicians, in our workhouse, free of charge, is not included travelling, pocket money, hotels accommodation, etc...
- The Aircraft refuellers will be delivery EX WORK
- When the refuellers will be ready we will arrange a training.
  The training including the use of vehicle, and the basic manutention.

The pictures and drawings are only for information and can show accessories and optional not included in this offer
The manufacturer reserves the right to modify drawings and dimensions without prior notice, but keeping unchanged the technical specs required by customer.







N.	DATA/DATE	DESCRIZIONE MODIFICHE/MODIFICATION DESCRIPTION	N. M.	ESEGUITA DA/ MADE	APPROVATA/ APPROVED
MACCHINA/MACHINE: AIRCRAFT REFUELLER F 40 4000 001		CLIENTE/CUSTOMER	DISEGNO NR. / DRAWING NR.: 03.02.00.079-000		SCALA: 1:40
DENOMINAZIONE/DENOMINATION: DIMENSIONI CISTERNA ED INGOMBRI / TANK DIMENSIONS		COMMESSA/ORDER: **/**	DISEGNATO / DESIGNED: DMIX SRL		DATA/DATE: 09.10.2012
GRUPPO/GROUP: AD-N/AT-N190S..EURO 4/5		PEZZI/PIECES: 8	APPROVATO / APPROVED: DMIX SRL		ULTIMA EMISSIONE: 09.10.2012
MATERIALE/MATERIAL	SPESSORE/ THICKNESS / PESO/WEIGHT	CODICE MATERIALE/CODE	SOSTITUITO DAL DIS. NR./ REPLACED BY DRAWING NR.		SOSTITUISCE DIS. NR./ REPLACE DRAWING NR.
Dmix International	QUOTE SENZA INDICAZIONE DI TOLLERANZA GRADO DI PRECISIONE MEDIO UNI EN 22768-1/UNI EN 22768-2				DISEGNATO CON SISTEMA CAD
	LA RIPRODUZIONE O LA CESSIONE DEL PRESENTE DISEGNO DEVONO ESSERE AUTORIZZATE				FORMATO: A2 420x594