



TECHNICAL SPECIFICATIONS

MEXICO - HCFC PHASE-OUT MANAGEMENT PLAN (HPMP) Stage II

EQUIPMENT AND TOOLS FOR TRAINING CENTERS,
SERVICE WORKSHOPS AND TECHNICIANS

I. General Background Information and Objective of the Project

1. Background Information

The Government of Mexico has approved the Stage I and Stage II HCFC Phase-out Management Plans (HPMPs) in the consumption sector that help the Government of Mexico to reach compliance with the Freeze in 2013, 10% reduction target in 2015, 35% reduction by 2018, 50% reduction by 2020 and 67.5% reduction in 2022. Stage I HPMP of Mexico finished successfully with the phase-out of HCFC-141b in the foam, appliance manufacturing and the aerosol/solvents sectors. The Stage II HPMP focuses on the complete phase-out of HCFC-141b consumption in all sectors as well as on the further reduction of HCFC-22 consumption in the service and aerosol/solvent sectors.

2. Project Context

These technical specifications are focusing on the activities for the refrigeration service sector, with the aim of reducing the use of HCFC-141b and HCFC-22 in servicing operations. In that context, small, medium and big workshops are expected to be equipped with necessary equipment and tools to perform servicing utilizing the Best Practices in Refrigeration (BPR).

3. Aim of the contract

The supplier shall deliver the equipment and tools to selected training centers and workshops, who will be responsible for the distribution amongst the workshops.

For training centers, large and medium sized refrigeration service workshops the supplier shall provide 279 (two hundred seventy nine) kits.

For small sized refrigeration service workshops the supplier shall provide 360 (three hundred sixty) kits.

4. Scope of Supply

4.1 KIT 1 – For Training Centers and large/medium service workshops

i) Flushing Machine CPS Model AFM100 or Equivalent with 2 gallons of flushing agent – 279 kits (1 machine/kit)

- Powered by air compressed
- Power Source: 50 PSIG minimum air pressure
- Operating Range: 0°C to 49 °C
- Air Pressure Gauge: 0 to 100 PSIG
- Manual Control Valves: 2 way ball type valve to control air supply to the unit; 3 way ball type valve to control air purge/Flush circulation; 4 way ball valve to control forward and reverse control
- Filtration: 100 mesh cleanable screen
- Heavy duty power coated sheet metal cabinet with wheels
- Adaptors: One set of universal clamps with 3/8" SAE Male Fittings
- High Pressure relief valve 125 PSIG
- Easy one step hooks up air hose and flush hoses
- Forward/reverse flush valve to eliminate reconnection of hoses
- Filter with clear removable bowl for flow and filtration verification
- Large mouth flush fill tube
- Storage area for 2 one gallon's flush containers
- Including 2 gallons of flushing agent for the flushing machine
- The flushing agent with the next specifications:
 - GWP low or equal 0
 - Compatible with almost all refrigerant lubricants
 - Fast evaporating, bio-degradable and non-corrosive
 - Formulated to remove all common system contaminants including refrigerant oils, internal component particles and remnants of leak sealants known to cause damage to systems and service equipment alike.
 - The cleaning agent should be suitable for proper operation with the cleaning machine
- Instruction manual in Spanish.

ii) Air compressor with hoses and connections for use with the Flushing Machine CPS Model AFM or Equivalent – 279 kits (1 set/kit)

- Portable electric air compressor with:
 - horizontal tank of 2 gallons;
 - 0.33 H.P.;
 - Power supply: 120 V / 60 Hz;
 - Full load amperage 2.6 A;
 - Automatic shut-off at a pressure of 90PSI
 - Maximum pressure: 100 PSI
- Including hoses and fittings to connect to the Flushing machine Model AFM 100 or equivalent.
- Wire wound air hose; color yellow; inner diameter 1/4"; length 12 feet; size 1/4" NPT; maximum pressure 185 PSI
- Industrial standard coupler, hose connection (F) NPT, 1/4" NPT size connection; body size 1/4"
- Industrial interchange coupler plug; hose connection (F) NPT, 1/4" NPT size connection; body size 1/4"
- Instruction manual in Spanish.

iii) Flushing Kit for air-conditioners CPS model TLFGR or Equivalent – 279 kits (1 set/kit)

- Refillable Flush cylinder with minimum capacity of 600 ml with shut-off valve
- 18" A/C Hose
- Universal adapter and fittings to connect the air compressor and hose of nitrogen tank
- One (1) gallon of flushing agent with the following specifications:
 - GWP low or equal to zero (0)
 - Compatible with almost all refrigerant lubricants
 - Fast evaporating, bio-degradable and non-corrosive
 - Formulated to remove all common system contaminants including refrigerant oils, internal component particles and remnants of leak sealants known to cause damage to systems and service equipment alike.
- Instruction manual in Spanish.

iv) Portable Nitrogen blowing equipment – 279 kits (1 set/kit)

- With Nitrogen regulator
- Pressure scales: output of at least 0-4 bar and input of at least 0-200 bar
- Input connections: CGA-580
- Output connections: 9/16"-18 UNF right
- Hose: 1/4" SAE and length of at least 3 meters
- Including cylinder carrying trolley
- Nitrogen cylinder with capacity of 13.4 liters and valve CGA-580.
- Gauges: 50-60mm diameter;
- Instruction manual in Spanish.

v) Universal Connection Kit for air-conditioners Systems Flushing – 279 kits (1 set/kit)

- Including, in a resistant case, all necessary parts required to connect any flushing machine to the most common A/C system ports

vi) Multi-Function Digital Manifold –Mastercool Model 99661-EU or Equivalent 279 kits (1 set/kit)

- Digital display of: pressure, vacuum, temperature, superheat and subcooling.
- Includes, in a transport case: manifold with a set of 3 X 150 cm hoses (yellow, blue and red), vacuum sensor with cable, clamp on thermocouple and 2 ball valve 5/16" SAE hose adaptors for R-410A.
- Includes 64 refrigerants
- Selectable Pressure: PSI, inHg; Bar, Mpa, Kg/cm². Resolution: 0.07 Bar; Accuracy: 1%; Working Pressure: 0 - 750 psi (0-52 Bar); Max. Pressure: 1000 psi (70 Bar);
- Selectable Temperature: °C/°F.
- Temperature: -40°C/ 93°C; Connections 1/4" M SAE;
- 9V battery and AC/DC adapter.
- Automatic Shut- off
- Instruction manual in Spanish

vii) Vacuum Pump with Electrovalve and Vacuum Gauge – 279 kits (1 set/kit)

- Power supply: 120 V / 60 Hz
- Flow rate: 84 liters per minute (LPM)
- Vacuum: 15 mic / 0.02 mbar with two stages

- Inlet port: 1/4" SAE
- Sizes: 318 X 124 X 234 mm
- Power: 1/3 HP
- Weight: 8.5 kg
- Equipped for R-410A, with electrovalve and vacuum gauge
- Includes one liter of oil for the vacuum pump
- Instruction manual in Spanish

viii) Refrigerant Recovery Machine – 279 kits (1 kit/set)

- Power supply: 120 V / 60 Hz
- Motor size: 1 HP
- Compressor Type: 2 cylinder Oil-less reciprocating compressor
- Power consumption: 1000 W
- High pressure Shut-Off: 550 psig, Auto reset
- Operating Temperature range: 32 °F to 120 °F (0 °C to 49 °C)
- Power Cord Length: 6 Ft
- Dimensions: 6" X 12" X 9" (15 cm X 30 cm X 23 cm)
- Weight: 24.3 lbs. (11 Kg)
- Flow Rate For R-410A: 0.32 Kg/min Direct Vapor
- 5.41 Kg/min Direct Liquid and 14.3 Kg/min Push Pull Liquid
- For refrigerants: R-22, R-401 A/B, R-402B; R-407 C/D/E/F, R-408A, R-409A, R-411 A/B, R-412A, R-502, R-509A; R-12, R-134a, R-401C, R-500, R-1234yf/ze; R-32, R-402A, R-404A, R-407A/B, R-410A/B, R-507A
- Instruction manual in Spanish

ix) Charge Scale with Carrying Case – 279 kits (1 set/kit)

- Working load capacity: 220 lbs. (100 kg)
- Operating Temperature: 14 °F to +122 °F/ -10 °C to + 50 °C
- Accuracy: 0.05% of reading or +/- 0.2 oz (+/- 5g) whichever is greater
- Resolution: +/- 0.25 oz (+/- 10 gr);
- Overload Protection: Visual, electronic and mechanical
- Platform Dimensions: 8 3/4" X 8 3/4" (22.23 cm X 22.23 cm)
- Weight: 5.6 lb. (2.55 Kg)
- Power: Two 9 V batteries, included; Battery Life: at least 60 hours of continuous use
- Battery Indicator
- Display: Imperial/metric; High contrast wide angle LCD Display for easy viewing
- Removable Platform from carrying case.
- Automatic power off to conserve batteries.
- Instruction manual in Spanish

x) Charging Hoses for R-410A – 279 kits (1 set/kit)

- Set of 3 hoses; red and blue hoses with ball valve and connections 1/4" SAE X 5/16 for R-410A; yellow hose 1/4" X 1/4" with ball valve.
- Length of each hose: at least 1500 mm

xi) Recovery Cylinders – 558 Cylinders (2 Cylinders/kit)

- 11.9 Kg capacity refillable cylinders for recovery of common refrigerants R-22, R-134a, R-410A, with Y valve for liquid/vapor
- Connection 1/4 flare in compliance with DOT or a similar standard, with Over-Fill Protection.

xii) Clamp on Meters Mod. AC-610 or Equivalent – 40 kits (1 set/kit)

- Allows measuring current flow in power lines by simply clamping the jaws around the conductor.
- Measure current and voltage AC.

- Measure the continuity to determine good or bad fuses, open or shorted conductors, operation of switches.
- Digital display.
- Measuring range: 20mA - 600 A (AC); 200 mV - 750 V (AC); 1 V - 1000 V (DC).
- Includes test leads, batteries and carrying case.
- Instruction manual in Spanish.

xiii) Pinch off piercing pliers 1/4" SAE connection – 1116 piercing pliers (4 piercing pliers/kit)

xiv) Mechanical manifold gauge with hoses set – 279 kits (1 set/kit)

- Body Type 2 valve anodized aluminum block body with 1/4" SAE 45° Fittings
- Triple seal piston valves
- Sure grip rubber over metal valve handles
- Easy to read 3-1/8" (80 mm) Class 1.0 accuracy gauges
- Protective gauge boots
- Extra access port in center with Schrader valve and hanging hook
- Refrigerant Scales: R-134a, R-22; R-404A, R-410A;
- Pressure scales PSI;
- Temperature scales: °F/°C
- 3 hoses 5 ft (red, yellow and blue) with 1/4" SAE Fittings
- Soft protective manifold carrying case

xv) Mastercool 55850 Intellsense Leak Detector or Equivalent – 279 kits (1 set/kit)

- Meets and exceeds J2791 (R134a), J2913 (R1234yf) and EN 14624
- Employs a new metal oxide gas sensor for the detection of chlorofluorocarbon gasses and blends
- Detects: All refrigerants (CFC's, HCFC's & HFC's and blends)combustible gases
- The sensor is characterized by high sensitivity and fast response upon detecting the presence of extremely small levels of chlorofluorocarbon gases.
- Sensitivity Levels: High : 0.15 oz/yr (4 g/yr), Medium: 0.25 oz/yr (7 g/yr), Low: 0.50 oz/yr (14g/yr)
- Probe: Intelligent tip design that senses the condition of the environment, to eliminate the potential of false alarms. Flexible 16" probe for difficult to reach locations
- Flexible 16" probe for difficult to reach locations
- Display: Progressive LCD with vertical bars corresponding to the magnitude of the detected leak
- Visual indication of the selected sensitivity range
- Tested and approved to work with R1234yf as well as R32 and R410a
- Sensor Life: 2000 hours
- Operating Temperature Range: 0 to 140° F
- Power: Two (2) D Batteries
- Battery Life: 60 hours continuous use
- "Super Sensitive Function" allows the unit further sensitizing beyond the standard settings for locating small leaks with gases such as R1234yf and R407C
- Instruction manual in Spanish.

xvi) Tube cutter – 279 kits (1 tube cutter/kit)

Tube cutter for copper tubes OD 4-28 mm (1/8" - 1-1/8")

4.2 – KIT 2 – For small workshops and independent technicians

The components of each kit must be packed and sent in a single package.

- i) Flushing Kit for air-conditioners CPS model TLFGRA or Equivalent – 360 kits (1 set/kit)**
- Refillable Flush cylinder with minimum capacity of 600 ml with shut-off valve
 - 18" A/C Hose
 - Universal adapter and fittings to connect the air compressor and hose of nitrogen tank
 - One (1) gallon of flushing agent with the following specifications:
 - GWP low or equal to zero (0)
 - Compatible with almost all refrigerant lubricants
 - Fast evaporating, bio-degradable and non-corrosive
 - Formulated to remove all common system contaminants including refrigerant oils, internal component particles and remnants of leak sealants known to cause damage to systems and service equipment alike.
 - Instruction manual in Spanish.
- ii) Nitrogen Blowing Equipment with trolley for the cylinder – 360 kits (1 set/kit)**
- With Nitrogen regulator
 - Pressure scales: output of at least 0-4 bar and input of at least 0-200 bar
 - Input connections: CGA-580
 - Output connections: 9/16"-18 UNF right
 - Hose: 1/4" SAE and length of at least 3 meters
 - Including cylinder carrying trolley
 - Nitrogen cylinder with capacity of 13.4 liters and valve CGA-580.
 - Gauges: 50-60mm diameter;
 - Instruction manual in Spanish
- iii) Universal Connection Kit for air-conditioners Systems Flushing – 360 kits (1 set/kit)**
- Including, in a resistant case, all necessary parts required to connect any flushing machine to the most common A/C system ports
- iv) Multi-Function Digital manifold Mastercool Model 99661-EU or Equivalent – 360 kits (1 set/kit)**
- Digital display of: pressure, vacuum, temperature, superheat and subcooling.
 - Includes, in a transport case: manifold with a set of 3 X 150 cm hoses (yellow, blue and red), vacuum sensor with cable, clamp on thermocouple and 2 ball valve 5/16" SAE hose adaptors for R-410A.
 - Includes 64 refrigerants
 - Selectable Pressure: PSI, inHg; Bar, Mpa, Kg/cm². Resolution: 0.07 Bar; Accuracy: 1%; Working Pressure: 0 - 750 psi (0-52 Bar); Max. Pressure: 1000 psi (70 Bar);
 - Selectable Temperature: °C/°F.
 - Temperature: -40°C/ 93°C; Connections 1/4" M SAE;
 - 9V battery and AC/DC adapter.
 - Automatic Shut- off

- Instruction manual in Spanish
- v) Vacuum Pump with Electrovalve and Vacuum Gauge – 360 kits (1 set/kit)**
- Power supply: 120 V / 60 Hz
 - Flow rate: 84 liters per minute (LPM)
 - Vacuum: 15 mic / 0.02 mbar with two stages
 - Inlet port: 1/4" SAE
 - Sizes: 318 X 124 X 234 mm
 - Power: 1/3 HP
 - Weight: 8.5 kg
 - Equipped for R-410A, with electrovalve and vacuum gauge
 - Includes one liter of oil for the vacuum pump
 - Instruction manual in Spanish
- vi) Refrigerant Recovery Machine – 360 kits (1 set/kit)**
- Power supply: 120 V / 60 Hz
 - Motor size: 1 HP
 - Compressor Type: 2 cylinder Oil-less reciprocating compressor
 - Power consumption: 1000 W
 - High pressure Shut-Off: 550 psig, Auto reset
 - Operating Temperature range: 32°F to 120°F (0°C to 49°C)
 - Power Cord Length: 6 Ft
 - Dimensions: 6" X 12" X 9" (15 cm X 30 cm X 23 cm)
 - Weight: 24.3 lbs. (11 Kg)
 - Flow Rate For R-410A: 0.32 Kg/min Direct Vapor
 - 5.41 Kg/min Direct Liquid and 14.3 Kg/min Push Pull Liquid
 - For refrigerants: R-22, R-401 A/B, R-402B; R-407 C/D/E/F, R-408A, R-409A, R-411 A/B, R-412A, R-502, R-509A; R-12, R-134a, R-401C, R-500, R-1234yf/ze; R-32, R-402A, R-404A, R-407A/B, R-410A/B, R-507A
 - Instruction manual in Spanish
- vii) Charge Scale with carrying case – 360 kits (1 set/kit)**
- Working load capacity: 220 lbs. (100 kg)
 - Operating Temperature: 14°F to +122°F / -10°C to + 50°C
 - Accuracy: 0.05% of reading or +/- 0.2 oz (+/- 5g) whichever is greater
 - Resolution: +/- 0.25 oz (+/- 10 gr);
 - Overload Protection: Visual, electronic and mechanical
 - Platform Dimensions: 8 3/4" X 8 3/4" (22.23 cm X 22.23 cm)
 - Weight: 5.6 lb. (2.55 Kg)
 - Power: Two 9 V batteries, included; Battery Life: at least 60 hours of continuous use
 - Battery Indicator
 - Display: Imperial/metric; High contrast wide angle LCD Display for easy viewing
 - Removable Platform from carrying case.
 - Automatic power off to conserve batteries.
 - Instruction manual in Spanish
- viii) Charging hoses for R-410A – 360 kits (1 set/kit)**
- Set of 3 hoses; red and blue hoses with ball valve and connections 1/4" SAE X 5/16 for R-410A; yellow hose 1/4" X 1/4" with ball valve. Length of each hose: at least 1500 mm
- ix) Recovery Cylinders – 720 Cylinders (2 cylinders/kit)**
- 11.9 Kg capacity refillable cylinders for recovered the common refrigerants R-22, R-134a, R-410A, with Y valve for liquid/vapor;

- Connection 1/4 flare in compliance with DOT or similar standard, with Over-Fill Protection
- x) Clamp on meters Mod. AC-610 or Equivalent – 360 kits (1 set/kit)**
- Allows measuring current flow in power lines by simply clamping the jaws around the conductor.
 - Measure current and voltage AC.
 - Measure the continuity to determine good or bad fuses, open or shorted conductors, operation of switches.
 - Digital display
 - Measuring range: 20mA - 600 A (AC); 200 mV - 750 V (AC);
 - 1 V - 1000 V (DC).
 - Includes test leads, batteries and carrying case.
 - Instruction manual in Spanish.
- xi) Pinch off piercing pliers 1/4" SAE connection – 1440 piercing pliers (4 piercing pliers/kit)**
- xii) Mechanical manifold gauge with hoses set – 360 kits (1 set/kit)**
- Body Type 2 valve anodized aluminum block body with 1/4" SAE 45° Fittings
 - Triple seal piston valves
 - Sure grip rubber over metal valve handles
 - Easy to read 3-1/8" (80 mm) Class 1.0 accuracy gauges
 - Protective gauge boots
 - Extra access port in center with Schrader valve and hanging hook
 - Refrigerant Scales: R-134a, R-22; R-404A, R-410A;
 - Pressure scales PSI;
 - Temperature scales: °F/°C
 - 3 hoses 5 ft (red, yellow and blue) with 1/4" SAE Fittings
 - Soft protective manifold carrying case
- xiii) Mastercool 55850 Intellsense Leak detector or Equivalent – 360 Kits (1 set/kit)**
- Meets and exceeds J2791 (R134a), J2913 (R1234yf) and EN 14624
 - Employs a new metal oxide gas sensor for the detection of chlorofluorocarbon gasses and blends
 - Detects: All refrigerants (CFC's, HCFC's & HFC's and blends)combustible gases
 - The sensor is characterized by high sensitivity and fast response upon detecting the presence of extremely small levels of chlorofluorocarbon gases.
 - Sensitivity Levels: High : 0.15 oz/yr (4 g/yr), Medium: 0.25 oz/yr (7 g/yr), Low: 0.50 oz/yr (14g/yr)
 - Probe: Intelligent tip design that senses the condition of the environment, to eliminate the potential of false alarms. Flexible 16" probe for difficult to reach locations
 - Flexible 16" probe for difficult to reach locations
 - Display: Progressive LCD with vertical bars corresponding to the magnitude of the detected leak
 - Visual indication of the selected sensitivity range
 - Tested and approved to work with R1234yf as well as R32 and R410a
 - Sensor Life: 2000 hours
 - Operating Temperature Range: 0 to 140°F
 - Power: Two (2) D Batteries
 - Battery Life: 60 hours continuous use

- "Super Sensitive Function" allows the unit further sensitizing beyond the standard settings for locating small leaks with gases such as R1234yf and R407C

xiv) Tube cutter – 360 Kits (1 tube cutter/kit)

- Tube cutter for copper tubes OD 4-28 mm (1/8" - 1-1/8")

4.3 Molecular Transformer – OPTIONAL (54 units- 6 units will be given to each school)

Please indicate in the offer as an optional requirement, if available.

- 6 units to each school (54 in total)
- Dimensions: 4" D x 9.275" H
- Weight: 5 lbs
- Heat Sink Temperature: 100° F
- Maximum Operation Pressure: 500 PSIG
- Discharge Pressure Gauge: 0 to 600 PSIG
- Inlet / Outlet: 1/4" SAE Male

5. Supplier requirements

The suppliers shall:

Packing and distribution:

- Items shall be distributed within Mexico to each of the 9 technical schools as listed in Annex II.
- The kits will remain in the warehouse of each school until they are delivered to the final beneficiaries.
- The contracted company must deliver the 71 kits per technical school already packed as per Kit 1 and Kit 2 definitions. The components of each kit must be labeled, packed and sent in a single package/kit. The packaging of each kit can be done from the place of origin or they can be done in each school by the contractor.
- All components of each kit must be packed in a box and delivered to each school. The contractor company must guarantee that each kit was delivered with all the requested components.
- all instructions, manuals, rules and recommendations in Spanish (one manual per set for each item);

Local and post sales services:

- The contractor shall have a local representative office in Mexico and administrative and technical personnel to provide technical support and to repair defective equipment;
- The contractor shall provide a warranty for 12 months on all goods supplied, ensuring that goods supplied under the contract shall be free from defects. The supplier shall repair or replace at his own expense and as soon as practicable any defective goods within the warranty period.
- The contractor should quote spare parts and consumables for one year of operation for all listed items;
- The contractor shall guarantee the availability of spare parts and equipment for a minimum period of four years.

6. Delivery INCOTERM and schedule

The contractor shall deliver the equipment by DAP (delivered at place) Mexico. Exact address of each school will be given at later stage to awarded company. The recommended timeframe is as soon as possible, but within maximum 4 months arrival at the beneficiary.

Step	Estimated time range	Supplier indication
Shipping	June-Oct 2022	Please indicate earliest possible delivery date
Importation (customs are done by the UN system in Mexico)	1-15 Nov 2022	
Local distribution to 9 schools	15-31 Dec 2022	

Suppliers should describe the shipping route selected in light of the global COVID-19 pandemic, and logistical details.

**ANNEX I
Scope of Supply**

Scope of supply

**TO BE
COMPLETED BY
THE BIDDER
separately in
Appendix 3 and
4 of tender
documents**

UNIDO REQUIREMENTS				
Item	Name and required parameters	Quantity	Compliance	Remarks**)
			yes/no	
I	Equipment, parts, supplies			
I.1	Kit_1			
1	Flushing Machine CPS Model AFM100 or Equivalent with 2 gallons of flushing agent	279		
2	Air Compressor with hose and connections	279		
3	Flushing Kit For A/C	279		
4	Nitrogen Blowing Equipment with trolley for the cylinder	279		
5	Universal connection Kit for A/A systems flushing	279		
6	Multi function digital manifold	279		
7	Vacuum pump with electrovalve and vacuum gauge	279		
8	Refrigerant recovery machine	279		
9	Charge Scale with carrying case	279		
10	Charging hoses for R-410A	279		
11	Recovery Cylinders	558		
12	Clamp on meters	279		
13	Pinch off piercing pliers 1/4" SAE connection	1116		
14	Mechanical manifold gauge with hoses set	279		
15	Leak detector	279		
16	Tube cutter	279		
	Total Kit_1	5580		
I.2	Kit_2			
1	Flushing Kit For A/C	360		
2	Nitrogen Blowing Equipment with trolley for the cylinder	360		
3	Universal connection Kit for A/A systems flushing	360		
4	Multi function digital manifold	360		
5	Vacuum pump with electrovalve and vacuum gauge	360		
6	Refrigerant recovery machine	360		
7	Charge Scale with carrying case	360		
8	Charging hoses for R-410A	360		
9	Recovery Cylinders	720		
10	Clamp on meters	360		
11	Pinch off piercing pliers 1/4" SAE connection	1440		
12	Mechanical manifold gauge with hoses set	360		
13	Leak detector	360		
14	Tube cutter	360		

	Total Kit_2	6,480		
	Sub-total:	12,060		
II	Molecular Transformator, please indicate if available	54		
III	Warranty (Standard manufacturer's warranty minimum 12 months from the date of acceptance)			
IV	Spare parts and consumables (for one year of operation for all listed items, from the date of acceptance by the Beneficiary)			
V	Transportation (DAP Mexico to each of the schools) including insurance, packing and unloading			
	Total price:			

