

InterClean XT 40

OVERSIZE/OVERWEIGHT
HEAVY DUTY VEHICLE TIRE WASH
Single Length System

Technical Specifications



PART 1 GENERAL

- A. The general provisions of the Contract, including General and Supplementary Conditions apply to the work specified in this contract.

PART 2 RELATED WORK

- A. Site work
- B. Concrete
- C. Mechanical
- D. Electrical

PART 3 QUALITY ASSURANCE

- A. The system shall be produced by a manufacturer of established reputation with a minimum of five (5) years experience supplying specified equipment in similar applications.
- B. Installation: Provide a qualified manufacturer's representative to supervise work related to equipment installation, check out and start-up.
- C. Training: Provide technical representative to train Owner's maintenance personnel in operation and maintenance of specified equipment.

PART 4 SUBMITTALS

1 Product Data

- A. Submit Product Data in strict accordance with requirements of these specifications.
- B. The bidders shall include with their bid packages the below listed technical information, design drawings and layouts for the Owner's engineering department. The quality of these drawings shall be such that the Owner's engineering department shall be able to easily prepare a complete set of architectural drawings for all related civil construction, electrical and mechanical work and installation work. The set of drawings submitted shall consist of, but not limited to, the following:
 - 1. Equipment general layout in 3-D view
 - 2. Equipment general layout plan view
 - 3. Equipment general layout side view

4. Equipment general layout End view
5. Electrical layout with all conduit and wire sized including multimotor full load amp calculation sheet
6. All equipment listing sheet
7. Piping 3-D design
8. Concrete work and pit design for all dimensions, sizes including flow calculations
9. Mechanical and plumbing layout
10. Any related in-ground electrical or mechanical installation
11. Provide the Owner with the Sepias for all as-built drawings
12. Listing of pumps, valves and other components used within the system

2 Deviations From These Specifications

- A. These specifications are not designed to limit competition and are allowed to be modified by the bidders as follows: All materials are minimum specified and must be met, all specified materials can be substituted with a higher grade steel or stronger material, galvanized steel can be substituted with stainless steel, minimum number of pressure pumps must be met, minimum GPM and PSI of pumps must be met and minimum size of positive filtration particle size must be met.
- B. Regardless of the owner's approval for any deviations and/or changes, the supplier is solely responsible for the performance of the supplied equipment as per these specifications.

3 Supplier's Qualifications

- A. The equipment specified herein is not based on any single manufacturer but specified general standards for quality and performance that must be met.
- B. The wash system, pressure cleaning systems, pumping stations and all electrical controls shall be designed and supplied by one supplier.
- C. Supplier shall have been regularly engaged in the design and supply of the type of equipment specified herein, for a period of not less than five years. All similar items shall be the products of one manufacturer. The equipment offered shall be the latest standard product, modified as necessary to meet

PART 5 WARRANTY

- A. Warranty work specified herein is for one (1) year from substantial completion against defects in materials and in labor and workmanship.

- B. Defects shall include, but not be limited to:
 - 1. Operation; Noisy, rough or substandard operation
 - 2. Parts; Loose, damaged and missing parts
 - 3. Finish; Abnormal deterioration

PART 6 SCOPE OF WORK

- A. To furnish a completely automatic, touchless heavy-duty tire wash and water reclamation system which washes all types of vehicles for tires and lower details in a drive through mode.
- B. To prepare all required documentation and engineering work required herein.

PART 7 WASH SYSTEM PERFORMANCE

- A. Operation: The vehicle washer shall be actuated in cycle sequence by vehicles driven in a fixed path between tire guides at a slow speed through the washing system. All washing operations and related water recycling operations shall be automatically activated by the vehicle (driving through). The TireWash system shall remove dirt from the tires and tire-grooves, wheel wells and under-chassis as to prevent drag-out of dirt by trucks tires out of the Owner's premises.
- B. The supplier is solely responsible for the equipment performance. Should the equipment not perform, as per these specification requirements, the supplier shall modify, add and/or alter the equipment supplied at his own expense until the performance is satisfactory. The Owner shall approve all such changes. Should the performance criteria not be met after the changes, the supplier shall remove the system at no cost to the owner.

PART 8 WATER RECLAMATION PERFORMANCE

- A. The water reclamation system shall be capable of reclaiming water from the vehicle washer and process it by means of settling pits and in-line filters. The pressure pump then reuses the water.
- B. The system must be able to continuously supply adequate amount of water for high-pressure pump regardless of traffic volume through the washer.
- C. Prior to final acceptance of the system by the owner, the supplier shall demonstrate the continuous operating capacity of the reclamation system in relation to the truck wash system by running (on manual override) both the pressure wash system and the water reclamation system for a period of 60 minutes (without a pause).
- D. Regardless of technical specifications, the equipment supplier explicitly assumes the responsibility to design the water reclamation system for the

intended purpose and has made himself familiar with all performance requirements prior to bidding.

PART 9 MECHANICAL INTERCONNECTING PIPING

- A. All field plumbing and mechanical work will be done by others (Mechanical Contractor) including all water utilities up to and connecting to the equipment and interconnecting piping between the pumps and the equipment located in the wash bay. The owner must be able to estimate the cost of such work based on the drawings submitted by the bidder as part of the bid package.

PART 10 ELECTRICAL INTERCONNECTING WIRING

- A. All fields electrical work will be done by others (Electrical Contractor) including all electrical services connecting to the equipment panel and interconnecting wiring between the pumps and the equipment located in the wash bay. The owner must be able to estimate the cost of such work based on the drawings submitted by the bidder as part of the bid package.

PART 11 WASH SYSTEM TECHNICAL SPECIFICATIONS

1 The Wash System Platforms (one pair required)

- A. Tire wash platforms should be minimum of 12 feet long and should be made of minimum of 3/8" thick hot dip galvanized steel or stainless steel. In the material of construction no substitution to lower grade will be allowed.
- B. The tire wash main structure must be designed so that the truck tires shall drive over the spray manifold assemblies. The nozzles shall be located so that all spray angles spray at approximate 45-degree angle towards the rotating tires. The truck tires must roll on and contact the spray nozzle manifolds with all nozzles being protected.
- C. The system must have a minimum two pressure pumps (minimum 20 HP) being able to deliver minimum of 380 GPM for the total flow of 760 GPM. Pumps with lower horsepower can be used, provided that the total horsepower of all pumps meets the specified total 40 horsepower and performance is minimum 760 GPM.
- D. The system must have two operational modes: 2-pump operation at full 760 GPM for extreme weather conditions and 1-pump operation at 380 GPM for standard operation.
- E. Bottom and/or Side spray nozzles assemblies shall cover the entire circumference of the rotating tires. The supplier shall show in his drawings that the entire truck tire tread area is completely covered with sprays.
- F. The tire wash system must be equipped on both sides with minimum 4" hot dip galvanized tire guides for the entrance, full run of the tire wash platforms and for the exit. Hot dip galvanized splash walls shall run the full length of the

tire wash platforms on both sides. The splash wall shall be designed as to drain over the tire guides and onto the tire wash manifolds.

2 Pumping Module

- A. The pumps shall be ITT/Goulds Trash Hog pumps, InterClean PL or engineer approved equal.
- B. The system shall have minimum one pump 20 HP or larger with minimum of 380 GPM at 40 PSI each.

3 Electric Motor

- A. The electric motors shall be of the squirrel cage induction type suitable for across the line starting. Motor shall operate on 460 Volt, 3-phase, 60 cycle and be ODP with a 1.15 service factor.
- B. The motors shall be sized so as not to exceed the nameplate horsepower during operation. The motors should be a minimum of 20 HP.
- C. The manufacturer for 25 activations per hour shall certify the motors.

4 Electric Control Panel and Components

- A. **The Industrial Control Panel shall be manufactured and evaluated in accordance with the Underwriters Laboratories, Inc. (UL) standard 508A (Industrial Control Panels).** In addition, the panel shall be evaluated for high-capacity short circuit withstand and shall bear the appropriate UL marks including the short circuit withstand value mark as part of the official UL label.
- B. The industrial Control Panel shall be designed for operation on a 460 Volt, 3 phase, 60 Hertz system, with a short circuit capacity of 25,000 amperes RMS Symm. Available at the incoming line terminals of the control panel.
- C. The Industrial Control Panel shall be designed to meet the requirements of the National Electric Code (NEC) Articles 430 and 670, also the National Fire Protections Association (NFPA) Standard 79 (Industrial Machinery).
- D. **Electric Panels that are not UL approved are not acceptable.**
- E. The two TireWash platforms shall be totally independent similar electrical panels enabling the use of either tire wash platform and its pumps individually.
- F. The activation switches shall be designed to be activated by all fleet vehicles used by the owner. Each activator shall be pre-mounted and wired to a watertight junction box equipped with built-in drainage holes.
- G. All motors over 20 HP must have electronic soft start system.

PART 12 WATER RECLAMATION SYSTEM SPECIFICATIONS

1 Stainless Steel Pump Intake Filters (one required per each pump)

- A. Stainless Steel Intake Filter Screens to provide filtration for pump intake. The pump intake filter shall be InterScreen or engineer approved equal and shall be sized 0.015" or smaller.
- B. The intake filter shall make of stainless steel and shall have slotted orifices; **wire mesh pump intake screen filters are not acceptable as substitutes.** Intake filter shall prevent any dirt from clogging the recycled water spray nozzles under all circumstances.
- C. Intake Filter Screen shall be equipped with high-pressure air back wash system that is automatically activated by the reduced flow into the pump intake.

PART 13 INSTALLATION, START-UP, TRAINING AND SERVICE

- A. Install equipment in accordance with manufacturers' supplied installation drawings.
- B. Equipment supplier shall undertake the commissioning of the system and make all required adjustments to ensure proper operation.
- C. The equipment manufacturer shall start-up the system. The owner shall have all operating personnel present during the start-up and equipment training.