

PART 1 GENERAL

1.1 REFERENCE STANDARDS

- .1 ASME
- .2 ASTM International
 - .1 ASTM A 53/A 53M (Latest Edition), Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless.
 - .2 ASTM A 338-84 (Latest Edition), Standard Specification for Malleable Iron Flanges, Pipe Fittings and Valve Parts for Railroad, Marine, and other Heavy Duty Service at Temperatures up to 650°F (345°C).
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .4 Society of Automotive Engineers (SAE)

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for garage systems equipment and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Shop Drawings:
 - .1 Indicate on drawings:
 - .2 Equipment including connections, piping and fittings, valves, strainers, control assemblies and ancillaries, identifying factory and field assembled.
 - .3 Complete wiring diagrams including schematics.
 - .4 Dimensions, construction details, materials, recommended installation and support, mounting bolt holes, sizes and locations, and point loads.
- .4 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

1.3 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for garage systems equipment for incorporation into manual.
- .3 Submit 2 copies of operation and maintenance manual.

1.4 QUALITY ASSURANCE

- .1 Regulatory Requirements: Work to be performed in compliance with PSPC.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect garage systems equipment from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

PART 2 PRODUCTS

2.1 AIR OUTLETS

- .1 Complete with quick connect air line couplers for connection to 6 mm nominal high pressure air hose.

2.2 LUBRICATING SYSTEM - INDUSTRIAL TYPE

- .1 Compressed air operated lubricating and greasing equipment to consist of pumps, hose, reels with drum adapters, controls and accessories.
- .2 Lubricating equipment:
 - .1 Engine lubricating oil hose and reel assemblies: 30 m of delivery hose with totalizing quart graduated metering control valve, spring operated reel with connecting hose, ball stop hose coupling, 700 mm extension hose, universal swivel assembly and accessories.
 - .2 Chassis lubricating hose and reel assembly: 30 m of high pressure delivery hose and accessories as specified for engine lubricating assembly. Control valve does not require totalizing metre.
 - .3 Gear lubricating hose and reel assembly: 30 m of delivery hose and accessories as specified for chassis lubricating assembly.
 - .4 Complete compressed air hose and reel assembly, 30 m.
- .3 Pumps:
 - .1 Engine lubricating oil drum pump: for use with standard 205 L refinery drums, complete with air motors, bung bushings, air hose couplers, connecting air and lubricant hoses and low level shut-off valves. Air motors minimum 3 to 1 pressure ratio and capable of pumping minimum 5.7 L/min of SAE 30 motor oil

at 21°C through 6 m of NPS 25 nominal of steel piping at 500 kPa air pressure and 30 m of hose.

- .2 Chassis lubricating drum pump: complete with cover adapter for 180 kg drum, air coupler, connecting hoses, drum wiper, air motor, air operated elevator lift units and accessories. Capacity: minimum of 1 kg/min of multi-purpose viscous grease through 30 m of 6 mm nominal id hose, 6 m of NPS steel pipe, swivel and control valve using 500 kPa air pressure.
- .3 Gear lubricating drum pump: complete with accessories as for chassis lubricating pump and capacity of 1 kg minimum of SAE 90 lubricant through 30 m of 12 mm nominal id hose, 6 m of NPS steel pipe, metre and shut-off valve using 500 kPa air pressure.
- .4 Include bung bushing, air coupler, air hose, fluid hose, down tube and 90°C swivel, drum cover, suction tube.

2.3 WASTE OIL PUMP

- .1 Wetted parts: acetal, polypropylene, stainless steel, polyester, santoprene, fluoroelastomer, nickel plated brass, epoxy coated steel.
- .2 Max pressure: 690 kPa.
- .3 Air inlet: ¼ NPS
- .4 Air exhaust port: 3/8 NPS
- .5 Fluid inlet, outlet: ¾ NPS
- .6 Capacity: 0.25 L/s at 345 kPa fluid, 4.2 L/s air consumption
- .7 Type: diaphragm

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for garage systems equipment installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLATION

- .1 Install equipment as indicated and to manufacturer's instructions.

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

END OF SECTION