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SUPERSEDING
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March 6, 1967

FEDERAL SPECIFICATION

LAUNDRY PRESSES, COMMERCIAL

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope.- This specification covers general laundry presses.

1.2 Classification.- Commercial laundry presses shall be of the following types and styles, as specified (see 6.2).

Type I - General.

Style:
- A - Utility (medium).
- B - Utility (large).
- F - Shirt Sleeve, Single Lay, Horizontal Press.
- G - Trouser.
- H - Linen and duck coats.
- J - Trouser tops and wearing apparel (oval shape).
- K - Yoke and shoulder.
- L - Collar and lapel (coats).
- M - Collar and cuffs (triple head).

Type II - Cabinet type, shirt or coat.

Style:
- A - Sleeves.
- B - Body and bosom.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

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Federal Specifications

CC-M-636	-	Motor, Alternating Current, (Fractional Horsepower).
CC-M-641	-	Motor, Alternating Current, (Integral Horsepower, 200 HP and Smaller).
QQ-C-390	-	Copper Alloy Castings (Including Cast Bar).
QQ-N-281	-	Nickel-Copper Alloy Bar, Plate, Rod, Sheet, Strip, Wire, Forgings, and Structural and Special Shaped Sections.
QQ-N-288	-	Nickel-Copper Alloy and Nickel-Copper-Silicon Alloy Castings.

Federal Standard

FED-STD-123	-	Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, Washington.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specification

MIL-T-152	-	Treatment, Moisture and Fungus-Resistant, of Communications, Electronic, and Associated Electrical Equipment.
MIL-L-3153	-	Laundry and Drycleaning Machinery and Equipment (For Fixed Installations) Preparation for Delivery for Domestic and Overseas Shipment.

Military Standards

MIL-STD-105	-	Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-130	-	Identification Marking of U.S. Military Property.

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MIL-STD-461 - Electromagnetic Interference Characteristics, Requirements for Equipment.
MIL-STD-462 - Electromagnetic Interference Characteristics, Measurement Of.

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications.- The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

National Fire Protection Association (NFPA)

No. 70 - National Electrical Code. (1968)

(Application for copies should be addressed to the National Fire Protection Association, 60 Batterymarch St., Boston, Mass., 02110.)

American Society of Mechanical Engineers (ASME)

Boiler and Pressure Vessel Code, Section VIII, Unfired Pressure Vessels.

Welding Qualification of the American Society of Mechanical Engineers.

(Application for copies should be addressed to the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th St., New York, N.Y., 10017.)

American Welding Society (AWS)

Standard Qualification Procedures of the American Welding Society.

(Application for copies should be addressed to the American Welding Society, United Engineering Center, 345 East 47th St., New York, N.Y., 10017.)

American Society for Testing and Materials (ASTM)

A167-70 - Corrosion-Resisting Chromium-Nickel Steel Plate, Sheet and Strip

A176-71 - Corrosion-Resisting Chromium Steel Plate, Sheet and Strip

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

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Underwriter's Laboratories (UL) Inc.

(Application for copies should be addressed to the Underwriters' Laboratories, Inc., 207 East Ohio St., Chicago, Ill., 60611; 1285 Walt Whitman Rd., Melville, Long Island, N.Y., 11749; or 1655 Scott Blvd., Santa Clara, Calif., 20402.)

National Electrical Manufacturer's Association (NEMA)

ICS-1970 - Industrial Controls and Systems

(Copies may be obtained from National Electrical Manufacturer's Association, 155 East 44th Street, New York, New York 10017.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 First article.- When specified (see 6.2), the supplier shall furnish a sample for first article inspection and approval (see 4.2 and 6.4).

3.2 Standard product.- The laundry presses delivered under this specification shall be the manufacturer's standard commercial model except for any changes necessary to comply with specification requirements.

3.3 Codes and standards.-

3.3.1 NFPA.- The laundry presses shall be wired to conform to NFPA Standard No. 70 for use in nonhazardous locations.

3.3.2 UL.- The wiring, fittings, and conduit shall conform to applicable UL requirements for use in nonhazardous locations.

3.3.3 NEMA.- Motor controllers, switches, and solenoids shall conform to performance requirements of NEMA Standards Publication No. ICS-1970.

3.3.4 ASME.- All chests, cylinders, and chambers containing steam shall be fabricated and tested in accordance with the ASME code for unfired pressure vessels.

3.4 Certification.- Prior to approval of the first article, or if none is submitted, prior to approval of the first shipment, the supplier shall submit satisfactory evidence to the contracting officer or his authorized representative, that the laundry presses he proposes to furnish meet the requirements specified in 3.3.1, 3.3.2, 3.3.3 and 3.3.4.

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3.4.1 NFPA.- Acceptable evidence of meeting requirements of 3.3.1 shall be the manufacturer's certified statement that the laundry press is wired in accordance with NFPA Standard No. 70.

3.4.2 UL.- Acceptable evidence of meeting requirements of 3.3.2 shall be the UL label or a UL listing mark or a certification from an independent testing laboratory acceptable to the contracting officer or his authorized representative that the wiring, fittings, and conduit conform to applicable UL standards.

3.4.3 NEMA.- Acceptable evidence of meeting the requirements of 3.3.3 shall be the manufacturer's certified statement that the motor controllers, switches, and solenoids conform to NEMA Publication No. ICS-1970. A tag or label attached to these components stating they conform to this standard is acceptable evidence.

3.4.4 ASME.- Acceptable evidence of meeting the requirements of ASME shall be a written certificate stating that each chest, chamber, and cylinder has been inspected by an inspector qualified under the provisions of the ASME code for unfired pressure vessels and that the ASME official U or UM symbol, as applicable, has been marked on each chest, chamber, and cylinder by the inspector.

3.5 Materials.- Materials not definitely specified shall be of the quality normally used by the manufacturer for equipment specified herein provided the completed items comply with all provisions of this specification.

3.5.1 Corrosion-resistant metal.- Corrosion-resistant metal used in the fabrication of the laundry presses shall be corrosion-resistant steel conforming to the requirements of ASTM Specification A167-70 or A176-71, as applicable; nickel-copper-alloy conforming to QQ-N-281 or composition A of QQ-N-288; or copper alloy castings conforming to alloy numbers G1 through G8 of QQ-C-390.

3.5.2 Materials for fasteners.- Threaded fasteners and rivets shall be of carbon or alloy steel, except where brass or corrosion-resistant metal is to be fastened in which case they shall be of brass or corrosion-resistant metal, respectively. Where dissimilar metals are fastened, rivets, bolts, screws, nuts, and washers shall be of corrosion-resistant metal.

3.5.3 Plumbing and fitting.- Necessary integral piping, fittings, condensate traps, pressure-reducing valves, and all other valves for air, steam, and drains shall be furnished as complete assemblies suitable for installation with unions or other standard fittings. All steam and waste lines shall be installed to comply with accepted plumbing practices regarding cross connections.

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3.5.4 Electrical conduit, fittings, and wire.- Electrical conduit shall be rigid, electrical metallic tube of liquid-tight flexible conduit. All electrical wire shall be stranded copper, heat-resistant grade, thermoplastic insulated. Solid (nonstranded) wire shall not be used.

3.5.5 Motors.- Motors shall conform to the requirements of CC-M-636 or CC-M-641, and to the following requirements.

(a) All motors shall have windings impregnated to resist moisture.
(b) Motors shall have the proper starting characteristics and ample power with a reasonable factor of safety for their intended operation under full-load conditions without exceeding the permissible temperature rise.
(c) Motors shall be equipped with ball bearings, except that motors of less than 1/2 horsepower for horizontal applications may have sleeve bearings. Motor bearings shall be of the permanently lubricated type or shall have adequate and accessible means for lubrication.

3.6 Design and construction.- Design and construction of laundry presses shall conform to the requirements and construction details specified herein. The laundry presses shall be furnished complete with motors, driving mechanism, starters, and controllers, including master switches, timers, cutouts, and other electrical equipment and commercial accessories, as applicable; for the operation of the laundry presses. All powered presses furnished under this specification shall have assemblies of component parts that are complete, of proper interrelationship, moving parts that evidence no overheating of bearings, and starting and stopping devices that operate smoothly and positively. Conformance to these requirements shall be determined when the equipment is tested as specified in 4.4.2 and 4.4.3.

3.6.1 Safety devices.- Exposed belts, chains, shafts, pulleys, gears, and other moving parts shall be fully enclosed or guarded. Guards shall be cast iron or sheet metal. All parts of the guards shall be rigid and secured to be readily removable without disassembling pipes or fittings on the machine. Provisions shall be made in guards fitted over parts requiring frequent adjustment to permit easy access. Access openings so provided shall be fitted with covers.

3.6.2 Equipment bases.- Bases shall be constructed so that points of contact with the floor shall be in the same plane. Provisions for anchoring to the floor shall be provided.

3.6.3 Pressures and temperatures.- The assembly of pipes, tubing, fittings, coils, cylinders, chests, and chambers using steam shall be designed and fabricated for a working steam pressure not less than 125 pounds per square inch gage (psig) and shall withstand without leakage or permanent deformation, a

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hydrostatic test pressure established in accordance with the provisions of the ASME code for unfired pressure vessels based on a design pressure of not less than 225 psig (see 4.4.1.1). The pressing surfaces of the chests or chambers used as heads and the top metal surfaces of the chests or chambers used as bucks shall have a temperature of at least 345°F. at a point nearest the steam inlet when operating with steam generated at 125 psig (see 4.4.1.2).

3.6.4 Gearing.- All gears shall have machined teeth and shall operate quietly. Spiral, hypoid, bevel, and worm gears, if used, shall operate in a lubricant. When run in an oil bath, the pinion shall be of ferrous metal, and the gear shall be ferrous metal or bronze. Gears not run in oil bath, may be of phenolic formaldehyde resin or other noise reducing material. When gears are of a composition material either the motor pinion or gear shall be at least 1/4 inch wider than the pinion gear with which it meshes to allow lateral movement of the motor armature shaft, except that when thrust bearings are used on the armature shaft, the gear and pinion may be the same width.

3.6.5 Replaceability of bearings.- Bearings shall be replaceable.

3.6.6 Lubrication.- Lubrication fittings shall be provided for force type systems and accessibly located for lubricating bearings. Where lubricant reservoirs are required for chain or gear drives, the reservoirs shall be provided with a threaded cap at the top, a drain plug at the bottom, and a measuring bayonet with a minimum and maximum marking.

3.6.6.1 Seals.- Seals shall be provided to prevent the lubricant from entering parts of the machines where clothes are handled (see 4.4.3).

3.6.7 Belts and pulleys.- V-belts shall be of the grade commercially known as multiple-drive or variable speed type except that where a single belt is furnished with a fractional horsepower motor, a V-belt commercially known as a fractional horse-power belt may be supplied in lieu of the multiple-drive or variable speed types. Pulleys for V-belts shall be suitably grooved. Chain drives shall be of the silent or roller-chain type. Means shall be provided for readily adjusting belt and chain tension.

3.6.8 Valves and traps.- Condensate traps (with three-valve by-pass), and steam, drain, air and other operational valves shall be accessible for operation and maintenance. Inlet steam and air supply connections shall be supplied with valves.

3.7 Construction details.-

3.7.1 Type I (general).- Unless otherwise specified, type I presses shall be pneumatically operated. When manually operated presses are specified (see

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6.2), a wooden or molded plastic handle shall be fitted on the head for raising and lowering the same, and a foot pedal or pedals shall be fitted on the front of the frame and connected with a suitable mechanism for applying and releasing the pressure between the head and the buck. The foot pedal shall be designed for a pressure of not less than 400 pounds without permanent distortion of any member (see 4.4.2). The presses shall have bucks of the sizes specified in table I. Each press shall be equipped with a condensate trap, a three-valve by-pass, and other necessary operational valves (see 3.6.8). Each type I press shall consist of rugged-steel frame supporting a steam-heated head or heads, conforming to a heated buck or bucks. Where multiple heads are furnished, they shall be properly mounted to operate simultaneously and satisfactorily from one yoke. The frame shall also support the work table, operating mechanism, and enclosure for the operating mechanism on both sides and front, and shall be provided with suitable panels which shall be readily removable for inspection and maintenance. The base shall be drilled for anchor bolts of not less than 3/8 inch diameter and for the amount required to adequately secure the press to the floor when in operation.

TABLE I.- Presses, type I (general presses) - size of buck unpadded

Style	Length 1/	Width 1/ wide end	Width 1/ narrow end	Application
	Inches	Inches	Inches	
A	50	15	8	Utility (medium)
B	53	19	11	Utility (large)
F 2 bucks 1 head	28 ± 1	10-1/8 $^{+\frac{2}{0}}$		Shirt sleeve single lay
G	53	18	13	Trouser
H	53	18	18	Linen and duck coats
J	21	9 at center		Trouser tops and wearing apparel (oval shape)
K	19	11 at center		Yoke and shoulder
L	25	Width at center 7-1/2 Width at ends 12		Collar and lapel (coats)
M	3 Bucks-	1 ea. 21 lg. by 7 wide		
		2 ea. 11 lg. by 7 wide		Collar and cuffs (triple head)

1/ Unless otherwise indicated, a tolerance of ± 2 inches in the length and ± 1 inch in the width shall be allowed; except on style "G" presses, the maximum tolerances allowed are ± 1 inch in length, + 7/8, minus 1/2 inch on wide end, and + zero, minus 1/2 inch on narrow end.

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3.7.1.1 Press pressures.- Presses shall have the same basic operating characteristics. Pneumatically operated presses shall operate on a working air pressure of 70 psig, minimum, when tested as specified in 4.4.3.

3.7.1.2 Head construction.- The heads shall be removable steam chambers of carbon or alloy steel, or corrosion-resisting metal, concaved to conform to shape of buck. Aluminum heads are not acceptable. The upper surface shall be covered with sheet metal over asbestos or other approved heat-insulating material or shall have a highly polished nickel finish. Carbon or alloy steel ironing surfaces shall be plated with nickel chromium, or other corrosion-resisting metal. All ironing surfaces shall be polished smooth. Base plate of the head shall be curved and shaped to fit the buck. The top plate of the press head, where used to form the upper part of the steam chamber, shall be made of the same material as the base plate, or of corrosion-resisting metal. Steam chambers shall be divided with steel members of the manufacturer's selection, properly welded in place.

3.7.1.3 Buck construction.- The buck shall be a cast iron or fabricated steel steam chamber, convex in shape, substantially mounted and connected to the frame or mounted so as to permit alignment with the head. Aluminum bucks are not acceptable. The top plate of the buck shall be curved and shaped to fit the head and the articles for which the press is especially adapted. The bottom plate forming the lower part of the buck steam chamber shall be made of the same material as the upper plate, or of corrosion-resisting steel, and the steam chamber shall be divided with steel members of the manufacturer's selection, properly welded in place.

3.7.1.4 Buck padding.- A preformed corrosion-resisting woven metallic pad with double-faced nylon flannel shall be provided directly over the buck , and tailored heat-resistant nylon cover cloth with draw cord and retaining springs, where needed, shall be placed over the metallic pad. In addition to the above, spring padding shall be furnished under the woven metallic pad when required to accomplish proper and efficient operation of the presses. When spring padding is supplied as contractor's commercial practice it shall be furnished on same press models furnished under this specification.

3.7.1.5 Head and buck arrangement.- The head, or both head and buck, shall be movable and spring counterbalanced when required. The yoke where connected to the leverage system shall be fitted with ball, roller, bronze, or sintered cast-iron bearings and shall be arranged so that it will not interfere with the placing of garments or making proper contact with the opposite member when it is raised or lowered. Heads and bucks on presses intended to be used for finishing collar and lapel of garments shall be arranged for front loading. When specified (see 6.2), a yoke

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attachment shall be furnished with the type I, style M press. When specified (see 6.2), the style M press shall be provided with press heads and bucks designed and constructed to allow the shirt collar to be placed and the collar buck closed, after which the cuffs are laid and the cuff bucks are closed to assume maximum drying time for the collar with all the bucks being released from pressing position at the same time.

3.7.1.6 Pneumatic-power operation.- Pneumatically operated presses shall move automatically to the full open position when the power is off. The head, or both head and buck, shall move continuously and uniformly by air power only to make contact with the opposite member, and when in this position air power shall apply the necessary pressure. The press head, or both the head and buck, shall provide automatic takeup to compensate constantly for padding shrinkage (see 4.4.2). The press shall be arranged to insure satisfactory pressure for garments of unequal thickness as well as those of uniform thickness. In case of an obstruction between the head and padded buck amounting to 3/4 inch or more, the moving member or members shall not lock.

3.7.1.6.1 Press controls.- Power for the moving member or members of pneumatically operated type I presses shall be controlled by two manually operated controls conveniently located and arranged so that both hands of the operator must be on the controls before the unit can be operated or a safety control bar to protect operators hands. Upon releasing one or both controls or control bar before the head has reached the closed position, the moving members shall return automatically and promptly to the open position (see 4.4.2). Unless otherwise specified (see 6.2), type I presses shall be equipped with a automatic timer which releases the press head from a pressing position and returns the head to an open position after a preset pressing time (see 4.4.2). In addition to the automatic timing device, when specified (see 6.2), the type I presses shall be equipped with a moisture sensor which shall automatically release the press head when the desired moisture content is reached. The moisture sensor shall be adjustable to permit the operator to alter the degree of dryness to fit any garment need.

3.7.2 Cabinet type, sleeves, type II, style A.- Each type II, style A press shall consist of a rugged-steel frame supporting two movable steam-heated expansible bucks, vertically mounted to operate simultaneously on a single carriage and two sets of pneumatically operated steam-heated ironing chests which close around and exert pressure over the entire surface of the padded buck, when the buck has been moved to the ironing position. The frame shall also support the operating mechanisms which shall be inclosed as much as possible and shall be provided with panels, readily removable for inspection and maintenance purposes.

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3.7.2.1 Buck construction.- The bucks shall be removable steam chambers of cast iron or steel and shall have elliptical cross-sectional contours or flat parallel sides. The bucks shall be vertically mounted on a single carriage and shall be of sufficient length to provide for the complete ironing of the sleeves of shirts of standard manufactured sizes, from the shoulder seam to the cuff. Bucks shall be provided with padded expandable air bags or padded wings which are capable of being expanded by the operator to fit the varying diameters of the sleeve size. The bucks shall comply with the ASME code for unfired pressure vessels.

3.7.2.2 Sleeve measuring device.- The press shall be equipped with an operator-actuated sleeve-measuring device which, when placed or positioned on the shoulder seam, either mechanically or electrically will cause the bucks to enter the opened ironing chests at a height to assure the complete ironing of the sleeve from shoulder seam to the cuff. Conformance to this requirement shall be determined when the equipment is tested as specified in 4.4.3.

3.7.2.3 Cuff clamps.- Unless otherwise specified (see 6.2), a manually or semi-automatic operated cuff clamp shall be mounted near the top of each buck to provide for holding the cuffs in such a position that ironing chests will not exert pressure on the cuffs.

3.7.2.4 Ironing-chest construction.- The two ironing chests shall be removable steam chambers of cast iron or steel and shall be concave in shape to conform to either the right or left side of the buck. The chests shall be mounted in pairs, each pair to be operated by a pneumatic-power device which shall cause the two chests to open or close and exert pressure against the bucks when they have moved into the ironing position. Cast-iron or steel ironing surfaces shall be plated with nickel, chromium, or other corrosion-resisting metal. All ironing surfaces of the chests shall be polished smooth.

3.7.2.5 Ironing-chest operation.- The chests shall be in an open position when the bucks are in the forward or loading and unloading position. The bucks when moved into the ironing position shall actuate the pneumatic-power device which shall cause the chests to close around and exert pressure against the bucks. The press shall be provided with a timing device, which shall cause the chest to remain in the pressure position for a manually preset time and at the expiration of this time shall cause the chest to open which will simultaneously cause the bucks to return to the loading and unloading position. When specified (see 6.2), the press shall also be equipped with a moisture sensor which shall automatically release the chests when the desired moisture content is reached. The moisture sensor shall be adjustable to permit the operator to alter the degree of dryness to fit any garment need.

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3.7.2.6 Press, laundry, commercial, cabinet type, body and bosom, type II, style B.- The body and bosom press shall be a single buck or double buck, as specified (see 6.2), single lay cabinet press capable of simultaneously finishing the entire bodies except the yoke, of military type and design shirts in sizes 14 to 16-1/2 made from material 8.2 ounces per square yard. Unless otherwise specified (see 6.2), the press shall be equipped with a yoke-pressing attachment. The press shall consist of a rugged-steel frame supporting a movable steam or air heated expansible buck or body form having side and sleeve expanders and neckband and tail clamps and a set of steam heated chambers forming an ironing chest. If the buck is air heated, all the necessary equipment for heating, supplying, and controlling the hot air to the buck shall be included as components of the press. The steel frame shall also support the operating mechanism, which shall be air operated, and inclosed as much as possible; and shall be provided with removable panels for inspection and maintenance. Spring padding shall be furnished when required on the supplier's commercial model.

3.7.2.7 Buck or body form construction.- The buck or form shall be either steam heated or hot air heated. If steam heated, it shall be a removable steam chamber of cast iron or fabricated steel. If it is hot air heated, provisions shall be made for blowing the air through the buck padding so as to keep the buck padding dry. The buck shall be provided with side expanders and sleeve expanders and shall be vertically mounted on a movable carriage. The carriage shall be operated by pneumatic cylinders which shall cause the buck to enter the cabinet into ironing position, at the will of the operator, and return to unloading position, when released by a timer. The side and sleeve expanders will compensate for variations in shirt sizes and the sleeve expanders will hold shirt sleeves out of ironing position of the ironing chests (see 4.4.3). Side expanders shall be air bags or metal fins padded with heat-resistant material and covered with heat-resistant nylon cover cloth.

3.7.2.7.1 Buck padding.- The buck shall be covered on both sides with a preformed corrosion-resisting woven-metallic pad which shall be covered with double faced nylon flannel and tailored heat-resistant nylon or polyester fibre cover cloth having draw cord and retaining springs, where needed. In addition to the woven-metallic pad, a spring coil padding may be used on one or both sides of the buck. If the buck is steam heated, in addition to the above, an asbestos type material shall be placed between the woven-metallic pad and the double faced nylon flannel. No asbestos type material is required on air heated bucks.

3.7.2.7.2 Collar clamp.- The buck shall be equipped with a manually or semiautomatically operated collar clamp which shall provide for the holding of the shirt neckband firmly in place while the shirt is being stretched over the form and the collar in such a position that it will not come in contact with the ironing chest.

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3.7.2.7.3 Tail clamp.- Unless otherwise specified (see 6.2), the buck shall be equipped with a tail clamp for holding the body portion of the shirt being pressed firmly against the buck. The tail clamp shall have means to compensate for padding wear.

3.7.2.8 Ironing chest construction.- The ironing chest shall consist of two removable steam chambers of cast iron, fabricated steel, or corrosion-resisting metal shaped to conform to the buck. Cast iron or steel ironing surfaces shall be plated with nickel, chromium, or other corrosion-resisting metal. All ironing surfaces shall be polished smooth. The chest shall be operated by a pneumatic cylinder which shall cause the chest to open or to close and exert pressure against the buck when it is moved into ironing position (see 4.4.2).

3.7.2.8.1 Ironing chest operation.- The press shall be provided with a timing device, which shall cause the chest to remain in the pressure position for a manually preset time and at the expiration of this time shall cause the chest to open which will simultaneously cause the buck to return to the loading and unloading position. When specified (see 6.2), the press shall be equipped with a moisture sensor which shall automatically release the chests when the desired moisture content is reached. The moisture sensor shall be adjustable to permit the operator to alter the degree of dryness to fit any garment need. Additionally, when specified (see 6.2), the press shall be equipped with an automatic water spray which shall cause the front and back of the buck to be sprayed with a fine penetrating mist of water, when the buck enters the cabinet. Means shall also be provided for turning off the automatic spray when not desired by the operator. Conformance of these requirements shall be determined when the equipment is tested as specified in 4.4.2 and 4.4.3.

3.8 Electrical requirements.- The electrical components of the system shall be designed for operation on the voltage, frequency, and number of phases specified (see 6.2).

3.8.1 Wiring.- Wiring shall be installed in conduit which shall be provided between all components mounted on the presses except wiring for controls on the type I press when the wiring is concealed within the frame or other members of the press and is not subject to abrasion or other physical damage. Wiring and conduit shall be as specified in 3.5.4, except flexible, metallic conduit may be used inside of the frame when inclosed by the outer cover. Installation shall conform to the requirements of the NFPA Standard No. 70. All wiring shall terminate in a connection box with provisions for mounting controllers separately from the machine. The connection box and controllers shall be furnished with the machine. Wiring beyond the machine shall be furnished by the purchaser.

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3.8.2 Motor controls.- Each press equipped with motors shall be provided with a controller for each motor. Controllers shall be of the magnetic across-the-line type having a separate pole for each ungrounded conductor. In addition, timers, limit switches, remote control pushbutton switches, signals, and indicating lights shall be provided on each press as necessary to perform the intended functions. Pushbutton control stations shall be mounted at points readily accessible to operators. Pushbuttons shall be fully protected or recessed to prevent accidental operation.

3.9 Electromagnetic compatibility.- When specified (see 6.2), equipment procured under this specification shall be designed and equipped for electromagnetic compatibility in accordance with class IIB of MIL-STD-461 (see 4.4.4).

3.10 Moisture and fungus-resistant treatment.- When specified (see 6.2), electrical components of equipment covered by this specification shall be moisture and fungus-resistant treated with materials conforming to and applied as required by MIL-T-152.

3.11 Welders.- The welders performing the welding on pressure vessels shall be certified welders and have passed the qualification test as prescribed by either the "Standard Qualification Procedures of the American Welding Society" or "Welding Qualification of the American Society of Mechanical Engineers" code. The supplier will furnish the Government with a list of names of his welders who are certified and have passed the test of either referenced codes and he shall certify that the welding of this equipment was performed by welders on the list.

3.12 Finish.- Unless otherwise specified (see 6.2), presses shall be furnished according to the manufacturer's standard practice, except exposed heated surfaces at the top of the press heads shall be painted with aluminum varnish of a heat resisting grade. Emergency stop and normal stop pushbuttons shall be red and this color shall be limited to pushbuttons.

3.13 Name and data plates.- Each laundry press shall be marked for identification in accordance with MIL-STD-130.

3.14 Workmanship.- The finished end items shall be free from defects such as fractures, splits, punctures, tears, dents, creases, bows, miscasts, deteriorations or malformations. There shall be no sharp edges, burrs, or slivers.

3.14.1 Application of finish.- The finish applied to the end items shall be continuous, smooth, adherent, without discolorations or foreign material imbedded, and contain no sags, runs, drips, creeps, laps, bubbles, streaks, wrinkles, blisters, cracks, scratches, pores, pits, lumps, flux, or orange peel. No rust, rough grinds, or toolmarks shall show through the coating.

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3.14.2 Welding.- The surfaces of parts to be welded shall be free from oxide, scale, paint, grease, and other foreign matter. Welds shall be continuous, sound, smooth, and free from porosity, cracks, incomplete fusion, and deformation of material. All scale and flux (when flux is used) shall be removed from the finished welds.

3.14.3 Soldering.- Soldering shall be complete and adherent with all flux and residue removed and shall contain no pinholes.

3.14.4 Bolts, nuts, screws, studs, and other threaded fasteners.- Threaded fasteners shall not be broken, stripped, fractured, or loose.

3.14.5 Rivets.- Rivets shall be driven to completely fill the holes, with full size heads neatly finished and in full contact with the surface of the members.

3.14.6 Electrical wiring.- Wiring shall not be cut, abraded, or excessive insulation stripped. Wiring shall have adequate slack to provide strain relief.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.- Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 First article inspection.- When a first article is required (see 3.1), it shall be examined for defects listed in table II, specified dimensions, and tested by applicable test as specified in 4.4.1, 4.4.2, 4.4.3 and when applicable 4.4.4. The presence of any visual defect, any dimension not within the specified requirements, or failure to pass the tests shall be cause for rejection of the first article.

4.3 Inspection.- Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.3.1 Component and material inspection.- In accordance with 4.1, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

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4.3.2 End item inspection.- A lot shall consist of all laundry presses of one type and style offered for inspection at one time. The sample unit shall be one completely fabricated laundry press.

4.3.2.1 Visual examination.- The completely assembled laundry press shall be examined for the defects listed in table II. The inspection and acceptable quality level (AQL) expressed in terms of defects per hundred units, shall be level II with an AQL of 2.5 for major defects and 6.5 for total defects.

TABLE II.- Classification of defects

Examine	Defects	Classification Major	Minor
Finish	Not finished where required	X	
	Ironing surfaces not polished	X	
	Type of finish not in accordance with manufacturer's standard practice	X	
	Ironing surfaces not plated where required	X	
	Color not as specified		X
	Exposed surfaces of corrosion-resisting steel not finished to a commercial polish	X	
Material	Material not as specified	X	
Construction and workmanship (applicable to all components and assemblies)			
Bolted connections	Bolts, nuts, and screws broken, stripped, or fractured or not drawn tight	X	
Rivets (where required)	Missing, loose, broken, or inadequately peened	X	
Welding	Missing, incomplete, through burn holes, severe undercut, fractured, porous, or otherwise not fused	X	
	Slight slag inclusion, slight undercut, not smooth and uniform, scale or flux deposit not removed		X

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TABLE II.- Classification of defects (cont'd)

Examine	Defects	Classification Major	Minor
Construction and workmanship (applicable to all components and assemblies) (cont'd)			
Electrical assembly	Wiring cut, abraded, or not properly joined	X	
	Adequate slack not provided for wiring to relieve strain, or excessive insulation stripped from wiring		X
Construction: (General)	Motor bearings, where applicable, not accessible for lubrication	X	
	Pushbuttons not fully protected or recessed, or not mounted at points convenient to operator	X	
	All wiring not terminated in connection box	X	
	Moving parts not fully enclosed or guarded	X	
	Guards not removable	X	
	Access holes not fitted with covers	X	
	Bearings not replaceable	X	
	Provisions not made for adjusting chain and belt tension	X	
	Valves not accessible for operation and maintenance	X	
	Head of type I press not removable or concave in shape to conform to the buck	X	
	Top plate of buck for type I press not curved and shaped to fit the head	X	
	The head or buck for type I presses not movable	X	
	Manually operated controls for type I presses not conveniently located and arranged so that both hands of the operator must be on the controls before the unit can be operated	X	

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TABLE II.- Classification of defects (cont'd)

Examine	Defects	Classification Major	Minor
Construction: (General) (cont'd)	Buck for type II, style A press not movable	X	
	Panels for inspection and maintenance of type II, style A press not removable	X	
	Base for type II, style A press not removable	X	
	Bucks for type II, style A press not removable	X	
	Air bags or padded wings of buck for type II, style A press not expandable	X	
	Ironing chest of type II, style A press not removable and not concave in shape to conform to either the right or left side of the buck	X	
	Buck of the type II, style B press not movable or expansible	X	
	Maintenance and inspection panels for type II, style B press not removable	X	
	Buck for type II, style B press not removable	X	
	Steam chambers for the ironing chest of the type II, style B press not removable	X	
Identification marking	Missing, incomplete, not legible		X

4.3.2.2 Dimensional examination.- Examination shall be made of the end item to determine compliance with dimensions specified. Any nonconformance with specified requirements shall be classified a defect. The inspection level shall be S-2 with an AQL of 4.0 defects, expressed in terms of defects per hundred units.

4.3.2.3 Testing of the end item.- Each unit of production shall be tested as specified in 4.4.1 and 4.4.2 as applicable. Any nonconformance shall be cause for rejection of the unit. When a first article is not required, the initial unit of production shall be tested as specified in 4.4.1, 4.4.2, 4.4.3 and

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when applicable 4.4.4. Any nonconformance shall be cause for rejection of the lot. The operational test in 4.4.2 shall be performed and shall be witnessed by a representative of the Government prior to acceptance unless satisfactory evidence is produced that this has previously satisfactorily passed this test either in the manufacturer's plant or in a commercial application (see 6.5). The Government reserves the right to check-test such items to determine validity of the evidence produced. Operational tests shall be performed at the specified voltage, frequency, and number of phases specified.

4.3.2.4 Codes and standards compliance.- Proof of compliance with the requirements of 3.3 and 3.4 shall be available to the Government representative. When moisture and fungus treatment is specified, the supplier shall furnish proof that the electrical components comply with 3.10.

4.3.3 Examination of preparation for delivery.- Examination shall be made for preservation, packaging, packing and marking in accordance with MIL-L-3153.

4.4 Tests.-

4.4.1 Pressure and temperature tests.-

4.4.1.1 Hydrostatic pressure tests.- The chests and chambers using steam shall be tested by the supplier with a hydrostatic pressure in accordance with the provisions of the ASME code for unfired pressure vessels to determine compliance with the requirements of 3.6.3. All assemblies of pipes, fittings, coils, and cylinders that carry steam shall be tested with the same hydrostatic pressure before final connection to the presses to determine compliance with the requirements of 3.6.3. Any leakage or deformation shall constitute failure of this test.

4.4.1.2 Temperature tests.- The pressing surface of each chest or chamber used as a head and the metal surface of each chest or chamber used as a buck shall be tested with steam generated at 125 psig. Any failure to reach and maintain 345°F. temperature shall constitute failure of this test.

4.4.2 Operational testing.- Each laundry press furnished under this specification shall be connected to power and operational tested, without garments. The following items and operations shall be checked:

(a) Assemblies of component parts, moving parts, bearings, and starting and stopping devices for compliance with the requirements of 3.6.

(b) Movement of the head and buck when the power is off for compliance with the requirements of 3.7.1.6 (type I presses).

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(c) Adjustability of air pressure for compliance with the requirements of 3.7.1.6 (type I presses).

(d) Automatic takeup of press head or buck for compliance with the requirements of 3.7.1.6 (type I presses).

(e) Manually operated press controls for compliance with the requirements of 3.7.1 (type I presses).

(f) Operation of automatic timer for compliance with the requirements of 3.7.1.6.1 (type I presses, when applicable).

(g) Manual operation of presses for compliance with the requirements of 3.7.1 (type I presses, when applicable).

(h) Operation of the ironing chests for compliance with the requirements of 3.7.2.5 and 3.7.2.8 (type II presses).

(i) Operation of the moisture sensor for compliance with the requirements of 3.7.1.6.1, 3.7.2.5, and 3.7.2.8.1.

(j) Operation of the automatic water spray system for compliance with the requirements of 3.7.2.8.1 (type II, style B presses).

Any failure of (a) through (j) above shall constitute failure of the operational test.

4.4.3 Functional testing.- Laundry presses shall be tested by making the necessary connections for electric power, steam, and compressed air and by operating with garments under full service load as specified in the applicable paragraphs of this specification. The following items and operations shall be checked, as applicable:

(a) Assemblies of component parts, moving parts, bearings and starting and stopping devices for compliance with the requirements of 3.6.

(b) Seals leakage for compliance with the requirements of 3.6.6.1.

(c) Working air pressure for compliance with the requirements of type I presses and type II presses.

(d) Pressure on garments for compliance with the requirements of 3.7.1.6 (type I presses).

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(e) Operation of sleeve measuring device for compliance with the requirements of 3.7.2.2 (type II, style A press only).

(f) Operation of side and sleeve expanders for compliance with the requirements of 3.7.2.7 (type II, style B press only).

(g) Operation of the automatic moisture sensor and/or automatic water spray for compliance with the requirements of 3.7.2.5 and/or 3.7.2.8.1 (type I, styles A through M and type II, styles A and B presses, as applicable).

Any failure of (a) through (g) above shall constitute failure of the functional test.

4.4.4 Electromagnetic compatibility.- When electromagnetic compatibility is required, the first article or initial unit of production, as applicable, shall be tested by the supplier in accordance with test methods CE03 and RE02 of MIL-STD-462. The Government reserves the right to witness tests performed by the supplier or an independent testing agency. The supplier shall furnish the contracting office written certification that the Interference Control Plan, the EMI/EMC Test Plan, the electromagnetic test report and the requirements meet MIL-STD-461.

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, and packing.- Preservation, packaging, and packing shall be in accordance with the applicable level A, B, or C requirements of MIL-L-3153, as specified (see 6.2).

5.2 Marking.-

5.2.1 Civil agencies.- In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with FED-STD-123.

5.2.2 Military requirements.- Military marking requirements shall be in accordance with MIL-L-3153.

6. NOTES

6.1 Intended use.- The laundry presses covered by this specification are for use in fixed laundry installations.

6.2 Ordering data.- Purchasers should select the preferred options permitted herein and include the following data in procurement documents:

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(a) Title, number and date of this specification.

(b) Type and style required (see 1.2).

(c) When a first article is required (see 3.1, 4.2 and 6.4).

(d) When press heads and bucks are required to have movements timed at different cycles to allow longer drying time on color while the cuffs are being placed on bucks and moved into position for type I, style M press (see 3.7.1 and 3.7.1.5).

(e) When manually operated type I presses are required (see 3.7.1).

(f) When yoke attachment is required for type I, style M press (see 3.7.1.5).

(g) When automatic timer for releasing press head from pressing position is not required for type I presses (see 3.7.1.6.1).

(h) When a moisture sensor is required (see 3.7.1.6.1, 3.7.2.5, and 3.7.2.8.1).

(i) When an automatic water spray device is required (see 3.7.2.8.1).

(j) When cuff clamps are not required for type II, style "A" press (see 3.7.2.3).

(k) When yoke-pressing attachment for type II, style B press is not required and whether a single buck or double buck is required (see 3.7.2.6).

(l) When tail clamp is not required, for type II, style B press (see 3.7.2.7.3).

(m) Power characteristics (voltage, phase, frequency) (see 3.8).

(n) When electromagnetic compatibility is required (see 3.9).

(o) Finish when other than manufacturer's standard is required (see 3.12).

(p) When moisture and fungus-resistant treatment is required (see 3.10).

(q) Selection of applicable levels of preservation, packaging, and packing (see 5.1).

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6.2.1 Contract data requirements.- Any requirements for equipment manuals for the items covered by this specification should be included in DD Form 1423 Contract Data Requirements List and cited in the contract.

6.3 Functional testing.- The functional tests required in 4.4.3 for the first unit of production may be waived by the contracting officer, if these tests have been performed previously on an identical laundry press and the contractor provides certified test data indicating compliance with the requirements.

6.4 First article.- When a first article is required, it shall be inspected and approved under the appropriate provisions of ASPR 7-104.55. The first article should be one preproduction sample of the type and style press specified. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

6.5 Successful commercial operation.- Invitation for bids should specify that no item of equipment will be acceptable unless the supplier has had equipment of approximately the same type and design as that specified operating successfully in a commercial or institutional laundry or laundries for at least one year. Equipment installed for test purposes in a supplier's plant or laboratory shall not come within the category of successful commercial operation.

6.6 Deletions.- Type I, styles C, D, and E and type III presses deleted from this revision (no longer required in Army laundries).

Custodians:

Army - GL
Navy - YD
Air Force - 84

Review activities:

Army - ME, MD
Navy - MC

User activities:

Navy - SH
Army - CE

Preparing activity:

Army - GL

Project No. 3510-0171

Civil agency interest:

VA - DMS

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SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22-R255

INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION: Laundry Presses, Commercial — 00-L-138C

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

☐ YES ☐ NO *(If "yes", in what way?)*

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity - Optional)*

DATE

DD FORM 1 JAN 68 1426

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.