IPSO - LSG n.v.

Instruction manual
Spare parts list

DR190 - steam, gas heating

Technical specifications
Installation instructions
Operating instructions
Maintenance

IPSO

Nieuwstraat 146 - B-8560 Wevelgem (België)
Tel. 056/41 20 54 - Fax 056/41 86 74

D0302
2/07

IMPORTANT NOTICES—PLEASE READ

For optimum efficiency and safety, we recommend that you read the manual before operating the equipment. Store this manual in a file or binder and keep for future reference.

WARNING: **For your safety, the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or loss of life.**

- Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

- WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Clear the room, building or area of all occupants.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WARNING: In the event the user smells gas odor, instructions on what to do must be posted in a prominent location. This information can be obtained from the local gas supplier.

WARNING: Wear safety shoes to prevent injuries.

WARNING: Purchaser must post the following notice in a prominent location:

FOR YOUR SAFETY
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING: A clothes dryer produces combustible lint and should be exhausted outside the building. The dryer and the area around the dryer should be kept free of lint.

WARNING: Be safe, before servicing machine, the main power should be shut off.

WARNING: To avoid fire hazard, do not dry articles containing foam rubber or similar texture materials. Do not put into this dryer flammable items such as baby bed mattresses, throw rugs,undergarments (brassieres, etc.) and other items which use rubber as padding or backing. Rubber easily oxidizes causing excessive heat and possible fire. These items should be air dried.

WARNING: Synthetic solvent fumes from drycleaning machines create acids when drawn through the dryer. These fumes cause rusting of painted parts, pitting of bright or plated parts, and completely removes the zinc from galvanized parts, such as the tumbler basket. If drycleaning machines are in the same area as the tumbler, the tumbler's make-up air must come from a source free of solvent fumes.

WARNING: Do not operate without guards in place.

WARNING: Check the lint trap often and clean as needed but at least a minimum of once per day.

WARNING: Alterations to equipment may not be carried out without consulting with the factory and only by a qualified engineer or technician. Only **Manufacturer** parts may be used.

WARNING: Remove clothes from dryer as soon as it stops. This keeps wrinkles from setting in and reduces the possibility of spontaneous combustion.

WARNING: Be safe - shut main electrical power and gas supply off externally before attempting service.

WARNING: Never use drycleaning solvents, gasoline, kerosene, or other flammable liquids in the dryer. ***FIRE AND EXPLOSION WILL OCCUR. NEVER PUT FABRICS TREATED WITH THESE LIQUIDS INTO THE DRYER. NEVER USE THESE LIQUIDS NEAR THE DRYER..***

WARNING: Do not place items exposed to cooking oils in your dryer. Items contaminated with cooking oils may contribute to a chemical reaction that could cause a load to catch fire.

WARNING: Never let children play near or operate the dryer. Serious injury could occur if a child should crawl inside and the dryer is turned on.

WARNING: Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer. These fibers cause skin irritation if they become mixed with other fabrics.

WARNING: Before operating gas ignition system - purge air from natural gas or propane gas lines per manufacturer’s instructions.

WARNING: To reduce the risk of electric shock, disconnect this appliance from the power supply before attempting any user maintenance other than cleaning the lint trap. Turning the controls to the OFF position does not disconnect this appliance from the power supply.

ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:

AVERTISSEMENT. Assurez-vous de bien suivre les instructions donnees dans cette notice pour reduire au minimum le risque d'incendie ou d'explosion ou pour eviter tuot dommage materiel, toute blessure ou la mort.

__ Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre apparell.

__ **QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:**

- Ne pas tenter d'allumer d'apparell.
- Ne touchez a aucun interrupteur. Ne pas vous servir des telephones se trouvant dans le batiment ou vous vous trouvez.
- Evacuez la piece, le batiment ou la zone.
- Appelez immediatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

__ l'installation et l'entretien doivent etre assures par un installateur ou un service d'entretien qualifie ou par le fournisseur de gaz.

ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:

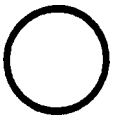
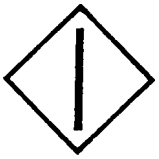
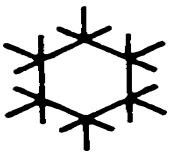
POUR VOTRE SECURITE
Ne pas entreposer ni utiliser d' essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

TABLE OF CONTENTS
175 LB. LAUNDRY DRYER

PAGE

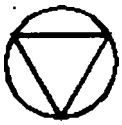
SYMBOLS

The following symbols are used in this manual and/or on the machine.

Symbol	Description
	**NOTE!**
	**Hot! Do Not Touch** **Heib! Nicht Beruhren** **Haute temperature! Ne pas toucher** **Caliente! no tocar** **Heet! Niet Aanraken**
	**dangerous voltage** **tension dangereuse** **Gafahrliche elektrische Spannung** **tension peligrosa**
	**on** **marche** **Ein** **conectado**
	**off** **arrêt** **Aus** **desconectado**
	**start** **demarrage** **Start** **arranque de un movimiento**
	**emission of heat in general** **êmission de chaleur en general** **Warmeabgabe allgemein** **emisión de calor**
	**cooling** **refroidissement** **Kuhlen** **enfriamiento**

SYMBOLS

The following symbols are used in this manual and/or on the machine.

Symbol	Description
	**rotation in two directions** **rotation dans les deux sens** **Drehbewigung in zwei Richtungen** **movimiento rotativo en los dos sentidos**
	**direction of rotation** **sens de mouvement continu de rotation** **Drehbewegung in Pfeilrichtung** **movimiento giratorio o rotatorio** **en el sentido de la flecha**
	**End of Cycle**
	**caution** **attention** **Achtung** **atencion; precaucion**

UNPACKING

This dryer is packed in a large (heavy-duty) protective wooden crate.

Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.

Upon determining permanent location of a unit, care should be taken in movement and placement of equipment. To move dryer through doorways, you may need to remove the top of the machine. Follow instructions for disassembling.

See outline clearance diagrams for correct dimensions.

Remove all packing material such as: tape, manuals, skid, etc.

Check voltage and amperes on rating plate before installing the dryer.

GENERAL INSTALLATION (ALL DRYERS)

Leveling: Use spirit level on top of dryer. The use of shims are acceptable for this procedure.

IMPORTANT
Before installing or operating this dryer, thoroughly read the owner's manual for correct instructions concerning electric connections, exhaust ducting, gas piping, steam connections, make-up air, etc.

IMPORTANT
Read the warnings in this manual.

IMPORTANT
Do not install this dryer in an area where it will be exposed to water and/or weather.

IMPORTANT
Failure to follow these instructions and warnings may create a safety hazard and may affect the warranty.

IMPORTANT
Follow all local codes.

IMPORTANT
If you have any installation questions, consult the factory Service Department.

GENERAL INSTALLATION (ALL DRYERS)

Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearance from all combustable material for gas dryers is 24" ceiling clearance, 24" rear clearance, and 0" side clearance. Installation clearance from all combustable material for steam dryers is 24" ceiling clearance, 24" rear clearance, and 0" side clearance.

Before operating dryer, open basket door and remove blocking between front panel and basket. Read the instruction tags, owner's manual, warnings, etc.

GENERAL

The dryer is so designed that when an operator opens the dryer door, the basket and exhaust fan stop. Hot, dry air is properly and effectively moved through the basket and exhausted through a lint trap to the venting and eventually to the atmosphere. The lint accumulates in the collector and should be removed as needed, minimum once daily.

IMPORTANT

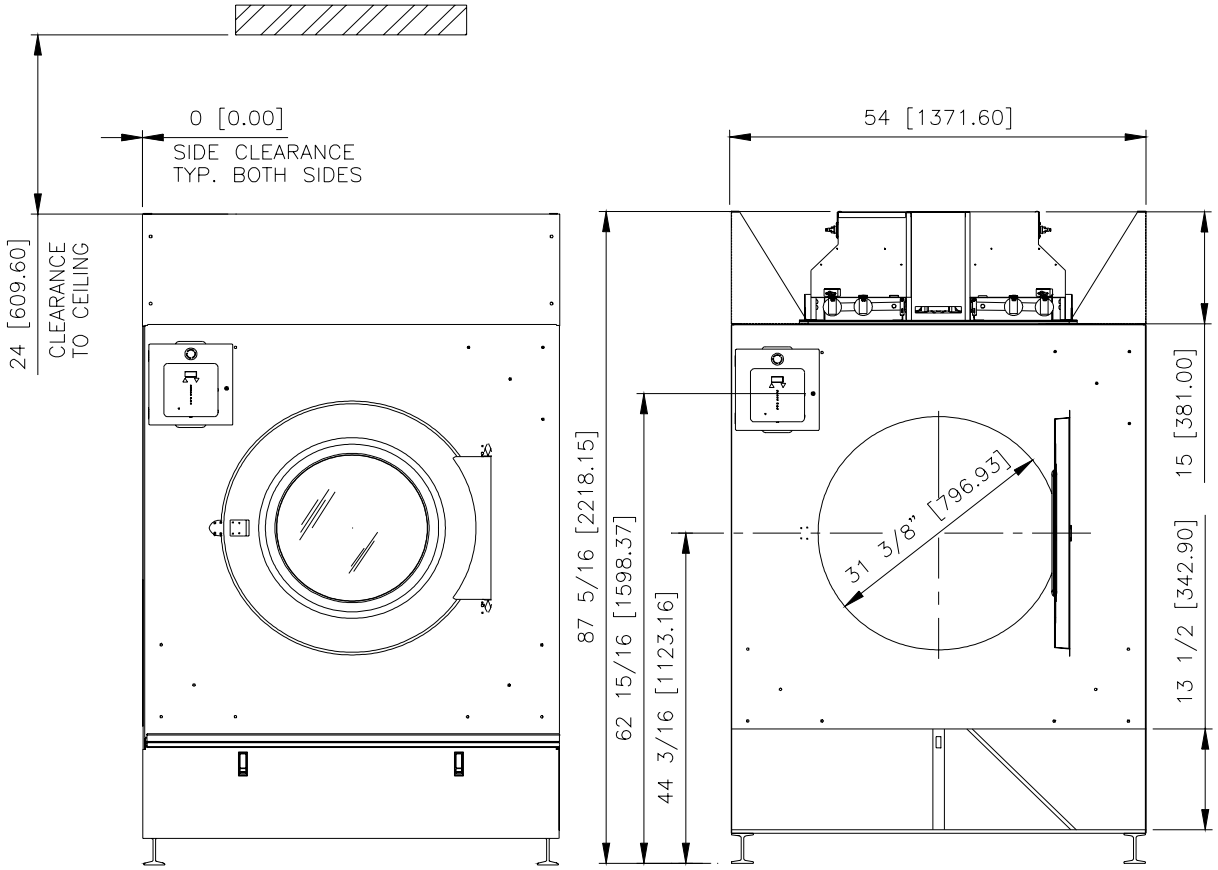
IMPORTANT
Provide adequate clearance for air openings into the combustion chamber.

REPLACEMENT PARTS

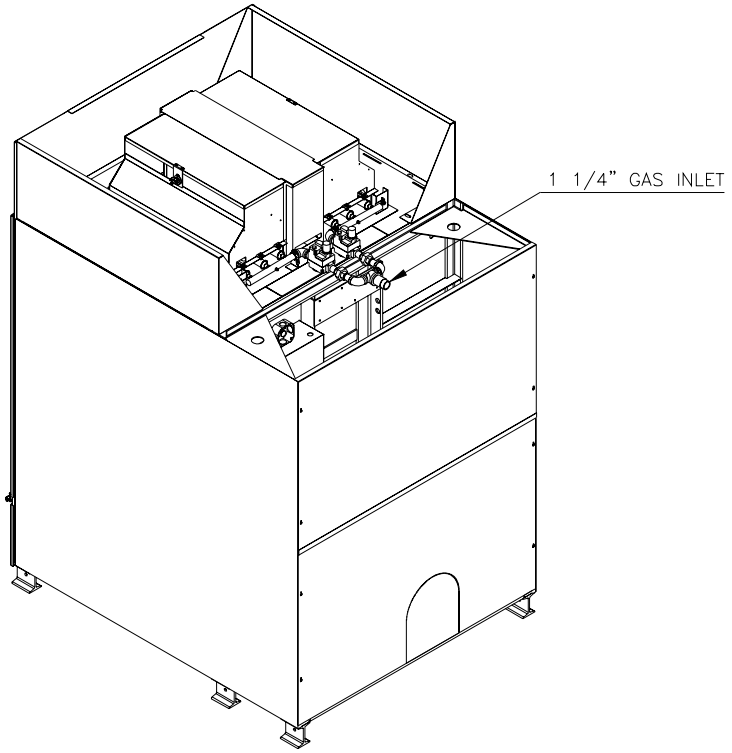
Replacement parts for this dryer are available from your distributor or by contacting the factory at the address or phone number printed on the cover of this manual.

WARNING Unit is heavy!

NOTE
The gas installation must conform with local codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1* or the *CAN/CGA-B149, Installation Codes.*

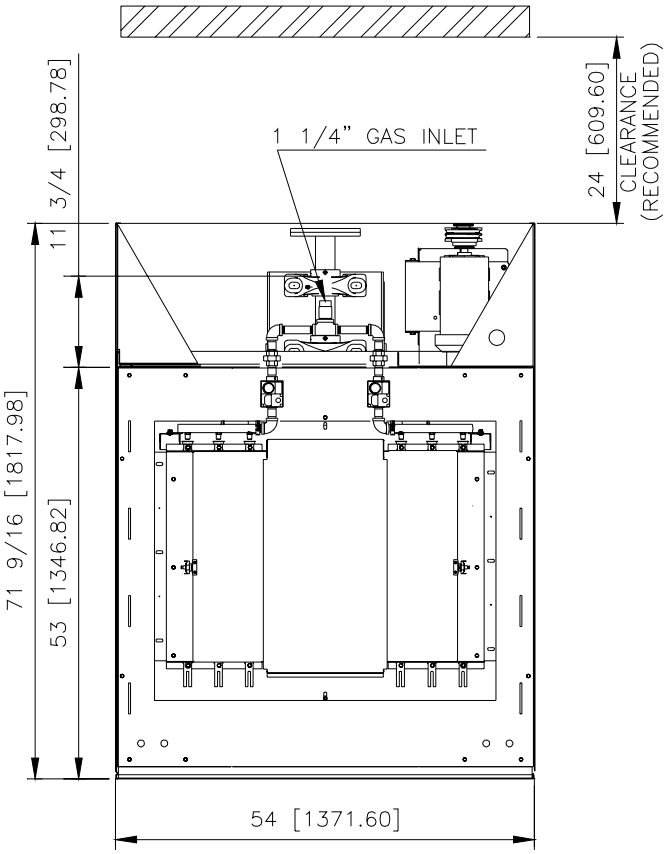


REAR VIEW



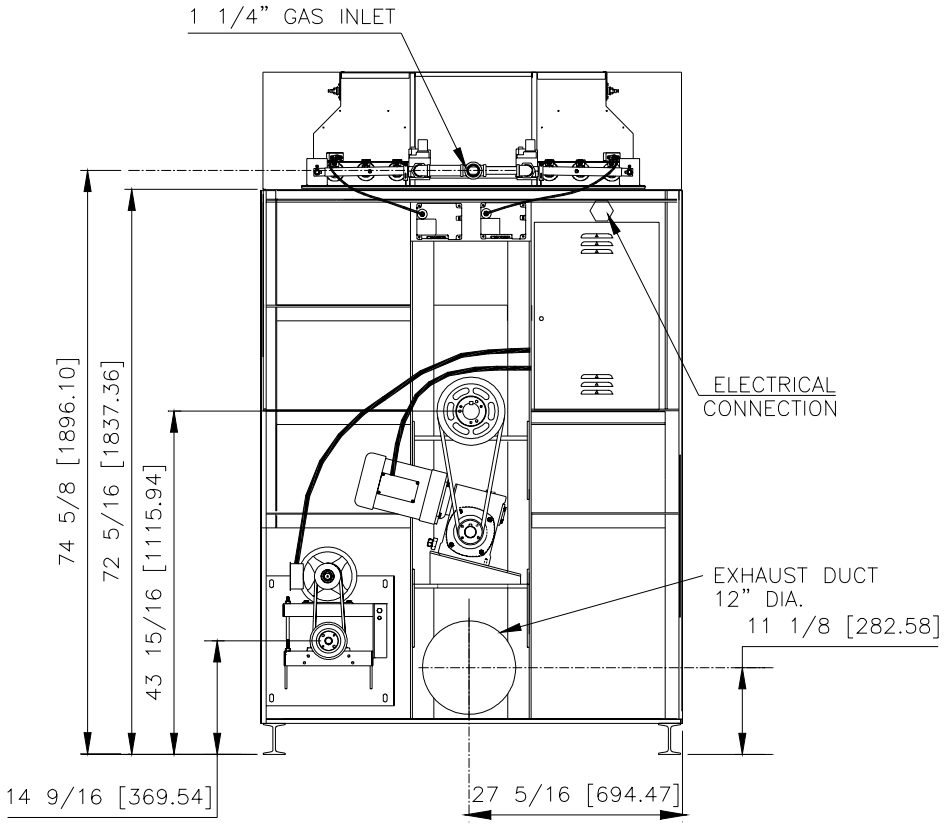
ALL DIMENSIONS ARE +/- 1/4" (6.4 MM) AND ARE SUBJECT TO CHANGE WITHOUT NOTICE

TOP VIEW DIMENSIONS



REAR VIEW DIMENSIONS

REAR COVER
NOT SHOWN



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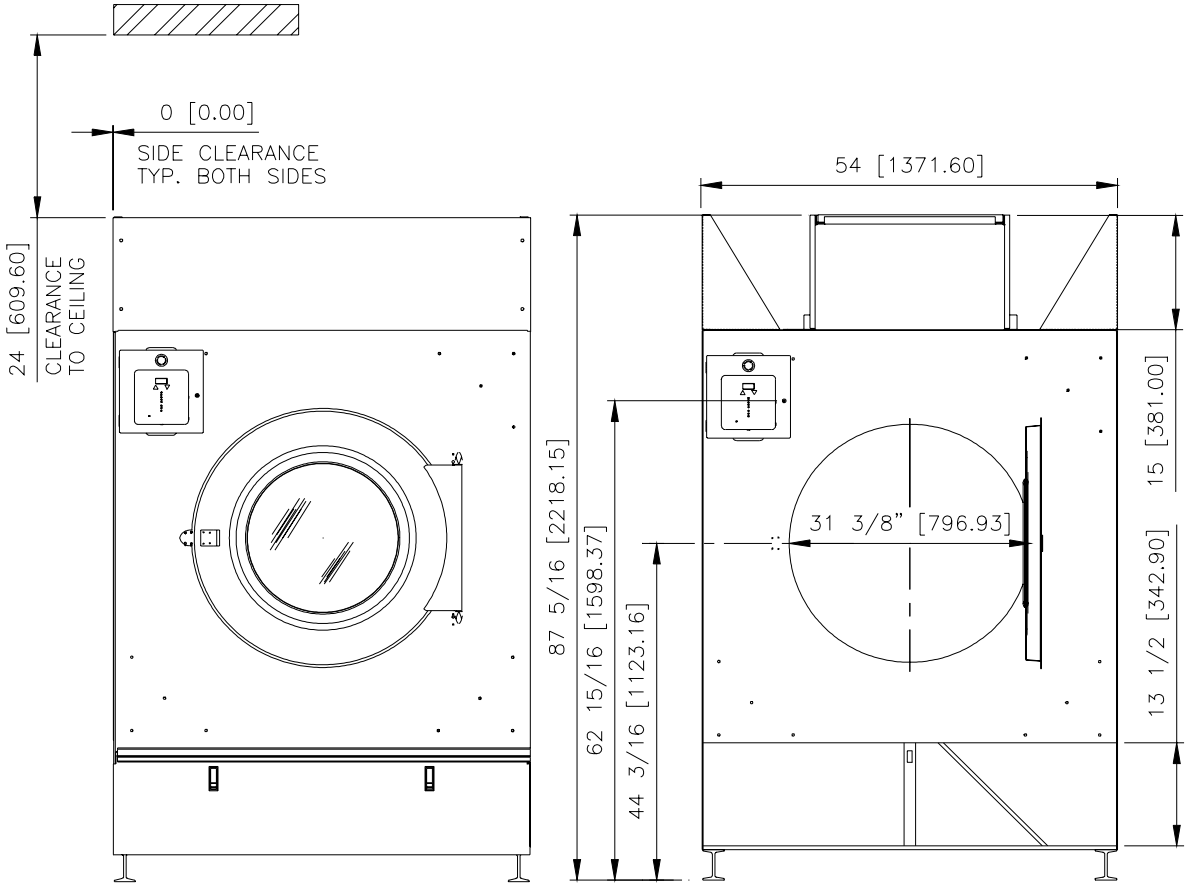

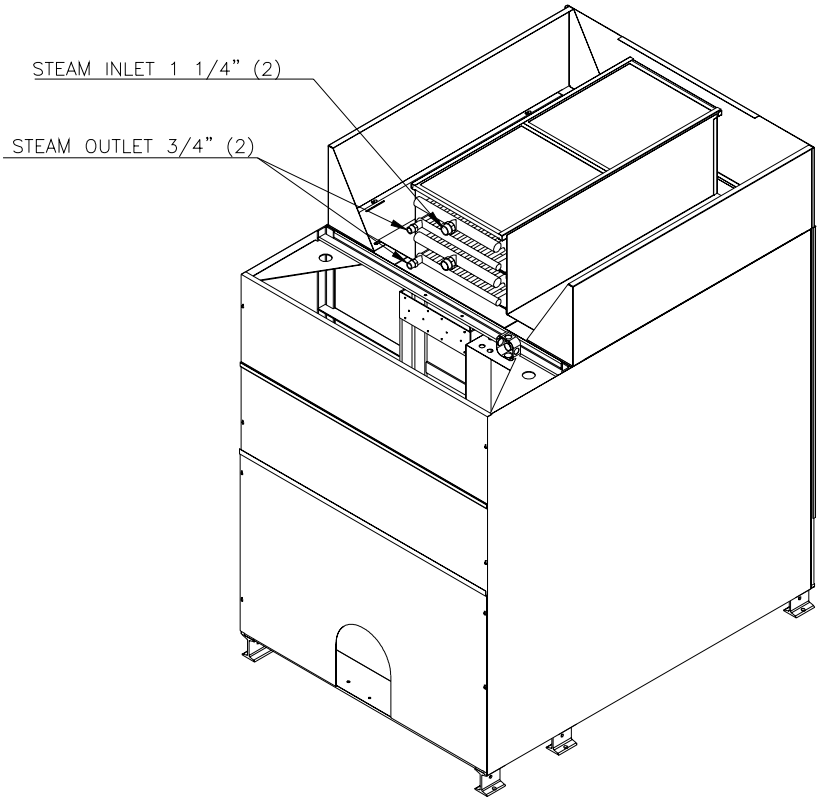

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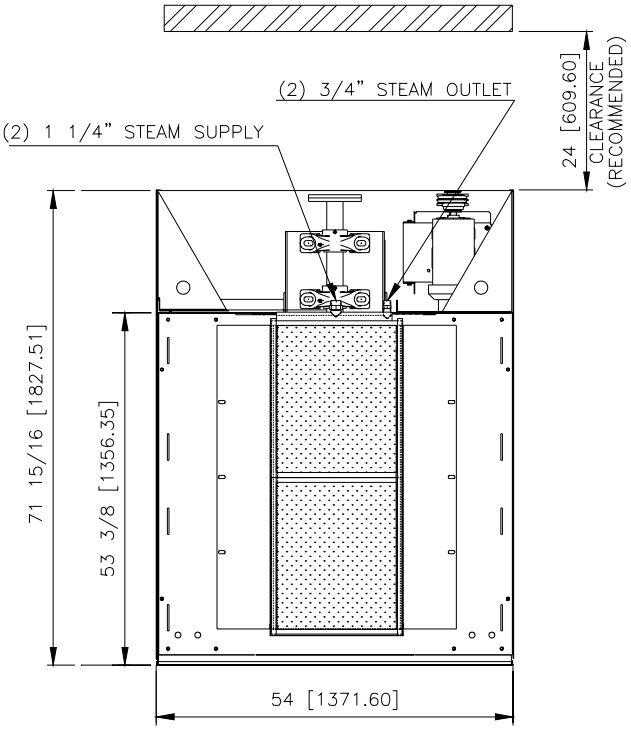
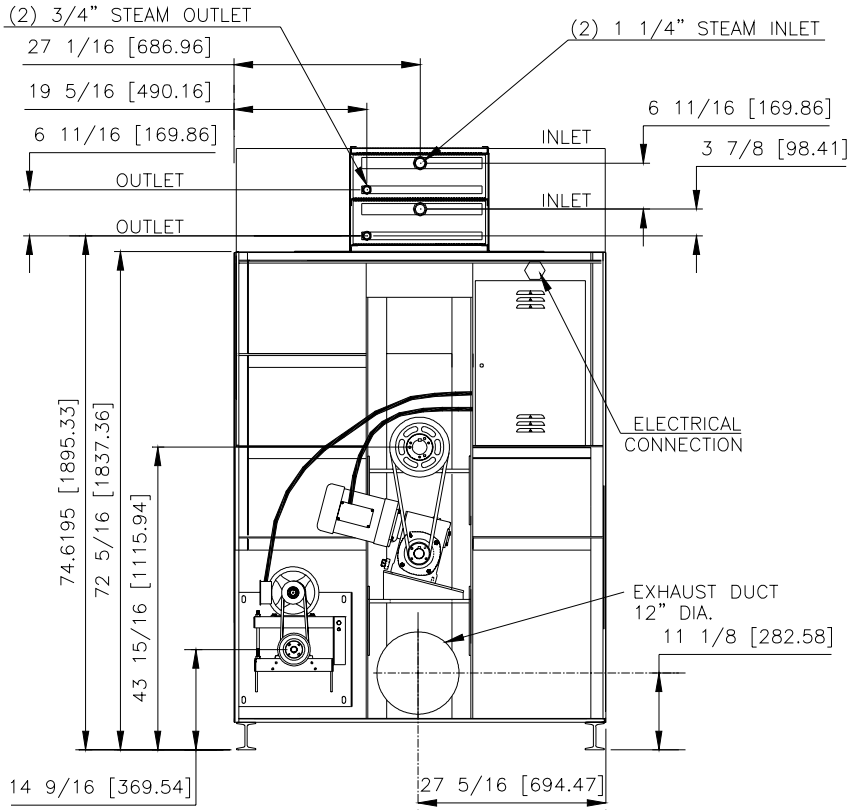


REAR VIEW DIMENSIONS



REAR COVER
NOT SHOWN

ALL DIMENSIONS ARE +/- 1/4" (6.4 MM) AND ARE SUBJECT TO CHANGE WITHOUT NOTICE

GENERAL SPECIFICATIONS FOR 190 lb. GAS HEATED DRYERS

Basket Capacity	190 lb (86.2 kg) Dryweight
Electrical Specifications	208-240/60/3, 480/60/3, 220-380/50/3
Motor Size: Basket	2 Hp (1.49 kW)
Motor Size: Fan	5 Hp (3.73 kW)
Floor Space	89" H x 54" W x 71 15/16" D (2261 x 1372 x 1651 mm)
Door Opening	31-1/4" (794 mm)
Basket	52" dia. x 48" deep (1321 x 1220 mm)
Basket RPM: Reversing	30 rpm (w/ 3.2 reversals per minute)
Non-Reversing	30 rpm
Exhaust Duct	12" (3048 mm) dia.
Maximum Air Displacement	2,780 cfm (4726 m^3/h)
Recomm. Oper. Range	2,300 cfm (3910 m^3/h)
Gas Net Weight	2,075 lb (941 kg)
Steam Net Weight	2,205 lb (1000 kg)
Gas Shipping Weight	2,225 lb (1009 kg)
Steam Shipping Weight	2,355 lb (1068 kg)
Shipping Dimensions	89 1/2" H x 58" W x 84 1/2" D (2273 x 1473 x 2146 mm)
Crating Volume	232 ft^3 (6.57m^3)
Gas Supply	1 1/4" (DN32) pipe connection (1 1/4" SPT)
Input Rating	525,000 Btu/h (132,300 kcal/h)
Recommended Make-up Air	4.0 sq. ft. (576 sq. in., 3,744 sq. cm)

GENERAL SPECIFICATIONS FOR 190 lb. STEAM HEATED DRYERS

Basket Capacity	190 lb (86.2 kg)
Electrical Specifications	208-240/60/3, 480/60/3, 220-380/50/3
Motor Size: Basket	2 Hp (1.49 kW)
Motor Size: Fan	5 Hp (3.73 kW)
Floor Space	89" H x 54"W x 71 15/16" D (2261 x 1372 x 1828 mm)
Door Opening	31-1/4" (794 mm)
Basket	52" dia. x 48" deep (59 cu. ft.) (1321 x 1220 mm, 3600 liters)
Basket RPM: Reversing	30 rpm (w/ 3.2 reversals per minute)
Non-Reversing	30 rpm
Exhaust Duct	12" (3048 mm) dia.
Maximum Air Displacement	2780 cfm (4726 m^3/h)
Recomm. Oper. Range	2300 cfm (3910 m^3/h)
Net Weight	1800 lb (816 kg)
Shipping Weight	1950 lb (885 kg)
Shipping Dimensions	89 1/2" H x 58" W x 84 1/2" D (2273 x 1473 x 2146 mm)
Crating Volume	232 ft^3 (6.57 m^3)
Input Rating	15.7 BHP (132,000 kcal/h)
Pressure	125 psi max
Steam Supply Connection	1 1/4" SPT (DN32)
Steam Return Connection	3/4" SPT (DN20)

ELECTRICAL CONNECTIONS (ALL DRYERS)

Dryers must be electrically grounded by a separate #14 or larger green wire from the grounding terminal within the service connection box to a cold water pipe. In all cases, the grounding method must comply with local electrical code requirements; or in the absence of local codes, with the ***National Electrical Code, ANSI/NFPA 70*** **or the** ***Canadian Electrical Code, CA C22.1.***

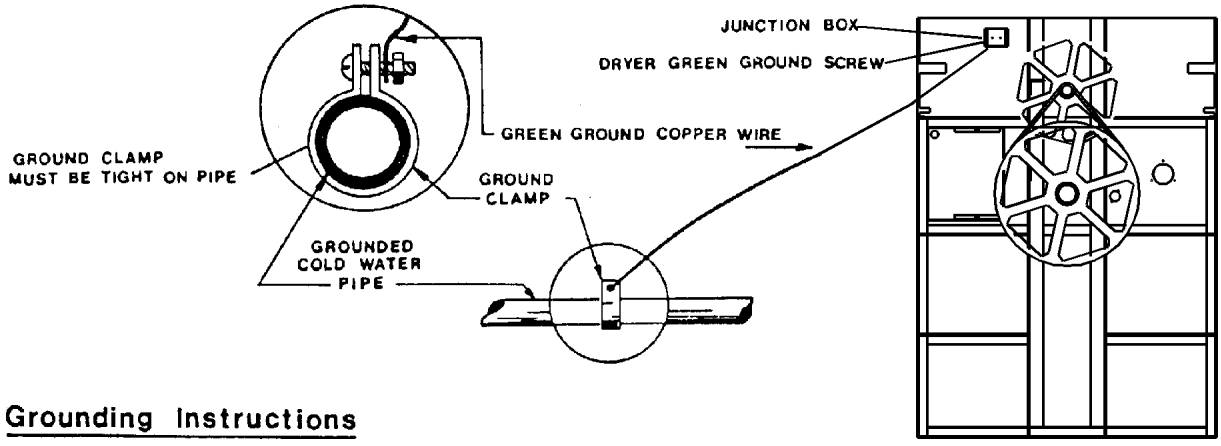
See wiring diagram furnished with dryer. Your dryer is completely wired at the factory and it is only necessary for the electrician to connect the power leads to the wire connectors with the service connection box on the rear of the dryer. Do not connect the dryer to any voltage or current other than that specified on the dryer rating plate. (Wiring diagram is located on rear wall of dryer.)

All panels must be in position before operation of dryer.

CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation.

Attention. Lors des opérations d'entretien des commandes, ètiqueter tous les fils avant de les dèconnecter. Toute erreur de câblage peut être une source de danger et de panne.

(ILLUSTRATION) GROUNDING INSTRUCTIONS

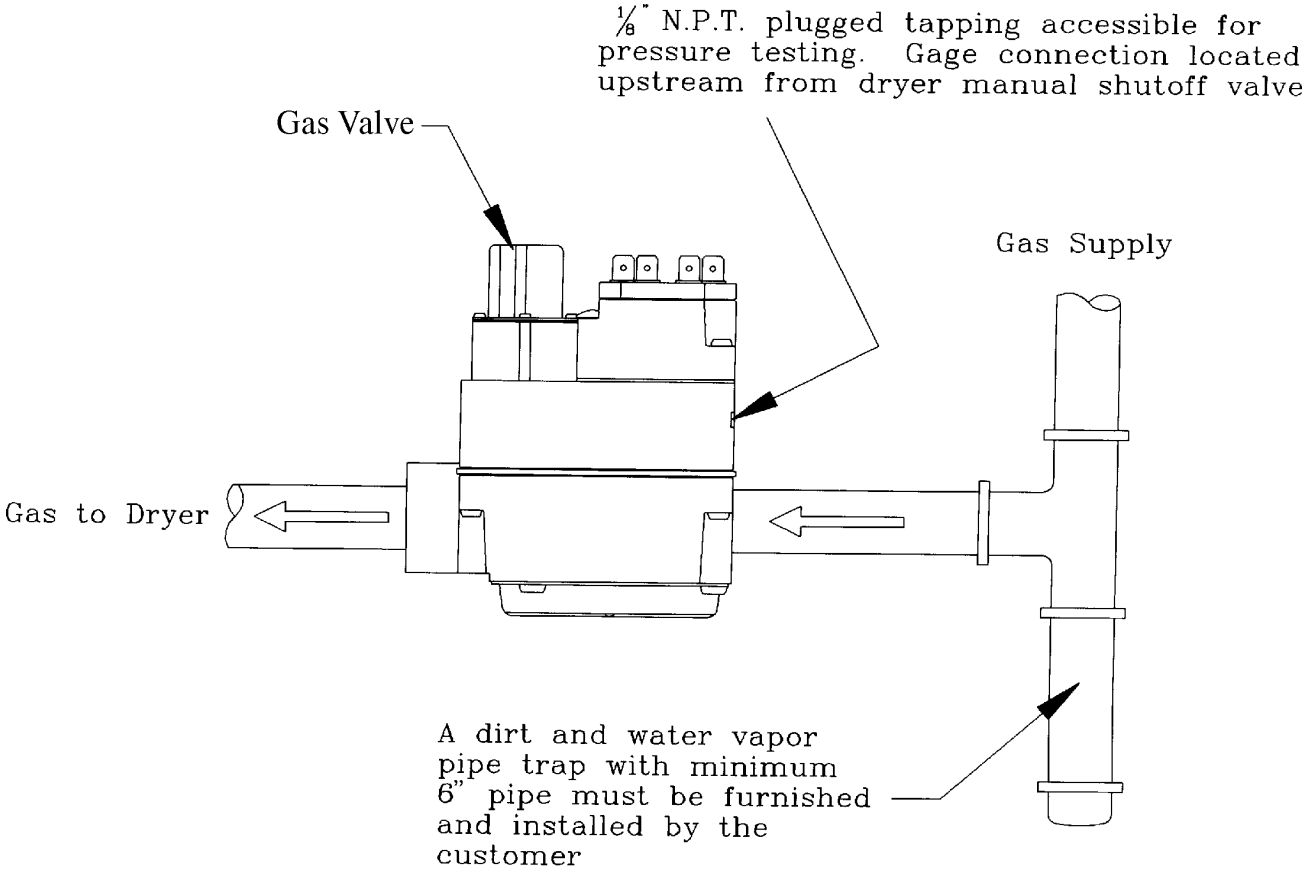


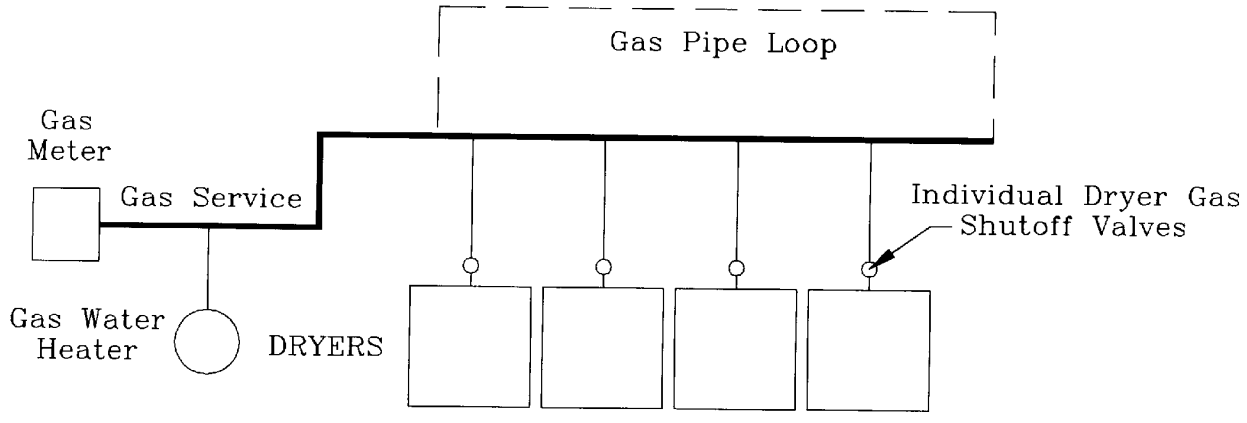
Grounding Instructions

Motor No.	Voltage	Hz.	Phase	HP	Amps	RPM	B/F
MTR290	208/240	60	3	2	6.2 - 6.0	1725	Basket
MTR290	480	60	3	2	3.0	1725	Basket
MTR296	380	60	3	2	4.2 - 4.6	1725	Basket
MTR292	220/380	50	3	2	6.4/3.7	1425	Basket
MTR292	240/415	50	3	2	6.4/3.7	1425	Basket
MTR309	208/240	60	3	5	13.0	3450	Fan
MTR291	480	60	3	5	7.1	1725	Fan
MTR298	240	50	3	5	8.4	1425	Fan
MTR298	380	60	3	5	17.2 - 16.8	1725	Fan
MTR293	220/380	50	3	5	6.05/12.1	1425	Fan
MTR293	240/415	50	3	5	6.05/12.1	1425	Fan

Gas Pipe Size Chart

TOTAL BTU/HR (for LP Gas correct total BTU/HR below by multiplying by .6)	TOTAL KCAL	GAS PIPE SIZE FOR 1000 BTU (250 KCAL) NATURAL GAS AT 7" (17.8 CM) W.C. PRESSURE In figuring total length of pipe, make allowance for tees and elbows.					
	HOUR	(25 ft.) 7,62 m	(50 ft.) 15,24 m	(75 ft.) 22,86 m	(100 ft.) 30,48 m	(125 ft.) 38,1 m	(150 ft.) 45,72 m
60,000	15000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	20000	3/4	3/4	3/4	1	1	1
100,000	25200	3/4	3/4	1	1	1	1
120,000	30200	3/4	1	1	1	1	1
140,000	35200	3/4	1	1	1	1	1 1/4
160,000	40300	3/4	1	1	1 1/4	1 1/4	1 1/4
180,000	45300	1	1	1	1 1/4	1 1/4	1 1/4
200,000	50400	1	1	1 1/4	1 1/4	1 1/4	1 1/2
300,000	75600	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
400,000	100800	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
500,000	126000	1 1/4	1 1/2	1 1/2	2	2	2
600,000	151200	1 1/2	1 1/2	2	2	2	2
700,000	176400	1 1/2	2	2	2	2	2 1/2
800,000	202000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	230000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	250000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	270000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	300000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	330000	2	2 1/2	2 1/2	2 1/2	2 1/2	3
1,400,000	350000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	380000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	400000	2	2 1/2	2 1/2	3	3	3
1,700,000	430000	2	2 1/2	2 1/2	3	3	3
1,800,000	450000	2 1/2	2 1/2	3	3	3	3
1,900,000	480000	2 1/2	2 1/2	3	3	3	3
2,000,000	504000	2 1/2	2 1/2	3	3	3	3 1/2
2,200,000	550000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	605000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	650000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	705000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	750000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	806000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	850000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	907000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	960000	3	3 1/2	3 1/2	4	4	4
4,000,000	1000000	3	3 1/2	3 1/2	4	4	4


⅛" N.P.T. plugged tapping accessible for pressure testing. Gage connection located upstream from dryer manual shutoff valve
Gas Valve
Gas Supply
Gas to Dryer
A dirt and water vapor pipe trap with minimum 6" pipe must be furnished and installed by the customer


Gas Pipe Loop
Gas Meter
Gas Service
Individual Dryer Gas Shutoff Valves
Gas Water Heater
DRYERS

GAS PIPING INSTALLATION

1. Gas service installation must conform with local codes, or in the absence of local codes with the ***National Fuel Gas Code, ANSI Z223.1*** **or the** ***CAN/CGA-B149, Installation Codes.***

2. Check rating plate located on rear wall of dryer, for type of gas to equip the dryer and the altitude (elevation).

3. Check with the gas supplier for the gas pressure and the proper gas supply line installation.

NOTE: The dryer and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).

The dryer must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or greater than 1/2 psi (3.5 kPa).

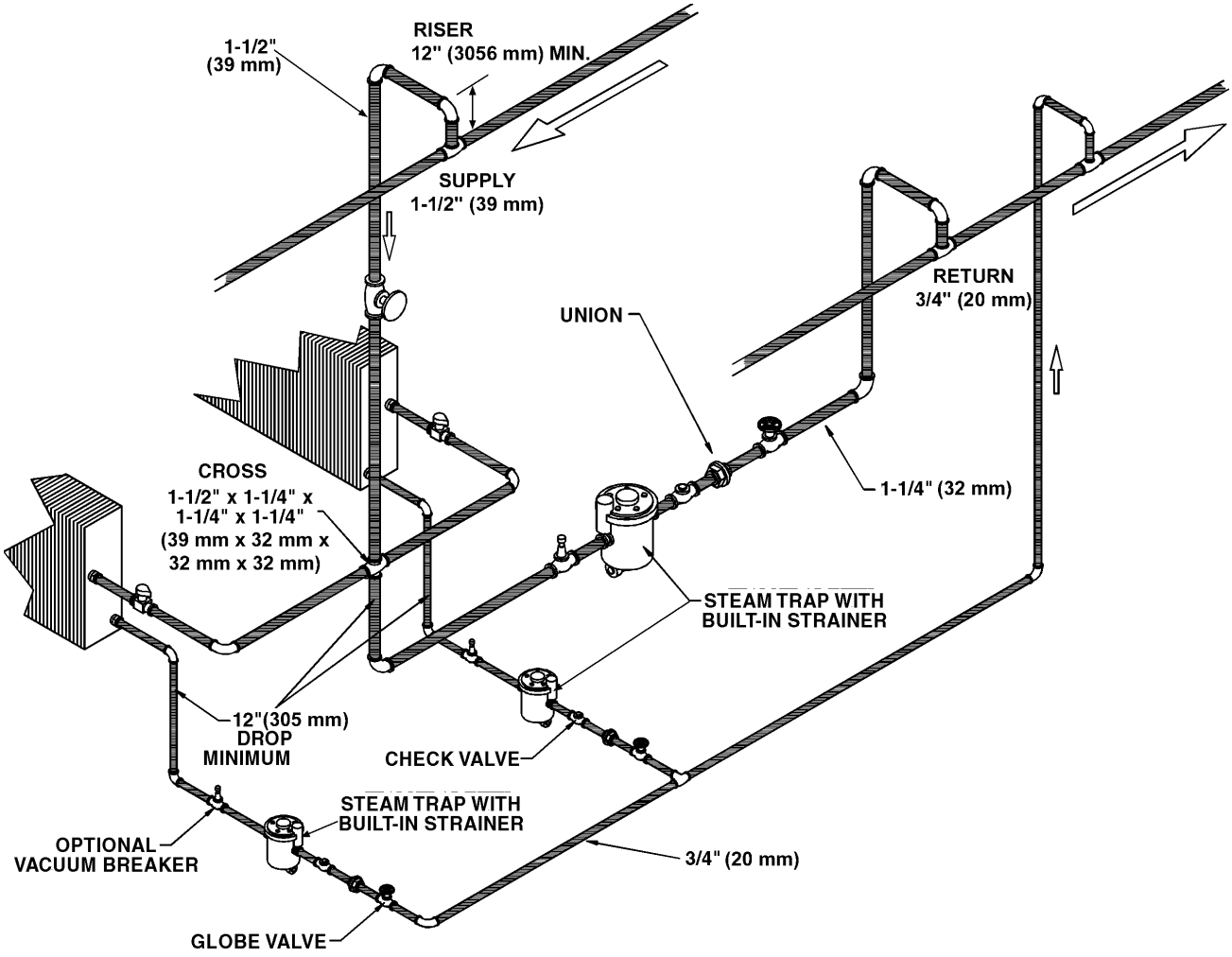
CAUTION: Low gas pressure and intermittent gas will cause gas ignition problems. This will cause inadequate drying of the clothes load.

NATURAL GAS ONLY

NATURAL GAS ONLY: Check the gas pressure inlet supply to the dryer, 11 inches WC pressure maximum. Check the manifold pressure, 3.5 inches WC pressure inside the dryer.

CAUTION: Gas loop piping must be installed as shown on the previous page, to maintain equal pressure for all dryers connected to a single gas service. Install other gas appliances upstream from the loop.

Specific gas pipe size should be obtained from your supplier or refer to the Gas Pipe Size Chart in this manual.



INDIVIDUALLY TRAPPED COILS ARE RECOMMENDED RATHER THAN MANFOLDING RETURN INTO ONE TRAP.

STEAM PIPING INSTALLATION INSTRUCTIONS

1. Set and anchor dryer in position. Machine should be level to assure proper steam circulation.

2. To prevent condensate draining from headers to dryer, piping should have a minimum 12" above respective header. Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.

3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wet steam, causing improper operation of dryer. If pockets or improper drainage cannot be eliminated, install a by-pass trap to drain condensate from the low point in the steam supply header to the return.

4. In both steam supply and steam return line, it is recommended that each have a union and a globe valve. This will enable you to disconnect the steam connections and service the dryer whole your plant is in operation.

5. Before connecting trap and check valve to dryer, open globe valve in steam supply line and allow steam to flow through dryer to flush out any dirt and scale from dryer. This will assure proper operation of trap when connected.

6. After flushing system, install bucket trap (with built-in strainer) and check valve. For successful operation of dryer, install trap 18" below coil and as near to the dryer as possible. Inspect trap carefully for inlet and outlet markings and install according to trap manufacturer's instructions. If steam is gravity returned to boiler, omit trap but install check valve in return line near dryer.

7. Install union and globe valve in return line and make final pipe connections to return header.

PIPING RECOMMENDATIONS

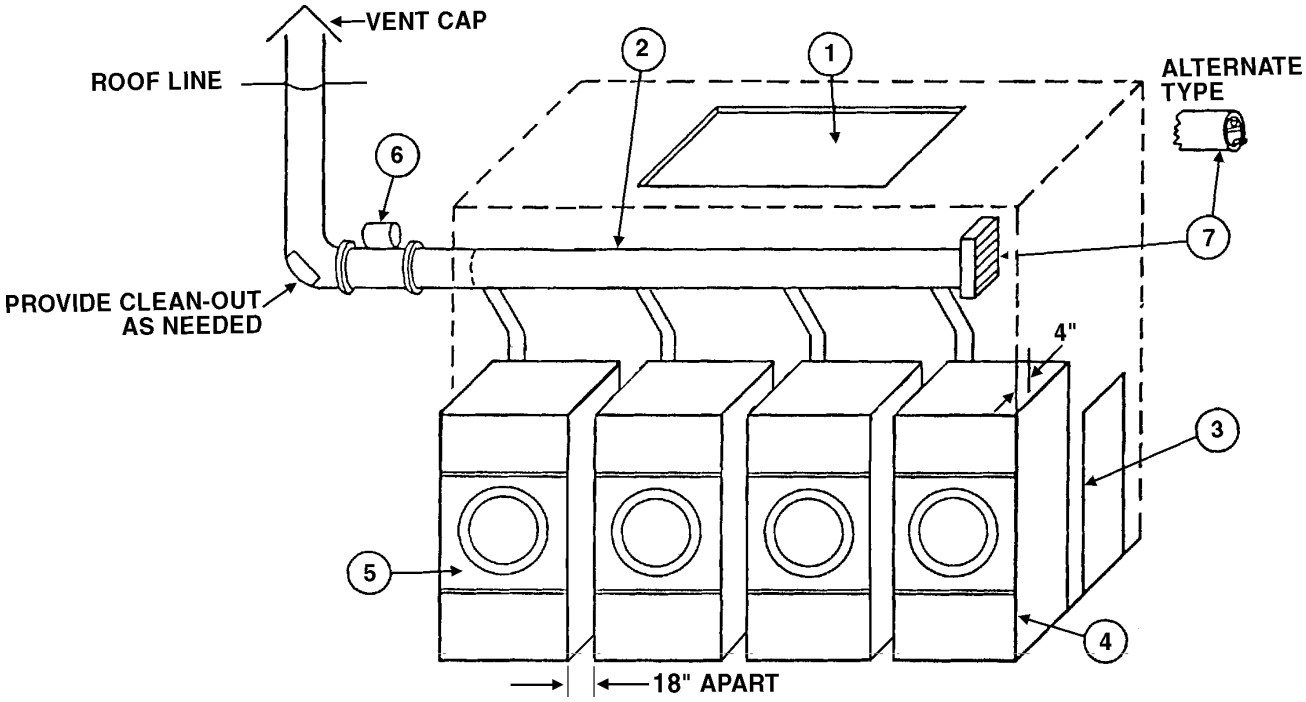
1. Trap each dryer individually. Always keep the trap clean and in good working condition.

2. When dryer is on the end of a line of equipment, extend header at least 4 feet beyond dryer. Install globe valve, union, check valve and by-pass trap at end of line. If gravity return to boiler, omit trap.

3. Insulate steam supply and return line for safety of operator and safety while servicing dryer.

4. Keep dryer in good working condition. Repair or replace any worn or defective parts.

Dryer Installation with Multiple Exhaust (Illustration)



DRYER INSTALLATION WITH MULTIPLE EXHAUST

For Exhaust Duct more than 14 feet and 2 elbows equivalent and more than 0.6 inches static pressure.

(See illustration on previous page.)

1. Make-up air from outside building may enter enclosure from top or side walls. For area of make-up air opening refer to "Minimum Dryer Make-up Air Requirments" chart at end of manual.

2. Use constant diameter duct with area equal to the sum of dryer duct areas.

   EXAMPLE: 6-8 inches diameter duct = (1) 19.6 inches diameter duct in area. Use 20 inches diameter duct or diameter to match tube-axial fan.

3. Enclosure (plenum) with service door. This separates the dryer air from room comfort air. If dryers use room air instead of outside air, the heat loss can be another 25 Btu/h for each cubic foot per minute (cfm) used.

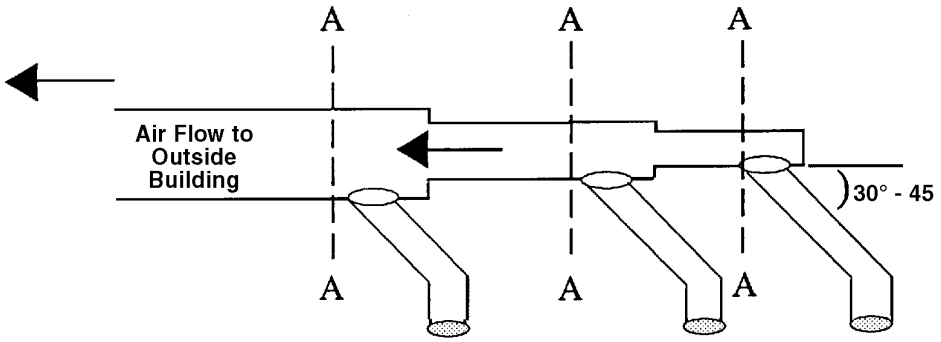
4. Heat loss into laundry room from dryer fronts *only* is about 60 Btu/h per square foot.

5. Flange mounted, belt driven tube-axial fan. Fan must be run when one or more dryers are running. *See suggested Automatic Electrical Control Wiring Diagram on next page.* Must meet local electrical codes. Fan air flow (cfm) is equal to sum of dryer air flows, but static pressure (SP) is dependent on length of pipe and number of elbows.

6. Barometric Bypass Damper - Adjust to *closed flutter position* with all dryers and exhaust fan running. Must be located with enclosure.

CAUTION
***Never* install hot water heaters or other gas appliances in the same room as dryers. *Never* install cooling exhaust fans in the same room as dryers.**

For Exhaust Duct less than 14 feet and 2 elbows equivalent and less than 0.6 inches static pressure.



DRYER EXHAUSTS

Area of section "A-A" must be equal to the sum of dryer exhaust pipes entering muliple exhaust pipe. *(See chart below.)*

MODELS: L28FD30, L28US30, L36FD30, L36UR30, L36CD36, L44FD42

No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Duct Diameter (in inches)	6	9	11	12	14	15	16	17	18	19	20	21	22	23	23	24	25	26	26	27	28	28	29	30
(in cm)	15	23	27	30	35	38	41	43	46	48	51	53	56	58	58	61	63	66	66	68	71	71	73	76

MODELS: L28CD30, L28UR30, L36CD30, L36UR30, L36CD36, L44FD42

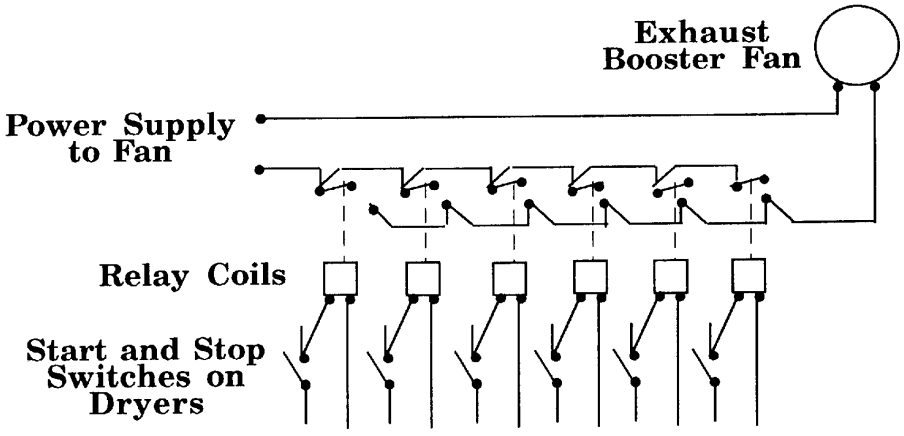
No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Duct Diameter (in inches)	8	12	14	16	18	20	22	23	24	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
(in cm)	20	30	25	41	46	51	56	58	61	66	68	71	73	76	78	81	84	86	89	91	94	97	99	100

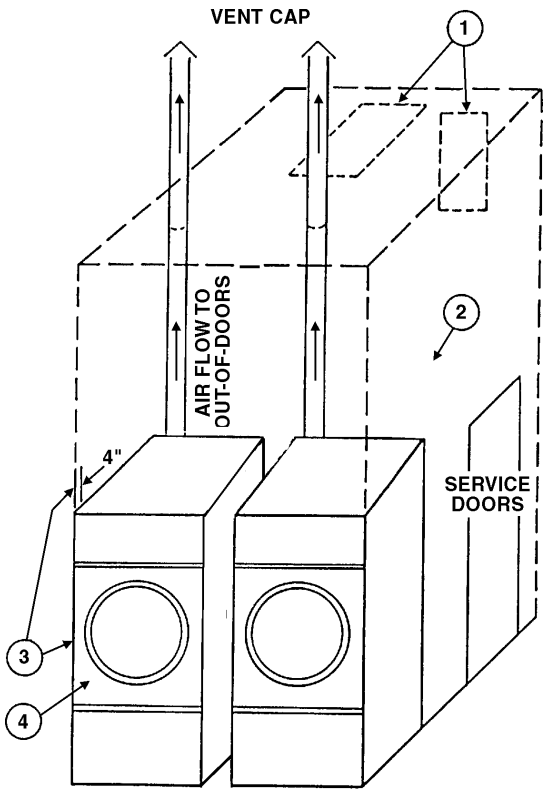
MODELS: L44CD42, L50CD42, L52CD48

No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12
Duct Diameter (in inches)	12	17	21	24	27	30	32	34	36	38	40	42
(in cm)	30	43	53	61	68	76	81	86	91	97	100	106

AUTOMATIC ELECTRICAL CONTROL FOR EXHAUST FAN

For one or more dryers to start fan.





DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)

For ductwork less than 14 feet and 2 elbows equivalent and less than 0.6 inches static pressure.

NEVER exhaust the dryer into a chimney.

NEVER install wire mesh screen over the exhaust or makeup air area.

NEVER exhaust into a wall, ceiling, or concealed space.

1. Make-up air opening from outside the building may enter the enclosure from the top or side walls. The area of the opening should be equal to 4 to 6 times the sum of the dryer duct areas. Provide 1 square foot for each 6 inches diameter; 2 square feet for each 8 inches diameter; and 4 square feet for each 12 inches diameter.

2. Enclosure (plenum) with service door. This separates the dryer air from the room comfort air. If dryers use room air instead of outside air, additional heat loss can be another 25 Btu/h for each cubic foot per minute (cfm) used.

3. Heat loss into laundry room from dryer front panels is about 60 Btu/h per square foot.

DRYER AIR FLOW INSTALLATION

Nothing is more important than air flow for the proper operation of a clothes dryer. A dryer is a pump which draws make-up air from the out-of-doors, through the heater, through the clothes and then forces the air through the exhaust duct back to the out-of-doors. Just as in a fluid water pump, there must be the proper fluid air flow out of the exhaust duct.

In summary, there must be the proper size out-of-doors inlet air opening (4-6 times the combined areas of the air outlet) and an exhaust duct, size and length of which allows flow through the dryer with no more than 0.6 inches water column static pressure in the exhaust duct.

In some instances, special fans are required to supply make-up air, and/or boost exhaust fans are required for both regular and energy savings models.

FOR BEST DRYING

FOR BEST DRYING:

1. Exhaust duct maximum length 14 feet of straight duct and maximum to two 90º bends.
2. Use 45º and 30º elbows wherever possible.
3. Exhaust each dryer separately.
4. **Do not** install wire mesh or other restrictions in the exhaust duct.
5. Use clean-outs in the exhaust duct and clean periodically when needed.
6. **Never** exceed 0.6 inches water column static pressure in the exhaust duct.
7. Inside surface of the duct must be smooth.
8. Recommend pop rivets for duct assembly.

FOR BEST DRYING

FOR BEST DRYING:

1. Provide opening to the out-of-doors in accordance with the following:

   For each dryer -

   8 inches diameter exhaust requires 2 square feet make-up air.

   12 inches diameter exhaust requires 4 square feet make-up air.

2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

OTHER RECOMMENDATIONS

OTHER RECOMMENDATIONS

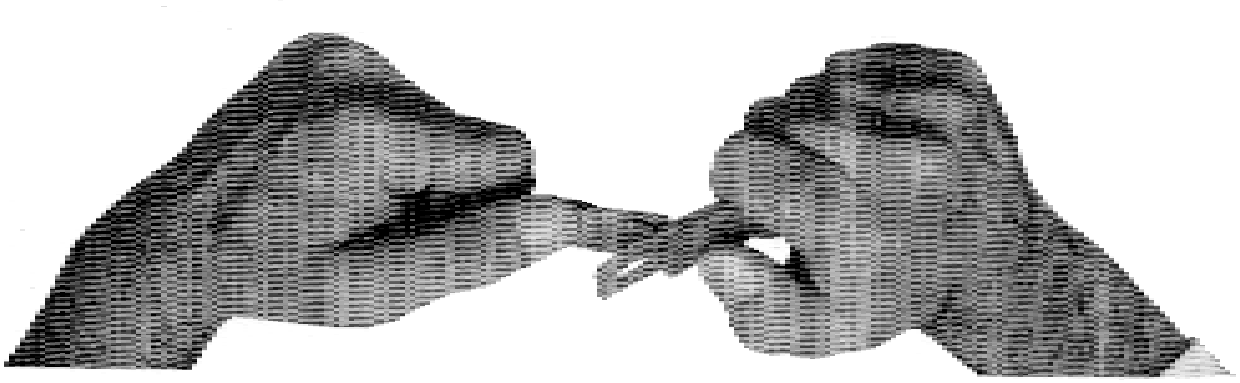
To assure compliance, consult local building code requirements.

TROUBLESHOOTING

TROUBLESHOOTING

Hot dryer surfaces, scorched clothes, slow drying, lint accumulations, or air switch malfunction are indicators of exhaust duct and/or make-up air problems.

The Fan Assembly is rated at 0.6” W.C. back pressure.



- Link Belts are adjustable for belt length.

* Please take links out to tighten fan belt. This may need to be done after dryer has been running for several days.

* If fan seems to be vibrating excessively, this may be an indication that the fan belt needs to be tightened.

RULES FOR SAFE OPERATION OF YOUR DRYER

RULES

1. Be sure your dryer is installed properly in accordance with the recommended instructions.

2. **CAUTION**
   Be safe - Shut main electrical power supply and gas supply off externally before attempting service.

3. **CAUTION**
   a. **Never** use dry cleaning solvents: gasoline, kerosene, or other flammible liquids in the dryer. **FIRE AND EXPLOSION WILL OCCUR!**

   b. **Never** put fabrics treated with these liquids into the dryer.

   c. **Never** use these liquids near the dryer.

   d. **Always** keep the lint screen clean; a full lint screen may be a fire hazard.

   e. **Never** use heat to dry items that contain plastic, foam, or sponge rubber, or rags coated with wax or paint. The heat may damage the material or create a fire hazard. Rubber easily oxidizes, causing excessive heat and possible fire. Never dry the above items in the dryer.

4. **Never** let children play near or operate the dryer. Serious injury will occur if a child should crawl inside and the dryer is turned on.

5. **Never** use the dryer door opening and top (or the lint drawer) as a step stool.

6. Read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed any warnings or precautions.

7. **Never** tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer and could cause skin irriatation if they become mixed into other fabrics.

8. **Reference** - Lighting and shutdown instructions and wiring diagrams are located on the rear wall of the dryer cabinet.

NOTE:
It is best to run a properly sized load of rags and/or old towels through one or two cycles prior to drying in service. This process will remove any films or residual coatings left by the manufacturing processes.

CAUTION

Synthetic solvent *fumes* from dry cleaning machines create acids when drawn through the dryer. These acid fumes cause rusting of painted parts, pitting of bright plated parts and completely removes the zinc from galvanized metal parts, such as the tumbler basket.

If the dry cleaning machines are in the same area as the tumbler, then the tumbler *make-up air* must come from a source free of solvent fumes.

ENERGY SAVING TIPS

ENERGY SAVING TIPS

1. Install dryer so that you can use short, straight venting. Turns, elbows and long vent tubing tend to increase drying time. Longer dry time means the use of more energy and higher operating costs.

2. Operate dryer using full-size loads. Very large loads use extra energy. Very small loads waste energy.

3. Dry lightweight fabrics separately from heavy fabrics. You'll use less energy and get more even drying results by drying fabrics of similar weight together.

4. Clean the lint screen after each load. A clean lint screen helps give faster, more economical drying.

5. Don't open the dryer door while drying. You let warm air escape from the dryer into the room.

6. Unload your dryer as soon as it stops. This saves having to re-start your dryer to remove wrinkles.

ABOVE 2,000 FEET

ELEVATIONS ABOVE 2,000 FEET

Input ratings shown on the rating plate (serial tag) are for elevations up to 2,000 feet. For elevations above 2,000 feet, rating should be reduced at a rate of 4% for each 1,000 feet above sea level.

TROUBLESHOOTING

To help you troubleshoot the dryer, we list below the most common reasons for service calls and some answers to the problems. Before you call service, please review the following items:

DRYER WON'T START

DRYER WON'T START

1. Is the door completely closed?
2. Are the controls set to the **"on"** position?
3. Is there time on both timers?
4. Did you push the **"push to start"** button?
5. Has a fuse blown or a circuit breaker tripped?
6. Are the fuses tight?
7. Check for low voltage.

DRYER WON'T HEAT

DRYER WON'T HEAT

1. Is the dryer set for **"cooling time"** rather than **"drying time"**?
2. Are the gas valve in the dryer and the gas shut off valve on the main gas line turned on?
3. Check for low or intermittant gas pressure.

CLOTHES ARE NOT SATISFACTORILY DRY

CLOTHES ARE NOT SATISFACTORILY DRY

1. *Timed cycle* - Did you allow enough heating time before the cool-down part of the cycle?
2. Is the lint screen blocked?
3. Is the exhaust duct to the outside clean and not blocked? *(A blocked exhaust will cause slow drying and other problems.)*
4. *(For Moisture Control models)* Was the moisture level setting incorrect? *(Too high?)*

GAS DRYER IGNITION

GAS DRYER IGNITION

Refer to the page on *"Instructions for the Direct Ignition System Operation".* Check to see if the manual gas valve is open. Then reset the dryer controls. All panels, covers, and doors must be in place and closed before starting the dryer. The ignition module ground wire must be securely grounded to the machine (both sides on gas unit).

VERY IMPORTANT
When calling the factory for service, always refer to the model number and serial number.

TROUBLE	CAUSE	REMEDY
Basket motor runs, but basket will not revolve.	V-Belt broken.	Replace V-Belt.
	V-Belt loose.	Adjust belt tension.
	Motor Pulley loose.	Tighten Set Screw.
	Basket overloaded.	Remove load.
Dryer noisy or vibrating.	Not leveled.	Check manual for proper leveling procedures.
	Fan out of balance.	Accidental damage to the fan blade can change the dynamic balance. Damaged fans should be replaced.
	Basket rubbing.	Adjust basket clearance.
	V-Belt sheaves.	Tighten Set Screws; make sure sheaves are in proper alignment.
	Belt.	Adjust belt tension.
	Foreign objects.	Occasionally screws, nails, etc., will hang in the basket perforations and drag against the sweep sheets surrounding the basket. Such foreign objects should be removed immediately.
Dryer runs but no heat. NOTE: This dryer has two ignition systems, valves, etc. Be sure to check both systems.	Incorrect voltage.	Check for correct control voltage - 24V.
	No voltage.	Check power supply, check secondary voltage on transformer and check wiring and wiring diagram.
	Spark igniter not sparking.	May be broken or defective high voltage lead. Module not receiving correct input to ignite. See pages 35-36 for Direct Spark Ignition process. Make sure ignition module ground wire is securely grounded to the machine (both sides).
	Defective gas valve.	Check continuity across unplugged valve. If defective, replace coil assembly.
	Gas turned off.	Turn manual gas valve "ON".

TROUBLE	CAUSE	REMEDY
Dryer runs, but no heat (continued).	Line fuse or heater circuit fuse blown to unit.	Replace fuse.
	Defective door switch.	Check continuity across contacts, opened & closed. If defective, replace door switch.
	Air switch not operating.	Clean out lint compartment daily. Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening. Check duct work for lint build-up. Check installation sheet to insure that duct work and make-up air openings are adequately sized. Check exhaust outlet. If a screen has been improperly installed on the outlet, it may be clogged with lint or frozen over in Winter. Never install a screen on the exhaust outlet. Vacuum within dryer drops to .09 inches of water column, or less, for normal operation of dryer, vacuum reading (in inches of water column) should range between .15 and .3 inches. Vacuum reading can be made with a vacuum U-gauge by removing a sheet metal screw in the back panel or right panel at front bottom corner and inserting the rubber tube of the vacuum gauge into screw opening.
	Air switch out of adjustment.	See air switch adjustment sheet in service section of manual.
	Air switch defective.	Check continuity across contacts, opened and closed. If defective, replace switch with power off.
	Gas pressure too low.	Check manifold pressure and adjust to pressure specified on rating plate. If this pressure cannot be obtained, have gas supplier check main pressure.
	Improper orifice.	Dryer is orificed for type of gas specified on rating plate. Check with gas supplier to determine specifications for gas being used. If different from rating plate, contact factory to obtain proper orifices.
	Electric power to heating unit turned off.	Turn power on.

TROUBLE	CAUSE	REMEDY
Dryer runs, but no heat (continued).	Defective thermostat.	Check continuity across thermostat. Limiting or safety thermostats are normally closed. If open, replace thermostat.
	Defective safety overload thermostat.	See above.
	Lint compartment drawer open.	Close drawer.
Main burners burning improperly.	Dirt in burner.	Blow out.
	Gas pressure too high.	Check rating plate for correct gas pressure.
	Orifice too large.	Send to factory for correct orifices.
	Restricted or blocked exhaust.	Clean exhaust.
	Incorrect or poor gas mixture.	Check with gas supplier for correct specifications of gas used; must match rating plate.
Low gas flame or high gas flame.	Incorrect main burner orifices.	Replace orifices -- check factory for correct size.
Dryer too hot.	Incorrect main burner orifices.	Replace orifices -- check factory for correct size.
	Inadequate make-up air.	Make-up air must be 4 to 6 times the exhaust area of the dryer.
	Lint accumulated.	Remove lint.
	Exhaust duct dampers.	Must be full open when dryer is in operation or replace.
	Gas pressure too high.	Adjust gas pressure as specified on rating plate. Check installation sheet in service section of
	Partially restricted or inadequately sized exhaust system.	manual for recommended sizes. Check for and remove obstructions or lint build-up from duct work. Never use smaller size exhaust duct. Always use larger size exhaust duct.
	Defective thermostat.	When flame or heat is passed over, thermostat circuit should open. Audible click will usually be heard. If continuity remains, thermostat is defective. Replace thermostat.

TROUBLE	CAUSE	REMEDY
Motor will not start.	No power.	Check fuses on circuit breakers. Make sure main control switch is ON.
	Incorrect power.	Check power source: voltage, phase, and frequency must be the same as specified on electrical rating plate.
	Time off.	Turn timer clockwise to desired time setting.
	Loose wiring connections.	Check wire connections in electrical box on rear of dryer.
	Defective starting relay.	Check coils and contacts.
Motor tripping on thermal overload.	Low voltage.	Check voltage at motor teminals. Voltage must be within (plus or minus) 10% of voltage shown on motor rating plate -- if not, check with local power company for recommended corrective measures.
	Inadequate wiring.	Check with local power company to insure that wiring is adequately sized for load.
	Loose connections.	Check all electrical connections and tighten any loose connections.
	Inadequate air.	Check installation sheet in service section of this manual for recommended make-up air openings.
	Poor housekeeping.	Clean lint accumulation on and around motors. Motors should not be covered with or filled with lint.
Basket motor will not run.	Loading door open.	Close door.
	Door switch out of adjustment.	Adjust switch by removing cover and bend actuator lever to clear switch button 3/8” with cover in place.
	Defective door switch	Check continuity across switch with power off, in closed and open switch. If no continuity, replace switch.
	Defective basket motor contactor.	Push in contactor trip button. If motor starts, check voltage going to pull-in solenoid. If present, replace contactor. If not, problem is before motor contactor.
Basket will not reverse.	Reversing timer.	Adjust timer (see Maintenance Section).
		Check timer to see if it is working.

TROUBLE	CAUSE	REMEDY
Dryer does not stop at end of time period (6).	Defective timer.	Replace timer.
Dryer runs no steam to coils.	Valve closed.	Check all valves in steam supply and return -- make sure they are open.
	Steam trap blocked.	Remove and clean. Replace if defective.
	Solenoid valve.	On dryers using solenoid temperature control, check operation of solenoid valve by advancing thermostat.
	Thermostat.	On dryers using solenoid temperature control, thermostat controls operation of solenoid valve. If defective, replace thermostat.
	Check valve installed incorrectly.	Check for inlet and outlet marking on check valve, and invert if necessary.
	Strainer clogged.	Remove plug and blow down strainer or remove and clean thoroughly if heavily clogged.
Water in steam line.	Steam piping installed incorrectly.	Check piping per steam installation instructions.
	Trap not functioning.	Check trap for size and capacity. If dirty and sluggish, clean thoroughly or replace. Check return line for high back pressure, or another trap charging against the trap functioning improperly. Check voltage to damper motors.
No heat to drum	Dampers not operating correctly.	Adjust dampers to close when calling for heat.

Setting menu

Structure of setting menu

The setting menu is subdivided in three submenus.

Technical menu.

A dryer can be configurated according it's own technical characteristics.
For example, is it a dryer with reversing of the drum, is the dryer equipped with a residual moisture measuring system etc...
This menu is programmed by the manufacturer and does usually not have to be modified.

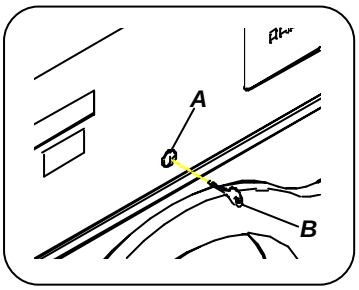
Programmation menu.

To program the programs.

Display menu.

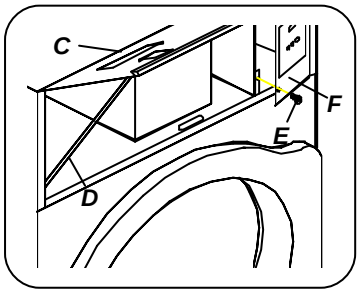
To recall data such as supplied labour time of a dryer.

Selection of setting menu

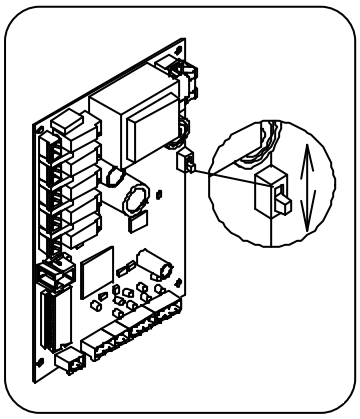


In order to select the setting menu, the switch at the back of the printplate has to be pulled.

To reach the switch :
- Turn the lock (A) with the delivered key (B) 90°anticlockwise.

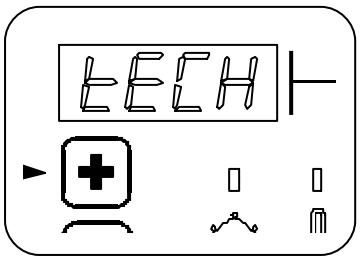


- Open the top frontpanel (C) and put the support (D) at the left side under this panel in the provided clamp.
- Remove the screw (E) in the operating door (F).
- Then open this door.



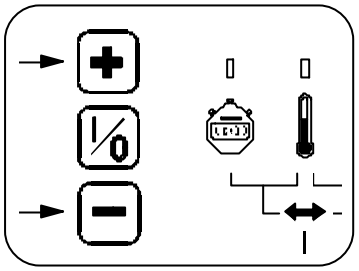
Behind this, at the backside of the printplate you find the switch.

By pulling the switch downwards, you reach the ***setting menu***.



When pulling the selection switch in the upper position, "***IPSO***" appears and afterwards "***TECH***" on the upper display.

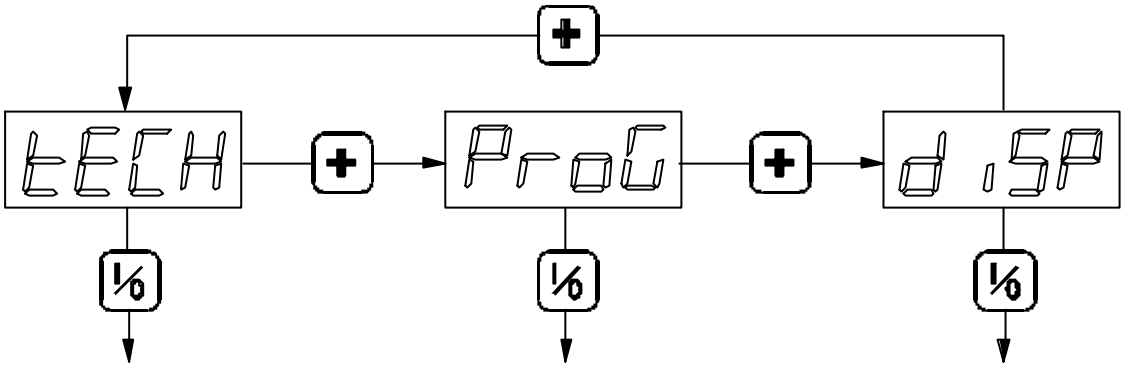
Selection of submenus



Selection of submenus or programmation of parameters in these submenus is done by means of the three push buttons in front of the operating panel.
Select with the "+" button one of the submenus and then push the middle button in order to confirm the selection.

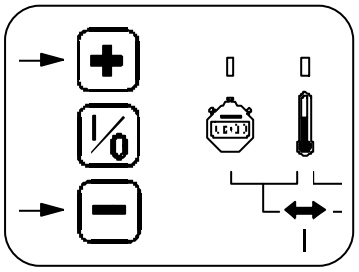
XX

If necessary, change this value (default 5 seconds) by means of the + or - button between 5 and 99 seconds.



TECHNICAL MENU ***PROGRAMMATION MEMU*** ***DISPLAY MENU***

Remark



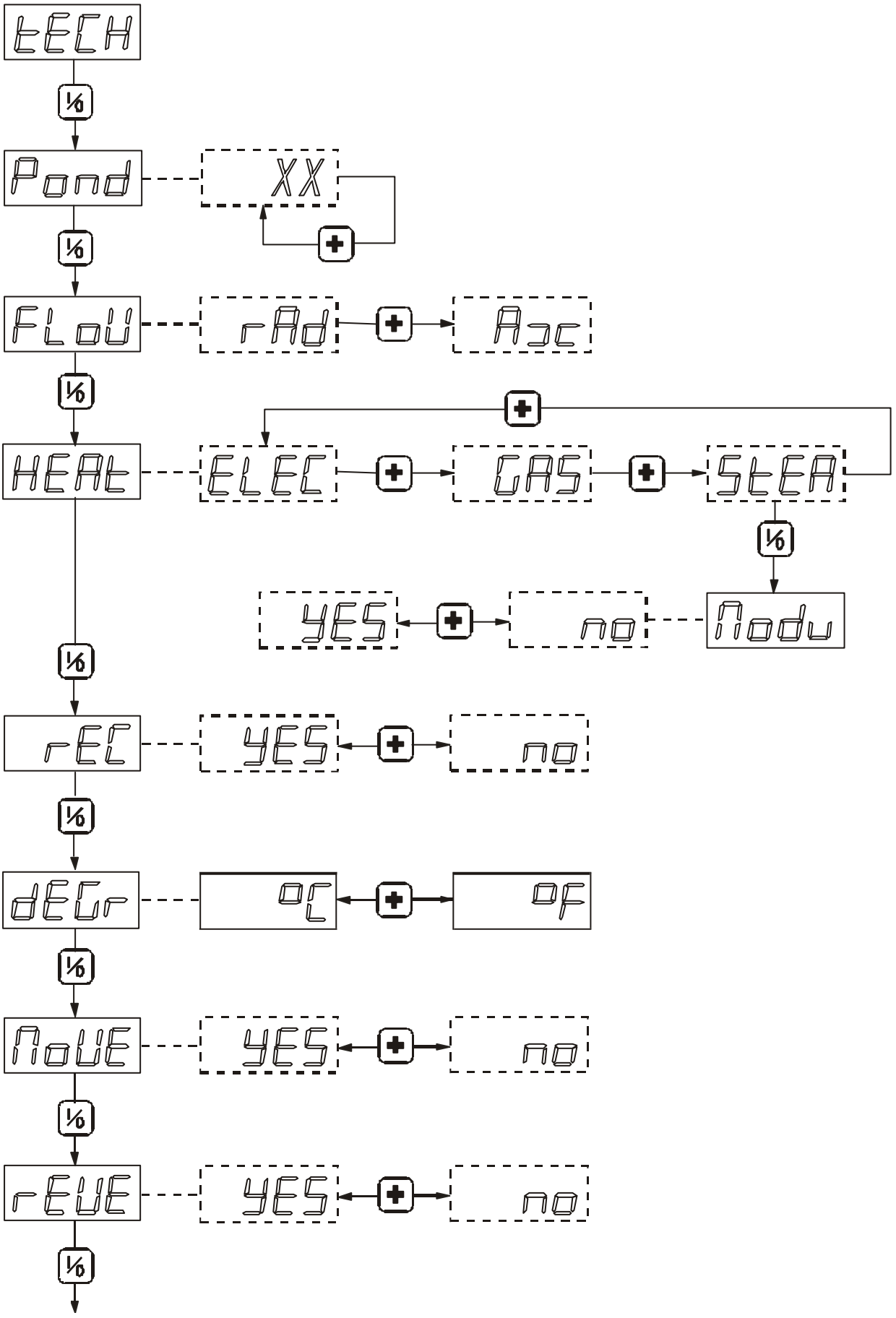
Operation of the push buttons.

Only when a button is pushed and released afterwards, the action is done.
Extremely hard or long pressing the buttons is totally useless. A light or short push gives a correct operation.

Return to selection or programmation.

With the following action, it is always possible to return to the previous step of selection or to programmation.

- Push the middle button and keep it pressed.
- Then push (while the middle button is still pressed) shortly the lower button.
- Next release the middle button and the previous step is shown.


tECH
Pond
XX
FLoU
rAd
Asc
HEAt
ELEC
GAS
StEA
YES
no
Modu
rEC
YES
no
dEGr
°C
°F
MoUE
YES
no
rEUE
YES
no

Technical menu

TECH

Press the middle button to continue.

Pond

The lower display shows the drum capacity of the dryer.

If necessary, select another value with the upper button.
Press the middle button to continue.

FloW

To program whether the dryer operates with radial or axial airflow in the drum.
- ***rAd***: Radial current of air means that the air flows from the top to the bottom of the drum.
- *Ax* : Axial current of air means that the air flows from the back to the front of the drum.

If necessary, change this programmation with the upper button.
Press the middle button to continue.

HEAt

The lower display shows the kind of heating system that is built in.
- ***ELEC***: electric heating.
- ***GAS***: gas heating
- ***STEA***: steam heating

Modu

If the machine is steam heated (StEA), you continue to "Modu" (modulation) and select whether the heating should work modulating (pulsing) or not.

If necessary, change this programmation with the upper button.
Press the middle button to continue.

rEC

Now the lower display shows (with YES or no) whether the dryer is equipped with heat reclaimer.

If necessary, change this programmation with the upper button.
Press the middle button to continue.

dEGr

The lower display shows whether the temperature indication will be in ***°C*** or ***°F***.

If necessary, change this programmation with the upper button.
Press the middle button to continue.

MoVE

The lower display shows (with YES or no) whether the rotating detection is built in.

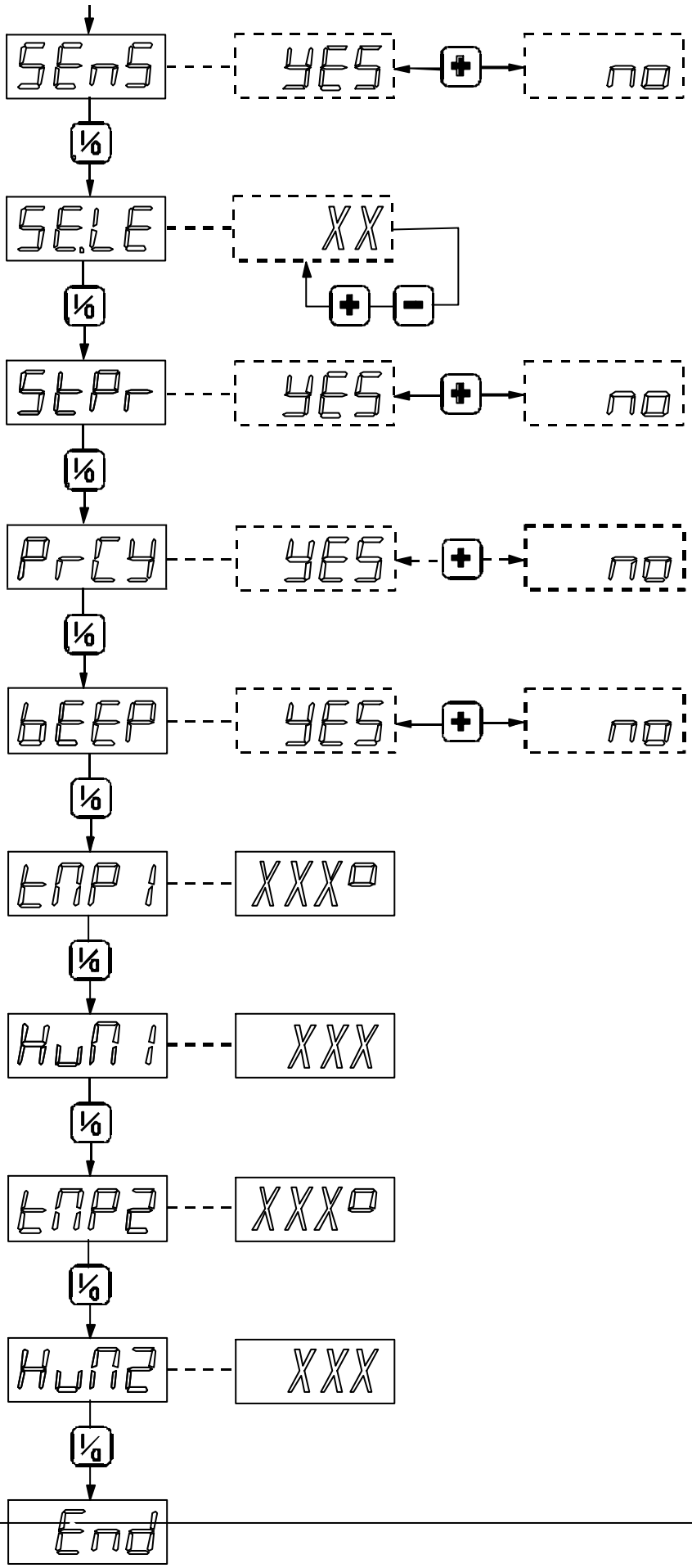
If necessary, change this programmation with the upper button.
Press the middle button to continue.

rEVE

Now the lower display ***(YES** or **no)*** shows whether the dryer can operate reversing (left-right movement).

If necessary, change this programmation with the upper button.
Press the middle button to continue.

When "no" was selected, you proceed to "***bEEP*** "


SEnS
YES
no
SELE
XX
StPr
YES
no
PrCY
YES
no
bEEP
YES
no
tMP 1
XXX°
HuM 1
XXX
tMP2
XXX°
HuM2
XXX
End

SEnS

Now it is shown on the bottom display (***YES*** or ***no***) whether the dryer is equipped with a residual moisture system with humidity sensors.
Change this setting, if necessary, with the top button.
Press the middle button to continue.

If "no" was selected, then the display switches immediately to "***bEEP***"

SE.LE

The bottom display indicates the calibration of the humidity sensors (***Sensor level***). This is normally set at 5. If the drying results are continuously too dry or too humid, then this value can be changed between 0 and 10. The lower this factor is set, the dryer are the drying results. Is this value higher, then the drying results are more humid.

If this factor is changed, then this will automatically have an influence on all drying programmes with residual moisture control. It is normally not necessary to change this factor. It is only meant to give the technicians the possibility to optimize the drying results when the dryer is used in rather unusual environments.

Change this setting, if necessary, with the top button.
Press the middle button to continue.

St.Pr

Now the bottom display indicates (***YES*** or ***no***) whether the standard programmes (31-40) should be shown.
Change this setting, if necessary, with the top button.
Press the middle button to continue.

Pr.CY

Here the bottom display indicates (***YES*** or ***no***) whether the cycle contact needs to be programmable. If yes, then the cycle contact will during the cycle close and open again alternately (pulsating function). If ***"no"*** is selected, then the contact will be closed during the entire drying cycle.
Change this setting, if necessary, with the top button.
Press the middle button to continue.

bEEP

The bottom display indicates (***YES*** or ***no***) whether a buzzer will sound at the end of the cycle.
Change this setting, if necessary, with the top button.
Press the middle button to continue.

tMP.1

The bottom display indicates the temperature inside the cylinder. This is meant as a test of the temperature sensor.
Press the middle button to continue.

If "no" was selected with ***"SEnS"***, then the display will automatically go on to ***"End"***

HuM.1

The bottom display now indicates the humidity inside the cylinder. This is meant as a test of the humidity sensor.
Press the middle button to continue.

tMP.2

The bottom display now indicates the temperature in the room. This is meant as a test of the temperature sensor.
Press the middle button to continue.

HuM.2

The bottom display now indicates the humidity in the room. This is meant as a test of the humidity sensor.
Press the middle button to continue.

End

This is the end of the technical menu
Press the middle button to continue.

Now the display shows IPSO for a while and then goes back to the beginning of the technical menu.

Programmation menu

Structure

With the “PRO”, ***2 variable and 3 fixed programs*** can be preprogrammed.

The variable programs *"MAnU "* and *"AutO "*

At the start, the user will have to program himself some data such as drying temperature, drying time or residual moisture and cooldown time.

The fixed programs *"1- 30 "*

The user will be able to start these programs immediately after the selection. They can be built up in different parts. This way, for example, the temperature can be programmed higher at the start of a program in order to obtain a quicker drying - and decreased at the end, to avoid shrinking.

Remark :

If the residual moisture control system is not used, then there is only 1 variable programme available.

The programmes can be programmed according to 2 kinds of drying systems.

Manual drying system

Drying by means of setting the drying time.

Automatic drying system

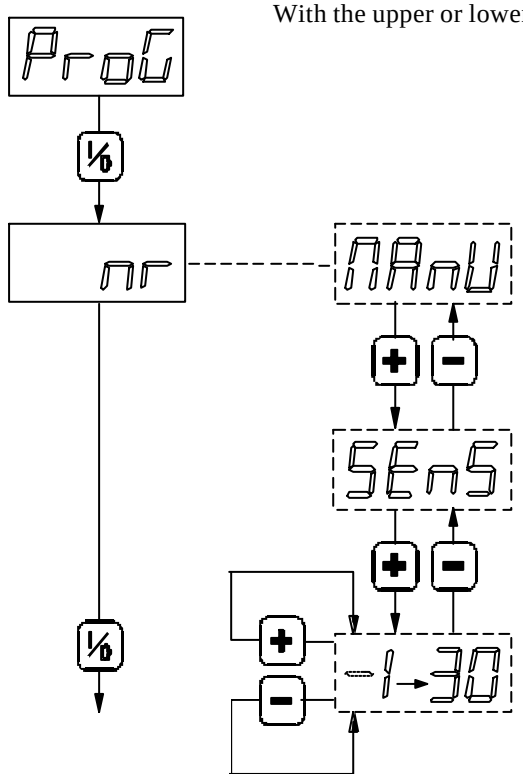
Drying by means of setting the residual moisture of the linen.

Remark :

If the residual moisture control system is not used, then it is not possible to use the automatic drying system.

Selection of the programs

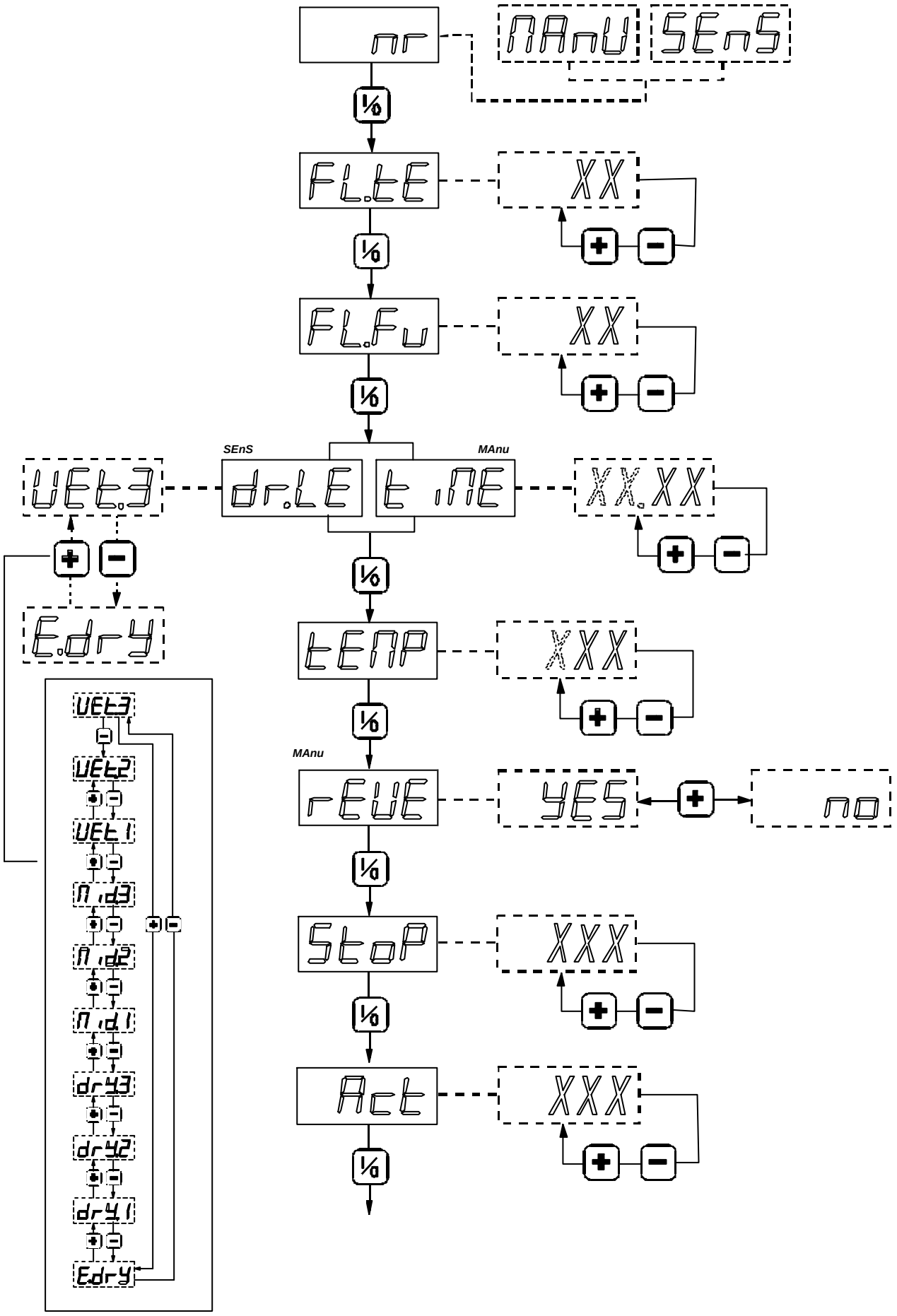
Press the middle button.
" ***nr*** " appears on the upper display while the lower display shows the name or number of the program to be programmed.
With the upper or lower button you have to select now :



MAnU: This is the ***variable*** program for ***manual*** drying.

SEnS: This is the variable programme for ***automatic drying.***
This programme is not shown if the humidity sensors are not connected.

1-30: These are the ***fixed*** programs.
When a program was ***not programmed***, a - ***sign*** is placed before this program number.
Confirm the selection with the middle button.


nr
MAnU
SEnS
FL.tE
XX
FL.Fu
XX
SEnS
MAnu
UEt3
dr.tE
t .mE
XX.XX
E.dr4
tEMP
XXX
MAnu
rEUE
YES
no
StoP
XXX
Act
XXX
UEt3
UEt2
UEt1
n.d3
n.d2
n.d1
dr43
dr42
dr41
E.dr4

Programmation of variable programs

Manu or SEns

Press the middle button

FL.tE (flash temperature - default 5)

On the lower display appears how many seconds the temperature indication during the drying cycle has to appear.

The combination of parameters ***FL.tE*** and ***FL.FU*** (see further) will result in an alternate indication of the remaining drying time or residual moisture and temperature.

If necessary, change this programmation with the upper or lower button (from 0 to 60 seconds) and confirm afterwards with the middle button.

FL.Fu (flash function - default 10)

On the lower display appears how many seconds the remaining drying time during the drying cycle has to appear.

If necessary, change this programmation with the upper or lower button (from 0 to 60 seconds) and confirm afterwards with the middle

---

⚠ If one of these programmations was equal to “0”, this indication will not appear.

---

tiME (time - default 30) or dr.LE (dry.level default drY1)

The bottom display shows ***the drying time*** for the variable manual programme, or ***the residual moisture level*** of the linen for the automatic variable programme. This value can be changed by the user (see operating instructions).

Change this setting, if necessary, by means of the top or bottom button and confirm with the middle button.
The drying time can be set between 1 and 99 minutes. The residual moisture level can be selected between 10 different levels. The level “Wet 3” stands for the most humid drying result, the level “E.drY” (extra dry) for the dryest drying result. Inbetween it is possible to select 8 other levels (Wet2, Wet1, Mid3, Mid2, Mid1, drY3, drY2, drY1).

tEMP (temperature - default 40 of 104)

On the lower display appears the drying temperature. This value can be changed by the user (see operating instructions)..

If necessary, change this programmation with the upper or lower button (0° to 92 °C - 32 to 198 °F) and confirm afterwards with the middle button.

rEVE (reversing - default YES)

By means of the top button, you can select ***“YES”*** or ***“no”*** to program whether the drum has to be reversing during the dry time of this cycle.
Confirm the programmation afterwards with the middle button.

⚠ When in the setting menu at ***“rEVE”***, no was programmed, this parameter will not be given and you will go to ***"CY.on"*** or ***“C.tiM”***.

During the programmation of the automatic program, this parameter will not be given and you will go to ***“StoP”***.

When ***“no”*** is selected, you go immediately to ***"CY.on"*** or***“C.tiM”***.

StoP (stoptime - default 5)

On the lower display appears the time that the drum has to stand still during a left-right action.

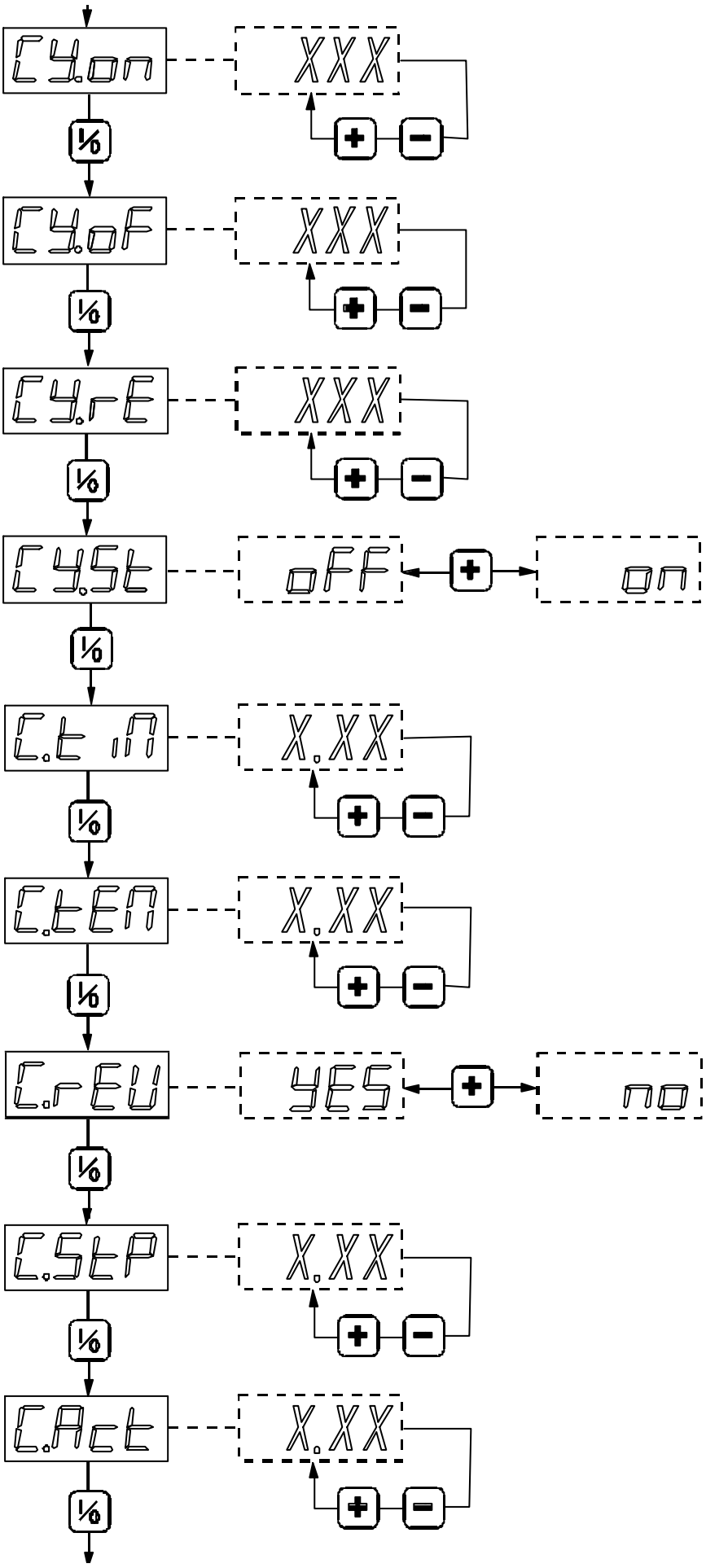
If necessary, change this programmation with the upper or lower button (5 to 10 seconds) and confirm afterwards with the middle button.

Act (actiontime - default 30)

On the lower display appears the time that the drum has to turn left or right.

If necessary, change this programmation with the upper or lower button (5 to 120 seconds) and confirm afterwards with the middle button.

⚠ If ***“no”*** was selected in the technical menu with “Pr.CY”, you proceed automatically to ***"CY.on"*** or ***“C.tEM”***.


Cy.on
XXX
Cy.oF
XXX
Cy.rE
XXX
CySt
oFF
on
C.t in
X.XX
C.tEn
X.XX
C.rEU
YES
no
C.StP
X.XX
C.Act
X.XX

CY.on (Cycle on)

Here the pulsating function of the cycle contact can be programmed.

The bottom display shows the time during which the cycle contact needs to be closed.

Change this setting when necessary by means of the top or bottom button (0 to 24000 seconds) and then confirm by means of the middle button.

⚠ If "0" is selected, you proceed immediately to ***"C.tiM"***.

CY.of (Cycle off)

The bottom display shows the time during which the cycle contact (during pulsating function) needs to be opened.

Change this setting when necessary by means of the top or bottom button (5 to 2400 seconds) and then confirm by means of the middle button.

⚠ This parameter is not shown when "0" was selected with "Cy.on".

CY.rE (Cycle repeat)

The bottom display shows how many times the contact needs to close and open.
Change this setting when necessary by means of the top or bottom button (1 to 99 pulses) and then confirm by means of the middle button.

CY.St (Cycle start)

The bottom display shows how the pulsating function of the cycle contact will start.
OFF : the cycle contact will first remain open during the time chosen with ***(CY.of)***.
On : the cycle contact will first remain closed during the time chosen with ***(CY.on)***

Change this setting when necessary by means of the top or bottom button (***on-off*** pulses) and then confirm by means of the middle button.

C.tiM (cooltime - default 2)

On the lower display appears the cooltime. This value can be changed by the user (see operating instructions).
If necessary, change this programmation with the upper or lower button (1 to 30 minutes) and confirm afterwards with the middle button

C.tEM (temperature - default 30 or 86)

On the lower display appears the cool down temperature. This value can be changed by the user (see operating instructions).

If necessary, change this value with the uper or lower button (30 to 40 °C - 86 to 105 °F) and confirm afterwards with the middle button.

C.rEV (cool reverse - default YES)

With the middle button, you can select ***"YES"*** or ***"no"*** to program whether the drum has to turn left/right or not during the cool down time of this program.

⚠ When in ***the setting menu*** at ***"rEVE", no*** was programmed, this parameter will not be given and you will go to ***"G.tiM"***.

During the programmation of the ***automatic program***, this parameter will not be given and you will go to ***"C.StoP"***.

When ***"no"*** is selected, you go directly to ***"G.tiM".***

C.StP (cool stoptime - default 5)

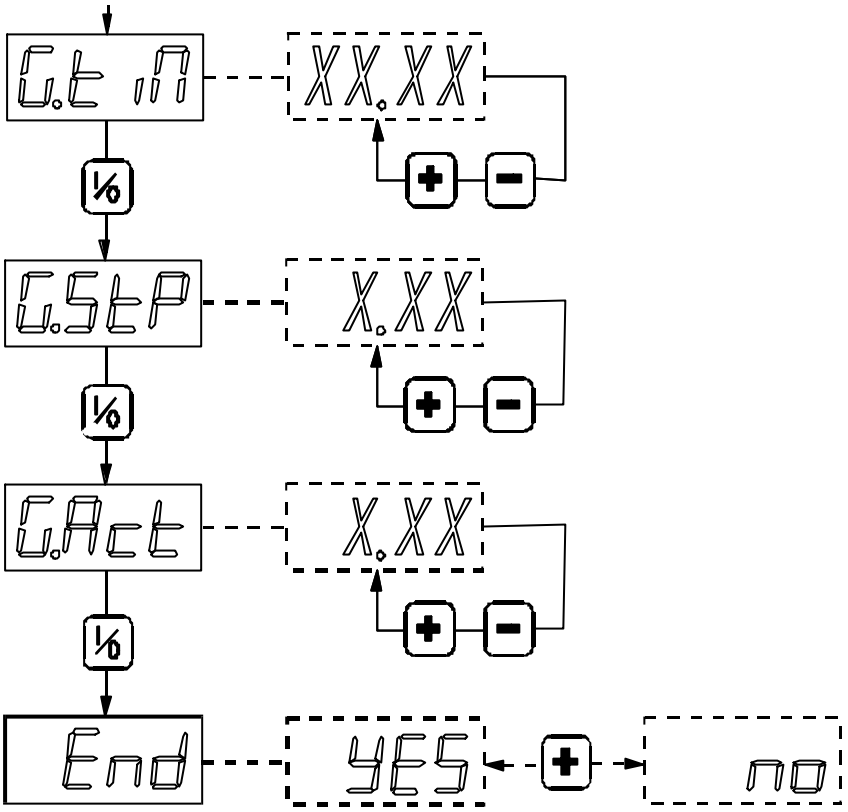
On the lower display appears the time that the drum has to stand still between a left-right action during the cool down time.

If necessary, change this programmation with the upper or lower button (5 to 120 seconds) and confirm afterwards with the middle button.

C.Act (cool actiontime - default 30)

On the lower display appears the time that the drum has to turn left or right during the cool down time.

If necessary, change this programmation with the upper or lower button (5 to 120 seconds) and confirm afterwards with the middle button.


G.t in
XX.XX
G.StP
X.XX
G.Act
X.XX
End
YES
no

G.tiM (Guard time - default 30)

On the lower display appears the guard time (anti-crease time). During this time (when cool down time is over) by moving the drum shortly now and then, creasing of the linen can be avoided.
If necessary, change this programmation with the upper or lower button (0 to 99 minutes) and confirm afterwards with the middle button.

G.STP (Guard stoptime - default 120)

On the lower display appears the time that the drum has to stand still between the drum actions during the anti-crease time.

If necessary, change this programmation with the upper or lower button (5 to 240 seconds) and confirm afterwards with the middle button.

G.Act (Guard actiontime - default 5)

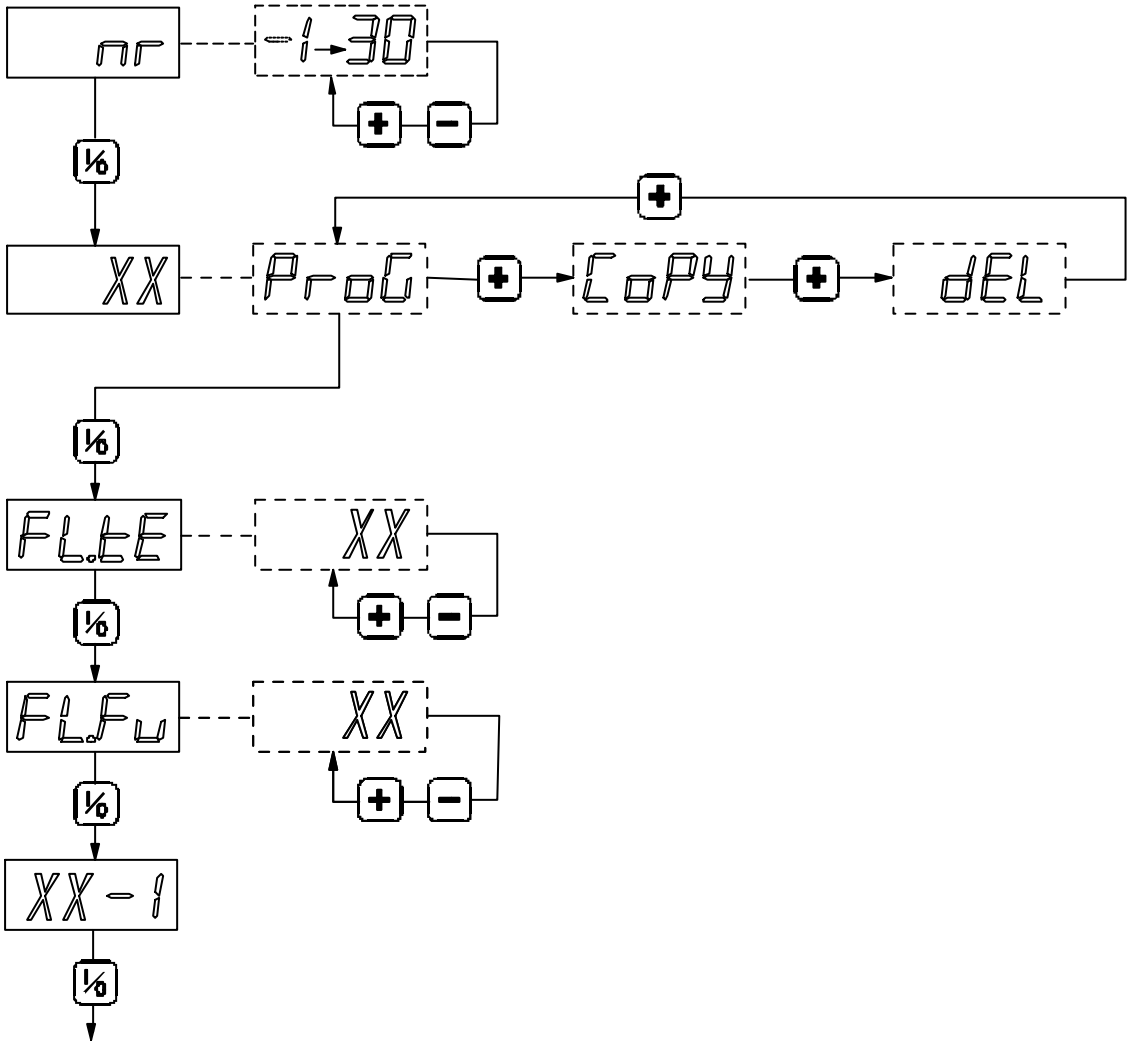
On the lower display appears the time that the drum has to be activated during the anti-crease time.

If necessary, change this programmation with the upper or lower button (5 to 240 seconds) and confirm afterwards with the middle button.

When in ***the setting menu*** at ***"rEVE"***, ***"YES"*** was programmed, this action time will be executed left and right alternately

End

The programmation of the variable manual program has ended here.
On the lower display appears ***YES***. By pushing the ***middle button, you leave the programmation menu***.
Select by means of the upper button ***no*** to program another program and confirm with the middle button.


nr
-1→30
XX
ProG
CoPy
dEL
FLtE
XX
FLFu
XX
XX-1

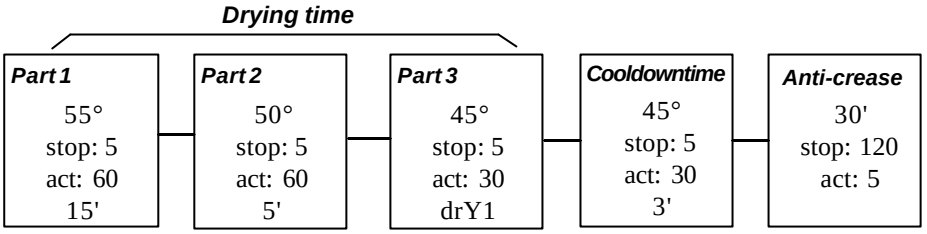
Programmation of the fixed programs

The drying time of these programs can be built up in different subdivisions (max. 9).
This way, it is possible to for example in the beginning of a drying time work with a higher temperature - in order to achieve a quicker drying - while to the end, this temperature - to avoid shrinking of the linen - will be decreased.

These programs can be built up manual, automatic or in combination of these two drying systems.

> ***Remark***
>
> When no residual moisture measuring system is used, only manual drying system is possible.

Example :
Drying program 50 ° :



1-30

On the lower display a program number is mentioned. Select a program number by means of the upper or lower button.

Confirm your selection with the middle button.

⚠ If a ***"- sign"*** appears before the number, this means that this program number does not contain a program, and you go immediately to ***"FL.tE"***.

XX

On the upper display, the selected program number is given.
"ProG" appears on the lower display. Now by pressing the upper button, you can possibly select out of ***"CoPY"*** or ***"dEL"***.

ProG: To program a program.

CoPY: To copy a program to another program number. So, the program can be used as basis and this can save a lot of programmation time (see further copying a program)

dEL: To delete a program (see further deleting a program).

Press the middle button to confirm your selection.

FL.tE (flash temperature - default 5)

On the upper display appears how many seconds the temperature indication has to be mentioned during the drying cycle.

The combination of the parameters ***FL.tE*** and ***FL.FU*** (see further) will result in an alternate indication of the residual drying time or residual moisture and the temperature.

If necessary, change this programmation with the upper or lower button (0 to 60 seconds) and confirm afterwards with the middle button.

FL.Fu (flash function - default 10)

On the lower display appears how many seconds the residual drying time during the drying cycle has to be mentioned.

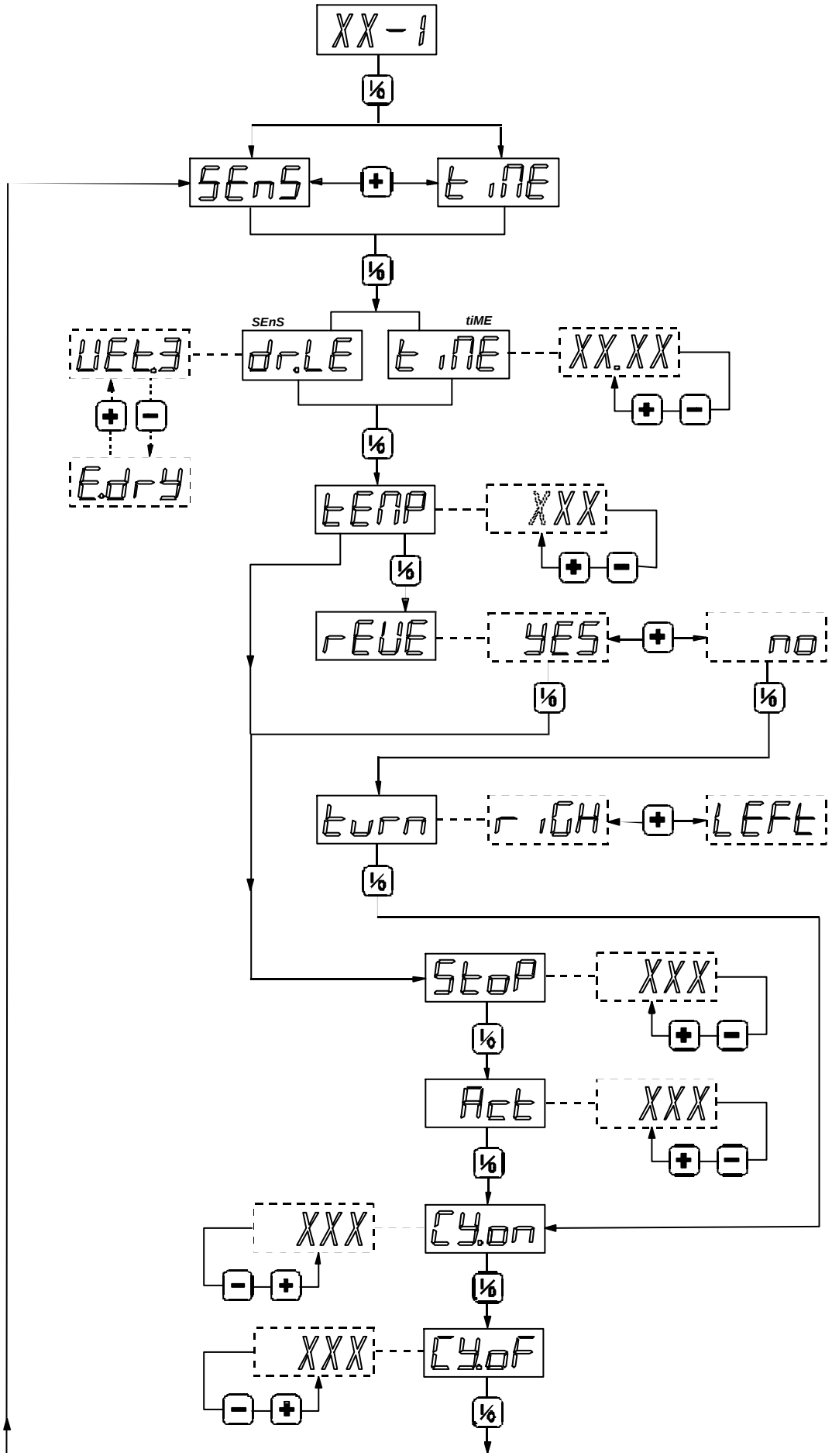
If necessary, change this programmation with the upper or lower button (0 to 60 seconds) and confirm afterwards with the middle button.

⚠ If one of these programmation is equal to "0", this indication will not be given.

Now, the first program subdivision has to be programmed.

XX-1

The program number and afterwards the first subdivision number is mentioned.
Press the middle button.


XX-1
SEnS
tiME
SEnS
tiME
dr.LE
XX.XX
YES
no
XXX
rIGH
LEFt
XXX
XXX
XXX

XX-1

TiME of SEnS

By means of the top button you can select between :

TiME : drying by setting the drying time.
SenS : drying by setting the residual moisture of the linen.

Confirm this selection by means of the middle button.

The bottom display now shows the drying time or the programmed residual moisture level of the linen.
Change this drying time (between 1 and 99 minutes) - or select one of the 10 residual moisture levels (Wet3, Wet2, Wet1, Mid3, Mid2, Mid1, drY3, drY2 drY1 or E.drY) by means of the top or bottom button.

Then confirm the setting by means of the middle button.

tEMP (temperature - default 40 of 104)

On the lower display appears the drying temperature for this subdivision.

If necessary, change this programmation with the upper or lower button (0 - 92 ° C - 32 to 198 °F) and confirm afterwards with the middle button.

rEVE (reversing - default YES)

By means of the top button, you can select ***"YES"*** or ***"no"*** to program whether the drum has to be reversing during this subdivision and confirm the programmation afterwards with the middle button.

⚠ When in the setting menu at ***"rEVE"***, no was programmed, this parameter will not be given and you will go *"CY.on"* ***or to the end of this subdivision***.

During the programmation of a subdivision with residual moisture measuring, this parameter will not be given and you will go to ***"StoP"***.

When ***"no"*** is selected, you go to ***"turn"***.

When ***"YES"*** is selected, you go to ***"StoP"..***

StoP (stoptime - default 5)

On the lower display appears the time that the drum has to stand still during left-right action.

If necessary, change this programmation with the upper or lower button (5 to 10 seconds) and confirm afterwards with the middle button.

Act (actiontime - default 30)

On the lower display appears the time that the drum has to turn left or right.

If necessary, change this programmation with the upper or lower button (5 to 120 seconds) and confirm afterwards with the middle button. You will go to ***"CY.on"*** or ***"XX-1"***.

turn

By means of the upper button you have to select the direction of rotation of the drum
righ: right (clockwise)
left: left (anticlockwise)

Confirm the programmation afterwards with the middle button and you go to ***"CY.on" or " XX-1"***.

CY.on (Cycle on)(default 0)

Here the pulsating function of the cycle contact can be programmed.

The bottom display shows the time during which the cycle contact needs to be closed.

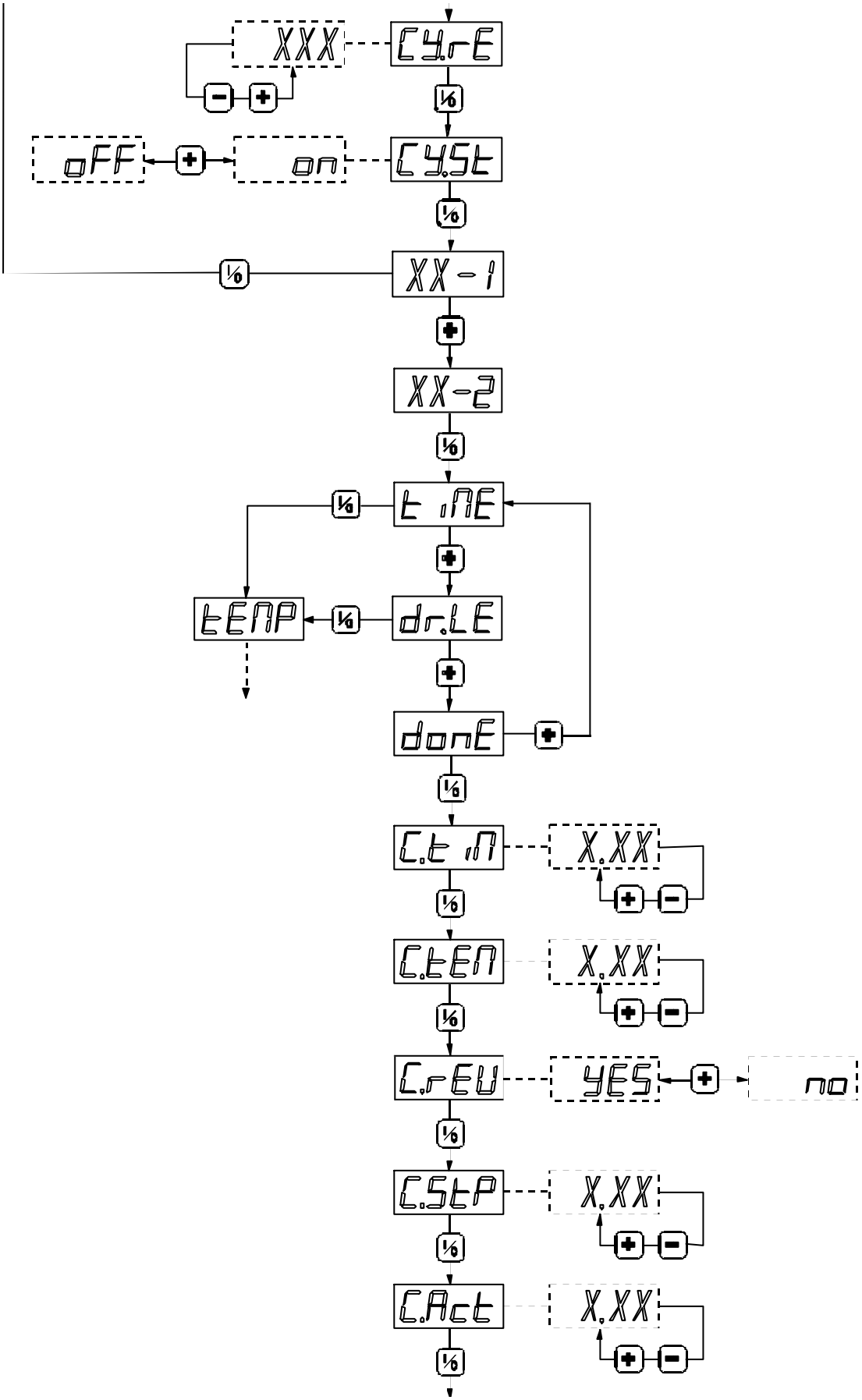
Change this setting when necessary by means of the top or bottom button (0 to 2400 seconds) and then confirm by means of the middle button.

⚠ If "0" is selected, you proceed immediately to "XX-1".
If "no" was selected in the technical menu with "Pr.CY", you proceed automatically to "XX-1" and this parameter is not shown.

CY.of (Cycle off)(default 5)

The bottom display shows the time during which the cycle contact (during pulsating function) needs to be opened.
Change this setting when necessary by means of the top or bottom button (5 to 2400 seconds) and then confirm by means of the middle button.

⚠ This parameter is not shown when "0" was selected with "Cy.on".


CYCLE
XXX
CYCST
on
oFF
XX-1
XX-2
TIME
TEMP
dr.LE
donE
C.tIM
X.XX
C.tEM
X.XX
C.rEV
YES
no
C.StP
X.XX
C.Act
X.XX

CY.rE (Cycle repeat)(default : 1)

The bottom display shows how many times the contact needs to close and open.
Change this setting when necessary by means of the top or bottom button (1 to 99 pulses) and then confirm by means of the middle button.

CY.St (Cycle start)

The bottom display shows how the pulsating function of the cycle contact will start.
OFF : the cycle contact will first remain open during the time chosen with (CY.of).
On : the cycle contact will first remain closed during the time chosen with (CY.on)

Change this setting when necessary by means of the top or bottom button (***on-off*** pulses) and then confirm by means of the middle button.

XX-1

Now you return to the subdivision number.
By pressing the middle button, earlier adjusted programs can be controlled or changed.
By pressing the upper button, you will go to the next subdivision of the drying cycle.

XX-2

This is the second subdivision number. Press the middle button. Now you can :

- program a next part in the same way.
Therefore, select ***"tiME"*** or ***"PERC"*** with the upper button and confirm afterwards with the middle button (transition to ***"tEMP"***).
- the drying cycle is closed and you go to ***the cool down time.***
Therefore select with the upper button ***"donE"*** and confirm afterwards with the middle button.

⚠ The drying cycle has always - also when a program has to contain only one part - to be closed by an extra part, where ***"donE"*** is selected.

A drying period can contain maximum 9 parts.

C.tiM (cooltime - default 2)

On the lower display appears the cooldown time. This value can be changed by the user (see operating instructions).

If necessary, change this programmation with the upper or lower button (1 to 30 minutes) and confirm afterwards with the middle button.

C.tEM (temperature - default 30 of 86)

On the lower display appears the cool down temperature. This value can be changed by the user (see operating instructions).

If necessary, change this programmation with the upper or lower button (1 to 30 minutes) and confirm afterwards with the middle button.

C.rEVE (cool reverse - default YES)

With the middle button you can select ***"YES"*** or ***"no"*** to let the drum be reversing or not during the cool down period of this program.

⚠ When in the ***setting menu*** at ***"rEVE"***, ***no*** was programmed, this parameter is not be mentioned and you will go to ***"G.tiM"***.

During the programmation of the automatic program, this parameter is not mentioned and you will go to ***"C.StoP"***.

When ***"no"*** is selected, you go immediately to ***"G.tiM"***.

C.StP (cool stoptime - default 5)

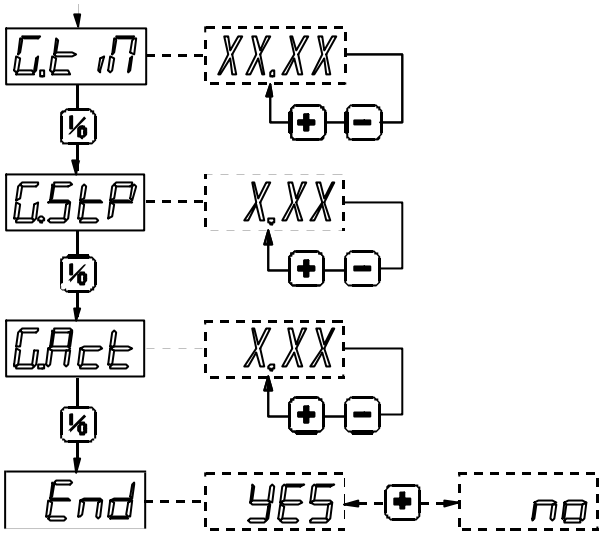
On the lower display appears the time that the drum has to stand still between a left-right action during the cool down period.

If necessary, change this programmation with the upper or lower button (5 to 120 seconds) and confirm afterwards with the middle button.

C.Act (cool actiontime - default 30)

On the lower display appears the time that the drum has to turn left-right action during the cool down period.

If necessary, change this programmation with the upper or lower button (5 to 120 seconds) and confirm afterwards with the middle button.


G.t n1
XX.XX
G.StP
X.XX
G.Act
X.XX
End
YES
no

G.tiM (Guard time - default 30)

On the lower display appears the guard time (anti-crease time). During this time (when cool down time is over) by moving the drum shortly now and then, creasing of the linen can be avoided.

If necessary, change this programmation with the upper or lower button (0 to 99 minutes) and confirm afterwards with the middle button.

G.STP (Guard stoptime - default 120)

On the lower display appears the time that the drum has to stand still between the drum actions during the anti-crease time.

If necessary, change this programmation with the upper or lower button (5 to 240 seconds) and confirm afterwards with the middle button.

G.Act (Guard actiontime - default 5)

On the lower display appears the time that the drum has to stand still between the drum actions during the anti-crease time.

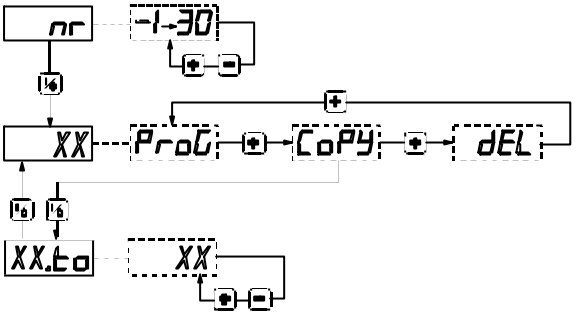
If necessary, change this programmation with the upper or lower button (5 to 240 seconds) and confirm afterwards with the middle button.

When in the setting menu at “rEVE”, “YES” was programmed, this action time will be executed left and right alternately

End

The programmation of the variable manual program has ended here.
On the lower display appears ***YES***. By pushing the middle button, you ***leave the programmation menu.***
Select by means of the upper button ***no*** to program another program and confirm with the middle button.

Copying a programme



Copying a programme and using it as a base for a new programme can save you a lot of time. Then it is also possible to change the copied programme.

Follow the same procedure as when programming the fixed programmes to get into the copying menu.

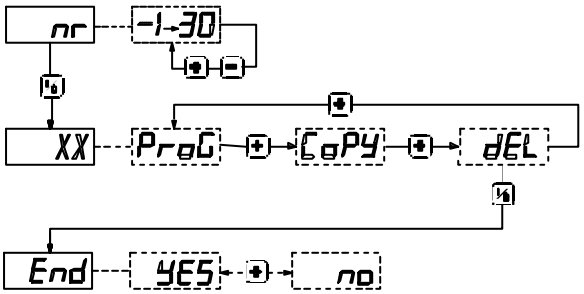
Select the number of a programme which will be used as the base for a new programme by pressing the top or bottom button.
Keep pressing the middle and top button during 5 seconds.

The bottom display shows ***"ProG"***.

Press the top button so many times until the bottom display shows ***"CoPY"*** instead of ***"ProG"*** or ***"dEL"*** and confirm this selection by means of the middle button.
Select the base programme by means of the top and bottom button.
Then confirm the selection by means of the middle button.

"to" appears on the upper display. The bottom display shows the destination number.
Select the desired destination number by means of the top and bottom button.
If a programme number is selected, which does not yet contain a programme, a ***"- dash"*** is placed before the number. If a number containes a programme already, then this number is displayed ***blinking.***
Then confirm the selection by means of the middle button.
The programme is now being copied and you get automatically to the new programme. This programme can now be changed.

Deleting a programme



If a programme is no longer desired, it can be deleted.

Follow the same procedure as when programming the fixed programmes to get into the deleting menu.

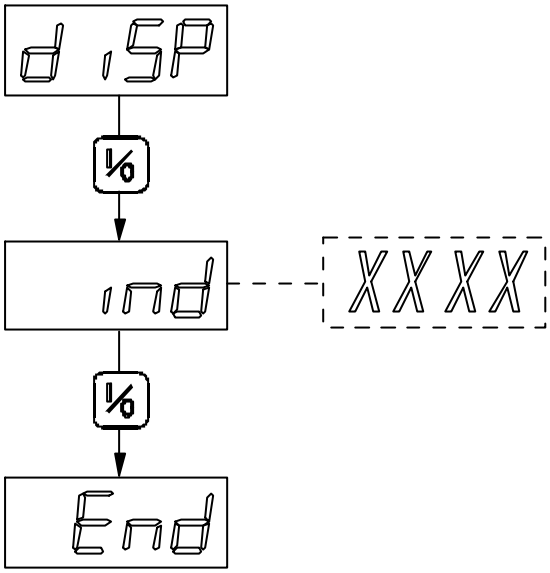
Select the number of a programme which must be deleted, by pressing the top or bottom button.
Keep pressing the middle and top button during 5 seconds.

"ProG" appears on the bottom display.

Press the top button so many times until the bottom display shows ***"dEL"*** instead of ***"ProG"*** or ***"CoPY"*** and confirm this selection by means of the middle button.
Select by means of the top or buttom button the programme that needs to be deleted.
Then confirm the selection by means of the middle button.
The programme is now being deleted.

Display menu

Some data regarding the dryer can be recalled here.



DISP

The upper display shows ***"disp"*** (display).
Press the middle button to continue.

Ind

The upper display shows ***"ind"***. This is the ***"maintenance index"***.
The lower display shows the ***number of hours that the dryer has already operated.***
After the dryer was activated for "9999" hours, it restarts from "0".

Press the middle button to continue.

END

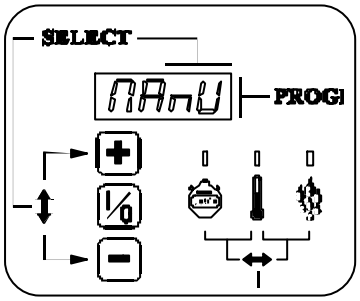
The upper display shows ***END***. This is the end of the display menu.

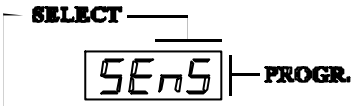
Press the middle button to continue.

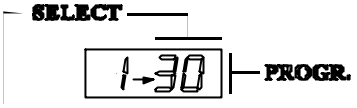
Operating instructions

Selecting a program

The program number is mentioned on the upper display. Press the ***upper*** or ***lower*** button to select the wished program.

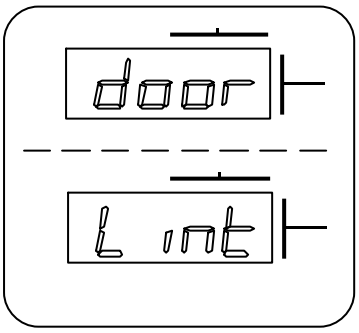






It is only possible to select the programme numbers which contain a programme.
It is also possible to select the standard programmes (31 to 40) (see further: standard programmes), provided that ***"YES"*** was selected in the technical menu for ***"St.Pr"***.

Loading of the drum



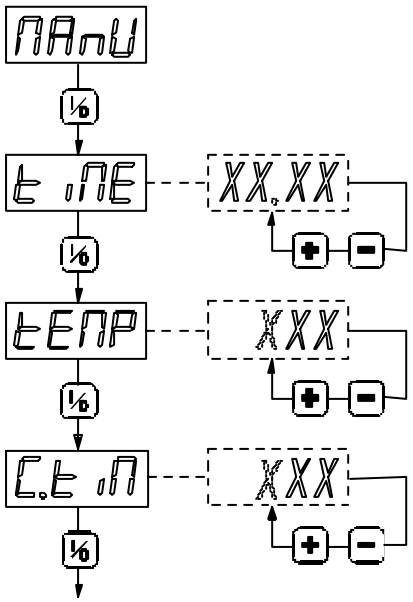
Open the door and load the drum.
When the door is opened, ***"door"*** and ***"Lint"*** appears alternately on the upper display.
Disentangle the linen as good as possible so that it does not accumulate during the drying. That way, an equal drying will be obtained. Overloading of the drum can also lead to bad dry results.

Do not dry linen, which does not resist the drying temperature.
Linen treated with inflammable products, has to be aired sufficiently before putting it into the drum.

Starting the program

The start procedure is different according to the kind of program.

Variable manual program



MAnU

Press the middle button.

tiME

The lower display shows the ***drying time*** for a variable manual program.

If necessary, change this programmation with the upper or lower button (1 to 99 minutes) and confirm afterwards with the middle button.

tEMP

The lower display shows the ***drying temperature***.

If necessary, change this temperature with the upper or lower button (0 - 92 ° C - 32 to 198 °F) and confirm afterwards with the middle button.

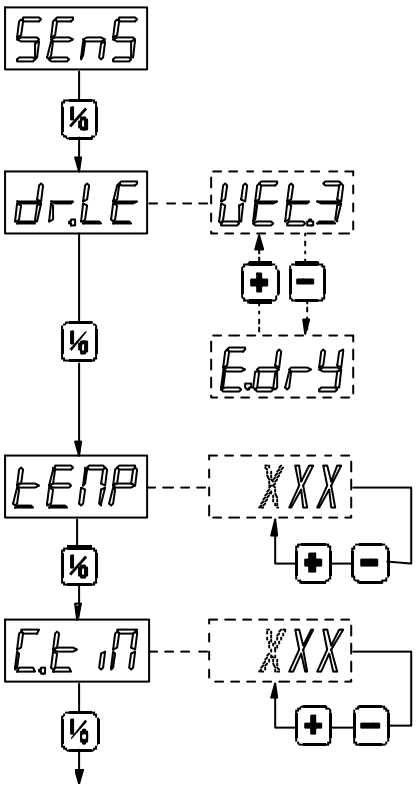
C.tiM

The lower display shows the ***cool down time.***

If necessary, change this programmation with the upper or lower button (1 to 30 minutes) and confirm afterwards with the middle button.

The program is started now.

Variable automatic program



SEnS

Press the middle button.

dr.LE

The residual moisture level of the linen appears on the bottom display. Select one of the 10 residual moisture levels (WEt3, WEt2, Wet1, Mid3, Mid2, Mid1, drY3, drY2, drY1 or E.drY) by means of the top or bottom button and then confirm by means of the middle button.

tEMP

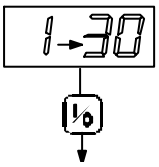
The drying temperature appears on the bottom display.
Change this temperature if necessary by means of the top or bottom button (0 to 92°C - 32 to 198°F) and then confirm by means of the middle button.

C.tiMr

The cool down time appears on the bottom display.
Change this setting if necessary by means of the top or the bottom button (1 to 30 minutes) and then confirm by means of the middle button.

The programme is now being started.

Fixed program

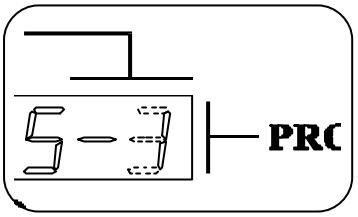


1.....30

Press the middle button and the programme will start immediately.

The standard programmes (31 to 40) can be started in the same way (see further : standard programmes).

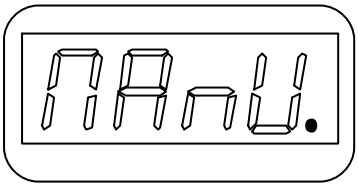
Program course



Program number

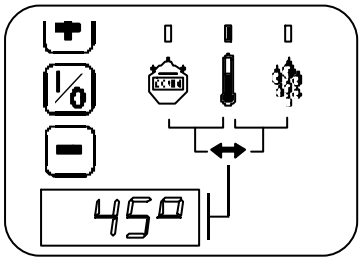
On the upper display, the ***program number or name*** (MAnU - Auto) is always mentioned.
If the drying time of a program consists of several subdivisions, next to the program number, you will find the ***number of the subdivision***, where the program is actually situated at that moment. Alternately with this, every ***5 seconds***, during ***1 second*** the number of the ***last subdivision*** is mentioned. So the user is being informed how many divisions still have to be completed.

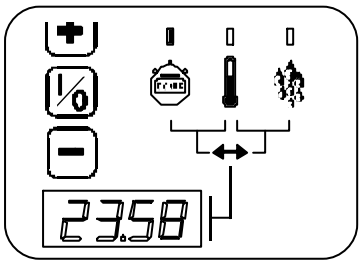
.example : program "5" is in subdivision "1" and the drying time consists of "3" subdivions.



Heating activated

When the heating is activated, the decimal point in the right upper display lights up.

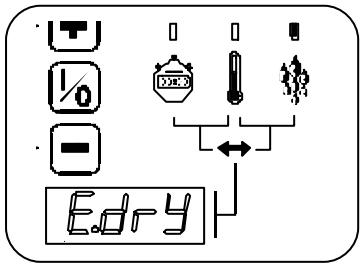




Display of the remaining drying time, temperature, residual moisture level

During the drying period the bottom display shows alternately the temperature with either ***the remaining drying time*** or ***the residual moisture level*** of the linen.
The relation of alternation has been determined in the programming menu (see ***"FL.tE-FL.FU"***).

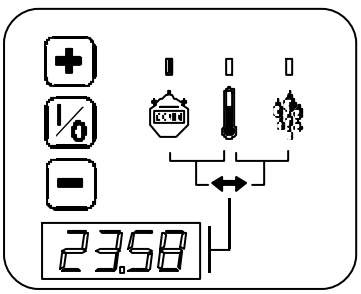
- During the display of ***the temperature***, the ***middle led*** will light up.
- Druing the display of ***the remaining drying time***, the ***left led*** will light up. This time is counted down by second.
- During the display of ***the residual moisture*** level, the ***right led*** will light up.



Remark :

When a drying period was built up out of several segments, then the remaining drying time will be displayed ***per segment***, and thus not for the total programme.

If ***"0"*** was put in for ***"FL.tE-FL.FU"*** in the programming menu, then nothing will appear on the display.

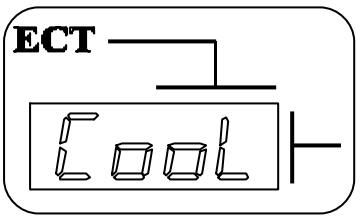


Changing the residual drying time

During the program or subdivision of the program, the residual drying time can be shortened or lengthened. Press therefore the lower or upper button.

Remark :

If this time is normally not mentioned, it will be mentioned during the pushing (plus 3 seconds afterwards).

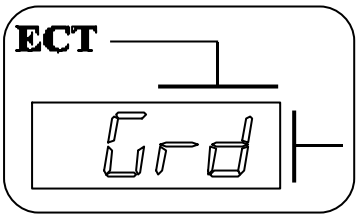


End of the drying time : transition to cool down time

When a drying time is over (drying time over or % final residual moisture achieved), the cool down time starts automatically.

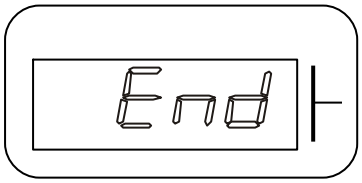
On the upper display ***"CooL"*** is mentioned.

During the cool down time, the lower display shows alternately the ***cool down temperature and*** the ***residual cool down time.***



End of cool down time : transition to anti-crease time

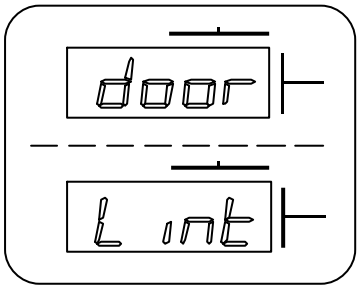
When the ***cool down time is over***, or when the ***cool down temperature is reached***, the anti-crease time starts automatically.
The drum makes here a short action (eg. 5 sec) and a long stop (eg. 2 minutes) in order to prevent creasing of the linen. During the rotation of the drum, the ***buzzer is activated.***
On the upper display appears ***"Grd"***.
On the lower display, the programmed anti-crease time is counted per second.



End of the drying program

When the anti-crease time is over, the program stops automatically and ***"End"*** appears on the lower display.

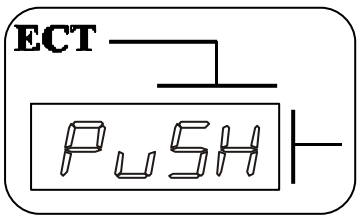
Manual interfering



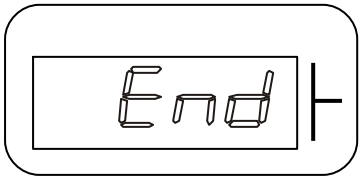
Opening of the door or filterdoor during the program

When during a program the door is opened, everything stops and on the upper display, ***"door"*** and ***"Lint"*** appears alternately.

The ***residual drying and cool down time*** is still counting on the lower display.



When ***during a drying or cool down time*** the door is closed again, ***"Push"*** is mentioned alternately with the program number (or "CooL").
This is a way to let you know that you have to push the ***middle button*** again to activate the program again.



Remark :

If the door is opened during the anti-crease time, the lower display shows ***"End"*** and the program stops ***immediately***.

Standard programmes

The Pro/HC is equipped with 10 standard programmes. Those programmes can be started directly but cannot be changed. It is however possible ***to copy them*** to a programme number between 1 and 30 and ***can then be change***d.
This way they can be used as a base for another programme which allows you to save quite some time and programming work.

Remark :

The standard programmes can only be used if ***"YES***" was put in for ***"St.Pr"*** in the technical menu.

These drying programmes are executed in a left - right action of 55 seconds with 5 seconds stop.
After the cooldown period there is an anti-wrinkle time of 30 minutes (120 seconds of stop and 5 seconds action).

Dryer with residual moisture control

Number	Temp	Level or drying time	Cool down time
31	75°	Dry1	10
32	75°	Mid1	10
33	60°	Dry1	5
34	60°	Mid1	5
35	45°	Dry1	3
36	45°	Mid1	3
37	40°	45’	2
38	40°	30’	2
39	35°	30’	2
40	0°	30’	0

Dryer without residual moisture control

If the dryer is not equipped with the reversing option, then all programmes are executed in a right movement.

Number	Temp	Level or drying time	Cool down time
31	75°	45'	10
32	75°	30'	10
33	60°	45'	5
34	60°	30'	5
35	45°	45'	3
36	45°	30'	3
37	40°	45’	2
38	40°	30’	2
39	35°	30’	2
40	0°	30’	0

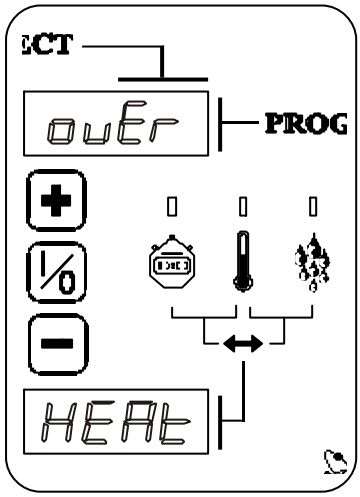
Technical remarks

Gas circuit break

For a gas heated dryer, the electronic ignition will only try to ignite once during 10 seconds. If this does not work and the flame detection does not detect a flame (eg. at gas power failure)the ignition relay goes in safety. When the drying cycle is ***restarted***, a new ignition will take place.

Error messages

Electronic temperature protections



Over HEAt

When a temperature ***lower or equal to 4°C (39°F)*** or ***higher or equal to 120°C (248°F)*** is detected, the electronic temperature protection will be activated.

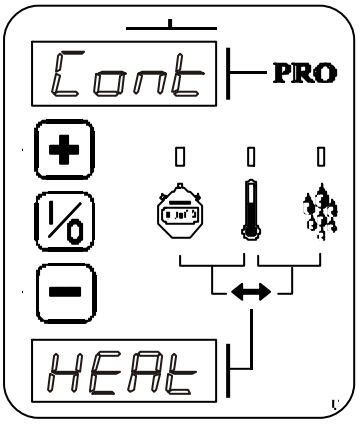
During the operation :

Temperature higher than ***120 °C (248 °F)***:
Every action is interrupted. The buzzer is activated and ***"over-HEAt"*** appears blinking on the displays.

Temperature lower than 4°C (39 °F) (90 seconds after the start) :
The heating is interrupted but the cycle will be completed totally. At the end, ***"over-HEAt"*** appears blinking and the buzzer is activated..

During break :

The sale switch needs to move freely. ***When this sale switch is blocked, there's a serious fire risk.***
"over-Heat" is mentioned blinking when a temperature higher or lower than ***120 ° C*** is measured.



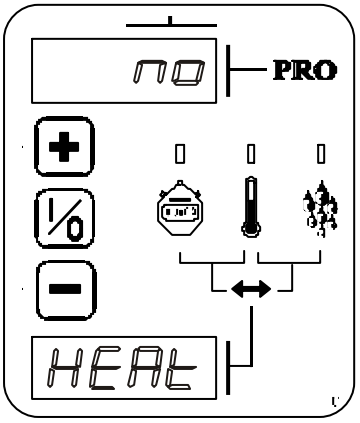
When ***"over-HEAt"*** appears, no drying cycle can be started any longer. Therefore the dryer has to be placed without electrical power for a while.

Cont-HEAt

When the heating is not activated, and nevertheless a reaction coupling of the heating contactor is detected, ***"cont-HEAt"*** appears blinking and the buzzer is activated.

This error can be the result of a heating contractor, which is unwanted mechanically blocked.

Disconnect all current, steam or gas supply as soon as possible.

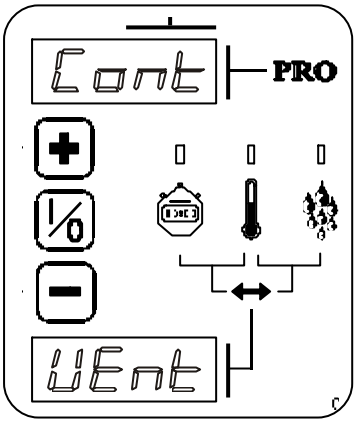


no-HEAt

If 9 seconds after the heating is activated, no feed back is detected, everything is stopped, ***"no-HEAt"*** appears blinking and the buzzer is activated.

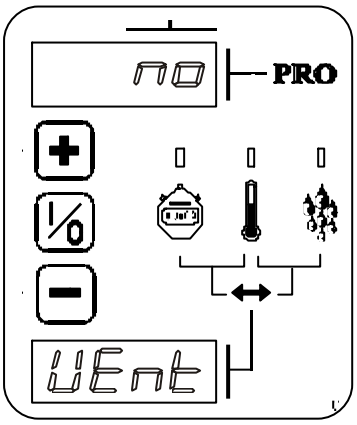
When the door is opened, the error message disappears and ***"Push"*** is mentioned. Now you have to restart.

This error message can be the result of a strongly filthy filter (see further draft flap and maintenance).



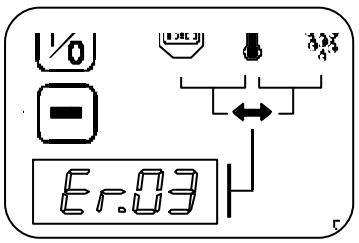
ContHEAt

The sail switch at the back of the machine (see further “Sail switch”) must be open before the cycle can be started, otherwise “ContHEat” appears on the display and the cycle cannot be started.



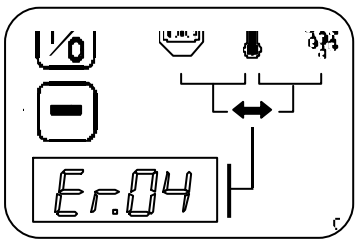
noVEnt

If the sail switch at the back of the machine (see further “Sail switch”) opens during the cycle, the error message “no VEnt” appears on the display.



Er. 03

If the himidity sensor ***under the drum*** is defective, ***Er.03*** (Error 03) will appear on the bottom display.

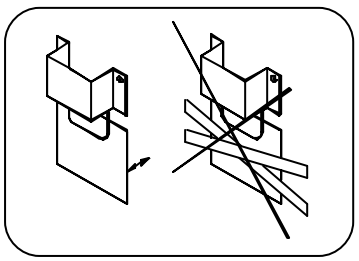


Er.04

If the humidity sensor ***at the back of the burner*** is defective, ***Er.04*** (Error 04) will appear on the bottom display.

When one of above mentioned errors occur, the cycle will be continued, but all segments in which the residual moisture is being checked, will be left out.

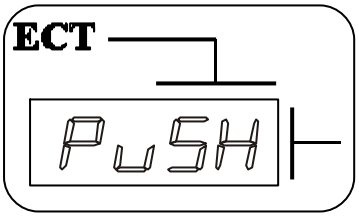
Sale switch



The sale switch is in the back and is a protection, which interrupts the heating, in case there’s an insufficient air supply. This can be the result of an inadequate exhaust (see installation) or a dirty filter (see maintenance).

The sale switch needs to move freely. ***When this sale switch is blocked, there’s a serious fire risk.***

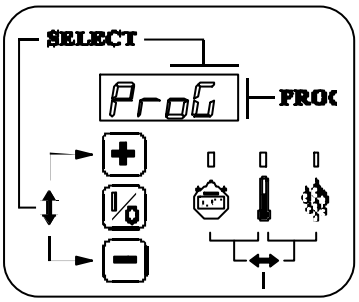
Power breakdown



When the power drops out during the program, the program can be continued when the power is back.

The upper display shows blinking ***"PusH"***.
Press the middle button then.

Directly access to the programmation menu



By pushing simultaneously the ***upper and middle*** button during ***5 seconds, you go immediately to the programmation menu.***

So it is not necessary to pull the switch at the back of the print plate as described in Chapter 5 : Selection of submenus.

Maintenance

Cleaning

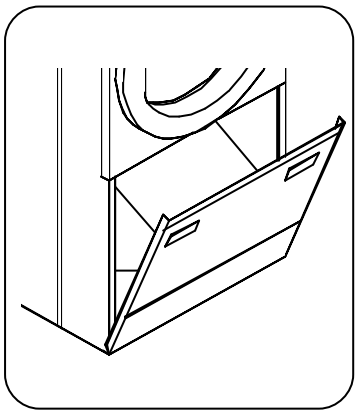
It is advisable to remove all dust particles in and around the dryer at fixed times. It is best to determine these fixed times by experience, as they differ from place to place.

The output of the dryer depends on a good air circulation. This airflow can be influenced by accumulation of dust particles.

The dust particles of most fabrics are highly combustible. Accumulation of these dust particles means a potential fire risk.

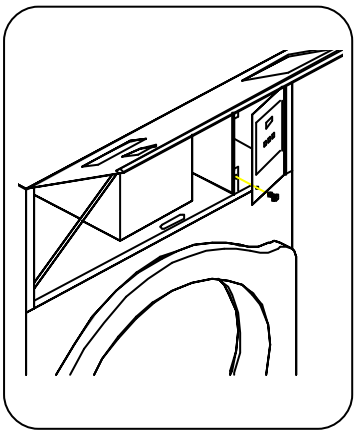
Daily

Open the dust filter door and remove all the piled-up dust at the underside of the filter and inside the filter chamber.



Monthly

Remove all the dust out of the heating compartment and the burner. ***Dust, which enters into the burner, can combust.***



Gas- or steam heated dryers need to cleaned 2 times a month.

Remove all dust from the temperature sensor and the safety thermostat.

If the dryer is equipped with humidity sensors, then they are mechanically protected by means of a perforated cover.

Those sensors are located ***inside under the cylinder and on top behind the burner.***

Remove the dust inside this cover very carefully by means of compressed air (or with a soft brush), but never with your hand. The sensors will inevitably be damaged when touched by hand.

Every 3 months

Remove all the dust and dirt of the motors, belts, etc.

Checking *(after the installation and every 3 months)*

Check if all safety devices still function such as overheat thermostat, sale switch, flame detection, door contacts etc.

Check the belt tension.

Repair and after-sales service

In case of important malfunctions and deficiencies, which you can't resolve yourself, don't hesitate to contact the technical service of your distributor.

Data distributor:

Name : .....

Adres: .....

Tel.: .....

Data dryer :

Type: .....

Date of installation : .....

Installed by: .....

Serial number : .....

Operation voltage and frequency : .....

Remarks : .....

The manufacturer reserves the right to change the contents of this instruction manual at all times and without previous notice.

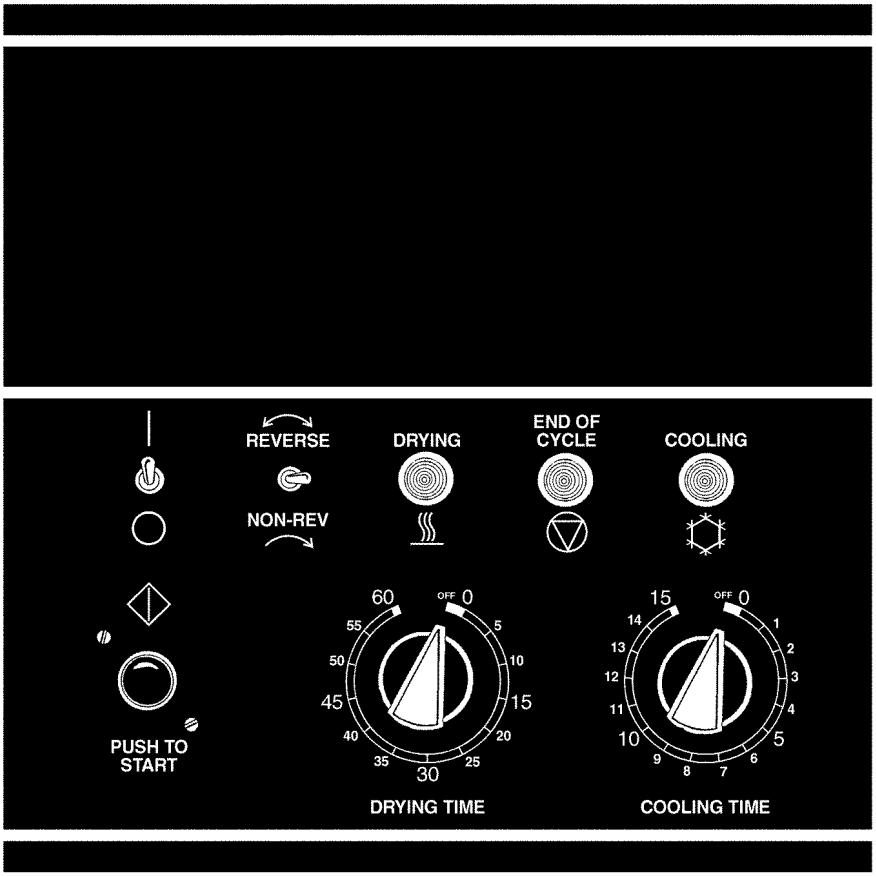


Fig. 1

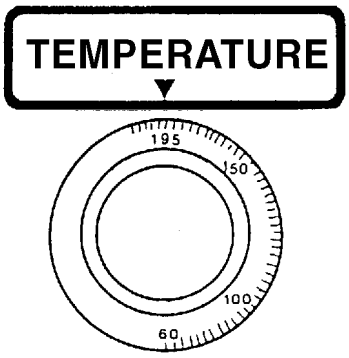


Fig. 2 Temperature Selection

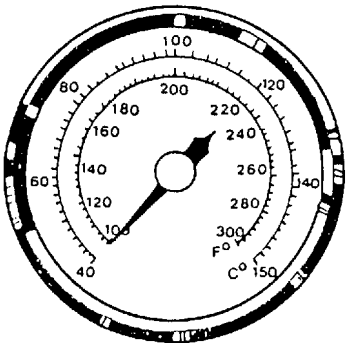


Fig. 3 Thermometer

OPERATING INSTRUCTIONS – TWO TIMER MODELS

1. After loading the dryer tumbler with water washed clothes load, proceed to close the loading door. For better drying, do not load dryer with combination of garments that twist.

2. Turn the 60–minute drying timer to the desired drying time. The drying cycle light will be on and indicate the drying. The light shuts off when drying time is complete. (See figure 1)

3. Turn the 15–minute cooling cycle timer to the desired cool down time. (Note: Dryer will not start unless some cooling time is selected!). After the drying cycle is completed, then the cooling cycle time will automatically operate. The cooling light will be on and indicate the cooling of the clothes load. The light shuts off when cooling time is completed. (See figure 1)

4. Temperature Selector – Select temperature per type of load being dried in the dryer. (See figure 2)
   High Heat – Mixed and heavy fabrics, set dial to 195° F (91° C).
   Normal – Cottons and linens, set dial to 170° F (77° C).
   Permanent Press Heat – Poly knit synthetics, blends, lightweight fabrics, set dial to 150° F (66° C).
   Low Heat – Delicate, sheer fabrics, easy–to–dry, set dial to 135° F (58° C).

5. Thermometer – Use this with your temperature selection. Teach yourself what temperature is too hot or too cold. (See figure 3)

6. Turn switch to "start" position. (See figure 1)

7. Close the dryer door, but the basket will not rotate until the PUSH–TO–START BUTTON is pressed. Press in the PUSH–TO–START BUTTON (approximately 2 seconds) until the dryer starts running and then release button. (See figure 1)

   What is happening to the drying operation:
   a. The fan motor will operate.
   b. The basket will rotate.
   c. The heat source will be energized.
   d. The heated air mix with the water washed clothes to evaporate the moisture from the garments.
   e. The thermostats will function to maintain a safe temperature throughout the drying cycle.
   f. The heat will be shut off and the motor will continue to run to cool the dry load to a desired handling temperature.

8. When the drying timer completes its time, then the cooling timer will be energized and the cooling light will be "On". When the cooling light will stay "On" and the "End–of–Cycle" light will be "On". The "End–of–Cycle" light will go off when the "Start/Stop" switch is turned to "Off" or "O". At the end of the cool–down cycle, the clothes load is dry.

9. To shut the dryer "Off", move the "Start/Stop" switch to "Off" or "O" position. This switch is a safety switch to immediately stop the dryer's operation.

   Special Reversing Feature – Set the "Reversing/Non–Reversing" switch to "Reversing". See service manual for setting of time of each reversal. Reversing of the basket is designed for loads that twist (example – bed sheets and large mixed loads). "Non–Reversing" is for small or medium–size items that don't twist.

DIRECT SPARK IGNITION OPERATION

NOTE: Some models are equipped with a dual ignition system. The dual ignition system contains two direct spark ignition modules in parallel. Each module has its own flame sense circuit and acts independently of the other. If either bonnet limit thermostat opens because of high heat or flame impingement, the entire ignition system will shut down.

1. When a call for heat is received from the control supplying 24VAC to the ignition control module, the pre-purge delay timer begins. This delay time allows any air/sediment to be ejected prior to burner ignition. Following the pre-purge delay period, the gas valve is energized and the spark ignitor sparks for the trial for ignition period.

2. When a flame is detected during the trial for ignition period, the spark ignitor shuts off and the gas valve remains energized.

3. If no flame is detected by the flame sense circuit, the ignition control module will go into safety lockout. The valve will be turned off immediately. If the module has multiple retries and no flame is detected, the gas valve is de-energized and the module goes into an interpurge delay. After this delay, the module will attempt another trial for ignition period. This will continue until the number of retries has been used up. At that time, the module will go into safety lockout.

4. Recovery from safety lockout requires one of the following:
   a. A manual reset by opening and closing the loading door.
   b. After one hour if the control thermostat is still calling for heat, the module will automatically reset and the trial for ignition period will start over. The push-to-start button must be pushed to start the process going again.

5. Opening the loading door will cause the flame to extinguish. Closing the door and starting the dryer will restart the trial for ignition period.

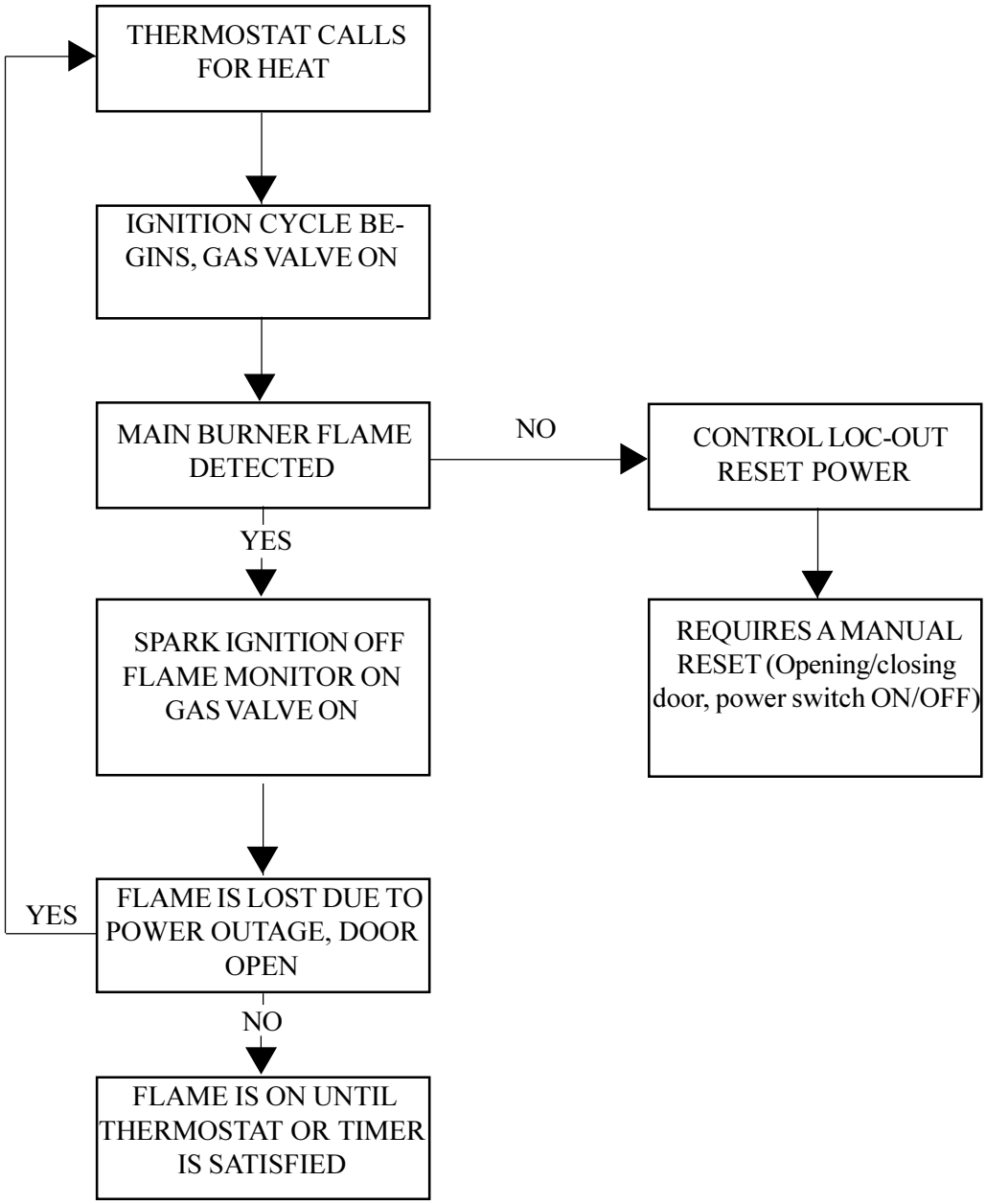
6. Once the control thermostat has been satisfied and/or the drying timer has been timed out, the ignition control module(s) will be de-energized, the gas valve(s) will be de-energized and the flames will extinguish.

7. The machine will continue to run in a cooldown mode without heat. This process will cool the load to the touch and help to eliminate wrinkling.

DIRECT SPARK IGNITION OPERATION FLOW CHART

The DSI module is powered by a 24 volts AC suppled by a step-down transformer in series with eight safety interlocks:

A. Timer switching device (1)
B. Main door and lint door switches (2)
C. Sail switch (1)
D. Under basket and burner housing thermal safety switches (2)
E. Variable thermostat (1)
F. Push to start switch (1)



MAINTENANCE

MAINTENANCE

1. **CLEAN LINT SCREEN DAILY.** Remove lint before starting day's operation. A clean lint screen will increase the efficiency of the dryer, as the moisture-laden air will be exhausted more quickly.

2. **CLEAN BASKET AND SWEEPSHEETS.** Clean periodically and/or as often as required. The basket and sweep sheets are easily accessible by removing the front panel of the dryer.

3. **PULLEYS AND BELTS.** Keep belts clean. Oil and dirt will shorten the useful life of the belt. Never allow a belt to run against the belt guard. Check periodically for alignment. Pulley shafts must be parallel and the grooves must be aligned. Check and re-tighten pulley set screws periodically. Check belt tension periodically. Lower motor to increase tension by adjusting the nuts fastening the motor plate to the rod connected to the motor mounting bracket on the back at the dryer. The fan belt is adjusted by removing links in the belt.

4. **ELECTRIC MOTORS.** Keep motors clean and dry. Motors having ball bearings are packed with sufficient grease for approximately five years of normal operation. After five years, the bearings and housing should be cleaned thoroughly. Repack each bearing and the cavity in back of the bearing on-third full with Chevron grease no. SR1-2.

   Motors having wool packed sleeve bearings are oiled at the factory for one year of normal operation. After one year, add annually one-half teaspoon of electric motor oil or S.A.E.#10 to each bearing. For 24 hour per day operation, add one teaspoon of oil annually.

   If motors overheat, check voltage and wiring. Low voltage, inadequate wiring, and loose connections are the main cause of motor failure.

5. **STEAM HEATED UNITS.** Keep steam coils clean. Check periodically and clean often, as required. Remove lint and dirt build-up from fins. Dirty fins decrease the efficiency of steam heated units.

MAINTENANCE

MAINTENANCE (continued)

6. **GAS BURNERS.** Keep burners clean. Check and clean often.

7. **GAS PRESSURE.** Gas pressure should be checked periodically per specifications on separate page.

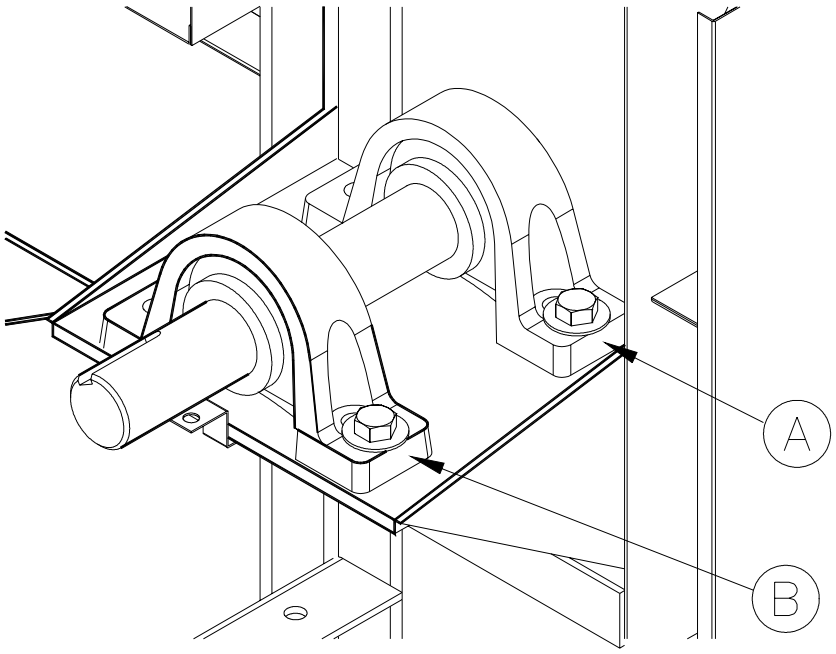
8. **EXHAUST SYSTEM.** Periodically check and clean.

9. **VOLTAGE.** Voltage should be checked periodically per rating plate located on rear wall of dryer.

10. **COMBUSTION (MAKE-UP) AND VENTILATING AIR.** The flow should not be obstructed.

11. **DRYER AREA.** Keep dryer area clean of lint and free from combustible materials, gasoline, and other flammable liquids/vapors.

BASKET ALIGNMENT



Jacket Rear View

BASKET TOO LOW

If there are shims under Bearing B;

1. Loosen bolts
2. Remove shim(s).
3. Tighten bolts - check alignment.

If there are no shims under B;

1. Loosen bolts on bearing A.
2. Add shim(s) under bearing A.
3. Tighten bolts - check alignment
4. Repeat until aligned.

BASKET TOO HIGH

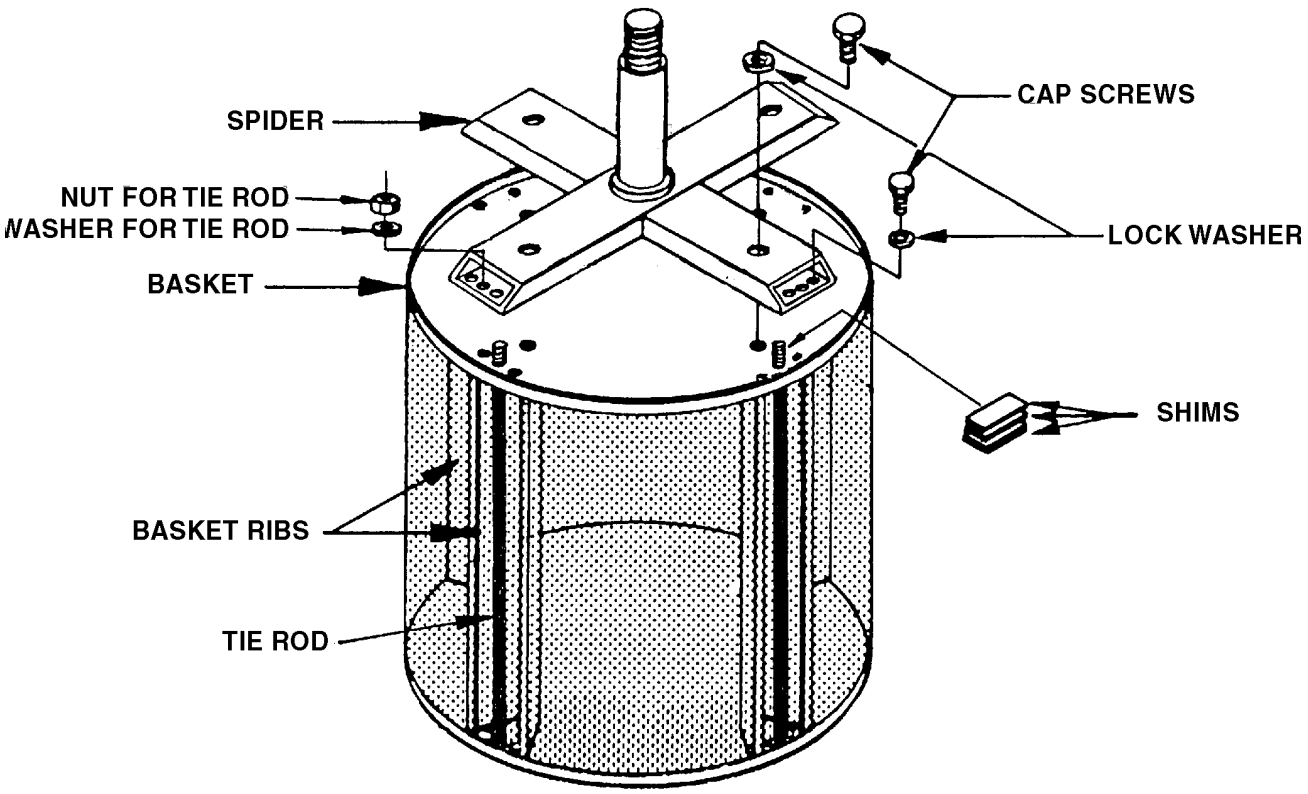
If there are shims under A;

1. Loosen bolts
2. Remove shim(s).
3. Tighten bolts - check alignment.

If there are no shims under A;

1. Loosen bolts on bearing B.
2. Add shim(s) under bearing B.
3. Tighten bolts - check alignment
4. Repeat until aligned

Shimming the Basket and Spider Assembly (Illustration)



INSTRUCTIONS FOR SHIMMING THE BASKET AND SPIDER ASSEMBLY

This procedure is normally necessary when replacing either the basket or the spider assembly on any dryer. The alignment of these two parts is crucial in assuring a true running basket.

A. Align the basket as per instructions on the previous page .

B. Rotate the basket to determine where the most out-of-round point is (where the basket scrapes or comes closest to scraping the sweep sheet).

C. Mark this position and the nearest rib to this position. If it is between two ribs, both ribs may need to be shimmed.

D. Remove the basket from the dryer (do not loosen the alignment bolts).

E. With the basket on the floor (spider up), loosen the cap screws and tie rod nuts enough to insert one or two shims between the spider leg and the basket at the marked position. With shims in place, tighten the screws and nuts.

F. Install spider and basket assembly and check again.

G. If basket is still out-of-round, start at *Step B* and repeat procedure.

H. When shimming is completed, re-align basket.

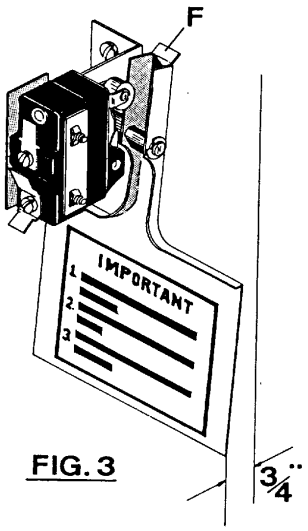


FIG. 3

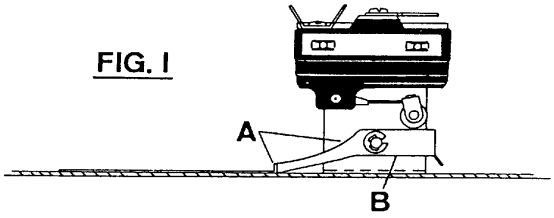


FIG. I

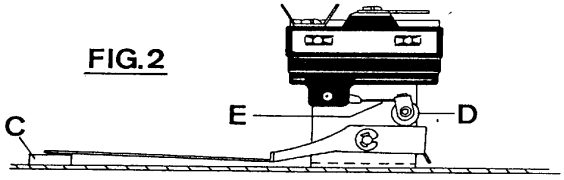


FIG.2

AIR SWITCH ADJUSTMENT

1. Shut off current; disconnect leads and remove air switch.

2. Lay air switch assembly on flat surface. Adjust air blade at "A" (figure 1) so that air blade lays flat and surface "B" is parallel to the flat surface.

3. Place 3/8" x 5/8" spacer bar or equivalent "C" (figure 2) under air blade in position shown; hold switch mounting bracket firmly and adjust switch actuator "D" with needle nose pliers at "E" by twisting actuator right or left, whichever is needed, so that switch closes when end of air blade engages bar "C".

4. Maximum opening of air switch must be no greater than 3/4" (figure 3). Bend tab "F" in or out to maintain this dimension.

5. Re-install air switch assembly on rear of dryer.

6. Re-check operation of air blade. Switch must close before air blade engages face of opening and re-open before stop "F" engages.

DRIVE PULLEYS AND BELTS

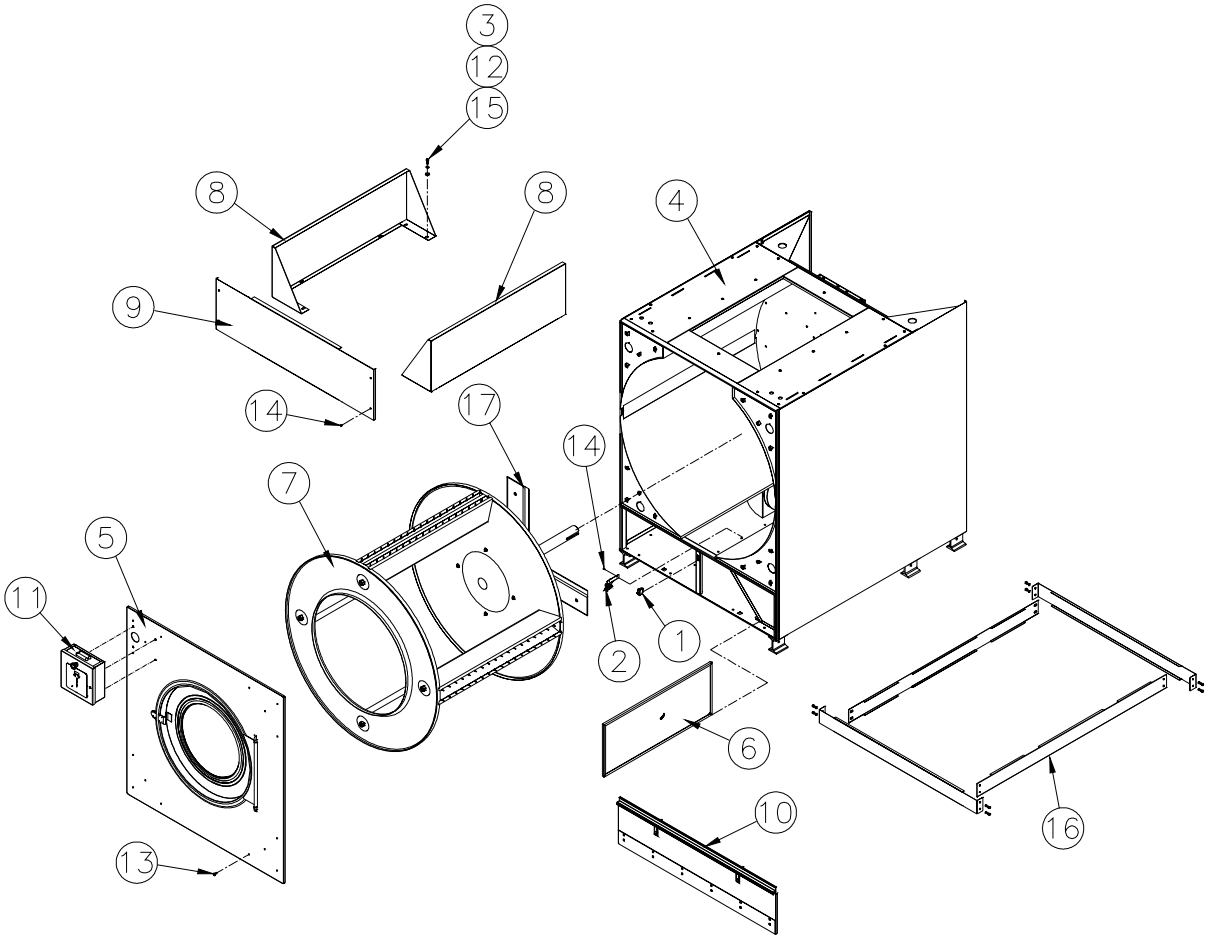
DRIVE PULLEYS AND BELTS

Before placing the dryer into operation, ensure that the drive belts and pulleys are in good condition and have sufficient belt tension.

Check belt tension after dryer is in operation 2-3 weeks. Tighten as necessary.

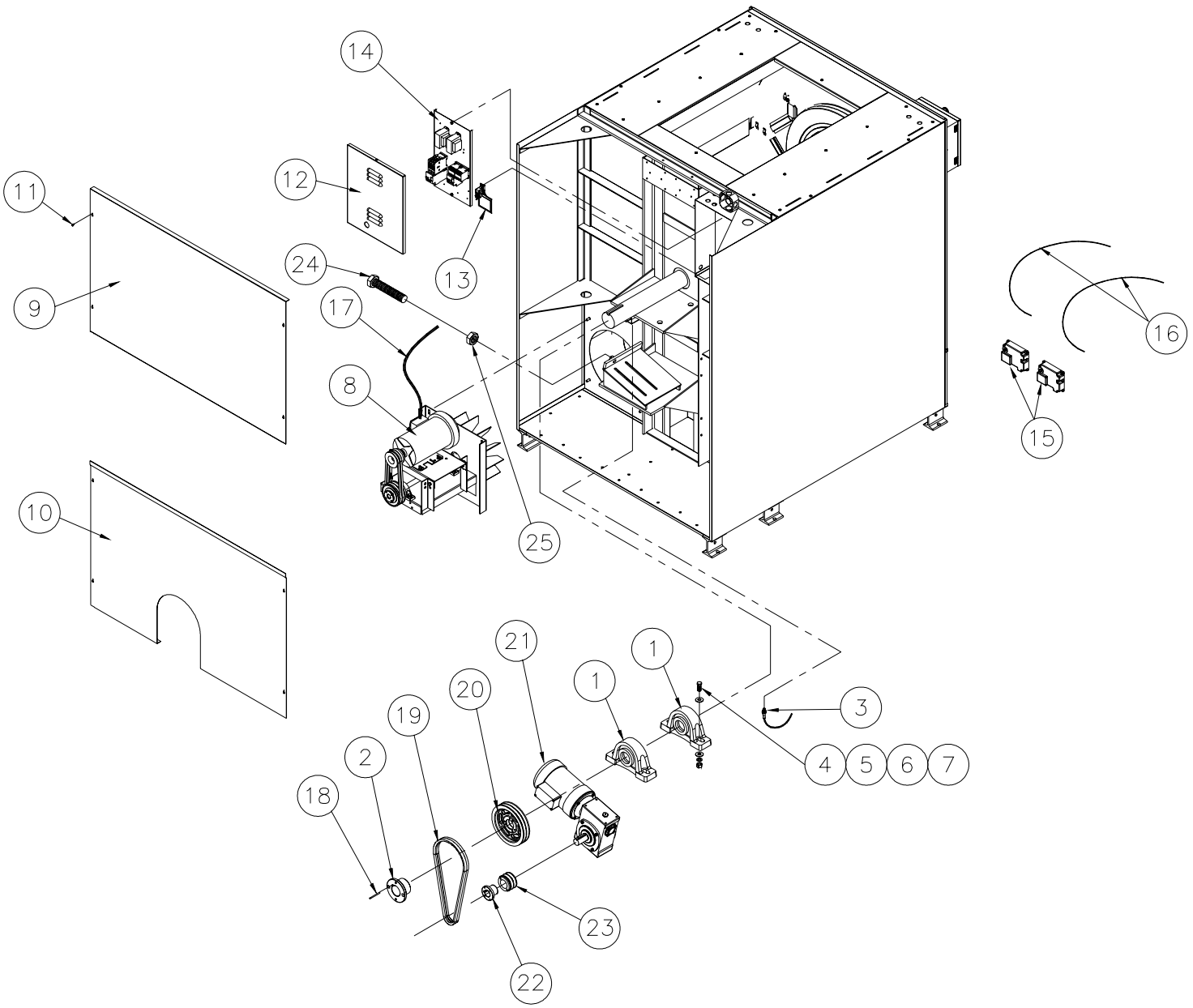
Check belt tensions and belt & pulley condition every 3-6 months.

190 LB LAUNDRY DRYER (FRONT EXPLODED VIEW)



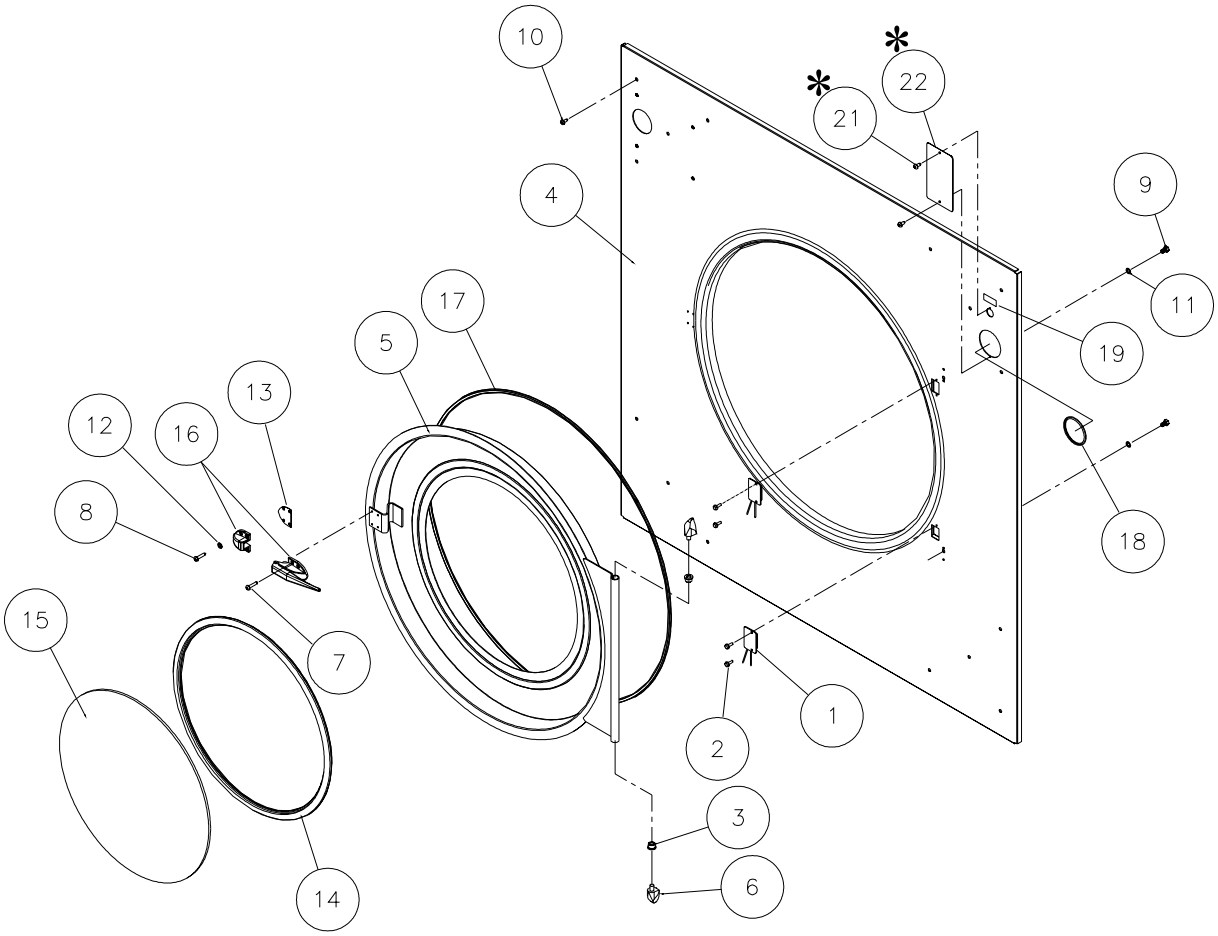
1.	EA-11621-0	LINT DOOR SWITCH	9.	TU14490	FRONT VALANCE
2.	ESA-00961-0	SWITCH ASSEMBLY	10.	TU14537	LINT DOOR ASM.
3.	IB140	3/8 FLAT WASHER	11.	TU14542	DMP CONTROL ASM.
4.	TUX548	JACKET WELDED ASM.	12.	TU3246	3/8-16 SCREW
5.	TU14360	FRONT PANEL ASM.	13.	TU6854	#14 S.M. SCREW
6.	TUX572	LINT SCREEN	14.	TU7733	#8 SELF DRILL SCREW
7.	TUX103	BASKET ASM.	15.	VSB134	3/8 LOCK WASHER
8.	TU14489	SIDE VALANCE	16.	TU14924	SKIRT (OPTIONAL)
			17	TUX531	SPIDER WELDMENT

190 LB LAUNDRY DRYER (REAR EXPLODED VIEW)



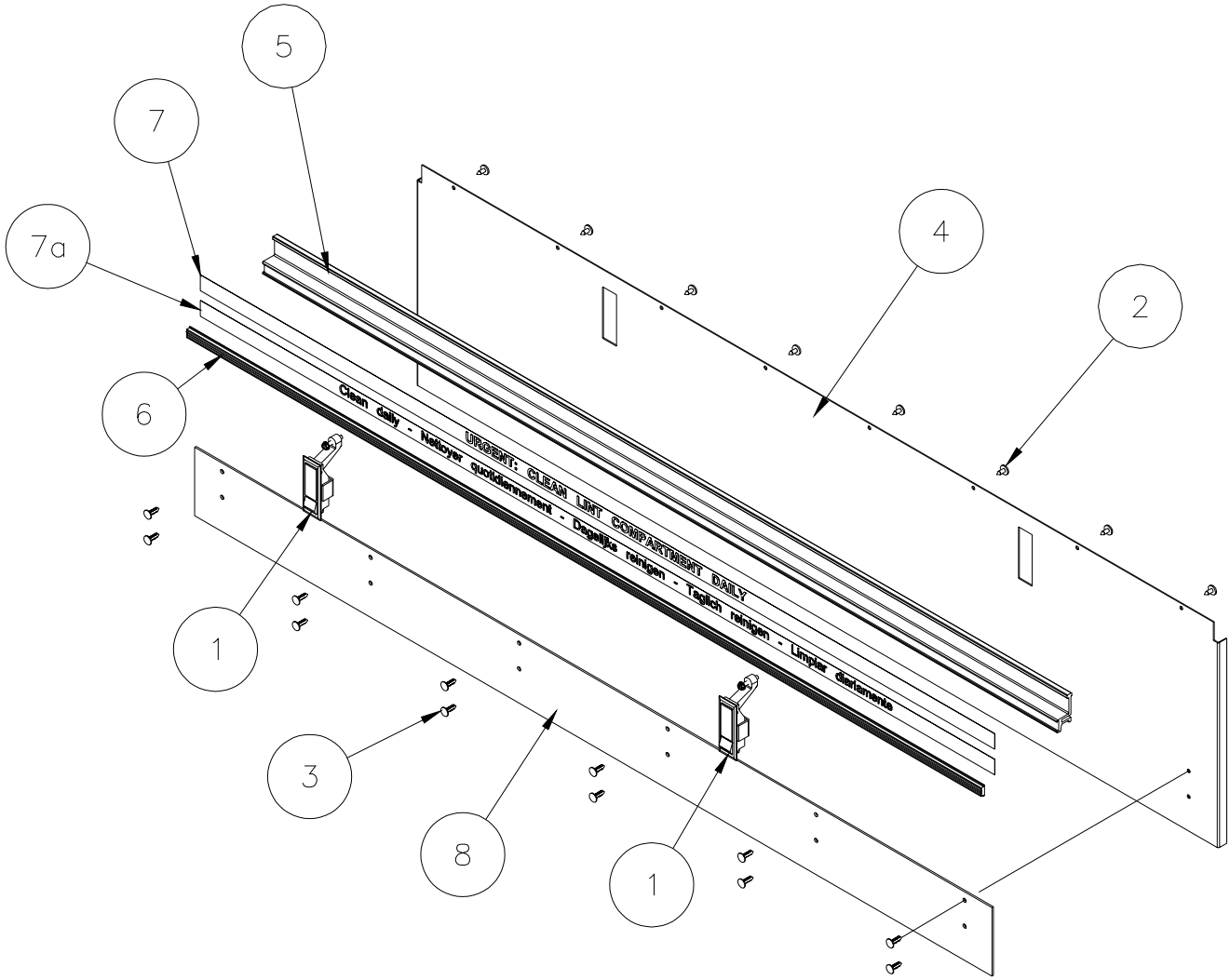
1	TUX218	BRG, 2 15/16 " PILLOW BLOCK
2	TUX576	BUSHING, SK-2 ½
3	TU14414	ROTATION SENSOR
4	TU14454	SCREW CAP,H.H 3/4-10 X 3
5	TU14455	WASHER, 3/4 FLAT 13/16" ID
6	TUX260	NUT 3/4-10 HEX
7	TUX426	LOCKWASHER, ¾
8	TU14481	ASM, FAN MOTOR
9	TU14501	UPPER REAR COVER
10	TUX578	LOWER REAR COVER
11	TU7733	SCREW, SELF DR #8-18X1/2
12	TUX195	COVER, MTR CTRL BOX
13	TU8206	AIR SWITCH
14	TU14765	REV. CTRL. PNL.
15	TU14675	IGN. MODULE (C.E.)
	GA-00765-0	IGN. MODULE (NON-C.E.)
16	GA-00803-0	DSI CABLE (GAS ONLY)
17		GREENFIELD CABLE
18	TUX577	5/8” KEY
19	TUX603	BELT, DOUBLE "V" 46"LG
20	TU15508	SHEAVE, 8.9 O.D. (60 Hz)
	TUX602	SHEAVE (50 Hz)
21	TUX594	GEAR REDUCER
22	TU15506	TAPER BUSHING
23	TUX595	SHEAVE, 3.3 O.D.
24	TUX575	WELD ADJUSTMENT BOLT
25	TU2881	NUT, 5/8-18
26	MTR 316	MOTOT 2P

TU14360 - FRONT PANEL ASSEMBLY

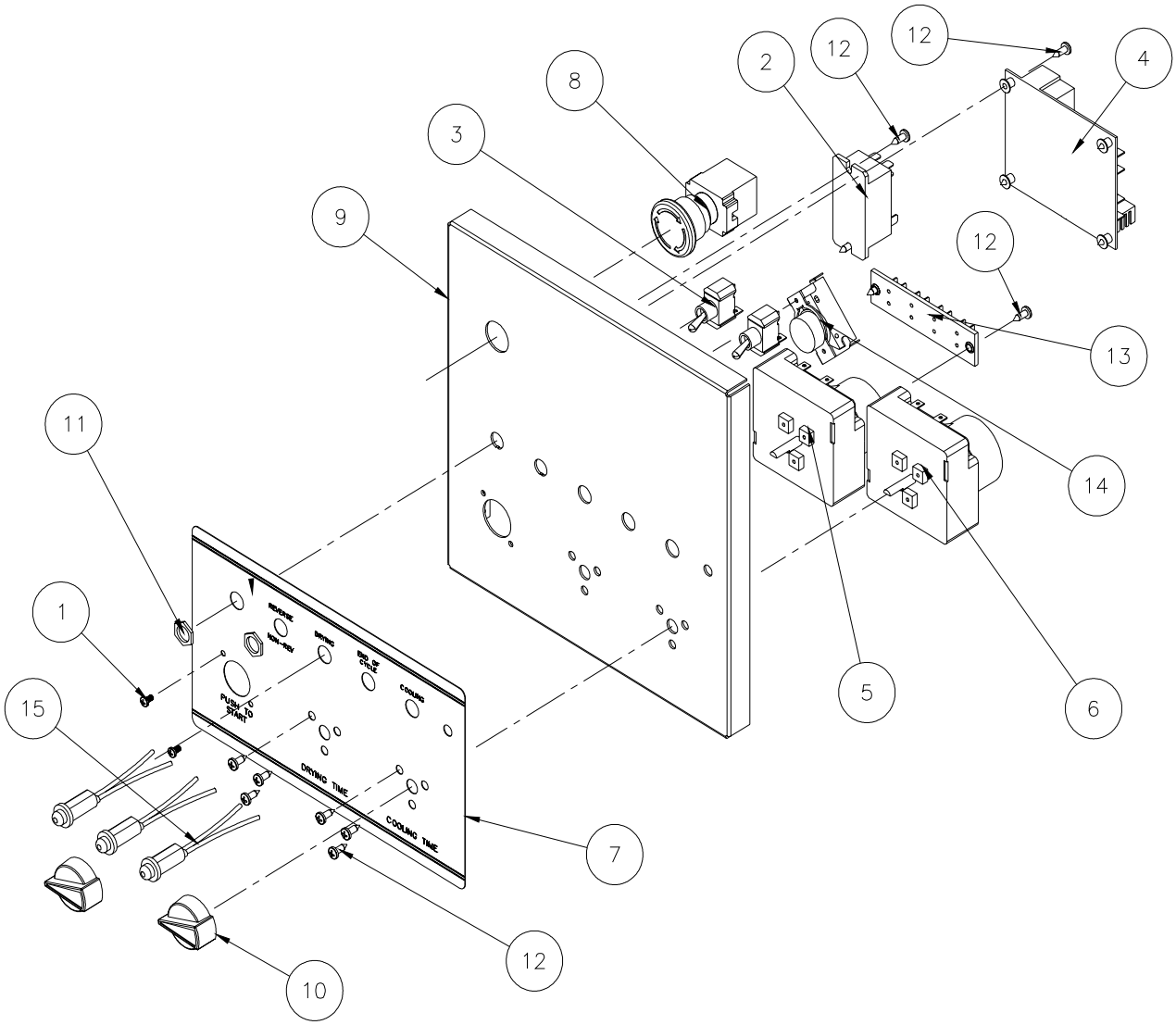


* Cover plate used for DMP and PRO HC.

Ref. No.	Part No.	Description
1	EA-00652-0	Reed Switch
2	SB-00975-0	#6-32 Screw
3	PIF172	Hinge post bearing
4	TU14359	Front panel (Specify color)
5	TU14467	Loading door (Specify color)
6	TU2236	Hinge post
7	TU2686	#8-32 Pan Hd. screw
8	TU2687	#8 Ph. Hd. screw
9	TU2836	5/16-18 H.H. screw
10	TU3209	#14 Pan Hd. screw
11	TU3212	5/16 Lock washer
12	TU3785	#8 E.T. Cup washer
13	TU5503	Door latch spacer
14	TU7169	Gasket
15	TU15107	Door glass - 20 1/4”
16	TUA2319H	Door latch w/keeper
17	TU5288	Door gasket
18	TU2641	Thermometer gasket
19	TU5458	Temperature label
20	TU6030	Thermostat asm.(see detail)
*21	TU7733	#8 X 1/2 Lg. Screw
*22	TU15525	Cover plate (Specify color)



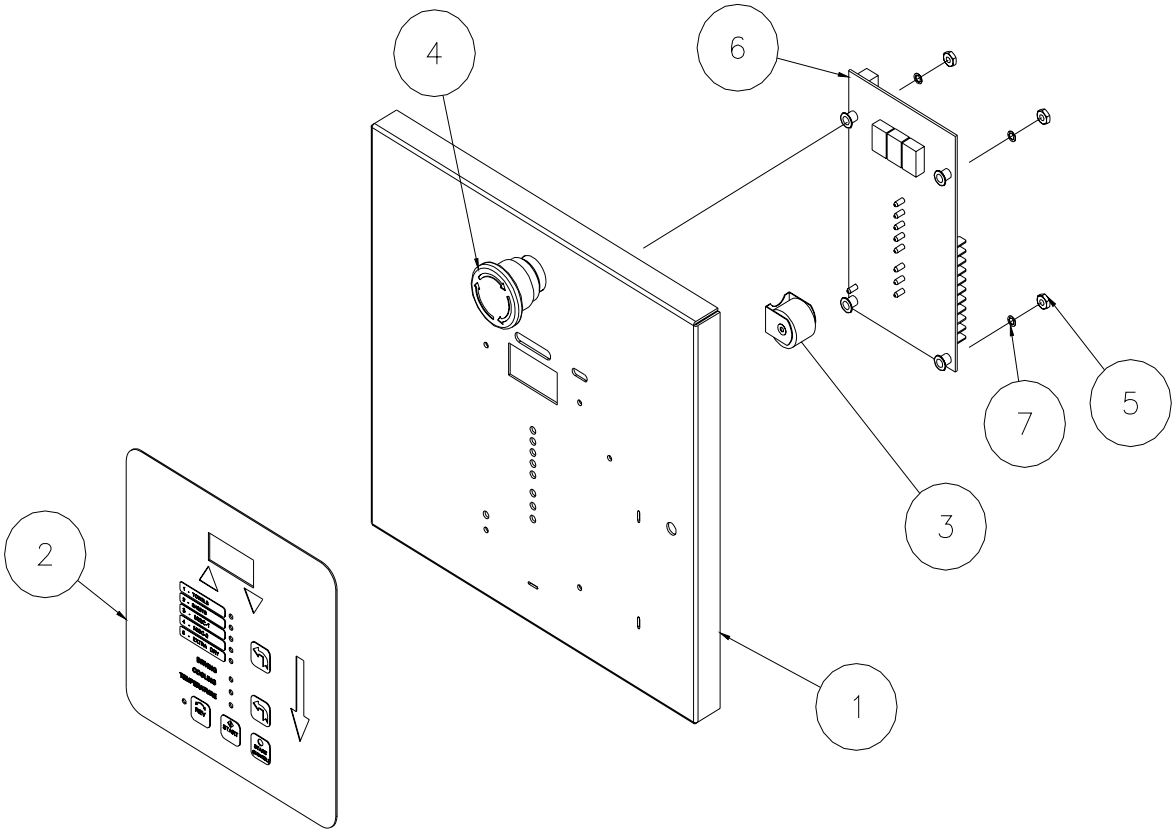
1	LA-00124-0	LATCH
2	SB-00836-0	PANCAKE SCREW
3	SB-00949-0	FASTENER
4	TU14357	LINT DR. W/A
5	TU14529	HANDLE
6	TU14530	BUMPER
7	TU14594	LABEL, ENGLISH
7a	TU15410	LABEL, 5 LANGUAGE
8	TU14640	TRIM, KICKPLATE



TU15111 – Reversing

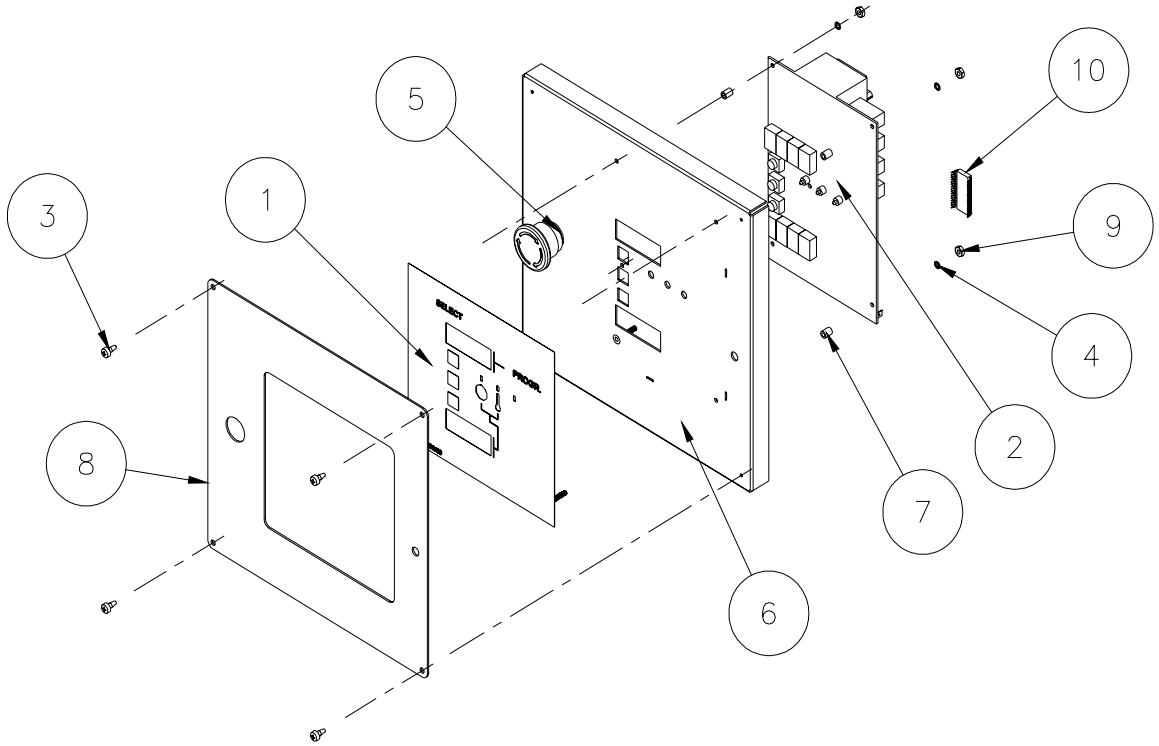
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	ET208	#6-32 x 1/4" Binding Hd Screw	9	TU15406WHT	Panel W/A
2	F1300	24V Relay	10	TU2555	Knob Assembly
3	FG147	Toggle Switch	11	TU3805	#15-32 Hex Nut
4	TU12874	Reversing Board	12	TU7733	#8-18 x 1/2" Self Drilling Screw
5	TU12932	Timer (0-60 Minutes)	13	TU8629	Terminal Board
6	TU12933	Timer (0-15 Minutes)	14	TU9028	Push Button Switch
7	TU15459	2T Nameplate	15	TUT316	24V LED Light
8	TU14435	Emergency Stop (50 Hz)			
	TU15724	7/8" Button Plug (60 Hz)			

DMP Control Panel Assembly



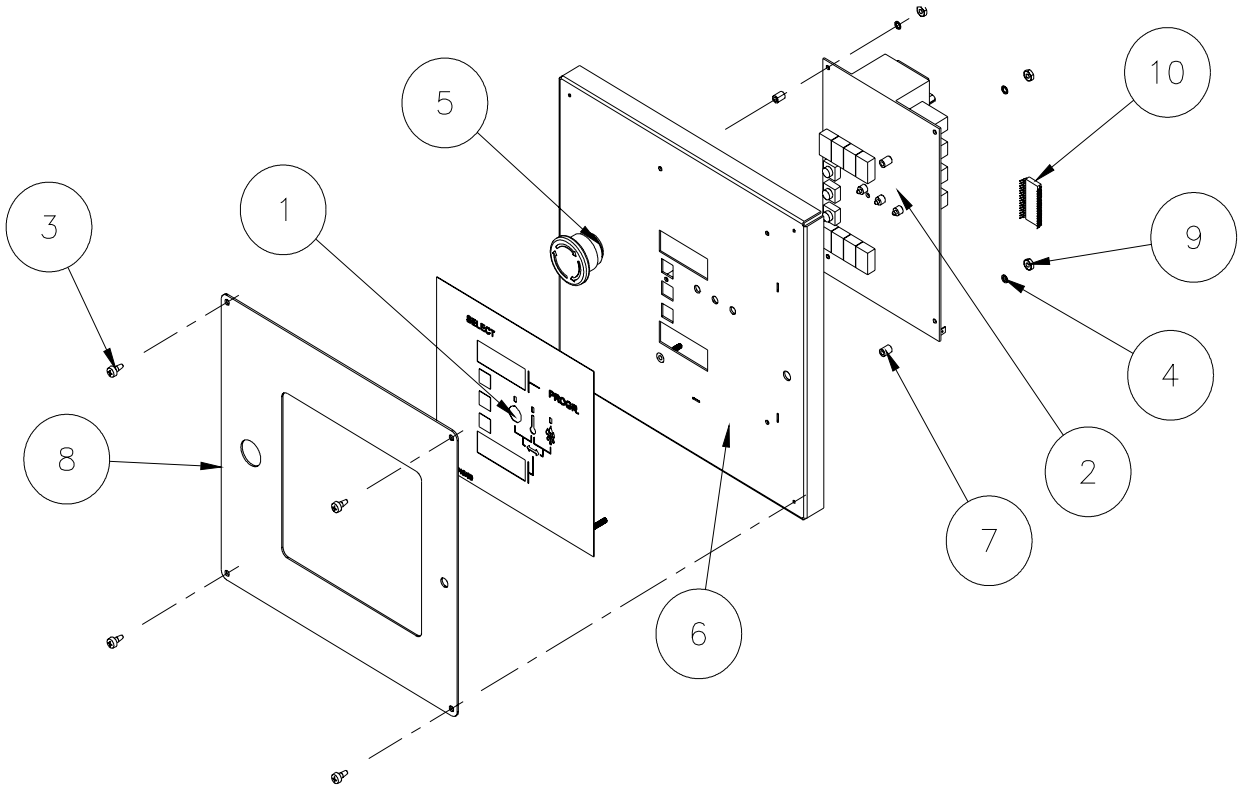
Ref No.	Part No.	Description
1	TU14469WHT	DMP Control Panel Welded Assembly
2	TU15184	Opl Dmp, Rt-Side (Dn) Overlay
3	TU14137	Buzzer, 24V
4	TU14435	Emergency Stop (50 Hz)
	TU15724	7/8” Button Plug (60 Hz)
5	TU3400	#6-32 Hex Nut
6	TU14404	Controller Opl/Coin Board, New
7	M270	#6 Int Tooth Lock Washer

Pro Control Panel Assembly



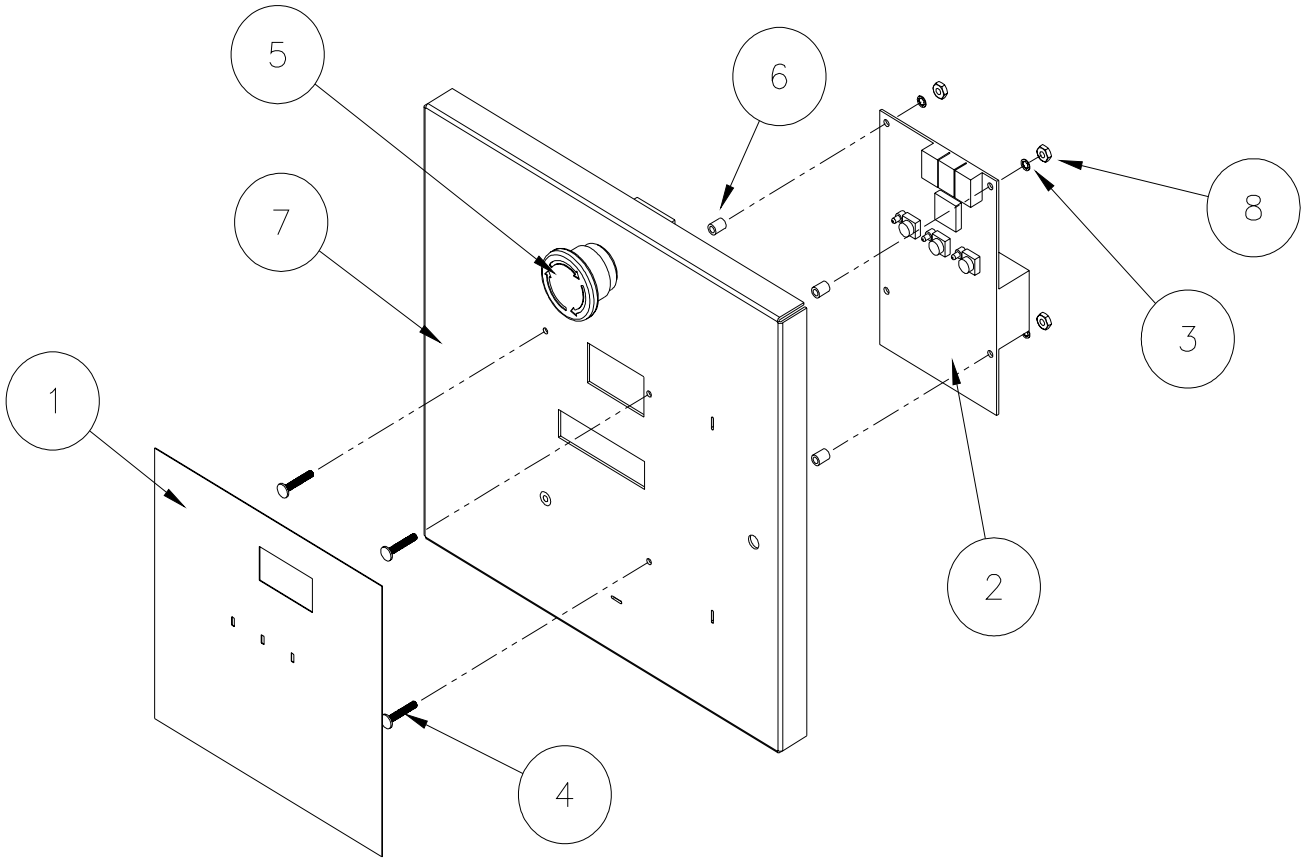
Ref. No.	Part No.	Description
1	254/00039/00	Overlay
2	254/00070/00	Pro Control
3	M261	#8-32 Screw
4	M270	Lockwasher
5	TU14435	Emergency Stop (50 Hz)
	TU15724	7/8" Button Plug (60 Hz)
6	TU14442WHT	Control Panel Welded Assembly
7	TU14701	Spacer
8	TU14727WHT	Cover
9	TU3400	#6-32 Nut
10	TU14452	Pro / ProHC EPROM Chip

ProHc Control Panel Assembly



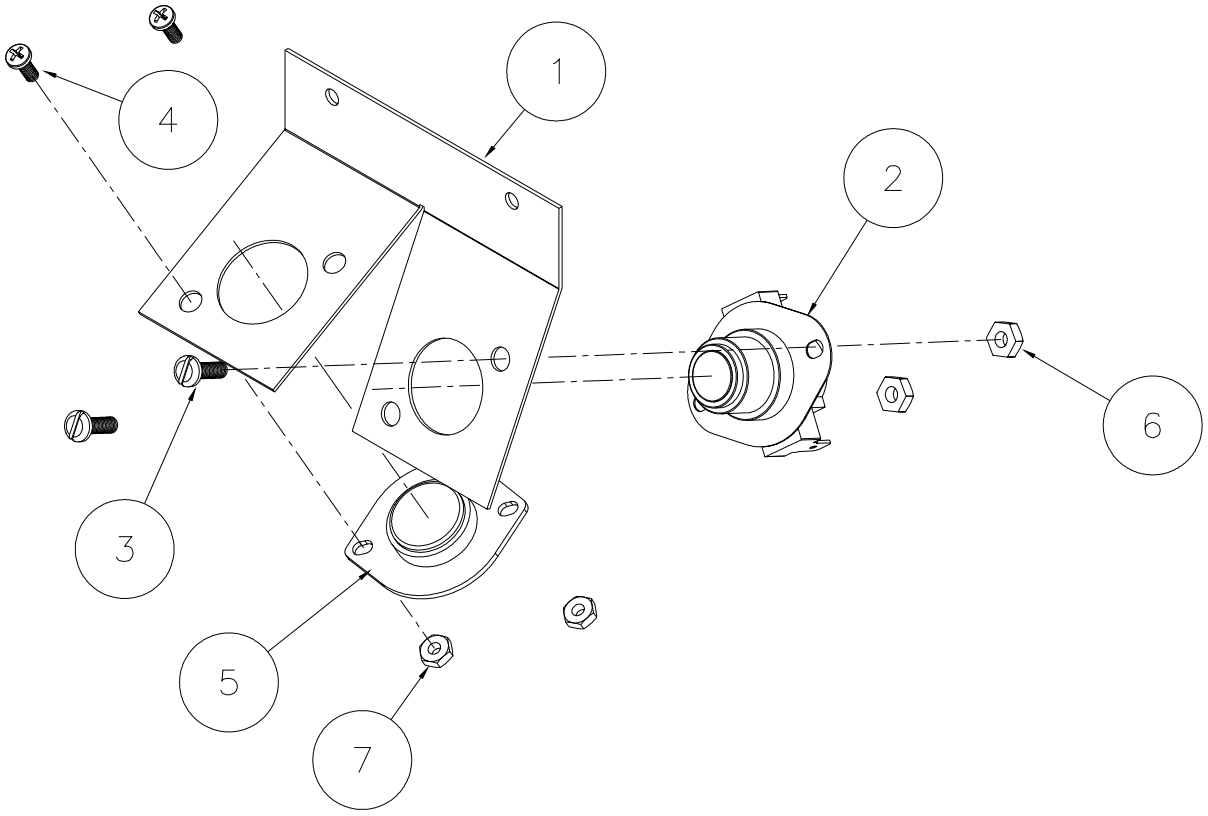
Ref. No.	Part No.	Description
1	254/00018/00	Overlay
2	254/00070/00	ProHC Control
3	M261	#8-32 Screw
4	M270	Lock Washer
5	TU14435	Emergency Stop (50 Hz)
	TU15724	7/8" Button Plug (60 Hz)
6	TU14442WHT	Control Panel W/A
7	TU14701	Spacer
8	TU14727WHT	Cover
9	TU3400	#6-32 Nut
10	TU14452	Pro / ProHC EPROM Chip

DX3R Control Panel Assembly



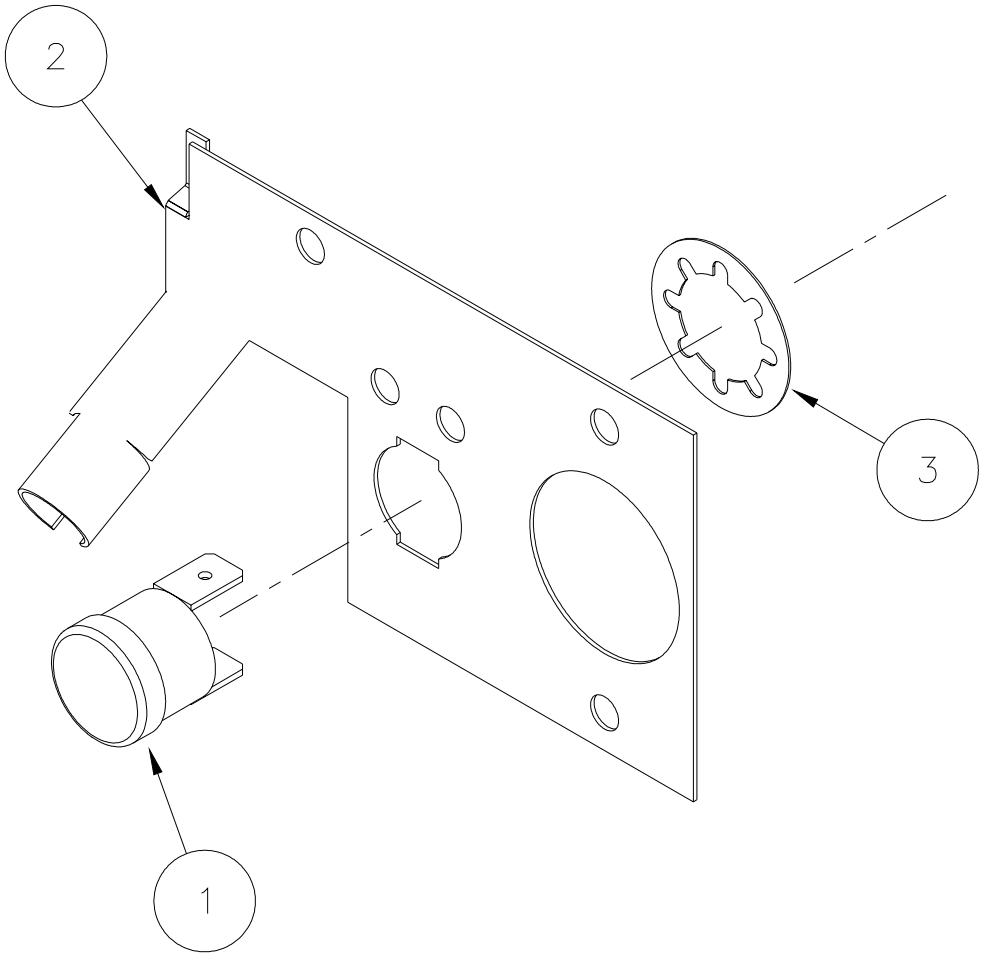
Ref No.	Part No.	Description
1	254/00069/00	OPL DX3/R Lower (Right) Label
2	254/00067/00	OPL Rev DX3S-PLGS Control Board
3	M270	#6 Lockwasher
4	TU12253	#6-32 Stud
5	TU14435	Emergency Stop
6	TU14701	Spacer
7	TU14720WHT	Control Panel
8	TU3400	#6-32 Nut

DMP THERMOSTAT ASSEMBLY



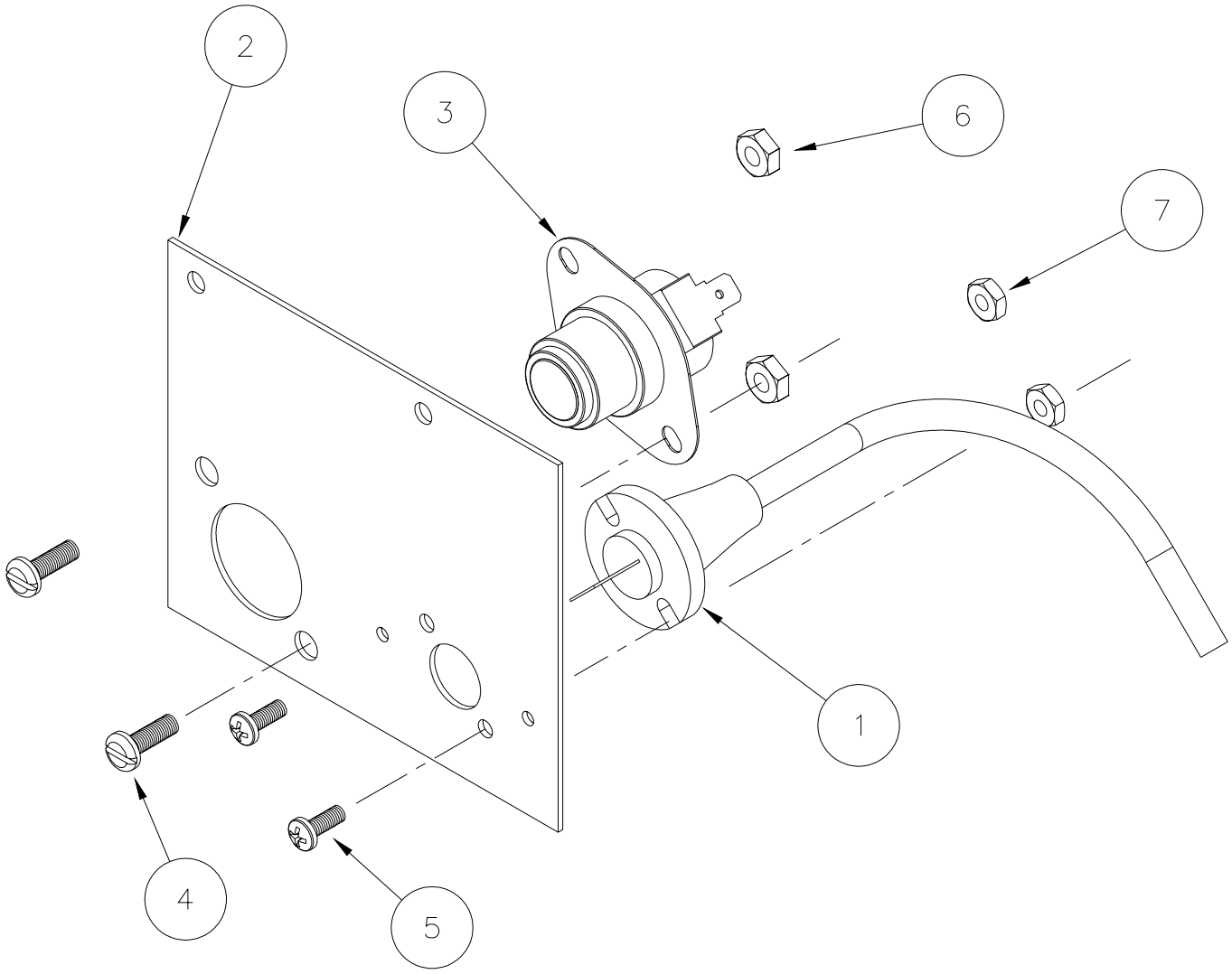
Ref. No.	Part No.	Description
1	CA-13172-0	MTG. Bracket
2	EA-00411-0	Switch - 220 Degree
3	SB-00828-0	#8-32 x 1/2 Screw
4	SB-00952-0	#6-32 x 3/8 Screw
5	TU11991	Thermistor
6	TU3266	#8-32 Hex Nut
7	TU3400	#6-32 Hex Nut

2 TIMER SENSOR ASSEMBLY



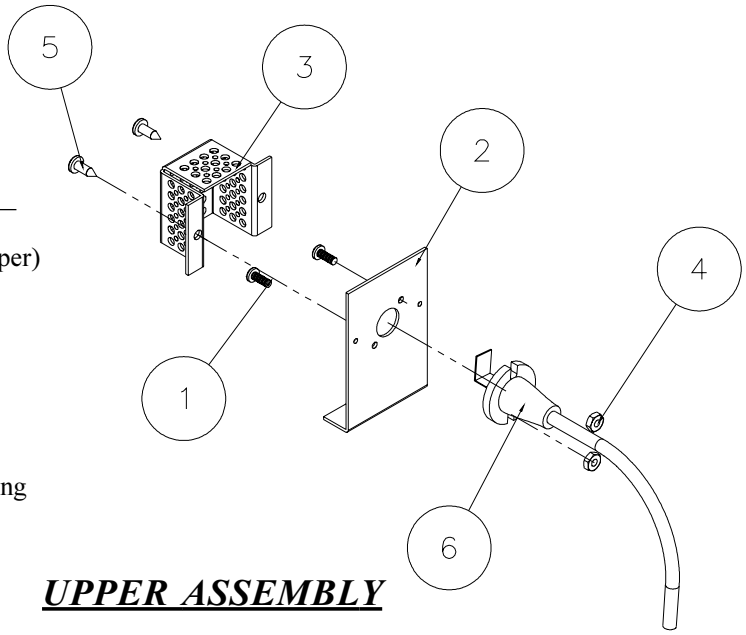
Ref. No.	Part No.	Description
	TU6029 - Thermostat Assembly	
1	TU2477	Thermostat #AR594
2	TU2486	Bracket
3	TU3801	Nut, speed #C18784-010-4

PRO SENSOR ASSEMBLY



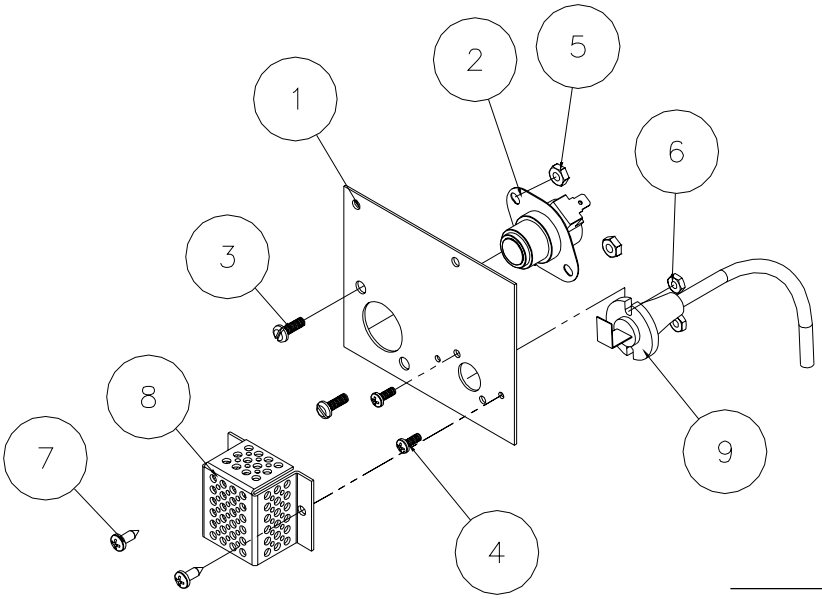
Ref. No.	Part No.	Description
	TU15464 - Sensor Assembly	
1	254/00072/10	Heat Thermostat
2	CA-23067-0	Thermostat
3	EA-00411-0	Switch, 220 Degrees
4	SB-00828-0	Screw, Mach. P.H. #8-32 X 1/2
5	SB-00952-0	Screw, P.H. #6-32 x 3/8
6	TU3266	Nut, Hex #8-32
7	TU3400	Nut, Hex #6-32

PROHC SENSOR ASSEMBLY - UPPER and LOWER



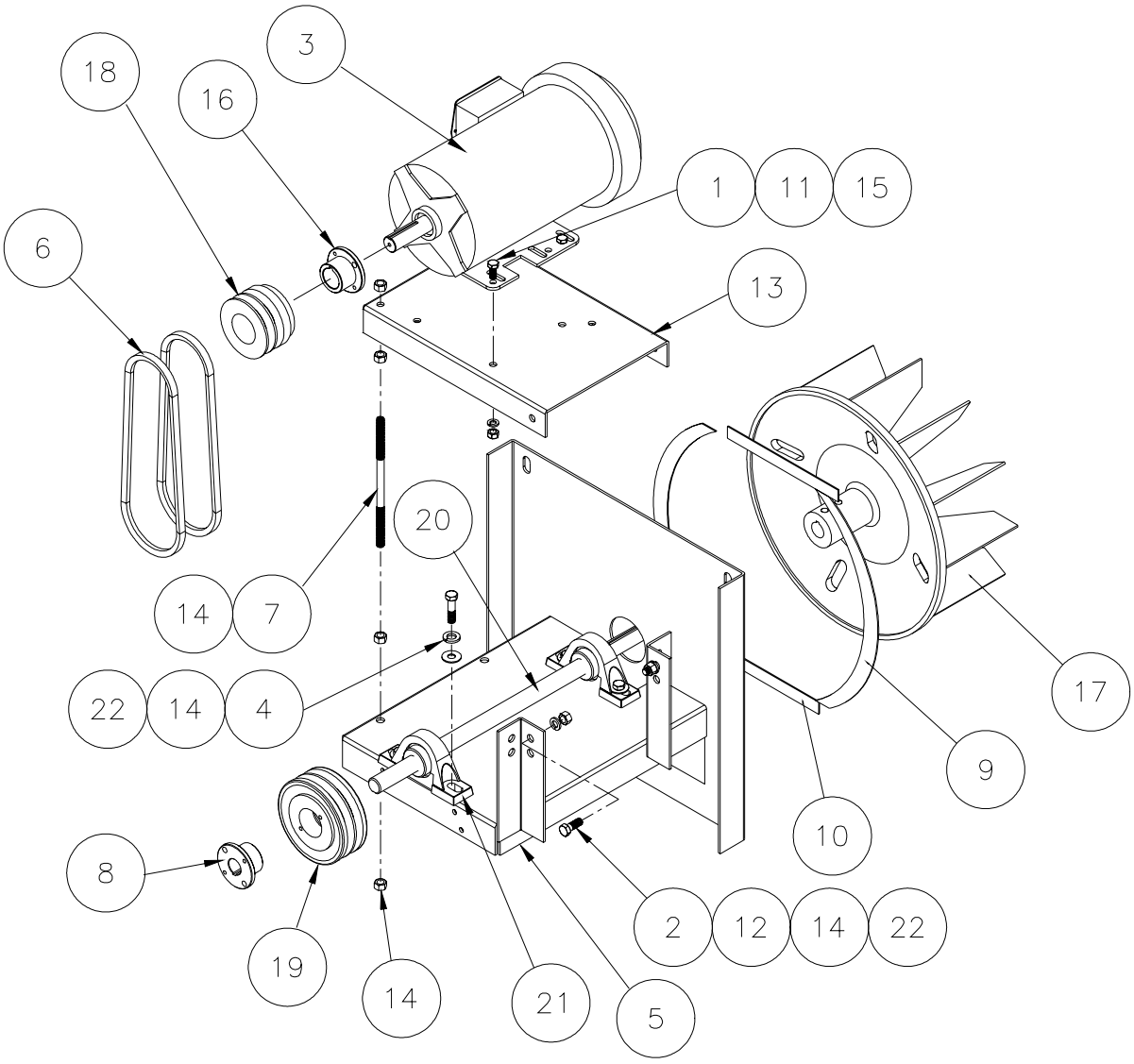
UPPER ASSEMBLY

Ref. No.	Part No.	Description
	TU14724	PROHC Sensor assembly (upper)
1	SB-00952-0	Screw, #6-32x 3/8" long
2	TU14693	Mounting plate upper probe
3	TU14694	Cover plate, probe
4	TU3400	Nut, #6-32
5	TU7733	Screw, self drill #8-18x 1/2" long
6	254/00060/00	Humidity sensor

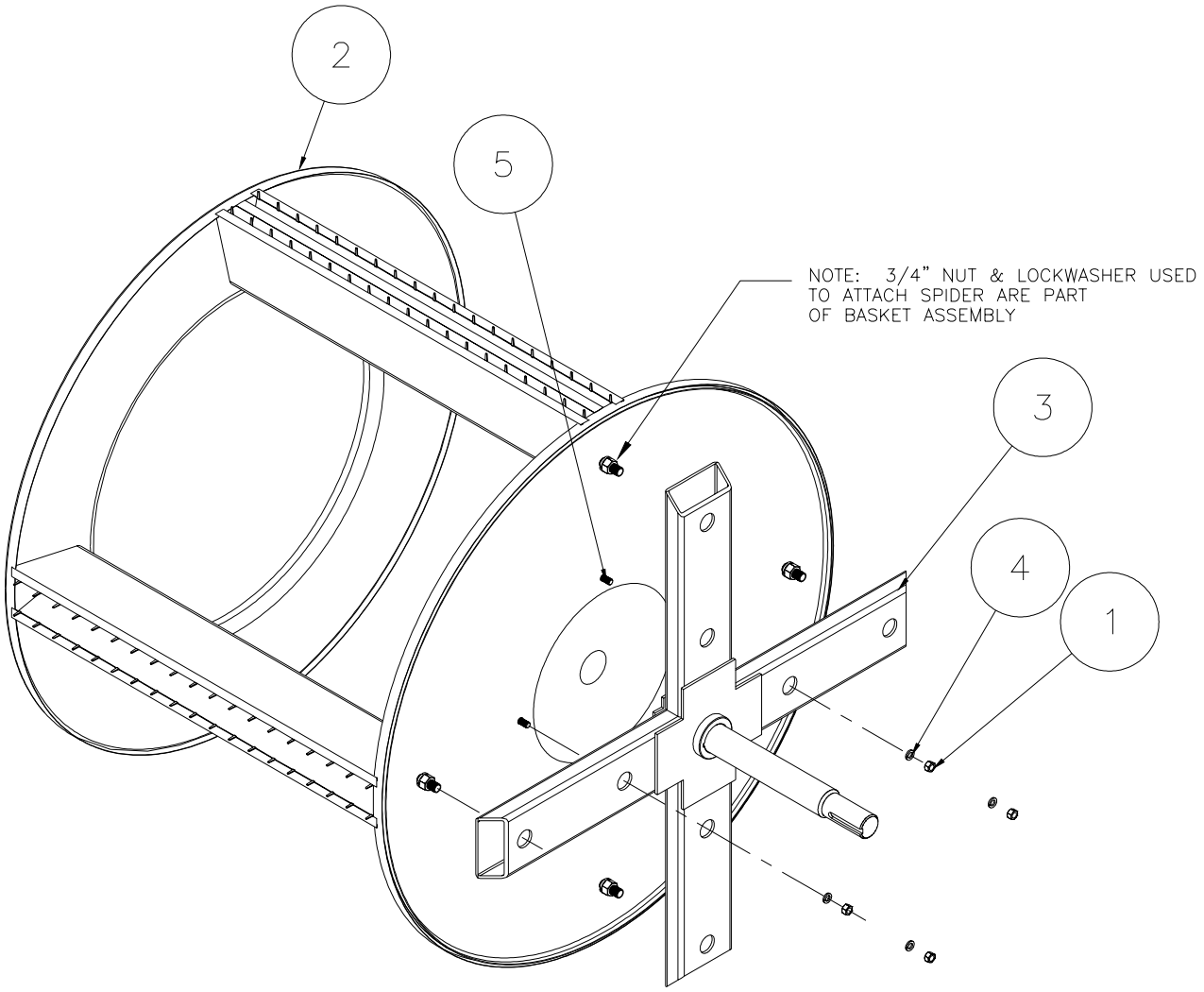


LOWER ASSEMBLY

	Part No.	Description
	TU15672	PROHC Sensor assembly (lower)
1	CA-13067-0	Bracket (sensor)
2	EA-00411-0	Switch, 220 degrees
3	SB-00828-0	Screw, machine #8-32x 1/2" long
4	SB-00952-0	Screw, #6-32x 3/8" long
5	TU3266	Nut, hex brass #8-32
6	TU3400	Nut, hex brass #6-32
7	TU7733	Screw, self drill #8-18x 1/2" long
8	TU14694	Cover, plate
9	254/00071/10	Humidity sensor

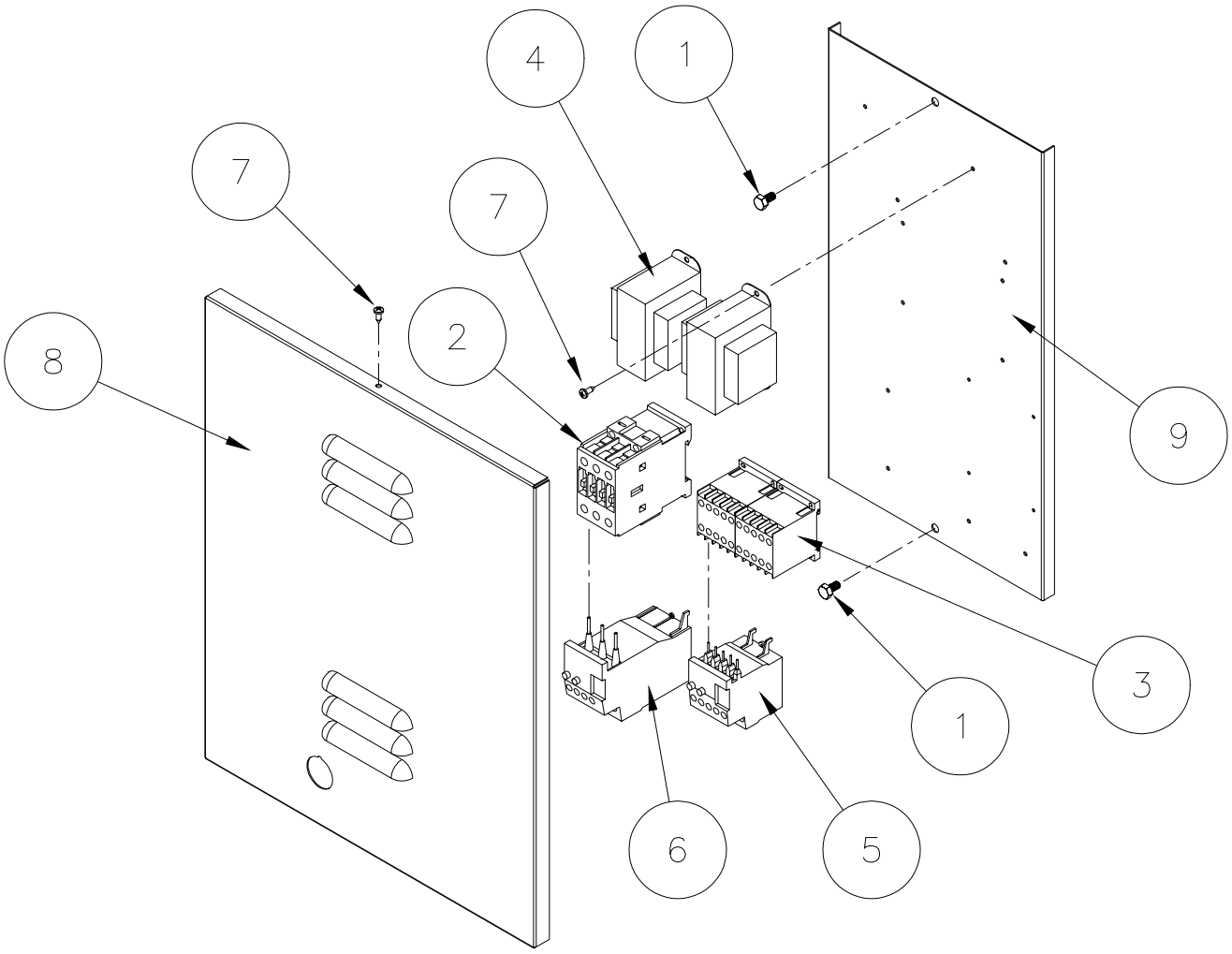


1	C249	NUT, 5/16-18	12	TU3246	SCREW, 3/8-16 H.H.
2	IB140	WASHER, 3/8" FLAT	13	TU4706	PLATE, MTR. MOUNT
3	MTR*	SEE MOTOR CHART	14	TU4787	NUT, 3/8-16 HEX
4	OP380	SCREW, 3/8-16 H.H.	15	TU5439	SCREW, 5/16-18 H.H.
5	TU14336	MTR. MTG	16	TU6723	BUSHING, 1 1/8" - H
6	TUX459	BELT, FAN	17	TUX220	FAN, 15" DIA.
7	TU1950	ROD, MTR. SUPPORT	18	TUX221	SHEAVE, 3.2" DIA. (60 Hz)
8	TU2007	BUSHING, 7/8 - H		TUX342	SHEAVE, 3.6 PITCH (50 Hz)
9	TU2473	GASKET, CORK CURVED	19	TUX222	SHEAVE, 5" DIA.
10	TU2474	GASKET, CORK ST.	20	TUX428	SHAFT, 7/8" FAN
11	TU2814	WASHER, 5/16 LOCK	21	TUX429	BRG, 7/8" PILLOW BLK
			22	VSB134	WASHER, 3/8 LOCK



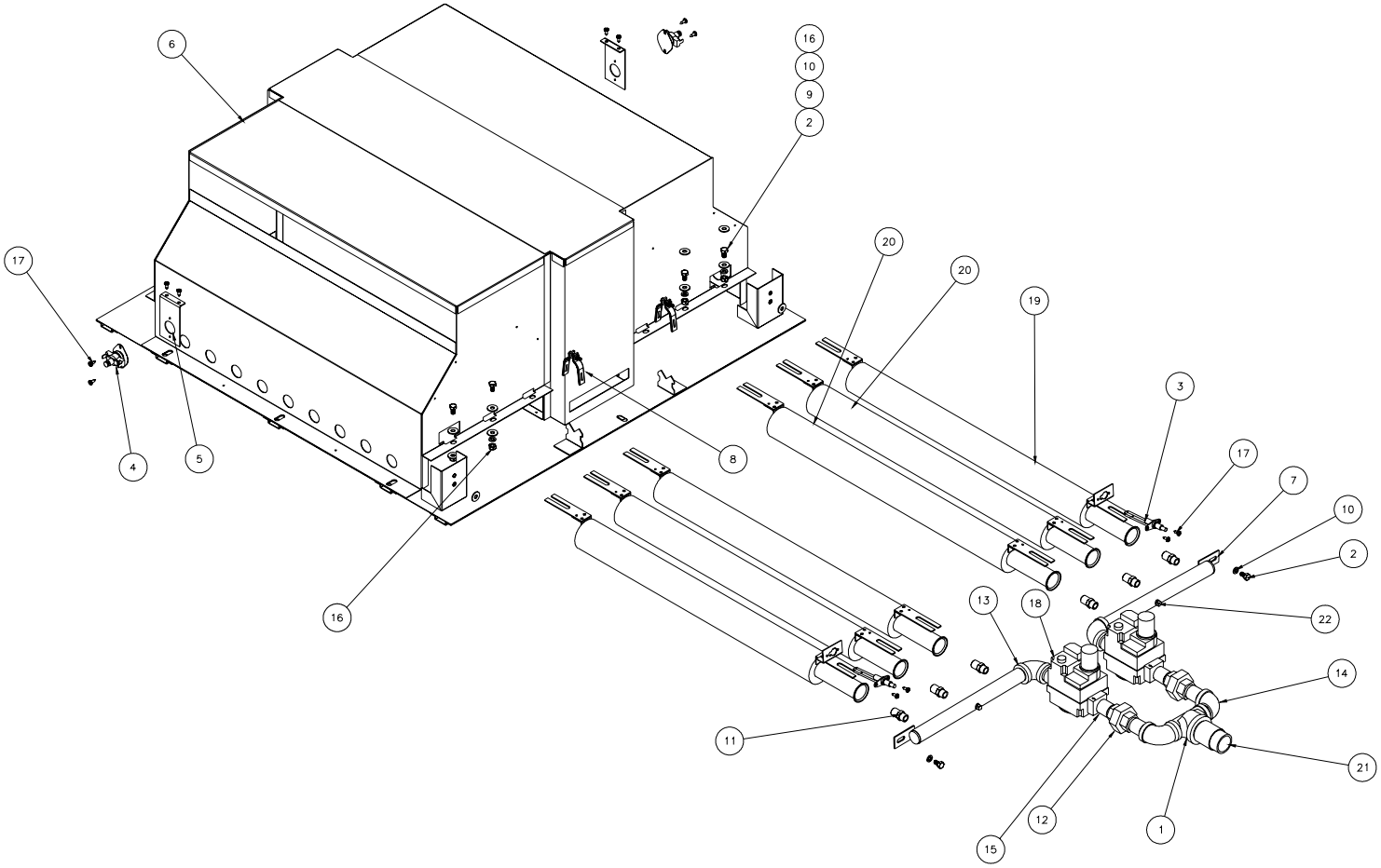
1	TU10686	1/2-13 HEX NUT
2	TUX103	ASM, BASKET
3	TUX531	SPIDER ASM.
4	TU2831	1/2 LOCKWASHER
5	TUX285	1/2-13 SCREW

TU14765 - REVERSING CONTROL PANEL ASSEMBLY

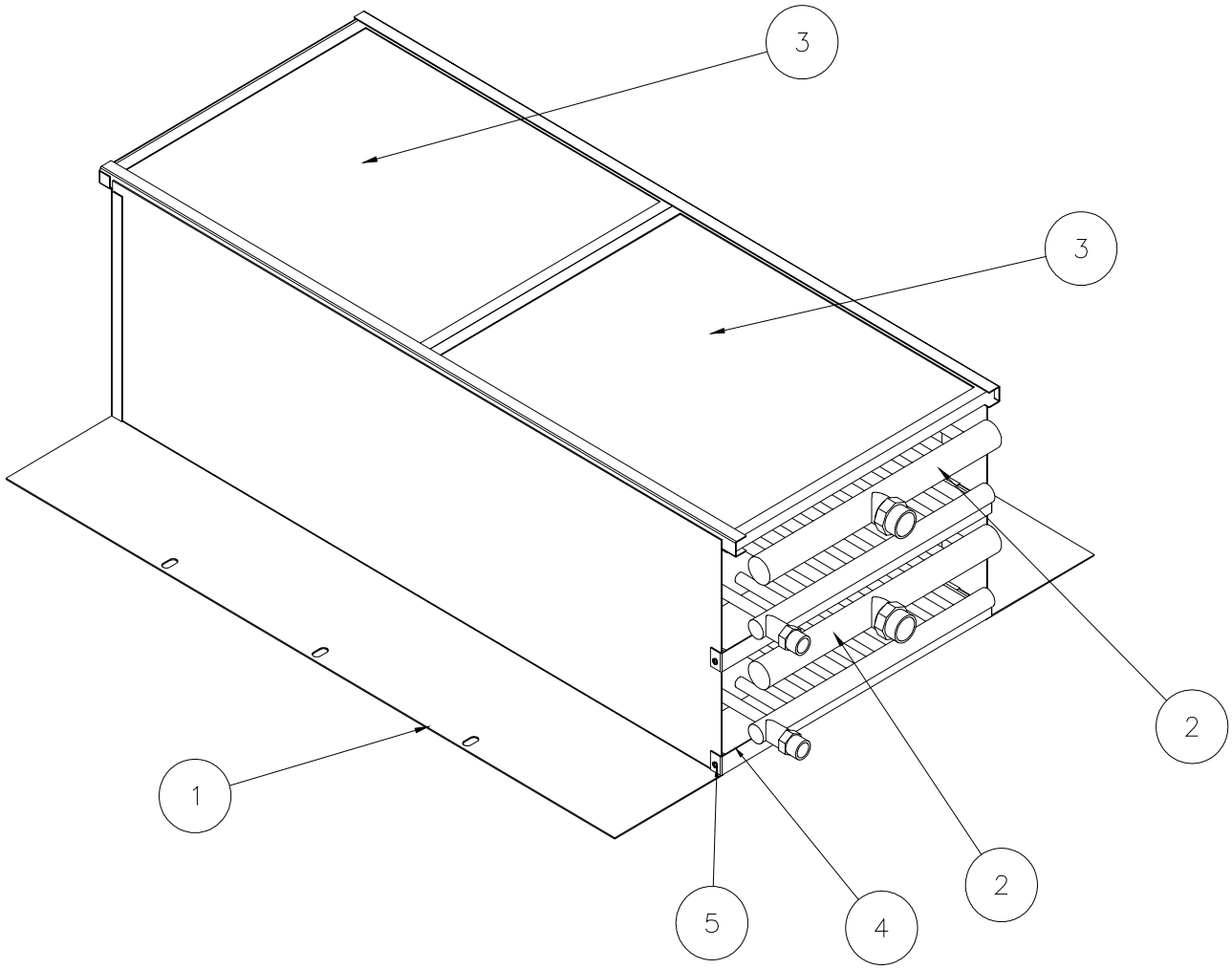


1	CB36	SCREW, 1/4-20
2	EA-00673	MTR. CONTACTOR
3	EA-00685	REV. CONTACTOR
4	TU13480	TRANSFORMER
5	TU14706	REV. OVERLOAD
6	TU14707	MTR. OVERLOAD
7	TU7733	#8 SELF DRILL SCR.
8	TUX601	CTRL. BOX COVER
9	TUX197	MTG. PLATE

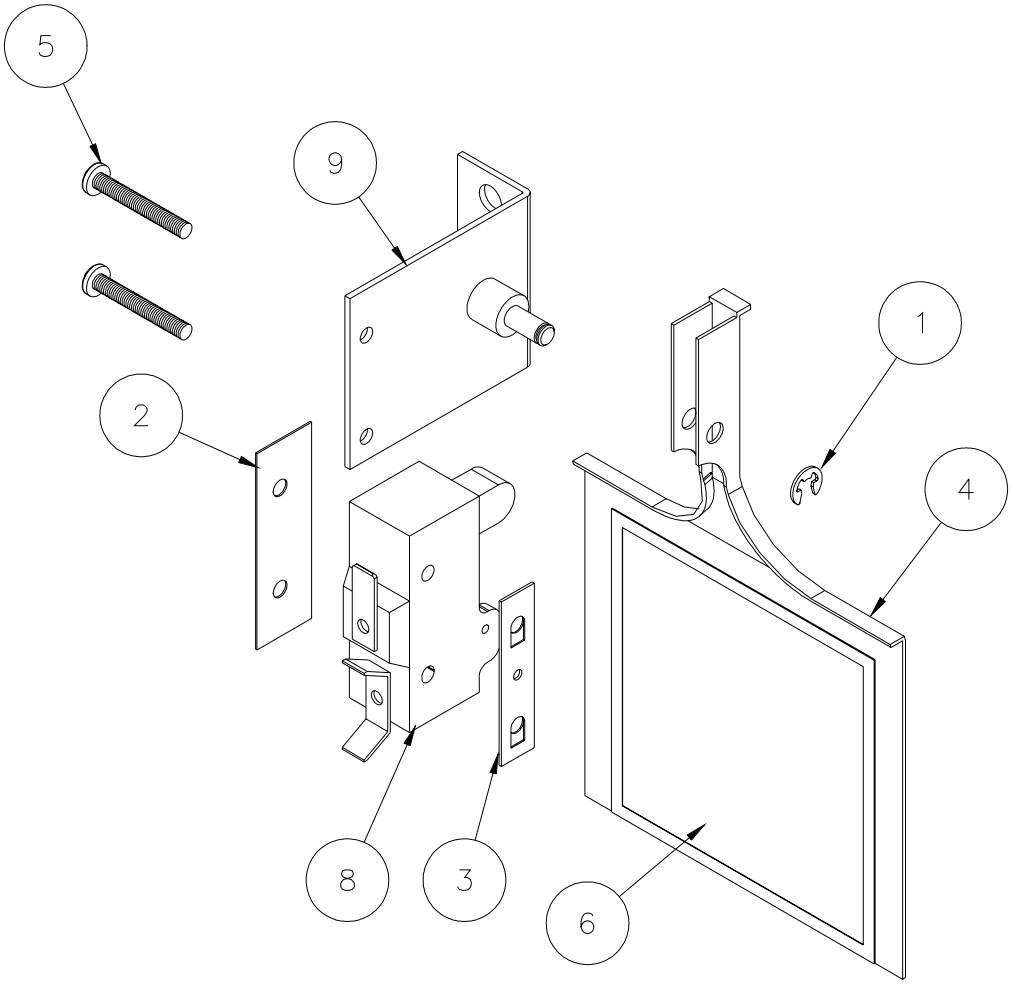
TUX582 - 24V GAS BONNET ASSEMBLY



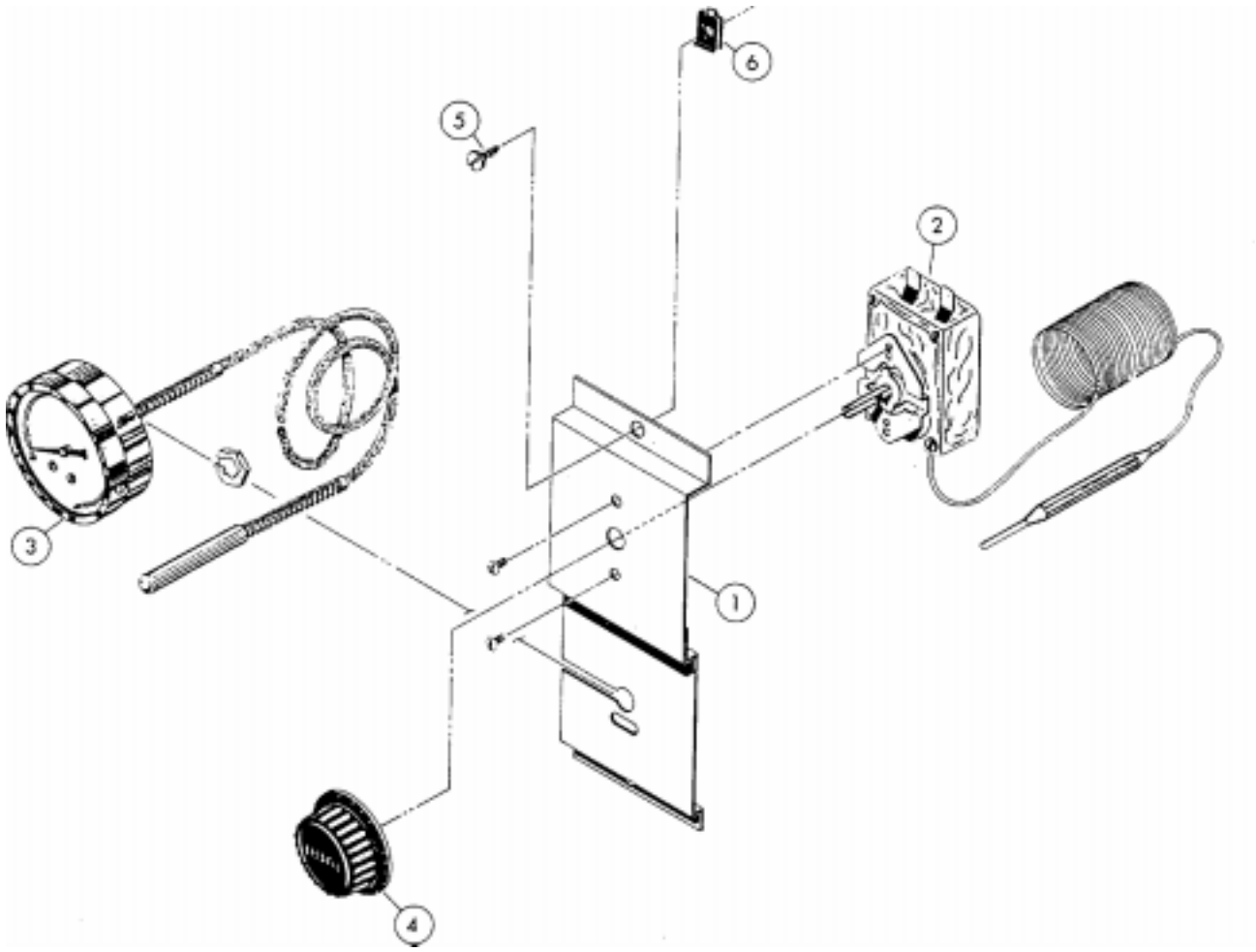
1	39060412	3/4 x 3/4 x 1-1/4 TEE	12	TU4600	3/4" UNION
2	CB36	1/4-20 x 1/2 SCR.	13	TU4602	3/4"-90 STREET ELL.
3	GA-00764-0	ELECTRODE	14	TU4605	3/4"-90 ELL.
4	TU13678	THERMOSTAT	15	TU4608	3/4" x 2" NIPPLE
5	TU13695	T-STAT MTG. BRKT.	16	TU4934	1/4-20 H.H. NUT
6	TU14428	BONNET W/A	17	TU7733	#8-18 x 1/2" SCREW
7	TU14463	GAS MANIFOLD	18	TUX352	3/4" GAS VALVE
8	TU2226	MANIFOLD MTG. BRKT.	19	TU14796	GAS BURNER
9	TU2846	1/4" LOCKWASHER	20	TU14797	IGNITION BURNER
10	TU2847	1/4" FLATWASHER	21	TUX391	1-1/4 x 3" NIPPLE
11	TU3539	ORFICE	22	TU10946	MANIFOLD PLUG



1	TUX566	WELDMENT, BONNET
2	TUX134	STEAM COIL
3	TU9953	FILTER, 20 x 24 x 1
4	TU15773	FILLER PLATE
5	TU7733	#8 SELF DRILLING SCREW



1	F888	E-RING
2	TU1770	INSULATOR
3	TU1771	#6 TINNERMAN NUT
4	TU2463	ACTUATOR ARM
5	TU3219	#6 x 1 S.M.S.
6	TU3476	DECAL
7	TU7733	#8 x 1/2 S.M.S.
8	TU8155	MICRO SWITCH
9	TU8171	BRACKET ASM.



TU60300 – Consists of Ref. No. 1, 2, 3

1	TU5530	Mounting Bracket
2	TU1980	Thermostat
3	TU3593	Thermometer
	TU3816	Lens Replacement (Texas Gage ONLY)
	TU8475	Lens Replacement (Marshaltown Inst. ONLY)
	TU11193	Lens Replacement (Weiss – consult factory)
	TU13213	Lens Replacement (Weiss – consult factory)
4	TU490	Thermostat Knob – Fahrenheit
	TU491	Thermostat Knob – Centigrade
5	TU3209	#14 x 5/8 S.M.S. (Pkg. of 6)
6	LB74	#14 Tinnerman Clip (Pkg. of 6)

NOTE:
For conversion from natural gas to propane gas.

1. Order:
   6 each—TU3539 orifice with no. 34 drill size.
   2 each—K555 natural gas to LP gas conversion kit and follow directions.

Specifications (propane)
Propane—1.53 specific gravity

Calorific value—2,500 Btu/cu. ft.

Gas Input—87,500 Btu/hour per burner total

MODEL	ORIFICE SIZE - NORMAL (SEA LEVEL)		ORIFICE SIZE - HIGH (3,000 FT.)	
	NATURAL	PROPANE	NATURAL	PROPANE
L52CD42G	No. 9	No. 31	No.	No.

In altitudes above 2000 feet, consult with factory.

OVERLOAD HEATER TABLE
Motor Full Load Amps (FLA)

Heater Size	SF = 1.00		SF = 1.15 OR GREATER	
	40 Deg. C Amb.	60 Deg. C Amb. or more	40 Deg. C Amb.	60 Deg. C Amb. or more
H-6	.69 - .74	.56 - .61	.62 - .68	.51 - .55
H-7	.75 - .83	.62 - .68	.69 - .74	.56 - .61
H-8	.84 - .93	.69 - .74	.75 - .83	.62 - .68
H-9	.94 - 1.02	.75 - .83	.84 - .93	.69 - .74
H-10	1.03 - 1.16	.84 - .93	.94 - 1.02	.75 - .83
H-11	1.17 - 1.31	.94 - 1.02	1.03 - 1.16	.84 - .93
H-12	1.32 - 1.45	1.03 - 1.16	1.17 - 1.31	.94 - 1.02
H-13	1.46 - 1.63	1.17 - 1.31	1.32 - 1.45	1.03 - 1.16
H-14	1.64 - 1.80	1.32 - 1.45	1.46 - 1.63	1.17 - 1.31
H-15	1.81 - 1.96	1.46 - 1.63	1.64 - 1.80	1.32 - 1.45
H-16	1.97 - 2.22	1.64 - 1.80	1.81 - 1.96	1.46 - 1.63
H-17	2.23 - 2.43	1.81 - 1.96	1.97 - 2.22	1.64 - 1.80
H-18	2.44 - 2.55	1.97 - 2.22	2.23 - 2.43	1.81 - 1.96
H-19	2.56 - 2.81	2.23 - 2.43	2.44 - 2.55	1.97 - 2.22
H-20	2.82 - 2.99	2.44 - 2.55	2.56 - 2.81	2.23 - 2.43
H-21	3.00 - 3.43	2.56 - 2.81	2.82 - 2.99	2.44 - 2.55
H-22	3.44 - 3.90	2.82 - 2.99	3.00 - 3.43	2.56 - 2.81
H-23	3.91 - 4.28	3.00 - 3.43	3.44 - 3.90	2.82 - 2.99
H-24	4.29 - 4.86	3.44 - 3.90	3.91 - 4.28	3.00 - 3.43
H-25	4.87 - 5.45	3.91 - 4.28	4.29 - 4.86	3.44 - 3.90
H-26	5.46 - 6.13	4.29 - 4.86	4.87 - 5.45	3.91 - 4.28
H-27	6.14 - 6.79	4.87 - 5.45	5.46 - 6.13	4.29 - 4.86
H-28	6.80 - 7.72	5.46 - 6.13	6.14 - 6.79	4.87 - 5.45
H-29	7.73 - 8.48	6.14 - 6.79	6.80 - 7.72	5.46 - 6.13
H-30	8.49 - 9.65	6.80 - 7.72	7.73 - 8.48	6.14 - 6.79
H-31	9.66 - 10.70	7.73 - 8.48	8.49 - 9.65	6.80 - 7.72
H-32	10.80 - 12.30	8.49 - 9.65	9.66 - 10.70	7.73 - 8.48
H-33	12.40 - 13.00	9.66 - 10.70	10.80 - 12.30	8.49 - 9.65
H-34	13.10 - 14.00	10.80 - 12.30	12.40 - 13.00	9.66 - 10.70

ORDERING OVERLOAD HEATERS FOR OVERLOAD RELAYS

Properly sized overload heaters provide motor protection for the dryer. Improper heater size may allow the motor to be damaged, or could cause nuisance tripping.

Heater sizes are listed on the overload heater table on page 61. To use the table, refer to the motor rating plate and locate the full load amps (FLA), the service factor (SF), and the ambient temperature (Amb.).

Example

Motor Rating Plate show FLA = 3.8, SF = 1.15, and 60 Deg. C Amb.

From the table, heater size is H-25. Order TU267900—H25.

CAUTION

Overload relays do not provide protection from short circuits. Short circuit protection is provided by a device such as a breaker or wall disconnect.

Suggested Minimum Dryer Make-up Air Requirements

Dryer Model	Dryer Pocket Capacity		Maximum Air Flow Rate per Pocket		Duct Size For Service Connection		Required Make-up Air Area per Pocket	
	lb	kg	cfm	m3/h	inch	mm	sq. inch	cm2
C 30 ST	30	13.6	450	765	6	153	87	561
C 75 ST	75	34	1000	1700	12	305	192	1240
C 110	110	50	2200	3740	12	305	422	2723
C 110 E/S	110	50	850	1445	8	203	163	1052
C 125	125	56.7	2000	3400	12	305	384	2477
C 150	150	68	2250	3825	12	305	432	2787
HD175	175	79.4	2780	4726	12	305	534	3445
HD190	190	86.2	3000	5100	12	305	576	3716
HD20.1	20	9.1	450	765	6	153	87	561
HD30SL	30	13.6	600	1020	8	203	116	748
HD30.1	30	13.6	625	1063	8	203	120	774
HD50.1	50	22.7	850	1445	8	203	164	1058
HD75.1	75	34	1000	1700	8	203	192	1240
HD80.1	80	36.3	1000	1700	10	254	192	1240

Notes:

1) The Model C 30 ST has 2 pockets per dryer, each pocket has the above listed characteristics; each pocket is exhausted separately with a 6" (153mm) duct.
2) The Model C 75 ST has 2 pockets per dryer, each pocket has the above listed characteristics; both pockets have one 8" (203mm) exhaust manifolded into one 12" (305mm) exhaust duct for exhaust connection.
3) For the C 30 ST and the C 75 ST Models, the Required Make-up Air Area shown in the table should be doubled since it is shown per pocket,only.

RECOMMENDED SPARE PARTS LIST

EA-11621-0	LINT DOOR SWITCH
TU14371	175# LINT SCREEN
TUX572	190# LINT SCREEN
MD-00337-0	MAGNET –READ SWITCH
TU5288	GASKET DOOR RIM
TU7169	DOOR GLASS GASKET
EA-00652-0	READ SWITCH
TUA2319H	DOOR CATCH ASSY
TU14435	EMERGENCY STOP
TU8155	SWITCH, SPST AIR SWITCH
EA-00685-0	REVERSING CONTROL, 24V COIL
TU13463	CONTACTOR, 24VAC
TU14675	C.E. IGNITOR MODULE
GA-00765-0	NON- C.E. IGNITOR MODULE
TU13521	CONTACTOR, 208-240V
TU14684	CONTACTOR, 346-600V
EA-00245-0	SWITCH, 330 DEGREE
GA-00764-0	ELECTRODE / STRAIGHT
TU13517	VALVE, STEAM SOLENOID ¾" 24V (175# ONLY)
EA-00243-0	BONNET HIGH LIMIT SWITCH

DMP SPARE PARTS

EA-00594-0	SWITCH,220 DEGREES
TU11991	THERMISTOR
TU2477	SENSOR
TU14405	OVERLAY (OPL)
TU14406	OVERLAY (COIN)
TU14137	BUZZER 24V

DOUBLE TIMER PARTS

EA-00594-0	SWITCH,220 DEGREES
TU9028	START SWITCH
FG147	TOGGLE SWITCH 2 POSITION
TUT316	LIGHT, LED 24V
TU12874	TIMER, SOLID STATE REVERSING
TU12932	TIMER, MODEL N407 0-60
TU12933	TIMER, MODEL N407 0-15
TU2555	KNOB, W/PLATE-LOCK-SCR-SET SCREW

BELTS

TU15515	TYPE "B" V-BELT