

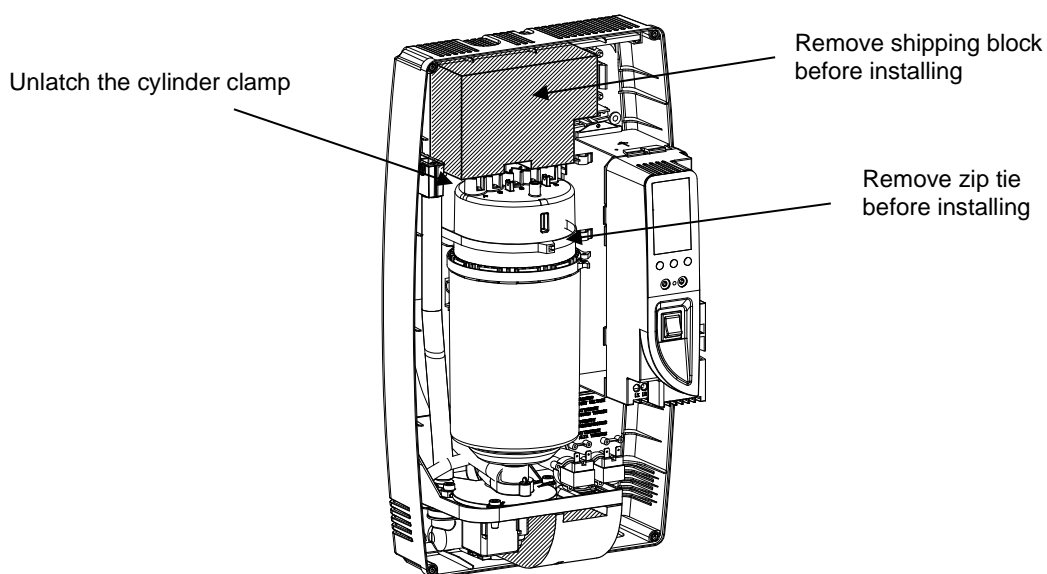
Before You Start

Test water conductivity.

Check for the following items inside the box:

1. Duct Steam Humidifier
2. Installation manual
3. Mounting template
4. Installation Kit
 - a. Steam nozzle
 - b. 6' Steam hose
 - c. 9' Condensate hose
 - d. Water tube supply kit (10' tubing)
 - e. Water fill connector
 - f. GFX3 Automatic Humidistat
 - g. Ball valve
 - h. Air proving pressure switch
 - i. Hose clamps
 - j. Fasteners

 **IMPORTANT:** Remove the following items prior to installation:



You must be a qualified contractor to install this product.

3.3 Plumbing

3.3.1 Water Characteristic Requirements

The humidifier must be supplied with water with the following characteristics:

- Pressure between 20psi and 110psi or 0.1 and 0.8 MPa (1 and 8 bar)
- Temperature between 33°F and 104°F or 1°C and 40°C
- Flow-rate minimum of 0.45 L/min or 0.21gpm
- Hardness no greater than 40°FH (equal to 400 ppm³ of CaCO)
- Conductivity from 125 to 1250 µS/cm
- Absence of organic compounds
- The characteristics of the water of supply must fall within the following limits (Tables 3.c and 3.d):

Table 3.c.
LIMIT VALUES FOR LOW SALT CONTENT WATER

	Units	Min	Max
Hydrogen ions (pH)		7	8.5
Specific conductivity (R,20°C)	µS/cm	300	
Total dissolved solids (c R)	mg/l	(*)	(*)
Dry residue at 180°C	mg/l	(*)	(*)
Total hardness	mg/l CaC ₃ O	150	400
Temporary hardness	mg/l CaC ₃ O	=	200
Iron + Manganese	mg/l Fe + Mn	=	0.2
Chlorides	ppm Cl	=	30
Chlorides	mg/Si ₂ O	=	20
Chlorine residue	mg/l Cl-	=	0.2
Calcium sulphate	mg/l CaS ₄ O	=	100

Table 3.d.
LIMIT VALUES FOR NORMAL WATER

	Units	Min	Max
Hydrogen ions (pH)		7	8.5
Specific conductivity (R,20°C)	µS/cm	125	500
Total dissolved solids (c R)	mg/l	(*)	(*)
Dry residue at 180°C	mg/l	(*)	(*)
Total hardness	mg/l CaC ₃ O	0	200
Temporary hardness	mg/l CaC ₃ O	=	150
Iron + Manganese	mg/l Fe + Mn	=	0.2
Chlorides	ppm Cl	=	20
Chlorides	mg/Si ₂ O	=	20
Chlorine residue	mg/l Cl-	=	0.2
Calcium sulphate	mg/l CaS ₄ O	=	60

(*) Values dependent on the specific conductivity: in general: $cR \sim 0.65 \cdot \sigma R$, 20°C; $R180 \sim 0.9 \cdot \sigma R$, 20°C

Note: There is no relationship between the hardness and conductivity of water.

Water conductivity must be matched by specifications of the steam cylinder. Check or know the water conductivity of the proposed site before installation. Replace the steam cylinder before startup if not correct. (See Table 3.e.)

Table 3.e.

Elite Steam Models	Conductivity µS/cm	Steam Cylinder
DS25LC	125-400	35-15
DS25	400-1250	35-14
DS15P	400-1250	15-14



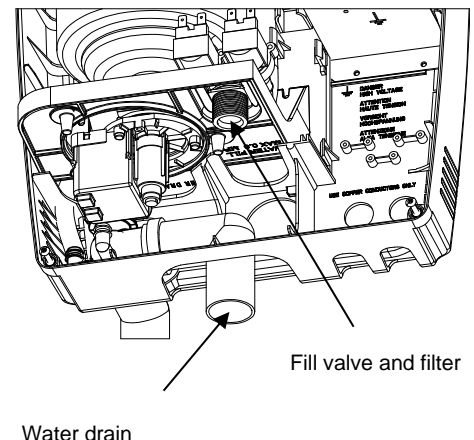
IMPORTANT: The following water types are not acceptable:

1. Softened water (will lead to foam, electrode corrosion and greatly shortened cylinder life)
2. Water containing disinfectants or corrosion inhibitors (potential irritants)
3. Industrial water, boiler water or water from cooling circuits
4. Any potentially chemically or bacteriologically-contaminated water
5. Heated water

3.3.2 Water Supply Connection

The fill valve and the water supply line should be connected by a soft ¼" poly hose capable of absorbing water hammering in order to avoid damage to the fill valve. The water line may be routed through the back or through the bottom of the unit. With poly tubing, a tubing support must be used to prevent tubing collapse and leaks. The fitting threads onto the fill valve inlet located on the bottom of the humidifier using a ¾" G connection (supplied). **Note: As there is a strainer built into the fill valve fitting underneath the unit that requires periodic cleaning, be sure to allow clearance for access** (See Figure 3.d.).

Figure 3.d

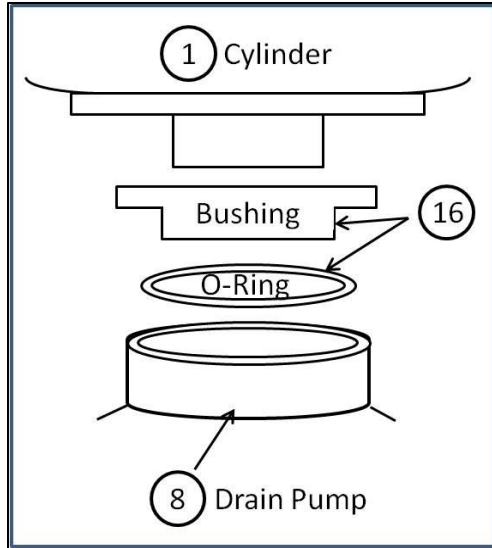




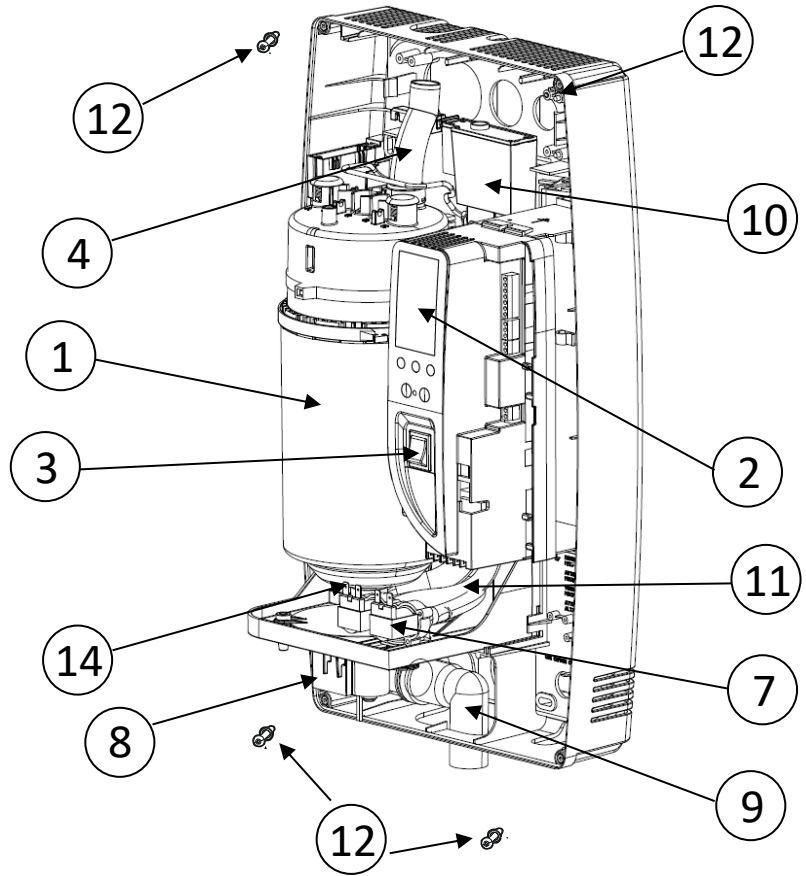
number of cleaning cycles (from 2 to 4, read chap. "Starting With A New Steam System or Replacement Steam Cylinder"). Check for water leaks.

7.2 Replacement Parts

NS = Not Shown on Diagram



**Expanded View of Bushing
& O-Ring Placement**



Item	USA GFI Part No.	CANADA CGF Part No.	Description
1			Steam Generator Cylinders
1	7523	GF-15-14	15-14 CYLINDER STD. CONDUCTIVITY 110/1 5.5 LBS/HR - DS15P, DS15
1	7524	GF-35-14	35-14 CYLINDER STD. CONDUCTIVITY 230/1 12 LBS/HR - DS25, DS25LC
1	7543	GF-35-15	35-15 CYLINDER LOW CONDUCTIVITY 230/1 12 LBS/HR - DS25, DS25LC
			Other Replacement Parts
2	7800	GF-25-1	25-1 CONTROL MODULE 5.4 kg/h 230V WITH DRAIN PUMP
	7801	GF-15-5	15-5 CONTROL MODULE 2.5 kg/h 110V WITHN DRAIN PUMP
3	7551	GF-35-18	35-18 ON/OFF SWITCH FOR CH SERIES
4	7815	GF-25-12	25-12 STEAM CYLINDER HOSE ADAPTER
7	7802	GF-15-6	15-6 FILL SOLENOID + DRAIN TEMPERING VALVES 110 V FOR DRAIN PUMP
	7803	GF-25-3	25-3 FILL SOLENOID + DRAIN TEMPERING VALVES 230 V FOR DRAIN PUMP
8	7804	GF-15-7	15-7 KIT FOR DRAIN PUMP 110V
	7805	GF-25-7	25-7 KIT FOR DRAIN PUMP 230V
	7542	GF-35-21	35-21 90 DEGREE DRAIN ADAPTER FOR CH SERIES
9	7806	GF-25-2	25-2 FILL TANK + PLUG FOR DRAIN PUMP
10	7808	GF-35-25	25-5 DUCT TUBING KIT FOR DRAIN PUMP
11	7553	GF-35-25	35-25 COVER HOLDING SCREWS FOR CH SERIES
14	7809	GF-25-6	25-6 BOTTOM TANK FOR DRAIN PUMP
16	7685	7685	BUSHING KIT FOR DS15 & DS25 ELITE STEAM HUMIDIFIERS (BUSHING & O-RING) (SEE EXPLODED VIEW TOP LEFT)
NS	7810	GF-25-8	25-8 DRAIN TANK + PLUG FOR DRAIN PUMP
NS	7811	GF-25-50	25-50 WIRING KIT FOR UNIT WITH DRAIN PUMP
NS	7552	GF-35-16	35-16 INTERNAL FILTER AND GASKET KIT FOR CYLINDER

NS = Not Showing