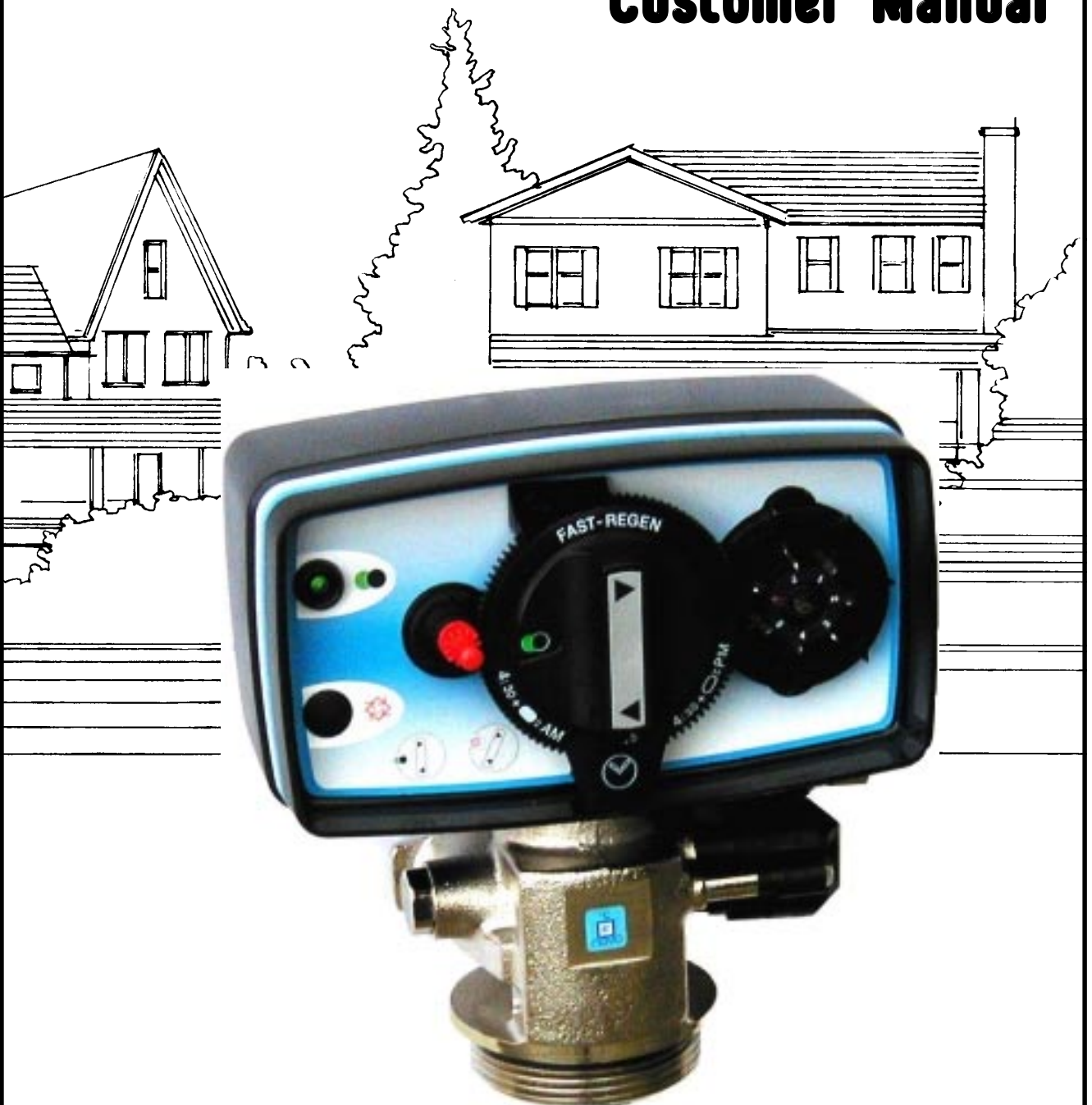


# **Model 46HS Customer Manual**



# MODEL 46HS

## Installation Information

JOB NO: .....

MODEL NO: .....

DESIGN HARDNESS: ..... mg/l as CaCO<sub>3</sub>

CAPACITY PER UNIT: ..... mg/l as CaCO<sub>3</sub>

RESIN VESSEL SIZE: ..... DIA. x ..... HIGH

BRINE TANK SIZE: ..... DIA. x ..... HIGH

SALT SETTING PER REGENERATION: ..... Kg. NaCl

RESIN VOLUME: ..... LITRES

**46HS/16 HOT WATER CONTROL VALVE SPECIFICATIONS & SETTINGS:**

- 1) \*Type of Timer: 7 day Chronometric - FAST CYCLE

*Please Note: Total regeneration cycle time is 90 minutes between initiation and return to service due to the time taken for the valve piston to move between cycle positions.*

- 2) Regeneration programme settings:
- a) Backwash ..... 4 min.
  - b) Brine & Slow Rinse ..... 42 min.
  - c) Rapid Rinse ..... 6 min.
  - d) Brine tank refill: ..... Kg.
- 5) Drain Line Flow Control ..... USgpm.
- 6) Brine refill rate: ..... 0.25 US gpm
- 7) Ejector size: ..... #
- 8) Electrical: 24 volt 50 Hz 15VA

FOR SERVICE CONTACT:

# MODEL 46HS

## general installation check list

**WATER PRESSURE:** A minimum water pressure of 1,8 bar is required for the regeneration valve to operate effectively.

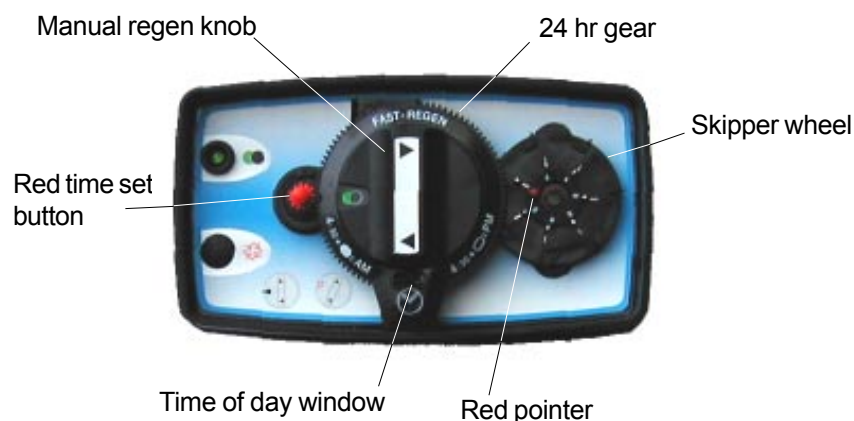
**ELECTRICAL FACILITIES:** A continuous 24 volt, 50 Hz. current supply is required. Make certain the current supply is always live and cannot be turned off with another switch.

**EXISTING PLUMBING:** Existing plumbing should be free from hardness scale and iron buildup. Piping that is built up heavily with hardness scale and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.

**LOCATION OF SOFTENER AND DRAIN:** The softener should be located close to a drain.

**BYPASS VALVES:** Always provide for the installation of a bypass valve system.

**CAUTION:** Water pressure is not to exceed 3,5 bar. Water temperature is not to exceed 70°C. The unit must not be subjected to freezing conditions.

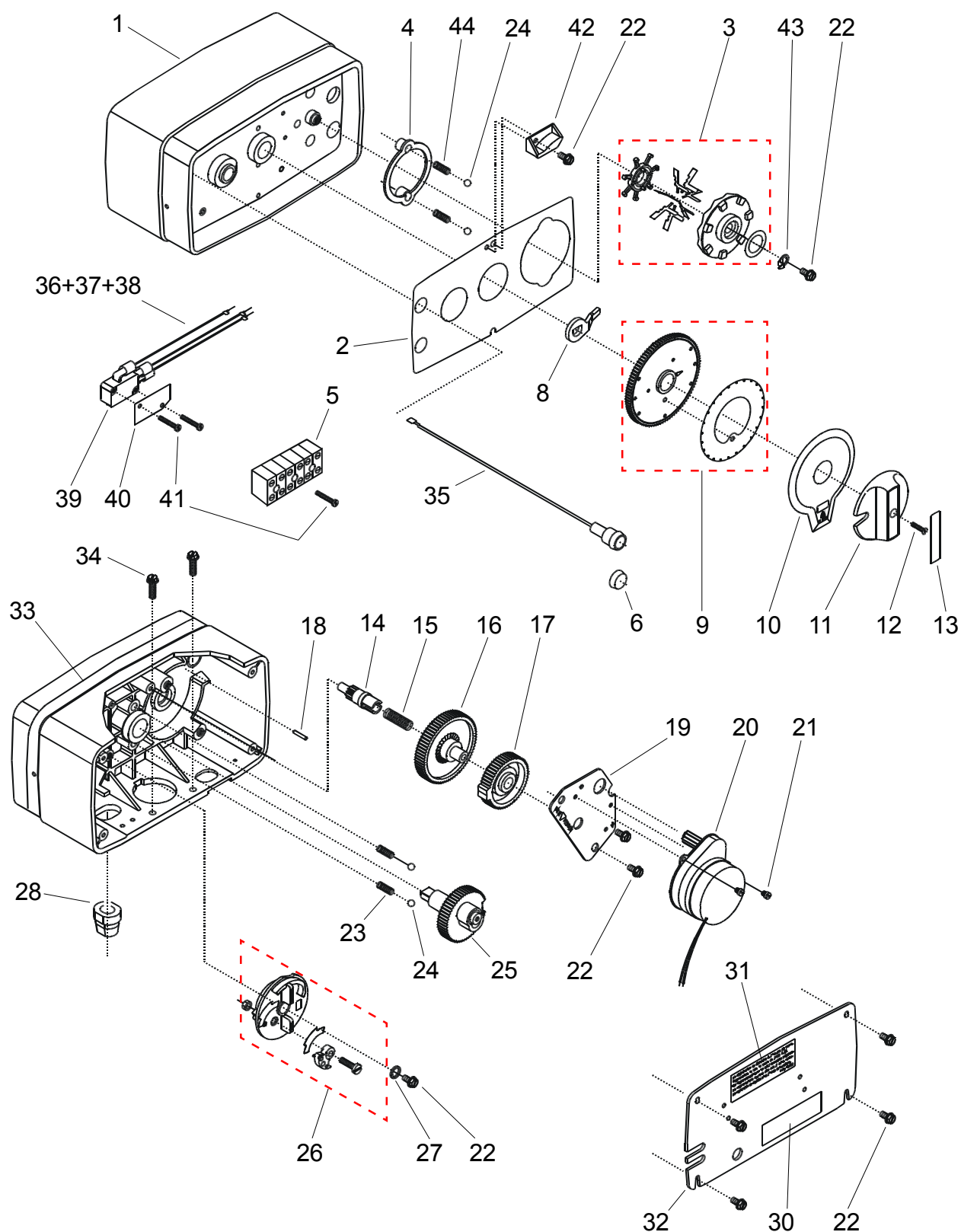


## START-UP INSTRUCTIONS

- 1). Manually index the softener control into the **IN SERV.** position & let water flow into the system. When the flow stops, slowly open a softened water outlet until all air is expelled from the system. Then close the outlet.
- 2). Manually index the control to the **BACKWASH** position and allow water to run to drain for 3 or 4 minutes.
- 3). Ensure that the power supply is disconnected and then remove the backplate cover.
- 4). Make sure that the salt setting is as recommended by the manufacturer (see page 1). When correctly set, manually index the control to the **BRINE REFILL** position and allow the brine tank to fill to the top of the air check (approx 10cm).
- 5). Manually index the control to the **BRINE+RINSE** position and allow the control to draw water from the brine tank until it stops.
- 6). Connect the electrical supply and check in the sight hole in the back of the timer motor that the motor runs. Carefully refit the back cover. Set the days when regeneration is to occur by sliding tabs on the skipper wheel outwards to expose the trip fingers. The finger at the red pointer is TODAY. Moving clockwise from the red pointer, extend or retract fingers to obtain the desired regeneration schedule.
- 7). Manually index the control to the beginning of the brine fill position and then allow the control to return to the **IN SERV.** position automatically.
- 8). Fill the brine tank with suitable clean salt.
- 9). This is a *Fast Cycle* valve to reduce regeneration water consumption. To set the correct time of day, depress the red time set button & rotate the 24 hr. gear. The AM setting is when the white peg is visible in the hole between 4.30 & 5.30
- 10). Check that any bypass valving is in the service position.

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## control drive assembly



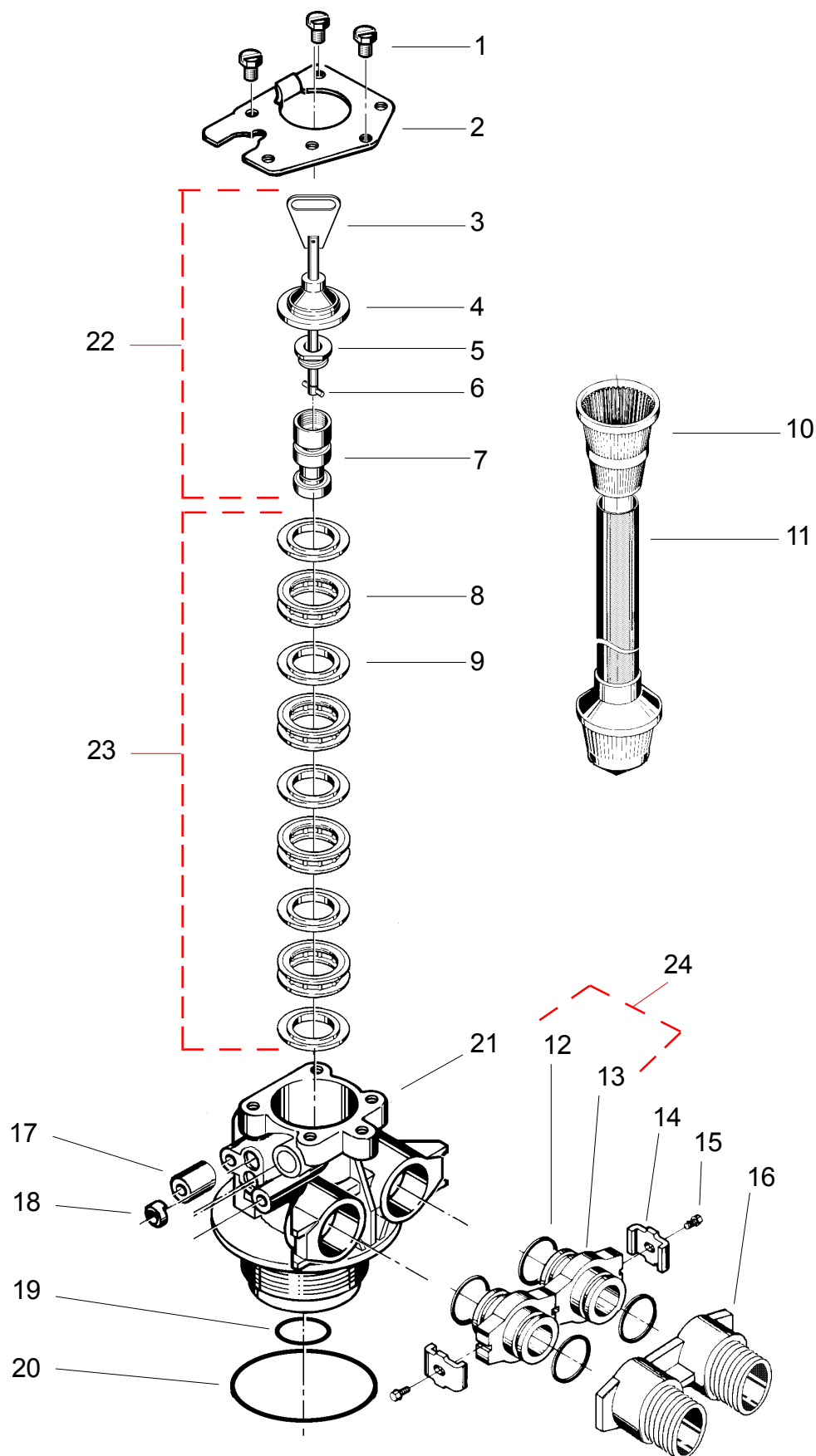
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## control drive assembly

Item	Qty	Part No.	Description
1	1	13162	Drive housing
2	1	26968	Front label
3	1	24101	Skipper wheel assy - 7 day
4	1	13864	Skipper wheel ring
5	1	22577	Terminal block - 6
6	1	27958	Blanking plug
7	1	*****	?????
8	1	13011	Cycle actuator arm
9	1	18090	12 hour gear assembly
10	1	*****	Valve position dial
11	1	14177	Knob
12	1	15151	Screw
13	1	*****	Knob label
14	1	13018	Idler pinion
15	1	13312	Idler spring
16	1	13017	Idler gear
19	1	23341	Motor plate
20	1	26779	Motor 1/15 rpm - 24vac
21	2	11384	Screw
22	8	13296	Screw
24	4	13300	Detent ball
25	1	13170	Main drive gear assembly
26	1	25736	Brine valve cam assy - Fast regen
27	1	12037	Washer
28	1	13547	Strain relief
29	1	*****	?????
30	1	13307	Label - Kg salt
31	1	18400	Rear label
32	1	13329-BLK	Back cover
33	1	*****	Strip tape
34	2	12473	Screw
35	1	26722	Power lamp - Green 24vac
36	1	*****	Yellow wire
37	1	*****	Red wire
38	1	23020	Brown wire
39	1	10218	Microswitch
40	1	14087	Insulator
41	3	18158	Screw
42	1	16949-01	Trip cam - Fast regen
43	1	13014	Regeneration pointer
44	1	13311	Spring
45	1	26885	Screw

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## valve body assembly



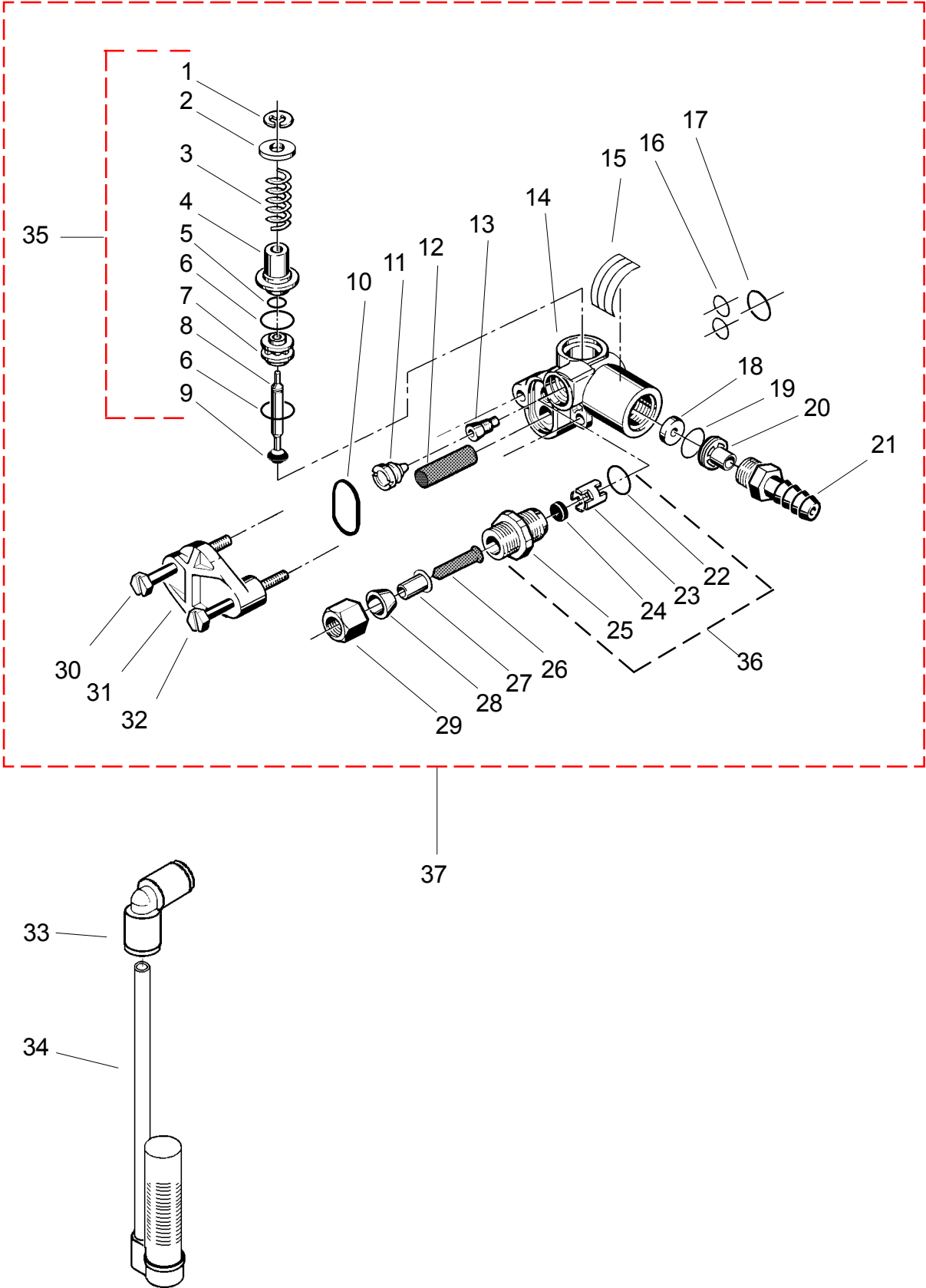
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## *valve body assembly*

Item	Qty	Part No.	Description
1	3	21716	Screw
2	1	13546	End plug retainer
3	1	18091	Piston rod assy
4	1	18088	End plug assy
5	1	12953	Piston retainer
6	1	10696	Piston pin
7	1	13781	Piston
8	4	14241-01	HW Spacer
9	5	13242	Seal
10	1	18280-10	HW bayonet top screen 1in.
11	1	25639	HW riser tube 1in.
12	4	13305	O-Ring
13	2	13709	Adaptor coupling
14	2	13255	Adaptor clip
15	2	13314	Screw - adaptor clip
16	1	24689-N	3/4in BSP male yoke
17	1	13497	Air disperser
18	1	13361-N	Spacer
19	1	13304	O-Ring
20	1	12570	O-Ring (Park tank)
or	1	10381	O-Ring (SFc tank)
21	1	14066-10-N	Valve body
22	1	18089	Piston assembly - LWU/FR
23	1	24944	HW seal & spacer kit
24	2	13709	Coupling assy w/ seals

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## Injector / drain assembly





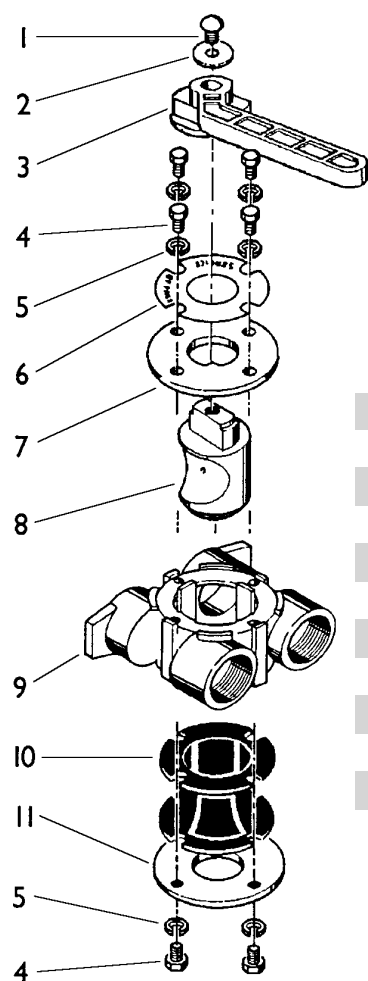
# MODEL 46HS

## Injector / drain assembly

Item	Qty	Part No.	Description
1	1	11981	Retaining ring
2	1	12035	Washer
3	1	11973	Brine valve spring
4	1	13165	Brine valve cap
5	1	12550	Quad ring
6	2	13302	O-Ring
7	1	13167	Brine valve spacer
8	1	13172	Brine valve stem
9	1	12626	Brine valve seat
10	1	13303	O-Ring
11	1	10225-0	Injector nozzle - # 0 (see page 2)
or	1	10225-1	Injector nozzle - # 1 (see page 2)
12	1	10227	Injector screen
13	1	10226-0	Injector throat - # 0 (see page 2)
or	1	10226-1	Injector throat - # 1 (see page 2)
14	1	13163	Injector body/drain housing
15	1	24052	Injector label
16	2	13301	O-Ring
17	1	21741	O-Ring
18	1	12085	Flow washer - 1,2 USgpm (see page 2)
or	1	12086	Flow washer - 1,5 USgpm (see page 2)
19	1	15348	O-Ring
20	1	13173	DLFC button retainer
21	1	13308	Drain hose barb
22	1	12977	O-Ring
23	1	13245	BLFC button retainer
24	1	12094	BLFC button - 0.25 USgpm
25	1	13244	BLFC fitting
26	1	12767	Screen - Brine line
27	1	10332	Insert sleeve
28	1	10330	Delrin sleeve
29	1	10329	BLFC fitting nut
30	2	26483	Screw - M5x25
31	1	13166	Injector cover
32	1	26484	Screw - M5x45
33	1	12794	Elbow 3/8in x 3/8in
34	1	23473	HW 500A air check assy
35	1	24114	1600 Brine valve assy
36	1	18332-25	BLFC fitting - 0.25USgpm
37	1	26790	HW Injector assy - SPECIFY

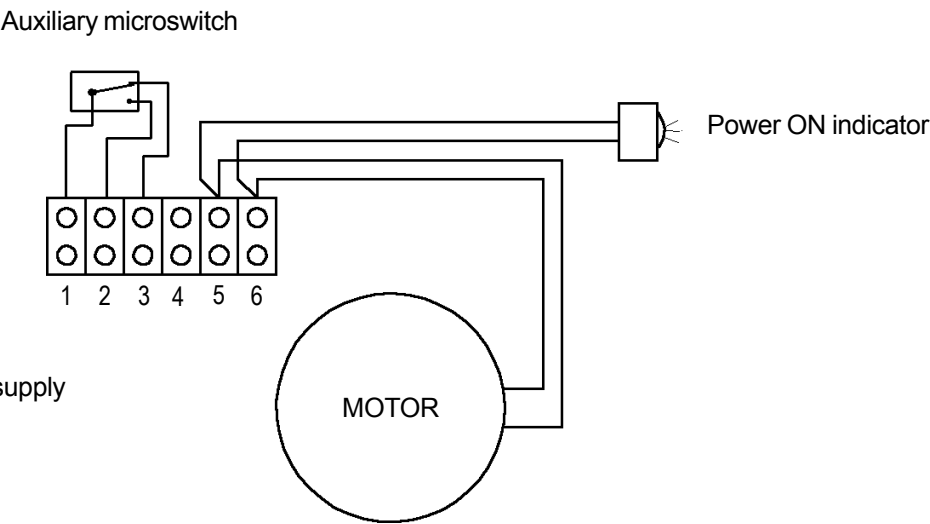
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## bypass assembly (option)



Item	Qty	Party No.	Description
1	1	11989	Round hd machine screw
2	1	11348	Plain washer
3	1	24419-10	Bypass handle - Red
4	8	11737	Hex Hd machine screw
5	8	11232	Lockwasher
6	1	21134	Valve label
7	1	11978	Side cover
8	1	11972	Valve plug
9	1	13399N	Bypass body 1" BSP
10	1	14105	Bypass seal - 560-CD
11	1	11986	Side cover

## electrical wiring schematic



NOTE:  
24 VAC 15 Va power supply  
to terminals 5 & 6