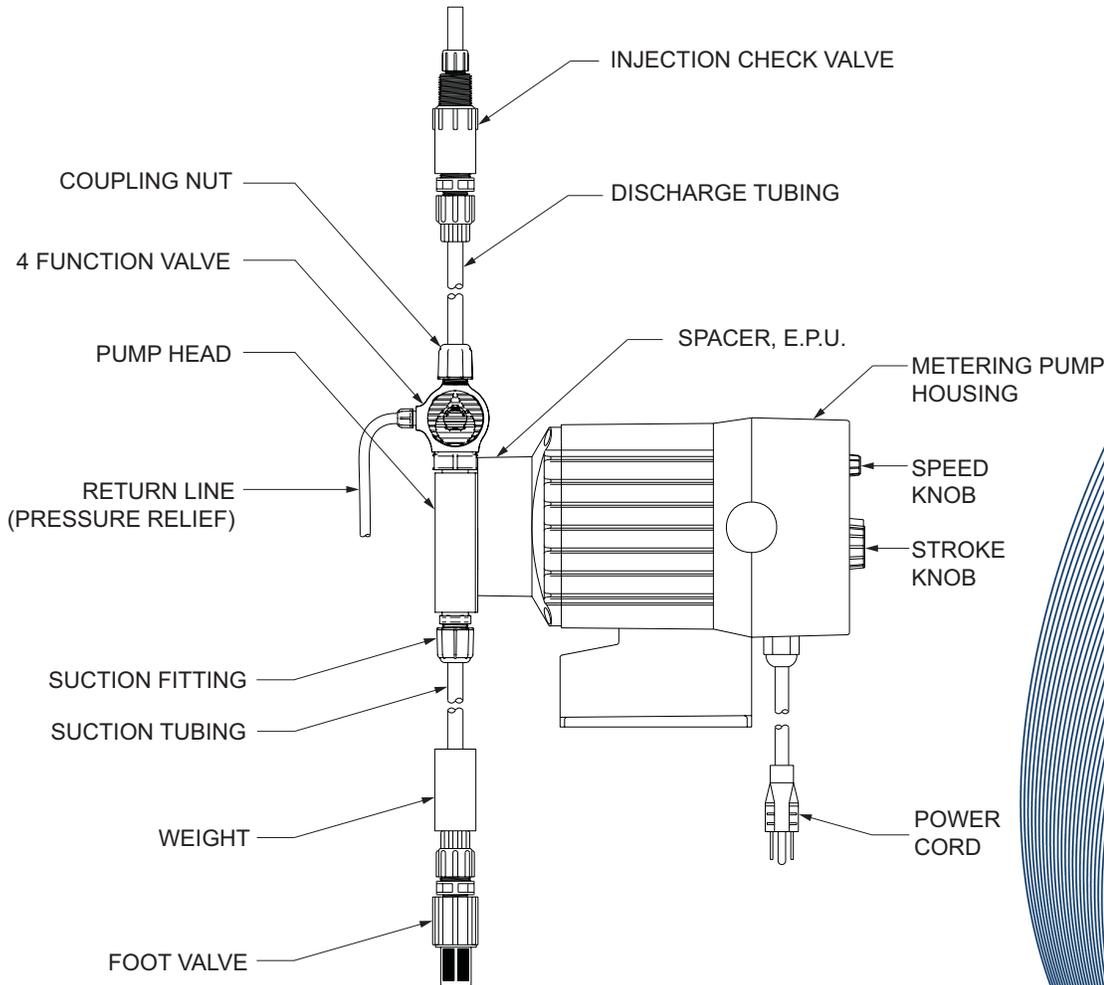




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Metering Pump Component Diagram

Series C9

Electronic Metering Pump

Specification Sheet and Assembly Details

Manual No : 1619, 1795

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Specification Sheet

Series C

GENERAL

Chemical metering pumps shall be positive displacement, Liquifram™ type pumps that are UL and CUL approved. Output volume shall be adjustable while pumps are in operation from zero to maximum capacity of:

C10, C70, C90	- 1.3 GPH (4.9 liters per hour)
C11, C71, C91	- 2.5 GPH (9.5 liters per hour)
C12, C72, C92	- 4.0 GPH (15.1 liters per hour)
C13, C73, C93	- 8.0 GPH (30.0 liters per hour)
C14, C74, C94	- 20.0 GPH (75.7 liters per hour)
C76*	- 4.0 GPH (15.1 liters per hour)
C77*	- 10.0 GPH (38.0 liters per hour)
C78*	- 25.0 GPH (95.0 liters per hour)

Chemical metering pumps shall be capable, without a hydraulically backed diaphragm, of injecting solutions against pressures up to:

C10, C70, C90	- 300 psig (20.7 bar)
C11, C71, C91	- 150 psig (10.3 bar)
C12, C72, C92	- 100 psig (6.9 bar)
C13, C73, C93	- 60 psig (4.1 bar)
C14, C74, C94	- 25 psig (1.7 bar)
C76*	- 175 psig (12.1 bar)
C77*	- 80 psig (5.5 bar)
C78*	- 30 psig (2.1 bar)

TYPE C1

Adjustment shall be by means of readily accessible dial knobs, one for changing stroke length and the other for changing stroke frequency (speed). Both knobs are to be located opposite the liquid handling end.

TYPE C7

Control of Series C7 metering pumps shall be selectable between internal and external pulsing by means of a 3-position center-off switch. Stroke length shall be adjustable by means of readily accessible dial knob. When in external pulsed mode, Series C7 units shall accept signals without the use of electrical timer or internal timer. Pressure capacity shall be adjustable to reduce noise, vibration and wear.

TYPE C9

Series C9 metering pumps shall have a clear liquid crystal display. Control shall be selectable between internal and external pulsing by means of a

tactile keypad. Internal stroke frequency shall be adjustable from 1 stroke per hour to 100 strokes per minute. Pressure capacity shall be keypad adjustable to reduce noise, vibration and wear. Metering pump shall be capable of dividing or multiplying pulse inputs from 1 to 999 or responding directly or inversely to a 4-20mA input signal.

DRIVE

The pump drive shall be totally enclosed with no exposed moving parts. Solid state electronic pulser shall be encapsulated and supplied with quick connect terminals at least 3/16" (4.75 mm) wide. Electronics shall be housed in chemical resistant enclosure at the rear of the pump for maximum protection against chemical spillage. Electrical power consumption shall not exceed 87 watts under full speed and maximum pressure conditions. Pump weight shall not exceed 28 lbs (12.7 kg).

AUTOMATIC PRESSURE RELIEF

To eliminate need for pressure relief valve, Liquifram™ shall automatically stop pulsating when discharge pressure exceeds pump pressure rating by not more than 35%.

MATERIAL

Chemical metering pump housing shall be of chemically resistant glass fiber reinforced thermoplastic with a glass fiber reinforced polypropylene EPU carrier¹. All exposed fasteners shall be stainless steel. Chemical metering pump valves shall be ball type, with ceramic balls². Valve seat and seal ring shall be renewable by replacing the combination seat-seal ring³ or cartridge valve assembly. Pump head shall be of transparent acrylic⁴ material capable of resisting the pumped chemical. Fittings and connections at pump head shall be PVC⁵.

CHECK VALVES AND TUBING

A total of 16 ft (4.8 m) of polyethylene tubing⁶ shall be provided per pump complete with compression connections. A foot valve with integral one piece strainer shall be provided for the suction line, and an injection check/back pressure valve with 1/2" NPT male connection for the injection point. The injection check valve shall incorporate a dilating orifice which prohibits scale formation and accumulation of crystalline deposits.

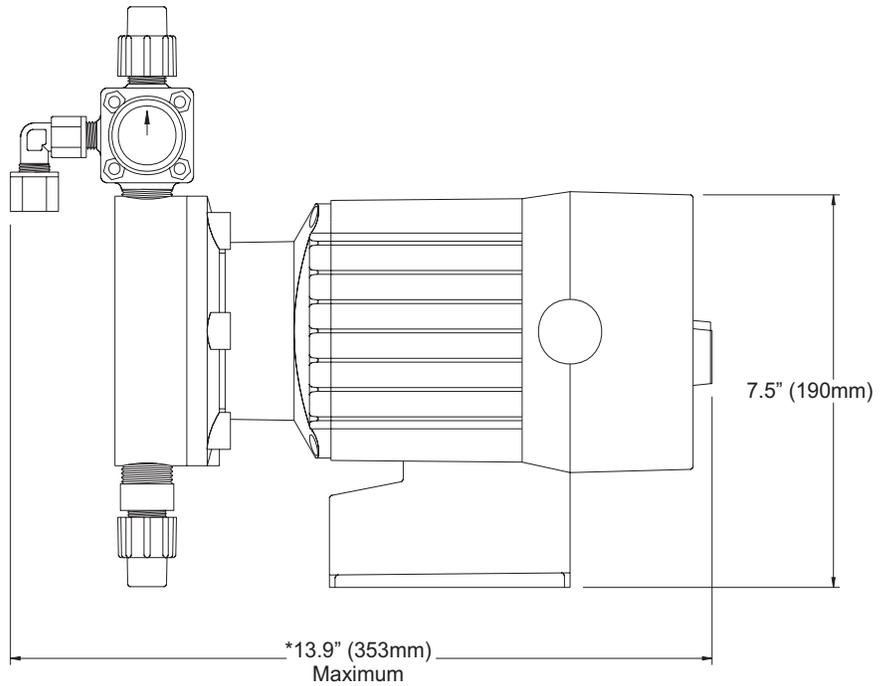
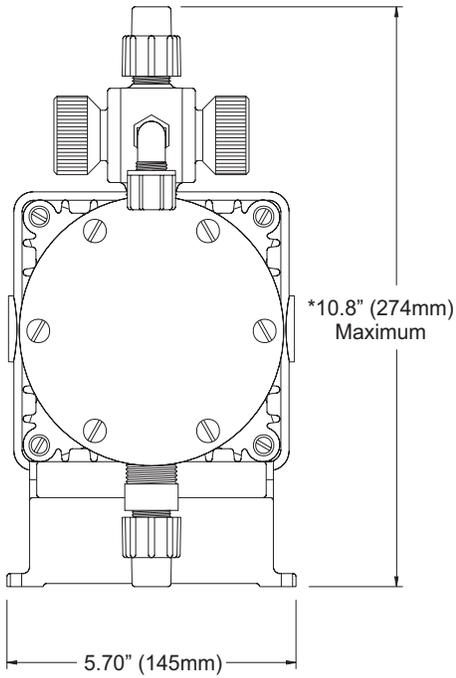
(* - Not UL or CUL Approved)

Notes:

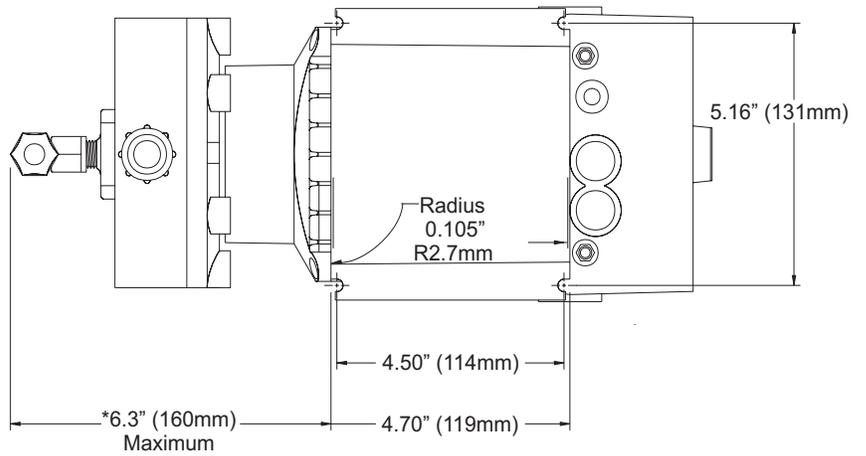
1. With plastic coated cast iron EPU carrier for Series C 76, C77 and C78.
2. Type 316 stainless steel or PTFE may be specified.
3. Hypalon®, PTFE, Viton® or Polyprel® may be specified.
4. PVC, Polypropylene, PDVF or Type 316 stainless steel may be specified.
5. PVDF, Polypropylene, or Type 316 stainless steel may be specified.
6. 6 ft. (1.8 m) of vinyl suction tubing may be specified in place of polyethylene for the suction side only. 1/4" or 1/2" male pipe thread may be specified.



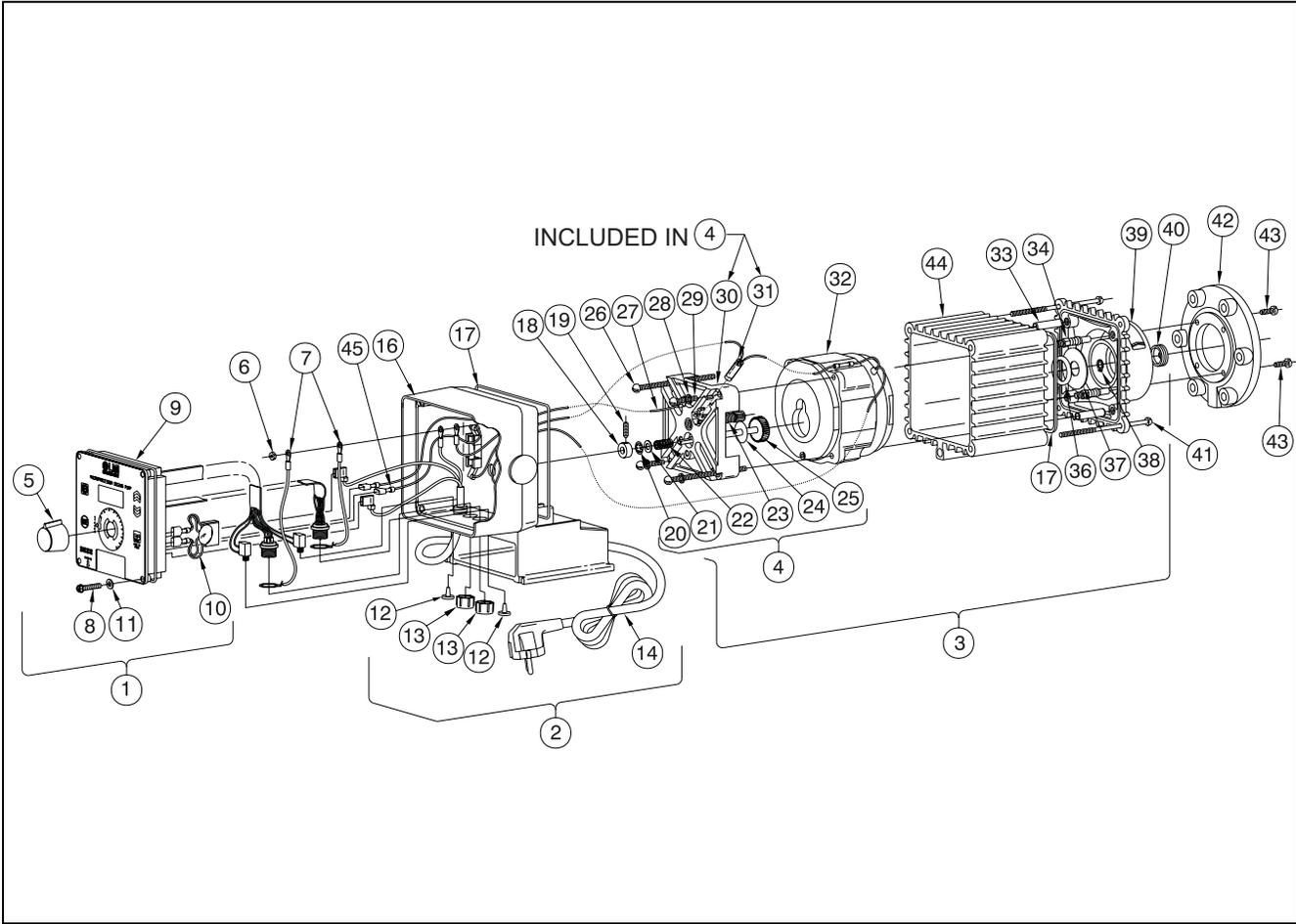
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*Dimensions shown are maximum for largest liquid end available. These dimensions vary depending on the liquid end selected.



SERIES C9 DRIVE ASSEMBLY EXPLODED VIEW DIAGRAM



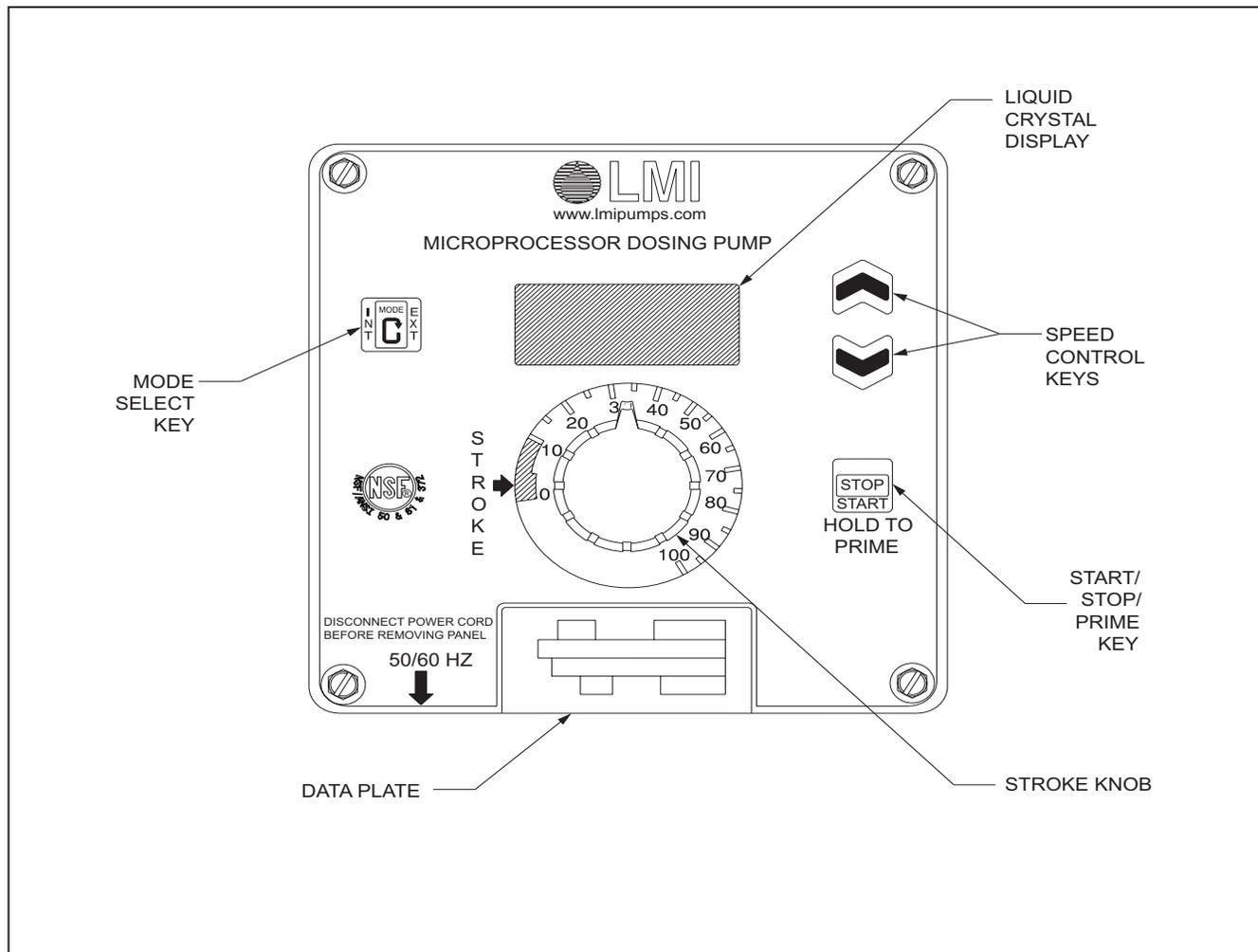
SERIES C9 DRIVE ASSEMBLY PARTS LIST

Key Number	Model Series	Part Number	Description	Qty
1	C901, C911	35960CE	Control Panel Assembly, 120V	1
	C902, C903, C905, C906, C907, C912, C913, C915, C916, C917	35961CE	Control Panel Assembly, 240V	1
	C921	35962CE	Control Panel Assembly, 120V	1
	C922, C923, C925, C926, C927	35963CE	Control Panel Assembly, 240V	1
	C931	35964CE	Control Panel Assembly, 120V	1
	C932, C933, C935, C936, C937	35965CE	Control Panel Assembly, 240V	1
	C941	35966CE	Control Panel Assembly, 120V	1
	C942, C943, C945, C946, C947	35967CE	Control Panel Assembly, 240V	1
2	C901, C911, C921, C931, C941	35949CE	Housing Assembly, 120V	1
	C902, C912, C922, C932, C942	35955CE	Housing Assembly, 230V	1
	C903, C913, C923, C933, C943	35950CE	Housing Assembly, 220-240V DIN	1
	C905, C915, C925, C935, C945	35951CE	Housing Assembly, 220-240V, U.K.	1
	C906, C916, C926, C936, C946	35956CE	Housing Assembly, 220-240V, Aust.	1
	C907, C917, C927, C937, C947	35952CE	Housing Assembly, 220-240C, SWISS.	1
3	C901	32532CE	EPU&Spacer Asm, w/Stroke Adj., 120V	1
	C902, C903, C905, C906, C907	32533CE	EPU&Spacer Asm, w/Stroke Adj., 240V	1
	C911, C921	32534CE	EPU&Spacer Asm, w/Stroke Adj., 120V	1
	C912, C913, C915, C916, C917, C922, C923, C925, C926, C927	32535CE	EPU&Spacer Asm, w/Stroke Adj., 240V	1
	C931, C941	32536CE	EPU&Spacer Asm, w/Stroke Adj., 120V	1
	C932, C933, C935, C936, C937, C942, C943, C945, C946, C947	32537CE	EPU&Spacer Asm, w/Stroke Adj., 240V	1
4	C9	32251CE	Stroke Bracket Assembly	1
5	C9	31891	Knob, Stroke	1
6	C9	10191	Nut, 6-32	2
7	C9	35266	Wire Assembly	2
8	C9	30306	Screw, 10 x1 S.S.	4
9	C9	10166	O-Ring	1
10	C9X1	35254	MOV/CAP Assembly, 120V	1
	C9X2, C9X3, C9X5, C9X6	35255	MOV/CAP Assembly, 220-240V	1
11	C9	33889	Washer	4
12	C9	30307	Plug	2
13	C9	25930	Cover	2
14	C9X1	37213	Power Cord Assembly, 120V	1
	C9X2	37214	Power Cord Assembly, 240V	1
	C9X3	36001CE	Power Cord Assembly, 220-240V, DIN	1
	C9X5	37215	Power Cord Assembly, 220-240V, UK	1
	C9X6	36002CE	Power Cord Assembly, 220-240V, AUST	1
	C9X7	37216	Power Cord Assembly, 220-240V, SWISS	1

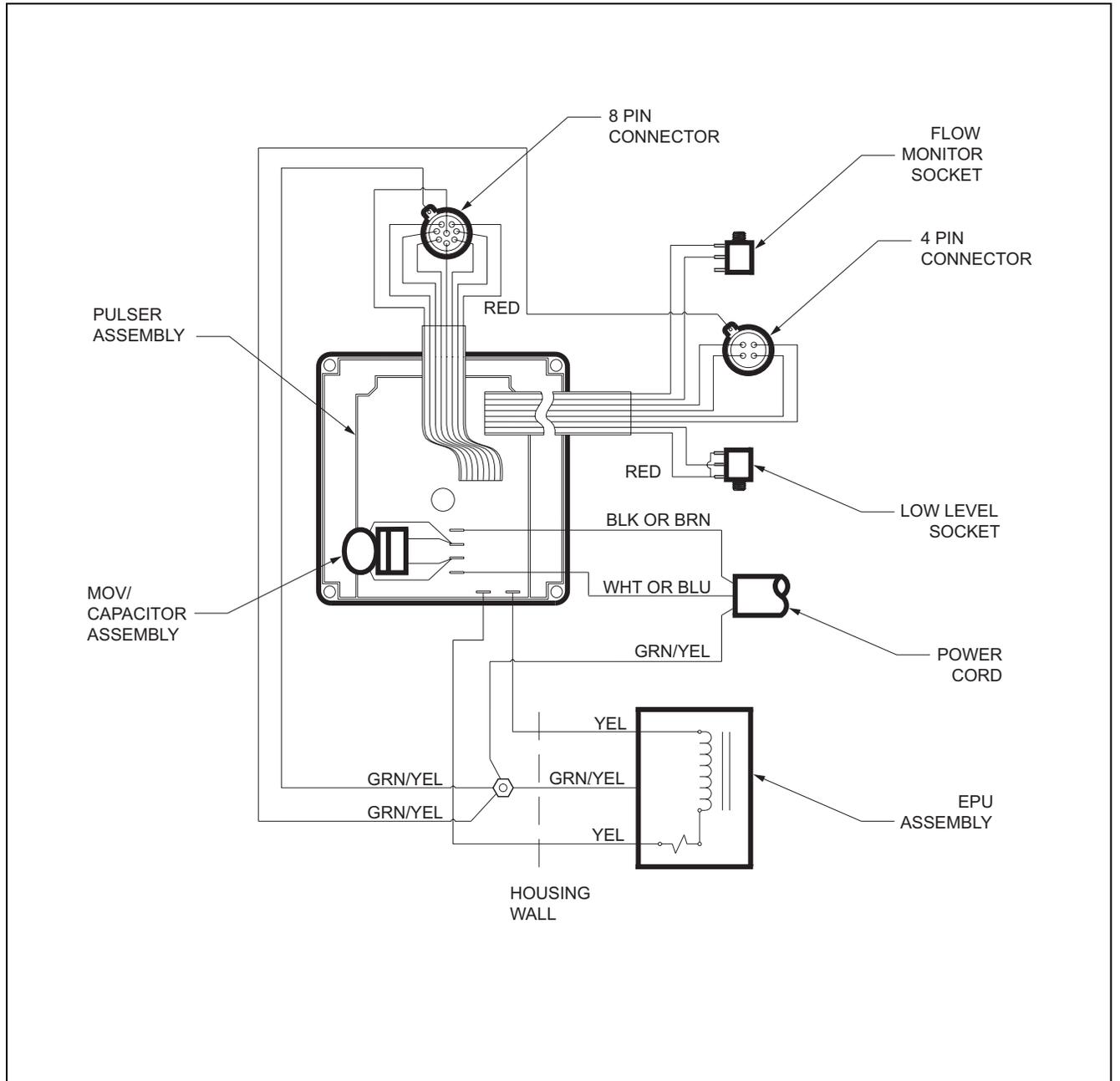
SERIES C9 DRIVE ASSEMBLY PARTS LIST

Key Number	Model Series	Part Number	Description	Qty
16	C9	35890	Housing	1
17	C9	35269	O-Ring	2
18	C9	25424	Collar	1
19	C9	25423	Set Screw	1
20	C9	10462	Retaining Ring	1
21	C9	32302	Washer	1
22	C9	32221	Spring	1
23	C9	32578	Pinion	1
24	C9	25121	Gasket	1
25	C9	31770	Shaft Assembly	1
26	C9	27552	Screw, 10-24x4.0	2
27	C9	35223	Ground Wire Assembly (GRN)	1
28	C9	10415	Washer	4
29	C9	27551	Screw, 10-24x1.25	4
30	C9	12064	Bracket (without mating parts)	1
31	C9	27501CE	Thermostat	1
32	C901, C911, C921, C931, C941	38390	EPU Assembly, 120V	1
	C90, C91, C92, C93, C94 All Models rated 220-240 Volts	32159CE	EPU Assembly, 240V	1
33	C90, C91, C92, C93, C94	27187	Spacing Stud	2
34	C90, C91, C92	37963	Stud Assembly	4
	C93, C94	27641-1	Stud Assembly	4
36	C9	26983	O-Ring	1
37	C9	27586	Shim	1
38	C9	27253	Retaining Ring	1
39	C90	38303	Spacer, 0.9 SI	1
	C91, C92	35394	Spacer, 1.8 SI	1
	C93, C94	35395	Spacer, 3.0 SI	1
40	C9	10973	Seal	1
41	C9	25127	Screw, RH Slotted, S.S.	4
42	C94	38856	Spacer Adapter, 6.0 SI	1
43	C9	10598	Screw	4
44	C90, C91, C92, C93, C94	25068	Sleeve, EPU	1
45	C9	28856CE	Wire Assembly	2
Not Shown	C9	25849	Bushing, Unipulser	1

SERIES C9 CONTROL PANEL DETAIL



SERIES C9 WIRING DIAGRAM



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