

Metering Pump Component Diagram

# Series P0

## Electronic Metering Pump

### Specification Sheet and Assembly Details

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sales@novatech-usa.com  
 www.novatech-usa.com  
 Tel: (866) 433-6682 Fax: (866) 433-6684  
 Tel: (281) 359-8538 Fax: (281) 359-0084

# Specification Sheet

## Series P

### 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:

P02, P12	-	0.21 GPH	(0.79 liters per hour)
P03, P13	-	0.42 GPH	(1.6 liters per hour)
P04, P14, P74	-	0.58 GPH	(2.2 liters per hour)
P05, P15, P75	-	1.0 GPH	(3.8 liters per hour)
P06, P16, P76	-	2.0 GPH	(7.6 liters per hour)
P08, P18, P78	-	3.2 GPH	(12.1 liters per hour)

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

P02, P12	-	150psig	(10.3 Bar)
P03, P13	-	110psig	(7.6 Bar)
P04, P14, P74	-	250psig	(17.3 Bar)
P05, P15, P75	-	110psig	(7.6 Bar)
P06, P16, P76	-	50psig	(3.5 Bar)
P08, P18, P78	-	22psig	(1.5 Bar)

### SERIES P0

The stroke frequency will be fixed at the following rates.

P02, P03	-	60 strokes per minute
P04, P05, P06, P08	-	100 strokes per minute

Stroke length shall be adjustable by readily accessible dial knob located opposite the liquid handling end.

### SERIES P1

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

### SERIES P7

Control of Series P7 metering pumps shall be selectable between internal and external pulsing by means of a switch integral with frequency control knob. "External" position to be below lowest internally paced frequency setting. Stroke length shall be adjustable by means of readily accessible dial knob. When in external pulsed mode, Series P7 units shall accept signals without the use of electrical timer or internal timer.

### DRIVE

The pump drive shall be totally enclosed with no exposed moving parts. Solid state electronic pulser shall be fully 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 22 watts per hour under full speed and maximum pressure conditions. Pump weight shall not exceed 14 lbs (6.5 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. All exposed fasteners shall be stainless steel. Chemical metering pump valves shall be ball type, with ceramic balls<sup>1</sup>. Valve seat and seal ring shall be renewable by replacing the combination seat-seal ring<sup>2</sup> or cartridge valve assembly. Pump head shall be of transparent acrylic<sup>3</sup> material capable of resisting the pumped chemical. Fittings and connections at pump head shall be PVC<sup>4</sup>.

### CHECK VALVES AND TUBING

A total of 16 ft (4.8 m) of polyethylene tubing<sup>5</sup> 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.

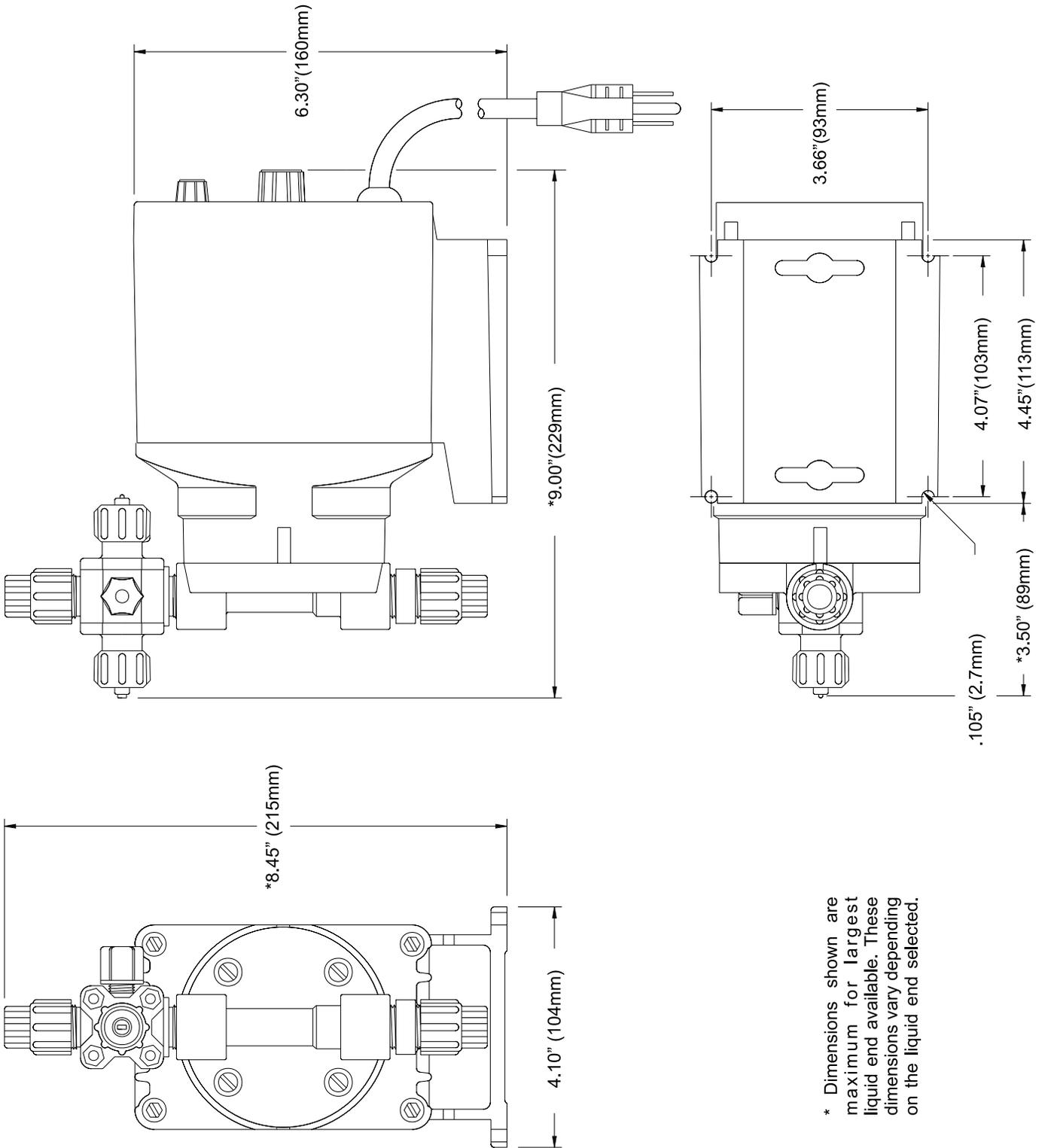
### Notes:

1. Type 316 stainless steel or PTFE may be specified.
2. Hypalon®, PTFE or Polyprel® may be specified.
3. PVDF, PVC, Polypropylene, or Type 316 stainless steel may be specified.
4. PVDF, Polypropylene, or Type 316 stainless steel may be specified.
5. 6 ft. (1.8 m) of vinyl suction tubing may be specified in place of polyethylene for the suction side only. 1/4" pipe thread may be specified.



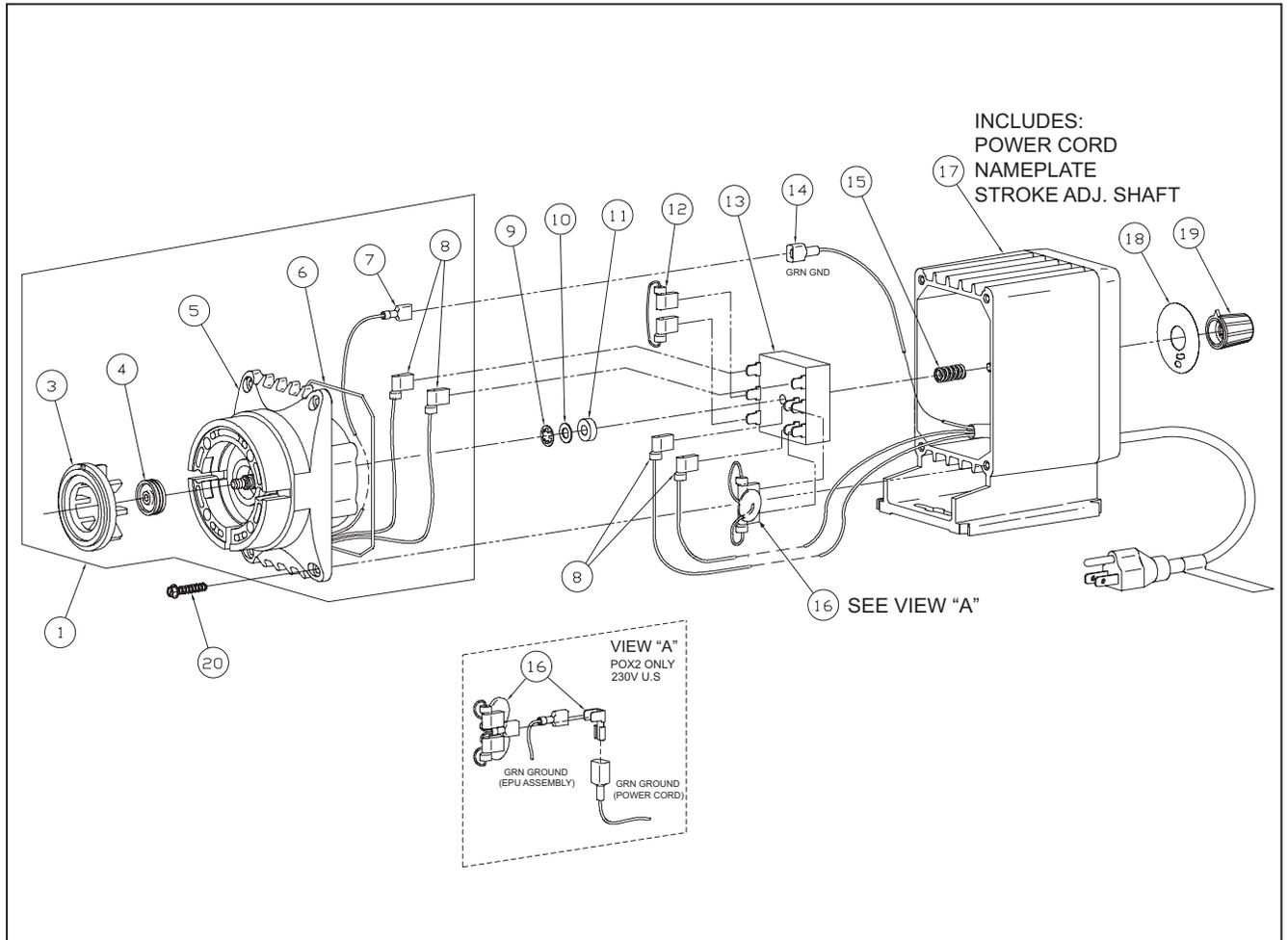
8 Post Office Square  
Acton, MA 01720 USA  
TEL: (978) 263-9800  
FAX: (978) 264-9172  
<http://www.lmipumps.com>





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

# SERIES P0 DRIVE ASSEMBLY EXPLODED VIEW DIAGRAM



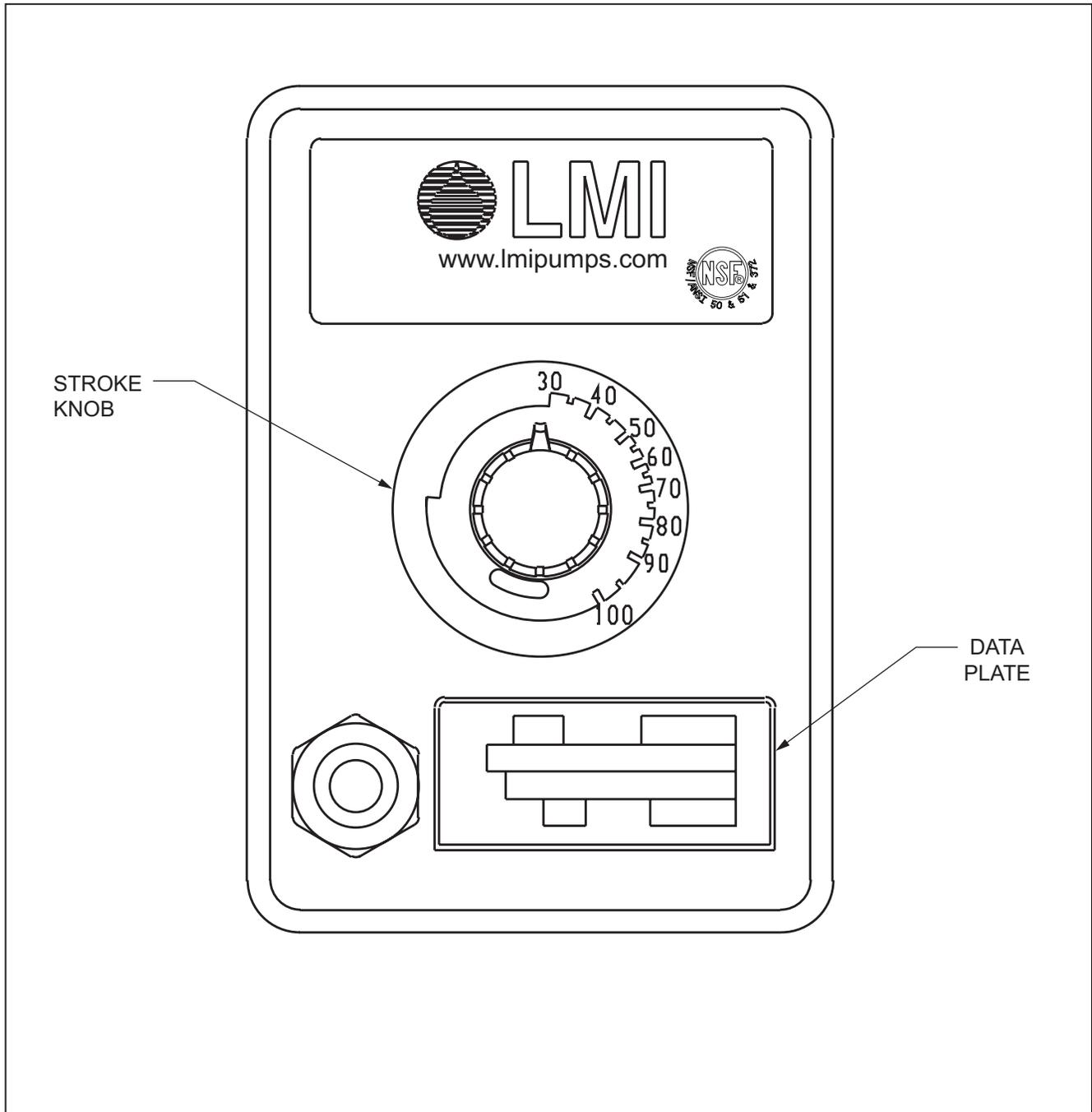
## SERIES P0 DRIVE ASSEMBLY PARTS LIST

Key Number	Model Series	Part Number	Description	Qty
1	P021	30107	EPU WITH DISK 0.5	1
	P022, P023, P025, P026, P027	30108	EPU WITH DISK 0.5	
	P031	30109	EPU WITH DISK 0.9	
	P032, P033, P035, P036, P037	30110	EPU WITH DISK 0.9	
	P041	30240	EPU WITH DISK 0.5	
	P042, P043, P045, P046, P047	30241	EPU WITH DISK 0.5	
	P051	30242	EPU WITH DISK 0.9	
	P052, P053, P055, P056, P057	30243	EPU WITH DISK 0.9	
	P061	33338	EPU WITH DISK 1.8	
	P062, P063, P065, P066, P067	31781	EPU WITH DISK 1.8	
3	P02, P04	29445	DISK 0.5	1
	P03, P05	29437	DISK 0.9	
	P06	29442	DISK 1.8	
4	P0	10973	SEAL	1
5	P021, P031	30530	EPU	1
	P022, P023, P025, P026, P027, P032, P033, P035, P036, P037	30531		
	P041, P051	30154		
	P042, P043, P045, P046, P047, P052, P053, P055, P056, P057	30155		
	P061	31862		
	P062, P063, P065, P066, P067	31131		
6	P0	10166	O-RING	1
7	P0	10182-1	WIRE TERMINAL (FEMALE)	1
8	P0	25070-1	WIRE TERMINAL (FLAG)	4
9	P0	10422	RETAINING RING	1
10	P0	25963	WASHER, NYLON	1
11	P0	30391	WASHER, RUBBER	1
12	P02, P03	29797	WIRE ASSEMBLY	1
13	P0	36254	PULSER	1
14	P0	10368-1	WIRE TERMINAL (MALE)	1
15	P0	25414	SPRING	1

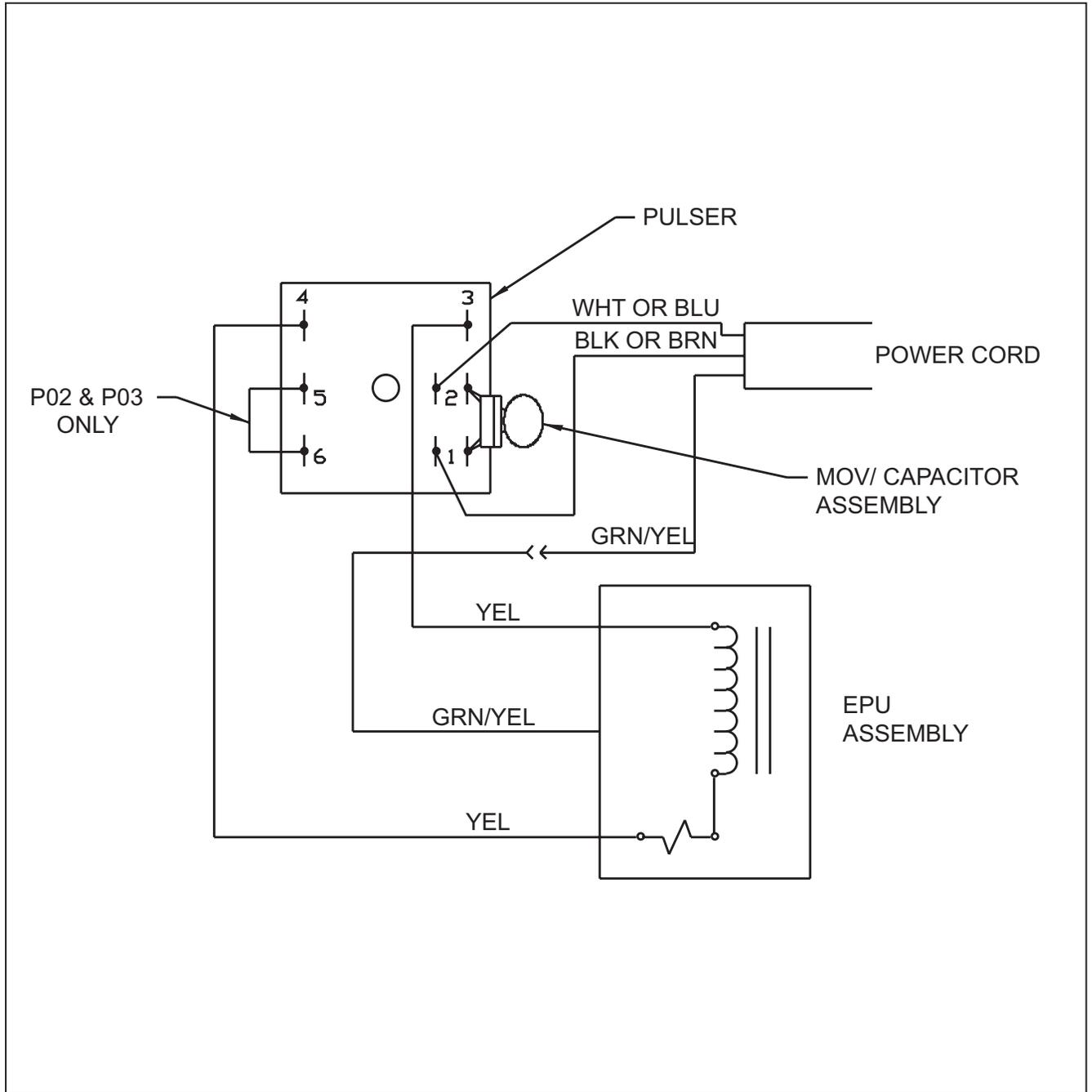

**SERIES P0 DRIVE ASSEMBLY PARTS LIST**

Key Number	Model Series	Part Number	Description	Qty
16	P021, P031, P041, P051, P061	10626	VARISTOR ASSEMBLY, 115V	1
	P022, P032, P042, P052, P062	31255	VARISTOR ASSEMBLY, 230V US	1
	P023, P033, P043, P053, P063 P025, P035, P045, P055, P065 P026, P036, P046, P056, P066 P027, P037, P047, P057, P067	10627	VARISTOR ASSEMBLY, 230-250V	1
17	P021, P031, P041, P051, P061	38393	HOUSING ASSEMBLY, 115V	1
	P022, P032, P042, P052, P062	38394	HOUSING ASSEMBLY, 230V US	
	P023, P033, P043, P053, P063	38395	HOUSING ASSEMBLY, 230V DIN	
	P025, P035, P045, P055, P065	38396	HOUSING ASSEMBLY, 240V UK	
	P026, P036, P046, P056, P066	38397	HOUSING ASSEMBLY, 250V AUST	
	P027, P037, P047, P057, P067	38398	HOUSING ASSEMBLY, 230V SWISS	
18	P02	30418	STROKE DIAL	1
	P03	31545		
	P04, P05	31126		
	P06	31127		
19	P0	31891	STROKE KNOB	1
20	P0	30306	SCREW	4

# SERIES P0 CONTROL PANEL DETAIL



# SERIES P0 WIRING DIAGRAM



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sales@novatech-usa.com  
www.novatech-usa.com  
Tel: (866) 433-6682      Fax: (866) 433-6684  
Tel: (281) 359-8538      Fax: (281) 359-0084

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info@lmipumps.com  
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