

TYPICAL WIRING DIAGRAM: STAR-DELTA START MOTORS <4>

The below diagrams show typical wiring connections for D.O.L. (across the line starting) of Tsurumi Pumps supplied with Star Delta Start motors.

Diagram C applies to Series LH, 120 - 150 HP (90 - 110 kW) • 2P (3600) RPM. The motors are supplied with (2) Power cables. Power cable #1 contains: (1) red conductor “U1”, (1) white conductor “V1”, and (1) black conductor “W1”. Power cable #2 contains: (1) green conductor “G” (ground), (2) Yellow Thermal Protector conductors “P1& P2”, (1) White Seal Sensor conductor “M”, (1) red conductor “V2”, (1) white conductor “W2” and (1) black conductor “U2”. In order to connect the unit for D.O.L start, the conductors in Power cable #1 and Power cable #2 must be connected together at the motor contactor output terminals, (shown below as 1T1, 1T2 & 1T3) in the following manner: “U1” & “V2” connected to 1T1, “V1” & “W2” connected to 1T2, “W1”&”U2” connected to 1T3, and “G” connected to ground.

**STAR DELTA MOTOR CONNECTED FOR D.O.L. START
SERIES LH, 120 - 150 HP (90 - 110 kW) • 2P (3600) RPM**

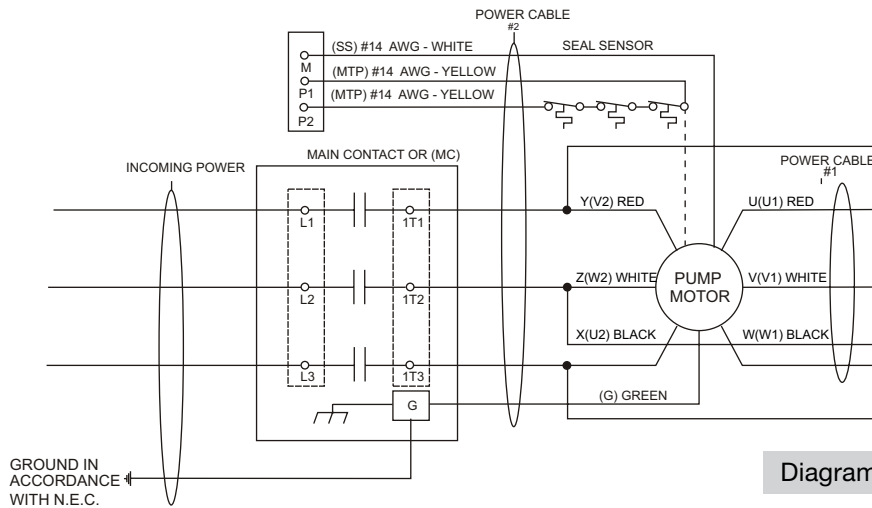


Diagram C

Diagram E applies to Series GSZ, 50 - 100 HP (37 - 75 kW) • 4P (1800 RPM), 6P (1200 RPM). The motors are supplied with (2) power cables, and supplied as an option, (1) Seal Sensor cable. Power cable #1 contains: (1) red conductor “U1”, (1) white conductor “V1”, (1) black conductor “W1”. Power cable #2 contains: (2) Yellow Thermal Protector conductors “P1& P2”, (1) green conductor “G” (ground), (1) red conductor “V2”, (1) white conductor “W2” and (1) black conductor “U2”. In order to connect the unit for D.O.L start, the conductors must be connected together at the motor contactor output terminals, (shown below as 1T1, 1T2 & 1T3) in the following manner: “U1” & “V2” connected to 1T1, “V1” & “W2” connected to 1T2, “W1” & ”U2” connected to 1T3, and “G” connected to ground.

**STAR DELTA MOTOR CONNECTED FOR D.O.L. START
SERIES GSZ, 50 - 100 HP (37 - 75 kW) • 4P (1800 RPM), 6P (1200 RPM)**

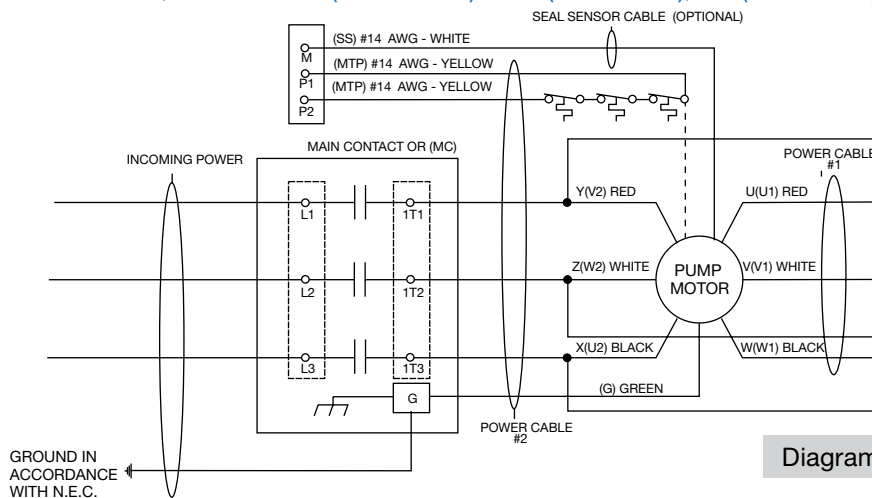


Diagram E

Note: Motor Protectors are connected as shown on Technical Data Page. Seal Sensor is connected as shown on Technical Data Page.