Fabco Power

Setting the Standard in Mobile Power

Instruction Manual for Model

HYDRO – 12-KP 11-3 PHASE GENERATOR

Hydraulic Generator

Manufacturing of: Vehicle Mounted Generators • Hydraulic Generators

P.O. Box 582 • Chester, NY 10918 • 845-469-9151 • Fax: 845-469-7871 • Web Site/E-mail: Www.fabcopower.com

Initial Installation and Start-Up

Be sure you set the hydraulic flow (GPM) to the generator at Approximately 62.5 HZ or 3750 RPM with NO electrical load on the generator.

By using this setting you will have approximately 60HZ (cycles) or 3600 RPM when you are running at full rated load.

One way this can be accomplished is by using a Photo Tachometer on our generator coupling or generator cooling fan.

A Photo Tachometer is an inexpensive tool that can be purchased at McMasters, Grainger, Sears or any other electrical supplier.

ADVANTAGES OF USING A FABCO POWER TRI-PHASE GENERATOR

1. MOTORS AND WIRES ARE SMALLER THAN SINGLE PHASE INSTALLATIONS FOR THE SAME HORSE POWER RATINGS.

2. MOTOR REVERSING ON BOOM AND LADDER TRUCKS WITHOUT USING MULTIPLE HYDRAULIC LINES. LESS MAINTENANCE AND BREAK DOWNS USING ELECTRIC MOTORS AND FLEXIBLE CABLES.

3. MATERIALS AND INSTILLATION COSTS ARE MUCH LESS THAN FULLY HYDRAULICALLY ACTUATED SYSTEMS

SPECIFICATIONS FOR THREE PHASE GENERATORS

KW	AMPS L1, L2, L3	VOLTS LI, L2, L3	LI, L2, L3 –TO- NEUTRAL
8 KW	23 AMPS	208 VOLTS	120 VAC L -TO- N
12 KW	34 AMPS	208 VOLTS	120 VAC L –TO- N
15 KW	42 AMPS	208 VOLTS	120 *VAC L -TO- N*

INSULATION CLASS	*H*
RATED AMB TEMP	*40 C*
POWER FACTOR	*1.0 TO 80%*
AC OUTPUT FREQUENCY	*60 HZ*
GENERATOR RPM	*3600*
MOTOR	*PISTON*

FLOW RATES AND PRESSURES

8 KW 11.5 GPM AT 2700 PSI

12KW 11.5 GPM AT 3450 PSI AND 21 GPM AT 2250 PSI

15 KW 21 GPM AT 2250 PSI

DIMENSIONS 8, 12, & 15 KW L = 27" W = 9" H = 13"

TECHNICAL INFORMATION AND SPECIFICATIONS

GENERATOR AC 60 HZ, SPEED = 3600 RPM

GENERATOR VOLTAGE…120/208 THREE PHASE (Y) OR THREE PHASE 120 DELTA

MOTOR STARTING SURGE = 300% OF CONTINUOUS

OUTPUT 12,000-WATTS CONTINUOUS AC
13,500-WATTS PEAK AC

AC AMPS @ 208 VOLT = 34.0 CONTINUOUS AND 37.5 PEAK

HYDRAULIC MOTOR SPECIFICATIONS

AXIAL PISTON TYPE ……11cc DISPLACEMENT

MOTOR SHAFT DIAMETER…….ONE INCH

FLOW CONTROL (OPTIONAL)…CARTRIDGE TYPE

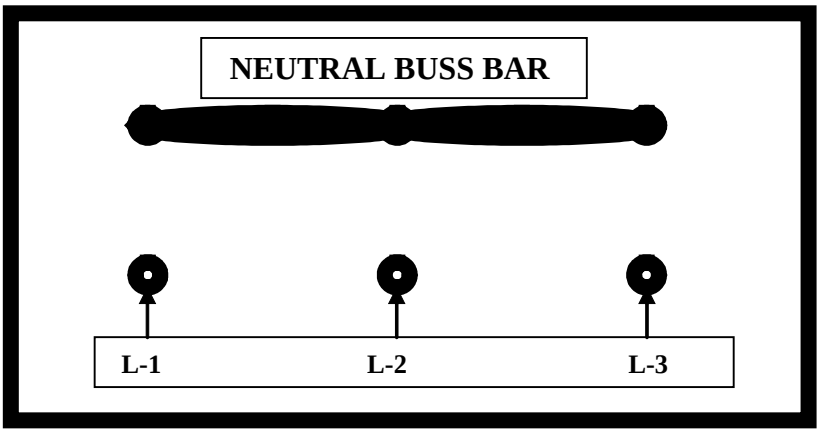
RATED FLOW = 11.5 GPM. …….MAXIMUM PSI = 4500

MOTOR SPEED = 3,600 RPM……MAXIMUM = 4,200 RPM

INLET PORT SIZE = 1 & 1/16 – 12 S.A.E
RETURN PORT SIZE = 1 & 1/16 – 12 S.A.E
CASE DRAIN PORT SIZE = 1 & 1/16 – 12 S.A.E

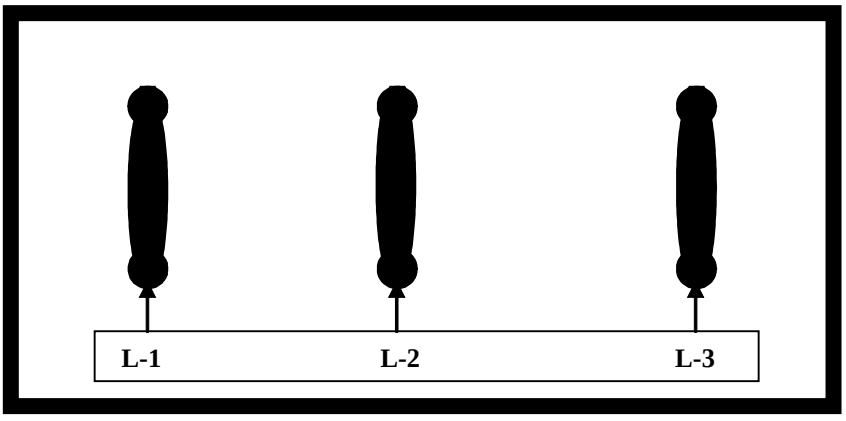
THREE PHASE (Y) CONNECTED 120/208 60 HZ

L-1, L-2 AND L-3 TO NEUTRAL = 120 VOLTS

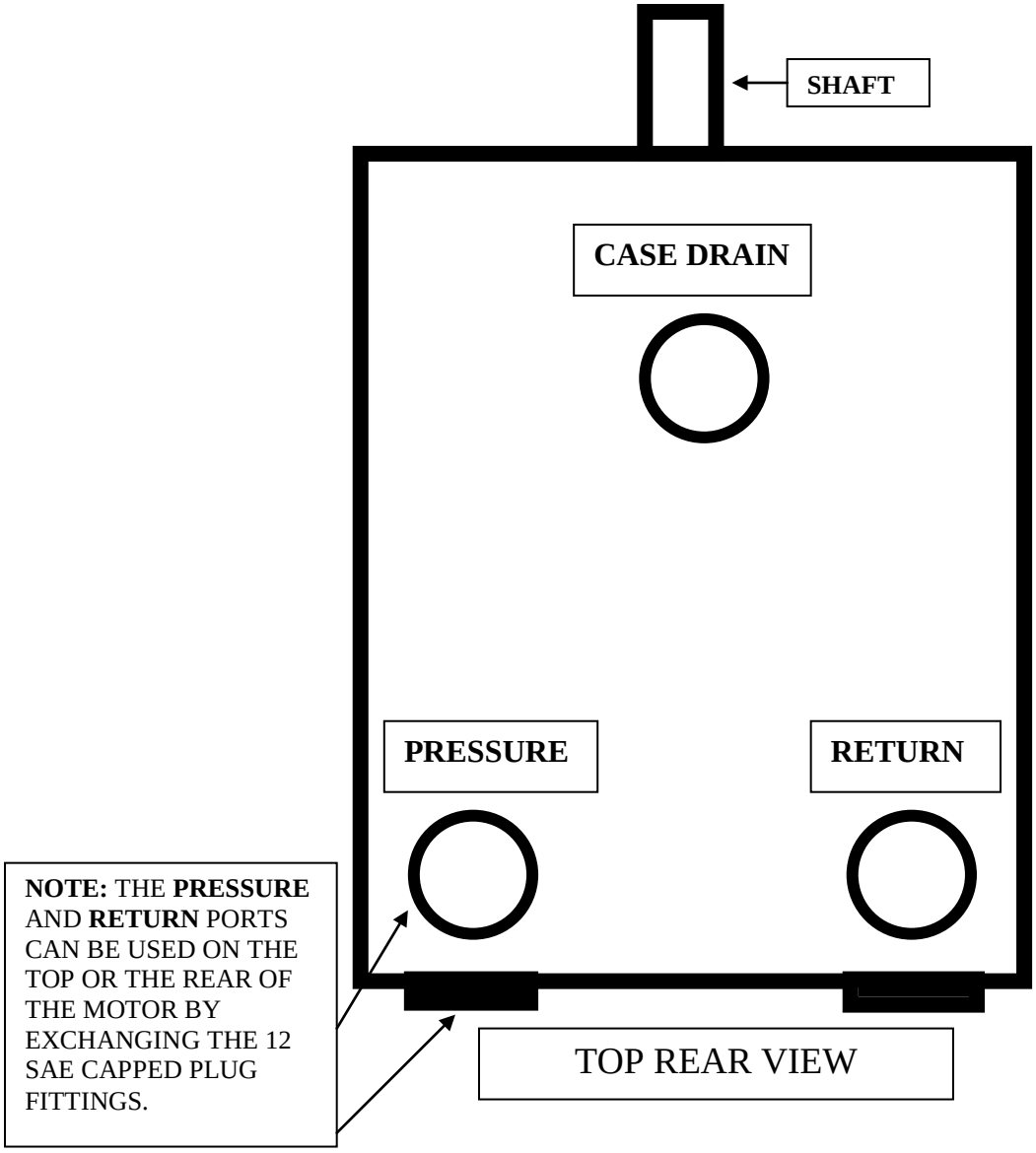


L-1 TO L-2 = 208 VOLTS L-2-TO L-3 = 208 VOLTS L-3 TO L-1 = 208 VOLTS

THREE PHASE DELTA △ 120 VOLT 60 HZ

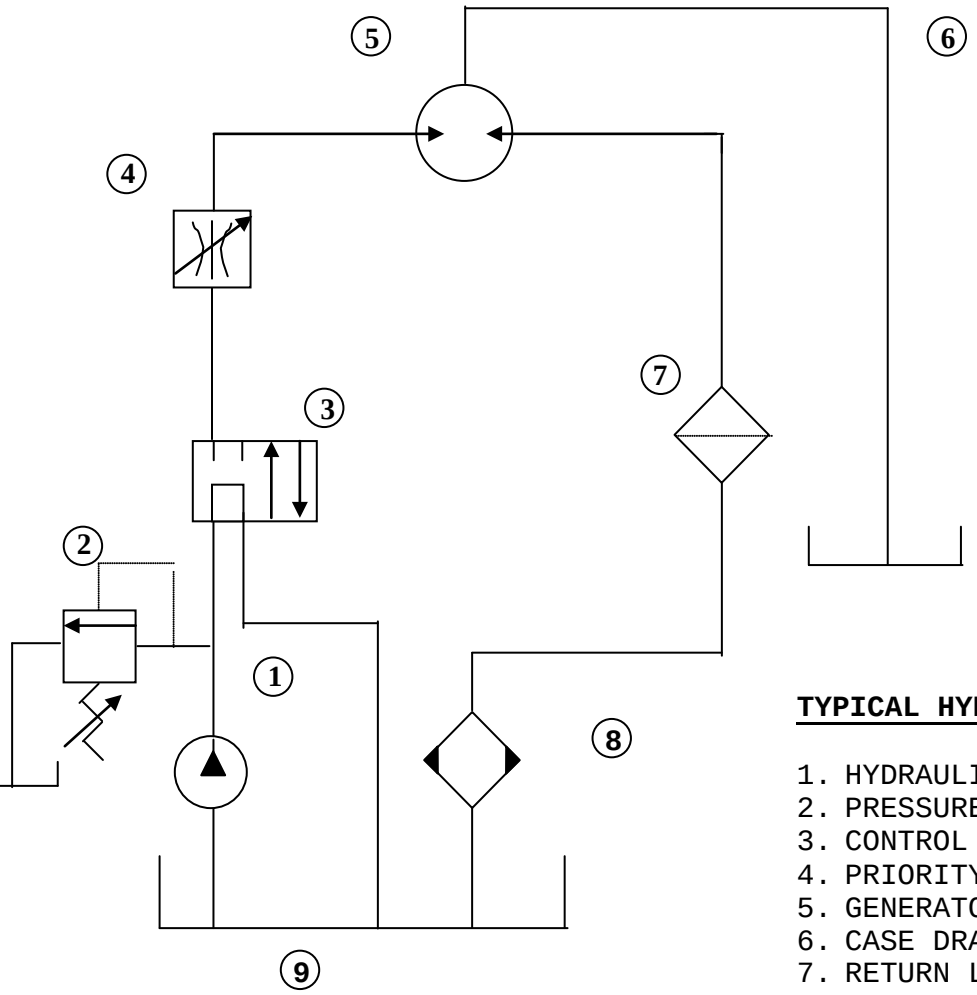


L-1 TO L-2 = 120 VOLTS L-2 TO L-3 = 120 VOLTS L-3 TO L-1 = 120 VOLTS



11 cc PISTON MOTOR ALL FITTINGS ARE # 12 SAE

FIXED DISPLACEMENT TYPE GEAR PUMP



TYPICAL HYDRAULIC SCHEMATIC

1. HYDRAULIC PUMP
2. PRESSURE RELIEF VALVE
3. CONTROL VALVE
4. PRIORITY FLOW CONTROL*
5. GENERATOR HYRAULIC MOTOR
6. CASE DRAIN LINE**
7. RETURN LINE FILTER
8. OIL COOLER
9. HYDRAULIC FLUID RESERVOIR

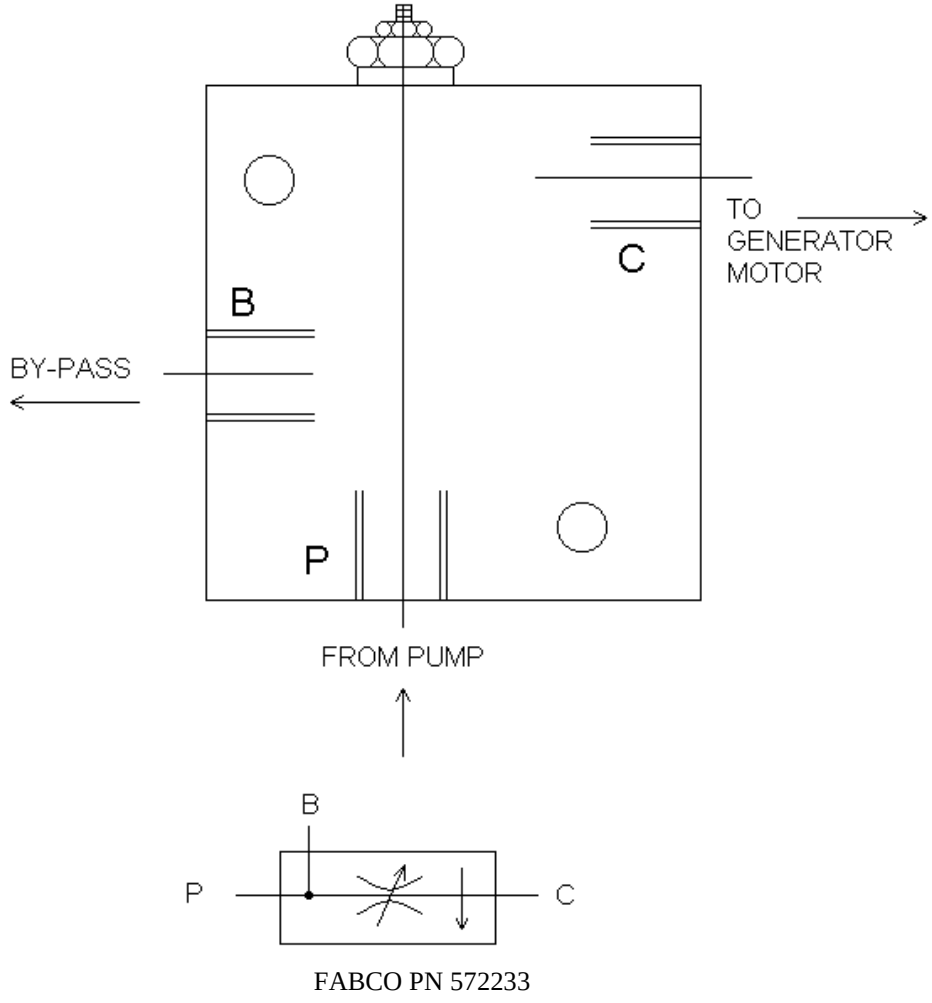
* Some units may be equipped with integral priority flow control, refer to specific model number.

** External case drain line may be required on some units refer to specific model number.

When external case drain is required it should be unobstructed direct return to reservoir with a minimum I.D. no less than that of case drain port on generator motor.

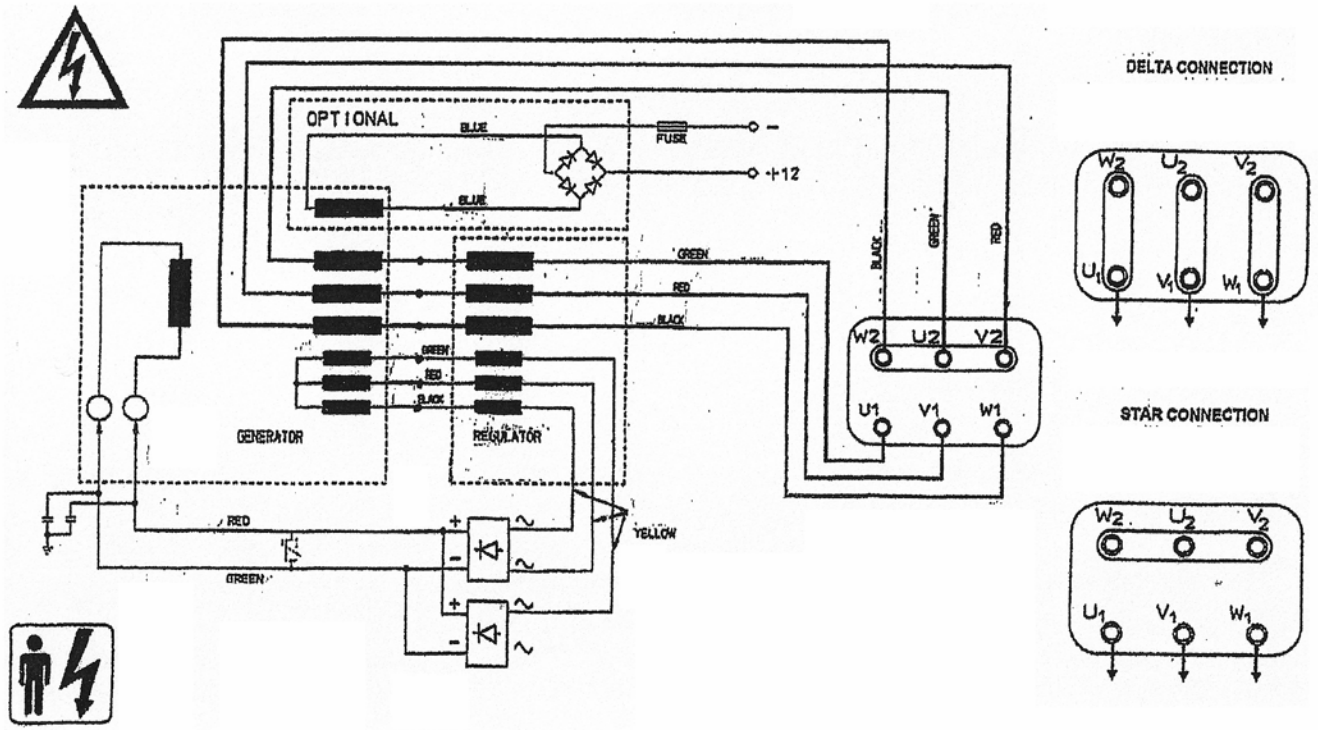
FOR SPECIFIC INSTALLATION RECOMMENDATIONS CONSULT FACTORY

FABCO BY-PASS FLOW CONTROL



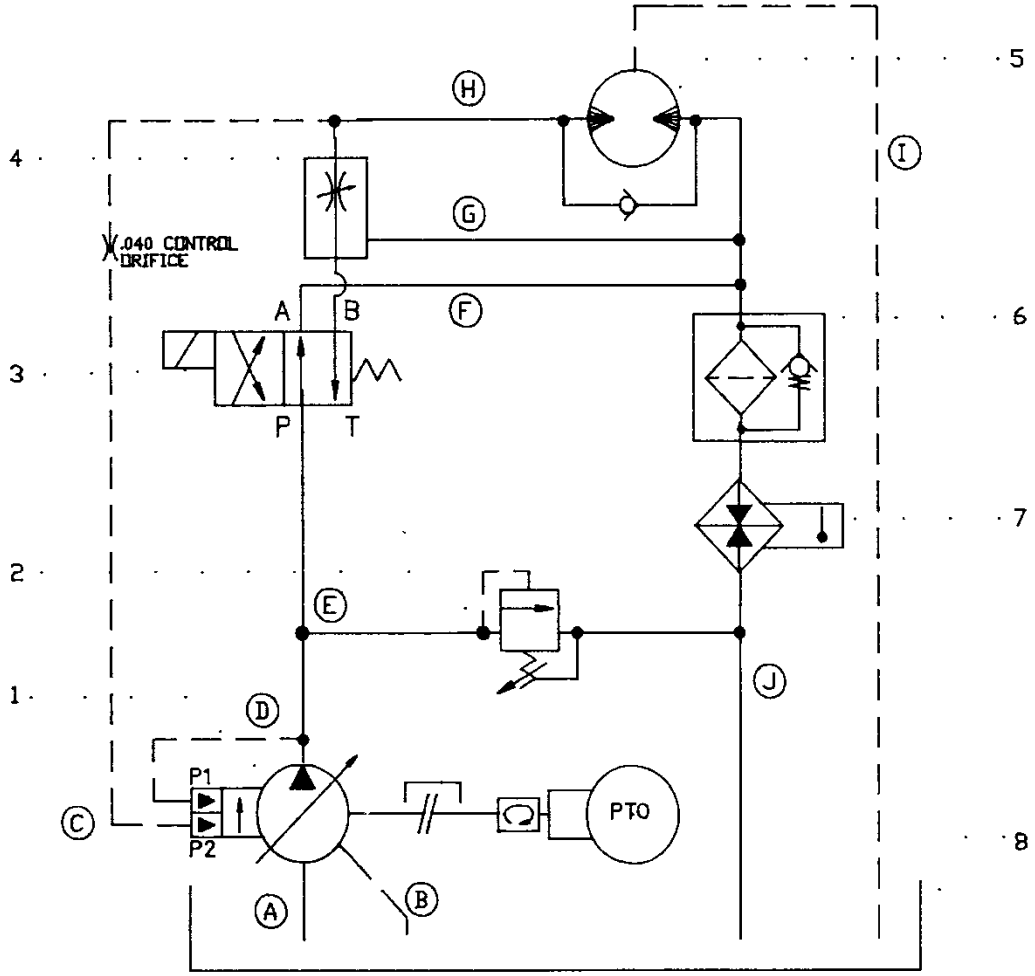
FABCO PN 572233

NOTE: THIS ASSEMBLY ONLY NEEDED WITH FIXED DISPLACEMENT TYPE GEAR PUMP.


OPTIONAL
BLUE
FUSE
-
+12
BLUE
GREEN
RED
BLACK
GREEN
RED
BLACK
GENERATOR
REGULATOR
RED
GREEN
YELLOW
W2
U2
V2
U1
V1
W1
BLACK
GREEN
RED
DELTA CONNECTION
STAR CONNECTION

TYPICAL HYDRAULIC SCHEMATIC

PISTON TYPE, LOAD SENSING



REVISIONS			
LTR	DESCRIPTION	DATE	INITIALS

ITEM	QTY	ITEM	DESCRIPTION
1	1	HYDRAULIC PUMP	PISTON TYPE W/LOAD SENSE
2	1	RELIEF VALVE	SET AT 3000 PSI
3	1	DIRECTIONAL VALVE	(SEE NOTE 'A')
4	1	FLOW CONTROL	(SEE NOTE 'A')
5	1	HYDRAULIC MOTOR	WITH EXTERNAL CASE DRAIN
6	1	FILTER	RETURN LINE W/BYPASS
7	1	HEAT EXCHANGER	
8	1	HYDRAULIC RESERVOIR	

	CUSTOMER CONNECTIONS & LINE SIZES		
	DES	SIZE	DESCRIPTION
	A	1-1/4	SUCTION LINE
*	B	3/8	PUMP CASE DRAIN
*	C	1/4	EXTERNAL SENSE LINE
	D	N/A	INTERNAL SENSE LINE
	E	1"	MAIN SUPPLY LINE
*	F	3/4	PRESSURE LINE
*	G	3/4	PRESSURE LINE
	H	3/4	PRESSURE LINE
*	I	3/8	MOTOR CASE DRAIN
	J	1"	RETURN LINE

* REQUIRED ON SOME MODELS. REFER TO SPECIFIC MODEL NUMBER.

NOTE "A"

SUPPLIED ON SOME MODELS. REFER TO SPECIFIC MODEL NUMBER.

FOR SPECIFIC INSTALLATION RECOMMENDATIONS CONSULT FACTORY

FABCO POWER

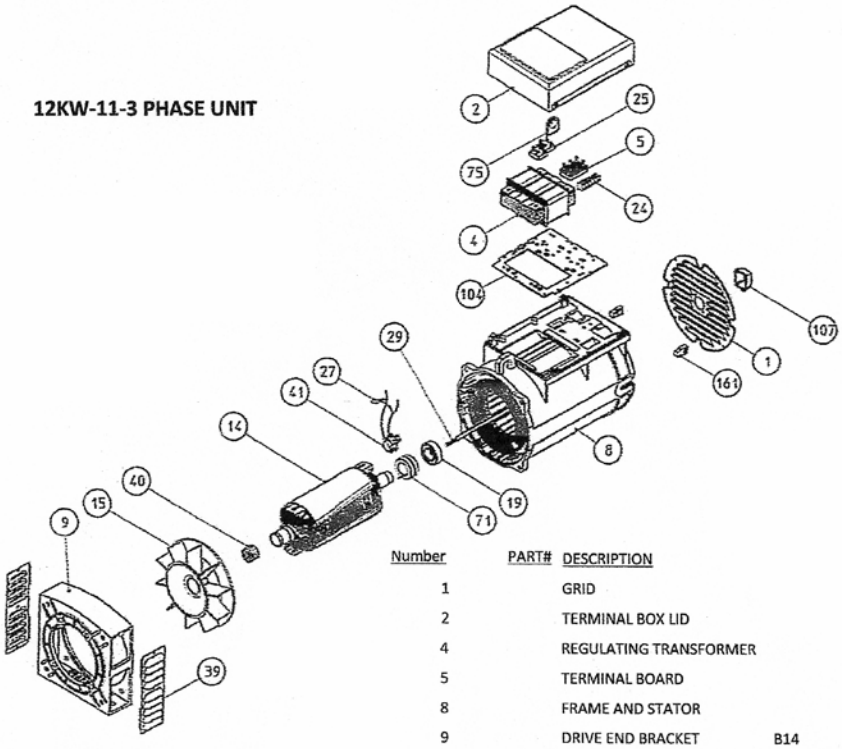
CHESTER, NY

MAX FLOW:	MAX PRESSURE:	DATE:
TITLE:		

TROUBLESHOOTING
THREE PHASE GENERATOR

PROBLEMS	CAUSES	REMEDIES
ALTERNATOR EXCITATION FAILURE	1. Low Speed 2. Faulty capacitor 3. Faulty winding	1. Check RPM and set at nominal value. 2. Check and replace. 3. Check that winding resistance is as shown in the tables.
HIGH NO-LOAD VOLTAGE	1. Speed too high.	1. Check and adjust RPM's
LOW NO-LOAD VOLTAGE	1. Speed too low. 2. Faulty rotary diodes. 3. Breakdown in windings.	1. Check and adjust RPM's 2. Check and replace. 3. Check winding resistance, as per tables.
PROPER NO-LOAD BUT LOW LOADED VOLTAGE	1. Low loaded speed. 2. Load too large. 3. Rotary diodes short-circuited	1. Check and regulate RPM. 2. Check and change. 3. Check and replace.
UNSTABLE VOLTAGE	1. Loose contacts. 2. Uneven rotation.	1. Check connections. 2. Check for uniform rotation speed.
NOISY GENERATOR	1. Broken bearings. 2. Poor couplings.	1. Replace. 2. Check and repair.

12KW-11-3 PHASE UNIT



Number	PART#	DESCRIPTION	
1		GRID	
2		TERMINAL BOX LID	
4		REGULATING TRANSFORMER	
5		TERMINAL BOARD	
8		FRAME AND STATOR	
9		DRIVE END BRACKET	B14
		DRIVE END BRACKET	MD 35
		DRIVE END BRACKET	B9
14		ROTOR ASSY	
15	572662	FAN	
17	572638	FRONT BEARING 6306-2RS	
19	572637	REAR BEARING 6205-2RS	
24		AUXILIARY TERMINAL BOARD	
25	572605	RECTIFYNG 1 PHASE BRIDGE	
27	572643	VARISTOR	
29		SECURING STUD	
39		PROTECION SCREEN	
40		FIXING RING	
41	572555	BRUSH GEAR ASSEMBLY	
	572595	BRUSH GEAR ASSY FOR S MODELS	
71		SLIP RING	
75 & 161		RUBBER CUP	
104		COMPONENT HOLDING PANEL	
107		GRID RUBBER CAP	
	572065	CHANNEL	
	572281	28mm COUPLING	
	572476	1" COUPLING	
	572282	SPIDER	
	572366	SQUARE ADAPTER PLATE	
	572535	3 PHASE GENERATOR	
	572311	11cc MOTOR	