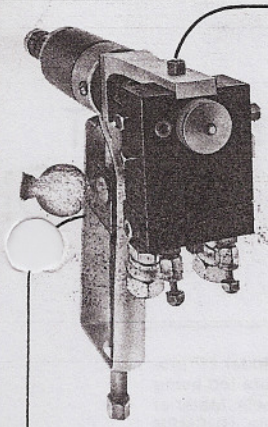
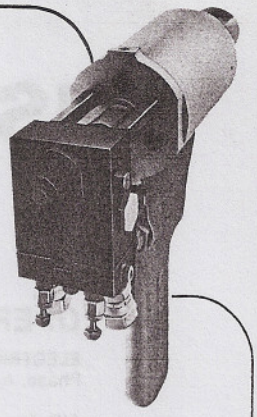


GUSMER® APPLICATION EQUIPMENT

SPRAY OR POUR **URETHANE FOAM** and other plural component systems

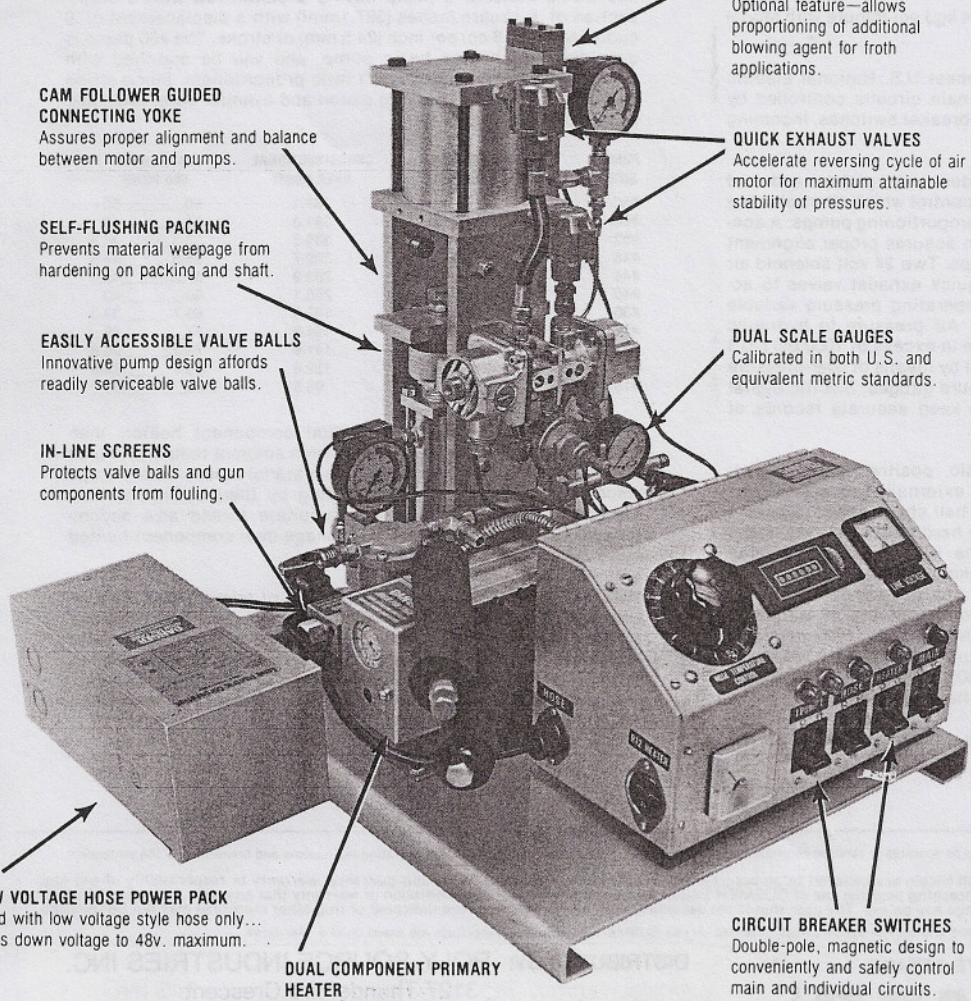


MODEL FF

AIR DRIVEN PROPORTIONING UNIT

A practical, technically superior Air Driven Proportioning Unit for use with plural component chemical systems. Uncomplicated, economical equipment developed from original GUSMER designs to offer many exclusive engineering advantages and backed by years of proven, tested in-field use.

FEATURES



BLOWING AGENT PROPORTIONING PUMP
Optional feature—allows proportioning of additional blowing agent for froth applications.

CAM FOLLOWER GUIDED CONNECTING YOKE
Assures proper alignment and balance between motor and pumps.

QUICK EXHAUST VALVES
Accelerate reversing cycle of air motor for maximum attainable stability of pressures.

SELF-FLUSHING PACKING
Prevents material weepage from hardening on packing and shaft.

EASILY ACCESSIBLE VALVE BALLS
Innovative pump design affords readily serviceable valve balls.

DUAL SCALE GAUGES
Calibrated in both U.S. and equivalent metric standards.

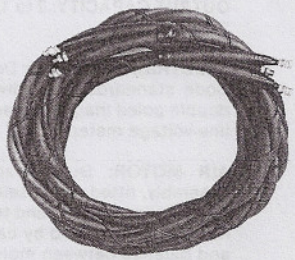
IN-LINE SCREENS
Protects valve balls and gun components from fouling.

OW VOLTAGE HOSE POWER PACK
Used with low voltage style hose only... steps down voltage to 48v. maximum.

DUAL COMPONENT PRIMARY HEATER
Controls material viscosities thermostatically.

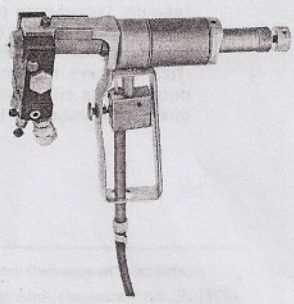
CIRCUIT BREAKER SWITCHES
Double-pole, magnetic design to conveniently and safely control main and individual circuits.

. . . with LOW VOLTAGE DUAL HEATED HOSE



maintains controlled temperature to gun — up to 210' (64 meters) away from primary heater! (See Hose Circuit SPECIFICATIONS)

PLUS CHOICE OF GUSMER SPRAY GUNS



featuring patented, mechanically self-cleaning design for added convenience—and profit!

GUSMER MODEL FF AIR DRIVEN PROPORTIONING UNIT

STANDARD SPECIFICATIONS

OPERATING REQUIREMENTS

ELECTRICAL: 30 amp, 220 volt, 60 Hz (50 Hz also available), Single Phase, A.C.

AIR: Approximately 1 cu. ft. (.5 liter/sec.) per minute at 80 - 110 psi (5.6 - 7.7 kg./cm²) is required for each pound (.5 kg.) of foam dispensed per minute (i.e. 10 lb. [4.5 kg.] per minute output rate requires approximately 10 cfm [4.7 liter/sec.]).

MATERIAL SUPPLY: To insure complete filling of Model FF proportioning pumps, both components must be pressure fed using GUSMER transfer pumps or pressurized supply vessels. Material must be protected from atmospheric moisture via GUSMER nitrogen harness and regulator (or other means).

OPTIONAL EQUIPMENT

BLOWING AGENT PROPORTIONING PUMP: Permits Freon-12* to be added to specially formulated systems at controlled rates to overcome chemical reversion on substrates when environmental conditions warrant. Pump can also be used for froth pour, panel filling, marine floatation or refrigeration type application, as well as a third component proportioning pump.

SUPPLEMENTAL HOSE POWER SUPPLY: Permits the use of an additional 150 feet (45.7m) of Low Voltage Hose.

OTHER ACCESSORIES: GUSMER offers the most complete line of integrated urethane spray, pour or froth pour equipment and related accessories to complement the Model FF. Packages are available from minimum essential to complete, ready-to-use mobile units. All purchasers receive complimentary technical training.

ENGINEERING DATA

WEIGHT: 170 lbs. (77.1 kg.) (standard unit with Low Voltage Power Pack Assembly). Shipping weight approximately 210 lbs. (95.5 kg.).

OUTPUT CAPACITY: 2 to 12 lbs. (.9 - 5.4 kg.) per minute with Model "D" Spray Gun.

ELECTRICAL SYSTEM: Designed to meet U.S. National Electric Code standards. All individual and main circuits controlled by double-poled magnetic design circuit breaker switches. Incoming line-voltage meter.

AIR MOTOR: Double acting cylinder with piston and rod assembly, fitted with a self-actuating control which alternates the supply of air to each end to drive the proportioning pumps. A connecting yoke guided by cam followers assures proper alignment and balance between motor and pumps. Two 24 volt solenoid air valves operate in conjunction with quick exhaust valves to accelerate the reversing cycle. Rated operating pressure variable from 50 to 100 psi (3.5 - 7 kg./cm²). Air pressure to hydraulic pressure ratio 10:1. Chemical pressure in excess of 1000 psi (70.3 kg/cm²) opens air motor electric circuit by means of over-pressure safety switches on the material pressure gauges. Electric digital stroke counter enables operators to keep accurate records of materials used, and to compute yield.

PROPORTIONING PUMPS: Fixed ratio, positive displacement, double acting piston pumps with externally accessible, integrated in-line screens and external ball check valves. Chevron type Teflon* packings, combined with hard chrome plated piston rods and cylinder walls, provide the most reliable pumping system available. Internal piston packing set has self-adjusting take-up. Isocyanate pump's packing area is equipped with continous self-flushing design to prevent hardening of weepage. Rated operating pressure variable from 500 to 1000 psi (35.2 -70.3 kg./cm²) maximum. Over-pressure safety-switch on each pump opens circuit of air motor at 1000 psi (70.3 kg./cm²). Pump directional indicator lamps aid in-the-field troubleshooting.

*Reg. Trademark of E.I. duPont

PROPORTIONING RATIOS: Established by volume in accordance with pump sizes. Pump size designation is determined by the piston rod's cross-sectional area. For instance, the designation #60 would indicate a pump having a piston rod with a cross-section of .6 square inches (387.1mm²) with a displacement of .6 cubic inches (9.8 cc) per inch (24.5 mm) of stroke. The #60 pump is considered to be the basic pump, and will be matched with another #60 when supplying 1:1 ratio proportioners. Pump sizing has been achieved by varying piston and cylinder bore. Base and base parts are universal.

PUMP SIZE	CROSS-SECTIONAL AREA (SQ. IN.)	CROSS-SECTIONAL AREA (mm²)	RATIO WITH #60 PUMP
#60	.60	387.1	50_____50
#56	.56	361.3	52_____48
#52	.52	335.5	53.5_____46.5
#48	.48	309.7	55.5_____44.5
#44	.44	283.9	57.5_____42.5
#40	.40	258.1	60_____40
#30	.30	193.6	66.7_____33.3
#24	.24	154.8	71_____29
#22	.22	141.9	73.2_____26.8
#19	.19	122.6	75.4_____24.6
#15	.15	96.8	80_____20

PRIMARY HEATER: 5000 watt dual component heater, thermostatically controlled, adjustable from ambient temperatures to 200°F. (21.1° to 93.3°C.) to maintain material at less than 100 cps viscosity. Protected from overheating by thermal limit switch. Electric isolation hoses with appropriate thread size accommodate GUSMER's standard low-voltage dual component heated hose.

HOSE CIRCUIT: Variable voltage control of primary side of isolation step-down transformer, with maximum secondary voltage out-put of 48 volts. Under conditions of **mild ambient** temperatures 1/4" I.D. (6.4 mm) hose can be used in lengths up to 210' (64m) from primary heater. However, for normal procedures, the use of more than 160' (48.8m) is generally not recommended.

FOR COMPLETE DETAILS

GUSMER CORPORATION

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