



MILTON ROY

Centrac: 5

PO 3131

Effectdve 2/1/97

CENTRAC 5 PUMPS

FEATURES

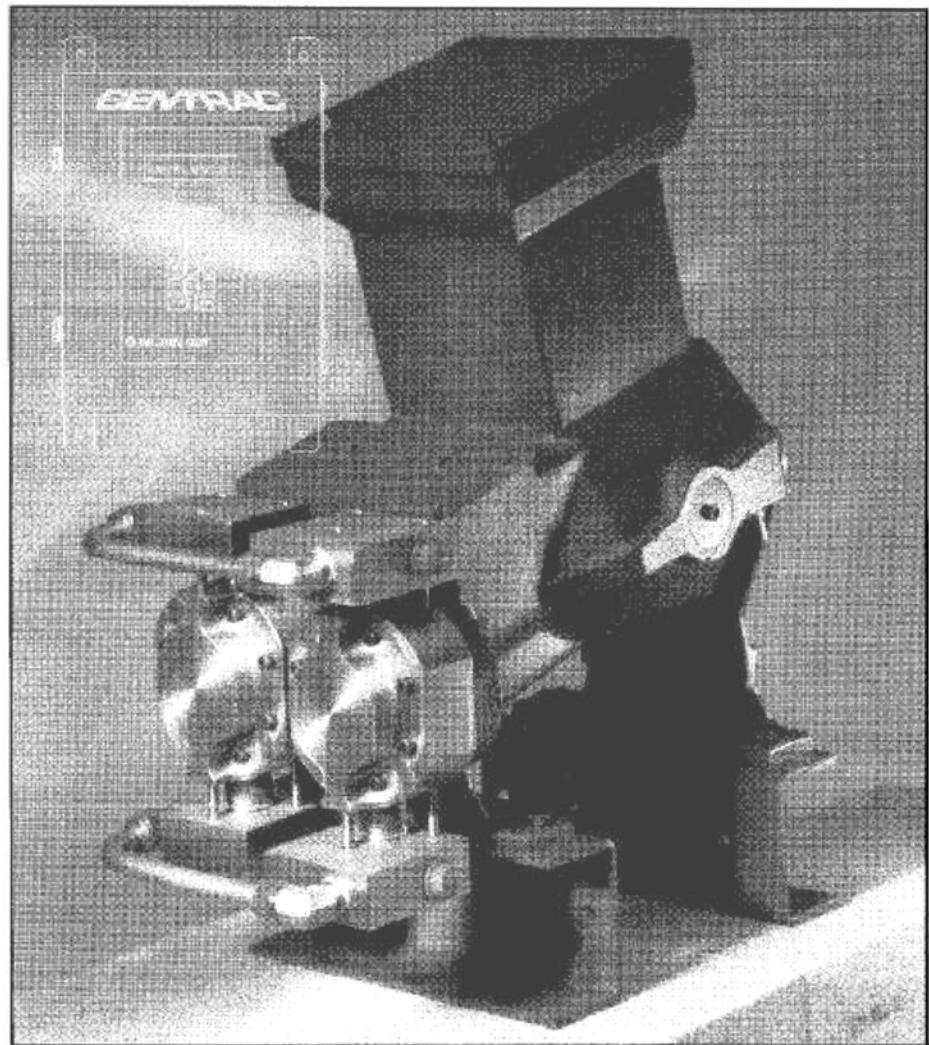
Pump

- Δ $k\text{l/s}$ operation
- Convolved PTPE diaphragm design
- Manual & auto flow adjustment
- 100:1 head ratio
- Dual chamber provides low residual flow pulsations
- Steady state accuracy $\pm 0.5\%$ of set point
- ARS technology enhances suction performance
- Quieted ends available to meet custom needs

Controller

- Microprocessor control
- Sealed keypad operator controls
- Sealed liquid operator display
- NEMA 4X stainless steel
- External keypad control
- Two line liquid crystal display
- Ambient temperature range: $30^\circ\text{F} (-34^\circ\text{C})$ to $113^\circ\text{F} (45^\circ\text{C})$
- Isolated 4-20 mA input & output
- Diagnostic display
- AC power input (1 phase, 115 VAC, 50/60Hz)
- functions
 - Material selection speed control
 - Configuration
 - Diagnostics

CENTRACS



PERFORMANCE

Plunger Dia.	Plgr. Code	Unit	Maximum Flow Rate and Maximum Pressure Rating									
			Plastic		Metal		Glass		Rubber		Teflon	
100 psi (7 bar)	150 psi (10 bar)	100 psi (7 bar)	150 psi (10 bar)	200 psi (14 bar)	350 psi (24 bar)	TSO psi (31 bar)	600 psi (42 bar)	750 psi (52 bar)	800 psi (55 bar)	900 psi (62 bar)	1000 psi (70 bar)	1200 psi (80 bar)
1/2" (12.7 mm)	07	gph (l/h)	5.8 (22)	5.8 (22)	0 (23)	5.9 (22)	5.8 (21)	5.6 (21)	5.5 (21)	5.2 (20)	5.0 (19)	5.0 (18)
5/8" (15.9 mm)	10	gph (l/h)	12.0 (45)	11.9 (45)	12.2 (47)	12.1 (44)	n/a (46)	n/a (45)	n/a (44)	—	—	—
1" (25.4 mm)	14	gph (l/h)	23.4 (88)	23.3 (88)	24.1 (91)	24.0 (91)	23.9 (90)	—	—	—	—	—
1 1/2" (38.1 mm)		l/h	(146)	(145)	(151)	(150)	—	—	—	—	—	—
1"	18	gph	38.7	38.5	40.0	39.7						

MOTES.

1. Operating flow rat range is from rated! capadty to 1/100lh of rated capacity.

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CENTRAC S

PRODUCT DESCRIPTION

The Centrac S is the latest addition to the Centrac product family of high performance metering pumps. To meet demanding applications, the Centrac S combines proven mechanical and hydraulic design with the latest electronic drive technology.

The mechanical drive incorporates two computer designed cams synchronized to provide virtually pulseless flow over the entire flow range. The drive is designed for long trouble free service using high quality needle bearings on the cam shaft and in the cam followers. The use of high efficiency Utvel gears (compared to conventional worm gears), allows a single oil to be used, providing hydraulic actuation and pump lubrication.

The convoluted diaphragm is designed for low stress and long life by FEA analysis, and provides a compact footprint. Viscous losses are minimized by eliminating the need for a process side contour plate. This is possible because of the

unique diaphragm positioning and hydraulic refill system (MARS).

Centrac S uses an advanced stepper motor design which produces 51,200 motor steps for each stroke of the pump. It provides excellent speed regulation, maintaining its speed within 0.1% from 700 RPM to 7 RPM. The motor is completely enclosed inside the pump housing.

Three microprocessors form the heart of this versatile motor controller. The first microprocessor controls the pump status and user prompts written to the two line alphanumeric display. It also functions to interpret the user's input from the keypad. The second microprocessor, the master, controls communications on the internal RS485 communications loop and processes; PC; IHPC customers 4-20 mA input and output signals. The third microprocessor controls the step rate and current flowing to the motor.

The entire system is powered from a conventional AC power source.

SPECIFICATIONS

Inlet Power	1 phase, 115 VAC +10%, 50-60 Hz
Pump/Motor	Totally Enclosed, non-ventilated
Horsepower	Approximately 0.4 hp (300 watts)
Steady State Flow Accuracy	±0.5%
Pressure Sensitivity	1% per 100 psi (7 bar)
Liquid Temperature	-30°F to 250°F (-34°C to 121°C) for metallic diaphragms
Ambient Temperature	-30°F to 110°F (-34°C to 45°C)
Pump Weight	160 lbs.
Controller Weight	Approximately 45 lbs.
Minimum Suction Pressure	9 psig (5 psia with 15% flow derate)
Location	Suitable for indoor or outdoor environments (overhead shelter recommended)
Dial Checks	Single ball checks in suction and discharge
Refill System	Mechanically Actuated Refill System (MARS)
Lubrication	Gearing and bearings are bath-lubricated
Flow Output	Low residual flow pulsations
Flow Rate Adjust	Adjustable by speed control only — manual or automatic
Variable Speed Drive Enclosure	NEMA 4X, 316 SS enclosure
Operator Controls	Tactile keypad mounted on drive enclosure
Information Display	Liquid crystal (LCD); 2 lines, 16 alphanumeric characters each
Flow Rate Display Resolution	0.1%
Milliamp Signal Input	4-20 mA, 100 ohm input impedance, isolated
Milliamp Signal Output	4-20 mA, 600 ohms max load, isolated • Auto/manual selection • Manual speed set • Start/stop • Set low limit • Set hi limit • Set "turn on" mode • Set loss of signal action
Standard Controls	



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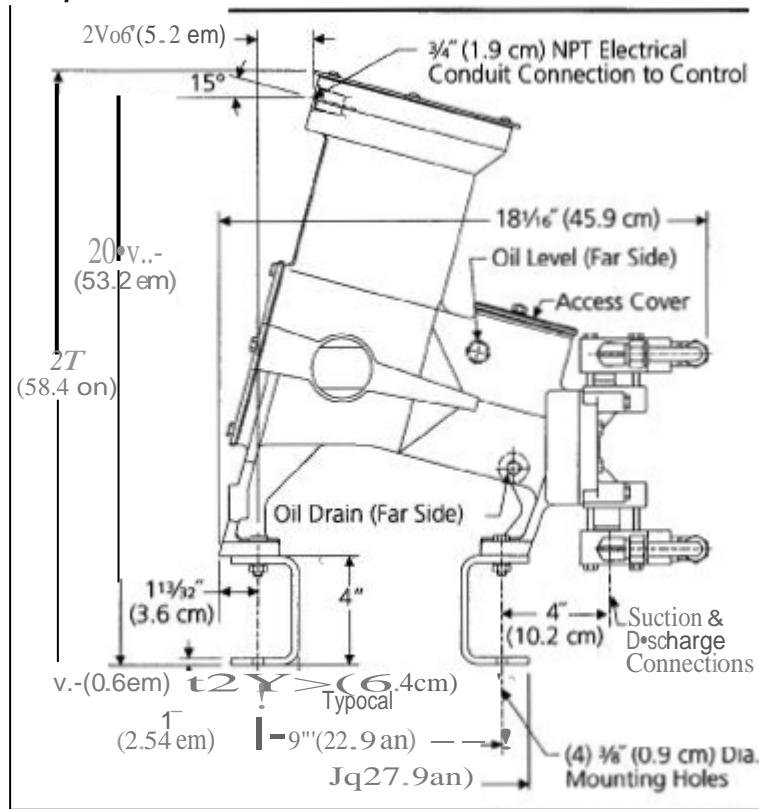
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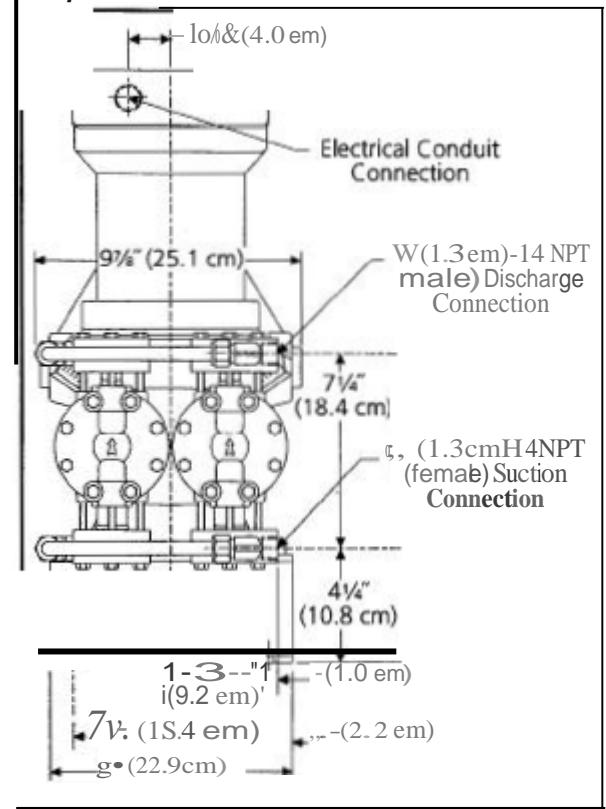
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DIMENSIONS

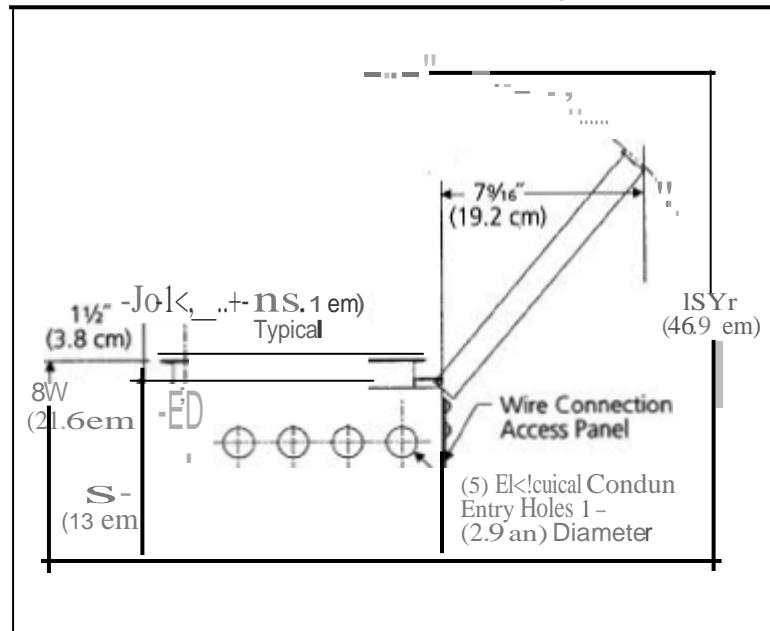
Pump Side View



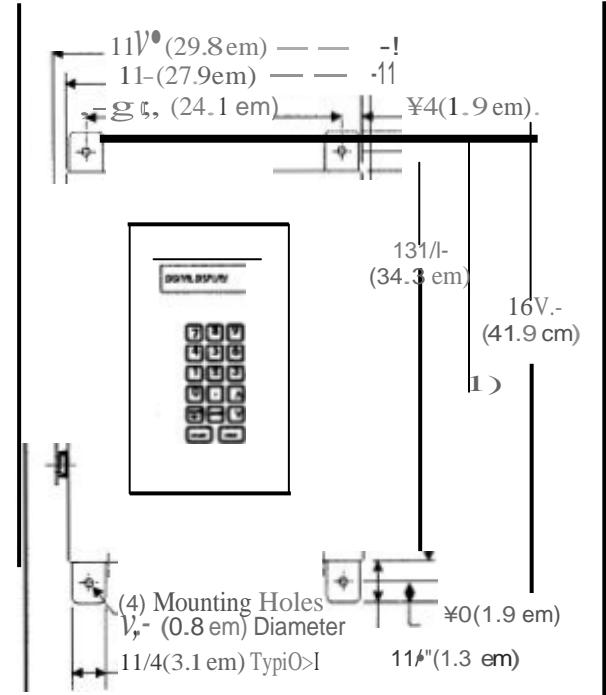
Pump Front View



c-troller Bottom View (NtHrY 4X verslo#t)



c-troller Front View (Nfmlly 4X vetsfon)



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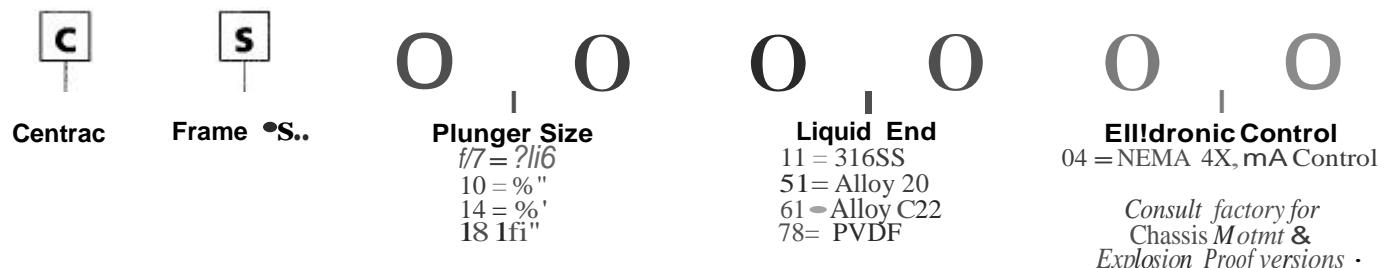
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CENTRAC S

MODEL NOMENCLATURE

Pump Model Code



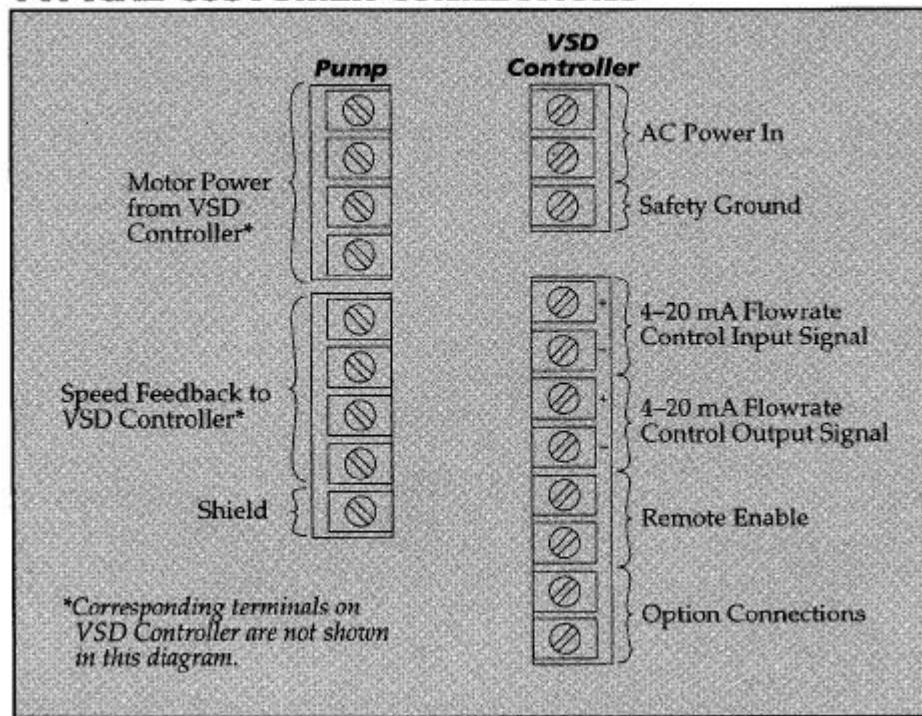
MATERIALS OF CONSTRUCTION

Materials of Construction	Diaphragm	Dia hragm lead	Port Adapter	Ball Seat	Ball Check	Ball Guide	Tubing	Tube Fittings
316SS	PTFE/Nitrile	CFSM (I)	31658	3 6SS	316SS	CFSM (I)	31658	316SS
Alloy 20	PTFE/Nitrile	CN7M (I)	Alloy 20	Alloy 20	Alloy 20	CN7M(I)	Alloy 20	Alloy 20
Alloy C22	PTFE/Nitrile	CX2MW(1)	Alloy C22	Alloy C22	Ceramic	CX2MW(1)	Alloy C22	Alloy C22

NOTE:

- For castings, CFSM = 316 SS, CN7M = Alloy 20 and CX2MW = Alloy C22.

TYPICAL CUSTOMER CONNECTIONS



ACCESSORIES

- Transformers
- Tanks & Standard Systems
- Safety Valves
- Mjxel's
- Back Pressure Valves
- Sludge Traps
- Calibration Columns
- Dissolving Baskets

All information contained herein is subject to change without notice.