



### CENTRAC S PUMPS

motralec

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX

Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48

Demande de prix / e-mail : [service-commercial@motralec.com](mailto:service-commercial@motralec.com)

[www.motralec.com](http://www.motralec.com)

#### FEATURES

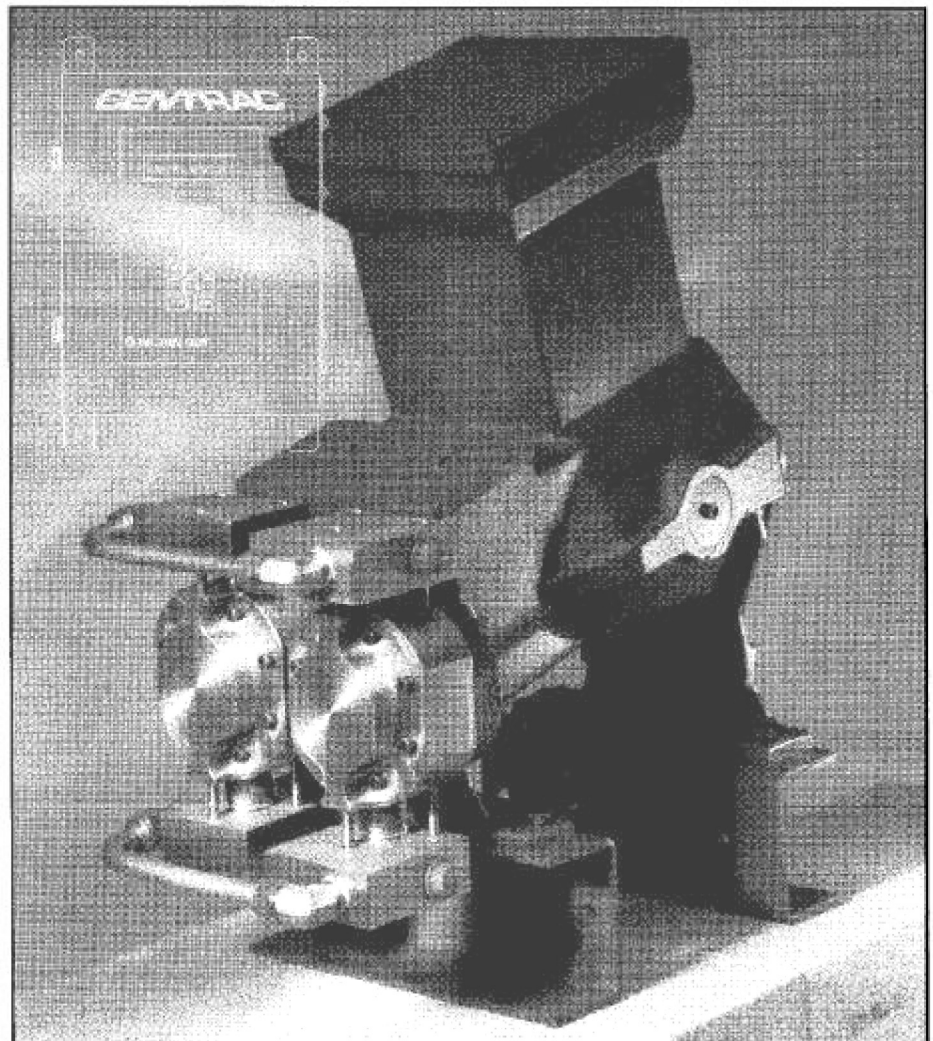
##### Pump

- Leakless Operation
- Convoluted PTFE diaphragm design
- Manual & auto flow adjustment
- 100:1 turndown ratio
- Dual cam provides low residual flow pulsations
- Steady state accuracy  $\pm 0.5\%$  of set point
- MARS technology enhances suction performance
- Liquid ends available to meet customer needs

##### Controller

- Microprocessor control
- Sealed keypad operator controls
- Sealed lighted operator display
- NEMA 4X stainless steel
- External keypad control
- Two line alphanumeric 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
- Diagnostics display
- AC power input (1 phase, 115 VAC, 50/60 Hz)
- Functions
  - Manual/Auto speed control
  - Configure
  - Diagnostics

#### CENTRAC S



#### PERFORMANCE

Plunger Dia.	Plgr. Code	Unit	Maximum Flow Rate and Maximum Pressure Ratings										
			Plastic				Metallic						
			100 psi (7 bar)	150 psi (10 bar)	100 psi (7 bar)	150 psi (10 bar)	200 psi (14 bar)	350 psi (24 bar)	450 psi (31 bar)	600 psi (42 bar)	750 psi (52 bar)	800 psi (55 bar)	900 psi (62 bar)
$\frac{3}{16}''$ (11.1 mm)	07	gph (l/h)	5.8 (22)	5.8 (22)	6.0 (23)	5.9 (22)	5.8 (22)	5.6 (21)	5.5 (21)	5.2 (20)	5.0 (19)	5.0 (19)	4.0 (18)
$\frac{1}{4}''$ (15.9 mm)	10	gph (l/h)	12.0 (45)	11.9 (45)	12.3 (47)	12.2 (46)	12.1 (46)	11.9 (45)	11.7 (44)	—	—	—	—
$\frac{3}{8}''$ (22.2 mm)	14	gph (l/h)	23.4 (88)	23.3 (88)	24.1 (91)	24.0 (91)	23.9 (90)	—	—	—	—	—	—
$1\frac{1}{8}''$ (28.6 mm)	18	gph (l/h)	38.7 (146)	38.5 (145)	40.0 (151)	39.7 (150)	—	—	—	—	—	—	—

#### NOTES:

1. Operating flow rate range is from rated capacity to 1/100th of rated capacity.

# Centrac S

PD 3131

Effective 3/1/96



# MILTON ROY

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 bevel 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 foot print. 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 the customer's 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.

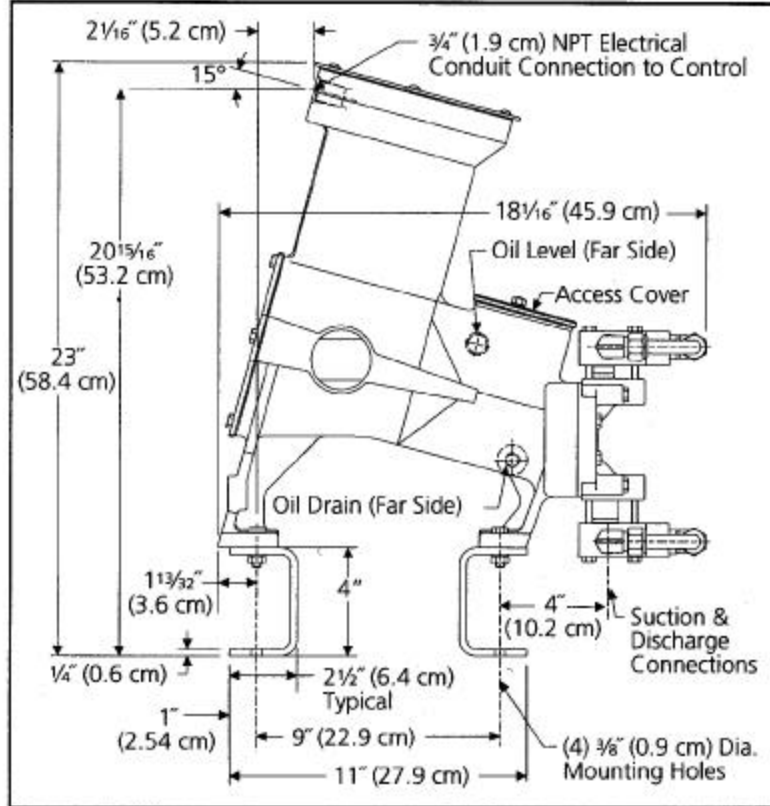
## SPECIFICATIONS

Input Power	1 phase, 115 VAC $\pm$ 10%, 50-60 Hz
Pump/Motor	Totally Enclosed, non ventilated
Horsepower	Approximately 0.4 hp (300 watts)
Steady State Flow Accuracy	$\pm$ 0.5%
Pressure Sensitivity	1% per 100 psi (7 bar)
Liquid Temperature	-30°F to 250°F (-34°C to 121°C) for metallic liquid ends
Ambient Temperature	-30°F to 113°F (-34°C to 45°C)
Pump Weight	160 lbs.
Controller Weight	Approximately 45 lbs.
Minimum Suction Pressure	9 psia (5 psia with 15% flow derate)
Location	Suitable for indoor or outdoor environments (overhead shelter recommended)
Ball 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 100 ohm to ground
Milliamp Signal Output	4-20 mA, 600 ohms max load, isolated
Standard Controls	<ul style="list-style-type: none"><li>• Auto/manual selection</li><li>• Manual speed set</li><li>• Start/stop</li><li>• Set low limit</li><li>• Set hi limit</li><li>• Set "turn on" mode</li><li>• Set loss of signal action</li></ul>

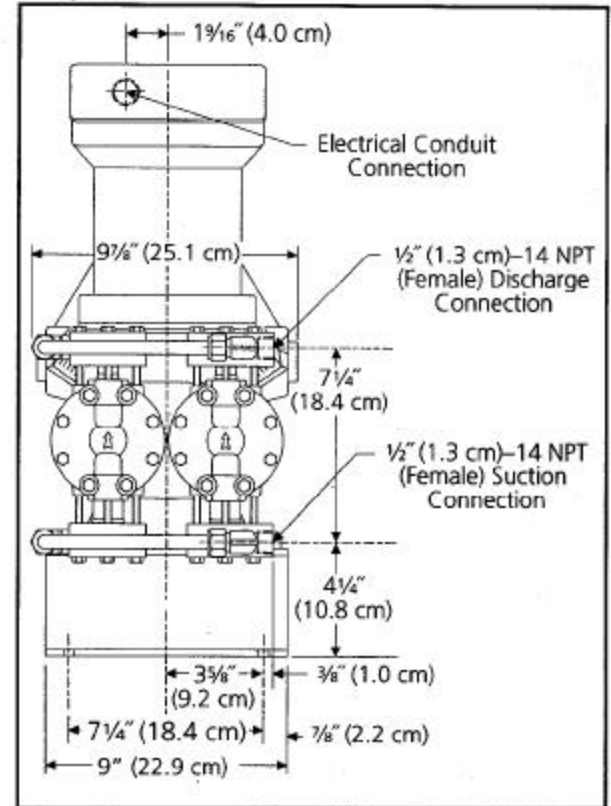


### DIMENSIONS

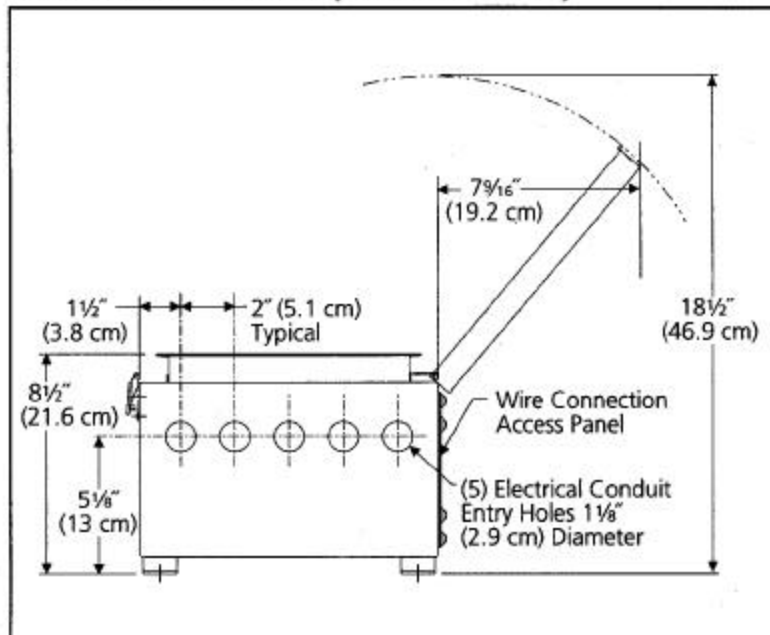
**Pump Side View**



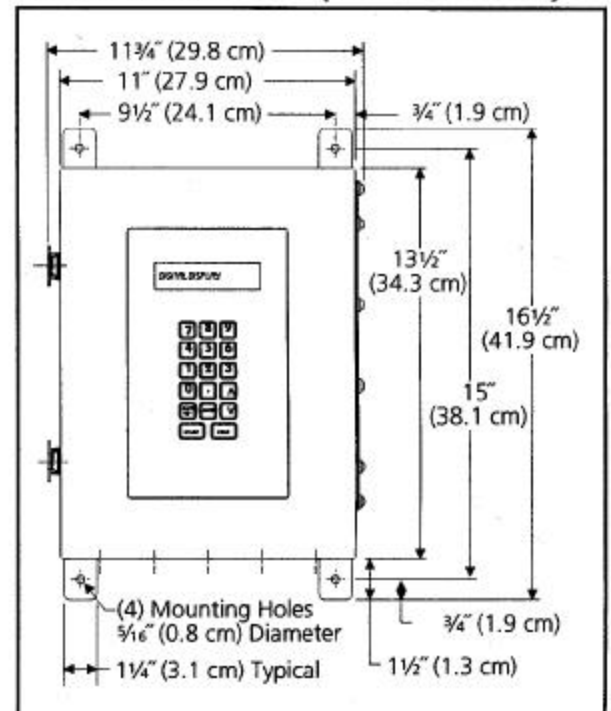
**Pump Front View**



**Controller Bottom View (Nema 4X version)**



**Controller Front View (Nema 4X version)**





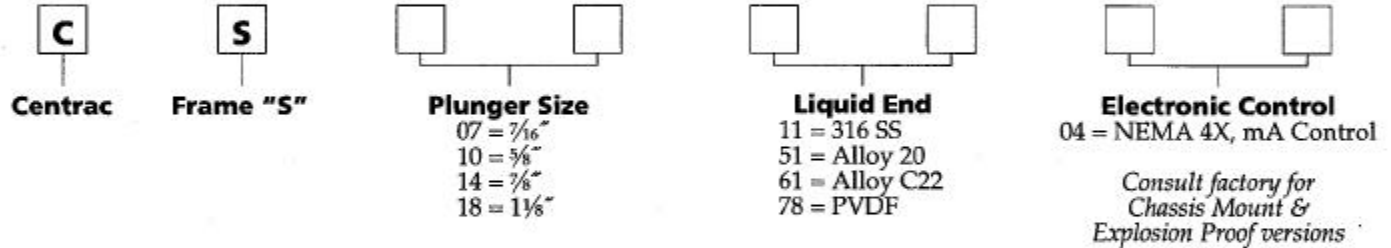
**motralec**

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX  
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48  
Demande de prix / e-mail : service-commercial@motralec.com

[www.motralec.com](http://www.motralec.com)

## MODEL NOMENCLATURE

Pump Model Code



CENTRAC S

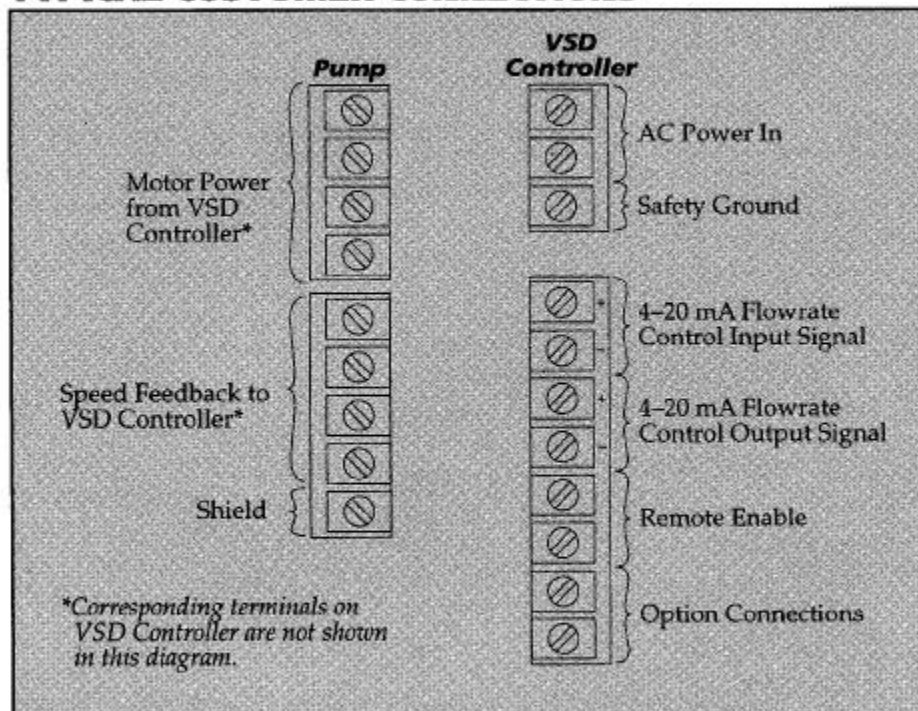
## MATERIALS OF CONSTRUCTION

Materials of Construction	Diaphragm	Diaphragm Head	Port Adapter	Ball Seat	Ball Check	Ball Guide	Tubing	Tube Fittings
316 SS	PTFE/Nitrile	CF8M (1)	316SS	316SS	316SS	CF8M (1)	316SS	316SS
Alloy 20	PTFE/Nitrile	CN7M (1)	Alloy 20	Alloy 20	Alloy 20	CN7M (1)	Alloy 20	Alloy 20
Alloy C22	PTFE/Nitrile	CX2MW (1)	Alloy C22	Alloy C22	Ceramic	CX2MW (1)	Alloy C22	Alloy C22

### NOTE:

1. For castings, CF8M = 316 SS, CN7M = Alloy 20 and CX2MW = Alloy C22.

## TYPICAL CUSTOMER CONNECTIONS



## ACCESSORIES

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

All information contained herein is subject to change without notice.

