



CPE SYSTEMS INC



C+100MD

TECHNICAL SPECIFICATIONS



The C+100 is CPE's next generation centrifugal pump targeted at small applications. This pump takes the popular C100 pump and adds design improvements to increase capability and durability. It is attached to our efficient stainless steel washdown motor, with a TEFC induction motor also available. At the same price as the C100, the C+100 is the ultimate small, affordable transfer pump.

DESIGN

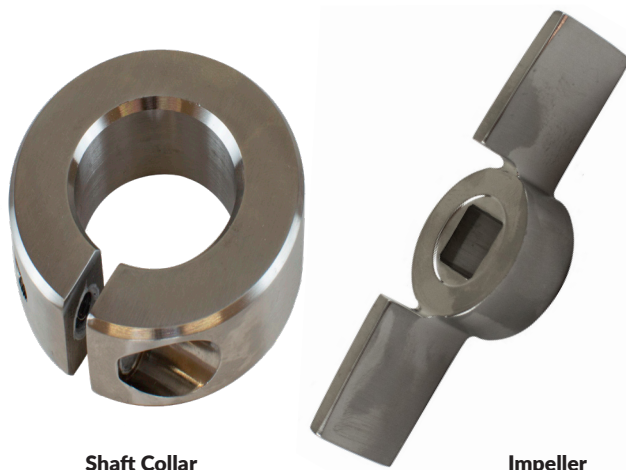
The C+100 is an excellent entry level pump. It's small, compact design is easy to clean and repair. The C+ series maintains general compatibility with the C100 line, while bringing new innovation in pump design. This includes a collar that clamps down on the drive shaft over the full 360° degrees removing the minor wobble that can occur from set screwed shafts. This pump features a thicker heavy-duty casing and casing O-ring. The C+ is equipped with a single mechanical external D seal. No other seals are available for this size. Most parts are interchangeable with other C100 pumps.

FEATURES

- 1 ½" x 1" Tri-Clamp connections
- Stainless steel washdown motor or TEFC induction motor
- 316L stainless steel construction
- 304 stainless steel adapter
- External mechanical D seal

HORSEPOWER

Horsepower	Max. Flow rate	Shut Off Head
0.5 HP	34 GPM	17 ft
0.75 HP	58 GPM	40 ft
1 HP	68 GPM	51 ft
1.5 HP	75 GPM	58 ft



Shaft Collar

Impeller



TECHNICAL SPECIFICATIONS

Materials	
Parts in Contact With Product:	316L Stainless Steel
Other Steel Parts:	304 Stainless Steel
Gaskets in Contact With Product:	EPDM (standard) Buna (special order)
Weight Without Motor:	10 lbs
Mechanical Seal	
Rotary Seal:	Carbon
Stationary Seal:	Stainless Steel
External Surface Finish:	Bright Polish
Internal Surface Finish:	32 RA
Connection Type:	Tri-Clamp
Connection Size:	1.5" x 1"
Max. Impeller Diameter:	3.75"
Motor	
Type:	S.S Premium Efficiency TEFC motor
Motor Frame Size:	NEMA 56C C-Face
Speeds:	1750 & 3450 RPM or 1800 & 3600 RPM
Operating Limits	
Nominal Pressure:	8 bar (117 PSI)
Temperature Range:	14°F (-10°C) - 248°F (120°C)
Maximum Flow:	70 GPM (15.9 m³/h)
Maximum Differential Head:	60 ft (18.3 m)
Maximum Speed:	3500RPM (60 Hz)
Viscosity:	600 cP
Approvals	
Certification:	3A- Authorization #1537, 02-11 (centrifugal pumps) for CIP



Variable Speed Controller

The Lenze i550 protec is our new inverter series in the ½ HP to 20 HP range. The series is available in 115, 230, 460, and 575 volt, 60 Hz, with 1 phase and 3 phase input. Voltage and phase options for each portable assembly depend on the model and motor horsepower. The slim and sleek casing is also extremely durable, featuring both impact resistance and IP66 washdown protection. A micro USB interface is provided for more efficient programming. This user-friendly VFD is programmable and has scalable functionality. This trustworthy and powerful VFD can be implemented into your operations with ease. The i550 can be controlled by the keypad, the included potentiometer, or a remote control (the remote control is available at additional cost). Our portable mixer and blender assemblies feature this VFD, allowing the speed to be adjusted to suit the product and process.

FEATURES

- IP66 (NEMA 4X) approved; it is both dust and water resistant.
- Equipped with a Micro USB interface for programming and diagnostics.
- Full onboard PID programming for interfacing with flow meters, level controls, pressure sensors, and can/bottle fillers.
- The i550 Protec has a sensorless vector control for synchronous motors.
- Equipped with multiple digital and analog inputs for remote control and safety interlocks.
- Compatible with our wireless remote controls, pressure switches, and run dry protection.
- Equipped with a potentiometer.



TECHNICAL SPECIFICATIONS

Horsepower:	0.5 to 1.5 HP
1Ø/3Ø Input:	1Ø 230 VAC, 50/60 Hz 3Ø 230/460/575 VAC, 50/60 Hz
3Ø Output:	208-230/460/575 VAC
Ambient Temperature:	-22°F - 131°F (-30°C - 55°C)
Standard IO:	5x digital input, 1x digital output, 2x analog input, 1x analog output, 1x relay output
Communication Networks:	CANopen, Modbus RTU, Modbus TCP, IO-Link, EtherCAT, EtherNet/IP, PROFINET
Approvals:	CE, UL, CSA, EAC, RoHS

Knockdown Pump Cart



Custom designed for the craft food and beverage industry, this is our smallest pump cart, built for pumps up to 2 HP. This cart is aerodynamic, tilt draining, maneuverable, and has a small footprint. The knockdown cart handle is removable, creating a compact cart that can be easily stored or wheeled into tight spaces. All parts are hand welded in Canada for quality assurance and durability.

Frame:	16 ga stainless steel square tube with foot
Handle:	16 ga stainless steel square tube
Platform:	14 ga stainless steel AISI 304 Pre-drilled to fit 56 and 143 NEMA frames
Axle:	½" stainless steel rod axle
Wheels:	2" x 5" non marking neoprene wheels



The C+100 is available as a pump and motor or as a portable pump assembly. The portable pump assembly includes a VFD, cart, cord, and plug. The portable assembly comes fully programmed and has more voltage options than the pump and motor.

PORTABLE ASSEMBLY COMPONENTS:

- C+100 Pump Head
- TEFC or SS Washdown Motor
- LENZE VFD
- Stainless Steel Pump Cart
- Electrical Cord and Plug of Choice

PUMP AND MOTOR COMPONENTS:

- C+100 Pump Head
- TEFC or SS Washdown Motor

Motors



STAINLESS STEEL WASHDOWN MOTOR:

- Totally Enclosed Fan Cooled (TEFC)
- Construction Material: Stainless Steel
- NEMA C-Face / 56C Frame
- NEMA Design B
- Factory Certified Class I, Division 2, Groups A, B, C, and D



TEFC MOTOR:

- Totally Enclosed Fan Cooled (TEFC)
- Construction Material: Painted Aluminum
- IP55 Enclosure Protection
- Class I, Division II, Groups A, B, C, and D Compliant

Portable Assembly Options

Horsepower	Available Motors	Cart	Available Voltages
0.5 HP	Stainless Steel Washdown Motor TEFC Motor	Knockdown Pump Cart	115 volt single phase 230 volt single phase 230 volt three phase 460 volt three phase 575 volt three phase
0.75 HP	Stainless Steel Washdown Motor TEFC Motor	Knockdown Pump Cart	115 volt single phase 230 volt single phase 230 volt three phase 460 volt three phase 575 volt three phase
1 HP	Stainless Steel Washdown Motor TEFC Motor	Knockdown Pump Cart	115 volt single phase 230 volt single phase 230 volt three phase 460 volt three phase 575 volt three phase
1.5 HP	Stainless Steel Washdown Motor TEFC Motor	Stainless Steel Cart	115 volt single phase 230 volt single phase 230 volt three phase 460 volt three phase 575 volt three phase



Capacity Curves

MODEL: C+100

Frequency: 60 Hz

RPM: 1800 & 3600

Size: 1.5" x 1.0" x 3.75"

--- Duty Point ---

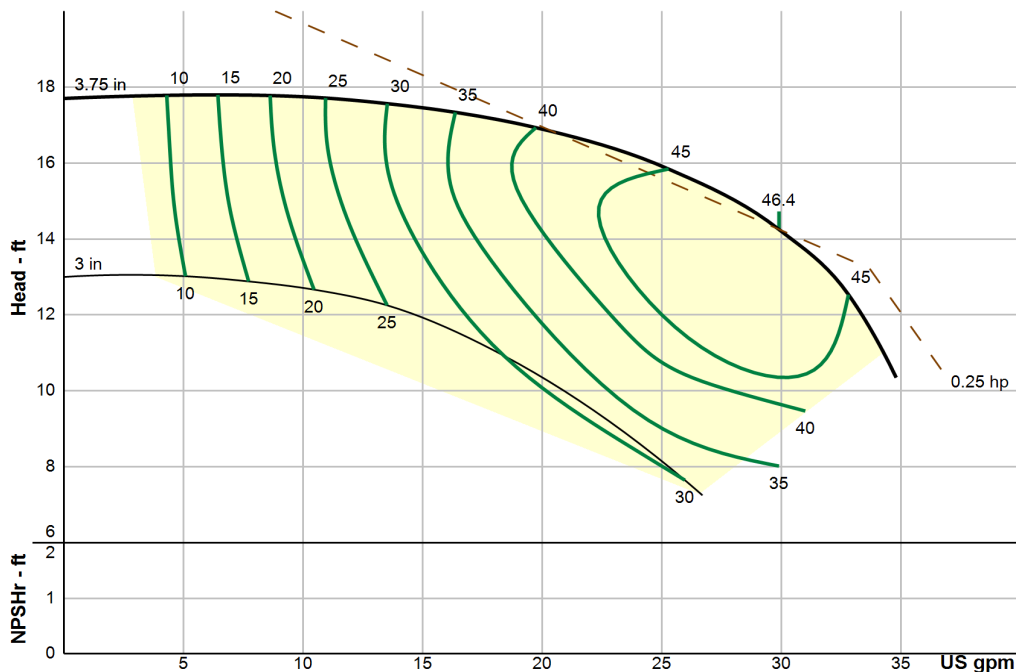
Flow: 29.9 US gpm
Head: 14.2 ft
Eff: 46.4%
Power: 0.232 hp
NPSHr: ---
Speed: 1750 rpm

--- Design Curve ---

Shutoff Head: 17.7 ft
Shutoff dP: 7.67 psi
Min Flow: --- US gpm
BEP: 46.4% @ 29.9 US gpm
NOL Power:
0.232 hp @ 29.9 US gpm

--- Max Curve ---

Max Power:
0.232 hp @ 29.9 US gpm



--- Duty Point ---

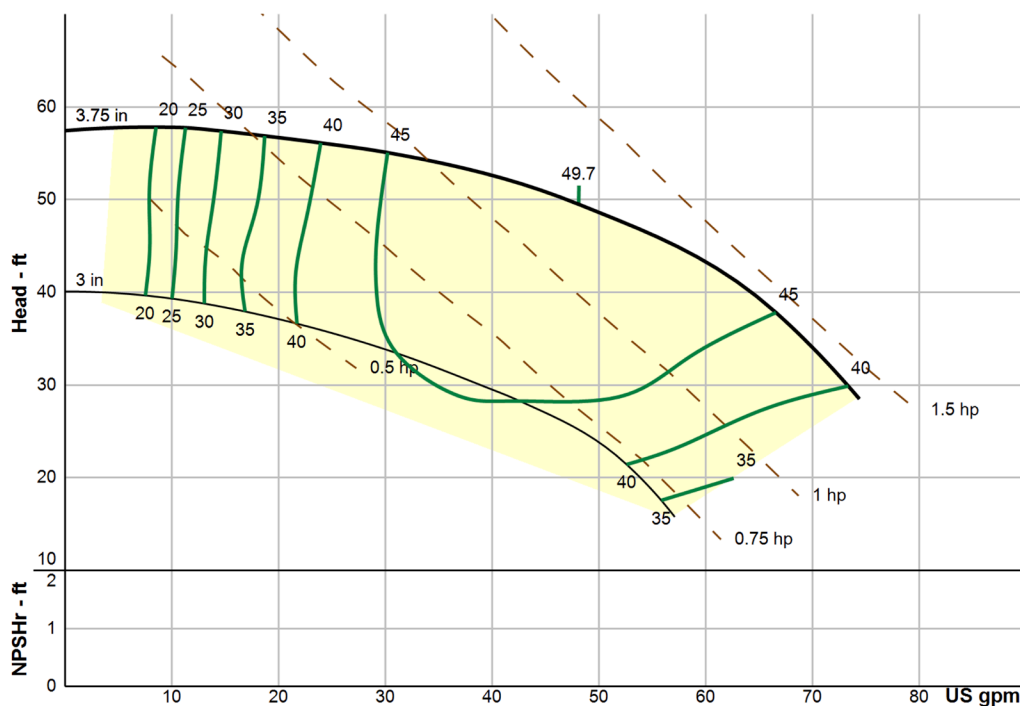
Flow: 48.1 US gpm
Head: 49.5 ft
Eff: 49.7%
Power: 1.21 hp
NPSHr: ---
Speed: 3500 rpm

--- Design Curve ---

Shutoff Head: 57.4 ft
Shutoff dP: 24.9 psi
Min Flow: --- US gpm
BEP: 49.7% @ 48.1 US gpm
NOL Power:
1.41 hp @ 66.6 US gpm

--- Max Curve ---

Max Power:
1.41 hp @ 66.6 US gpm



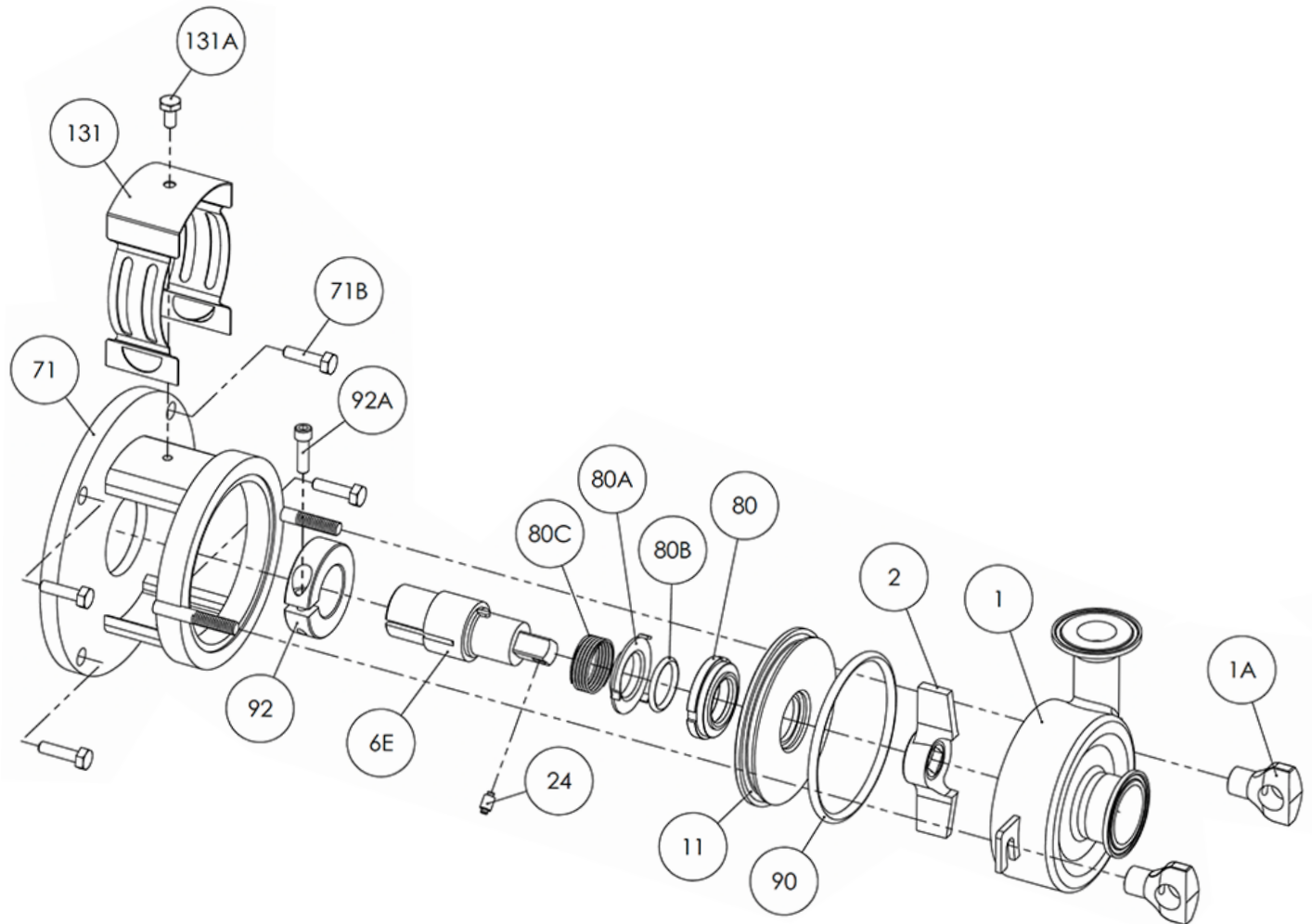


Viscosity and Specific Gravity Table

Product	Specific Gravity	Viscosity
Acetic Acid		
5%	1.01	
10%	1.01	31.7 SSU @ 59°F
50%	1.06	33.0 SSU @ 59°F
80%	1.08	35.0 SSU @ 59°F
Animal Fat	0.9	130 SSU @ 115°F 50 SSU @ 200°F
Barbecue Sauce	1.05	11,500 SSU @ 40-75°F
Beer	1.02	32 SSU @ 68°F
Blood - Animal	0.93-0.98	15,000 SSU @ 55°F
Butter	0.93-0.98	15,000 SSU @ 55°F 440 SSU @ 90°F 220 SSU @ 115°F
Coconut Oil	0.92	125 SSU @ 106°F
Corn Oil	0.92	135 SSU @ 130°F 54 SSU @ 212°F
Corn Starch Solutions		
22 Baume	1.18	150 SSU @ 70°F 130 SSU @ 100°F
24 Baume	1.2	600 SSU @ 70°F 440 SSU @ 100°F
25 Baume	1.21	1400 SSU @ 70°F 800 SSU @ 100°F
Cottage Cheese	1.02	4,300 SSU
Cream (sweet)	1	73 SSU
	0.99	140 SSU
	0.99	215 SSU
Egg Yolk	1.12	21,500 @ 35°F
Gelatin	1.01	1,380-2,580 SSU @ 160°F
Glucose	1.35 - 1.44	35M-100M SSU @ 100°F 4M-11M @ 150°F
Honey	1.3	1250-1425 SSU @ 100°F
Ice Cream Mix	1.15	1050 SSU @ 46°F
Lard	0.96	287 SSU @ 100°F
Linseed Oil	0.92 - 0.94	143 SSU @ 100°F 93 SSU @ 130°F
Malt Syrup	1.41	85,400 SSU @ 77°F
Maple Syrup	1.37	2,000 SSU @ 68°F

Margarine	0.93	13,900 SSU @ 84°F
Milk	1.02 - 1.05	31.5 SSU @ 68°F
Molasses		
A. First	1.4 - 1.46	1,300 - 23,500 SSU @ 100°F 700 - 8,160 SSU @ 130°F
B. Second	1.43 - 1.48	6,536 - 61,180 SSU @ 100°F 3058 - 15,294 SSU @ 130°F
C. Blackstrap	1.46 - 1.49	12,190 - 23,500 SSU @ 100°F
Mustard	1	17,000 SSU @ 85°F
Olive Oil	0.91 - 0.92	200 SSU @ 100°F
Peanut Butter	1.2	77,400 SSU @ 110-140°F
Sesame Seed Oil	0.92	184 SSU @ 100°F 110 SSU @ 130°F
Soy Bean Oil	0.91	500 SSU @ 44°F
Tomato Paste	1.14	60M-80M SSU 21M SSU Approx.
Water	1	31 SSU @ 68°F

Expanded View



Part #	Part Name
1.	Casing
1A.	Casing Wing Nuts
2.	Impeller
6E.	Stub Shaft
11.	Backplate
24.	Impeller Retainer
71.	Adapter
71B.	Adapter Mounting Screw
80.	Carbon Seal
80A.	Cup
80B.	O-ring

Part #	Part Name
80C.	Spring
90.	Casing Gasket
92.	Shaft Collar
92A.	Shaft Collar Screw
131.	Seal Guard
131A.	Seal Guard Screw