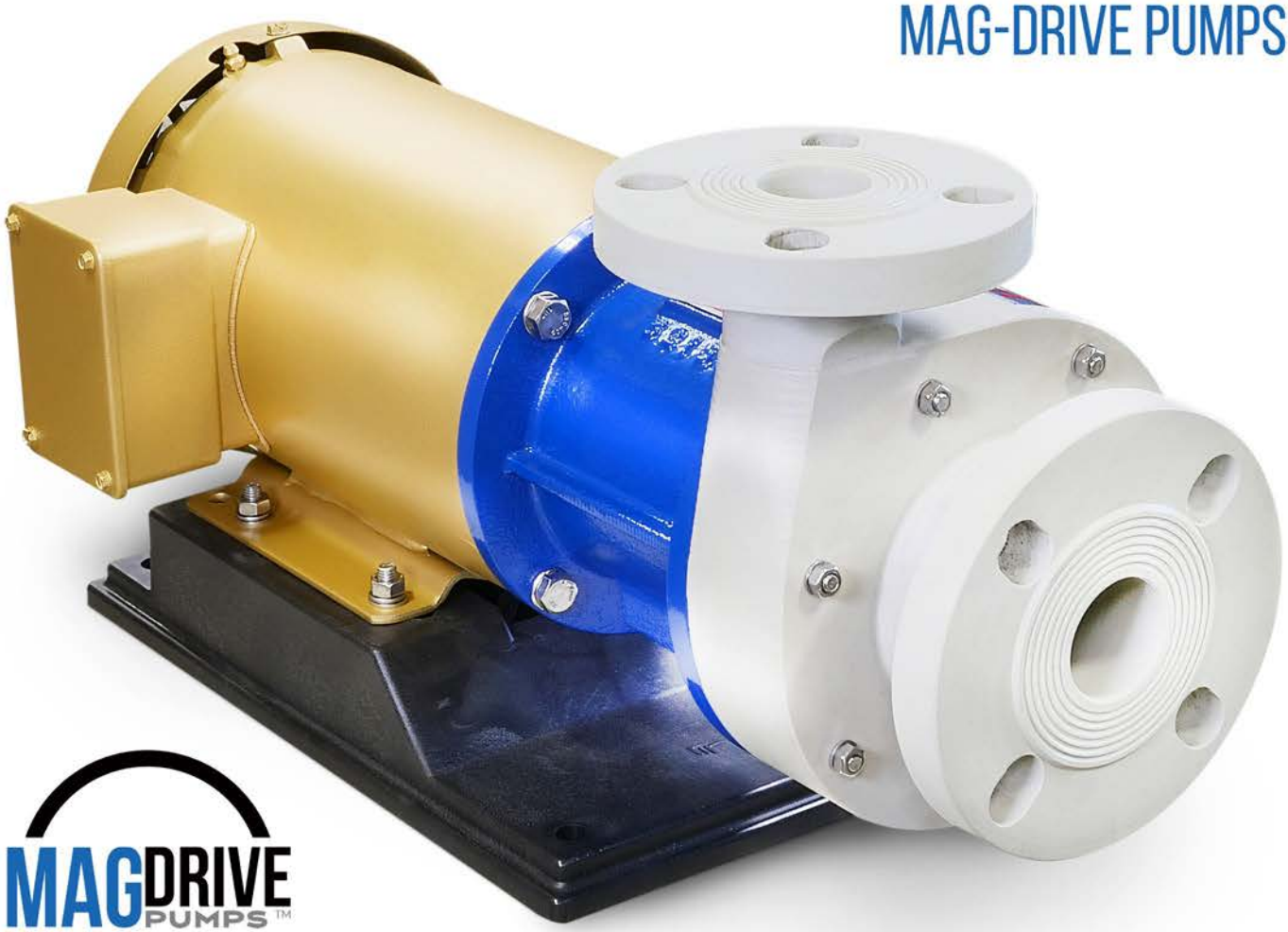
CHEMAG

MAG-DRIVE PUMPS FOR SEVERELY CORROSIVE PROCESSES

CP/CV Series

Non-Metallic Seal-less

MAG-DRIVE PUMPS



MAGDRIVE PUMPS™

SOLID PP & PVDF NON-METALLIC CENTRIFUGAL PUMPS

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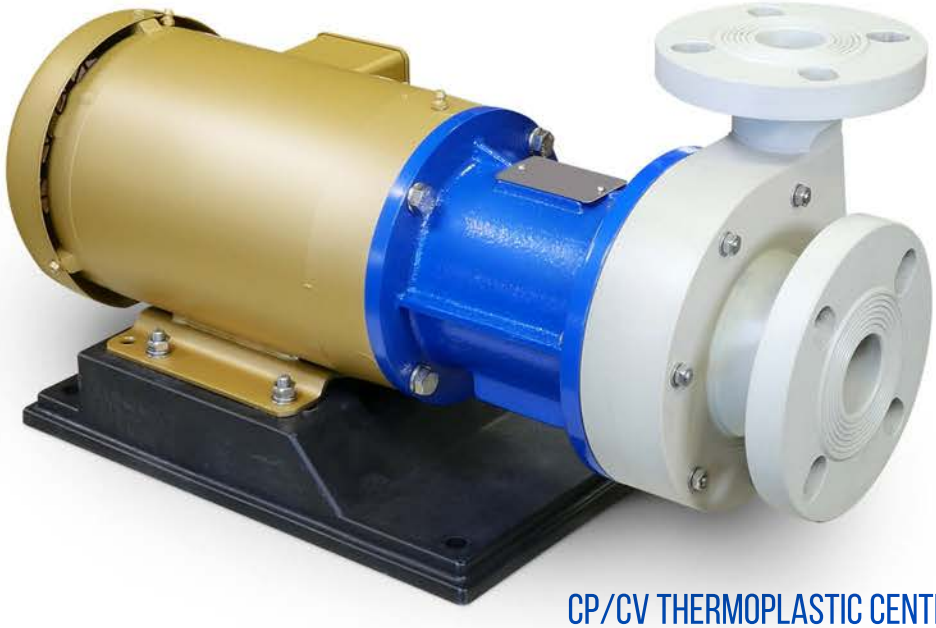
MAG-DRIVE PUMPS FOR SEVERELY CORROSIVE SERVICES

Advanced design, materials and engineering technology.

CHEMAG® Series CP/CV Seal-less Mag-Drive Process Pumps are engineered and constructed for high reliability in the most corrosive applications and hostile environments.

The CP/CV range consists of 6 pump models with flows from 5 to 600 GPM. Robust, pump casings featuring integral flanged ports to ensure zero emissions. Thereby, the corro-duty casings with magnetic drive couplings meet EPA zero emissions regulations.

Heavy duty, oversized internal bearings withstand hydraulic loads. An industry exclusive **impeller rear thrust bearing (on sizes 3 to 6) prevent damage due to back-loading.



CP/CV THERMOPLASTIC CENTRIFUGAL

**Impeller Thrust Bearings

ZERO LEAKAGE - ZERO CORROSION

CHEMAG® pumps include a performance guarantee for approved applications.

MAG-DRIVE PUMPS FOR SEVERELY CORROSIVE SERVICES

Chemag® Non-Metallic Mag-Drive Pumps

Constant research and development, combined with versatile and innovative production, has led to the industry's most comprehensive range of non-metallic mag-drive pumps.

CP/CV Series

Competition

Materials of Construction

- Casings & Internal Components: Glass-free (PP)(Polypropylene) or PVDF (Polyvinylidene Fluoride)
- Shaft: Silicon Carbide
- Sleeve & Thrust Bearings: Silicon Carbide, PTFE/C
- Casing O-RIng: EPDM, Viton or FEP

Options

- Silicon Carbide Sleeve Bearings

Machined Billet Construction

Chemag® thermoplastic designs are uniquely constructed from Glass-Free Simona® PP (Polypropylene) or PVDF (Polyvinylidene Fluoride). Rugged pump casings and impeller assemblies are machined from solid extruded bar and block material. CNC machined construction resists chemical attack and swelling. Molded pump casings of 1/8"- 1/4" require glass fiber, and are susceptible to permeation and wicking. Lined pumps have 0.100"- 0.120" lining thickness and the added risk of casing failures caused by separation, permeation and/or external corrosion. Solid thermoplastic pump casings feature wall thicknesses of 1 /2" to 1-1 /2" for the utmost in chemical resistance and durability.

Specify CHEMAG® Mag-Drive Pumps for Maximized Up-Time

* Technical specifications available upon request

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MAG-DRIVE PUMPS FOR SEVERELY CORROSIVE SERVICES

Centrifugal Pumps

CP/CV pumps are fabricated from SOLID Simona® PP or PVDF thermoplastics to resist internal or external corrosion. Heavy walled, CNC machined construction provide far greater resistance to permeation and migration of corrosive and permeating liquids. Additionally, added strength and thermal stability resists deformation, even in the most severe applications.

Technical Features

- Exclusive SOLID machined PP or PVDF casings and impeller components for maximum chemical resistance
- Heavy casing wall thicknesses
- All plastic casing withstands external corrosion
- Integral raised face flanges (no threaded adapters) to ensure zero leakage
- Oversized, silicon carbide thrust bearings and shaft
- Chemically resistant, channeled sleeve bearings
- Modular impeller allows for varying hydraulic performances
- Compact, high torque magnetic coupling with reduced mass
- Standard, direct starting NEMA motors

Commercial Benefits

- Eliminates costly and complex mechanical seal systems
- Avoidance of mechanical seals that cause production downtime
- Zero leakage, magnetic coupling circumvents constant EPA monitoring and potential fines from excessive emissions associated with mechanical seals
- Efficient hydraulic design minimizes power consumption
- Magnetic coupling prevents the introduction of unwanted air into the process for higher production yields
- Positive sealing with integral flanged ports eliminates the chance of emissions from plastic threads
- Simplified maintenance, with registered fits, requires no special tools or settings
- SOLID thermoplastic casings never corrode (internally or externally)
- Premium machined Simona thermoplastics provide higher Solid Block Machined Casing resistance to chemical and temperature degradation than molded or composite materials
- Standard NEMA motor frame allows for low cost, fast replacements in the field

Solid Block
Machined Casing

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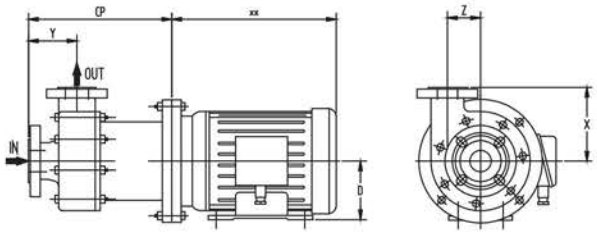
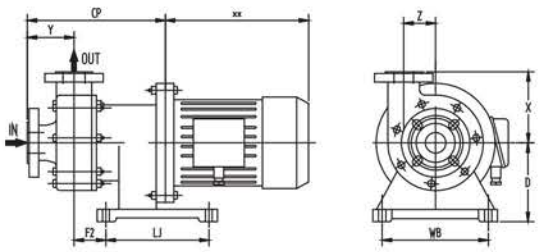
MAG-DRIVE PUMPS FOR SEVERELY CORROSIVE SERVICES

CP/CV with Foot Mounted Motor



CP/CV with Pedestal Mounted Motor



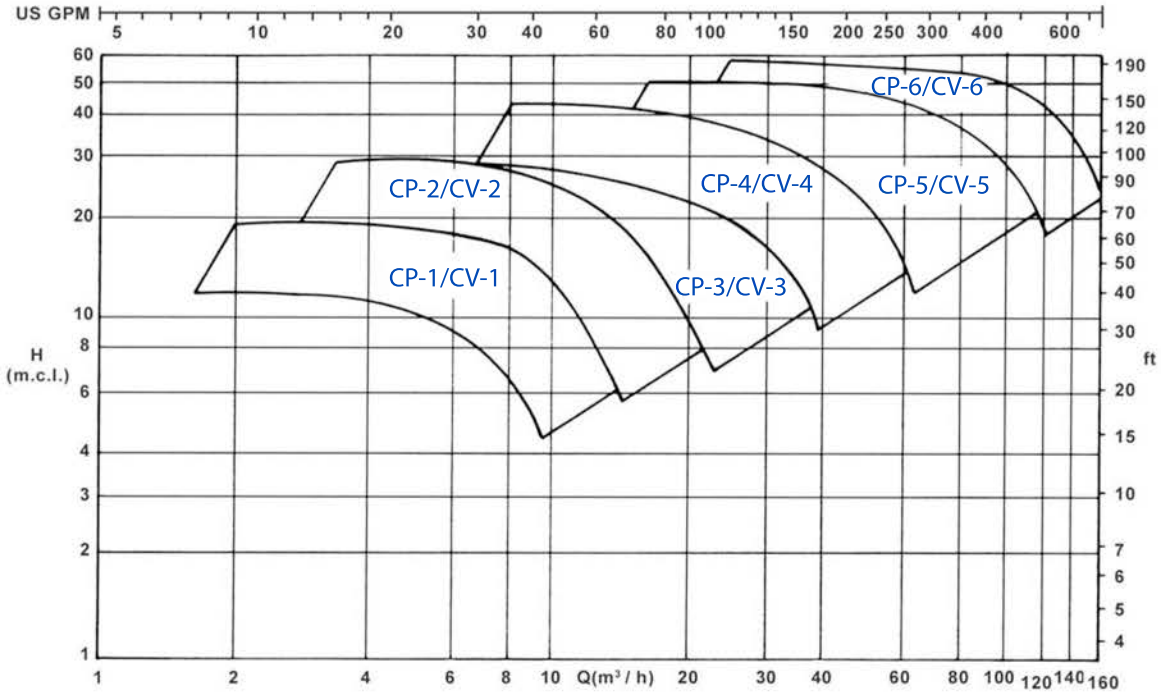
CP/CV Dimensions (all dimensions in inches)

MODEL NO.	IMPELLER	SUCTION	DISCHARGE	D	X	Y	Z	CP	F2	LJ	WB
		150# ANSI Flange	150# ANSI Flange								
CP-1/CV-1	4	1.5″	1″	3.5	5.04	2.99	2.09	9.25	N/A	N/A	N/A
CP-2/CV-2	4.5	2″	1.5″	3.54	5.87	2.76	2.28	9.37	N/A	N/A	N/A
CP-3/CV-3	4.5	2″	1.5″	3.5	5.87	3.31	2.48	10.03	N/A	N/A	N/A
CP-4/CV-4	6	3″/2.5″	2″	6.89	6.73	4.06	2.87	12.64	2.39	9.84	8.66
CP-5/CV-5	6.5	4″/3″	3″/2.5″	7.87	7.44	4.76	3.23	14.49	2.87	1.42	9.84
CP-6/CV-6	7	4″	3″	7.87	8.94	5.08	4.02	14.92	2.99	11.42	9.84

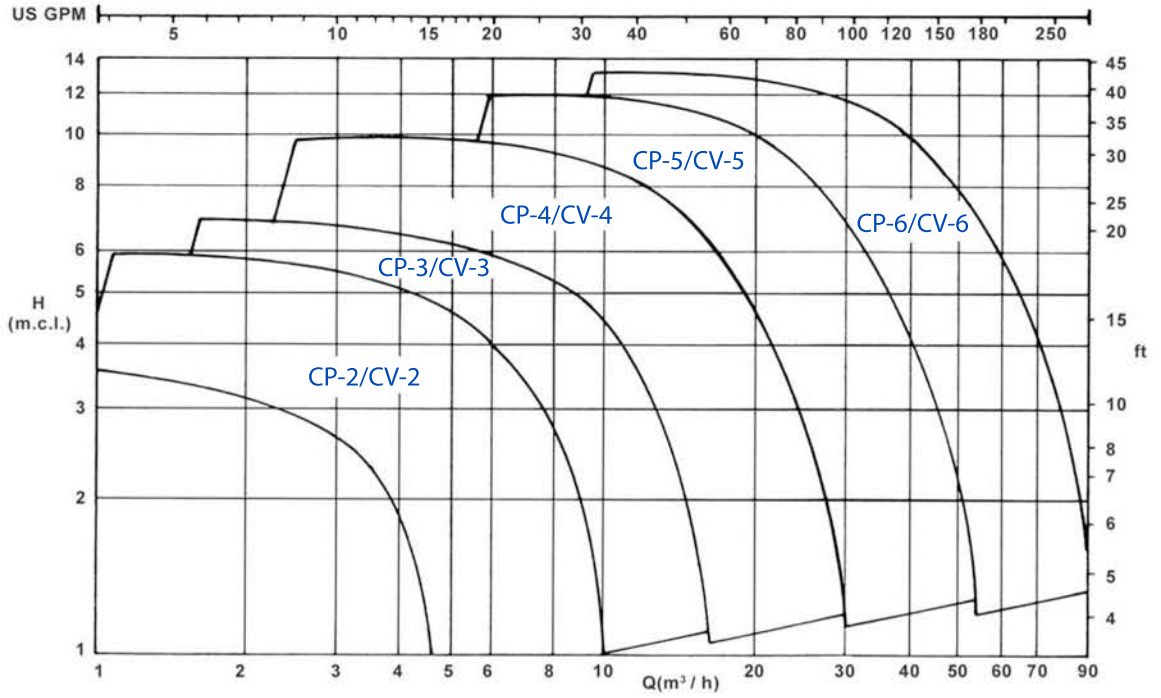
CP/CV Specifftcations (all dimensions in inches)

MODEL NO.	PORT SIZES	MAX FLOW-GPM	MAX TDH-FT	MATERIALS	MAX (PSIG)	MOTOR	PUMP FRAME	WT (LBS)
PP	SUCT / DISCH	3500/1750 RPM	3500/1750 RPM	PUMP, O-RING	STD/DUAL CF	HP (TEFC)	NEMA SIZE	
CP-1/CV-1-P2F1	1.5" x 1" FLANGE	50 / 25	65' / 18'	PP, EPDM	110	1	56-C	9
CP-2/CV-2-P2F1	2" x 1.5" FLANGE	75 / 40	90' / 28'	PP, EPDM	110	2	143/5-TC	13
CP-3/CV-3-P2F1	2" x 1.5" FLANGE	120 / 70	85' / 29'	PP, EPDM	110 / 150	3 or 5	182/4-TC	60
CP-4/CV-4-P2F1	3" x 2" FLANGE	180 / 100	140' / 38'	PP, EPDM	110 / 150	5 or 7.5	182/4-TC, 213/5-TC	94
CP-5/CV-5-P2F1	4" x 3" FLANGE	400 / 200	160' / 40'	PP, EPDM	110 / 150	15 or 20	213/5-TC, 254/6-TC	101
CP-6/CV-6-P2F1	4" x 3" FLANGE	550 / 250	180' / 44'	PP, EPDM	110 / 150	25 or 30	284/6-TSC	104
MODEL NO.	PORT SIZES	MAX FLOW-GPM	MAX TDH-FEET	MATERIALS	MAX (PSIG)	MOTOR	PUMP FRAME	WT (LBS)
PVDF	SUCT / DISCH	3500/1750 RPM	3500/1750 RPM	PUMP, O-RING	STD/DUAL CF	HP (TEFC)	NEMA SIZE	
CP-1/CV-1-V2F1	1.5" x 1" FLANGE	50 / 25	65' / 18'	PVDF, VITON	110	1	56-C	11
CP-2/CV-2-V2F1	2" x 1.5" FLANGE	75 / 40	90' / 28'	PVDF, VITON	110	2	143/5-TC	16
CP-3/CV-3-V2F1	2" x 1.5" FLANGE	120 / 70	85' / 29'	PVDF, VITON	110 / 150	3 or 5	182/4-TC	63
CP-4/CV-4-V2F1	3" x 2" FLANGE	180 / 100	140' / 38'	PVDF, VITON	110 / 150	5 or 7.5	182/4-TC, 213/5-TC	101
CP-5/CV-5-V2F1	4" x 3" FLANGE	400 / 200	160' / 40'	PVDF, VITON	110 / 150	15 or 20	213/5-TC, 254/6-TC	109
CP-6/CV-6-V2F1	4" x 3" FLANGE	550 / 250	180' / 44'	PVDF, VITON	110 / 150	25 or 30	284/6-TSC	112

3500 RPM (60 Hz)



1750 RPM (60 Hz)



Chemag® CP /CV Exploded View

Internal Magnet
Fully encapsulated, rare earth magnets have exceptional torque capability to provide slip-free synchonized performance.

Sleeve Bearings
Two-piece design available in carbon and SIC to suit your application needs.

Impeller Thrust Bearing
Replaceable and oversized to accommodate residual axial thrust loads.

Impeller
Separate piece allows you to interchange among internal magnet drives.

Driver
Standard motor is utilized for simple close coupled mounting

Bracket
Joins the pump to the driver.

External Magnet
Uses rare earth magnets and is dynamically balanced to extend motor bearing life.

Rear Casing
Non-metallic reinforced polymer eliminates heat and efficiency losses usually associated with metallic mag-drives.

O-Ring
Single (fully confined) O-ring for better sealing reliability.

Shaft
Stationary shaft simplifies the design and is made from pure silicon carbide.

Thrust Bearing
Pure silicon carbide. Provides stable, oversized axial thrust surface for impeller assembly.

Casing
Machined from solid block PP or PVDF with optional raised face flanges for superior performance.

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Chemag® Seal-less Mag-Drive Pump Data Sheet

Application

When Needed:
☐Immediate ☐1 Week ☐1 Month ☐3-6 Months ☐Future

Date: _____
Distributor: _____
Location: _____
Contact: _____
Phone: _____
Fax: _____
Customer: _____
Location: _____
Quantity: _____ Item / Tag No.: _____
Fluid / Concentration: _____

	Design	Max.	Min.
Capacity (GPM)			
Suc. Press (PSIG)			
Dis. Press (PSIG)			
TDH (ft)			
Temp. (deg. °F)			
Spec. Gravity			
pH			
Viscosity (cPs)			
Vapor Press. (PSIA)			
Specific Heat			
Tank Volume (gal.)			
NPSH (ft)			
Suction Lift (ft)			

Suggested Pump Selection:

☐Centrifugal ☐Turbine ☐Self-Priming ☐Rotary Vane
Pump Model#:_____ Pump Material:_____

Current Pump

Manufacturer: _____
Model Number: _____
Impeller Dia: _____
Material: _____
Suc. Port Dia: _____
Dis. Port Dia: _____
Sys. Pipe Size: _____
HP / RPM: _____
Particles Present ? ☐Yes ☐No ☐Unknown
If Yes, Particle Size: _____ % by Volume: _____
Particle Hardness: _____

Pump Design:

☐ANSI ☐Non-ANSI ☐Self-Primer
Material: ☐Alloy ☐Non-Metallic
Ports: ☐NPT ☐Flanged
O-Ring / Gasket Material: _____
Motor: ☐TEFC ☐Chem Duty
☐Explosion Proof ☐Other
Could pump run dry ? ☐Yes ☐No
Could pump be Dead-Headed ? ☐Yes ☐No

Mounting Configuration:

☐ Bearing Frame for Base Mounting
☐ Close Coupled

Options: ☐ Base Plate

☐ LINEMAN Power Monitor (req. for warranty)
☐ Thermocouple Probe (non-wetted)
☐ Jacketed Casing
☐ Self-Cleaning Strainer (MCA Models)

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Non-Metallic Seal-less

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