

CM PUMPS AND SYSTEMS PVT. LTD.

Manufacturer of Magnetic Drive Sealless Pumps & Agitators

"For clean & green environment"

PFA / FEP / PVDF

Non Metallic Magnetic Drive Sealless Chemical Process Pump



TÜV
AUSTRIA

CERTIFIED

TÜV AUSTRIA CERT GMBH

EN ISO 9001
20100163001473
EN ISO 14001
20104173002775
ISO 45001
20116203009283

ISO 2858 / EN 22858 / ISO 5199



ATEX 2014/34/EU

Our Company

CM pumps is a highly innovative Indian Company since 2016, specializing in developing and manufacturing premium quality, high-tech products and providing services for Indian and International customers with the most rigorous requirements.

We produce reliable and innovative magnetic drive pumps for the chemical, petrochemical, pharmaceutical, biotechnology, food and beverage industries.

CM Pump operates a quality management system certified to ISO 9001.

Energy Efficiency in Industry : Our Commitment

We recognize the urgent need for sustainable manufacturing and energy efficiency in industries worldwide. As a pioneer in energy-saving pumping systems, we have taken significant strides to minimize environmental impact while maximizing cost savings for our customers.

Non -Metallic Sealless Magnetic Drive Pump

Non -Metallic Sealless Magnetic Drive Pump are in huge demands to improve sustainability & energy efficiency in industries. CM Pump Non- Metallic pumps embrace to Global Standards and are engineered to ASME & ISO design criteria.

Introducing Our Flagship Products:

CZP & CMP: Close Coupled Design

CZPB & CMPB: Extended Design (Frame Mounted)

• Key Features:

- Sealless design
- These specialized & innovative design pumps are available in PFA, FEP, PVDF & ETFE lined magnetic drive pumps.
- CZP, CMP, CZPB & CMPB series are designed to meet stringent requirements & demands of chemical processing and a multitude of similar industries.
- PFA lined for corrosion resistance
- Energy efficient
- Reliable and safe handling of corrosive fluids
- Suitable for high-temperature with safety

Innovative Design:

Pump Casing: PFA, FEP, PVDF & ETFE lining is designed for heavy duty, corrosive with resistance to permeation. These linings are positively mechanically locked in the armours to absorb all mechanical stress arising from system pressure & at the same time ensures vacuum resistance. Even at high temperature these lined bearing maintains a constant clearance between impellers & casing.

Bearing Assembly: Self Centered Bearing Assembly are made of SSIC (Sintered silicon carbide) design for maximum reliability of pump operation. These plain & thrust bearings are quadrilaterals form & work as anti-rotation device.

Impeller Options: CZP & CZPB series pumps are semi-open impeller and CMP & CMPB are close Impeller. Our series pumps for low NPSH & for high efficiencies, respectively.

Modular System: These series of pumps are constructed with minimum components, easy assembly which in turn to minimize the cost of spare, maintenance & servicing.

By choosing CM Pump, you'll benefit from our unwavering commitment to sustainability, energy efficiency, and innovative solutions that prioritize your needs and the planet's well-being.

Our Mission and Moto

The mission and moto is to successfully develop and produce superior quality and energy efficient pump sets at right price for global market.

Our Vision

Our Vision is to be the environment friendly, global manufacturer and supplier of high efficiency and excellent quality multi application Magnetic Drive centrifugal pumps sets.

Our Team

The reason behind our enviable leadership in global market is the result of sustained work comes from our competent professionals. They are not only highly qualified but also are consistently working towards improvising on our innovative range of pumps as per prevailing quality standards. Our professionals make full use of available facilities to cater to ever increasing demands of various industries.

Our team comprise:

- Engineers
- Technicians
- Quality Controllers
- Research Associates

Our professionals keep themselves abreast and equivalent with latest technology and work in sync to cater to specific and customized demands of our clients. Their unstinted support and service have enabled us to come up with innovative products for our esteemed client.

Why us?

- Professionals and well Managed Pvt. Ltd. Co.
- State-of-the-art infrastructure.
- Superior quality with right price.
- Shortest delivery period, with proven quality products.
- Readiness to offer required technical support.
- Prompt after sales services.
- Client-centric approach.
- Experienced professionals-competent & committed.
- Modern management technique.
- Effective quality controls measures
- Research oriented professionals.

CZP & CMP Close Coupled Pump Series -

Non Metallic Magnetic Drive Sealless Chemical Process Pump



Description

- Single Stage, Horizontal Centrifugal Pump.
- Permanent Magnetic Drive for wide range of temperature.
- Maintenance Free
- Separation of Liquid Chamber to Atmosphere by Means of Isolation Shell
- Slipless Power Transfer
- Materials : PFA, FEP, PVDF
- Casing Investment Casting with PFA Lined
- Impeller semi open or closed with metal insert
- Insulation (Can) carbon fiber with PTFE Lined
- Close Coupled Design (Mono Block)
- Hydraulically balanced impeller for minimum bearing loads
- Product-Lubricated Journal Bearings; made of Sintered Silicon Carbide (SSiC) or Customized Materials

Technical Data

Operation Range

Flow Rate	: max. 300m ³ /h
Delivery Head	: 3 to 90 mtr.
Pressure Rating	: Class 150
Temperatures	: -20°C to + 200°C
Kinematic Viscosities	: 0.5 to 350 mm ² /S
Solid Handling	: up to 5% solids concentration, depending on the pumped fluid

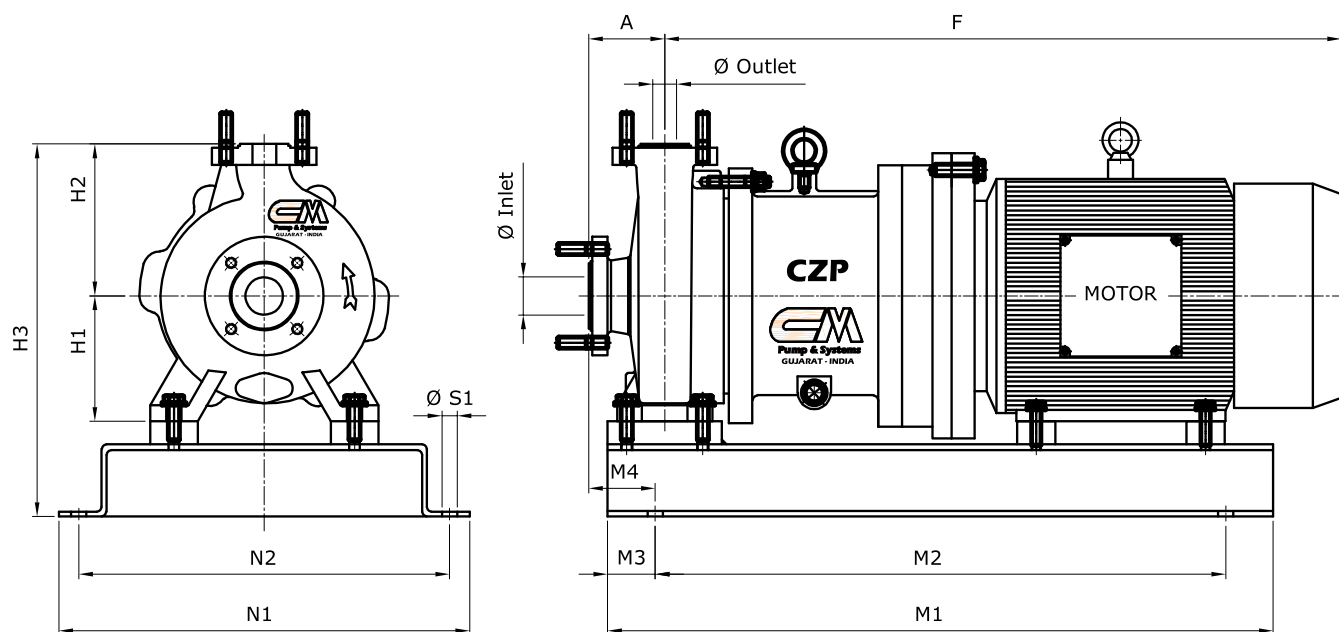
Casing & Impeller Materials

PFA Lined, FEP Lined, PVDF Lined

Working Principle	: Radial flow pump
Stages	: Single stage
Priming Method	: Flooded suction
Sealing System	: Magnetic coupling
Standards	: DIN EN ISO 2858
Standards	: DIN EN ISO 15783 ⊕ II2GDcT3

CZP & CMP Close Coupled Pump Series -

Non Metallic Magnetic Drive Sealless Chemical Process Pump



FRONT SIDE

2 POLE (2900 RPM)

	Size Discription			Nomi.duty point		Dimention in mm																
Pump Model	Ø inlet mm	Ø outlet mm	Impeller Ø mm	m³/h	m	Pump					Base frame							Motor				
						A	F	H1	H2	H3	M1	M2	M3	M4	N1	N2	S1	KW	HP	RPM	AMPS	
CZP 40X25-130	40	25	140	5	20	80	570	112	140	348	600	500	50	65	432	390	Ø16	2.2	3	2900	4.29	
CZP 40X25-160	40	25	175	5	35	80	635	132	160	388	650	550	50	70	432	390	Ø16	3.7	5	2900	7.13	
CZP 40X25-200	40	25	220	5	55	80	715	160	180	436	700	600	50	70	432	390	Ø16	5.5	7.5	2900	10.38	
CZP 50X32-130	50	32	140	15	20	80	625	112	140	348	650	550	50	75	432	390	Ø16	3.7	5	2900	7.13	
CZP 50X32-160	50	32	167	15	35	80	715	132	160	392	700	600	50	70	432	390	Ø16	5.5	7.5	2900	10.38	
CZP 50X32-200	50	32	220	15	55	80	870	160	180	434	900	800	50	70	432	390	Ø16	11	15	2900	19.50	
CZP 50X32-250	50	32	275	15	80	100	915	180	225	500	1000	900	50	85	432	390	Ø16	18.5	25	2900	31.50	
CZP 65X40-160	65	40	167	30	35	80	715	132	160	392	700	600	50	70	432	390	Ø16	7.5	10	2900	13.68	
CZP 65X40-200	65	40	220	30	55	80	870	160	180	434	900	800	50	70	432	390	Ø16	15	20	2900	26.00	
CZP 65X40-250	65	40	275	30	80	100	915	180	225	520	1000	900	50	90	600	540	Ø16	22	30	2900	40.00	
CZP 80X50-160	80	50	167	50	35	100	870	160	180	436	900	800	50	90	432	390	Ø16	11	15	2900	19.50	
CZP 80X50-200	80	50	220	50	55	100	920	160	200	476	900	800	50	90	432	390	Ø16	18.5	25	2900	31.50	

CZP & CMP Close Coupled Pump Series -

Non Metallic Magnetic Drive Sealless Chemical Process Pump



Description

- Single Stage, Horizontal Centrifugal Pump.
- Permanent Magnetic Drive for wide range of temperature.
- Maintenance Free
- Separation of Liquid Chamber to Atmosphere by Means of Isolation Shell
- Slipless Power Transfer
- Materials : PFA, FEP, PVDF
- Casing Investment Casting with PFA Lined
- Impeller semi open or closed with metal insert
- Insulation (Can) carbon fiber with PTFE Lined
- Close Coupled Design (Mono Block)
- Hydraulically balanced impeller for minimum bearing loads
- Product-Lubricated Journal Bearings; made of Sintered Silicon Carbide (SSiC) or Customized Materials

Technical Data

Operation Range

Flow Rate	: max. 300m ³ /h
Delivery Head	: 3 to 90 mtr.
Pressure Rating	: Class 150
Temperatures	: -20°C to + 200°C
Kinematic Viscosities	: 0.5 to 350 mm ² /S
Solid Handling	: up to 5% solids concentration, depending on the pumped fluid

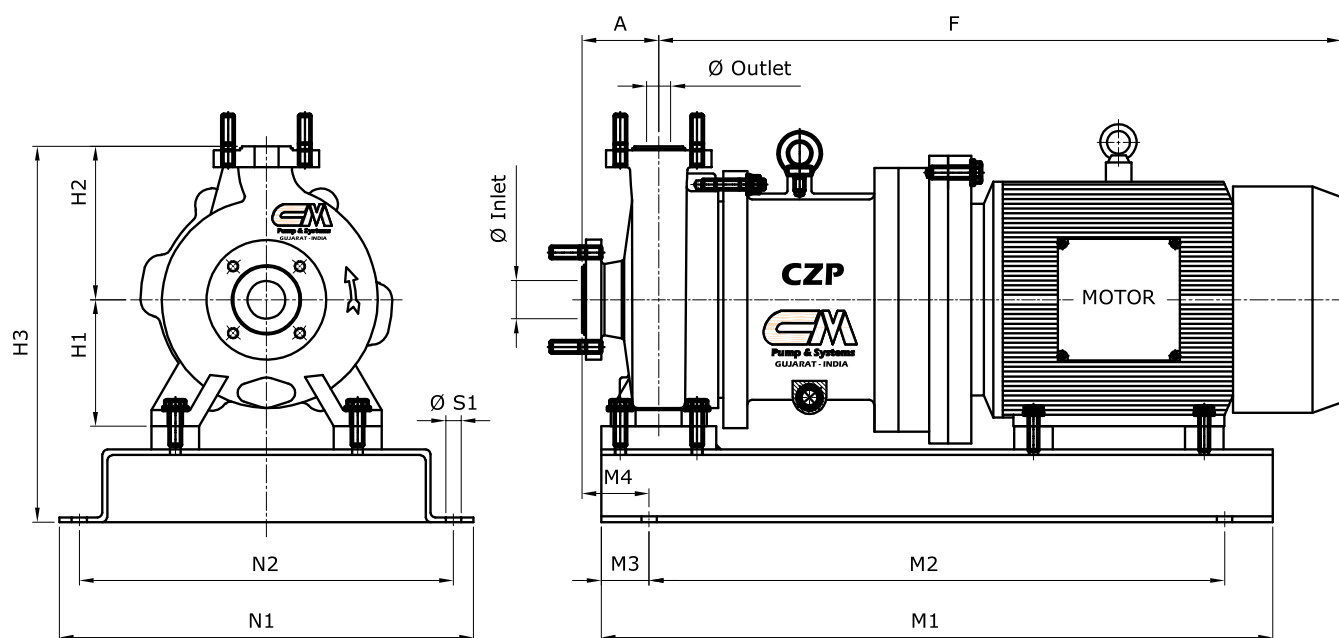
Casing & Impeller Materials

PFA Lined, FEP Lined, PVDF Lined

Working Principle	: Radial flow pump
Stages	: Single stage
Priming Method	: Flooded suction
Sealing System	: Magnetic coupling
Standards	: DIN EN ISO 2858
Standards	: DIN EN ISO 15783 ⊕ II2GDcT3

CZP & CMP Close Coupled Pump Series -

Non Metallic Magnetic Drive Sealless Chemical Process Pump



FRONT SIDE

4 POLE (1450 RPM)

	Size Discription			Nomi. duty point		Dimention in mm																
Pump Model	Ø inlet mm	Ø outlet mm	Impeller Ø mm	m³/h	m	Pump					Base frame							Motor				
						A	F	H1	H2	H3	M1	M2	M3	M4	N1	N2	S1	KW	HP	RPM	AMPS	
CZP 40X25-130	40	25	140	2.5	5	80	480	112	140	348	550	450	50	65	432	390	Ø16	0.75	1	1450	1.81	
CZP 40X25-160	40	25	175	5	8.5	80	585	132	160	388	600	500	50	70	432	390	Ø16	1.1	1.5	1450	2.62	
CZP 40X25-200	40	25	220	5	13	80	635	160	180	436	650	550	50	70	432	390	Ø16	1.5	2	1450	3.34	
CZP 50X32-130	50	32	140	7	5	80	480	112	140	348	550	450	50	65	432	390	Ø16	1.1	1.5	1450	2.62	
CZP 50X32-160	50	32	167	8	8.5	80	590	132	160	388	600	500	50	75	432	390	Ø16	1.5	2	1450	3.34	
CZP 50X32-200	50	32	220	10	13	80	635	160	180	436	650	550	50	70	432	390	Ø16	2.2	3	1450	4.55	
CZP 50X32-250	50	32	275	10	20	100	750	180	225	500	900	800	50	85	432	390	Ø16	3.7	5	1450	7.57	
CZP 65X40-160	65	40	167	15	8.5	80	590	132	160	388	600	500	50	75	432	390	Ø16	2.2	3	1450	4.55	
CZP 65X40-200	65	40	220	15	13	80	665	160	180	436	650	550	50	70	432	390	Ø16	3.7	5	1450	7.57	
CZP 65X40-250	65	40	275	15	20	100	750	180	225	500	900	800	50	85	600	540	Ø16	5.5	7.5	1450	10.6	
CZP 80X50-160	80	50	167	25	8.5	100	635	160	180	436	650	550	50	90	432	390	Ø16	3.7	5	1450	7.57	
CZP 80X50-200	80	50	220	25	13	100	850	160	200	476	900	800	50	90	432	390	Ø16	5.5	7.5	1450	10.6	

CZPB & CMPB Frame Mounted Pump Series -

Non Metallic Magnetic Drive Sealless Chemical Process Pump



Description

- Single Stage, Horizontal Centrifugal Pump.
- Permanent Magnetic Drive for wide range of temperature.
- Maintenance Free
- Separation of Liquid Chamber to Atmosphere by Means of Isolation Shell
- Slipless Power Transfer
- Materials : PFA, FEP, PVDF
- Casing Investment Casting with PFA Lined
- Impeller semi open or closed with metal insert
- Insulation (Can) carbon fiber with PTFE Lined
- Extended Design (Frame Mounted)
- Hydraulically balanced impeller for minimum bearing loads
- Product-Lubricated Journal Bearings; made of Sintered Silicon Carbide (SSiC) or Customized Materials

Technical Data

Operation Range

Flow Rate	: max. 300m ³ /h
Delivery Head	: 3 to 90 mtr.
Pressure Rating	: Class 150
Temperatures	: -20°C to + 200°C
Kinematic Viscosities	: 0.5 to 350 mm ² /S
Solid Handling	: up to 5% solids concentration, depending on the pumped fluid

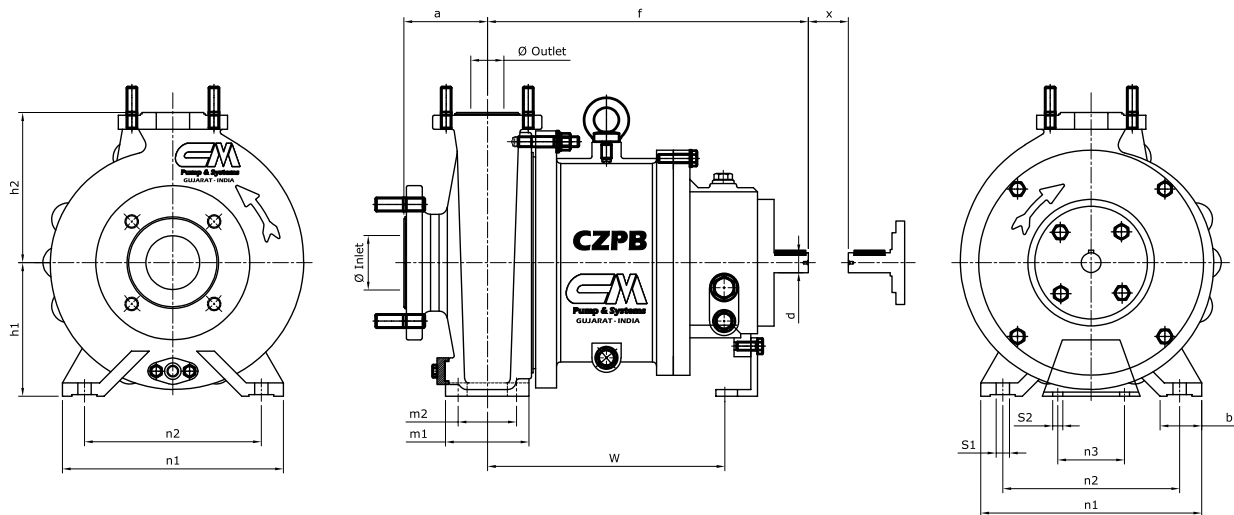
Casing & Impeller Materials

PFA Lined, FEP Lined, PVDF Lined

Working Principle	: Radial flow pump
Stages	: Single stage
Priming Method	: Flooded suction
Sealing System	: Magnetic coupling
Standards	: DIN EN ISO 2858
Standards	: DIN EN ISO 15783 Ⓔ II2GDcT3

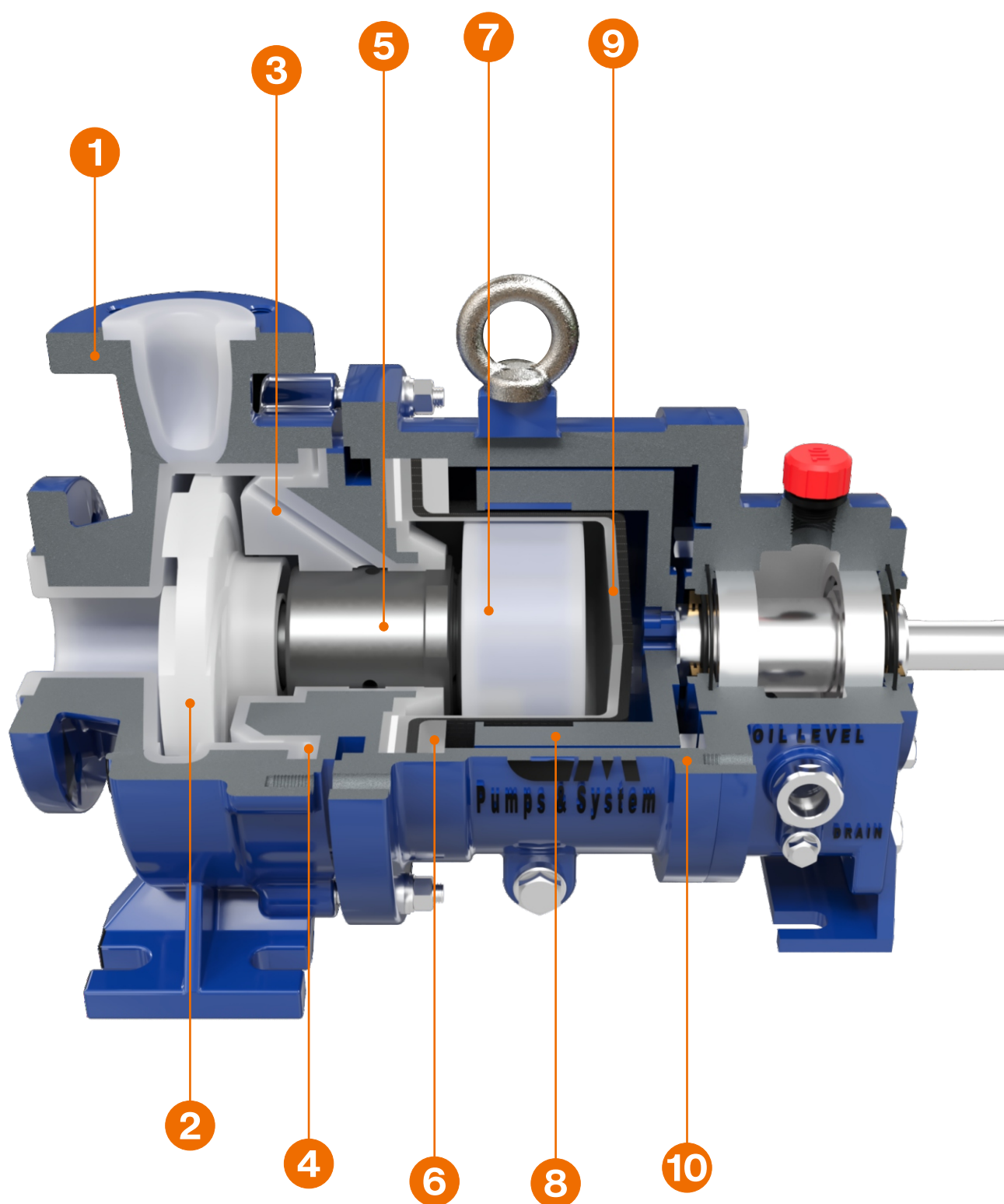
CZPB & CMPB Frame Mounted Pump Series -

Non Metallic Magnetic Drive Sealless Chemical Process Pump



ISO 2858 STANDARD

CZPB SERIES																										
Pump Model	Nominal duty point				Dimension in millimetres																					
	n 1450 min		n 2900 min		Pump				Support						w	Clearance holes for bolts		Shaft end								
	H m³/h	Q m	H m³/h	Q m	a	f	h1	h2	b	m1	m2	n1	n2	n3		S1	S2	d	I		x					
CZPB 40 X 25 - 125	3	5	5	20	80	385	112	142	50	100	70	190	140	110	285	M12	M12	24	50	100						
CZPB 40 X 25 - 160		10		30			132	160				240	190													
CZPB 50 X 32 - 125	6.3	5	12.5	20	80	385	112	140	50	100	70	190	140	110	285	M12	M12	24	50	100						
CZPB 50 X 32 - 160		8		32			132	160				240	190													
CZPB 50 X 32 - 200		12.5		50			160	180																		
CZPB 50 X 32 - 250		20		80			100	500				180	225		65			125	95		320	250	370	32	80	
CZPB 65 X 40 - 125	12.5	5	25	20	80	385	112	140	50	100	70	210	160	110	285	M12	M12	24	50	100						
CZPB 65 X 40 - 160		8		32			132	160				240	190													
CZPB 65 X 40 - 200		12.5		50	160		180	265				212														
CZPB 65 X 40 - 250		20		80	100		500	180				225	65		125			95	320		250	370	32	80		
CZPB 80 X 50 - 125	25	5	50	20	100	385	132	160	50	100	70	240	190	110	285	M12	M12	24	50	100						
CZPB 80 X 50 - 160		8		32			160	180				265	212													
CZPB 80 X 50 - 200		12.5		50			200																			
CZPB 80 X 50 - 250		20		80			125	500				180	225		65			125	95		320	250	370	32	80	
CZPB 100 X 65 - 125	50	5	100	20	100	385	160	180	65	125	95	280	212	110	285	M12	M12	24	50	100						
CZPB 100 X 65 - 160		8		32		200																				
CZPB 100 X 80 - 200		12.5		50		180	225																			
CZPB 100 X 80 - 250		20		80		125		200				250	80		160			120	360	280	370	M16				



1. VOLUTE CASING

- WCB + PFA / FEP / PVDF & ETFE Lined as per 2858 design
- Armour WCB with Investment Casting. Lined wall 5-6 mm thickness
- Casing Lining vacuum resistance with positive mechanically lock PFA to Metal
- Suction / Discharge Flange connection ANSI/ ASME B16.5 Class 150 and DN150/PN16

2. IMPELLER

- Impeller in Semi-Open / Close Design
- Impeller with SS Shaft in capsulated with SSIC Sleeve
- Robust design through single-piece impeller-shaft construction.
- These impellers are provided with metal core for enhanced mechanical strength & they also prevent loosening incase of reverse pump rotation.

3. CASING HOUSING

- WCB + PFA / FEP / PVDF & ETFE Lined
- Housing WCB with Investment Casting. Lined wall 5-6 mm thickness
- Casing Housing Lining vacuum resistance with positive mechanically lock PFA to Metal

4. ENVELOPE GASKET

- Pure PTFE

5. BEARING BUSH ASSEMBLY

- Alfa sintered Silicone Carbide Bush, Sleeve, Thrust Pad with Rigid design.
- Solid one-piece Sleeve, Bearing Bush and Thrust Pad
- We have special Bearing Bush for Sort term Dry Running we have Alfa Sintered Silicone Carbide with DLC Coating

6. CAN LOCK PLATE

- CAN Lock Plate is in metallic which lock CAN with Casing Cover which prevent leakage

7. INNER MAGNET ASSEMBLY

- An Inner Magnet Assembly for a PFA-lined pump is a critical component that facilitates magnetic coupling and power transmission in a sealless magnetic drive pump, enabling the pump to operate without mechanical seals. It consists of a rotor with high-strength rare earth magnets Samarium Cobalt (SmCO17) embedded or encapsulated within a corrosion-resistant PFA lining. This assembly is crucial for pumping corrosive and hazardous chemicals safely and efficiently, particularly in high-temperature application.
- MOC: Samarium Cobalt (SmCO17) with Steel insert + PFA Lined

8. OUTER MAGNET ASSEMBLY

- The outer magnets are typically embedded within a robust housing
- MOC: Samarium Cobalt (SmCO1) + Ductile Iron / Steel

9. CAN

- Carbon Fibre with PTFE Line. PTFE bonding with carbon Fibre 1 piece
- Vacuum Resistance
- Eddy Current losses zero

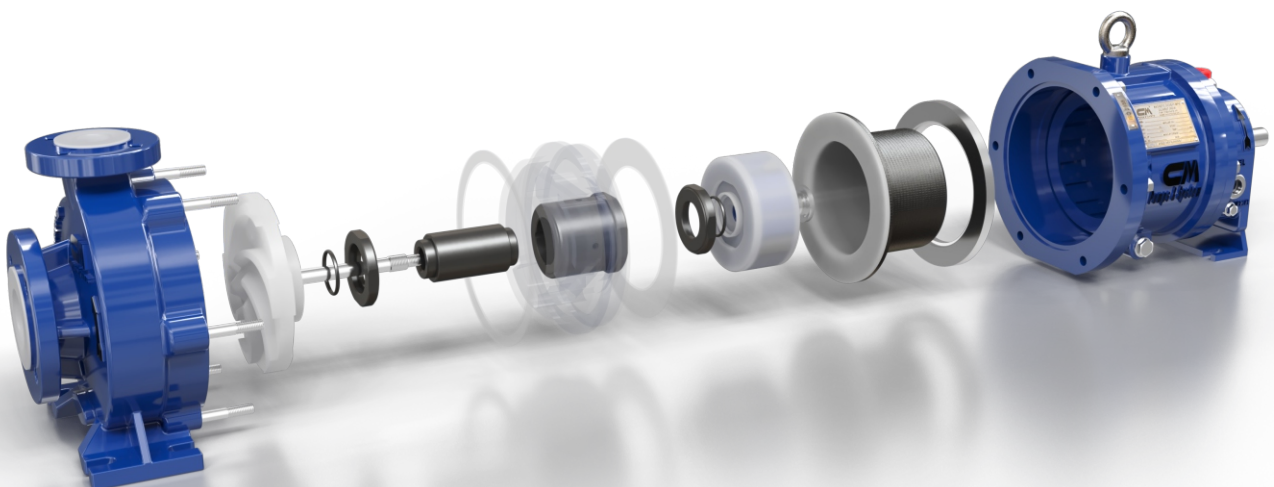
10. ADAPTOR

- Adaptor is Bolted with Casing which exactly joints Casing cover, Gasket, Can & Can Lock plate to prevent leakage.
- MOC: Ductile Iron

EXPLODED ASSEMBLY DRAWING

IN THIS EXPLODED ASSEMBLY DRAWING:

- The components are arranged in sequence from top to bottom, showing how each part fits together in the pump housing.
- This type of assembly helps visualize the internal structure, including the motor housing, magnetic coupling, bearing assembly, impeller, and pump casing.
- It's used for maintenance manuals, technical catalogs, and training to clearly show part placement without actually disassembling the real unit.



EXPLODED ASSEMBLY DRAWING

Our magnetic assembly pull-out and quick assembly system enables faster and simpler pump servicing without the need to remove the pump from the system.

QUICK ASSEMBLY

The pump casing can be detached from the rest of the pump unit in just few minutes while staying connected to the discharge and suction piping. The quick assembly replacement can be carried out while the casing staying in line, allowing the pump to be restarted with minimal downtime.



MAGNET ASSEMBLY PULL-OUT

With this system, the bearing bracket can be removed from the remaining pump assembly with the piping system connection remain connected. The pump will remain hermetically sealed during the servicing of the bearing bracket and outer magnet assembly.



IMPELLER

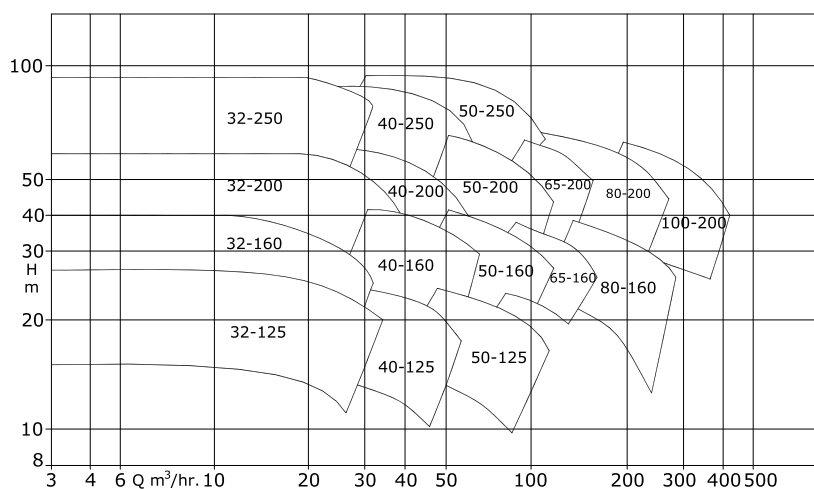
CM pumps are engineered with precision impeller designs to match each pumping application, delivering optimal suction performance and maximum efficiency. The perfect blend of impeller type and material ensures a robust pump design, exceptional reliability, and long service life. Available in both closed and semi-open impeller options, CM pumps provide the ideal solution for diverse operational needs.

Applications

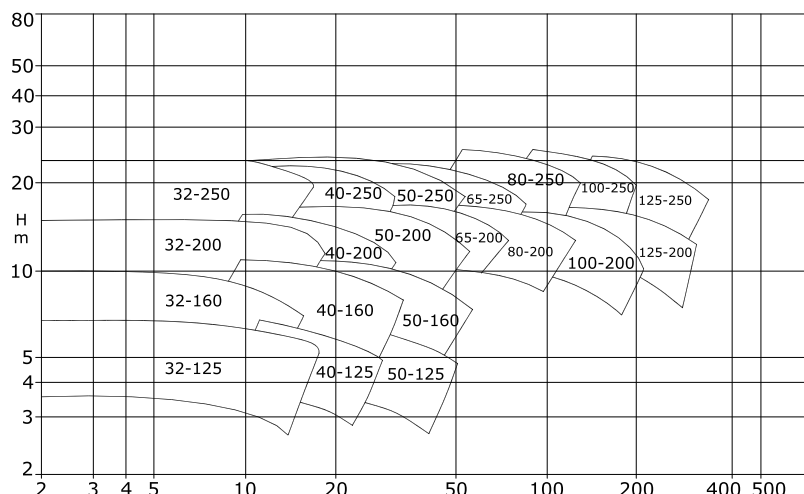
Versatile - Complex - Special

CM's PFA lined magnetic drive pumps are engineered to meet the most stringent quality standards and ensure reliability and utmost safety in production operations. Suitable for many different fluids in a variety of industries and processes, they are capable of handling low, medium and high flow volumes. PFA lined magnetic drive pumps from CM offer tremendous advantages, especially in pumping sensitive or hazardous substances.

RPM 2900



RPM 1450



Industries

- Chemical processing : - basic and fine chemicals (agrochemicals, speciality chemicals)
- Pharmaceuticals
- Biotechnology processing
- Fertilizer / Petro chemical / Semi Conductor / EV Battery Manufacturers

Processes

- CM's PFA lined magnetic drive pumps are designed for a wide range of processes, Including:-
- Chlor - alkali electrolysis
- Sulphuric acid recycling
- Tank unloading
- Scrubber
- Electrolysis Plant
- The Environmental Sector

Fluids

- CM's PFA lined magnetic drive pumps can handle hot and / or highly concentrated acids, alkalis (basis), solvents and diffusing fluids.

For Example:-

- Bromine
- Chlorine
- Nitric acid
- Phosgene
- Potassium hydroxide solution
- Sodium hydroxide solution
- Sulphuric acid
- H.F Hydrofluoric acid
- Thionyl Chloride
- Hydrochloric Acid

Our sales staff will be glad to give you personalized advice tailored to your specific needs, industry, processes and fluids.

CASING

Materials

- WCB / vacuum - tight PFA lining
- ANSI Class - 150



IMPELLAR

Materials

- PFA, FEP, PVDF



INNER MAGNET

Materials

- Magnet + PFA, FEP, PVDF



BEARING ASSEMBLY

Materials

- SSiC (Sintered silicon carbide)
- SSiC with diamond - like coating (DLC)



CONTAINMENT SHELL (CAN)

Materials

- Carbon fiber reinforced + PTFE





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Manufacturer of Magnetic Drive Sealless Pumps & Agitators

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