

AlMagnox CP Magnetic Drive Chemical Process Pump

Environmental safety due to magnetic drive design

Lowest total costs of ownership due to magnetic drive

Optional dry run up to 5 minutes

Renewable casing and impeller wear rings

One piece deep drawn non welded Hastelloy C4 can

Flow braker molded in can for improved liquid transport

Can burst pressure >150bar

Replaceable thanks to ISO 2858 dimensions

Large clearance between can and inner magnet for greater reliability

> Self venting design

Option: Inducer for up to 50% improved NPSHr

MOC: 316SS Duplex & Super Duplex, Hastelloy B & C, Alloy 20, Titanium

> Option: Can leakage monitoring

Option: Bearing monitoring

Precision cast stainless steel casing and impeller

Encapsulated inner magnet assembled for high safety

Application

AlMagnox CP is a magnetic drive chemical process pump acc. to ISO 5199 Made in Germany for demanding process applications in various industries such as chemical and fine-chemical industry, pharmaceutical and petrochemical industry, food technology, fragrance and flavour industry, pulp & paper, metal and mining processing, general industry, waste disposal and recycling industries.

Plain bearing

The plain bearing is the heart of any mag drive pump. We have therefore carefully designed the flush circuit to assure lubrication of the plain bearings. CFD (computational fluid dynamics) methods blended with our vast experience of over 40 years of developing magnetic drive pumps were applied to design the flushing circuit to assure a reliable pumping even under most demanding operating conditions.

Technical data:

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rformance:	Up to 2,000 m ³ /h Up to 225 m
nperature:	-50 °C up to +35
sign pressure:	10/ 16/ 25/ 40/ 60 bar
draulics:	43
nensions:	ISO 2258/ EN 22858
sign:	ISO 5199, optional API 685
nges:	Drilled to DIN, BS, ANSI, JIS
sing:	Foot mounted: Type CP Centreline moun Type PP

Material of construction

The AlMagnoxCP casting features precision cast technology with a versatile selection of materials for a wide range of corrosion resistance from Stainless Steel, over Duplex to Super Duplex to Alloy 20, Hastelloy B and C and Titanium.

Inducer

With our pioneering inducer design we are able to reduce the NPSHr by up to 50% leading to smaller pump sizes at higher cost efficiency. The

inducer also allows for increased gas handling capability.

ted:

Hastelloy containment shell

The can is the most critical component that assures sealing against atmosphere. Therefore a one piece deep drawn can was engineered made of Hastelloy C4 material. This versatile material not only assures wide corrosion resistance but also minimizes eddy current losses related heat dissipation. Molded in flow brakers assure fluid circulation.

Impeller

- Precision-cast stainless steel and wide selection of corrosion resistant materials available
- Axial thrust reduction by back vanes or balancing holes
- Optional inducer:
- Reduces NSPHr by up to 50%
- · Allows smaller pumps for higher speed with lower costs
- · Improves gas handling capability

Plain bearing assembly

- One pieces design for fast maintenance
- Standardized components for reduced stock keeping
- Standardized Duplex material for increased corrosion resistance
- Optional dry run protection for up to 5 minutes of dry run

Robust frame

- Standard greased for life bearings
- Flooded oil lubrication with oil sump cooling and large oil volume, labyrinth oil seals as option
- Bearing monitoring (optional)

Inner magnet assembly

- High performance magnets
- Fully encapsulated for reliable protection

Separating can

- Non-welded one piece deep drawn Hastelloy C4 material
- Test pressure at 24 bar, bursting pressure > 150 bar
- Molded in flow braker for improved circulation
- Optional can materials like plastic, zirconium oxide, ceramic for zero eddy current losses
- Optional Temperature measurement in can

Drive rotor

- High performance magnets
- Integral thrust ring protection in case of roller bearing failure
- Coupling ratings up to 275 Nm, larger couplings on request

Simplified pump assembly and disassembly

- Secondary containment and safety lantern with optional leakage detection
- Reduced number of components thanks to modular design
- Components interchangeability
- Double back pull-out design with split lantern and bearing bracket design allows for maintenance of drive while keeping liquid end assembled
- Closed coupled or spacer type coupling available

Casing

- Minimum corrosion allowance: 3mm
- Casing foot supported, optional centreline supported
- Replaceable casing wear rings (optional)
- Jacketed housing for cooling or heating (optional)

Cross-Sectional Drawing



Materials

Item	Material	Option 1	Option 2	Option 3	Option 4	Option 5					
Casing	1.4408 (CF-8M)										
Casing cover	1.4408 (CF-8M)	Duplex	Super Duplex	ALLOY 20	Hastelloy B	Hastelloy C					
Wearrings	1.4408 (CF-8M)										
Pump shaft	316 and 316L	Duplex			K-Monel 500						
Motor shaft	316 and 316L										
Plain bearing	SSiC										
Magnets	Samarium Cobalt										
Can	Hastelloy C4 *										

* Other can materials on request

Material Comparison Table

Material	DIN	Material-No.	ASTM
Cast iron	GG-25	0.6025	ASTM A40 Cl. 40
Ductile cast iron	GGG-40.3	0.7043	A536, 60-40-18
Cast steel	GS-C25	1.0619	ASTMA 216 Gr. WCB
Stainless steel CF-8	X5CrNiMo1810	1.4301	ASTMA 351 Gr. CF8
Stainless steel CF-3	X2CrNi1911	1.4306	ASTMA 351 Gr. CF3
Stainless steel CF-8M	GX5CrNiMo19112	1.4408	ASTMA 743 Gr. CF-8M
Stainless steel CF-3M	GX2CrNiMo19112	1.4409	ASTMA 351 Gr. CF-3M
Stainless steel 410	X10Cr13	1.4006	ASTMA 276 Type 410
Stainless steel 316	X5CrNiMo17122	1.4401	ASTMA 276 Type 316
Stainless steel 316L	X2CrNiMo1810	1.4404	ASTMA 276 Type 316L
Duplex stainless st	GX2CrNiMoCuN25633	1.4517	ASTMA 890 Gr. CD4MCu
Super Duplex	GX2CrNiMoNi225	1.4470	ASTMA 890 Gr. CD3MN
Hastelloy B		2.4610	
Hastelloy C4	G-NiMo17Cr	2.4686	
Alloy 20	G-NiCr21	2.4660	ASTMA 555 CN7M
Monel 400	G-NiCu30Nb	2.4365	ASTMA 494
Titanium	G-Ti99	3.7031	

Dimensional Drawing



Dimensions of the closedcoupled version and other size on request.

Dimensions are preliminary. Final dimensions will be submitted with order documentation.

All dimensions in mm

1	PUMP	BEARG	PU	MP DIN	IENSIO	NS	FOOT DIMENSIONS									SHAFTEND				WEIGHT		
	Size		а	f	h1	h2	b	С	m1	m2	n1	n2	w	øs1	øs2	е	ød	L.	t	u	У	kg
	50-32-130	5.1	80	385	112	140	50	14	100	70	190	140	285	14	15	110	24	50	27	8	100	54
	50-32-160	5.2	80	385	132	160	50	14	100	70	240	190	285	14	15	110	24	50	27	8	100	69
	50-32-200	5.3	80	385	160	180	50	14	100	70	240	190	285	14	15	110	24	50	27	8	100	70
	65-40-130	5.1	80	385	112	140	50	14	100	70	210	160	285	14	15	110	24	50	27	8	100	55
	65-40-160	5.2	80	385	132	160	50	14	100	70	240	190	285	14	15	110	24	50	27	8	100	67
	65-40-200	5.3	100	385	160	180	50	14	100	70	265	212	285	14	15	110	24	50	27	8	100	75
	80-50-130	5.1	100	385	132	160	50	14	100	70	240	190	285	14	15	110	24	50	27	8	100	58
	80-50-160	5.2	100	385	160	180	50	14	100	70	265	212	285	14	15	110	24	50	27	8	100	70
	80-50-200	5.3	100	385	160	200	50	14	100	70	265	212	285	14	15	110	24	50	27	8	100	76
	100-65-130	5.1	100	385	160	180	65	14	125	95	280	212	285	14	15	110	24	50	27	8	100	70
	50-32-260	7.3	100	500	180	225	65	14	125	95	320	250	370	14	15	110	32	80	35	10	140	130
	65-40-260	7.3	100	500	180	225	65	14	125	95	320	250	370	14	15	110	32	80	35	10	140	130
	65-40-320	7.4	125	500	200	250	65	14	125	95	345	280	370	14	15	110	32	80	35	10	140	152
	80-50-260	7.3	125	500	180	225	65	14	125	95	320	250	370	14	15	110	32	80	35	10	140	137
	80-50-320	7.4	125	500	225	280	65	14	125	95	345	280	370	14	15	110	32	80	35	10	140	158
	100-65-160	7.1	100	500	160	200	65	14	125	95	280	212	370	14	15	110	32	80	35	10	140	122
	100-65-200	7.2	100	500	180	225	65	14	125	95	320	250	370	14	15	110	32	80	35	10	140	126
	100-65-260	7.3	100	500	200	250	80	16	160	120	360	280	370	18	15	110	32	80	35	10	140	146
	125-80-160	7.1	125	500	180	225	65	14	125	95	320	250	370	14	15	110	32	80	35	10	140	130
	125-80-200	7.2	125	500	180	250	65	14	125	95	345	280	370	14	15	110	32	80	35	10	140	132
	125-80-260	7.3	125	500	225	280	80	16	160	120	400	315	370	18	15	110	32	80	35	10	140	156

Performance chart

Performance: Hydraulics:

nce: Standard: Up to 300 m³/h and 150 m, extended program up to 2.200 m³/h and up to 225 m Standard: 22, extended program: totally 43





Optimizing Operational Safety



(A) Flushing Flow Plain Bearings

For safe operaton and low operating costs of the pump the plain bearings are of the utmost importance. The material SSiC offers outstanding properties for both abrasion- and corrosion resistance and has therefore proven to be a highly reliable material for continuous and discontinuous operation over decades. Here the flushing flow through the plain bearings plays an important role. Even under varying operating conditions we can assure optimal flushing and safe operation.

(B) Can Drain

In order to drain the can area during plant shutdown the casing cover has a drain hole drilled.

(C) Leakage Detector

In order further increase operational safety a leakage detector can be connected via an NPT connection.

(D) Double Safety

The AlMagnox CP is a hermetically safe process pump. In order to further increase environmental safety a second lantern as a hermetically safe barrier has been installed.

(E) Temperature Sensor

Via a second NPT connection a temperature sensor can be installed in order to measure the can temperature.



Closed Coupled Version

All 22 sizes of the basic version of the AlMagnoxCP are also available as a space saving closed coupled version up to a motor power of 15 kW.

Extensive Operating Range



(A) Extended Program

The basic range of the AlMagnox CP is designed for capacities up to 300 $\rm m^3/h$ and 150 m.

For larger capacities there are hydraulics available up to 2.000 $\rm m^3/h$ and 225 m.

(B) Temperature up to +350 ℃

The AlMagnox CP is designed for operating temperatures up to +180 $^\circ\mathrm{C}.$

For applications with larger temperatures we are able to offer various designs up to +350 °C.

(C) Centerlined mounted version acc to API 685

The AlMagnox PP withcenterline mounted casing is the version for the heavy process industry.

(D) Separate drive shaft

Low repair and replacement costs thanks to separate drive shaft.







The basic range of the AlMagnox CP is designed for a pressure of 16 bar. For higher pressures up to 60 bar we are able to offer our extensive range of taylor made solutions.

(F) Mechanically Sealed Version

Alternatively we can also offer our complete range of process- and waternorm pumps with mechanical seal from our product family Sealnox PP, CP and WP.



Please also note our Delivery Program Pumps



How to reach us:

If you want to visit us personally we would be happy to help to plan your journey







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