VAST FORTUNE

Product Manual

VMF- New Generation of Fluorine lined Magnetic pump

professional quality, international standards

Nanjing VastFortune Import and Export Co., Ltd.

Warm reminder

Dear client:

In order to protect your safety and interests, before you choose to buy the fluoroplastic centrifugal pump of Nanjing VastFortune Import and Export Co., Ltd., or have purchased and plan to install the open pump, please read the product manual carefully. If you do not follow the guidance of the manual to regulate the operation, resulting in adverse consequences and losses, our company is not responsible.

If you have any doubts about any of the contents of the manual, please submit a written objection to our company within seven working days after ob-taining this manual, and we will provide you with consulting services in time. Otherwise, you will accept, understand and accept the full contents of this manual by default.

About copyright

1. This manual copyright belongs to the VastFortune company all rights, without the permission, may not copy, the reproduction printing.

2. Please be sure to keep all the information related to the product properly.

Blessing

Nanjing VastFortune Import and Export Co., Ltd.

Design features

Extreme design

The new style cancels the back corer,and the i nner rotating parts adopt single point support,simple structure and long life.

Long life pair grinding material

Silicon carbide grinding materials,shaft and sha ft sleeve in operation will be subjected to the press ure of the medium,between the formation of liquid film,greatly prolonging the service life.

New material

Using a variety of new materials,you can repla ce different materials,custom-made high-temperature type,lye type,granular type.

Use

Chlor-alkali, fluorine, benzene, alcohol,foils, pic kl-ing,pesticides, Seawater desalination, medicine an d otherindustries strong acid strong base medium tr ansport.

Installation height calculation

In selecting the pump in our company, the ins tallation height should be considered. The vertical d istance between the suction level and the pump sha ft should be less than the installation height specifi ed by the pump. The following formula is used to calculate:

Hsz≤Ha-Hv-△Hs- (NPSH)r

Hsz——Fixed installation height(m)

Ha——Atmospheric pressure head on site

Hv—— Vaporization pressure head of liquid temperature(m)

△Hs—— suction pipe loss head(m)

NPSH —— Cavitation allowance specified on the performance parameter table(m)

VMF Fluorine-line magnetic pump

Pump shaft power

Pump power refers to the input power of the Pump, is N.

The output power is the effective power transferred by the pump to the liquid as it passes through the pump. is NE.

Ne= p x gx Qx H

Ne=shaft power(w)

p =liquid density(m3/kg)

g=Gravity acceleration(m/s) Q=

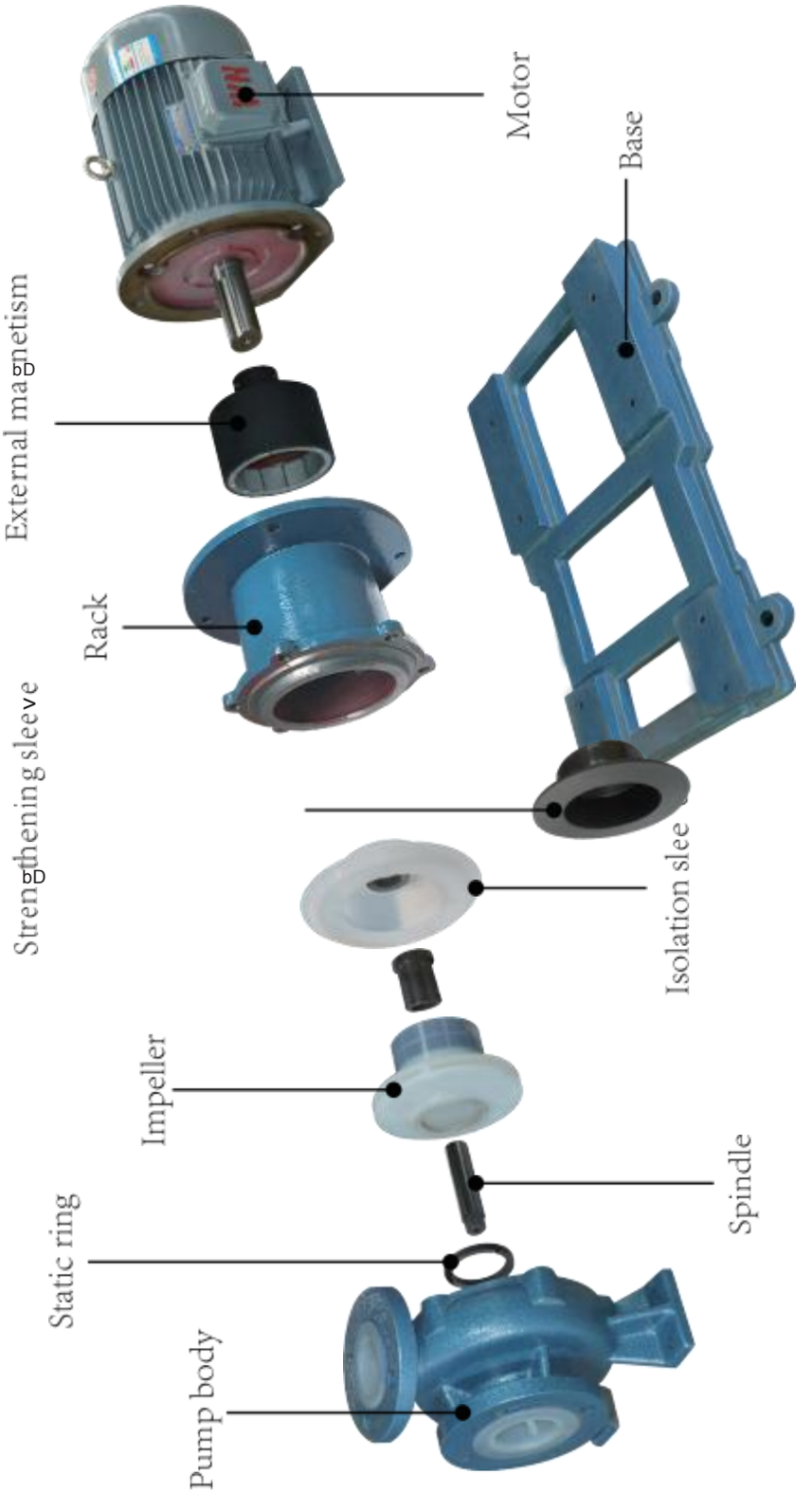
Flow(m^3/h)

H=Head(m)

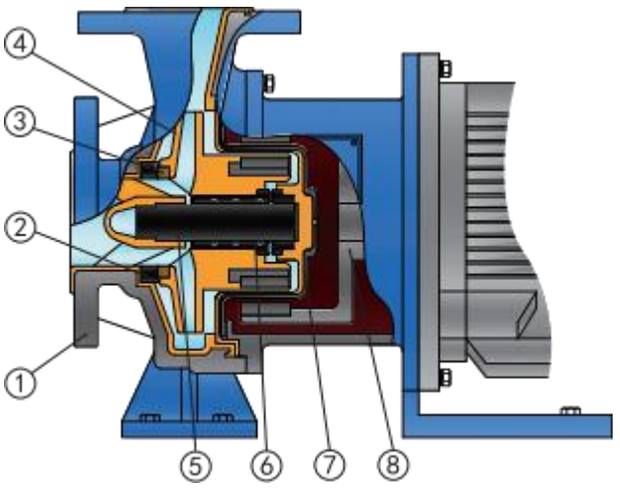
Input power and output power are not equal, be - cause there is a loss of power in the pump, the size of the loss is commonly used to measure the efficiency of the pump. Efficiency is expressed by η.The efficiency of pump is the ratio of output power to input power.

$$\eta = \frac{Ne}{N}$$

Part disassembly drawing

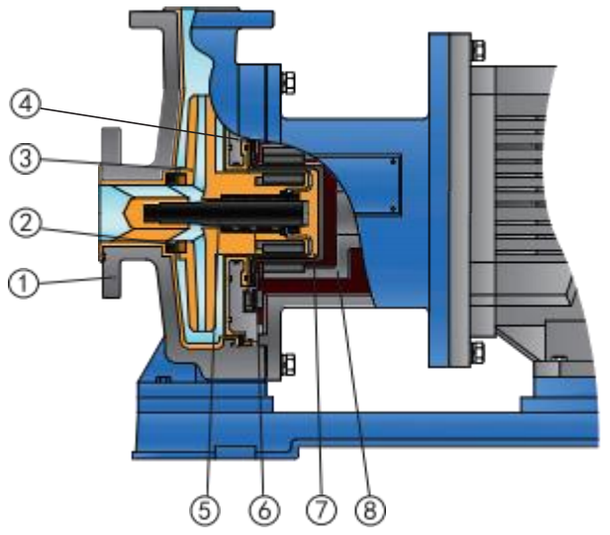


Structure and materials



NO.	Name	Materials
1	Pump shell	HT200/F46
2	Static ring	SIC
3	Moving ring	Filled tetrafluoride
4	Impeller	F46/NdFeB
5	Spindle	SIC
6	Shaft sleeve	SIC
7	Isolation sleeve	F46/PEEK
8	External magnetism	HT200/NdFeB

Impeller diameter < 250mm



NO.	Name	Materials
1	Pump shell	HT200/F46
2	Static ring	SIC
3	Impeller	F46/NdFeB
4	Back cover	HT200/F46
5	Spindle	SIC
6	Shaft sleeve	SIC
7	Isolation sleeve	F46/PEEK
8	External magnetism	HT200/NdFeB

Impeller diameter≥250mm

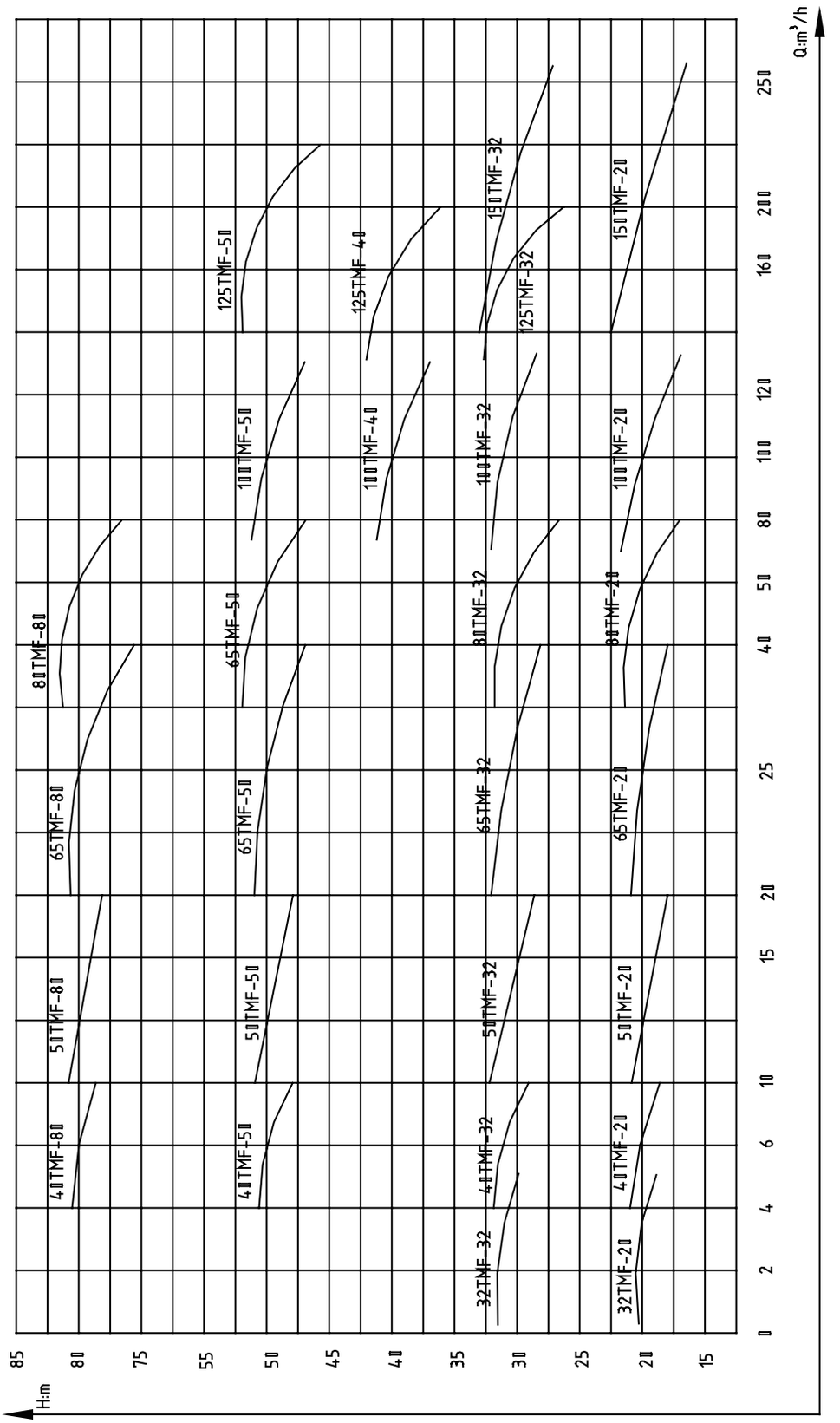
Performance data

Type	Flow	Head	EFF	NPSHr	Aperture		Speed	Power
Type	m^3/h	m	%	m	mm		r/min	kW
32VMF-20	3.6	20	18	3	32×20	50HZ	2900	1.1
	4.5	30				60HZ	3600	1.5
32VMF-32	3.6	32	20	3	32×20	50HZ	2900	2.2
	4.5	48				60HZ	3600	5.5
40VMF-20	6.3	20	28	3	40×25	50HZ	2900	1.5
	7.8	30				60HZ	3600	2.2
40VMF-32	6.3	32	26	3	40×25	50HZ	2900	3
	7.8	48				60HZ	3600	4
40VMF-50	6.3	50	30	3	40×25	50HZ	2900	5.5
	7.8	75				60HZ	3600	7.5
40VMF-80	6.3	80	35	3	40×32	50HZ	2900	11
	7.8	80				60HZ	3600	11
50VMF-20	12.5	20	56	3.2	50×32	50HZ	2900	1.5
	15.5	30				60HZ	3600	3
50VMF-32	12.5	32	46	3.2	50×32	50HZ	2900	4
	15.5	48				60HZ	3600	5.5
50VMF-50	12.5	50	43	3.2	50×32	50HZ	2900	7.5
	15.5	75				60HZ	3600	11
50VMF-80	12.5	80	36	3.2	50×32	50HZ	2900	11
	15.5	80				60HZ	3600	11
65VMF-20	25	20	55	3.5	65×50	50HZ	2900	3
	31	30				60HZ	3600	5.5
65VMF-25	18	25	57	3.5	65×50	50HZ	2900	4
	22.9	38				60HZ	3600	5.5
65VMF-32	25	32	52	3.5	65×50	50HZ	2900	5.5-7.5
	31	48				60HZ	3600	11
65VMF-50	25	50	46	3.5	65×40	50HZ	2900	11
	31	75				60HZ	3600	15
65VMF-80	25	80	47	3.5	65×40	50HZ	2900	18.5
	31	80				60HZ	3600	18.5
80VMF-20	50	20	45	4.5	80×65	50HZ	2900	5.5
	62	30				60HZ	3600	11
80VMF-32	50	32	48	4.5	80×65	50HZ	2900	11
	62	48				60HZ	3600	18.5
80VMF-50	50	50	56	4.5	80×50	50HZ	2900	15
	62	75				60HZ	3600	30
80VMF-80	50	80	53	4.5	80×50	50HZ	2900	30
	62	100				60HZ	3600	30
100VMF-20	100	20	54	5	100×80	50HZ	2900	15
	124	30				60HZ	3600	18.5
100VMF-32	100	32	56	5	100×80	50HZ	2900	18.5
	124	48				60HZ	3600	30
100VMF-40	100	40	51	5	100×80	50HZ	2900	30
	124	60				60HZ	3600	37
125TMF-15	170	15	37	5.5	125×100	50HZ	2900	22
	211	23				60HZ	3600	30
125VMF-20	170	20	38	5.5	125×100	50HZ	2900	30
	211	30				60HZ	3600	37
125VMF-30	190	30	45	5.5	125×100	50HZ	2900	37
	236	45				60HZ	3600	55
125VMF-40	200	40	57	5.5	125×100	50HZ	2900	45
	248	60				60HZ	3600	75
125VMF-50	200	50	60	5.5	125×100	50HZ	2900	55
	248	75				60HZ	3600	90

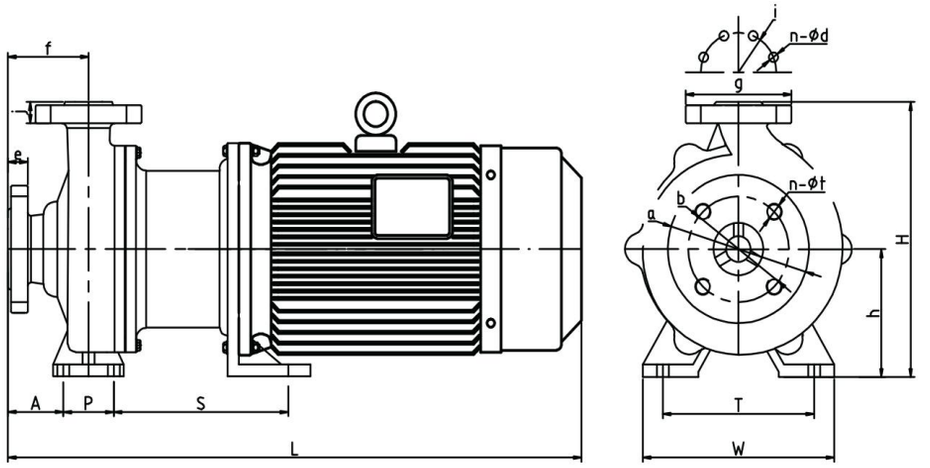
VMF magnetic pump can be used according to the requirements, customized products:

1. High temperature type-G,maximum temperature 180°C;
2. Lye type-J,Transport alkaline liquid;
3. Granular type-K,Transport of 10% particulate matter.

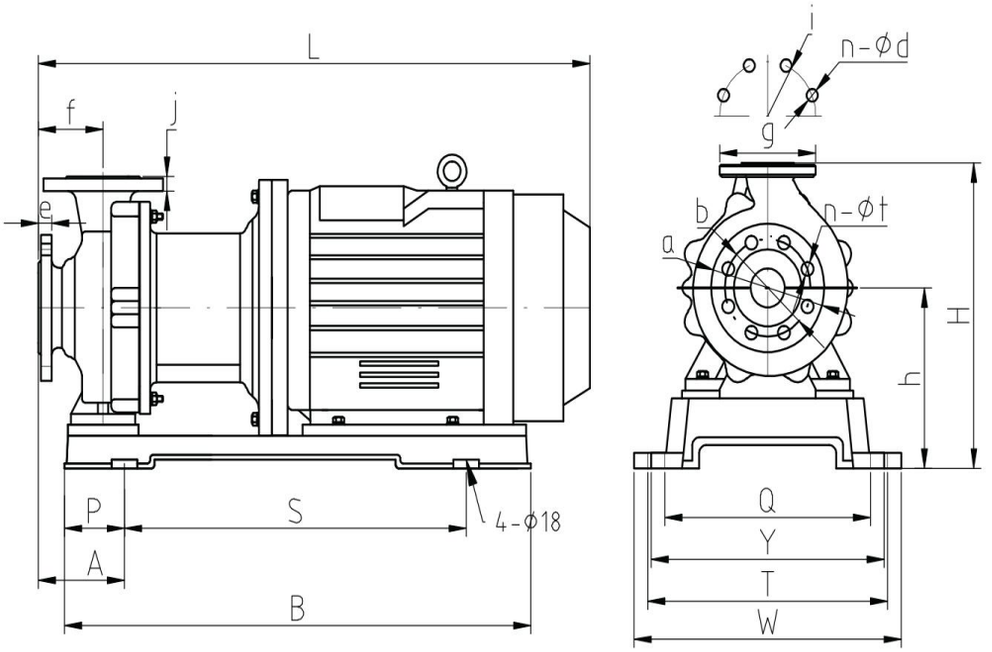
Performance curve



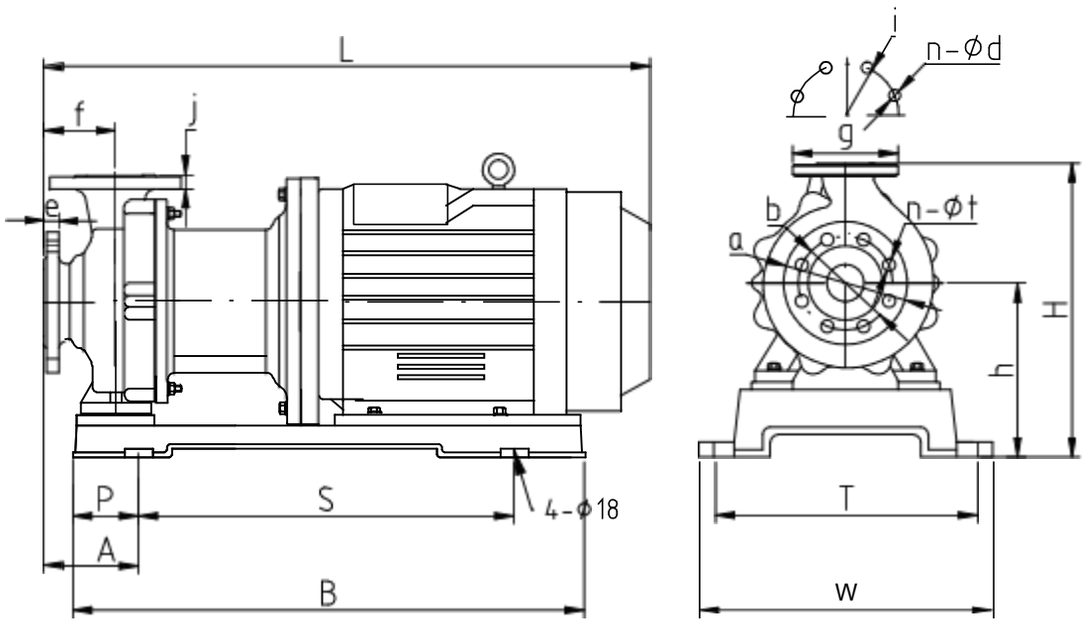
Mounting size



NO.	Type	L	S	P	A	f	W	T	h	H	a	b	e	g	i	—	n—Øt	n—Ød
1	VMF32—20—125F	495	183	50	55	80	190	150	120	260	140	100	18	105	75	18	4—M16	4—M12
2	VMF32—20—160F	570	181	50	55	80	190	150	120	260	140	100	18	105	75	18	4—M16	4—M12
3	VMF50—32—125F	570	183	50	55	80	190	150	120	260	165	125	20	140	100	18	4—Ø18	4—Ø18
4	VMF50—32—160F	525	217	70	53	88	240	195	160	320	165	125	20	140	100	18	4—Ø18	4—M16
5	VMF65—50—125F	620	188	50	55	80	195	150	132	275	185	145	20	165	125	20	4—Ø18	4—M16
6	VMF65—50—130F	670	214	70	55	80	240	195	160	320	185	145	20	165	125	20	4—Ø18	4—Ø18



NO.	Type	L	B	S	P	A	f	Q	Y	T	W	h	H	a	b	e	g	i	—	n—Øt	n—Ød
1	VMF65—50—160F	710	555	385	70	93	88	290	320	325	355	210	370	185	145	20	165	125	20	4—Ø18	4—Ø18
2	VMF80—65—125F	720	555	385	70	105	100	290	320	325	355	182	342	200	160	22	185	145	20	8—Ø18	4—M16
3	VMF50—32—200F	705	555	385	70	85	80	290	320	325	355	210	390	165	125	20	140	100	18	4—Ø18	4—M16



NO.	Type	L	B	S	P	A	f	T	W	h	H	a	b	e	g	i	—	n—Øt	n—Ød
1	VMF50—32—250F	902	760	530	115	140	100	365	405	240	440	165	125	20	140	100	18	4—Ø18	4—M16
2	VMF65—40—200F	885	760	530	115	130	100	365	405	220	400	185	145	20	150	110	18	4—Ø18	4—M16
3	VMF80—65—160F	920	760	530	115	155	100	365	405	220	400	200	160	22	185	145	20	8—Ø18	4—Ø18
4	VMF65—40—250F	975	760	530	115	150	102	365	405	240	465	185	145	20	150	110	18	4—Ø18	4—M16
5	VMF80—50—250F	1095	900	580	160	213	125	450	500	280	505	200	160	22	165	125	20	8—Ø18	4—M16
6	VMF100—80—125F	890	760	530	115	140	100	365	405	220	400	220	180	24	200	160	22	8—M16	8—M16
7	VMF100—80—160F	980	900	580	160	188	100	450	500	280	500	220	180	24	200	160	22	8—Ø18	8—M16
8	VMF100—80—180F	1150	900	580	160	213	125	450	500	350	600	220	180	24	200	160	22	8—Ø18	8—M16
10	VMF125—100—160F	1120	1065	865	100	150	125	461	521	350	600	250	210	27	220	180	24	8—Ø18	8—M16
11	VMF125—100—180F	1120	1065	865	100	150	125	462	522	350	600	250	210	27	220	180	24	8—Ø18	8—M16
12	VMF125—100—200F	1155	1065	865	100	150	125	463	523	350	600	250	210	27	220	180	24	8—Ø18	8—M16

Technical characteristics

Internal magnetic external steel:

Magnetic pump in normal operating conditions, there is no phenomenon of aging demagnetization with the passage of time. However, demagnetization will occur when the pump is overloaded, blocked, slid or operating temperature is higher than the allowable temperature of magnetic steel.Therefore, the magnetic pump must operate under normal operating conditions.

strengthening sleeve:

High resistivity and high strength non-metallic materials are used to make the strengthening sleeve, which can effectively reduce the magnetic eddy current.

The pressure limit of the strengthened sleeve is 1.0Mpa.

Impeller and mouth ring:

The impeller is made by integral moulding, and the steel insert is wrapped in fluoroplastic to ensure the strength of the impeller. The oral ring is generally made of filled poly tetrafluoroethylene or silicon carbide material, super wear resistant and corrosion resistant.

pump shell:

Made with HT200 lining F46, it can withstand part of the pipe gravity.

Adopt HT200 integral casting molding, the upper and lower all adopt the gantry milling machine to flatten, maximize to achieve the level and stability of the pump.

sliding bearing:

Tetrafluorine filled graphite, carbon fiber material, wear resistant, corrosion resistance.

Matters needing attention

1. Fluorine-lined centrifugal pump transport media is not allowed to contain ferromagnetic impurities and hard impurities, if there are ferromagnetic particles, the need to add magnetic filters.

2. The fluorine-lined centrifugal pump is not allowed to operate at a rated flow rate of less than 30%.

3. For the delivery of density greater than 1200kg/m liquid, we need to inform our sales department, motor power needs to be appropriately increased.

4. The maximum working pressure of mechanical seal is 1.0 MPA, beyond which a mechanical seal thrust ring is required.

5. prevent static electricity destruction: when conveying liquid with low conductivity, such as ultra-pure water or fluorine-containing inert liquid, static electricity will occur in pump, which will cause discharge and pump damage. Anti-static production, elicitation or other measures should betaken. (please consult the technical department of our company)

6. special medium selection of special grinding parts, such as hydrofluoric acid selection pressureless sintering silicon carbide, nitric acid choice ceramic or silicon carbide.

Installation instructions

1. Build the concrete foundation according to the size, at the same time bury the anchor bolt.
2. The equipment of pump group should be carefully checked before installation, all parts should be intact and there is no sundries in pump cavity.
3. Put the pump unit on the basis, put the pair of wedge cushion between the bottom plate and the foundation, and find the level by adjusting the wedge cushion.
4. The inlet and outlet lines of the pump should be supported separately by support.
5. After installation, the coupling is rotated with bare hands to check whether there are any phenomena such as rubbing, running and so on. The rotation is easy and easy.
6. In order to prevent sundries from entering the pump, the Vastfortune pump valve suggests that a filter should be set at the inlet, and the filter area should be 2-3 times larger than the cross section area of the pipeline.
7. The pump with high lift should be installed with reverse stop valve on the outlet line to prevent damage caused by sudden shutdown.
8. 8.The installation height of the pump must be in accordance with the cavitation allowance of the pump and the pipeline loss and the temperature of the medium must be considered.

Start operation

1. Before opening the equipment, fill the pump chamber with the liquid to be transported, close the outlet valve, and connect to the power supply.
2. Turn on the power supply and check if the steering of the pump is correct in the direction of the sign.
3. Pump unit trial operation 5- 10 minutes, if there is no abnormal phenomenon can be put into operation.
4. When stopping, the outlet valve should be closed first, and then the power supply should be cut off.

Equipment disassembly

1.Wash the pump body with clear water first when disassembling until the corrosive medium inside the pump shell is completely clean.

2.when replacing pump machine fittings, may not use sharp object, hard object to hit the pump parts, the removed parts should be light, sealing face facing up.

Maintenance

1. Periodic inspection of pumps and motors, replacement of vulnerable parts.
2. When the long-term stop is not needed, clean the flow channel inside the pump and cut off the power supply, and cover the dust cover
3. Reverse and idling are forbidden to turn on according to instructions.

After-sale service

Provision of spare parts: Vastfortune is able to quickly and reliably supply vulnerable parts and spare parts needed in the production phase to ensure that production does not stagnate.

Equipment maintenance: Vastfortune will help customers to maintain equipment, timely detection of weak links to reduce or even avoid repair costs.'Technical support: Vastfortune service, dedicated and meticulous. We will provide consultation for customers, elite after-sales team, expert technical guidance, throughout the product design, selection, sales use of the entire process.

Simple problem solving

Problem description	Cause analysis	Solution
unextractable medium	1 . Air in inlet piping 2 . Inlet pipe leakage 3 . Liquid shortage in pump cavity 4 . Foreign body in inlet pipe 5 . pump equipment steering marking is incon sistent 6 . The suction height is too high	1 . Recharge/exhaust 2 . Is the inlet pipe damaged 3 . Increased injection of liquid 4 . check the pipeline for foreign bodies 5 . Adjusting the steering of pump equipment 6 . Lower installation height
Flow, head insufficiency	1 . There is foreign body in the pipeline 2 . Motor speed insufficiency 3 .Impeller damage	1 . clean up foreign bodies 2 . check motor and circuit 3 . Replacement of impeller
Excessive power	1 . Medium density is too large 2 . The error between pump axis and motor axis is large 3 .Mechanical friction	1 . Reducing the specific gravity of medium 2 . Adjust axis position 3 .carry out overhaul
pump equipmentvibration	1 . Big error between pump axis and motor axis 2 . High suction, cavitation 3 .Mechanical friction	1 . Adjust axis position 2 . Lower installation height 3 . Inspection ofwear and tear

special performance

Selection item	Description
Electrostatic conductivity	prevent static electricityfrom causing fire or explosion
Dry wear resistance	Ensure that the pump does not burn out after the liquid is cut off.
Insulation sleeve	Insulation pump cavity to prevent crystallization damage machine seal
High temperature resistance	suitable for use between 100℃ and 160℃
Motor protector	can cult off the power instantly
Non-standard motor	For special occasions and special requirements
Non-standard flange	You can customize any standard flange

If you have any other requirements, please contact us.

Full service

1 . Pre-sale services : Help customers select and design.

2 . After-sales service : The warranty is one year.

3 . Availability of spare parts.

Easily damaged parts

Name	Remarks
Impeller mouth ring	Wear and tear parts are friction parts, good maintenance and maintenance can improve the service life. Full day boot, suggest 1500 hours of inspection, often used, it is recommended to check once a month, long-term downtime, it is recommended that before the boot check once.
Rotor	
Slidingbearing	
Isolation sleeve	
Static ring	
Pump cover	

corrosion resistance table

Chemical resistance ratings:		Chemical resistance ratings:	
A	Excel lent	1	20℃
B	Good	2	40℃
C	Fair	3	60℃
X	Not recommended	4	80℃
-	Date not aval lable	5	100℃
		6	120℃

CHEMICAL		PP	PVDF	PTFE	stainless steel	FKM	NBR	99 ceramic	Highdensitycarbon
sul furica Acid	0~10%	A4	A6	A6	B1	A6	B2	A5	A6
	10~75%	A3	A3	A6	X	A4	X	A5	A6
	75~100%	B2	B1	A4	C1	A4	-	A5	A4
Nitric Acid	10%	A3	A3	A5	A5	A5	X	A5	A6
	30%	A2	A3	A6	A5	A6	X	A5	A6
	50%	B2	A3	A3	A5	A1	X	A5	A5
Hydrochloric Acid	0~25%	A4	A6	A6	X	A3	B1	A5	A6
	15~40%	A4	A6	A6	X	B2	X	A5	A6
Hydrofluoric Acid	10%	B2	A6	A6	X	A3	X	-	A3
	30%	C2	A6	A6	X	A4	-	-	A3
	60%	X	A5	A6	X	A4	-	-	A2
Acetic Acid	20%	A2	A3	A6	B5	B1	B2	A5	A4
	80%	B1	A3	A6	B1	X	-	A5	A4
souium Hydroxide	20%	A3	A3	A6	B1	B1	B2	-	A3
	50%	A3	A3	A6	B1	X	B1	-	A3
Bromine water		C1	A4	A3	C1	A2	-	A1	A2
Ethyl Alcohol		A2	A6	A3	B5	A3	X	A3	A5
Acetone		A2	X	A6	A5	X	-	A3	A5
Freon12		X	A4	A6	B5	A1	X	A4	A4
Aluminum chloride		A4	A6	A6	X	A5	B4	A4	A5
Ammonia Liquid		A1	A4	A6	A5	C1	B1	A3	A5
Aqua reria		C2	A1	A5	X	B2	-	A4	-
Fornaldehyde		A4	A4	A6	A4	A4	X	A4	A5
Gasoline		X	A6	A6	A5	B3	B3	A4	A6
kerosene		A1	A6	A6	A5	A1	B1	A4	A6
Methyl alcohol		A3	A6	A6	A5	B2	B4	A5	A6
Toluene		C1	A3	A4	A5	B1	-	A5	A4
Trichloroethylene		C1	A6	A6	B5	A1	-	A4	A6
xylene		X	A3	A6	A5	B1	-	A5	A5
Nitric acid anhydrous		C1	A3	A3	-	A1	-	A5	A2
oleum		X	X	A6	X	A4	-	A5	A2
potassium hydroxide		A4	A3	A6	A1	B1	C2	-	A6

No leakage **Maintenance free** **Super corrosion resistance**

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