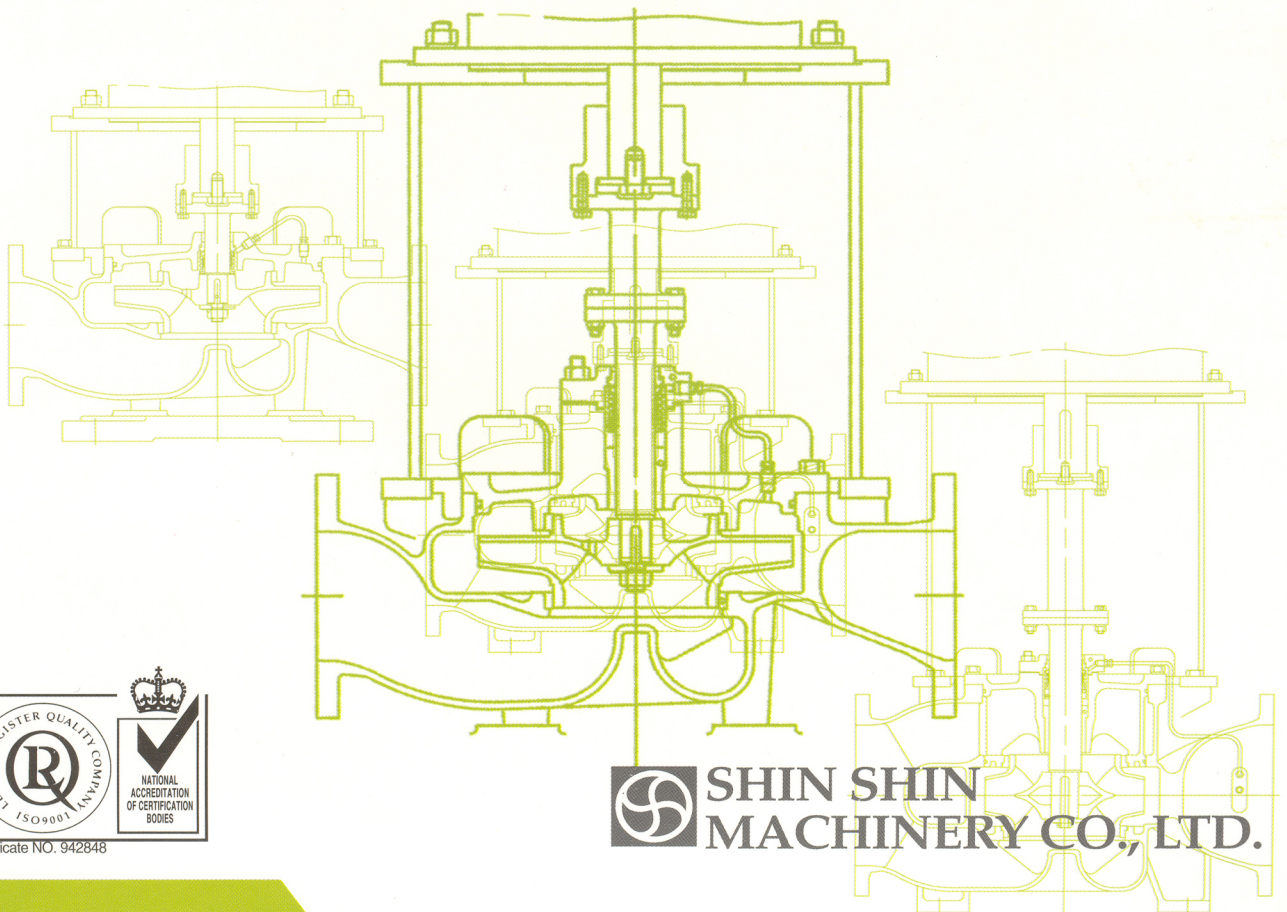


# MDC



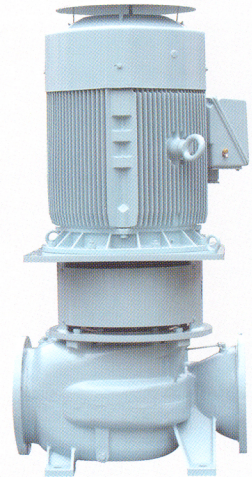
Certificate NO. 942848

 **SHIN SHIN  
MACHINERY CO., LTD.**



### 입형, 단단, 양흡입, 클로즈 카플드 형식

### Vertical Single Stage Double Suction Closed Coupled Type



#### 용도 및 적용 분야

맑은 액체용(청수, 해수, 기름)  
광범위한 사용영역의 일반용도 펌핑에 사용된다.  
일반산업용, 가정용수공급용, 빌딩용, 급수시설, 수처리,  
관개 및 선박용 등

#### Use and applications

For clean fluids(water, sea water, oil etc.)  
For general purpose pumping in a wide range of  
services : general industries,  
domestic water, buidings, waterworks,  
water treatment, irrigation,  
marine use(fresh water, cooling water, sanitary,  
G.S, ballast.)

#### 설계 및 구조적 특징

1. 넓은 사용영역에 걸쳐 효율이 높고, 운전이 정숙하며  
고장이 적다.
2. 펌프 부품의 최대의 호환성
3. 플랜지는 KS, JIS 흡입 5kg/cm<sup>2</sup>,FF  
토출 5kg/cm<sup>2</sup>, 또는 10kg/cm<sup>2</sup>,FF
4. 동평형된 임펠러
5. 구동기 측에서 보아 우회전
6. 임펠러 후방 추출 구조
7. 협소한 공간에 사용이 용이하다.
8. 유지, 보수가 쉽다.
9. 동력은 리지드 카플링으로 전달된다.
10. 축 씌링은 M/Seal 또는 Packing 가능하다.

#### Design and construction features

1. Good efficiency smooth operations and trouble  
free operation throughout a wide range of  
hydraulic coverage.
2. Maximum interchangeabilites of pump parts.
3. Flange are KS, JIS Suc. 5kg/cm<sup>2</sup>,FF  
Dis. 5kg/cm<sup>2</sup> 또는 10kg/cm<sup>2</sup>,FF
4. Dynamically balanced impeller.
5. Clock-wise(CW) rotation when viewd from the  
driver end.
6. Impeller back pull-out arrangement.
7. Available to install on a small space.
8. Easy to maintenance.
9. Power transmission is performed by a rigid coupling.
10. Shaft Sealing by M/Seal or Packing type.

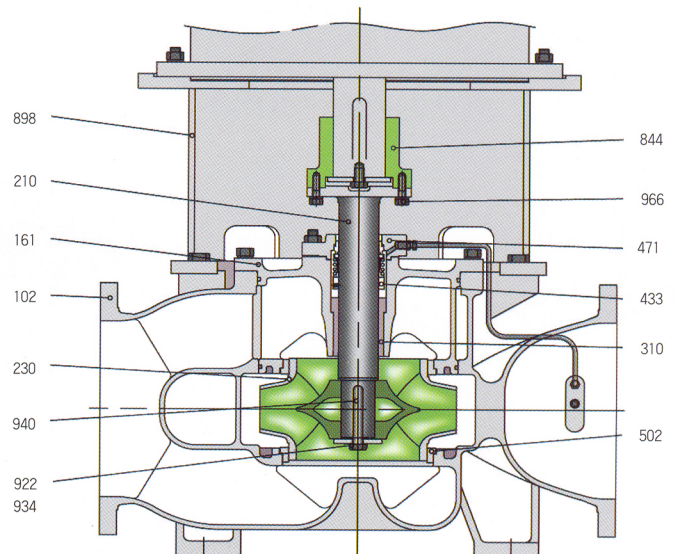


**Principal particulars**

Item Model		300C	300D	350C	400C	500C
Rotation		Clockwise when viewed driver end				
Suction Bore	(mm)	300	300	350	400	500
Discharge Bore	(mm)	300	250	350	400	500
Stuffing box seal		Gland packing or Mechanical seal				
Weight : GC(BC)	(kg)	440(500)	470(530)	550(600)	630(930)	1830(1930)
Water filled in casing	(kg)	124	130	150	295	450

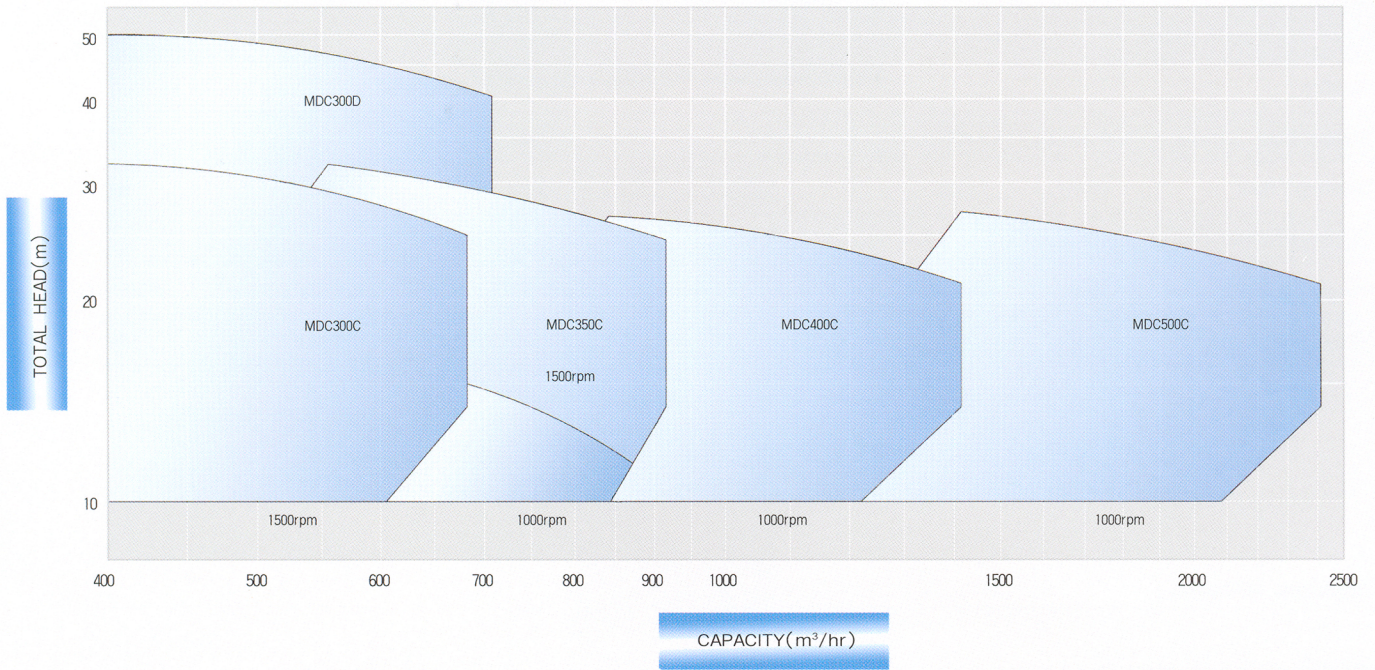
**Standard Materials**

Part No.	NAME OF PART	REQ. NO. FOR 1PUMP	FOR FRESH WATER		FOR SEA WATER	
			NAME	KS	NAME	KS
102	Volute Casing	1	Cast Iron	GC200	Bronze	BC6
161	Casing Cover	1	Cast Iron	GC200	Bronze	BC6
210	Shaft	1	Stainless Steel	STS304	Stainless Steel	STS304
230	Impeller	1	Phosphore Bronze	PBC2	Phosphore Bronze	PBC2
310	Sleeve Bearing	1	PAG	-	PAG	-
433	Mechanical Seal	1	-	-	-	-
471	Seal Cover	1	Bronze	BC6	Bronze	BC6
502	Casing Wear Ring	2	Leaded Tin Bronze	LBC4	Leaded Tin Bronze	LBC4
844	Coupling	1	Ductile Cast Iron	GCD450	Ductile Cast Iron	GCD450
866	Coupling Bolt/Nut	3	Cr.Mo Steel	SCM440	Cr.Mo Steel	SCM440
898	Motor Frame	1	Steel	SS400	Steel	SS400
922	Impeller Bolt	1	Stainless Steel	STS304	Stainless Steel	STS304
934	Lock Washer	1	Stainless Steel	STS304	Stainless Steel	STS304
940	Impeller Key	1	Stainless Steel	STS304	Stainless Steel	STS304

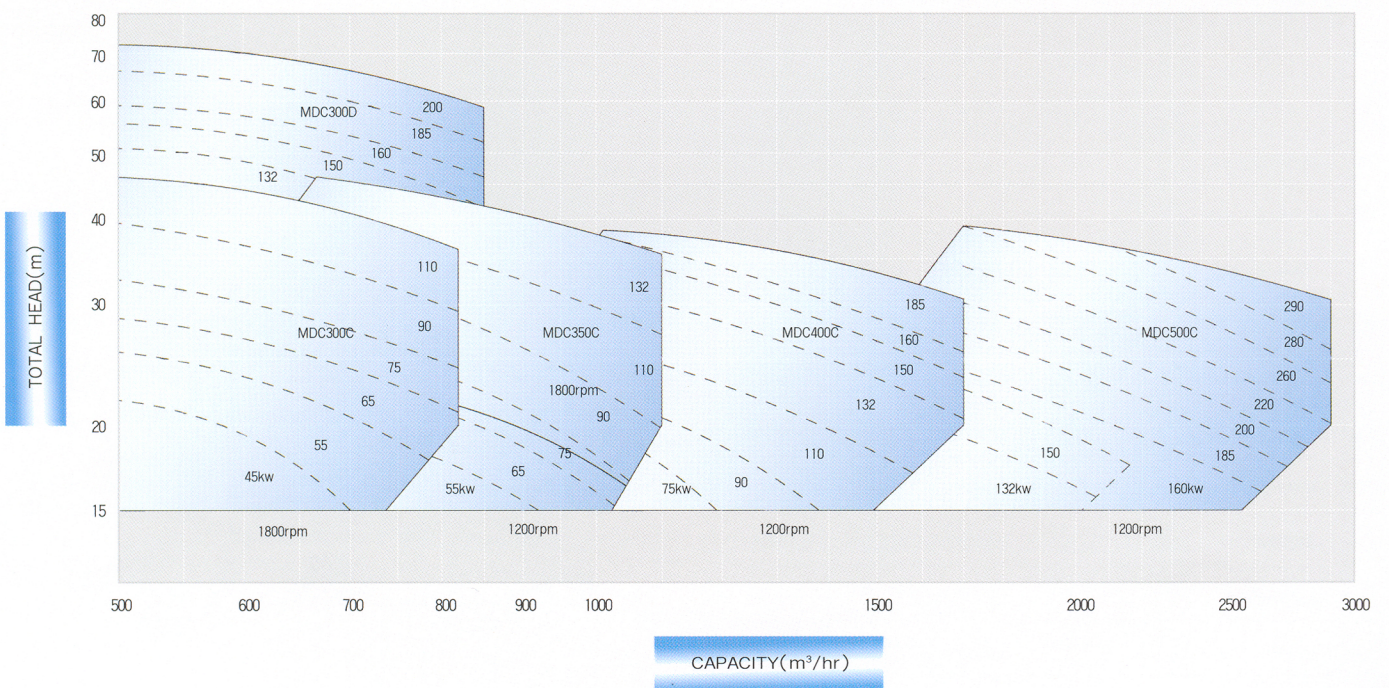




### Double Suction 양흡입(50Hz)



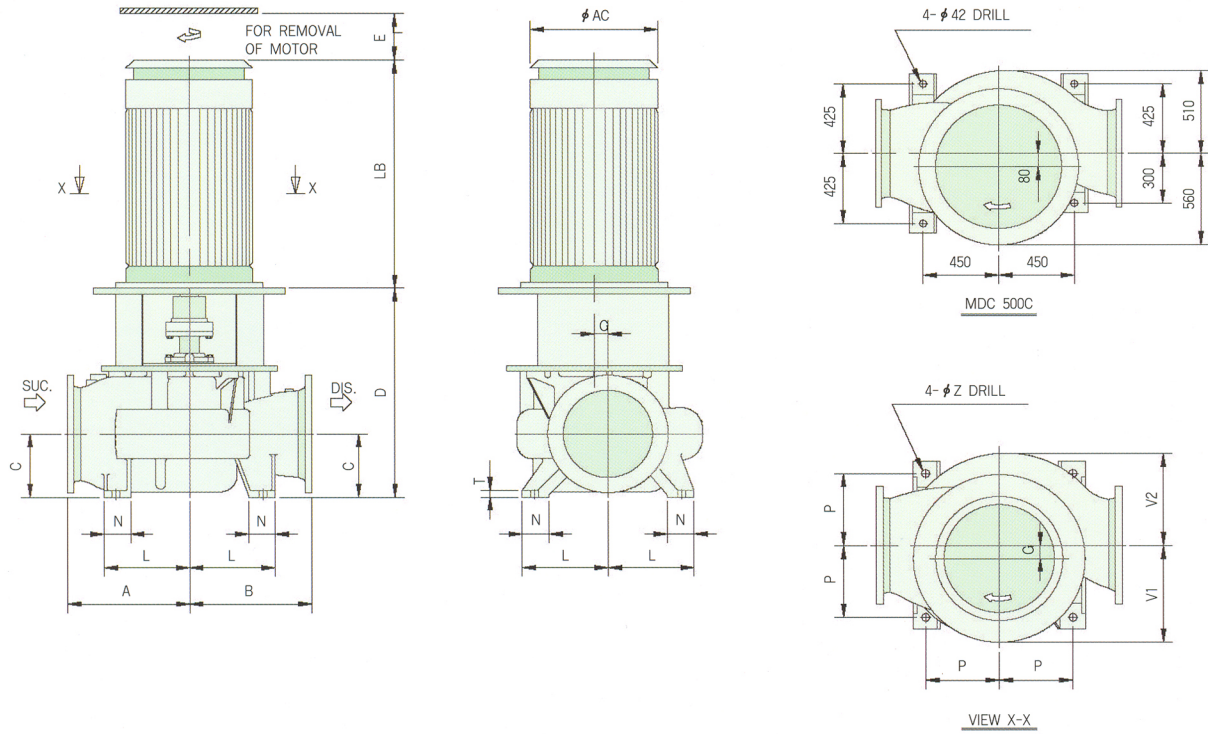
### Double Suction 양흡입(60Hz)





외형치수도

Outline dimensions



Dimensions : mm

Model	Bore		A	B	C	D	E	G	LB	L	N	P	T	Z	AC	V1	V2
	Suc.	Dis.															
MDC 300C	300	300	420	420	250	1220	250	50	985	295	105	250	25	28	570	410	320
MDC 300D	300	250	450	450	250	1240	250	50	1200	320	110	270	28	28	570	410	320
MDC 350C	350	350	430	430	270	1265	250	50	1070	310	105	265	28	33	570	410	330
MDC 400C	400	400	550	550	290	1425	250	60	1510	385	120	330	30	33	600	500	430
MDC 500C	500	500	730	730	380	1675	250	80	1810	-	-	-	35	-	700	530	510

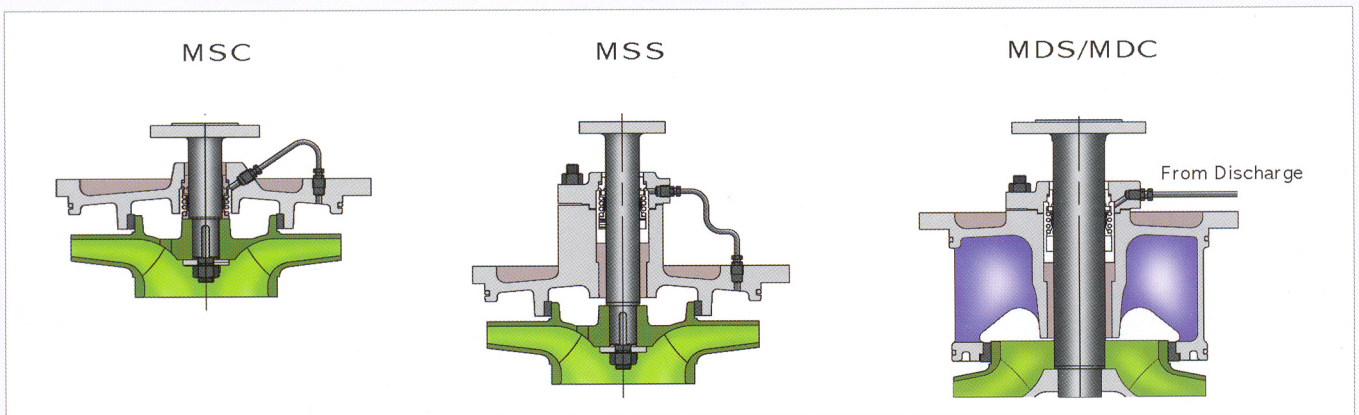


## Stuffing Box Seal

The stuffing box is fitted with a mechanical seal but gland packing, can be fitted if the customer requires it to eliminate gland adjustment

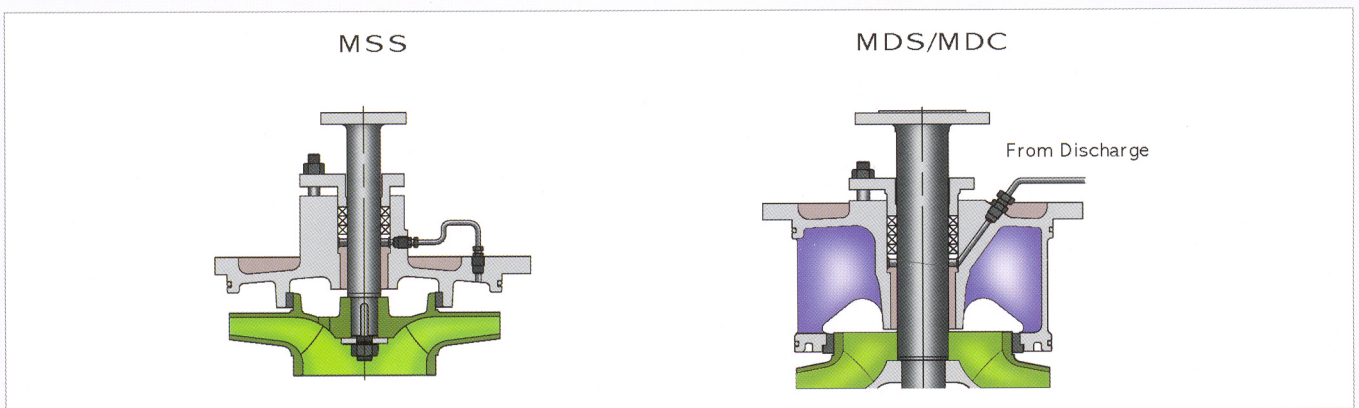
### Fitted with mechanical seal

Flushing water is led to the stuffing box from the discharge side, and returned to the suction side in casing after Flushing mechanical seal.



### Fitted with gland packing

Sealing water is led to the stuffing box from the discharge side, and most of the water is returned to the suction side in casing, the rest is drained to bilge ater sealing gland packing.



## VACUUM PUMP UNIT

When self priming system is required, vacuum pump unit driven by pump motor through clutch is provided. During the pump operation, vacuum pump is stopped automatically by taking off clutch reflected by the pressure of handling water



## Motor

The motor for this type of pump must satisfy the following conditions:

### Axial thrust

The thrust due to the weight of the rotating element acts downward.  
The maximum values are as shown in the following table.

Unit: kg

Model	MSS/MSC									MDS/MDC			
	100C	100D	125C	125D	150C	150D	200C	200D	250C	300C	300D	350C	400C
Thrust	34	38	49	58	55	65	70	85	50	80	105	110	125

### Notes

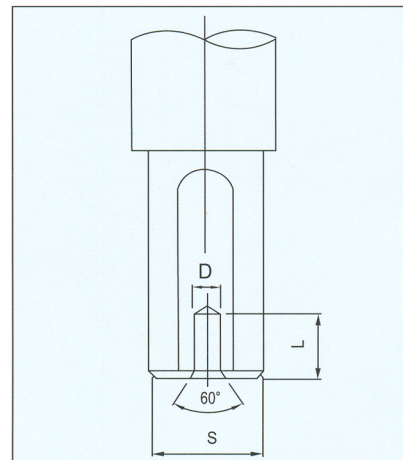
- The thrust for 500c pumps are variable according to the hydraulic force acting on the impeller.
- The thrust bearing for the motor must be of the fixed type(below 0.7mm) for up and down directions.
- The permissible value of elongation of the shaft end due to thermal expansion is to be less than 1mm.

### Screw at the motor shaft end (Bolt for fixing is supplied by shin shin)

In order to support the pump rotating element the shaft end must be provided with threaded hole for fitting the motor coupling.

### Rectangularity and eccentricity for motor flange

The rectangularity of the flange face relative to the axis and the eccentricity of the flange fitting outside diameter must be less than 0.127mm when read from a dial indicator.



Unit: mm

### Shaft end deflection

The shaft end deflection must be less than 0.05mm when read from a dial indicator.

Motor Shaft(S)	D	Lmin
~38(7.5KW)	M12	21
~48(22KW)	M16	27
~85(150KW)	M20	33

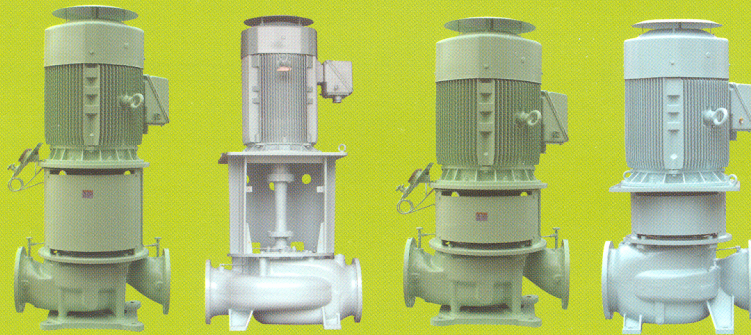
### Standard Accessories

Discharge pressure gauge .....	1
Suction compound gauge .....	1
Gauge board .....	1
Gauge root valve .....	2
Sealing pipe .....	1set
Vacuum unit(for self priming pump) .....	1set

### Standard Spare Parts

- 1 pump set of the following spare is supplied for 1 ship.
- Gland packing or mechanical seal
  - Coupling bolt & nut
  - Bearing bush
  - Complete set of rotating element(if required)





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