

Self-suction type mechanical seal pumps (Self-suction type SEM)

SEM series

Self-suction type

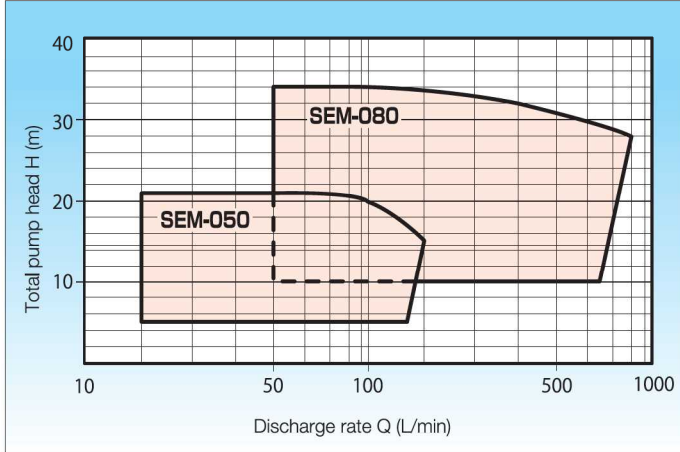


These self-suction type pumps adopt a casing tank for magnetic pump.
The material of liquid contact parts can be changed to HTPVC, PVDF, etc., to match operating conditions.

Standard specifications

Structure	Drive: Motor direct-driven type Shaft seal: Mechanical seal Impeller: Closed type Bearing: Oilless sealed ball bearing
Operating temperature range	PVC: 0 to 50°C HTPVC: 0 to 80°C PVDF: 0 to 90°C
Rotating direction	Clockwise (When viewed from motor side)
Flange	Equivalent to JIS 10K FF
Motor	General-purpose horizontal motor with base
Paint color	Equivalent to Munsell 2.5B4/8 (Metal exposed parts, except for pump shaft)

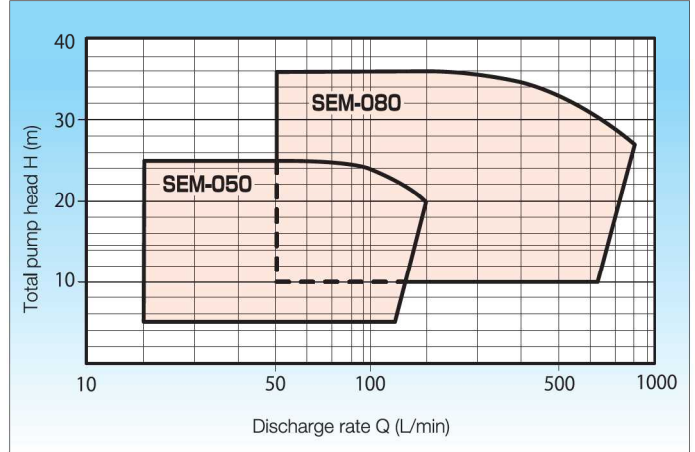
Capacity chart and specification table: 50 Hz



Model	Bore diameter (Suction × Dis.) (mm)	2P			4P			Frame No.
		Discharge rate (L/min)	Total head (m)	Motor output (kW)	Discharge rate (L/min)	Total head (m)	Motor output (kW)	
SEM-0501	50×40	200	10	2.2	100	5	0.4	F2
SEM-0503			15	3.7				F3
SEM-0505			20	3.7				F3
SEM-0507	80×80	800	9	5.5	400	7.5	1.5	F4
SEM-0801			15	7.5				F4
SEM-0803			20	11				F4
SEM-0805			30	11				F4
SEM-0807			—	—				F4
SEM-0809			—	—				F4

Motor output is given for liquids with a specific gravity of 1.0 at the target point.

Capacity chart and specification table: 60 Hz



Model	Bore diameter (Suction × Dis.) (mm)	2P			4P			Frame No.
		Discharge rate (L/min)	Total head (m)	Motor output (kW)	Discharge rate (L/min)	Total head (m)	Motor output (kW)	
SEM-0500	50×40	200	—	—	100	8	0.75	F2
SEM-0502			10	2.2	—	—	—	F2
SEM-0504			15	3.7	—	—	—	F3
SEM-0506			18	3.7	—	—	—	F3
SEM-0508			20	3.7	—	—	—	F3
SEM-0802			80×80	800	15	7.5	—	—
SEM-0804	25	11			—	—	—	F4
SEM-0806	30	15			—	—	—	F4
SEM-0808	—	—			400	10	2.2	F4

Motor output is given for liquids with a specific gravity of 1.0 at the target point.

Model identification

SEM - 050 1 F 07 S A 1 1

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ① Name
- ② Bore diameter (050 080)
- ③ Frame No.
- ④ O-ring material F: FPM E: EPDM Z: Other
- ⑤ Motor output
01 : 0.75 kW 02 : 1.5 kW 03 : 2.2 kW 05 : 3.7 kW
07 : 5.5 kW 10 : 7.5 kW 15 : 11 kW 20 : 15 kW
* 11/15 kW is applicable to SEM-080 only.
- ⑥ Body material

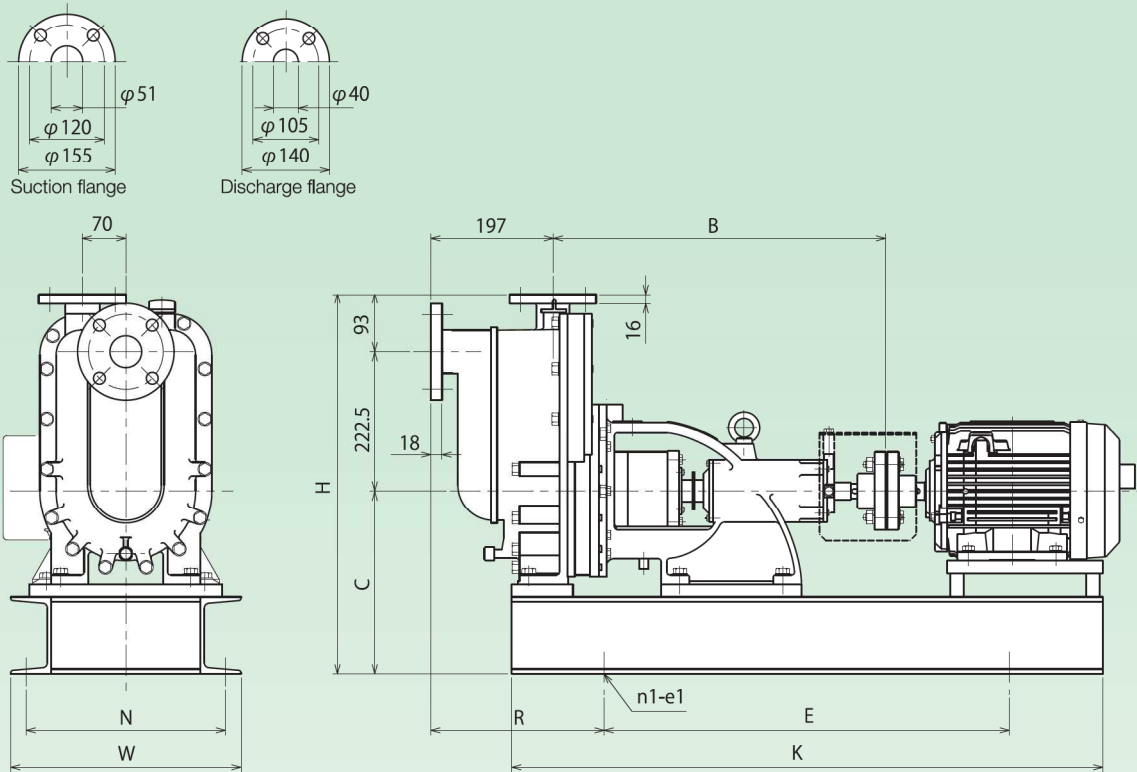
- ⑦ Shaft seal structure
- ⑧ Shaft seal type
- ⑨ Shaft seal configuration

Code	Casing/Tank	Impeller	Casing cover	Stuffing box
S		HTPVC	PVC	HTPVC
H	050: PVDF	HTPVC	HTPVC	HTPVC
V	080: FRP	PVDF	PVDF	PVDF
Z		Other	Other	Other

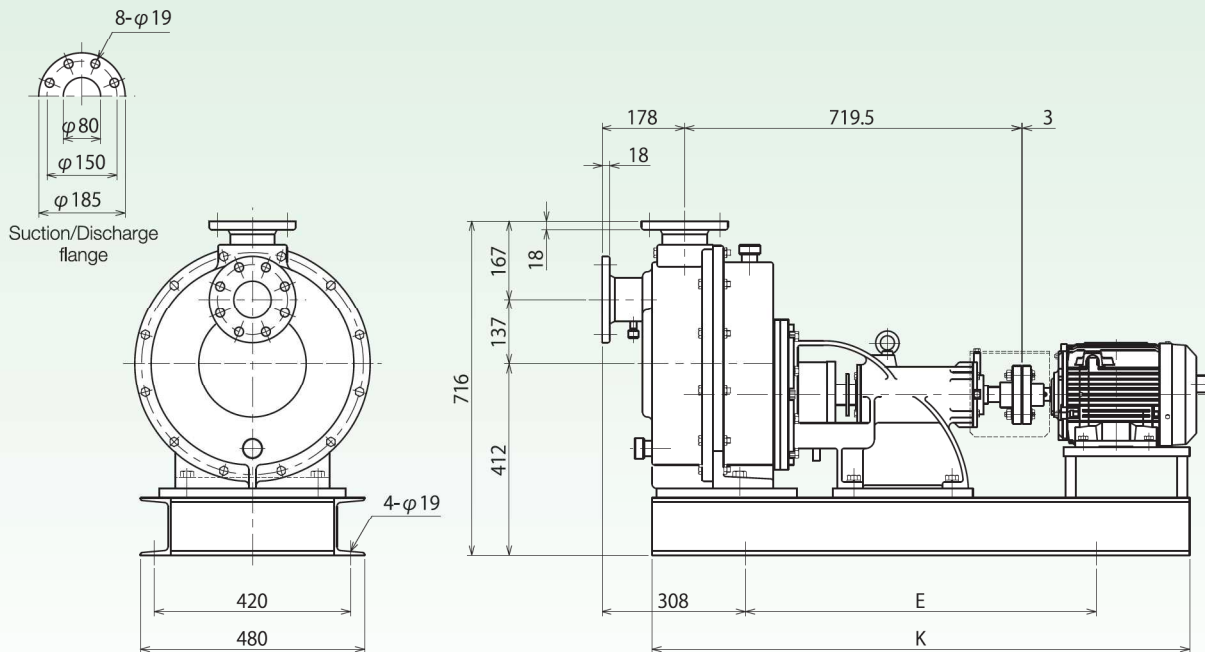
A: External mechanical seal	B: Internal mechanical seal
1: MA1	1: MB1
W: MAW	2: MB1Q1
Z: Other	3: MB1Q2
	D: DEM
	Z: Other
Rotating ring	Stationary ring
1: Resin-impregnated carbon	Alumina
4: Filler-contained PTFE	Alumina
6: SiC	SiC
Z: Other than above	Other than above
* Double mechanical seal and dead-end types: SiC only	

Outer dimensions drawing and table

● SEM-050



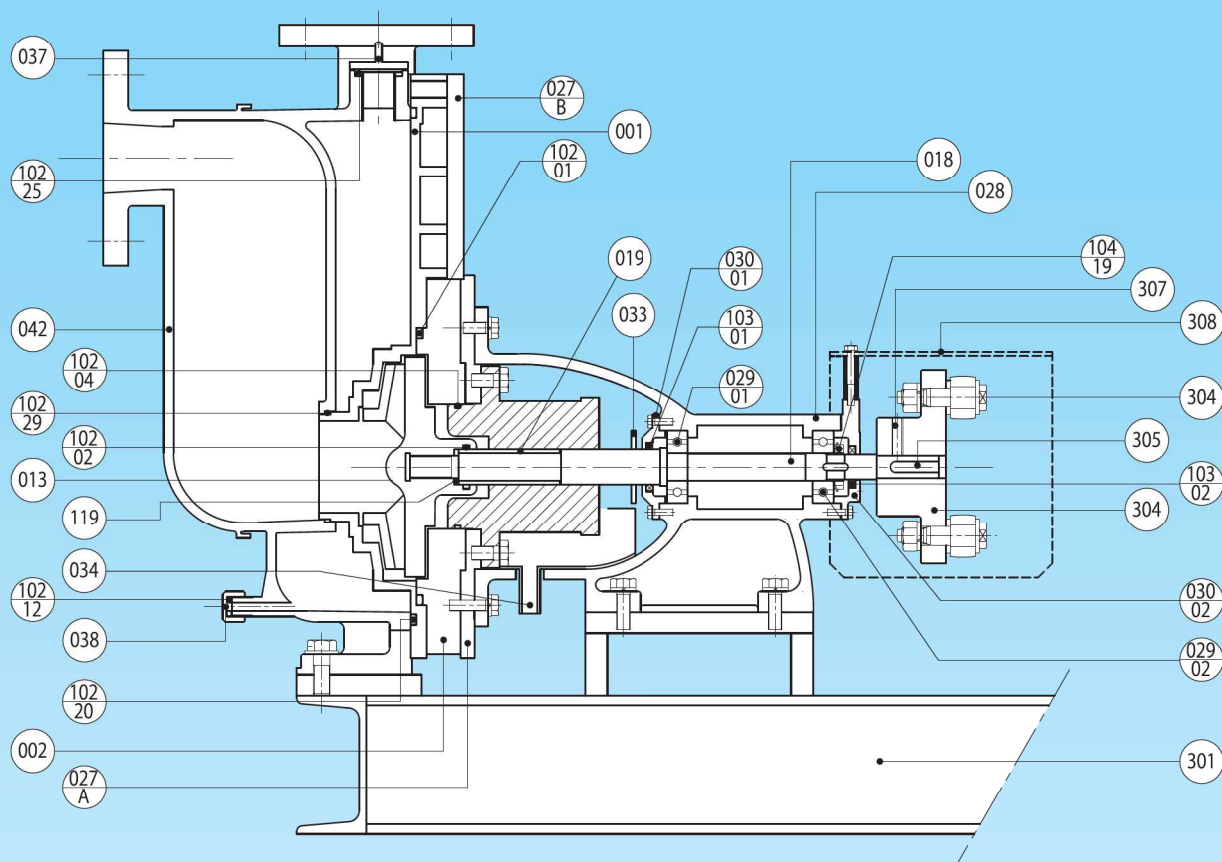
● SEM-080



Model	B	R	C	H	E	K	N	W	n1-e1	Motor output (kW)
SEM-050	406	239.5	265	580.5	600	800	240	290	4-15	1.5/2.2×2P
	534.5	280	295	610.5	650	950	320	370		3.7×2P
					700	1000				5.5/7.5×2P
SEM-080	—	—	—	—	750	1150	—	—	—	3.7×2P
					800	1200				5.5/7.5×2P
					1000	1400				11/15/18.5×2P

Cross-sectional drawing

● SEM-050

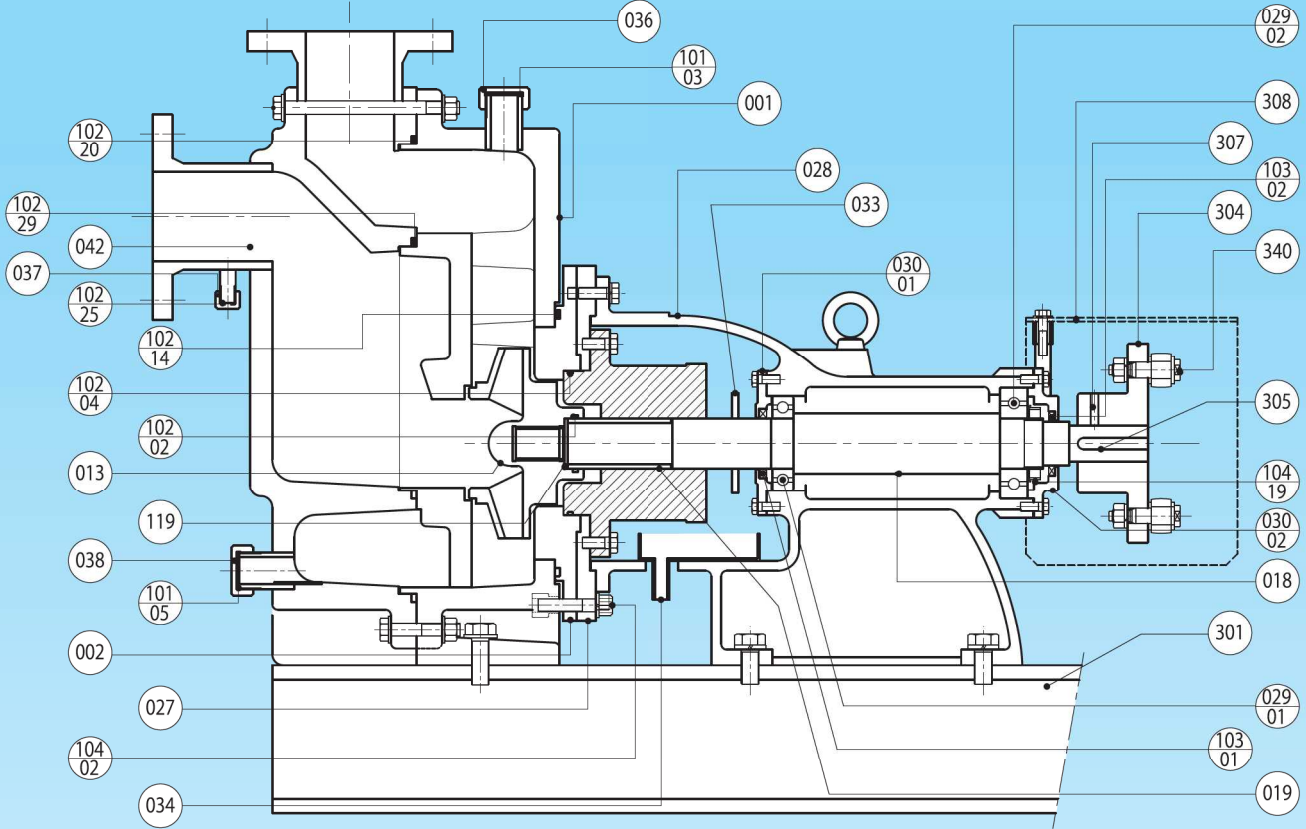


Part No.	Part name	Material	Q'ty
001	Casing	PVDF	1
002	Casing cover	PVDF/HTPVC	1
013	Impeller	PVDF/HTPVC	1
018	Shaft	SUS420J2	1
019	Shaft sleeve	PVDF	1
027-A	Tie ring	SS400	1
027-B	Casing support	FC200	1
028	Bracket	FC200	1
029-01	Bearing (Pump side)	SUJ2	1
029-02	Bearing (Motor side)	SUJ2	1
030-01	Bearing cover (Pump side)	FC200	1
030-02	Bearing cover (Motor side)	FC200	1
033	Deflector	HTPVC	1
034	Drain pan	PP	1
037	Air vent plug	PVDF	1
038	Drain plug	PVDF	1
042	Tank	PVDF	1
102-01	O-ring (Casing)	FPM/EPDM	1

Part No.	Part name	Material	Q'ty
102-02	O-ring (Impeller)	FPM/EPDM	1
102-04	O-ring (Stuffing box)	FPM/EPDM	1
102-12	O-ring (Drain plug)	FPM/EPDM	1
102-20	O-ring (Tank)	FPM/EPDM	1
102-25	O-ring (Air vent)	FPM/EPDM	1
102-29	O-ring (Suction)	FPM/EPDM	1
103-01	Oil seal (Pump)	NBR	1
103-02	Oil seal (Motor)	NBR	1
104-19	Bearing nut and washer	SS400	1 set
119	Impeller liner	SUS304	1
301	Base	SS400	1
304	Coupling	FC200	1 set
305	Coupling key	SUS304	1 set
307	Coupling set screw	SCM	1 set
308	Coupling guard	SS400	1
309	Coupling guard bolt	SUS304	1 set
340	Pin and rubber (Coupling)	SS400 & NBR	1 set

Cross-sectional drawing

● SEM-080



Part No.	Part name	Material	Q'ty
001	Casing	FRP	1
002	Casing cover	PVDF/HTPVC	1
013	Impeller	PVDF/HTPVC	1
018	Shaft	SUS420J2	1
019	Shaft sleeve	PVDF	1
027	Tie ring	SS400	1
028	Bracket	FC200	1
029-01	Bearing (Pump side)	SUJ2	1
029-02	Bearing (Motor side)	SUJ2	1
030-01	Bearing cover (Pump side)	FC200	1
030-02	Bearing cover (Motor side)	FC200	1
033	Deflector	HTPVC	1
034	Drain pan	PP	1
036	Priming plug	PVDF	1
037	Air vent plug	PVDF	1
038	Drain plug	PVDF	1
042	Tank	FRP	1
101-03	Gasket (Priming plug)	FPM/EPDM	1

Part No.	Part name	Material	Q'ty
101-05	Gasket (Drain plug)	FPM/EPDM	1
102-02	O-ring (Impeller)	FPM/EPDM	1
102-04	O-ring (Stuffing box)	FPM/EPDM	1
102-14	O-ring (Casing cover)	FPM/EPDM	1
102-20	O-ring (Tank)	FPM/EPDM	1
102-25	O-ring (Air vent)	FPM/EPDM	1
102-29	O-ring (Suction)	FPM/EPDM	1
103-01	Oil seal (Pump)	NBR	1
103-02	Oil seal (Motor)	NBR	1
104-19	Bearing nut and washer	SS400	1 set
119	Impeller liner	SUS304	1
301	Base	SS400	1
304	Coupling	FC200	1 set
305	Coupling key	SUS304	1 set
307	Coupling set screw	SCM	1 set
308	Coupling guard	SS400	1
309	Coupling guard bolt	SUS304	1 set
340	Pin and rubber (Coupling)	SS400 & NBR	1 set