



Shinko “SMB” barrel type pumps have been developed as send-out pumps in LNG/LPG/DME storage stations, or as pressurizing and circulating pumps in LNG cryogenic power generation plants.

The pump is submerged in cryogenic liquefied gas within the barrel installed outside of the storage tank. The pump can be taken out of the barrel easily by closing the valve located between the barrel and tank, when it is necessary to check the pump for maintenance or inspection.

The pump and motor are constructed as to form a single unit and be submerged in the pumping liquid. Thus, there is no fear of liquid and gas leakage because no sealing devices are required.

The motor is operated in liquid, and is completely isolated from the atmosphere. Hence, there is no fear of an explosion.

The pump has an even number of stage with the impellers divided into two groups of equal numbers, which are arranged back to back with each other. Therefore, the hydrodynamic thrust is so balanced that the ball bearings are free from handling undue loads.

The lower side of the first stage impeller is equipped with the inducer. The low NPSH feature of the inducer ensures safe operation even when the available NPSH is 0 meter.

Ball bearings are lubricated via the pumped liquid, which is also used for cooling the motor.

The stator coil is constructed with a form-wound type having a high insulation property and rigidity. Materials with a high insulation property, durability, and cryogenic resistance property are used for the motor insulation and varnish.

### GENERAL CHARACTERISTICS

Item	Model	SMB 50	SMB 80	SMB 100	SMB 150	SMB 200	SMB 250
Pump	Type	Barrel type single / multi stage centrifugal pump					
	Capacity (m <sup>3</sup> /h)	20~700					
	Total head (m)	100~2500					
	Liquid temperature (°C)	40~ -196					
	Suction bore (mm)	100	150	200	300	350	450
	Discharge bore (mm)	50	80	100	150	200	250
	Place of installation	Outdoor					
Motor	Type	Submerged type 3-phase squirrel-cage induction motor					
	Synchronous speed (min <sup>-1</sup> )	3000 / 3600					
	Voltage (V)	400 / 440 , 300 / 3300 , 6000 / 6600					
	Frequency (Hz)	50 / 60					
	Coil	Form-wound type					
	Insulation	Class F					
	Rating	Continuous					
	Starting method	Full / reduced voltage start available					

