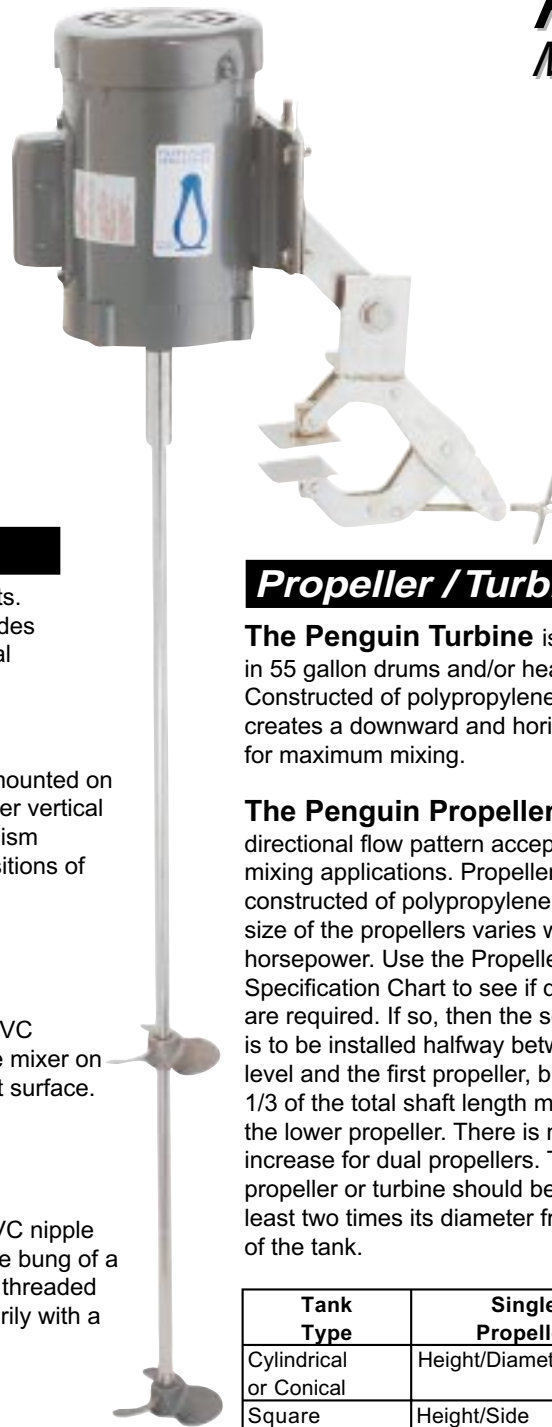


# Series PM

## Penguin Mixers

### Features:

- Economical and Efficient
- Use in Both Tanks and Drums
- 316SS Shaft and Couplings
- 316SS or Polypropylene Propellers/Polypropylene Drum Turbines
- 4 Mounts Available



### Mount Specifications

Penguin mixers are available with different mounts. The heavy duty construction of each mount provides a mixer that is capable of withstanding operational stresses.



#### Clamp Mount

allows the mixer to be mounted on the tank side wall or other vertical surface. Clamp mechanism provides for various positions of the mixer on the tank.

#### Bracket Mount

provides a 3/4" or 1" CPVC bracket for mounting the mixer on a tank cover or other flat surface.

#### Thread Mount

is equipped with a 2" PVC nipple for direct mounting in the bung of a 55 gallon drum or other threaded connectors. Used primarily with a turbine.

#### Flange Mount

constructed of CVPC is used for mounting the mixer directly over the shaft hole in the tank cover or other flat surface.

### Propeller / Turbine

**The Penguin Turbine** is most effective in 55 gallon drums and/or heavy viscosities. Constructed of polypropylene, the turbine creates a downward and horizontal type flow for maximum mixing.



**The Penguin Propeller** provides a directional flow pattern acceptable for most mixing applications. Propellers are constructed of polypropylene or 316SS. The size of the propellers varies with each horsepower. Use the Propeller/Turbine Specification Chart to see if dual propellers are required. If so, then the second propeller is to be installed halfway between the liquid level and the first propeller, but not to exceed 1/3 of the total shaft length measured from the lower propeller. There is no power increase for dual propellers. The lower propeller or turbine should be installed at least two times its diameter from the bottom of the tank.



Tank Type	Single Propeller	Double Propeller
Cylindrical or Conical	Height/Diameter < 1	Height/Diameter > 1
Square	Height/Side Dimension < 1	Height/Side Dimension > 1
Rectangular	Height/Longest Side Dimension < 1	Height/Longest Side Dimension > 1
55 Gallon Drum	Turbine	N/A



# Series PM

## Penguin Mixers

### Shaft

The shaft and couplings of the Penguin mixers are constructed of 316SS. The mixer shafts are designed for safe operation based on torsion and bending. The large shaft diameter insures proper mechanical design as noted in the Shaft Specification Chart. The mixers operate below the first critical speed zone. Polypropylene sleeved shafts are also available as an option.

HP	Shaft Length	Shaft Diameter
1/20	28"	1/2"
1/4	34"	1/2"
1/3	36"	1/2"
1/2	36"	5/8"
1	44"	5/8"

### Flow

For efficient mixing, the recommended turnover in the tank is approximately 6-10 minutes. To calculate the correct flow, use the Flow Specification Chart. For example: Which propeller would be most efficient for a 50 gallon tank? 50 gallons/8 gpm = 6.25 minutes. Thus, the 3" propeller would be the proper size.

Dimension/Type	GPM
3"/Propeller	8
2"/Turbine	12
4"/Propeller	18
5"/Propeller	38

### Horsepower

The Horsepower Specification Chart is based on a specific gravity of 1.0. For a specific gravity higher than 1.0, multiply the ratio of gravities directly by the minimum required horsepower. For example: If using a 1/3 hp mixer for liquid with a specific gravity of 1.5, the horsepower required would be 1/3 x 1.5 = .495. Thus, a 1/2 hp would be the proper motor.

Dimension/Type	Minimum HP
3"/Propeller	1/20
2"/Turbine	1/20
4"/Propeller	1/4
5"/Propeller	1/2

### Nomenclature

PM	1/2	P	C	EXP
Penguin Mixers	Horsepower	Mixer Material & Type / Coupling & Shaft Material	Mount	Options
	1/20 = 1/20	P = Polypropylene propeller/316SS	C = Clamp	ODM = Open Drip Motor
	1/4 = 1/4	S = 316SS propeller/316SS	B = Bracket	EXP = Explosion Proof Motor
	1/3 = 1/3	V = Polypropylene turbine/316SS	F = Flange	D = Dual Propellers
	1/2 = 1/2		T = Thread	PS = Polypropylene Sleeved Shaft
	1 = 1			CP = Cord and Plug
				A = Air Motor

### Motor

The standard motor supplied on Penguin mixers is TEFC. All motors are shipped unwired with the exception of the PM-1/20, which is wired for 115V as noted in the Motor Specification Chart. For single phase motors, a cord and plug can be ordered as an option. Other available options include: special voltage, 50Hz, lower RPM, explosion proof motors in 1/3 hp, 1/2 hp, and 1 hp, and air motors with the exception of the PM-1/20.

HP	RPM	Volts	Hertz	Phase	Amps
1/20	1500	115	60	Single	1.5
1/4	1725	115/230	60	Single	6.8/3.4
1/3	1725	115/230	60	Single	6.8/3.4
1/2	1725	115/230	60	Single	9.0/4.5
		230/460		Three	2.0/1.0
1	1725	115/230	60	Single	13.6/6.8
		230/460		Three	3.6/1.8

### Viscosity

An increase in viscosity will also increase the power absorption. Use the Viscosity Specification Chart for proper horsepower and propeller size. For viscosities over 500 centipoise, consult the factory. Turnover will be approximately 15-20 minutes for PM-1 mixers for tank volumes up to 1000 gallons.

Viscosity	Tank Volume/Gallons				
	50	100	200	500	1000
1 Cp	PM-1/20	PM-1/4	PM-1/4	PM-1/2	PM-1
100 Cp	PM-1/20	PM-1/4	PM-1/4	PM-1/2	PM-1
300 Cp	PM-1/4	PM-1/4	PM-1/3	PM-1/2	NA
500 Cp	PM-1/3	PM-1/3	PM-1/2	PM-1	NA
Propeller Size	3" or 4"	3" or 4"	4"	5"	5"



## Available Product Models

---



**Model No. PM-1/20PC**  
1/20 HP, Polypropylene Propeller, Clamp Mount

---



**Model No. PM-1/4PC**  
1/4 HP, Polypropylene Propeller, Clamp Mount

---



**Model No. PM-1/3PC**  
1/3 HP, Polypropylene Propeller, Clamp Mount

---



**Model No. PM-1/2PC**  
1/2 HP, Polypropylene Propeller, Clamp Mount

---



**Model No. PM-1/20SC**  
1/20 HP, 316SS Propeller, Clamp Mount

---



**Model No. PM-1/4SC**  
1/4 HP, 316SS Propeller, Clamp Mount

---



**Model No. PM-1/3SC**  
1/3 HP, 316SS Propeller, Clamp Mount

---



**Model No. PM-1/2SC**  
1/2 HP, 316SS Propeller, Clamp Mount

---



**Model No. PM-1SC**

1 HP, 316SS Propeller, Clamp Mount

---



**Model No. PM-1/20PB**

1/20 HP, Polypropylene Propeller, Bracket Mount

---



**Model No. PM-1/4PB**

1/4 HP, Polypropylene Propeller, Bracket Mount

---



**Model No. PM-1/3PB**

1/3 HP, Polypropylene Propeller, Bracket Mount

---



**Model No. PM-1/2PB**

1/2 HP, Polypropylene Propeller, Bracket Mount

---



**Model No. PM-1/20SB**

1/20 HP, 316SS Propeller, Bracket Mount

---



**Model No. PM-1/4SB**

1/4 HP, 316SS Propeller, Bracket Mount

---



**Model No. PM-1/3SB**

1/3 HP, 316SS Propeller, Bracket Mount

---



**Model No. PM-1/2SB**

1/2 HP, 316SS Propeller, Bracket Mount

---



**Model No. PM-1SB**

1 HP, 316SS Propeller, Bracket Mount

---



**Model No. PM-1/20PF**

1/20 HP, Polypropylene Propeller, Flange Mount

---



**Model No. PM-1/4PF**

1/4 HP, Polypropylene Propeller, Flange Mount

---



**Model No. PM-1/3PF**

1/3 HP, Polypropylene Propeller, Flange Mount

---



**Model No. PM-1/2PF**

1/2 HP, Polypropylene Propeller, Flange Mount

---



**Model No. PM-1/20SF**

1/20 HP, 316SS Propeller, Flange Mount

---



**Model No. PM-1/4SF**

1/4 HP, 316SS Propeller, Flange Mount

---



**Model No. PM-1/3SF**

1/3 HP, 316SS Propeller, Flange Mount

---



**Model No. PM-1/2SF**

1/2 HP, 316SS Propeller, Flange Mount

---



**Model No. PM-1SF**

1 HP, 316SS Propeller, Flange Mount