

Sheathed Heaters for Liquid Heating

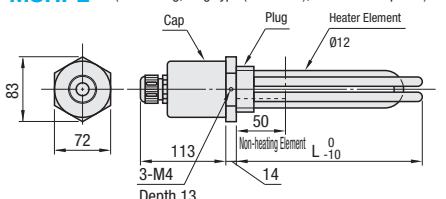
Standard, With Overheating Prevention

Be sure to refer to "Precautions for Use" in Sheathed Heaters for Liquid Heating Overview on P.1637.

Standard

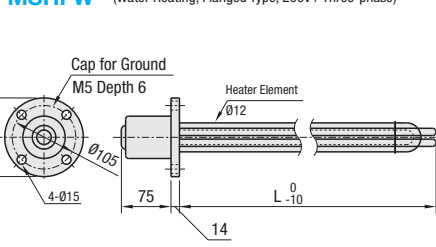


MSHPW (Water Heating, Plug Type (PF Thread), 200V / Three-phase)
MSHPWP (Water Heating, Plug Type (PT Thread), 200V / Three-phase)
MSHPL (Oil Heating, Plug Type (PF Thread), 200V / Three-phase)



Maximum Operating Temperature: 160°C
Material: Heater Element : SUS316L, Plug : SCS14, Cap : Phenol Resin, Gasket : Non Asbestos (included with MSHWP/MSHPL only)
Accessory: Gasket : Non Asbestos

MSHFW (Water Heating, Flanged Type, 200V / Three-phase)



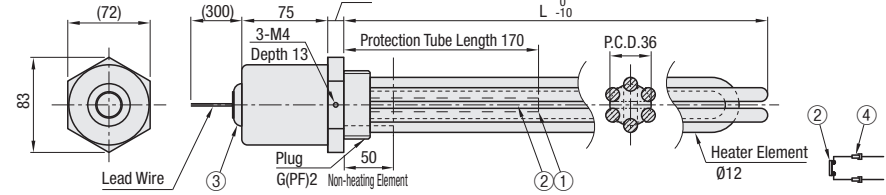
Material: Heater Element : SUS316L, Flange : SCS14, Cap : Phenol Resin, Power Supply Outlet : NBR, Gasket : Non Asbestos

Part Number Type	No.	W (Electric Power)	V (Voltage)	Electrical Power Density (W/cm ²)	L	Plug (Thread Size)	Unit Price			
							MSHPW	MSHPWP	MSHFW	MSHPL
MSHPW MSHPWP MSHFW (Only * marked sizes) (The values in () are for MSHFW10.)	1	1000	200	3.5	170	MSHPW G(PF)2 MSHPWP R(PT)2	-	-	-	-
	2	2000		6.0	200		-	-	-	
	*3	3000		7.0	230		-	-	-	
	4	4000			300		-	-	-	
	*5	5000			370		-	-	-	
	6	6000			430		-	-	-	
	8	8000		8.0	500		-	-	-	
	*10	10000		8.5(7.0)	570(700)		-	-	-	
	1	1000	200	2.5	230	G(PF)2	-	-	-	-
	2	2000			400		-	-	-	
MSHPL	3	3000			580		-	-	-	
	4	4000			760		-	-	-	
	5	5000			890		-	-	-	

With Overheating Prevention

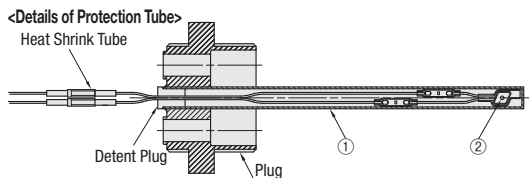


MSPND (Water Heating, Plug Type, 200V / Three-phase)



Maximum Operating Temperature: 160°C
Material: Heater Element : SUS316L, Protection Tube for a Bimetal Thermostat : SUS304, Cap : Phenol Resin, Braid Lead : Fluorine
Accessory: Gasket : Non Asbestos

Part Number		Bimetal Thermostat Operating Temperature (°C)	W (Electric Power)	V (Voltage)	Electrical Power Density (W/cm²)	L	Unit Price
Type	No.						
MSPND	35	50	3000	200	7.0	230	
	37	70					
	39	90					
	311	110					
	55	50	5000			370	
	57	70					
	59	90					
	511	110					
	105	50	10000		8.5	570	
	107	70					
	109	90					
1011	110						

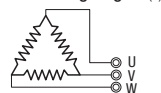


Part Name		Part Name	
No.	Name	No.	Name
①	Protection Tube for a Bimetal Thermostat	③	Power Supply Outlet (NBR)
②	Bimetal Thermostat	④	Insertion Type Connecting Terminal

Features

This heater has both protection pipe and bimetal thermostat. It prevents overheating of a heated object.

Connecting Diagram(Δ)



Precautions for Use

- Ensure a thermostat is fixed in the protection pipe before using.
- When it exceeds rating, use an assistant relay.
- This product is designed to prevent overheating of liquids. The thermostat does not function under dry-running condition after the liquid is gone, and it may invite unexpected trouble. Use with a monitoring system including a float switch to monitor the liquid level for boil-dry protection.
- Bimetal thermostat of water temperature plus 20°C or above is recommended.

Ordering Example
Part Number
MSHPW8
MSPND35

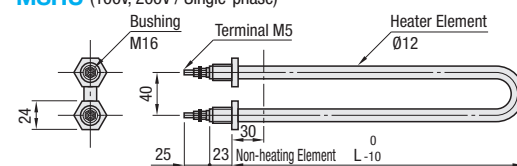
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U/M Fixed / Straight, One Terminal

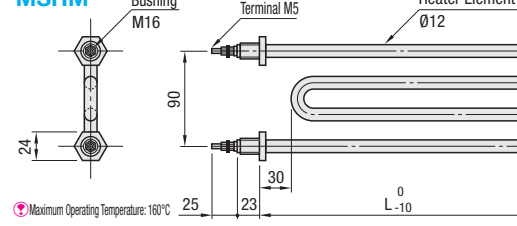
Sheathed Heaters



MSHU (100V, 200V / Single-phase)



MSHM



Maximum Operating Temperature: 160°C
Material: Heater Element : SUS316L, Bushing : SUS304, Gasket : Non Asbestos, Flat Washer : SUS304, Nut : SUS304

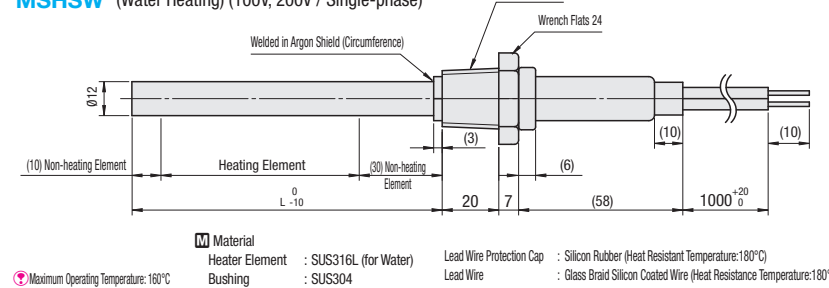
Part Number Type	No.	V (Voltage) Selection	L	W (Electric Power)	Electrical Power Density (W/cm ²)	Unit Price
MSHU	0.5	100	150	500	5.5	
	1	200	200	1000	8.0	
	1.5	200	300	1500	7.5	
	2	200	400	2000	7.0	
MSHM	0.5	100	100	500	5.0	
	1	200	150	1000	5.5	
	1.5	200	200	1500	6.0	
	2	200	250	2000	6.0	

Ordering Example
Part Number - V
MSHU1.5 - V200

Straight, One Terminal

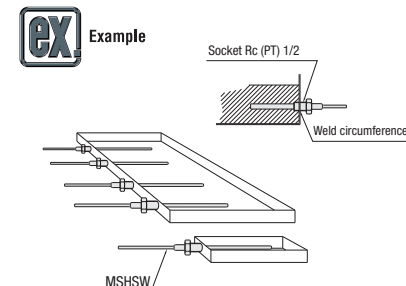


MSHSW (Water Heating) (100V, 200V / Single-phase)



Maximum Operating Temperature: 160°C
Material: Heater Element : SUS316L (for Water), Bushing : SUS304
Lead Wire Protection Cap : Silicon Rubber (Heat Resistant Temperature: 180°C)
Lead Wire : Glass Braid Silicon Coated Wire (Heat Resistance Temperature: 180°C)

Part Number Type	No.	V (Voltage) Selection	L	W (Electric Power)	Electrical Power Density (W/cm ²)	Unit Price
MSHSW (Water Heating)	0.5	100	230	500	7.0	
	0.75	100	325	750		
	1	200	420	1000		
	1.5	200	610	1500		



Ordering Example
Part Number - V
MSHSW1.5 - V200