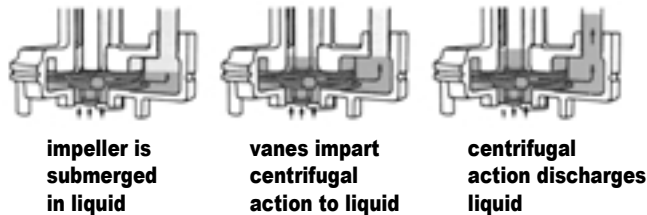


BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

PRINCIPLE OF OPERATION

A hydraulically and dynamically balanced impeller with raised vane sections discharges liquid as a result of the centrifugal force developed in rotation. The head developed is entirely the result of the velocity imparted to the liquid. The impeller is always located below the minimum liquid level. Pumps have a fixed and relatively low discharge head with a rapid falling off of discharge as head or viscosity increases.

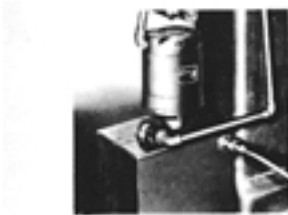


USED WHEREVER HIGH VOLUMES OF LOW VISCOSITY LIQUIDS ARE HANDLED

BSM Motor Driven Centrifugal Pumps – proof once again that the instrument designed to do a particular job does that job best – in this case, BSM Centrifugal Pumps are unsurpassed for supplying coolant on machine tool applications. Unsurpassed because they have been carefully designed for handling large volumes of low viscosity liquids containing particles of grit and abrasives at operating heads (pressures) up to 25 feet of water (10.82 psi).

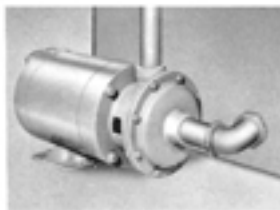
3 MOUNTING TYPES TO MEET MORE SPECIFIC REQUIREMENTS

BSM Centrifugal Pumps are available in a wide range of capacities to meet all your applications. Just as importantly, they are available in three mounting styles:



Submersible

Pump submerged in liquid with motor above liquid level. Pump shaft supported by grease-sealed motor bearings. No metal-to-metal contact below liquid level. Motors are NEMA Type C, totally enclosed, flat face. Pumps are ideal for handling large volumes where abrasive or grit may be present in liquid.



Outside Foot Mounted

Models 220 and 225 have all the advantages described for the flange mounted models, except that they are foot mounting types to meet JIC recommendations. The foot permits mounting either vertically or horizontally.



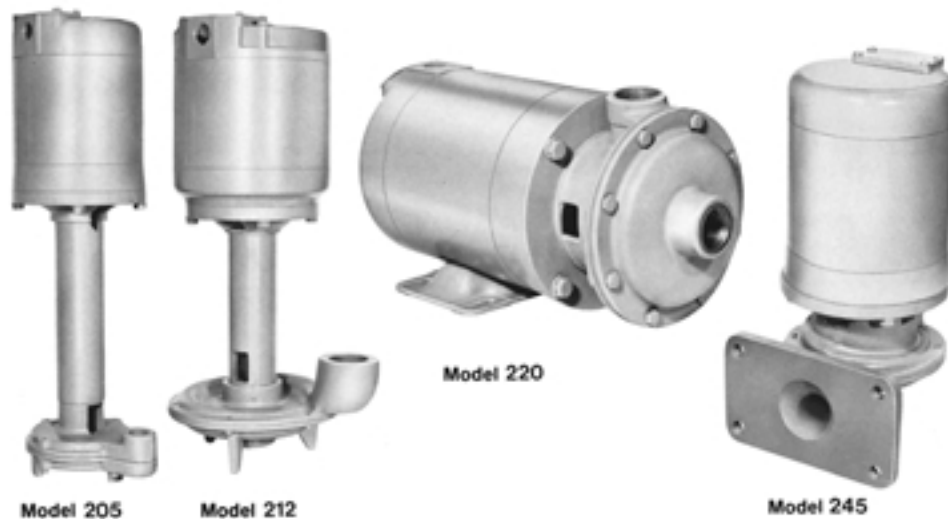
Outside Flange Mounted

Convenient flange permits integral mounting either vertically or horizontally. Motors are NEMA Type C, totally enclosed, flat face, of ample power and speed to assure large volume delivery and continuous, long-life operation.

BSM Pump Corp. - MANUFACTURING SOLUTIONS TO PUMPING PROBLEMS FOR OVER 100 YEARS.

BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

Models 205, 206, 207, 208, 212, 220, 225, 240, & 245



THE DESIGN

- | | |
|------------------|---|
| Impellers | Balanced dynamically (also hydraulically on submerged type units) and their design provides radial and axial stability without use of a lower bearing at the impeller end of the shaft (no metal to metal contact). Liquid enters through the center of the underside of the base and is forced outward in a streamline flow along the vanes. Modified open design minimizes clogging and wear. |
| Bearings | Factory greased and sealed ball bearings require no further lubrication and afford protection against grit and other foreign substances. No bearings surfaces are exposed to the action of coolant or abrasive charged liquids. |
| Motors | Totally enclosed, giving much more protection against the entrance of dust and vapor than open type motors. Also, all pumps are furnished with NEMA Type C flat face motors with standard shaft extensions, simplifying the replacement of motor of any manufacture in the event of unexpected failure or repair minimizing costly delays and downtime. |
| Seals | Spring loaded mechanical type on Outside Mounted Models to prevent leakage along the shaft to the motor. Ports to prevent leakage to the motor are designed into the column housing the pump shaft in Submersible Pump Types, hence no seals are required in these models. |

BSM Pump Corp. - MANUFACTURING SOLUTIONS TO PUMPING PROBLEMS FOR OVER 100 YEARS.

BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

MODELS 205, 206, 207, 208, 212, 220, 225, 240, & 245

BSM Motor Driven Centrifugal Pumps are designed to handle large volumes of low viscosity liquids containing particles of grit and abrasives at operating heads up to 25 feet of water (10.82 psi). They are unsurpassed for supplying coolant on machine tool applications.

Design Rating: Up to 80 gpm; up to 25 feet of water.

Material: Gray iron casings, hardened steel shafts, gray iron, bronze, or aluminum impellers. Materials for handling corrosive liquids are available.

Bearings: Motor bearings are factory lubricated for life. No bearings are required for pump section.

Seals: Models 220, 225, 240 and 245 have mechanical seals.

Mountings: Models 205, 206, 207, 208, and 212 are submersible type pumps; Models 240 and 245 are outside flange mounted. Models 220 and 225 are outside foot mounted.

Liquid Viscosities: These pumps are powered to handle maximum viscosities as follows: 300 ssu — 208, 212, 225, 245; 1000 ssu — 205, 206, 207, 220, 240.

Inlet Suction: Flooded inlet required. Inlet should always be located below minimum liquid level.

Motors: Nema C-Face furnished with or without base depending on pump model. Motors with special characteristics are available.

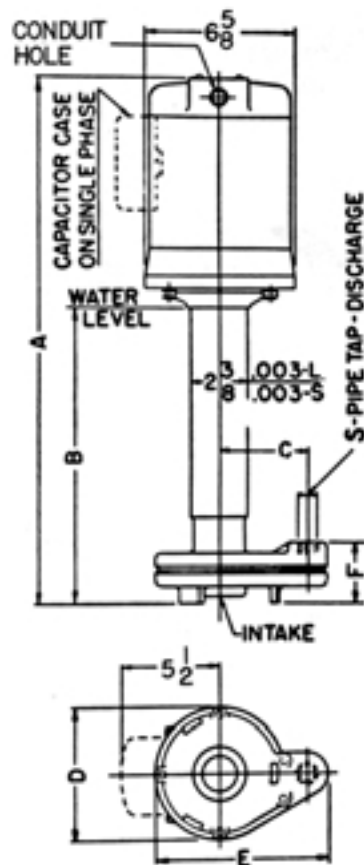
OPERATING CHARACTERISTICS

Model	Motor HP	RPM	Liquid	Discharge in GPM at total head feet						
				4	6	8	12	16	20	24
205, 206, 207	1/4	1725	Water	21.5	19.0	15.5	5.0	..	..	..
			Oil 440	17.5	16.0	13.5	4.0	..	..	..
208	1/4	1725	Water	36.5	33.0	29.0	21.0	12.0	..	..
			Oil 160	30.0	29.0	26.0	20.0	11.0	..	..
212	1/2	1725	Water	80.0	75.0	70.0	59.0	48.0	36.0	14.0
			Oil 300	70.0	66.0	60.0	50.5	40.0	30.0	8.0
220, 240	1/4	1725	Water	20.5	18.0	15.0	5.0	..	..	..
			Oil 440	17.0	15.0	12.5	4.5	..	..	..
225, 245	1/2	1725	Water	80.0	75.0	70.0	59.0	48.0	36.0	14.0
			Oil 300	70.0	66.0	60.0	50.0	40.0	30.0	8.0

BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

MODELS 205, 206, 207, 208 and 212 SUBMERSIBLE PUMPS

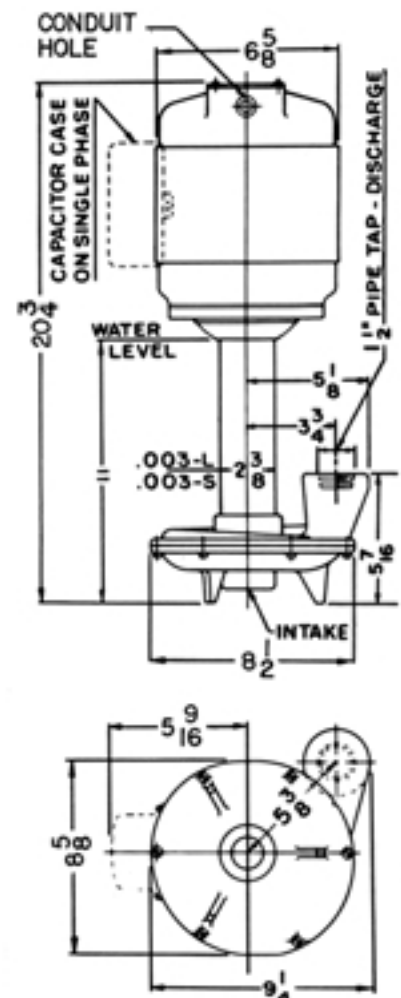
DIMENSIONAL DATA



	MODEL			
	205	206	207	208
A*	15 ¹⁵ / ₁₆	19 ³ / ₁₆	21 ⁵ / ₁₆	21 ³ / ₄
B	6 ³ / ₄	9 ¹⁵ / ₁₆	12 ⁷ / ₁₆	12 ⁹ / ₁₆
C	3 ¹³ / ₁₆	3 ¹³ / ₁₆	3 ¹³ / ₁₆	4 ¹ / ₄
D	5 ¹ / ₂	5 ¹ / ₂	5 ¹ / ₂	6 ⁷ / ₈
E	7 ⁷ / ₈	7 ⁷ / ₈	7 ⁷ / ₈	8 ¹³ / ₁₆
F	2 ⁵ / ₈	2 ⁵ / ₈	2 ⁵ / ₈	3
S	³ / ₄	³ / ₄	³ / ₄	1

*Overall height (A) is given for all voltages, 3 phase, 60/50 cycles. Single phase motors extend height up to 1" for all models.

MODEL 212	
A	Electrical Characteristics
23 ³ / ₈	All voltages 60/50, 60 and 25 cycle
23 ¹³ / ₁₆	115 or 230 volt, D.C.

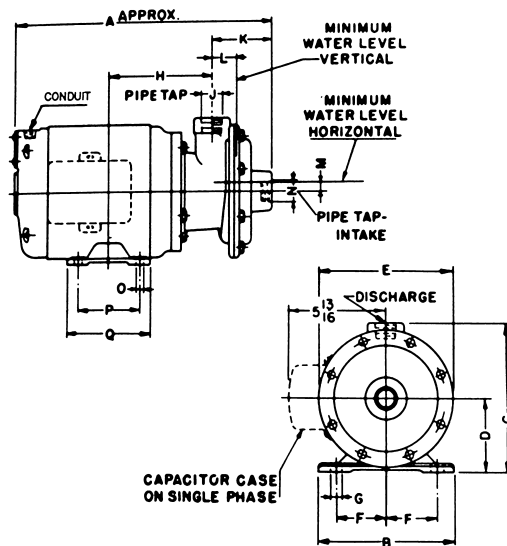


BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

MODELS 220, 225, 240, & 245 OUTSIDE MOUNTED PUMPS

DIMENSIONAL DATA

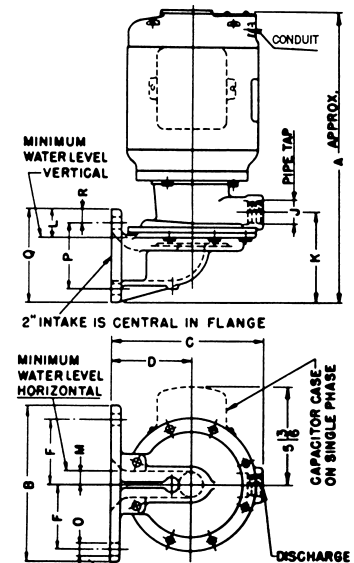
MODELS 220 & 225



MODEL

	220	225	240	245
A	12 ⁵ / ₈	14 ⁵ / ₁₆	14 ³ / ₁₆	15 ¹ / ₂
B	6 ¹ / ₂	8 ¹ / ₂	7 ¹ / ₂	7 ¹ / ₂
C	7	8 ³ / ₈	7 ¹ / ₂	9 ³ / ₄
D	3 ¹ / ₂	4 ¹ / ₈	4	5 ¹ / ₂
E	6 ¹ / ₂	7 ¹ / ₂		
F	2 ⁷ / ₁₆	2 ¹⁵ / ₁₆	3 ¹ / ₈	3 ¹ / ₈
G	1 ⁷ / ₃₂	1 ³¹ / ₃₂		
H	6 ¹ / ₁₆	7 ¹¹ / ₁₆		
J	1	1 ¹ / ₄	1	1 ¹ / ₄
K	2 ¹³ / ₁₆	2 ¹¹ / ₁₆	4 ³ / ₈	4 ⁷ / ₈
L	1 ¹ / ₈	1 ⁵ / ₁₆	1 ¹ / ₄	5 ⁵ / ₈
M	9 ¹ / ₁₆	7 ⁷ / ₈	5 ⁵ / ₈	7 ⁷ / ₈
N	1	1 ¹ / ₂		
O	1 ¹¹ / ₃₂	1 ¹⁵ / ₃₂	9 ¹ / ₁₆	9 ¹ / ₁₆
P	3	5	3 ¹ / ₄	3 ¹ / ₄
Q	4	6 ¹ / ₈	4 ¹ / ₂	4 ¹ / ₂
R			5 ⁵ / ₈	5 ⁵ / ₈

MODELS 240 & 245



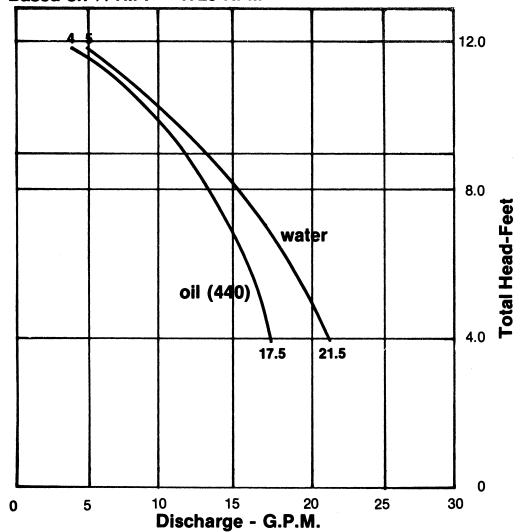
* All voltages 3 phase. 60/50 cycles. For other electrical characteristics, max. overall height (A): Model 220, 14¹/₈"; Model 225, 17¹/₄"; Model 240, 16¹/₄"; Model 245, 18³/₈".

BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

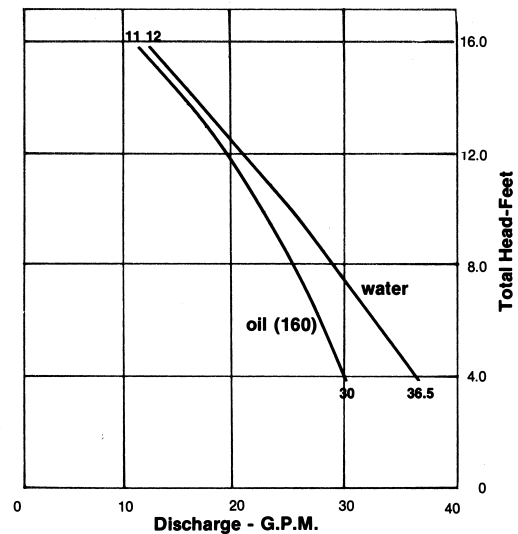
MODELS 205, 206, 207, 208, 212, 220, 225, 240, & 245

OPERATING CHARACTERISTICS

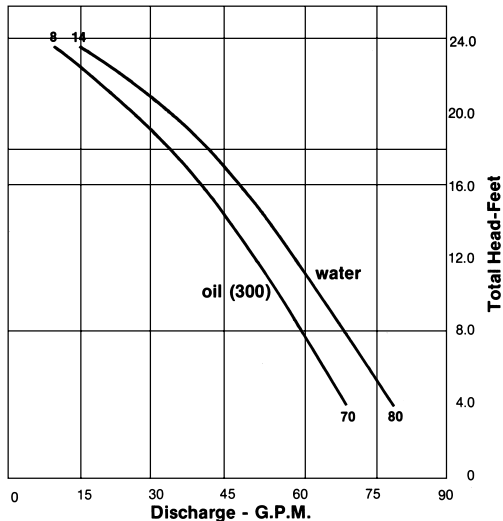
**CHARACTERISTICS OF
NO. 205, 206 AND 207 PUMPS**
Based on ¼ H.P. — 1725 RPM



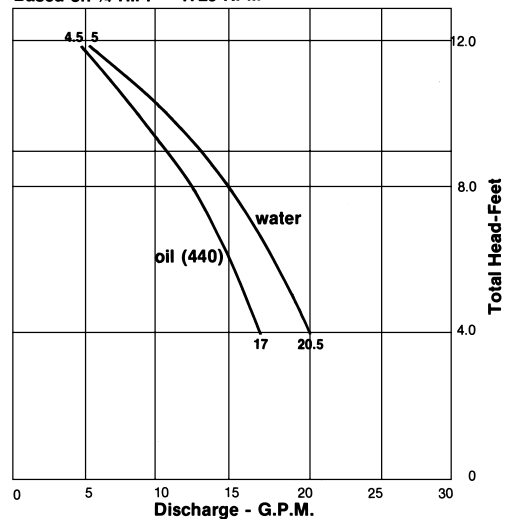
CHARACTERISTICS OF NO. 208 PUMP
Based on ¼ H.P. — 1725 RPM



**CHARACTERISTICS OF
NO. 212, 225, AND 245 PUMPS**
Based on ½ H.P. — 1725 RPM



CHARACTERISTICS OF NO. 220 AND 240 PUMPS
Based on ¼ H.P. — 1725 RPM



BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

MIDGET HI-FLO SERIES

Ideal for general coolant applications for machine tools, light machinery or installation where dirt or abrasives are present. Motor has ample power to handle liquids up to 300 ssu viscosity.



**OUTSIDE
MOUNTED TYPE**

Design Rating: Up to 21 GPM; up to 14 feet of water.

Material: Gray iron casings with steel shaft and bronze or Delrin impeller.

Bearings: Motor bearings are factory lubricated for life. No bearings are required for pump section.

Mounting: Integral flange mounting bracket.

Liquid Viscosities: Units powered to handle maximum viscosity of 300 ssu.

Motors: 1/8 hp, single or three phase, standard voltages.



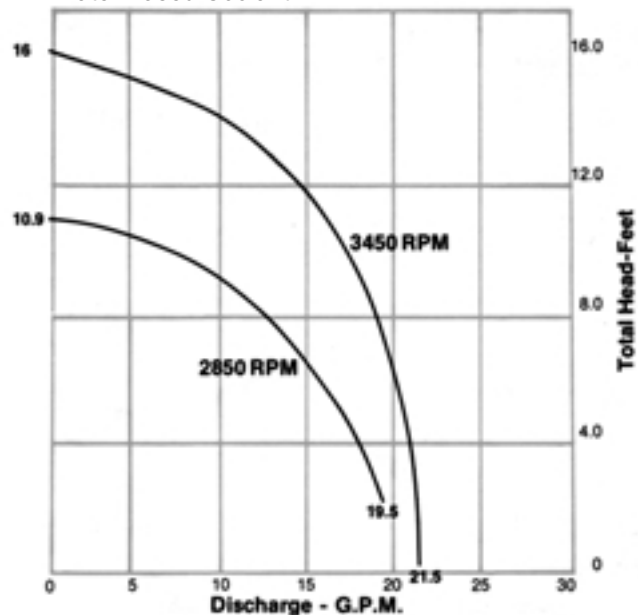
**IMMERSED TYPE
TOP DISCHARGE**



**IMMERSED TYPE
BOTTOM DISCHARGE**

CHARACTERISTICS OF MIDGET HI-FLO PUMPS

Water Based Coolant



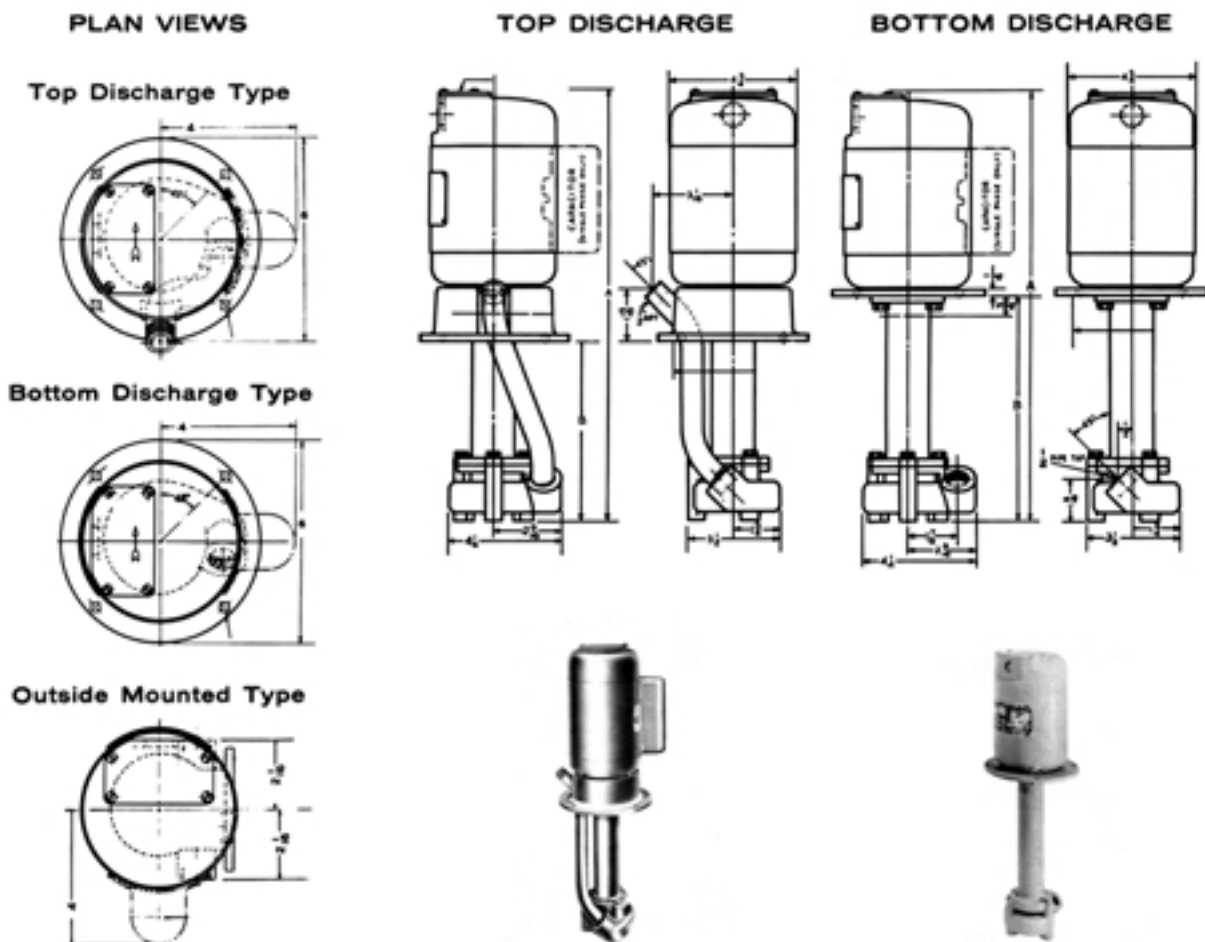
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BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

2500-SERIES

IMMERSED TYPE

(each available in 3 heights)



Electrical Characteristics

H.P.	R.P.M.	VOLTS	PHASE	CYCLE
1/8	3450	115/230	1	60
1/8	3450	208-220	3	60
1/8	2850	380-440	3	50
1/8	3450	550	3	60
1/8	2850		3	50

HEIGHT DIMENSIONS

Model 2515		Model 2518		Model 2519	
A	B	A	B	A	B
5 ³ / ₁₆	4 ³ / ₄	17 ³ / ₁₆	6 ³ / ₄	19 ³ / ₁₆	8 ³ / ₄
4 ³ / ₁₆	4 ³ / ₄	16 ³ / ₁₆	6 ³ / ₄	18 ³ / ₁₆	8 ³ / ₄
4 ³ / ₁₆	4 ³ / ₄	16 ³ / ₁₆	6 ³ / ₄	18 ³ / ₁₆	8 ³ / ₄

HEIGHT DIMENSIONS

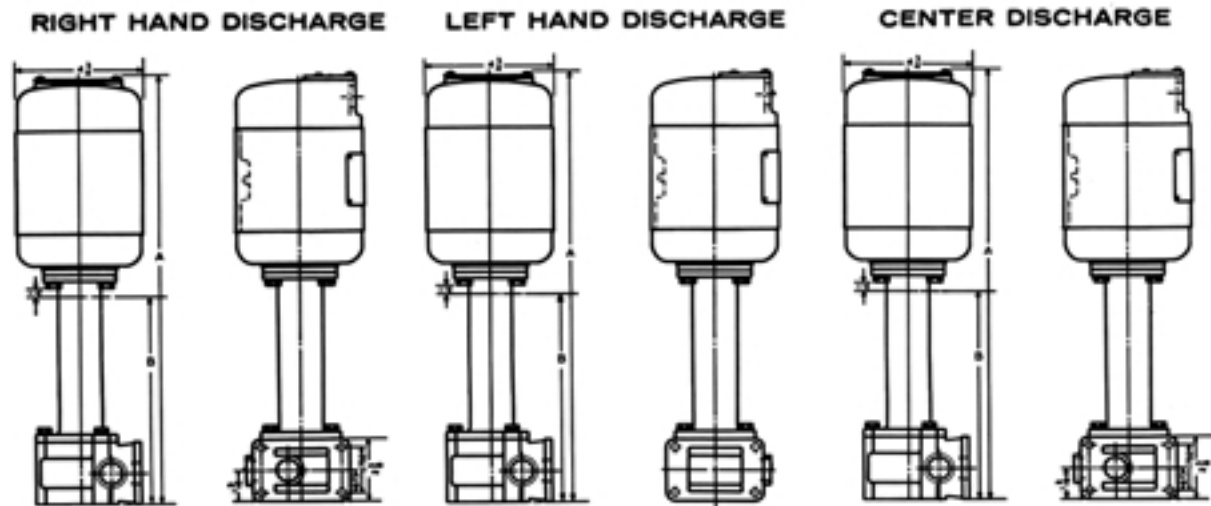
Model 2525		Model 2528		Model 2529	
A	B	A	B	A	B
15 ³ / ₁₆	6 ¹ / ₂	17 ³ / ₁₆	8 ¹ / ₂	19 ³ / ₁₆	10 ¹ / ₂
14 ³ / ₁₆	6 ¹ / ₂	16 ³ / ₁₆	8 ¹ / ₂	18 ³ / ₁₆	10 ¹ / ₂
14 ³ / ₁₆	6 ¹ / ₂	16 ³ / ₁₆	8 ¹ / ₂	18 ³ / ₁₆	10 ¹ / ₂

BSM MOTOR DRIVEN CENTRIFUGAL PUMPS

MIDGET HI-FLO-SERIES

IMMERSED TYPE

(each available in 3 heights)



HEIGHT DIMENSIONS

Model 2535		Model 2538		Model 2539	
A	B	A	B	A	B
15 ⁹ / ₁₆	6	17 ⁹ / ₁₆	8	19 ⁹ / ₁₆	10
14 ⁹ / ₁₆	6	16 ⁹ / ₁₆	8	18 ⁹ / ₁₆	10
14 ⁹ / ₁₆	6	16 ⁹ / ₁₆	8	18 ⁹ / ₁₆	10

HEIGHT DIMENSIONS

Model 2545		Model 2548		Model 2549	
A	B	A	B	A	B
15 ⁹ / ₁₆	6	17 ⁹ / ₁₆	8	19 ⁹ / ₁₆	10
14 ⁹ / ₁₆	6	16 ⁹ / ₁₆	8	18 ⁹ / ₁₆	10
14 ⁹ / ₁₆	6	16 ⁹ / ₁₆	8	18 ⁹ / ₁₆	10

HEIGHT DIMENSIONS

Model 2555		Model 2558		Model 2559	
A	B	A	B	A	B
15 ⁹ / ₁₆	6	17 ⁹ / ₁₆	8	19 ⁹ / ₁₆	10
14 ⁹ / ₁₆	6	16 ⁹ / ₁₆	8	18 ⁹ / ₁₆	10
14 ⁹ / ₁₆	6	16 ⁹ / ₁₆	8	18 ⁹ / ₁₆	10

BSM TANK UNITS

TANK UNITS WITH MIDGET HI-FLO PUMPS

AUXILIARY COMPONENTS OR PRIMARY SOURCE OF LUBRICATION OR HYDRAULIC POWER

Tank and pump units (16 or 32 gallon capacity) are particularly suitable for general purpose coolant supply on machine tools. Rigid welded sheet steel construction, yet lightweight for portability. Two baffles aid in settling chips and sludge.

Midget Hi-Flo Centrifugal Pumps provide adequate volumes of coolant for small and large machines. Pumps are hydraulically balanced and contain no bearings or seals in the liquid area.

Absence of metal-to-metal contact allows for circulation of clean or abrasive laden coolants.



PERFORMANCE DATA

Total Head-Feet		4	7	10	14
Discharge-G.P.M.	3450 R.P.M.	21	20	17.5	10
(Soluble Coolant)	2850 R.P.M.	18	14.5	7	....

Pumps powered to handle 300 SSU viscosity oil.

Electrical Characteristics

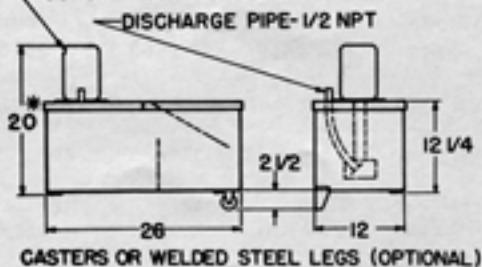
H.P.	R.P.M.	VOLTS	PHASE	CYCLE	ORDERING NO., 16 GAL.	ORDERING NO., 32 GAL.
1/2	3450	115/230	1	60	713-9016-3	713-9032-3
1/2	<u>3450</u> 2850	<u>208-220</u> 380-440	3	<u>60</u> 50	713-9016-8	713-9032-8
1/2	<u>3450</u> 2850	550	3	<u>60</u> 50	713-9016-30	713-9032-30

Available with lugs, standard.
For unit with swivel casters, add (-1) to ordering number.
For unit with welded steel legs, add (-2) to ordering number.

DIMENSIONAL DATA

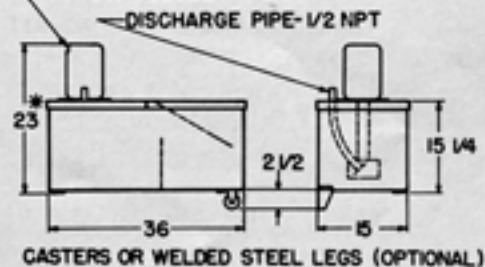
16 Gallon Unit

* FOR SINGLE PHASE O.A. HEIGHT ADD 1 INCH
CONDUIT OUTLET- 1/2 NPT
DISCHARGE PIPE- 1/2 NPT



32 Gallon Unit

* FOR SINGLE PHASE O.A. HEIGHT ADD 1 INCH
CONDUIT OUTLET- 1/2 NPT
DISCHARGE PIPE- 1/2 NPT



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