

BULLETIN 55B2

CECO Fybroc

FYBROC® SERIES 5530 VERTICAL PUMPS DRY PIT

FIBERGLASS CONSTRUCTION
FOR CORROSIVE
APPLICATIONS



Fybroc – the world leader in corrosion resistant fiberglass pumps

Fybroc, the world's first manufacturer of fiberglass reinforced centrifugal pumps, has led the way in the design and engineering of the industry's most technically advanced pumps for handling corrosives and other difficult liquids.

Fybroc continues to lead the pump industry through innovation, product improvement, and advanced technology. Each Fybroc product line is the culmination of years of experience in producing the highest quality corrosion resistant pumps available.

Fybroc Series 5530

The Series 5530 Vertical pump is the product of Fybroc's extensive engineering experience and knowledge of specialized production techniques. The result is a corrosion-resistant, structurally superior, highly dependable pump suitable for the most difficult dry pit applications.

Fybroc has given special attention to critical design details that ensure the ultimate in operating life, ease of maintenance, and dependability in a dry pit pump. The innovative design of the Series 5530 pump makes it a perfect choice for handling tough applications such as chemical wastes of varying pH, plating wastes, circulation of pickling liquor, electrolytes or plating baths, salt water or brine, and hundreds of other difficult services.

Materials of construction

Fybroc offers a number of different materials, each was developed to solve a variety of tough corrosive and/or abrasive pumping problems. Fybroc's standard vinyl ester resin, VR-1, handles the vast majority of corrosive applications. This premium-quality resin offers broad corrosion resistance to most acids, caustics, bleaches, sea water, brine, and other liquids. For solvent based chemicals, Fybroc offers a high quality epoxy resin, EY-2.*

Fybroc also offers an abrasion-resistant material, VR-1A, for handling liquids containing highly abrasive solids such as fly ash, diatomaceous earth or titanium dioxide.

The pump shaft is FRP wrapped 303 stainless steel. All external hardware is 303 stainless steel.

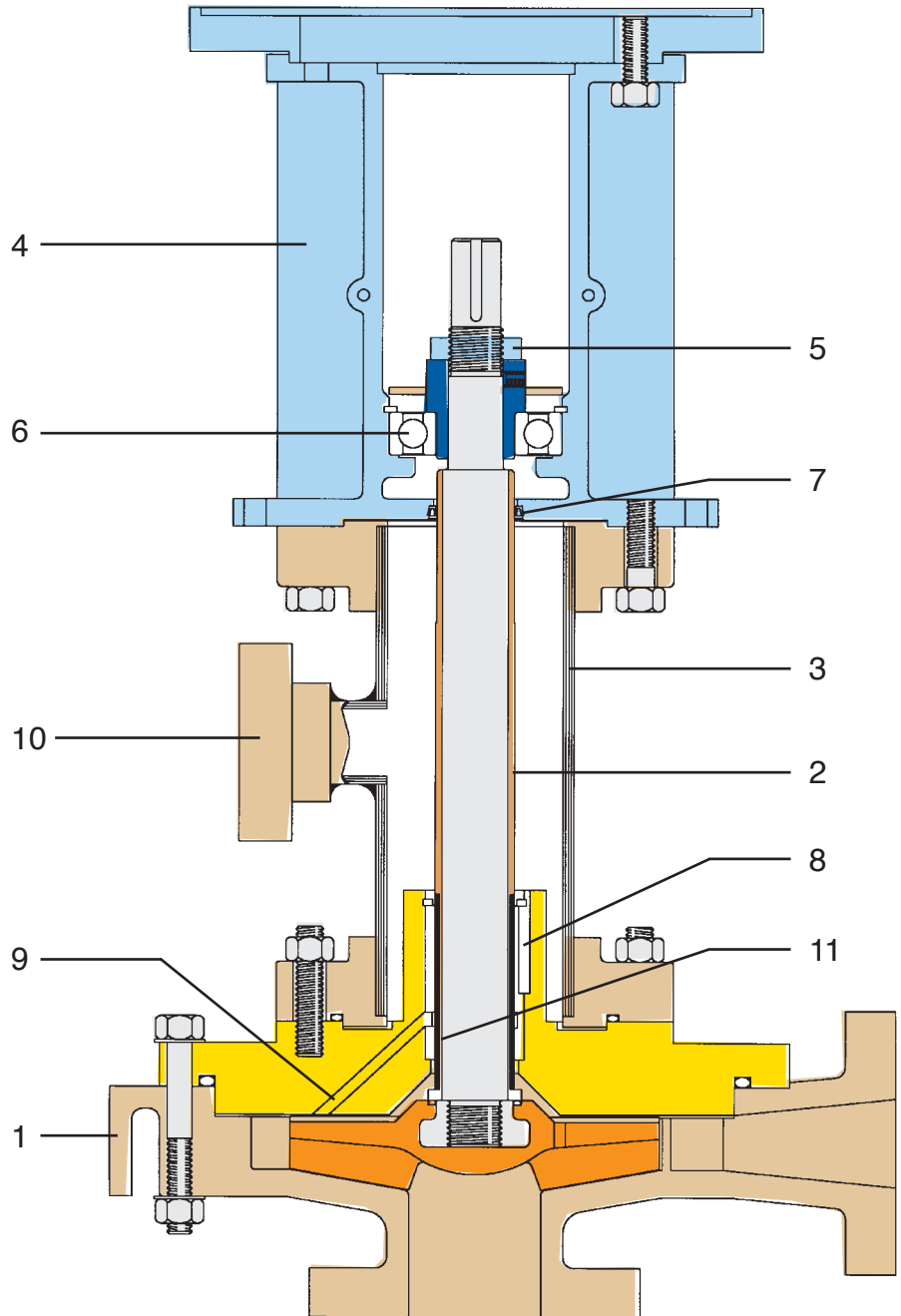
* Z-Core™



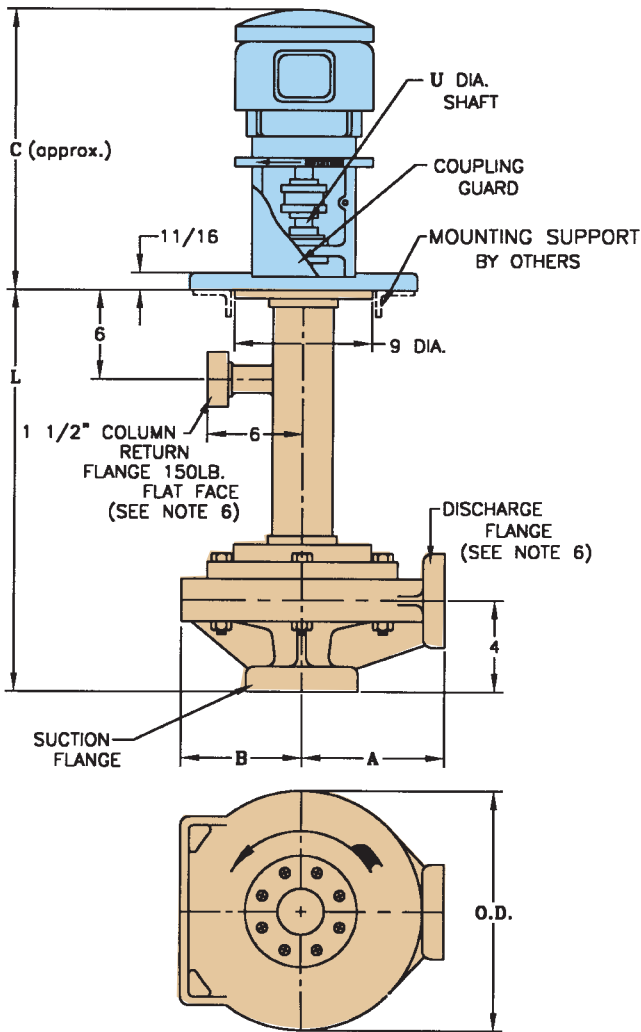
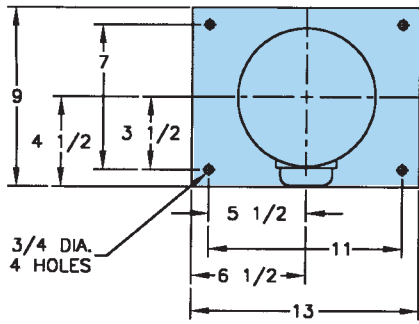
Design features of the Series 5530

The Fybroc Series 5300 Vertical pump has been designed to yield exceptional structural integrity, excellent corrosion resistance and dependable service in the most difficult chemical or waste sump environments. The unique features described on these pages provide the ultimate in operating life and ease of maintenance.

1. **FIBERGLASS CONSTRUCTION** for all wetted parts except lower bearing journal in either vinyl ester or epoxy resins provides tough corrosion resistance for a wide range of difficult liquids.
2. **FRP WRAPPED SHAFT** for improved corrosion resistance. The base shaft material and all external hardware are 303 stainless steel.
3. **LARGE DIAMETER COLUMN** stiffens the pump assembly to extend bearing life.
4. **HEAVY-DUTY BEARING PEDESTAL** is of cast iron construction to rigidly support the pump column, thrust bearing and motor, and is epoxy coated for external corrosion resistance.
5. **EXTERNAL IMPELLER ADJUSTMENT** allows field setting of impeller to-casing operating clearance without dismantling pump.
6. **THRUST BEARING** is easily replaceable and carries the entire axial thrust load from pump impeller, allowing use of flexible couplings and standard, "off-the-shelf" motors.
7. **VAPOR SEAL** protects thrust bearing from corrosive sump vapors. Optional gas seal can hold pressures to two feet of water column.
8. **LOWER PUMP BEARING**, extra-long to reduce unit surface loading, is grooved PPS and is secured in the cover by a key and snap ring.
9. **PUMP COVER** is drilled for flush liquid supply to the lower bearing. A fully confined Viton O-ring seals the cover to the casing.
10. **COLUMN FLUSH RETURN** for overflow to tank.
11. **LOWER BEARING JOURNAL**, Hastelloy C integral with FRP shaft.



Pump dimensions for the Series 5530



Setting No.	L
1	18
2	36

Pump Size	Suct.	Disch.	A	B	O. D.
1 x 1-1/2 x 6	1-1/2	1	6-1/2	5-1/4	10-1/8
1-1/2 x 3 x 6	3	1-1/2	6-1/2	5-1/4	10-1/8
2 x 3 x 6	3	2	6-1/2	5-1/4	10-1/8
1 x 1-1/2 x 8	1-1/2	1	6-1/2	5-1/4	10-1/8
1-1/2 x 3 x 8	3	1-1/2	8-1/2	8-1/4	14-1/4
2 x 3 x 8	3	2	9-1/2	8-1/4	14-1/4
3 x 4 x 8	4	3	11	8-1/4	14-1/4
1 x 2 x 10	2	1	8-1/2	8-1/4	14-1/4
1-1/2 x 3 x 10	3	1-1/2	8-1/2	8-1/4	14-1/4
2 x 3 x 10	3	2	9-1/2	8-1/4	17-1/4
3 x 4 x 10	4	3	11	8-1/4	17-1/4
4 x 4 x 10	4 (1)	4	12-1/2	8-1/4	17-1/4
4 x 6 x 10	6 (1)	4	13-1/2	10	22-1/4
2 x 3 x 13	3	2	11-1/2	10	20-1/2
3 x 4 x 13	4	3	12-1/2	10	20-1/2
4 x 6 x 13	6 (1)	4	13-1/2	10	22-1/4

Flange	O. D.	Thick.	B. C.	# of holes	Size of holes
1	4-1/4	7/8	3-1/8	4	5/8
1-1/2	5	1-1/8	3-7/8	4	5/8
2	6	1-1/8	4-3/4	4	3/4
3	7-1/2	1-3/16	6	4	3/4
4	9	1-1/4	7-1/2	8	3/4
4 (1)	9	(1)	7-1/2	8	(2)
6 (1)	11	(1)	9-1/2	8	(3)

Motor Frame	C
143TC/145TC	22
182TC/184TC	26-1/4
213TC/215TC	30
254TC/256TC	33-3/8
284TC/286TC	35-1/4
324TSC/326TSC	39

NOTES:

- (1) Threaded suction connections
- (2) 5/8-11 tapped holes 1" deep
- (3) 3/4-10 tapped holes 1" deep
- (4) All dimensions are in inches
- (5) Rotation is counterclockwise facing suction flange
- (6) Flanges can be oriented in increments of 45°

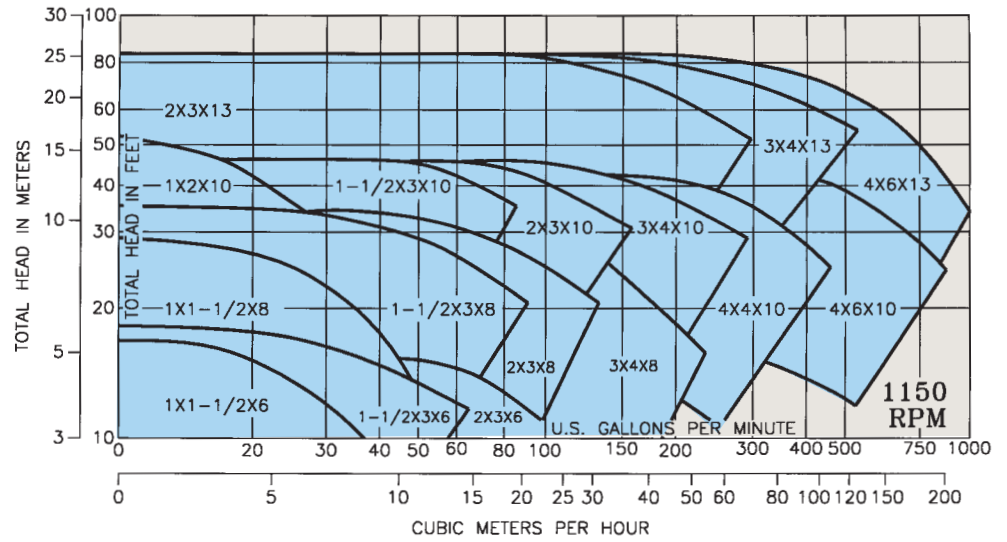
The drawing above is not to be used for construction purposes.

Engineering Information for the Series 5530

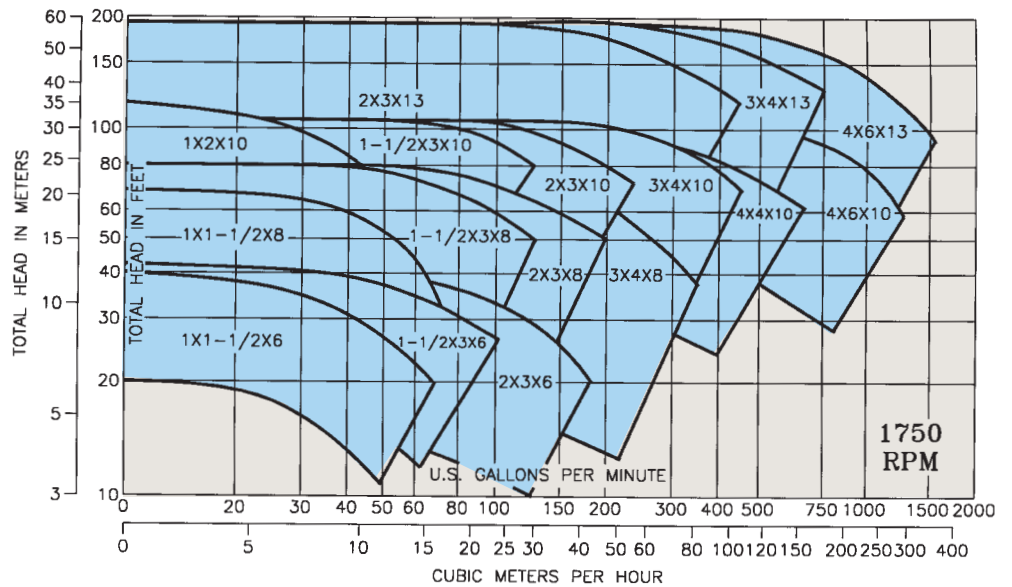
Pump Size		1 x 1-1/2 x 6	1-1/2 x 3 x 6	2 x 3 x 6	1 x 1-1/2 x 8	1-1/2 x 3 x 8	2 x 3 x 8	3 x 4 x 8	1 x 2 x 10	1-1/2 x 3 x 10	2 x 3 x 10	3 x 4 x 10	4 x 4 x 10	4 x 6 x 10	2 x 3 x 13	3 x 4 x 13	4 x 6 x 13	
Pump Data	Suction Size	1-1/2	3		1-1/2	3		4	2	3		4		6	3	4	6	
	Discharge Flange	1	1-1/2	2	1	1-1/2	2	3	1	1-1/2	2	3	4		2	3	4	
	Maximum Impeller Diameter	6-1/4		6	7-1/2	8-3/8		8	10	9-3/4	10		9-1/2	10-3/4	13			
	Maximum Sphere/Impeller	3/8	1/2		5/16		5/8	1	3/16	3/8		5/8	3/4	1	5/16	1/2	1	
	Flush Return	1-1/2																
Casing Data	Impeller	Front	.015			.020			.025									
	Clearance	Back	.045			.040			.035									
	Casing Thickness (Min.)	.50				.75	.62		.75		.62		1.12		.75		1.25	
	Volute	Single						Double	Single	Double				Single	Double			
Shaft and Bearing Data	Diameter at Impeller	.750				1.250												
	Diameter at Sleeve Bearings	1.281				1.812												
	Diameter at Coupling	.875				1.125												
	Thrust Bearing No.	307SZZ				309SZZ												
	1st Critical Speed	5050 RPM				7560 RPM												
	Shaft HP/100 RPM	.9				2.3												

Series 5530 hydraulic coverage

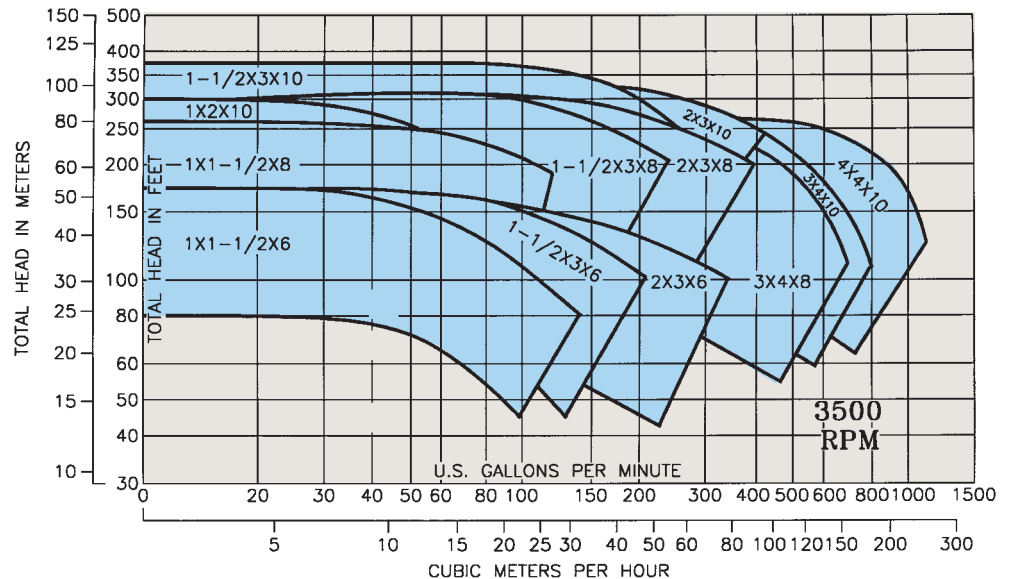
1150 RPM
60 HERTZ



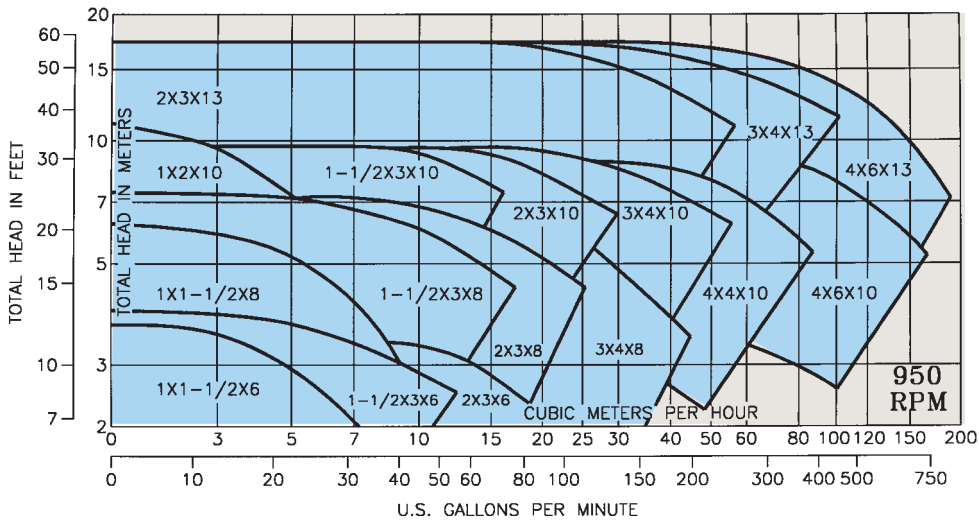
1750 RPM
60 HERTZ



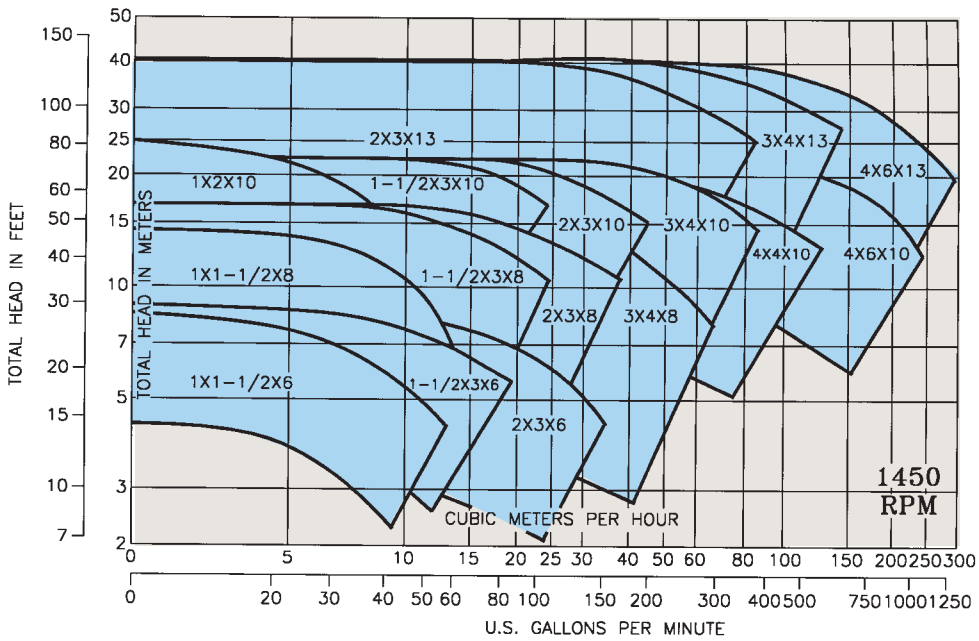
3500 RPM
60 HERTZ



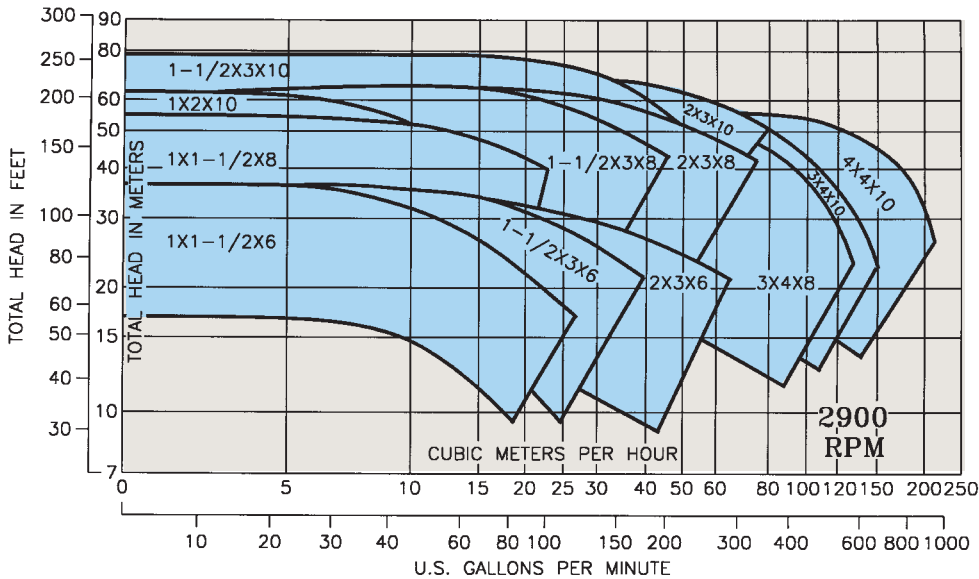
950 RPM
50 HERTZ



1450 RPM
50 HERTZ



2900 RPM
50 HERTZ





ASSOCIATION
OF ZOOS &
AQUARIUMS



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