Centrifugal Pump Model TF-C Series

Stainless Steel Flow Control Equipment for the

Food, Beverage, Dairy, Cosmetics, Biotechnology,

Pharmaceutical and Electronics Processing Industries

www.Baldeweinco.com

ToP-Flo ®

The centrifugal pump for the process industry.

Contents

Introduction

The ToP-Flo ® name represents the finest in sanitary process equipment. ToP-Flo ® pumps have been designed to offer efficient transfer of product over a wide range of head and viscosity conditions. ToP-Flo ® pumps are easy to install, clean, and operate.

This catalog will answer many of the questions you may have regarding ToP-Flo ® pumps. If you require additional information, a representative will be happy to assist you. A representative can be reached at 1-800-424-5544.

ToP-Flo ® pumps are suitable for use in CIP (clean in place) installations. This feature enables easy self-cleaning with no dismantling or take-down. Sanitizing of all product contact areas is automatic.

All ToP-Flo ® pumps are available in standard inlet sizes and outlet sizes. In addition, enlarged inlet sizes are available for special applications.

Pump Ordering Information

Determining the model number of your pump is easy as 1-2-3-4.

TF-c 216 m D

1 2 3 4

1 pump series

TF-c close coupled

2 casing size

casing size

2 12 8

inlet size 2" Outlet size 1/2" maximum impeller Dia. 8"

note:

- TF-C Series furnished complete with legs unless otherwise specified on order.
- Casing Gaskets: BUNA - is standard. If other type is required, specify on order.
- Enlarged inlet: When ordering pump with enlarged inlet state inlet size, i.e., TF-C218MD with 3" inlet.

3 pOrT cOnnecTiOns

m - clamp

T - Acme Bevel Seat Thread

s - npT Female Thread

F - Flanged

W - Weld

Type OF seal/sTanDarD maTe-

4 D - External balanced sanitary seal

DG - External balanced sanitary seal w/clamped insert

E - Water cooled balanced double seal

F - External balanced seal w/cascading water

Motor Data is not included as part of 4-step ordering number.

Provide the following information:

- Horsepower and RPM
- Electrical phase and voltage
- (Leeson washdown is standard)

if motor is furnished from another so urce, supply the following:

- Horsepower
- RPM
- NEMA frame size

remember to order needed accessories:

- Check Valve
- Seal Kits and Parts
- Gaskets
- Clamps
- Hangers
- Butterfly Valves
- Ball Valves

"tf-c" series

Model No. tf-c114 tf-c216 tf-c218 tf-c328
inlet 1-1/2" or 2" 2" or 2-1/2" 2" or 3" 3" or 4"
Outlet 1-1/2" 1-1/2" 1-1/2" 2"
Max. imp. 4" 6" 8" 8"

puMp specificatiONs seal specificatiONs

Pump Casings:
• Volute type - Standard.
• Inlet-oversizing as noted in chart above.

Pump Connections:
saniTary: inDusTrial:
• Clamp • Threaded
• Bevel Seat (ACME) • Flanged

Pump Construction Materials:
• All wetted parts - 316 SS.
• Seals - Carbon (other seals available)
• Casing Gasket - BUNA-N (Standard)
• Viton & Teflon are available.

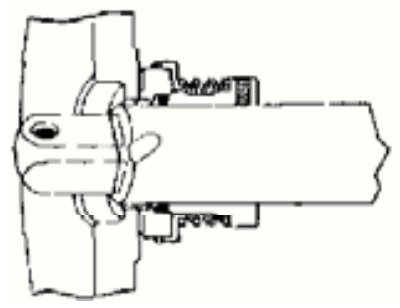
Pump Finishes:
• Polished or Electropolished

Pump Seals:
• Available in D, E, and F styles

Motor, Electrical:
• 3 Phase - 230/460 volts - 1750 & 3500 rpm.
• Single Phase - 115/230 volts - 1750 & 3500 rpm.

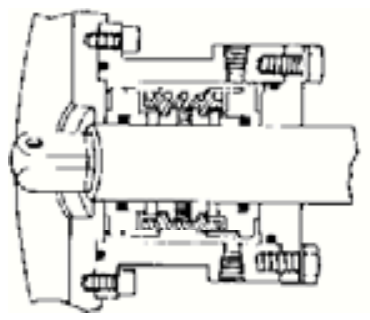
Motor Housings:
• TEFC (Totally Enclosed Fan Cooled)
• Easy Clean
• Other styles available on request

TYPE D
External
Balanced
Seal
(Sanitary)



This versatile seal has numerous applications but yet is extremely durable. Dairy products, soft vegetables, bev - erages and even acid cleaning solutions and detergents are among the recommended uses.

TYPE E
Water Cooled
Balanced
Double Seal
(Sanitary)



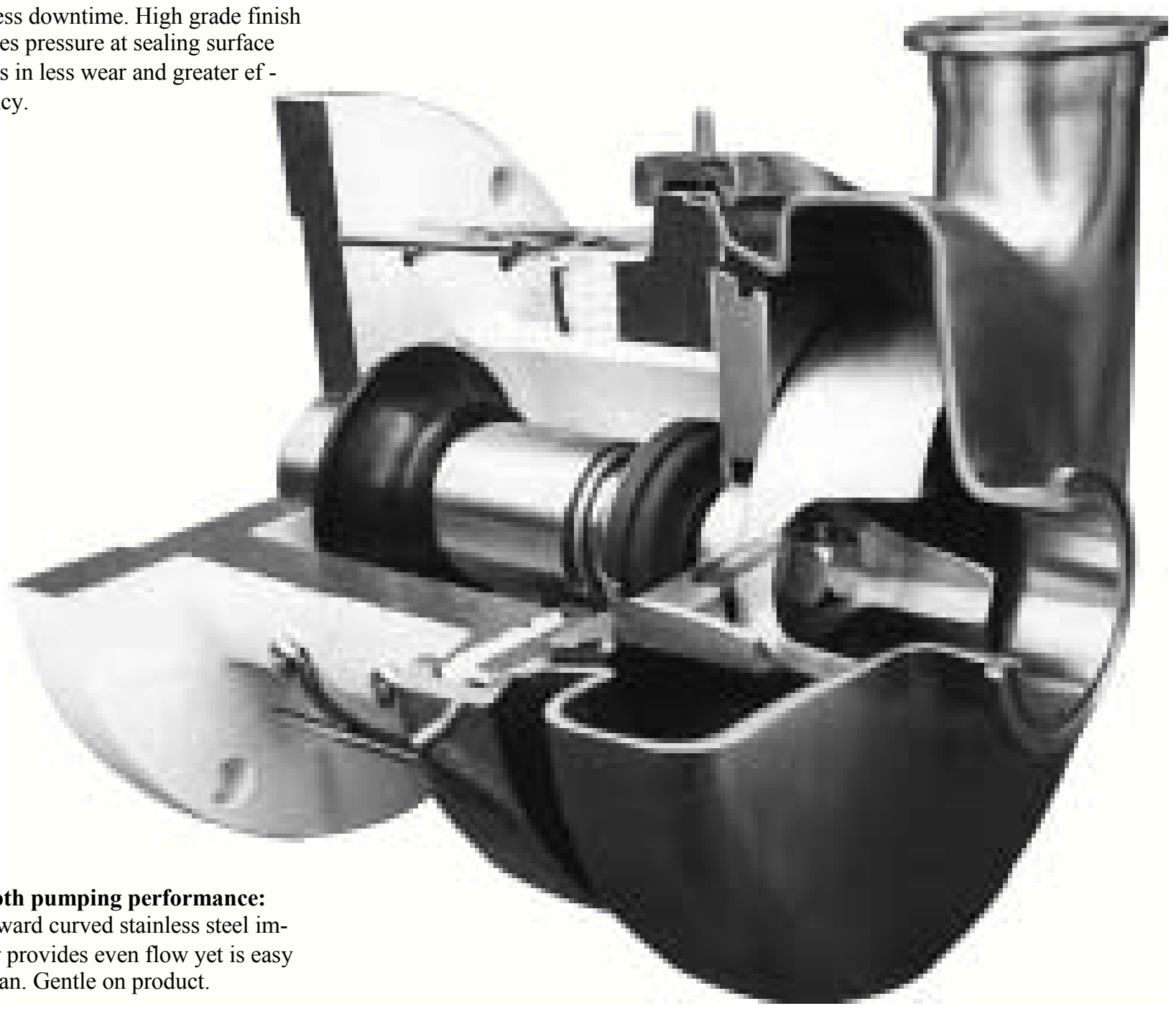
Type E is designed to withstand heavy duty vacuum ap - plications (to 28" Hg), tacky products, slurries, or pumped products which may exceed 212°F. The seal chamber can be pressurized to permit use of drain piping for coolants and sealants.

TYPE F – (Sanitary)
Seal same as Type D seal except includes a water cas- cade (not shown).
All sanitary seals meet 3A accepted practices.

TOP-FLO® pumps are top performers using numerous features

Type F seal: Water cascade attachment is recommended for pumping tacky or hot products up to 212° F, and for vacuum applications to 14" Hg.

Superior seal: Provides a longer life and less downtime. High grade finish reduces pressure at sealing surface results in less wear and greater ef - ficiency.



Smooth pumping performance: Backward curved stainless steel impeller provides even flow yet is easy to clean. Gentle on product.

No disassembly for cleaning: Unique groove-in-shaft design directs sanitizer to all critical areas. A must for clean-in-place applications.

Casing: Finely polished casing suitable to meet numerous re- quirements. Casing available in a wide selection of port connections to meet a variety of piping systems.

TOP-FLO® Pump Sizing Application Data

Use of a Pump Curve Chart

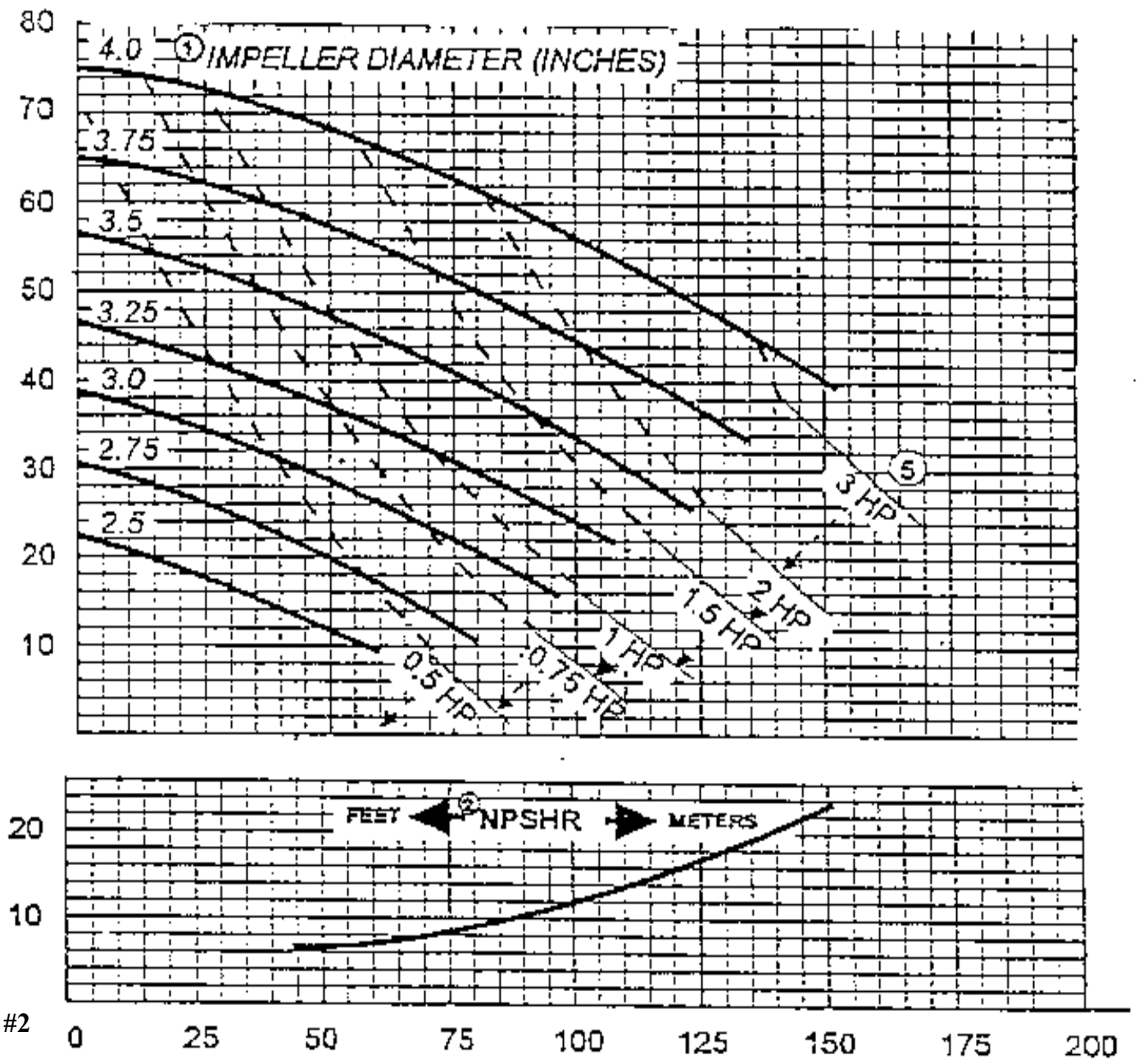
The curve chart is the best resource to use when selecting the proper impeller and motor for applications in the Food, Dairy, Beverage, Pharmaceutical and Cosmetic industries. The curve chart enables the user to determine how a pump will perform at different impeller sizes and motor speeds.

Operating at 1750 RPM and 3500 RPM, curves have been listed for the TOP-FLO® TF-C114, TF-C216, TF-C218 and TF-C328 centrifugal pumps on the following pages. An instructional chart is listed below.

Note: Column #1 on the left shows Head in Feet.
Column #2 at the bottom shows Gallons Per Minute.
Impeller sizes are listed on curve line
Motor horsepower listed on diagonal serrated lines.
NPSH required is #3 and listed at the bottom of chart

Example: On the curve listed below, find the impeller size and horsepower of motor for 75 GPM against total head pressure of 40 feet.

Column #1



Column #2

U.S. gALLONS PEr MINUTE

Answer to example:

1. To determine duty point: Find first the 35 feet of head in column #1. Second, find the 75 gallon per minute in column #2. Then, trace the 35 feet of head mark to the right until it intersects the 75 gpm line.
2. To determine impeller diameter. The duty point falls between the 3.25 and 3.5 impeller curve lines. Always choose the curve line above the duty point. In this case it would be 3.5 inches.
3. To determine NPSHR (Net Positive Suction Head Required): Use the NPSHR graph and plot the intersection point of 75 GPM. Follow horizontally to the left. it reads 9 feet. (This will be Net Positive Suction Head Required.)
4. You will see at this point a 3.25 impeller and a 1-1/2 horsepower motor is required.

Note: NPSHA (Net Positive Suction Available) must be > or = NPSHR (Net Positive Suction Head Required).

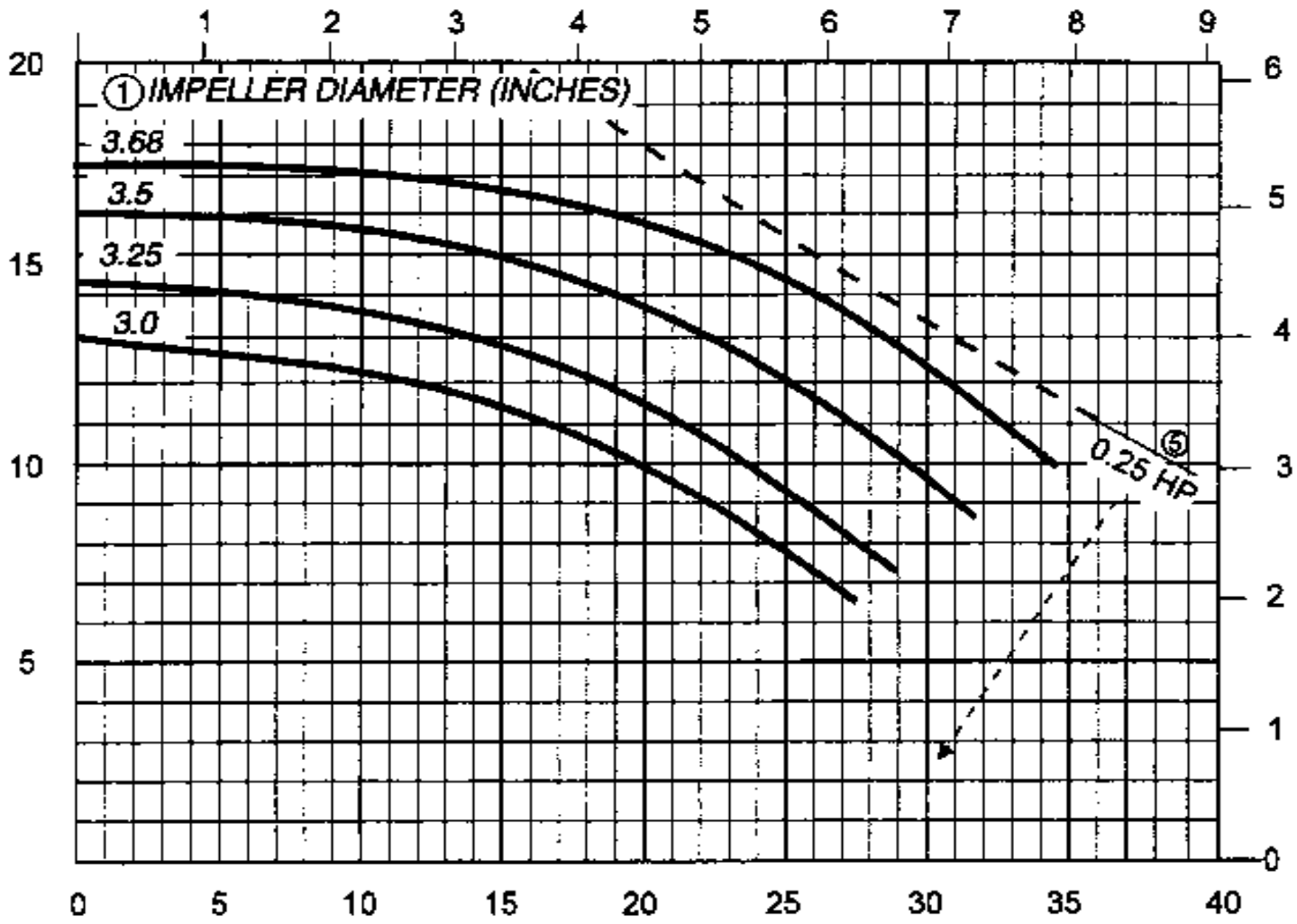
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

Model: C100
60 Hz 1750 rPM
Size: 1-1/2 x 1 x 3-11/16

CUBIC METErS PEr HOUr



US gALLONS PEr MINUTE

4

NOTES:

1 Impeller diameters available in 1/16-inch increments

2 psi = Head in Feet X Specific Gravity
2.3

3 Kg/cm 2 = Head in Meters X Specific Gravity
10

4 HP x 0.746 = Kw

7

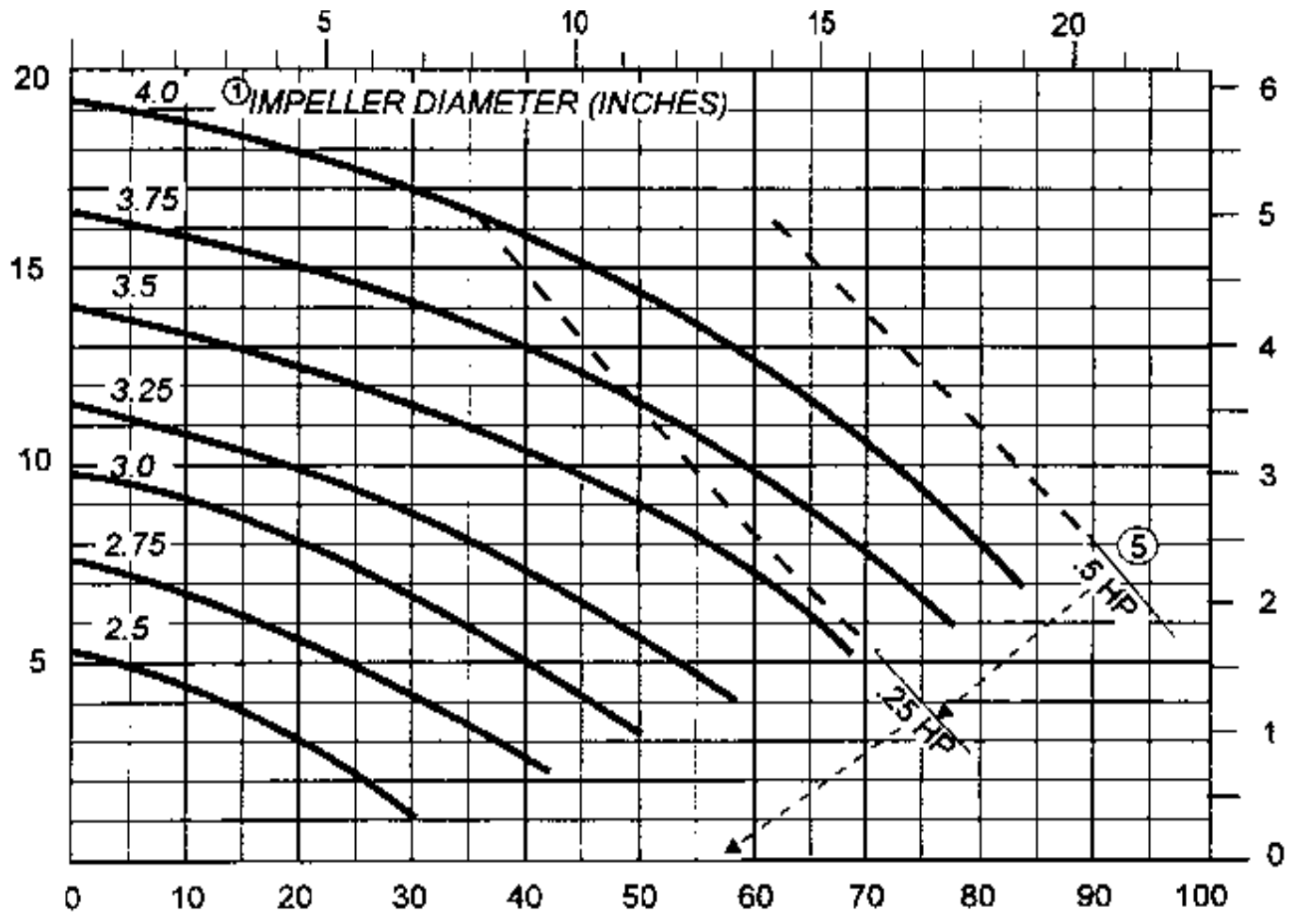
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

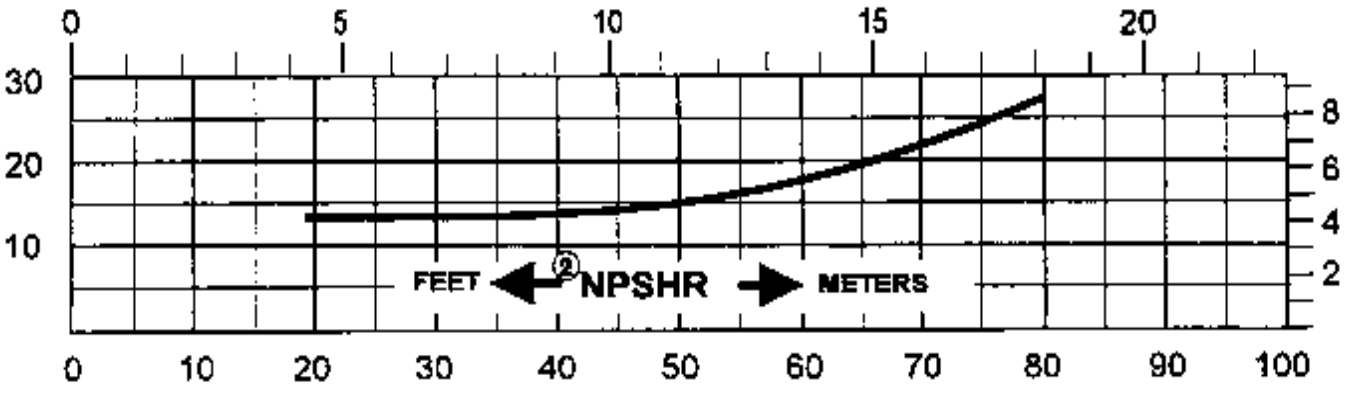
Model: C114
60 Hz 1750 rPM
Size: 1-1/2 x 1-1/2 x 4

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



US GALLONS PER MINUTE

NOTES:

1 Impeller diameters available in 1/4-inch increments

2 NPSHR is shown for maximum impeller diameter

3 psi = Head in Feet X Specific Gravity / 2.3

4 Kg/cm^2 = Head in Meters X Specific Gravity / 10

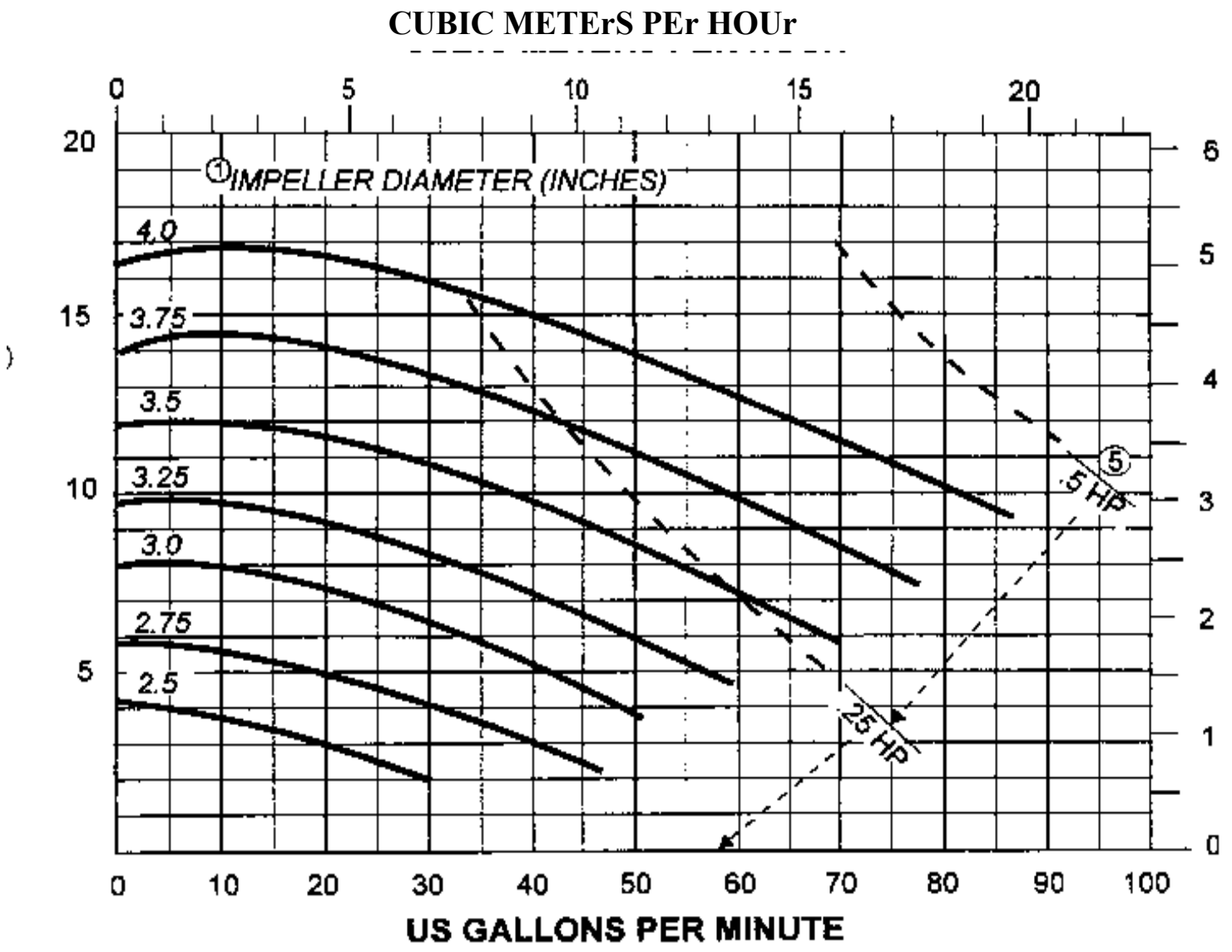
5 HP x 0.746 = Kw

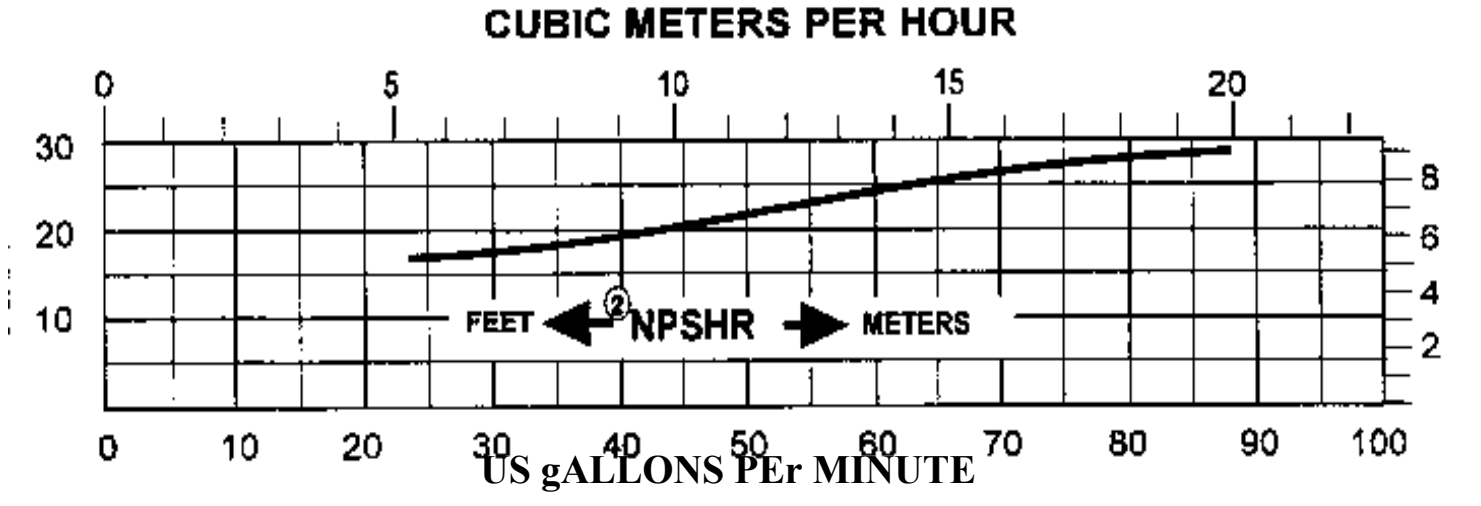
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

Model: C114
60 Hz 1750 rPM
Size: 2 x 1-1/2 x 4





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10

5 HP x 0.746 = Kw

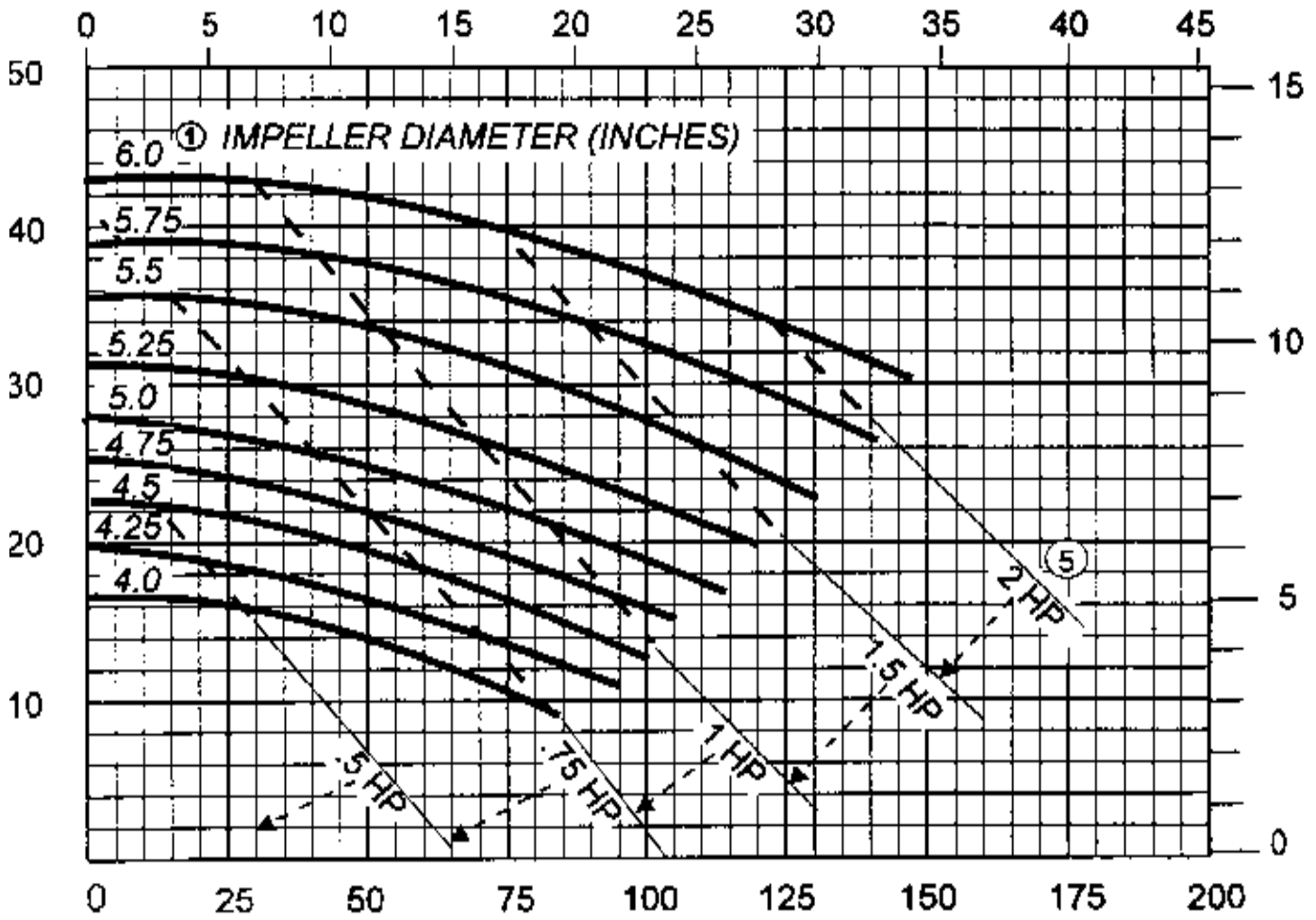
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

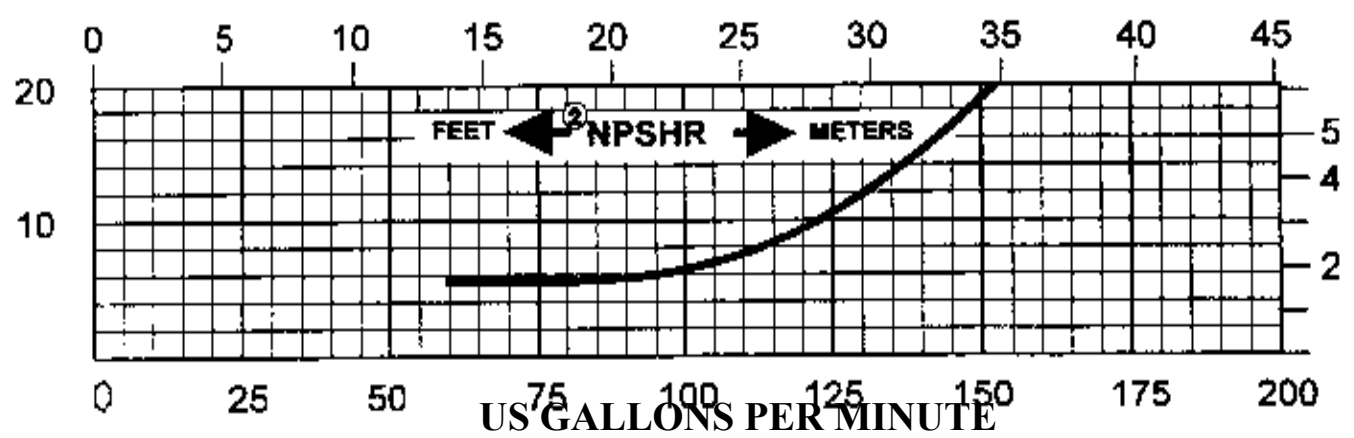
Model: C216
60 Hz 1750 rPM
Size: 2 x 1-1/2 x 6

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



US GALLONS PER MINUTE

NOTES:

1. Impeller diameters available in 1/4-inch increments
2. NPSHR is shown for maximum impeller diameter
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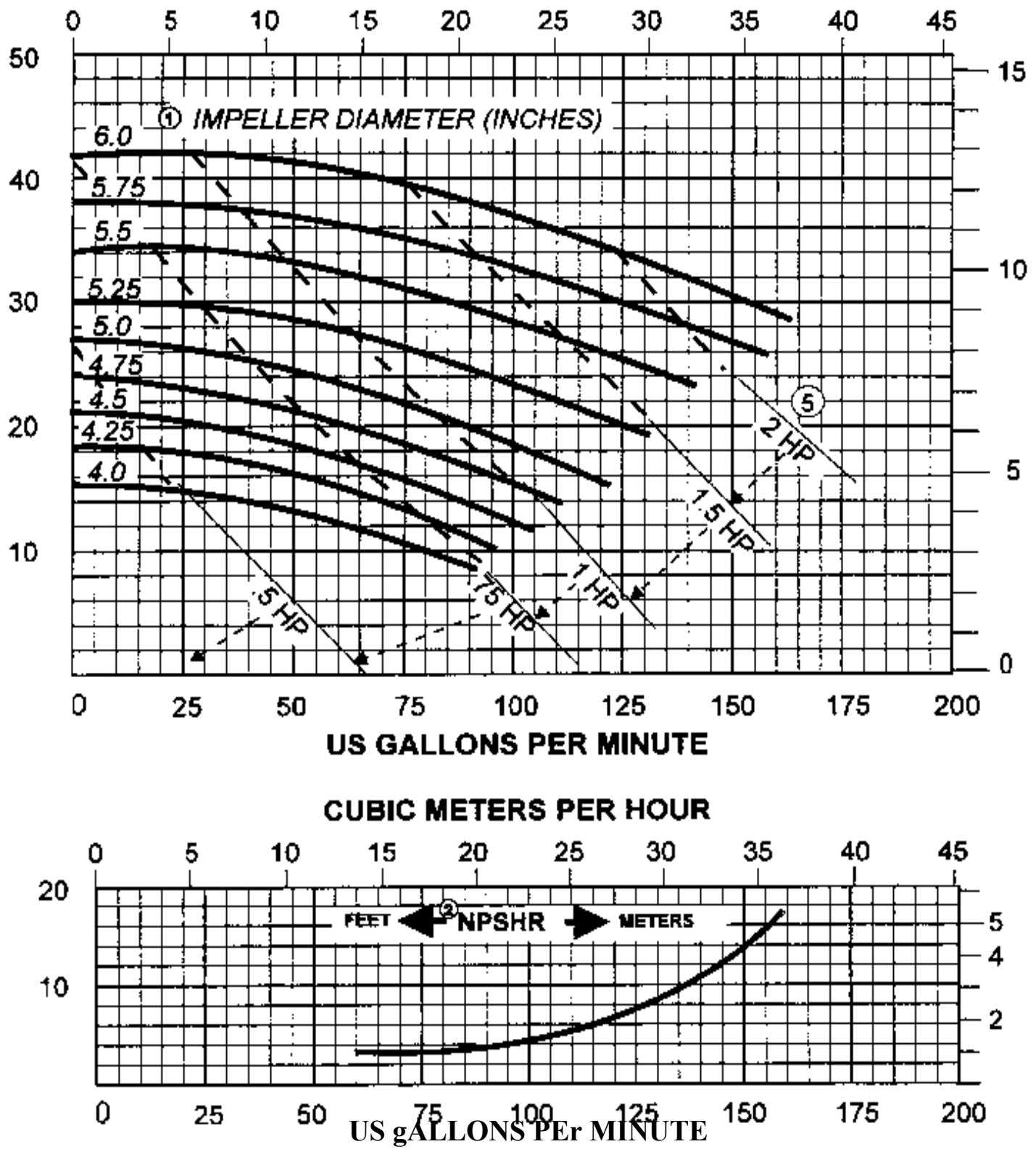
4. Kg/cm^2 = Head in Meters X Specific Gravity / 10
5. HP x 0.746 = Kw

TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

Model: C216
60 Hz 1750 rPM
Size: 2-1/2 x 1-1/2 x 6



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2.3

4 Kg/cm_2 = Head in Meters X Specific Gravity
10

5 HP x 0.746 = Kw

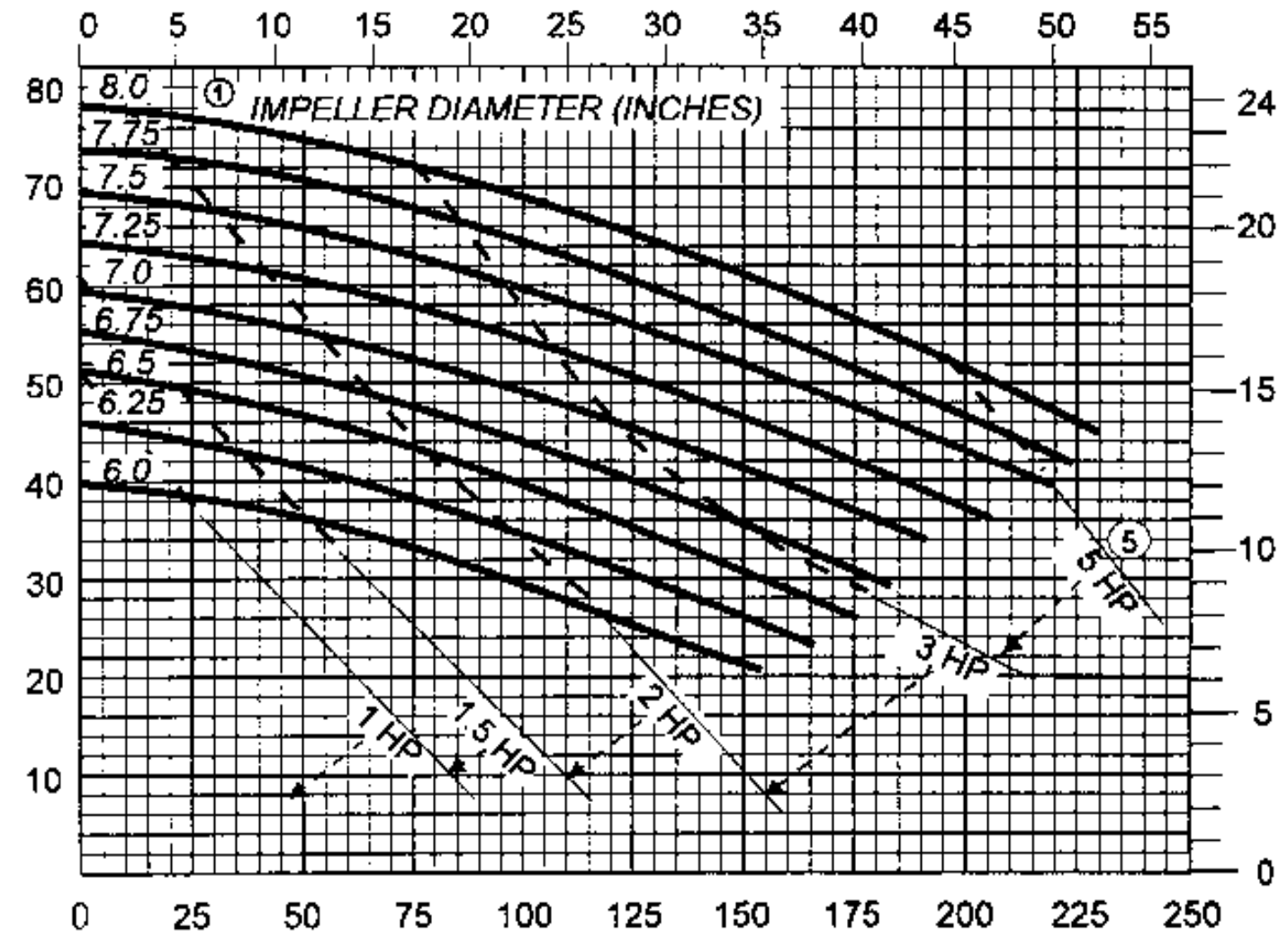
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

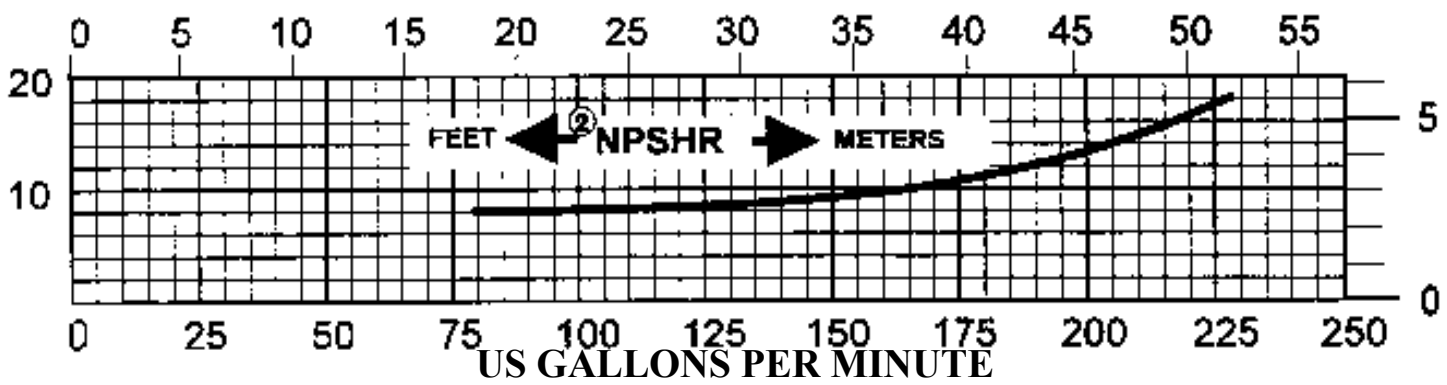
Model: C218
60 Hz 1750 rPM
Size: 2 x 1-1/2 x 8

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



US GALLONS PER MINUTE

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4. Kg/cm^2 = Head in Meters X Specific Gravity / 10
5. HP x 0.746 = Kw

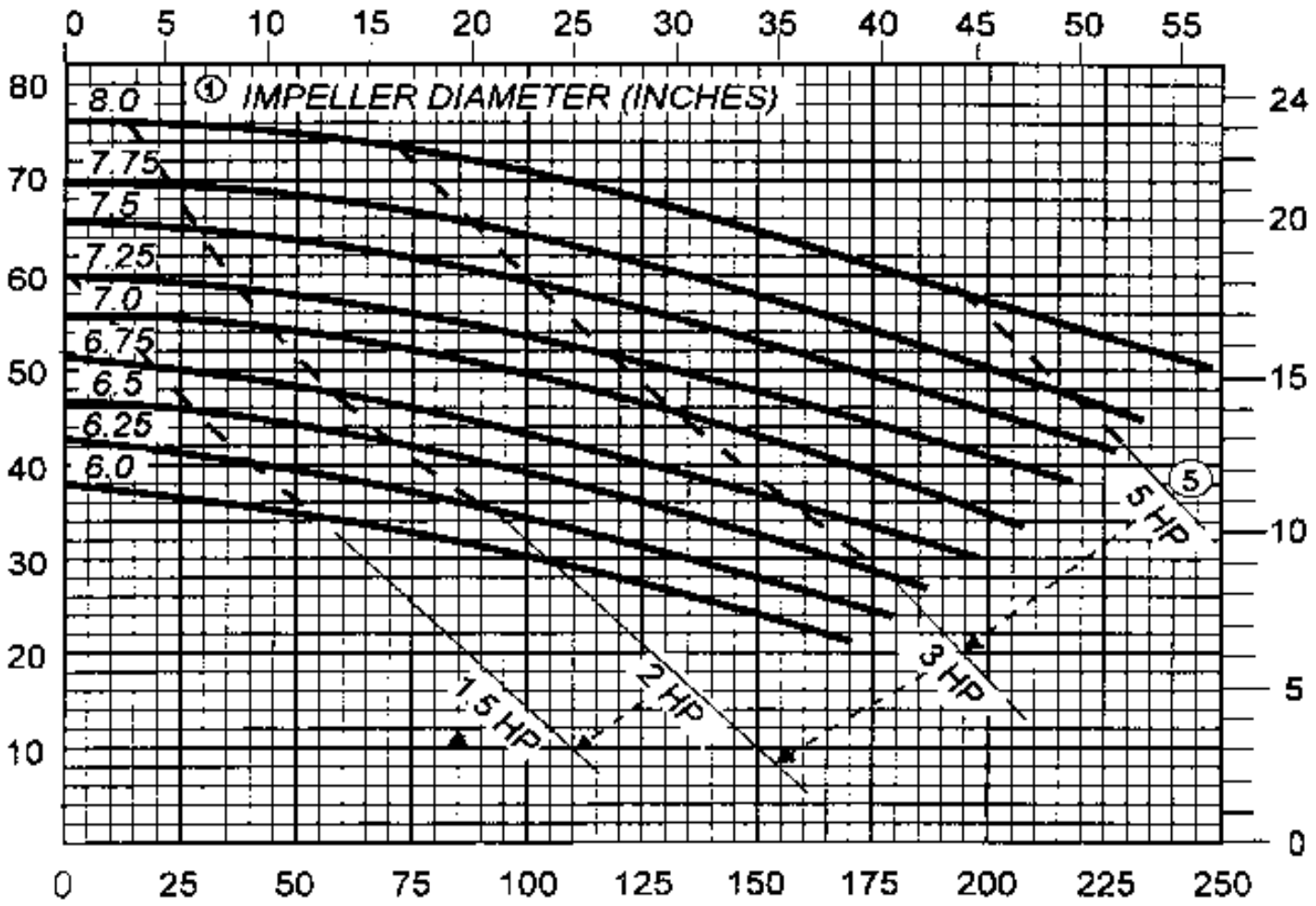
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

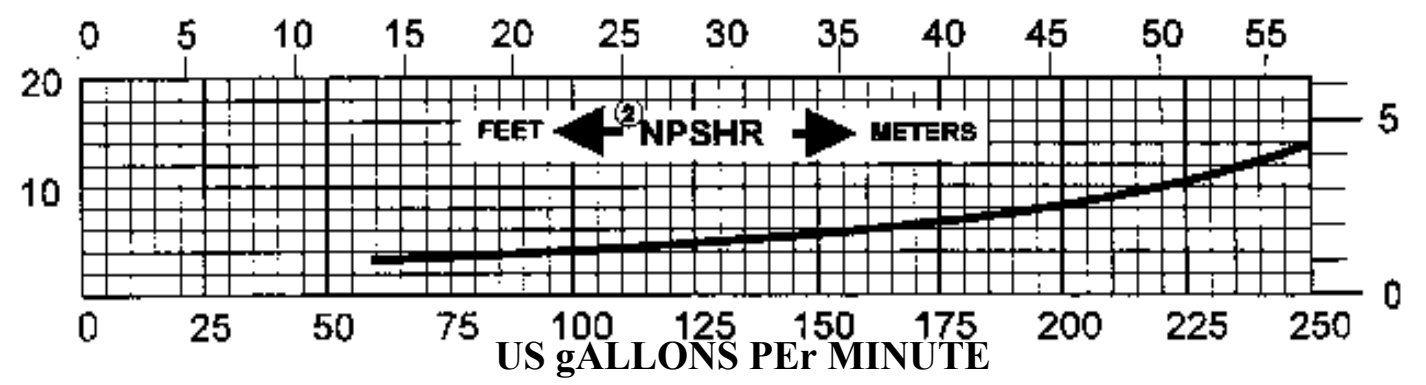
Model: C218
60 Hz 1750 rPM
Size: 3 x 1-1/2 x 8

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



US gALLONS PEr MINUTE

NOTES:

1 Impeller diameters available in 1/16-inch increments

2 NPSHR is shown for maximum impeller diameter

3 psi = Head in Feet X Specific Gravity
2.3

4 Kg/cm_2 = Head in Meters X Specific Gravity
10

5 HP x 0.746 = Kw

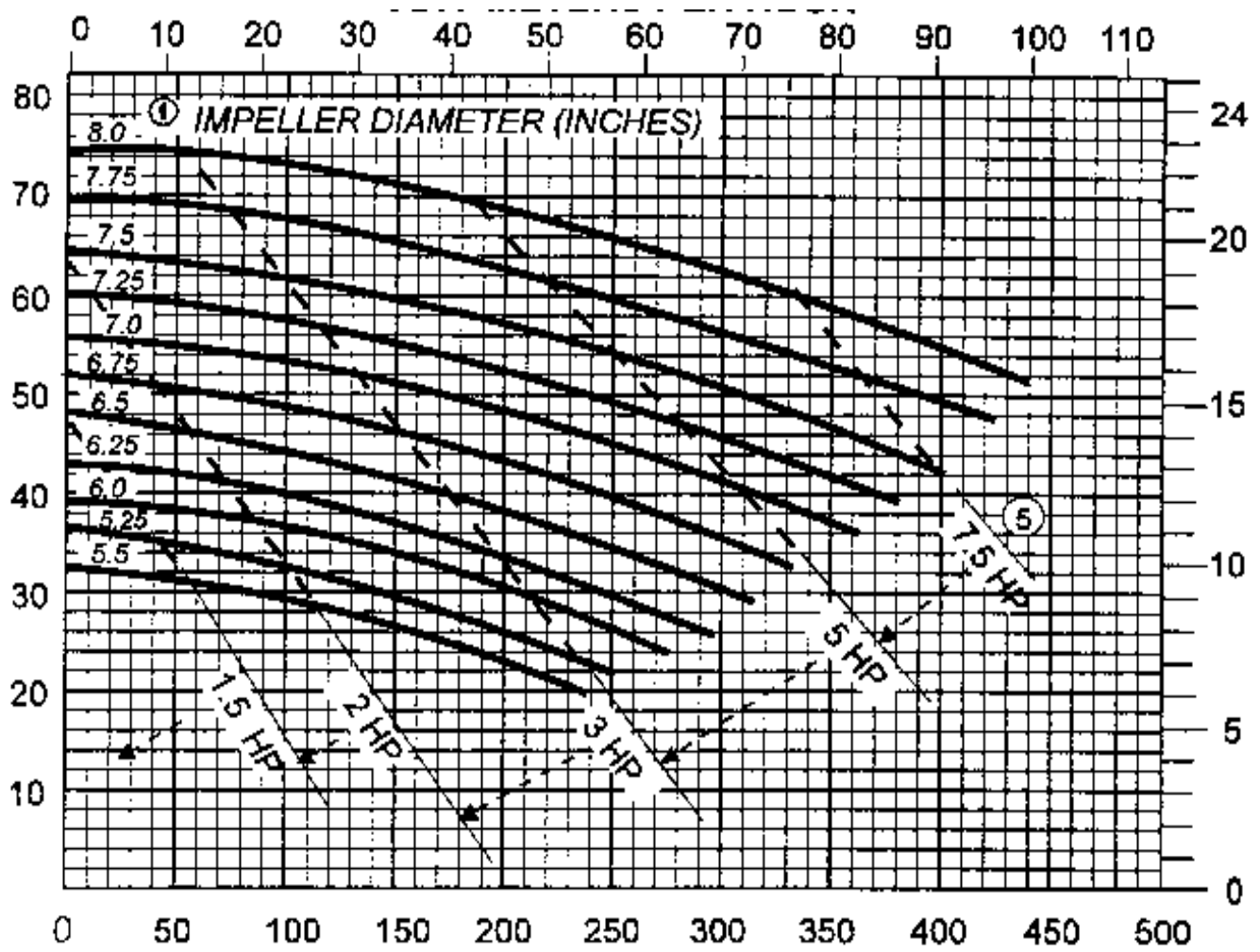
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

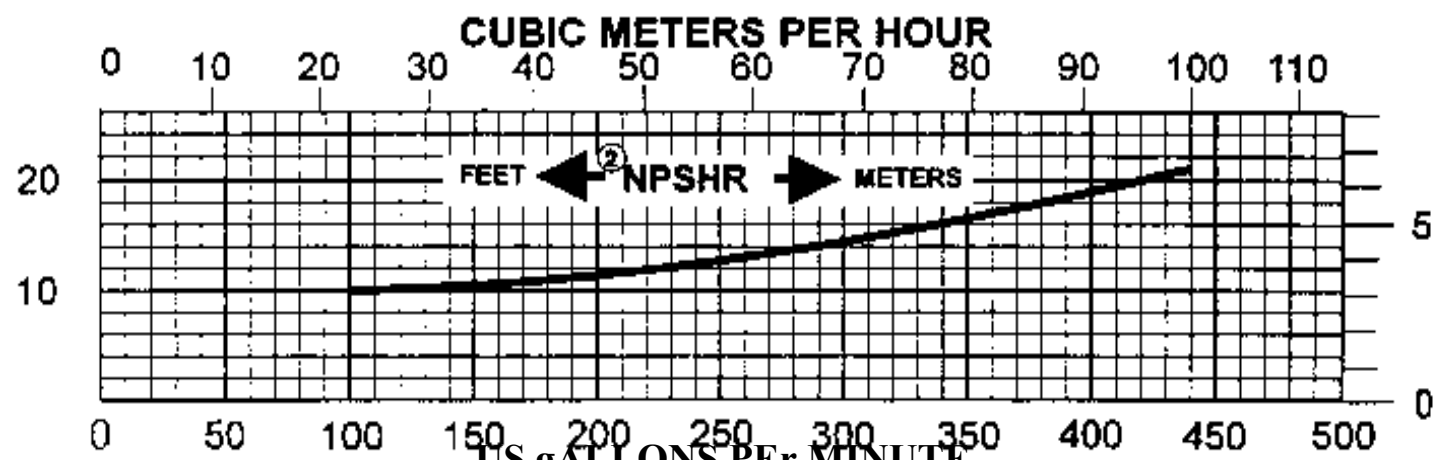
Based on water at 70°F (22°C)

Model: C328
60 Hz 1750 rPM
Size: 3 x 2 x 8

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE



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NOTES:

1 Impeller diameters available in 1/4-inch increments

2 NPSHR is shown for maximum impeller diameter

3 psi = Head in Feet X Specific Gravity
2.3

4 Kg/cm 2 = Head in Meters X Specific Gravity
10

5 HP x 0.746 = Kw

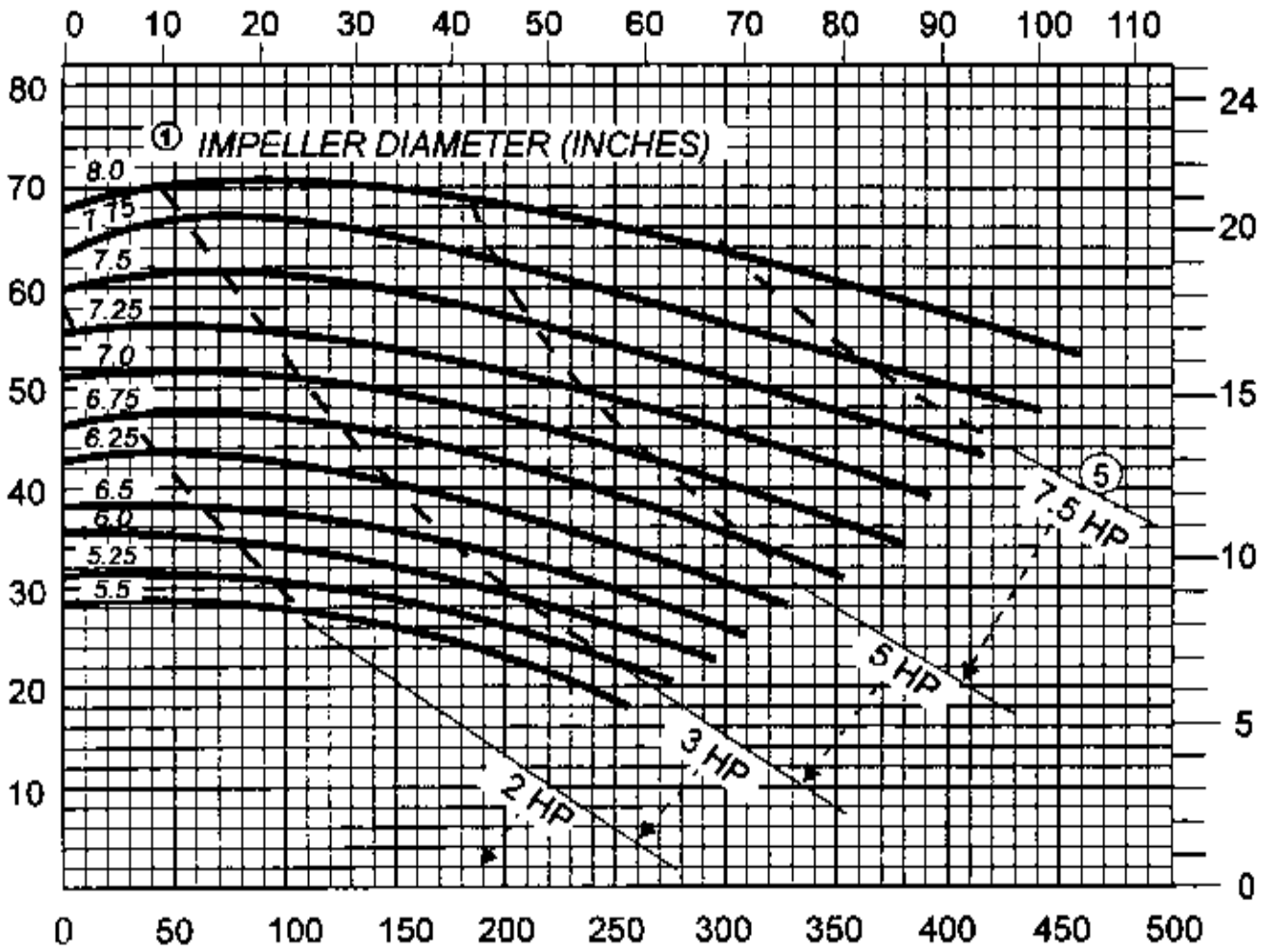
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

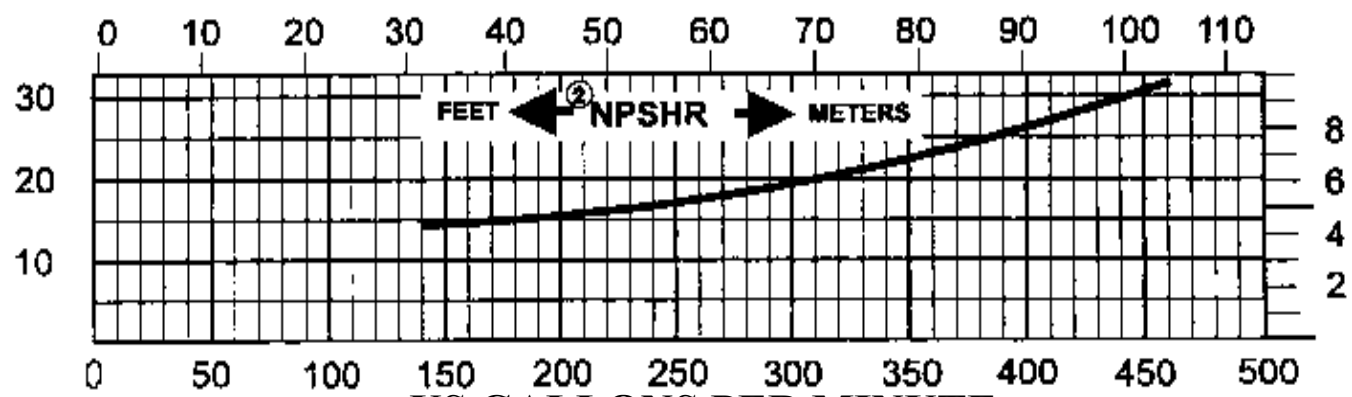
Model: C328
60 Hz 1750 rPM
Size: 4 x 2 x 8

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



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TOP-FLO® TF-C Series Centrifugal

Capacity Curves

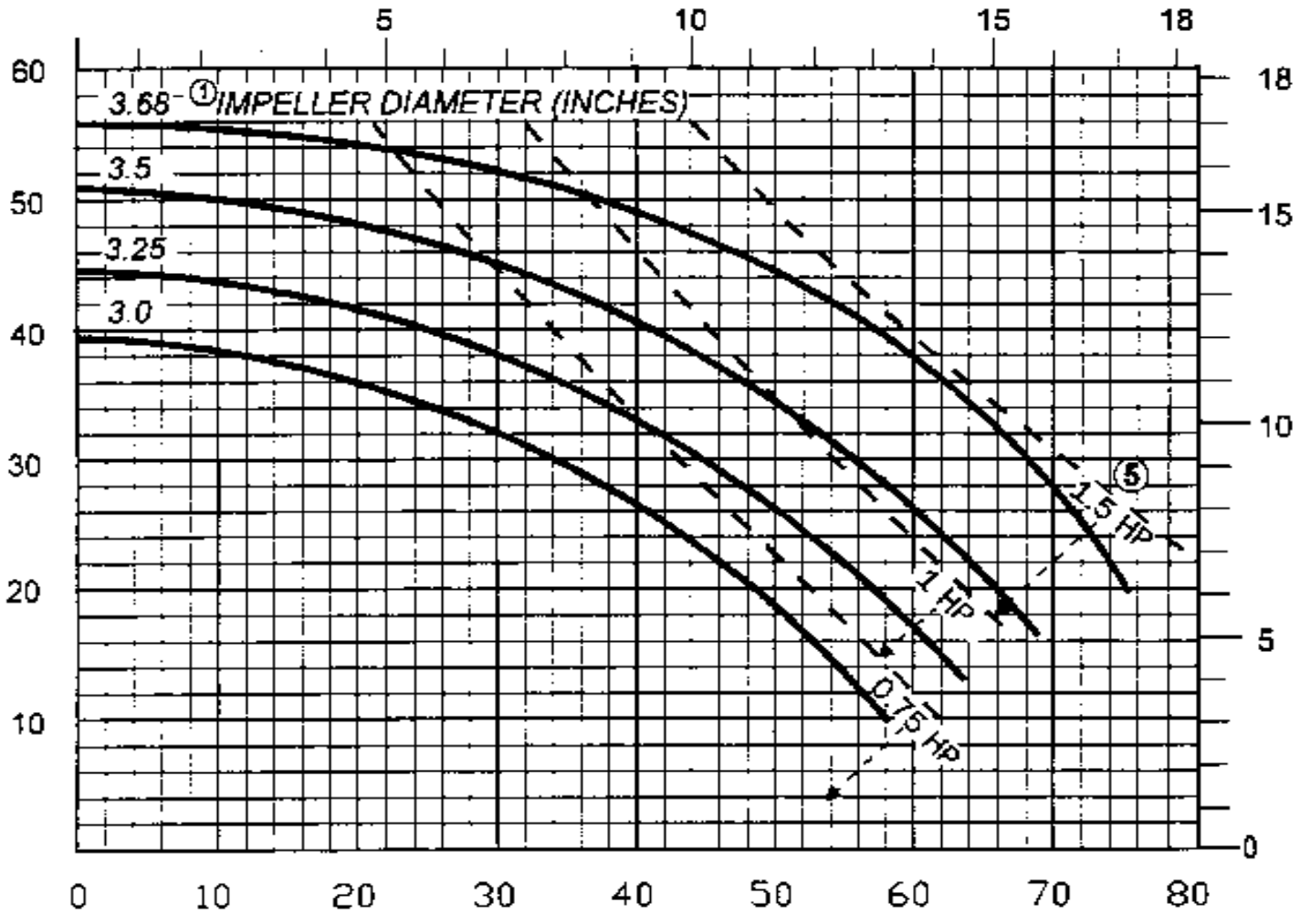
Based on water at 70°F (22°C)

Model: C100

60 Hz 3500 rPM

Size: 1-1/2 x 1 x 3-11/16

CUBIC METErS PEr HOUr



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4 HP x 0.746 = Kw

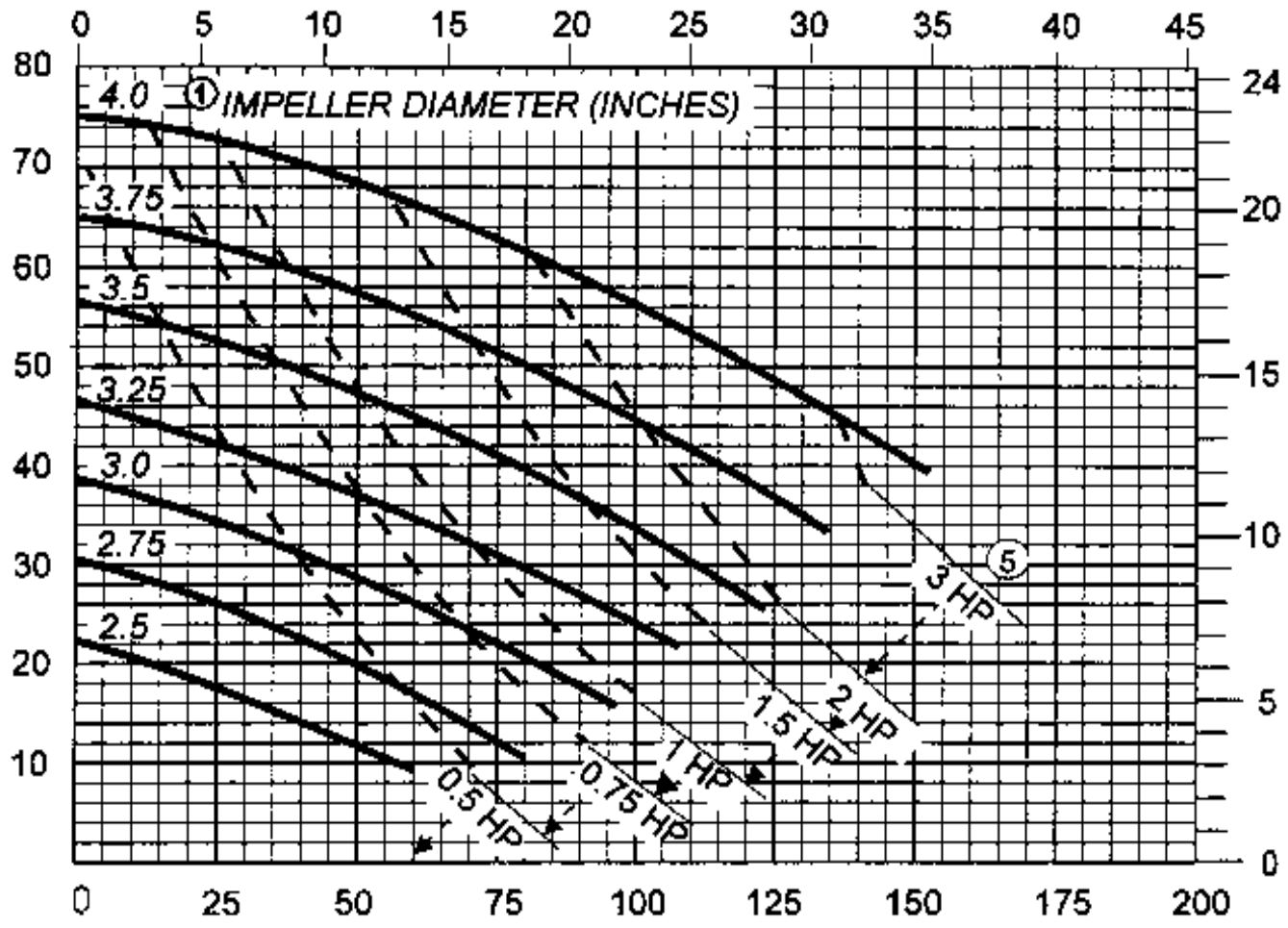
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

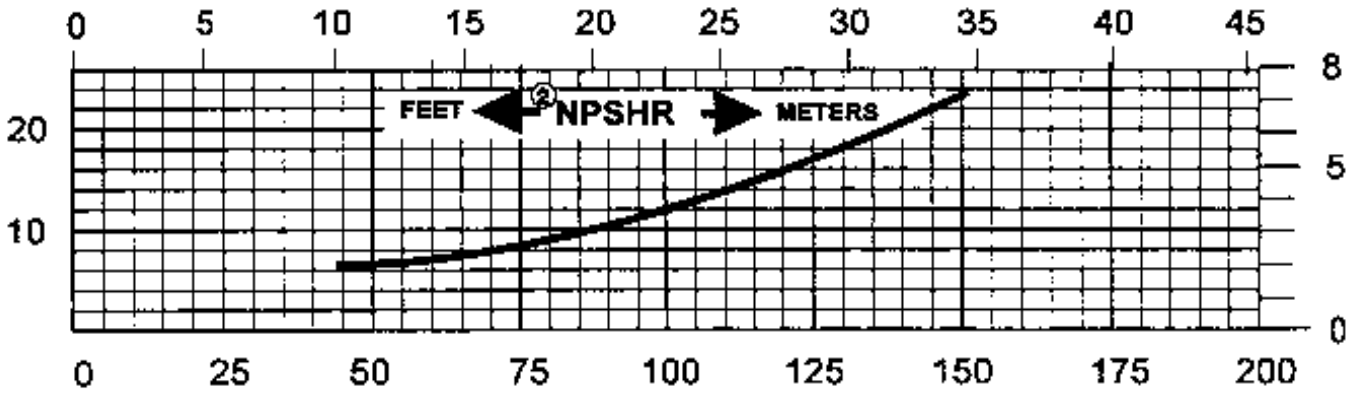
Model: C114
60 Hz 3500 rPM
Size: 1-1/2 x 1-1/2 x 4

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



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Capacity Curves

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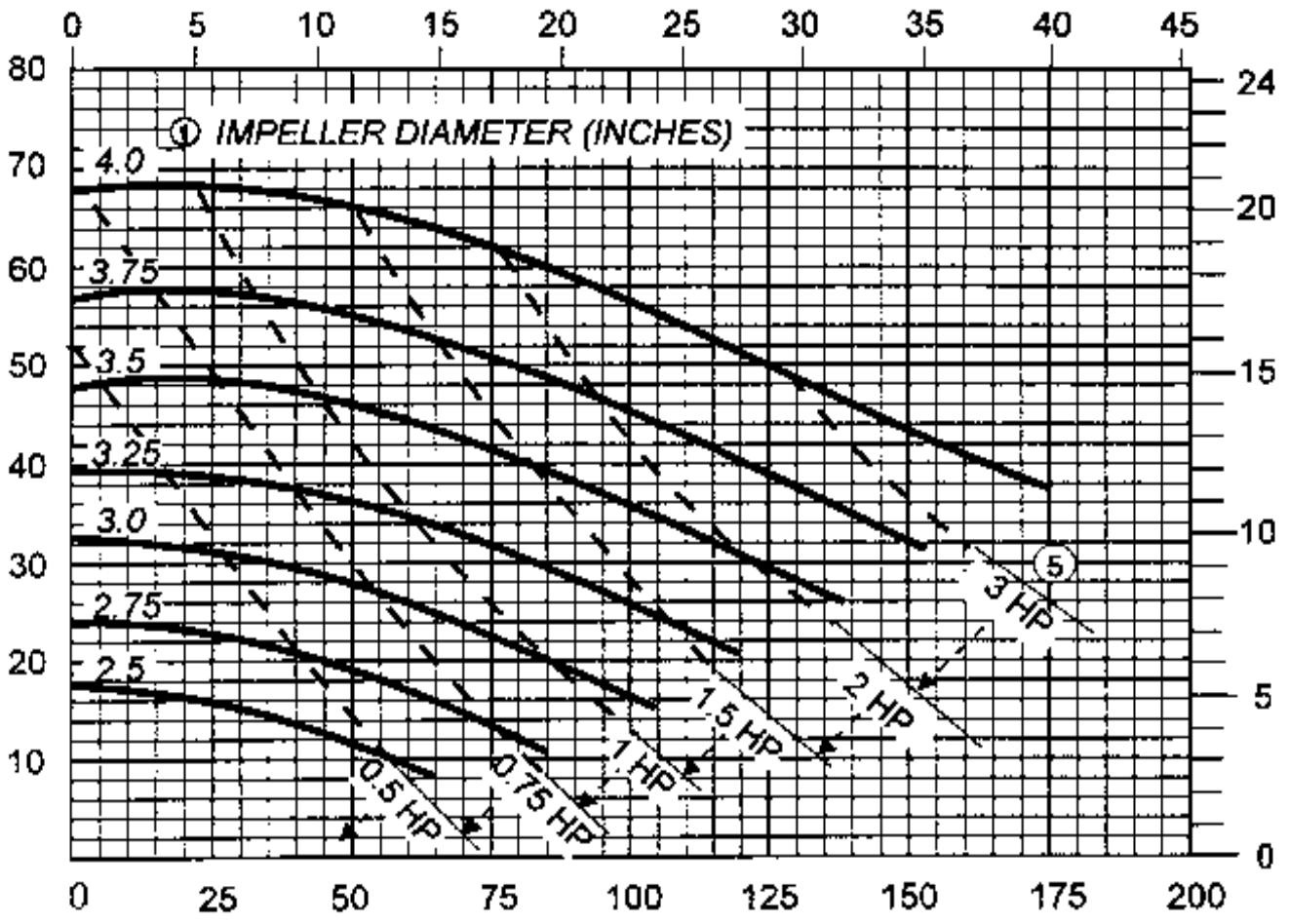
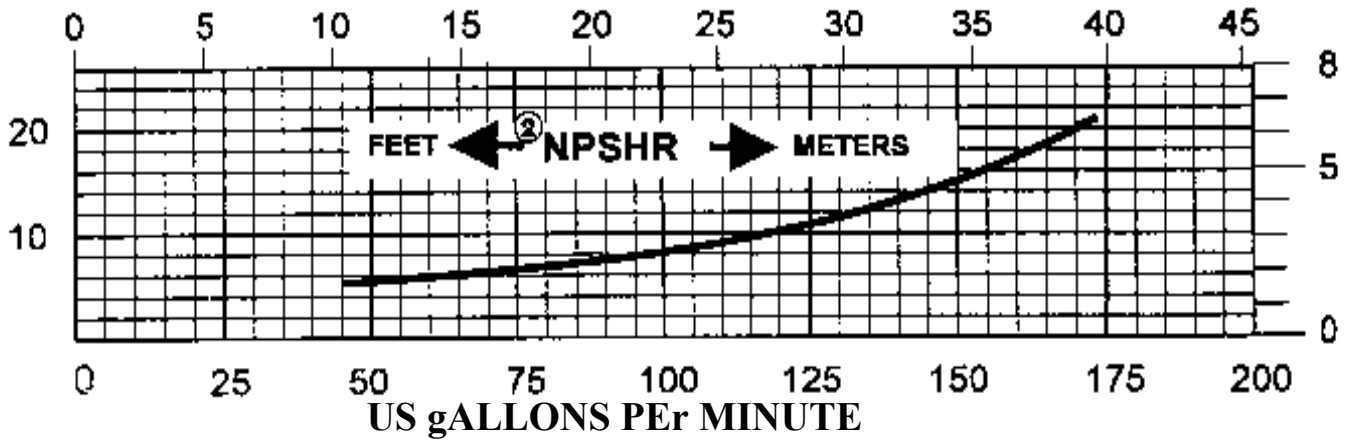


US GALLONS PER MINUTE

CUBIC METERS PER HOUR



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10

5 HP x 0.746 = Kw

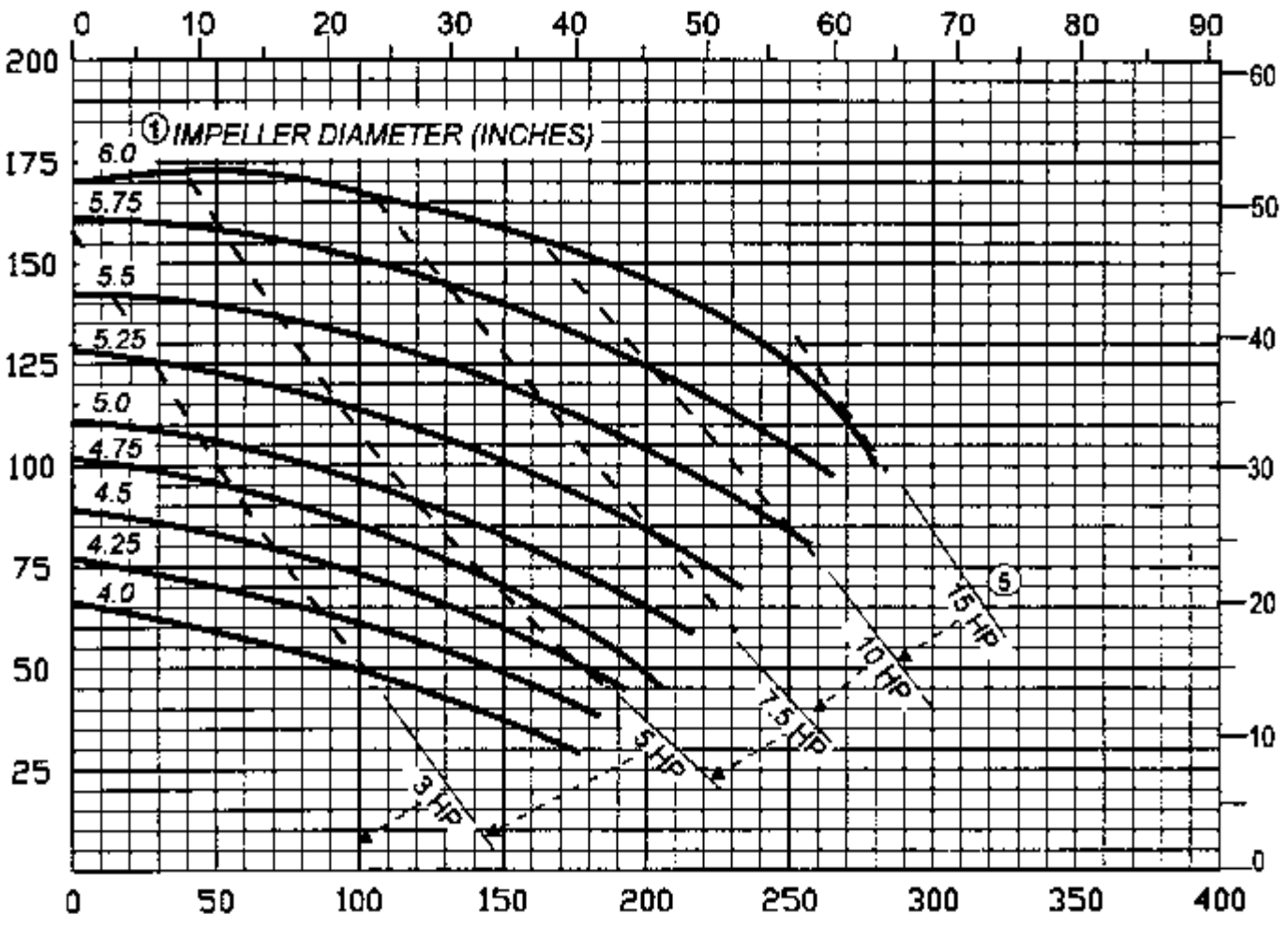
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

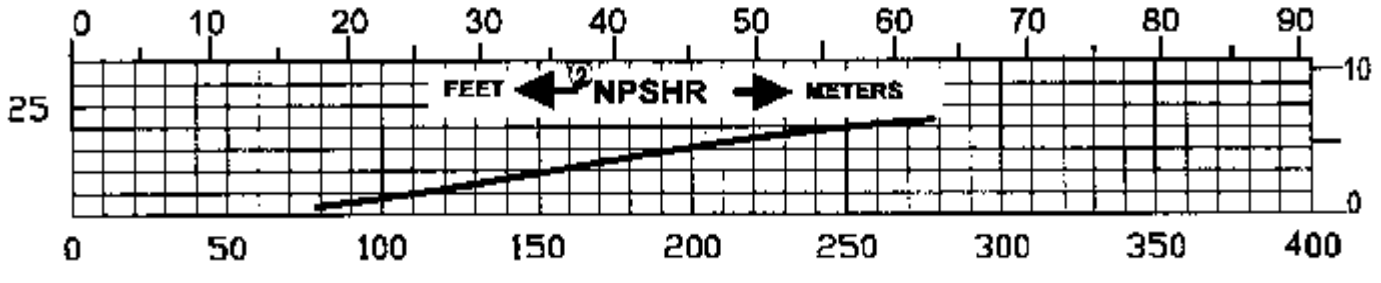
Model: C216
60 Hz 3500 rPM
Size: 2 x 1-1/2 x 6

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



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Based on water at 70°F (22°C)

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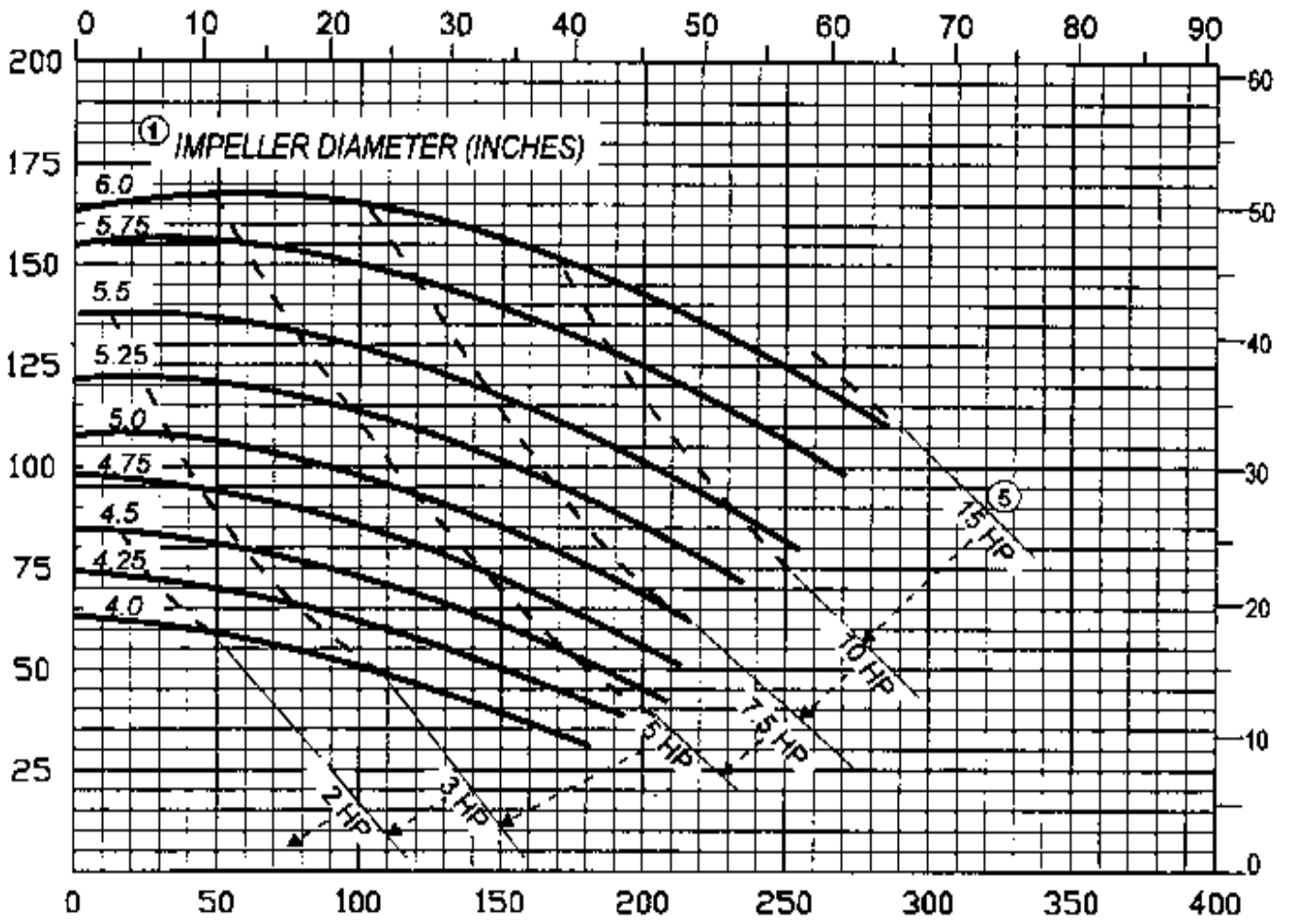
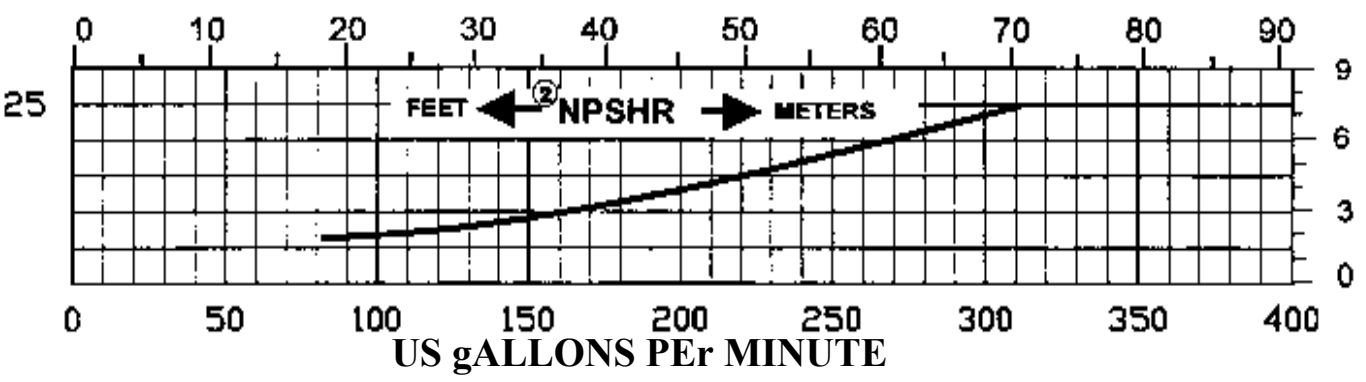


US GALLONS PER MINUTE

CUBIC METERS PER HOUR



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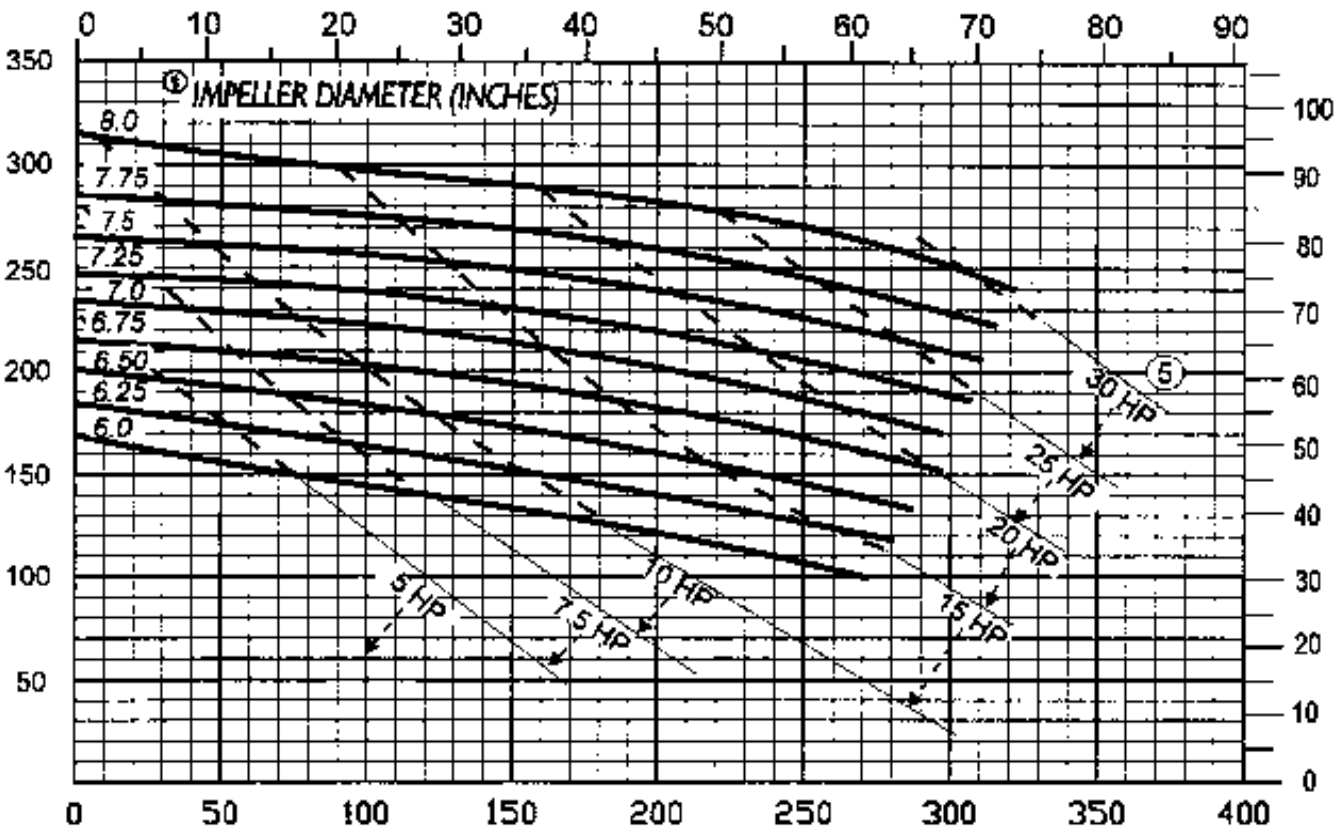
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

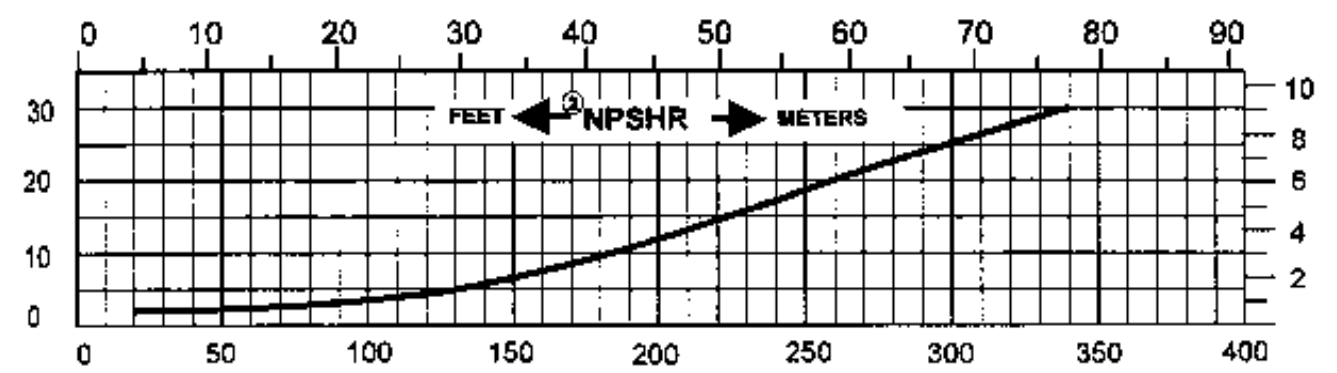
Model: C218
60 Hz 3500 rPM
Size: 2 x 1-1/2 x 8

CUBIC METErS PEr HOUr



US GALLONS PER MINUTE

CUBIC METERS PER HOUR



US gALLONS PEr MINUTE

NOTES:

1 Impeller diameters available in 1/4-inch increments

2 NPSHR is shown for maximum impeller diameter

3 psi = Head in Feet X Specific Gravity
2.3

4 Kg/cm_2 = Head in Meters X Specific Gravity
10

5 HP x 0.746 = Kw

TOP-FLO® TF-C Series Centrifugal

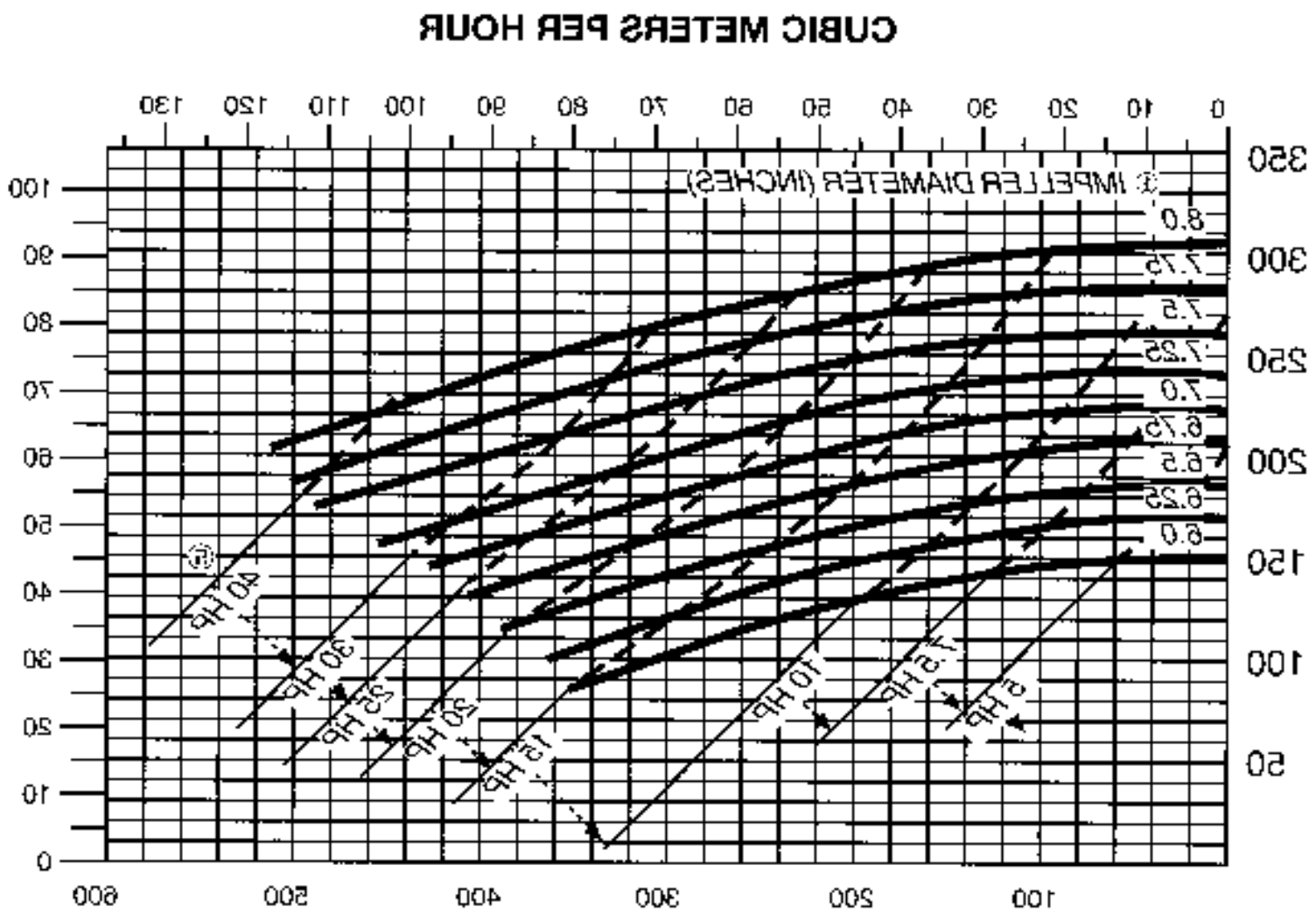
Capacity Curves

Based on water at 70°F (22°C)

Model: C218

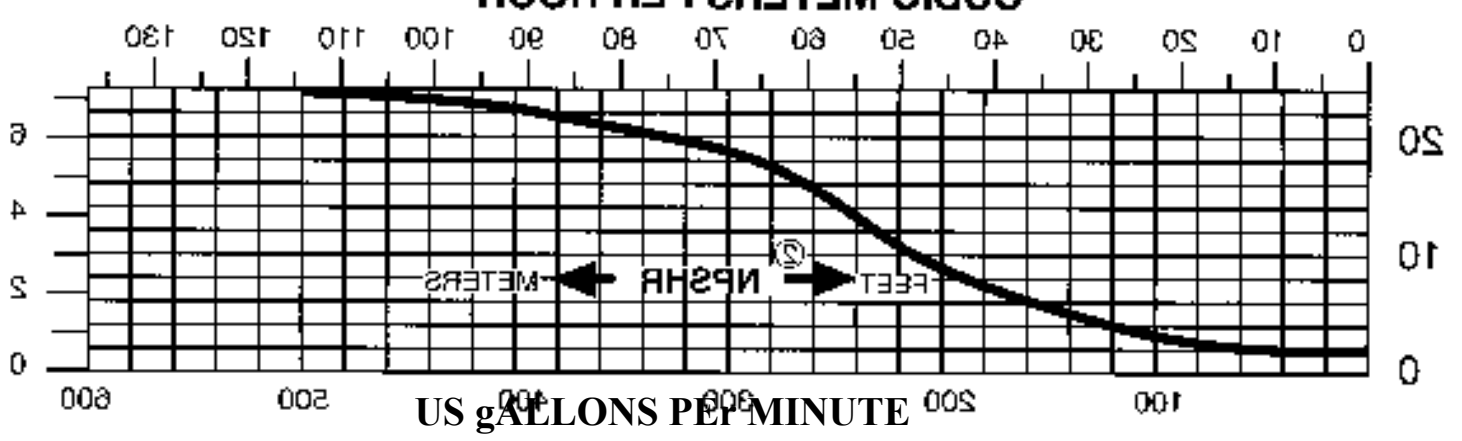
60 Hz 3500 rPM

Size: 3 x 1-1/2 x 8



US gALLONS PEr MINUTE

CUBIC METErS PEr HOUr



US gALLONS PEr MINUTE

NOTES:

1. Impeller diameters available in 1/4-inch increments
2. NPSHR is shown for maximum impeller diameter
3. psi = Head in Feet X Specific Gravity / 2.3
4. Kg/cm 2 = Head in Meters X Specific Gravity / 10
5. HP x 0.746 = Kw

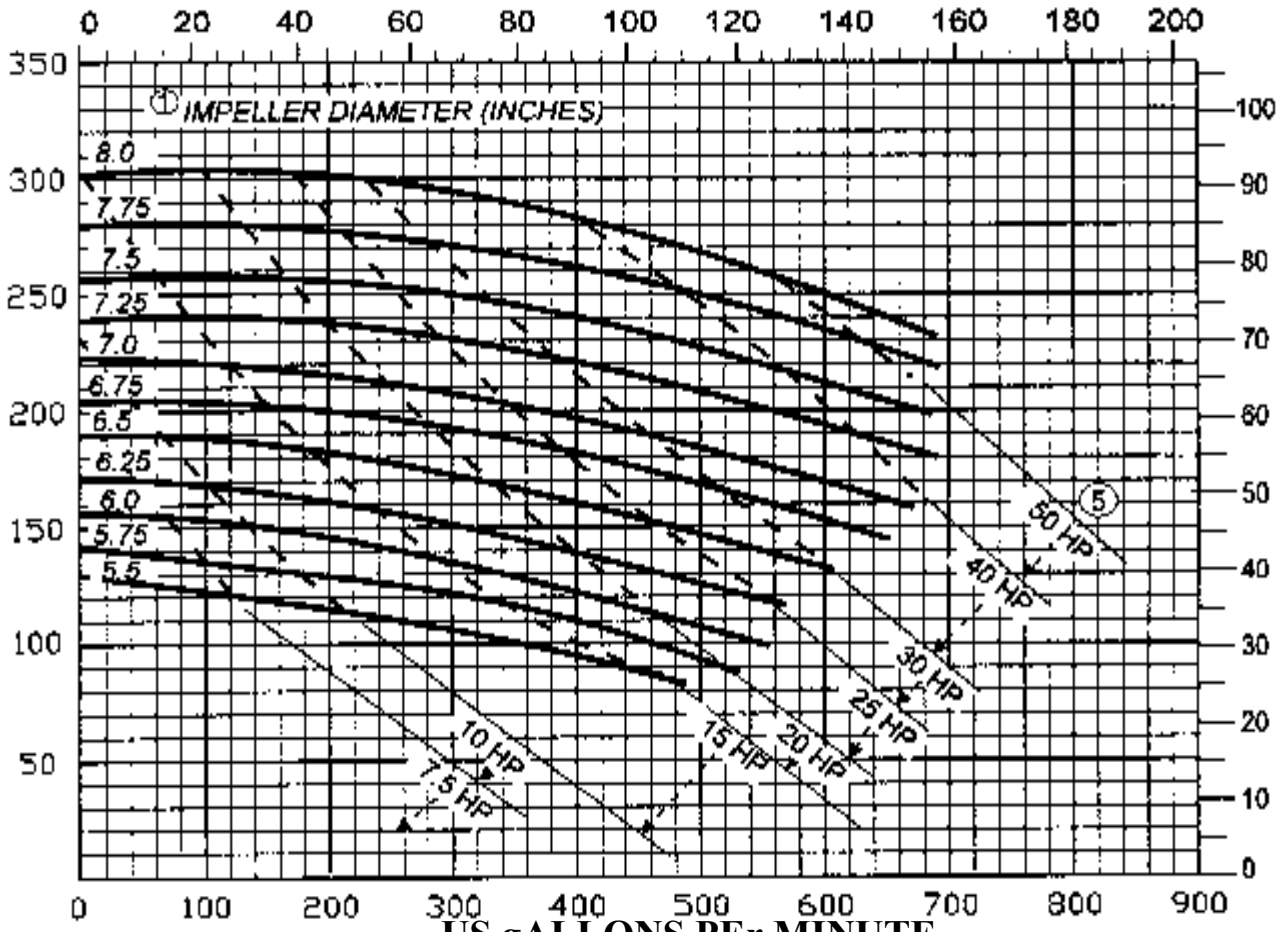
TOP-FLO® TF-C Series Centrifugal

Capacity Curves

Based on water at 70°F (22°C)

Model: C328
60 Hz 3500 rPM
Size: 3 x 2 x 8

CUBIC METErS PEr HOUr

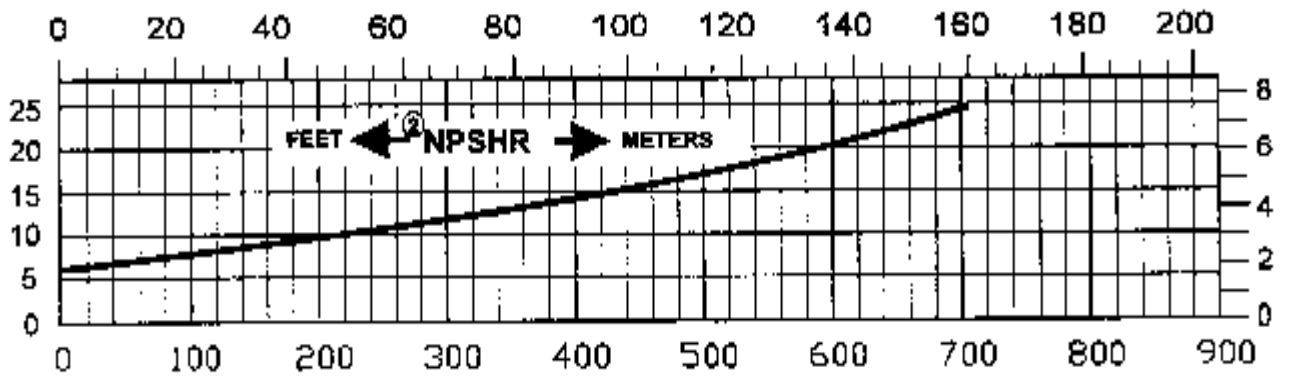


US gALLONS PEr MINUTE

US GALLONS PER MINUTE

CUBIC METErS PEr HOUr

CUBIC METERS PER HOUR



US gALLONS PEr MINUTE

NOTES:

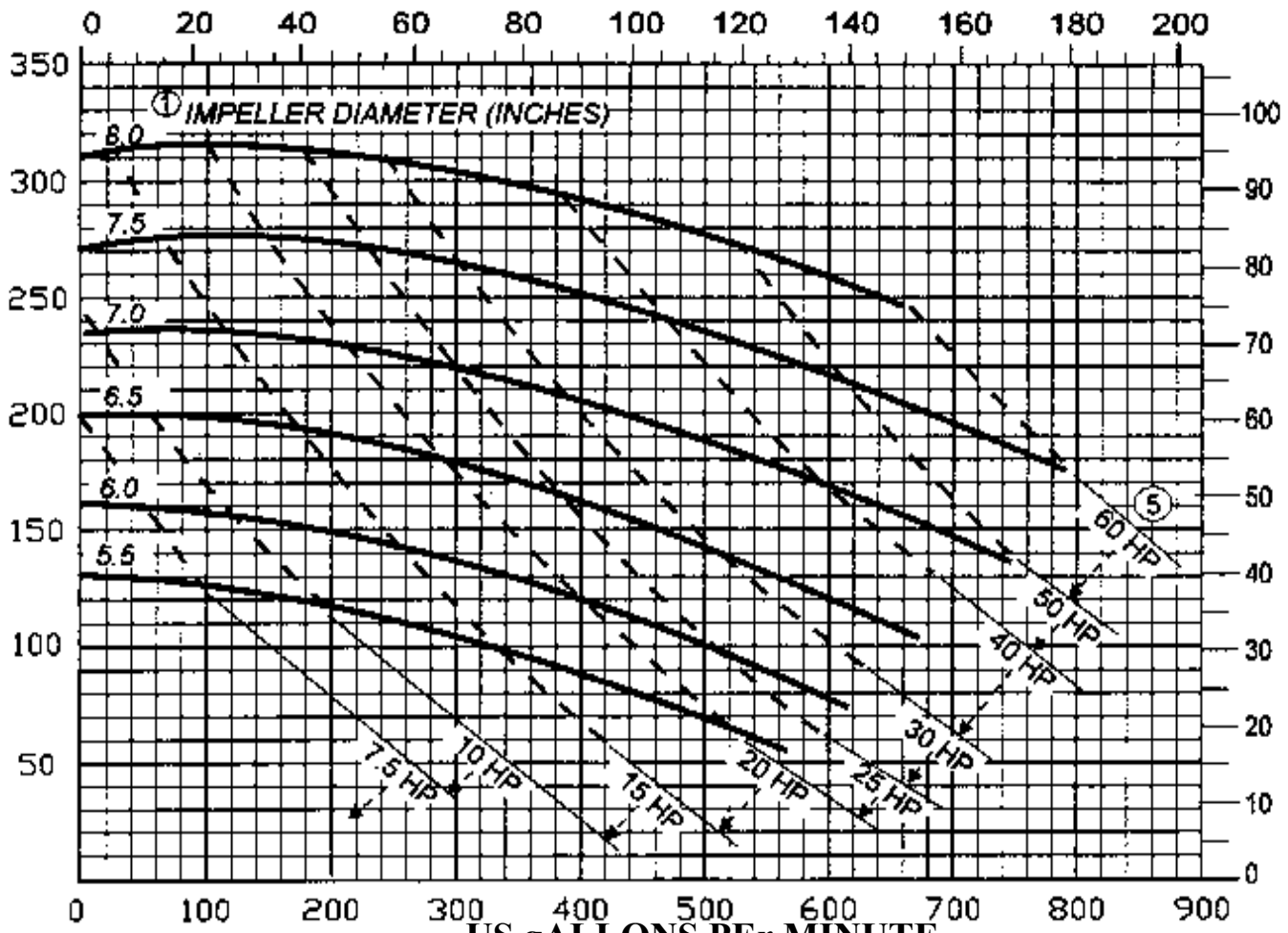
1. Impeller diameters available in 1/4-inch increments
2. NPSHR is shown for maximum impeller diameter
3. psi = Head in Feet X Specific Gravity / 2.3
4. Kg/cm^2 = Head in Meters X Specific Gravity / 10
5. HP x 0.746 = Kw

TOP-FLO® TF-C Series Centrifugal

Capacity Curves

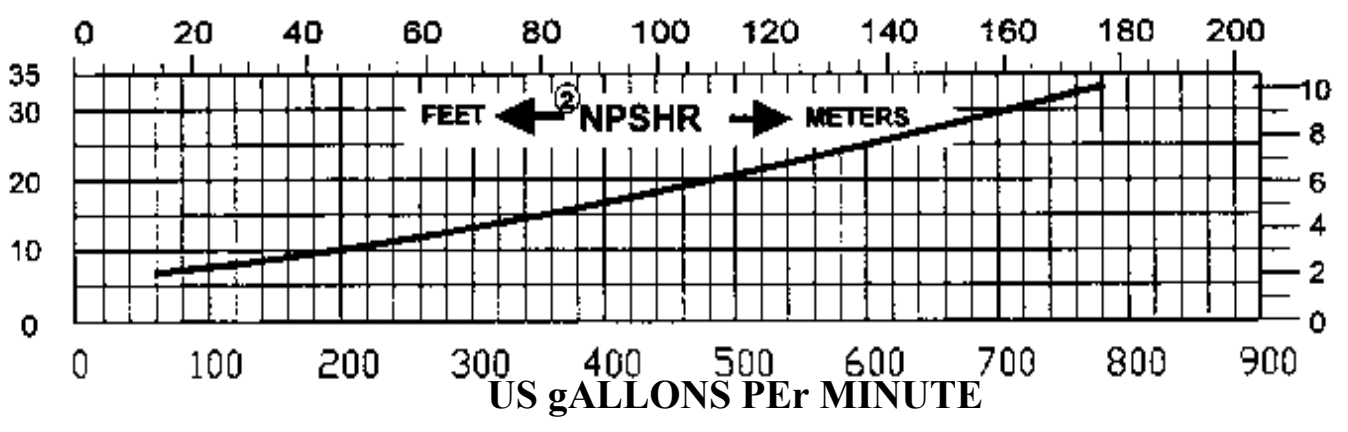
Based on water at 70°F (22°C)

Model: C328
60 Hz 3500 rPM
Size: 4 x 2 x 8



US gALLONS PEr MINUTE

CUBIC METErS PEr HOUr



US gALLONS PEr MINUTE

NOTES:

1 Impeller diameters available in 1/4-inch increments

2 NPSHR is shown for maximum impeller diameter

3 psi = Head in Feet X Specific Gravity
2.3

4 Kg/cm ^{2} = Head in Meters X Specific Gravity
10

5 HP x 0.746 = Kw

Viscosity and Specific gravity Table for Various Products

Product Specific Viscosity gravity

Acetic Acid

5% 1.01

10% 1.01 31.7 SSU @ 59° F

50% 1.06 33 SSU @ 59° F

80% 1.08 35 SSU @ 59° F

Animal Fat 0.9 130 SSU @ 115° F

50 SSU @ 200°F

Barbecue Sauce 1.05 11,500 SSU @ 40-75° F

Beer 1.02 32 SSU @ 68° F

Blood - Animal .93-.98 15,000 SSU @ 55° F

Butter .93-.98 15,000 SSU @ 55° F

440 SSU @ 90° F

220 SSU @ 115° F

Coconut Oil 0.92 125 SSU @ 106° F

Corn Oil 0.92 135 SSU @ 130° F

54 SSU @ 212° F

Corn Starch Solutions

22 Baume 1.18 150 SSu @ 70° F

130 SSU @ 100° F

24 Baume 1.2 600 SSU @ 70° F

440 SSU @ 100° F

25 Baume 1.21 1400 SSU @ 70° F

800 SSU @ 100° F

Cottage Cheese 1.02 4,300 SSU

Dressing

Cream (Sweet) 1 73 SSU

.99 140 SSU

.99 215 SSU

Egg Yolk 1.12 21,500 @ 35° F

Gelatin 1.01 1,380 - 2,580 SSU

@ 160° F

Glucose 1.35 - 1.44 35M - 100M SSU

@ 100° F

Product Specific Viscosity gravity

Honey 1.3 1250 - 1425

SSU @ 100° F

Ice Cream Mix 1.15 1050 SSU @ ° F

Lard 0.96 287 @ 100° F

Linseed Oil .92-.94 143 @ 100° F

93 @ 130° F

Malt Syrup 1.41 85,400 SSU @ 77° F

Maple Syrup 1.37 2,000 SSU @ ° F

Margarine 0.93 13,900

SSU @ 84° F

Milk 1.02 - 1.05 31.5 @ 68° F

molasses

A. First 1.4 - 1.46 1300 - 23,500 SSU

@ 100° F

700 - 8160 SSU

@ 130° F

B. Second 1.43 - 1.48 6535 - 61,180 SSU

@ 100° F

3058 - 15294 SSU

@ 130° F

C. Blackstrap 1.46 - 1.49 12,190 - 255M

@ 100° F

Mustard 1 17,000 SSU

@ 85° F

Olive OIl .91 - .92 200 SSU

@ 100° F

Peanut Butter 1.2 77,400 SSU @

110 - 140° F

Sesame Seed Oil 0.92 184 SSU @ 100° F

110 @ 130° F

Soy Bean Oil 0.91 500 SSU @ 44° F

Tomato Paste 1.14 60M - 80 M SSU

21m ssu approx.

Water 1 31 SSU @ 68° F

How Capacity Affects Friction

The following table was developed to indicate loss of head due to friction – in feet loss per fitting or in feet loss per foot of tubing – through stainless steel tubing and sanitary fittings.

Friction Loss in Sanitary OD Tubing and Fittings

capacity in u.s. G.p.M.	O.D. Tube Size																	
	1" I.D.=.870"			**1-1/2" I.D.=1.370"**			**2" I.D.=1.870"**			**2-1/2" I.D.=2.370"**			**3" I.D.=2.870"**			**4" I.D.=3.834"**		
	tubing	elbow	tee	tubing	elbow	tee	tubing	elbow	tee	tubing	elbow	tee	tubing	elbow	tee	tubing	elbow	tee
2	.01	.01	.1															
4	.025	.02	.2															
5	.035	.025	.25															
10	.12	.06	.4	.02	.01	.15	.005	.015	.1									
15	.25	.1	.8	.04	.02	.25	.013	.02	.15									
20	.43	.22	1.5	.06	.03	.3	.02	.025	.2	.005	.02	.1	.003	.02	.06			
25	.66	.4	2.3	.08	.04	.4	.025	.03	.25	.006	.03	.15	.004	.03	.08			
30	.93	.7	3.3	.105	.06	.55	.035	.05	.3	.008	.05	.2	.005	.04	.1			
35	1.22	1.25	5.2	.135	.09	.8	.04	.06	.4	.011	.06	.25	.006	.05	.13			
40		.17	.11	1.0	.05	.08	.5	.015	.07	.3	.007	.06	.15					
45		.21	.16	1.3	.063	.1	.6	.02	.09	.35	.008	.065	.18					
50		.25	.2	1.6	.073	.12	.7	.022	.1	.4	.01	.07	.2					
60		.34	.35	2.2	.1	.18	.9	.03	.12	.45	.015	.08	.25					
80		.57	.76	3.7	.16	.3	1.5	.05	.15	.55	.02	.1	.4					
100		.85	1.35	5.8	.23	.44	2.3	.075	.18	.6	.03	.11	.5	.008	.04	.1		
120		1.18	2.05	9.1	.32	.64	3.3	.105	.21	1.0	.04	.13	.6	.01	.05	.15		
140			.42	.85	4.5	.14	.23	1.25	.05	.16	.8	.013	.06	.2				
160			.54	1.13	5.8	.17	.28	1.6	.07	.2	1.1	.015	.07	.25				
180			.67	1.45	7.4	.205	.31	2.0	.08	.21	1.3	.02	.08	.3				
200			.81	1.82	9.0	.245	.35	2.5	.1	.26	1.6	.025	.09	.4				
220			.95	2.22	11.0	.29	.41	3.0	.12	.3	1.9	.028	.1	.5				
240			1.10	2.63	13.5	.34	.48	3.7	.14	.33	2.2	.035	.11	.55				
260				.39	.53	4.5	.165	.39	2.5	.04	.115	.6						
280				.45	.61	5.3	.19	.42	2.8	.045	.12	.65						
300				.515	.7	6.2	.22	.5	3.1	.05	.13	.7						
350				.68	1.05	8.5	.28	.67	4.1	.07	.15	.9						
400				.86	1.55	11.0	.36	.88	5.2	.085	.18	1.2						
450				1.05	2.25	13.5	.44	1.1	6.6	.105	.2	1.5						
500					.54	1.4	8.0	.13	.23	1.75								
550					.64	1.7	9.5	.15	.27	2.1								
600					.75	2.05	10.2	.175	.3	2.5								
650					.87	2.41	13.0	.2	.34	2.8								
700					1.0	2.8	15.0	.23	.4	3.4								
750						.26	.43	3.8										
800				.3	.5	4.4												
850				.33	.56	5.												
900				.37	.62	5.7												
950				.41	.7	6.3												
1000				.45	.8	7.0												
1100				.53	1.06	8.6												

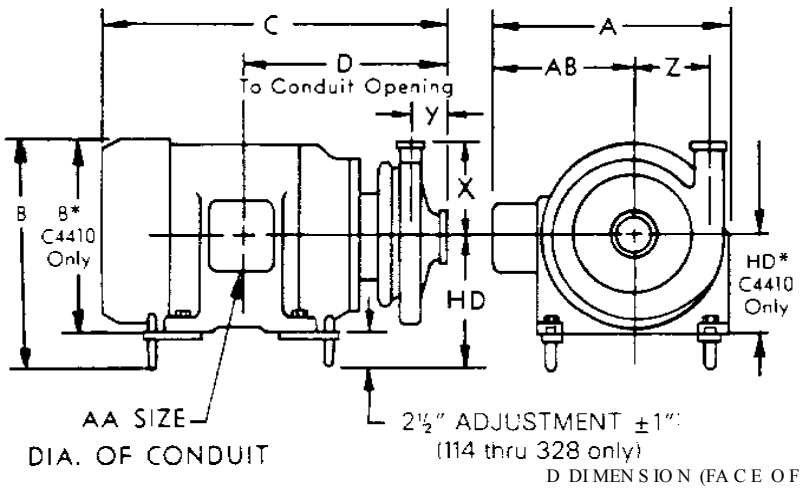
a flow through tees are in part a, out part B. part c capped off.

c B

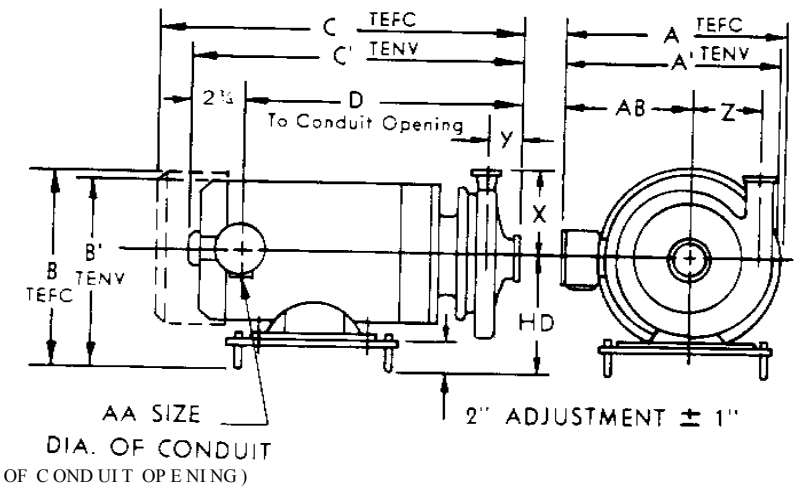
tests based on water at temperature of 70° f

source: National association of food and Dairy equipment Manufacturers.

TOP-FL®TF-C Series
Close-Coupled Pump Dimensions



180 to 280 Frame Motors



56 and 140 Frame Motors

D DIMENSION (FACE OF INLET TO CENTER OF CONDUIT OPENING)

Pump Dimensions ("Easy-Clean" totally-enclosed motor)

Pump Model	Suction	Discharge	X*	X**	Y*	Y**	Z
TF-C114	1-1/2	1-1/2	3-5/8	3-7/8	1-19/32	1-27/32	2-5/8
TF-C216	2	1-1/2	4-1/2	4-3/4	1-29/32	1-5/32	3-11/16
TF-C218	2	1-1/2	5-1/2	5-3/4	1-23/32	1-31/32	4-3/4
TF-C328	3	2	5-1/2	5-3/4	2-7/32	2-23/32	4-3/4

Pump and Motor Dimensions with "Easy-Clean" Totally Enclosed Motors

Pump Model	Frame	A	A*	B	B*	C	C*	C'	C**	D	D*	D**	HD	AA	AB
TF-c114	56C	10-1/16	9-5/8	9-3/16	8-3/4	17-7/16	16-1/16	17-11/16	16-5/16	13-5/16	13-9/16	5-1/2	1/2	6-3/8	
	184TC	11-7/8	11-11/16	21-1/8	21-3/8	13-13/16	14-1/16	7	3/4	7-3/16					
TF-c216	56C	10-1/16	9-5/8	9-3/16	8-3/4	18-1/8	16-3/4	18-3/8	17	14	14-1/4	5-1/2	1/2	6-3/8	
	184TC	11-7/8	11-11/16	21-7/8	22-1/8	14-9/16	14-13/16	7	3/4	7-3/16					
	215TC	14-1/2	13-3/16	25-9/16	25-13/16	16-11/16	16-15/16	7-3/4	1	9-1/16					
	256TC	16-7/16	15-1/4	29-15/16	30-3/16	18-11/16	18-15/16	8-3/4	1-1/4	10					
TF-c218	145TC	10-1/16	9-5/8	8-3/4	19-1/4	17-7/8	19-1/2	18-1/2	15-1/8	15-3/8	5-1/2	1/2	6-3/8		
	184TC	11-7/8	11-11/16	22-1/4	22-1/2	14-15/16	15-3/16	7	3/4	7-3/16					
	215TC	14-1/2	13-3/16	25-13/16	26-1/16	16-15/16	17-3/16	7-3/4	1	9-1/16					
	256TC	16-7/16	15-1/4	31-1/16	31-5/16	19-13/16	20-1/16	8-3/4	1-1/4	10					
	284TC	19-5/16	16-3/4	32	32-1/4	20-3/16	20-7/16	9-1/2	1-1/2	12-1/16					
TF-c328	145TC	10-1/16	9-5/8	9-3/16	8-3/4	19-7/8	18-1/2	20-3/8	19	15-3/4	16-1/4	15-1/2	1/2	6-3/8	
	184TC	11-7/8	11-11/16	22-3/4	23-1/4	15-7/16	15-15/16	7	3/4	7-3/16					
	215TC	14-1/2	13-3/16	26-5/16	26-13/16	17-7/16	17-15/16	7-3/4	1	9-1/16					
	256TC	16-7/16	15-1/4	31-11/16	32-3/16	20-7/16	20-15/16	8-3/4	1-1/4	10					
	284TC	19-5/16	16-3/4	32-5/8	33-1/8	20-13/16	21-5/16	9-1/2	1-1/2	12-1/16					
	286TC	19-5/16	16-3/4	34-3/8	34-7/8	21-13/16	22-5/16	9-1/2	1-1/2	12-1/16					

* With clamp connections
** With threaded bevel-seat connections

Dimensions are appropriate and for guidance only. ON applications where exact dimensions are required, request a certified print from Top Line.

NOTES: 1 - Dimensions for single phase #140 frame motors 1-7/32" longer.
* - These dimensions are for pumps using standard "C" Flange Motors * - TF-C Series pumps will not accept TSC Frame Motors.

Customer _____ Contact _____ Date _____

I. Sizing Data Required

Product _____ Temperature: _____ Min. ° F _____ Max. ° F

Viscosity (Centipoise) _____ Product Weight _____ (pounds per gallon)

Gallons Per Minute _____ Total Head _____ ft. _____ psi

Pounds Per Hour _____

Corrosive Material: Yes No Type _____

Suction Line

TubingSize _____ inches Total Elbows _____

Vertical Drop _____ feet Total Tees _____

Casing Drain: Yes No Total Valves _____

Corrosive Material: Yes No Type _____

Discharge Line

TubingSize _____ Total Elbows _____

Vertical Run _____ Total Tees _____

Horizontal Run _____ Total Valves _____

Note: Clamp connections are standard. If other connection is required, specify. _____

Discharge Valve: Butterfly _____ Ball _____ Disc Check _____

Other _____

If Top Line supplies pump motor, the following data is required:

Voltage _____ Hertz _____ Phase _____

II. Fill out the following after pump and motor are sized

Pump: Motor:

Model _____ Type _____

Casing Size _____ Horsepower _____

Impeller Size _____ RPM _____

Seal Type _____ Frame Size _____

Voltage _____ Hertz _____ Phase _____

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