TOP-FLON® Centrifugal Pump Model TF-C Series

Stainless Steel Flow Control Equipment for the Food, Beverage, Dairy, Cosmetics, Pharmaceutical, Biotechnology, and Electronics Processing Industries

www.toplineonline.com
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-C100, 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’.

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**Answer to example:**
1. To determine duty point:
   - First, find the 35’ of head in column #1. Second, find the 75 gallon per minute in column #2. Then, trace the 35’ 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.
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’. (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 ≥ NPSHR (Net Positive Suction Head Required).
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

NOTES:
1. Impeller diameters available in 1/16 inch increments
2. PSI = Head in Feet X Specific Gravity / 2.3
3. Kg/cm² = Head in Meters X Specific Gravity / 10
4. HP x 0.746 = Kw
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

CUBIC METERS PER HOUR

CUBIC METERS PER HOUR

HEAD IN FEET

HEAD IN FEET

US GALLONS PER MINUTE

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

1. IMPELLER DIAMETER (INCHES)

2. NPSHR

3. METERS

4. FEET

5. METERS

6. FEET
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

CUBIC METERS PER HOUR

HEAD IN FEET
HEAD IN METERS

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

Kg/cm² = Head in Meters X Specific Gravity

HP x 0.746 = Kw

2.3
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

Kg/cm² = Head in Meters X Specific Gravity

10

HP x 0.746 = Kw

2.3
## Capacity Curves
Based on water at 70°F (22°C)

### Model: TF-C218
- 60 Hz
- 1750 RPM
- Size: 2 x 1-1/2 x 8

### Notes:
1. Impeller diameters available in 1/4 inch increments
2. NPSHR is shown for maximum impeller diameter
3. PSI = Head in Feet × Specific Gravity
4. Kg/cm² = Head in Meters × Specific Gravity
5. HP x 0.746 = Kw

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**Graph**:  
- CUBIC METERS PER HOUR  
- HEAD IN FEET  
- HEAD IN METERS  
- US GALLONS PER MINUTE  
- METERS

---

2.3
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

Model: TF-C328
60 Hz 1750 RPM
Size: 3 x 2 x 8

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

CUBIC METERS PER HOUR

HEAD IN FEET

HEAD IN METERS

US GALLONS PER MINUTE

CUBIC METERS PER HOUR

FEET

METERS

US GALLONS PER MINUTE

Kg/cm² = Head in Meters X Specific Gravity

HP x 0.746 = Kw

PSI = Head in Feet X Specific Gravity

2.3
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

Model: TF-C328
60 Hz 1750 RPM
Size: 4 x 2 x 8

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
④ Kg/cm² = Head in Meters X Specific Gravity
⑤ HP x 0.746 = Kw

Notes:
1. Kg/cm² = Head in Meters X Specific Gravity
2. HP x 0.746 = Kw
3. PSI = Head in Feet X Specific Gravity / 2.3

Diagram showing capacity curves for the TF-C328 pump model.

Diagram includes:
- CUBIC METERS PER HOUR
- US GALLONS PER MINUTE
- HEAD IN FEET
- HEAD IN METERS
- IMPPELLER DIAMETER (INCHES)

Graphs for different impeller diameters and head values.

Key:
- 2 HP
- 3 HP
- 5 HP

Graphs for capacity in cubic meters per hour and US gallons per minute.
### Capacity Curves

**Based on water at 70°F (22°C)**

**Model: TF-C100**
- **60 Hz**
- **3500 RPM**
- **Size:** 1-1/2 x 1 x 3-11/16

#### NOTES:
1. Impeller diameters available in 1/16 inch increments
2. PSI = Head in Feet X Specific Gravity / 2.3
3. Kg/cm² = Head in Meters X Specific Gravity / 10
4. HP x 0.746 = Kw
5. CUBIC METERS PER HOUR

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![Graph showing capacity curves for TOP-FLO® TF-C Series Centrifugal Pumps](image)
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

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/cm² = Head in Meters X Specific Gravity
   10
5. HP x 0.746 = Kw
**Capacity Curves**
Based on water at 70°F (22°C)

**Model:** TF-C114
**60 Hz**  **3500 RPM**  
**Size:** 2 x 1-1/2 x 4

<table>
<thead>
<tr>
<th>IMPPELLER DIAMETER (INCHES)</th>
<th>CUBIC METERS PER HOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>80</td>
</tr>
<tr>
<td>3.75</td>
<td>70</td>
</tr>
<tr>
<td>3.5</td>
<td>60</td>
</tr>
<tr>
<td>3.25</td>
<td>50</td>
</tr>
<tr>
<td>3.0</td>
<td>40</td>
</tr>
<tr>
<td>2.75</td>
<td>30</td>
</tr>
<tr>
<td>2.5</td>
<td>20</td>
</tr>
<tr>
<td>2.25</td>
<td>10</td>
</tr>
</tbody>
</table>

**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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

**Graphs:**
- CUBIC METERS PER HOUR vs. US GALLONS PER MINUTE
- HEAD IN FEET vs. HEAD IN METERS

**Graph Details:**
- CUBIC METERS PER HOUR
- US GALLONS PER MINUTE

**Units:**
- CUBIC METERS
- HEAD IN FEET
- HEAD IN METERS
- US GALLONS

**Calculations:**
- 1 Kg/cm² = Head in Meters X Specific Gravity
- 10
- 1 HP x 0.746 = Kw

**Legend:**
- 1/4 inch increments
- NPSHR shown for maximum impeller diameter
- Specific Gravity

**Additional Information:**
- Size: 2 x 1-1/2 x 4
Capacity Curves
Based on water at 70°F (22°C)

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

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

CUBIC METERS PER HOUR

HEAD IN FEET

HEAD IN METERS

US GALLONS PER MINUTE

CUBIC METERS PER HOUR

FEET

METERS

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

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

CUBIC METERS PER HOUR

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
4. Kg/cm² = Head in Meters x Specific Gravity
5. HP x 0.746 = Kw

US GALLONS PER MINUTE

CUBIC METERS PER HOUR

US GALLONS PER MINUTE

10
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

Model: TF-C218
60 Hz  3500 RPM
Size: 3 x 1-1/2 x 8

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

Kg/cm² = Head in Meters X Specific Gravity

HP x 0.746 = Kw

PSI = Head in Feet X Specific Gravity

2.3
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

Model: TF-C328
60 Hz 3500 RPM
Size: 3 x 2 x 8

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
4. Kg/cm² = Head in Meters x Specific Gravity
5. HP x 0.746 = Kw

CUBIC METERS PER HOUR

HEAD IN FEET

CUBIC METERS PER HOUR

HEAD IN METERS

US GALLONS PER MINUTE

US GALLONS PER MINUTE
TOP-FLO® TF-C Series Centrifugal Pumps

Capacity Curves
Based on water at 70°F (22°C)

Model: TF-C328
60 Hz 3500 RPM
Size: 4 x 2 x 8

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
4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw

CUBIC METERS PER HOUR

HEAD IN FEET

HEAD IN METERS

US GALLONS PER MINUTE

CUBIC METERS PER HOUR

FEET

METERS

US GALLONS PER MINUTE

Notes:
1. Impeller diameters available in 1/4 inch increments
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4. Kg/cm² = Head in Meters X Specific Gravity
5. HP x 0.746 = Kw
Pump Data Sheet

Date: 

Prepared By

Company: 

Address: 

State/Province: 

Zip/Postal Code: 

Phone: 

Fax: 

Contact Name: 

Sizing Data Required

Product: 

Viscosity (Centipoise): 

Specific Gravity: or Product Weight (pounds per gallon): 

Corrosive Material: Yes □ No □ Type 

Gallons-Per-Minute: 

Total Head: ft. or psi 

Temperature: Min. °F Max. °F 

Will Pump Perform CIP Yes □ No □ Chemical 

Would you like Top Line to quote a motor? Washdown □ TEFC □ Other □ 

□ No 

VFD Used For Speed Control Yes □ No □ Voltage □ Hertz □ Phase □ 

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topln.co/pumpdata1
# Pump Data Sheet Continued

ALL FIELDS ARE NOT REQUIRED
COMPLETE FORM TO THE BEST OF YOUR ABILITY

## Suction Line

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Tubing Size (Inches)</td>
<td></td>
</tr>
<tr>
<td>Vertical Drop (Feet)</td>
<td></td>
</tr>
<tr>
<td>Horizontal Run</td>
<td></td>
</tr>
<tr>
<td>Total Elbows</td>
<td></td>
</tr>
<tr>
<td>Tees</td>
<td></td>
</tr>
<tr>
<td>Valves</td>
<td></td>
</tr>
</tbody>
</table>

## Discharge Line

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing Size</td>
<td></td>
</tr>
<tr>
<td>Vertical Rise</td>
<td></td>
</tr>
<tr>
<td>Horizontal Run</td>
<td></td>
</tr>
<tr>
<td>Total Elbows</td>
<td></td>
</tr>
<tr>
<td>Tees</td>
<td></td>
</tr>
<tr>
<td>Valves</td>
<td></td>
</tr>
</tbody>
</table>

Note: Clamp connections are standard. If others required, specify

Casing Drain Required:  □ Yes  □ No

Discharge Valve:  Butterfly  □ Ball  □ Disk Check  □ Other
Top Line is a leading supplier of sanitary stainless steel process equipment. Serving the food, beverage, dairy, pharmaceutical, biotechnological and personal care industries. For over 50 years we’ve provided our customers with exceptional customer service and quality products. We are committed to meeting the fastest delivery, new product development and application engineering to meet all our customer’s needs with our extensive inventory and expert sales team.

Top Line specializes in stainless steel materials – type 304 and 316L. Our modern, well equipped manufacturing facilities are staffed by skilled and dedicated craftsmen. Consistently meeting important tolerances and finish specifications is of primary concern to us. Before any products leave our plant they are subjected to rigid quality assurance checks.

Top Line should always be considered your first choice for both standard and custom fabricated stainless steel products.

Limited Warranty

Top Line Process Equipment Company products are warranted to be free of defects in material or workmanship for a period of one year from date of shipment. Warranty covers those Top Line products used in an approved installation and maintained in strict accordance with recognized standard industry practice. If, after properly authorized return, Top Line determines that products are defective, Top Line may at its option, repair or replace such defective products.

Top Line shall not be liable for consequential, indirect or incidental damages. The above warranty is in lieu of all other warranties, expressed or implied.