

C41 • C51 • C61 Series Centrifugal Pumps



- Capacities to 100 GPM
- Heads to 140 Feet



MTH PUMPS

C41 • C51 • C61 Series Centrifugal Pumps

MTH C Series

Close-coupled centrifugal pumps from MTH provide economical performance for 5 to 100 GPM applications requiring heads from 10 to 140 feet. By combining the latest concepts in pump design with precision manufacturing, the C Series pumps deliver excellent efficiency and low NPSH requirements. Efficient manufacturing processes and highly optimized mechanical designs control costs. Maintenance costs are kept to a minimum by combining a highly serviceable design with quality components to provide a long service life.

Impeller Design

C Series semi-open impellers allow the pump to pass small solids and fibrous material while close running tolerances maintain high efficiency and performance. Impellers are pre-trimmed to be non-overloading to the pump and motor size indicated.

NPSH Requirements

C Series centrifugal pumps meet low net positive suction head requirements (NPSHR) without sacrificing efficiency. This is achieved by low fluid inlet velocity and gentle acceleration to peripheral velocities.

Mechanical Seal Box

The large seal chamber provides a wide fluid passage area for maximum cooling of the seal faces and allows debris and gases to be flushed away.

Axial Balance System

The C Series pumps utilize a thrust balancing system which combines the advantages of both static and dynamic balancing techniques to reduce axial thrust and provide longer bearing life.

D3 Motors

Similar to the T31 Series, the C Series takes advantage of our custom manufactured dual face D3 motors that incorporate a 304 stainless steel shaft and heavy-duty bearing. The stainless steel shaft eliminates the necessity of a shaft sleeve, thereby reducing the parts count and simplifying maintenance and servicing procedures. All D3 motors also feature a two-pole 50/60Hz rating, as well as CE Mark approval useful for OEM's with worldwide customers. The three-phase versions of the

D3 motors feature a compact TEFC enclosure and a range from 1/3 to 3HP. The single phase D3 motors have an ODP enclosure and a range from 1/3 to 2HP.

Adjustable Casing

C Series pump casings are axially adjustable allowing the use of custom impellers for OEM applications and to allow restoration of performance by closing up the internal clearances that develop over the course of a unit's extended service life.

Optional Features

Construction Materials

C Series pumps are available in stainless fitted iron, all bronze, and cast 316 stainless steel construction. Seal elastomer and "O" ring gaskets of Buna, EPR, and Viton are available. Carbon vs. ceramic seal/seat materials are standard with graphite impregnated silicon carbide as an option.

Inlet Strainer

A 90° suction strainer with a replaceable screen is available for installation in the suction line to help prevent foreign materials from entering the pump. A cap at the bottom of the strainer can be easily and quickly removed for screen cleaning or replacement.

Engineering Specifications

Horizontal Close Coupled

The contractor shall furnish (and install as shown on the plans) an MTH (C41) (C51) (C61) Series horizontal close-coupled centrifugal type pump size _____ (Stainless Fitted Iron) (All Bronze) (316 Stainless Steel) construction. Each pump shall have a capacity of _____ GPM when operating at a total head of _____ feet. Suction pressure will be _____ feet with a liquid temperature of _____°F.

The pump is to be furnished with 5/8" Type 21 mechanical seal with stainless steel metal parts, (Buna) (Viton) elastomers, (ceramic seat and

carbon washer) (Graphite impregnated silicon carbide seat and washer). A 304 stainless steel shaft shall be furnished in all pumps.

The pump casing shall be vertically split, end suction. (Top Discharge) (90° Discharge) (180° Discharge) (270° Discharge) The impeller shall use dynamic thrust balancing.

The pump shall be close-coupled to an 80mm "C" face _____ HP _____ phase _____ Hertz _____ Volt _____ RPM horizontal (Open Drip-Proof) (Totally Enclosed) motor with a CE Mark and UL rating.

STANDARD MATERIALS

PART	STAINLESS FITTED	ALL BRONZE	STAINLESS STEEL
Motor Bracket	Cast Iron ASTM A48	Bronze ASTM B62	Stainless Steel AISI 316
Casing	Cast Iron ASTM A48	Bronze ASTM B62	Stainless Steel AISI 316
Impeller	Stainless Steel AISI 316	Bronze ASTM B62	Stainless Steel AISI 316
Motor Shaft	Stainless Steel AISI 304	Stainless Steel AISI 304	Stainless Steel AISI 304
"O" Rings	Buna N	Buna N	Viton A
Seals	Carbon/Buna	Carbon/Buna	Carbon/Viton
Seats	Ceramic/Buna	Ceramic/Buna	Ceramic/Viton

LIMITATIONS

Discharge Pressure	200 PSI
Suction Pressure* (Max)	100 PSI
Suction Pressure (Min)	26" Hg Vac.
Speed** (Max.)	5500 RPM

Temperature

Standard Construction	-20° F
Ceramic Seal Seat - Water	+230° F
Graph. Imp. Silicon Carbide Seal Seat & Seal Flush	+250° F

Horsepower

D3 - 3Ø	3 HP
D3 - 1Ø	2 HP

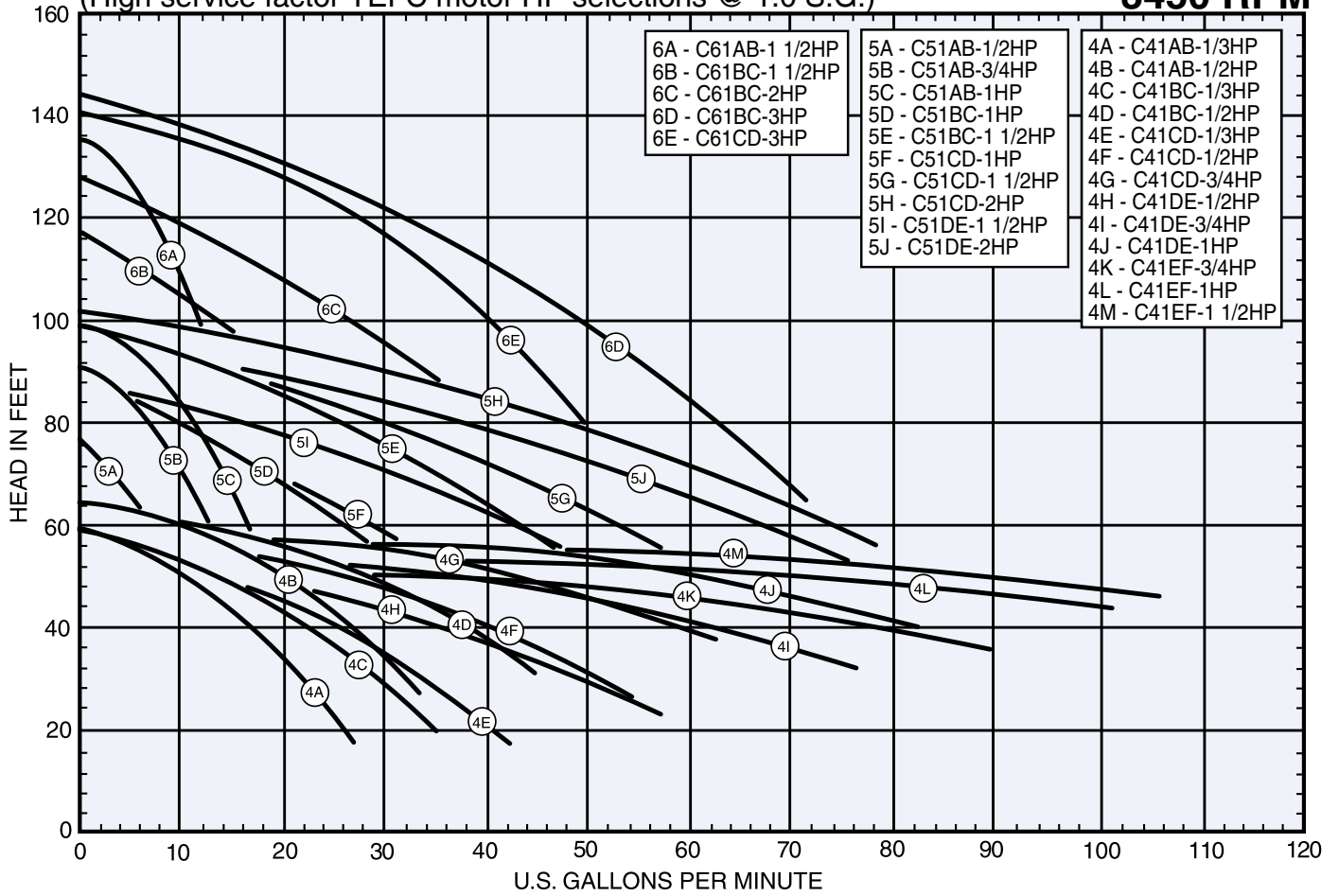
* Suction Pressure Plus 50 Percent of Differential Pressure

** With variable frequency drive @ 90Hz

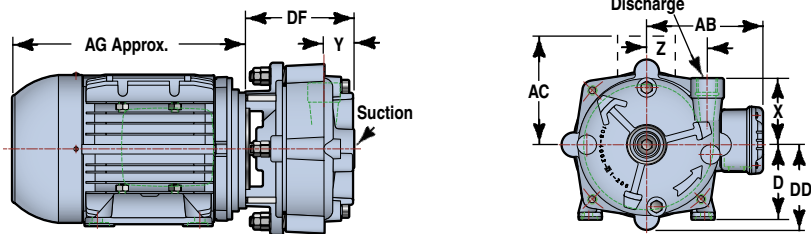
Performance Curves (Three Phase)

(High service factor TEFC motor HP selections @ 1.0 S.G.)

3450 RPM



Dimensions (Three Phase)



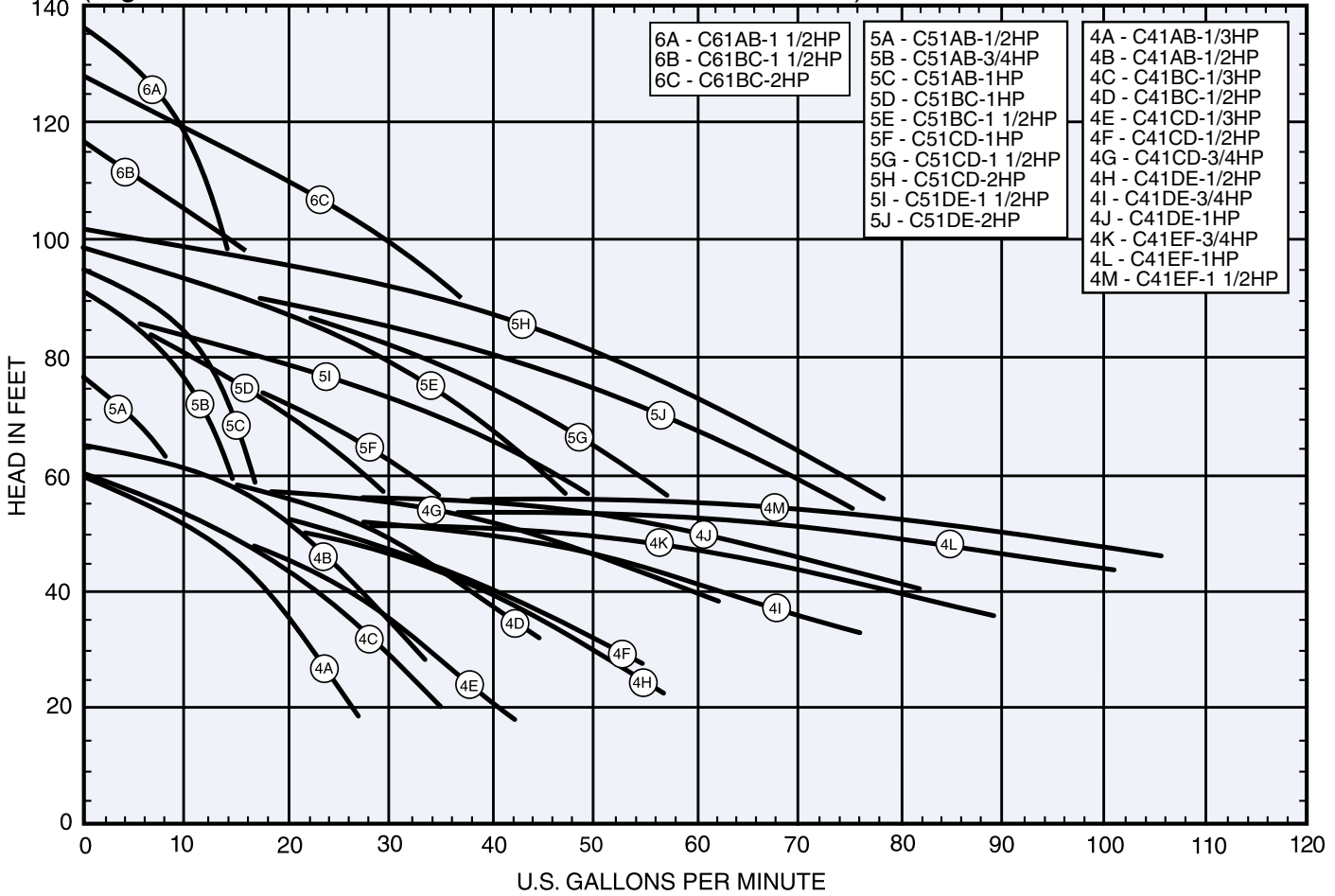
Model	Pump Size			3 Phase TEFC Motors														
	Disch.	Suction	Imp. Ø	71 Frame (1/3HP - 1HP)					80 Frame (1 1/2HP - 2HP)					90 Frame (3HP)				
	DD	DF	X	Y	Z	AB	D	AG	AB	D	AG	AC	D	AG				
C41AB	1/2	3/4	4	3 1/4	4 3/16	2 9/16	1 3/16	2 5/16	5	2 13/16	8 13/16	---	---	---	---	---	---	
C41BC	3/4	1	4	3 1/4	4 3/8	2 5/8	1 5/16	2 7/16	5	2 13/16	8 13/16	---	---	---	---	---	---	
C41CD	1	1 1/4	4	3 1/4	4 9/16	2 3/4	1 1/2	2 9/16	5	2 13/16	8 13/16	---	---	---	---	---	---	
C41DE	1 1/4	1 1/2	4	3 7/16	4 13/16	2 15/16	1 3/4	2 11/16	5	2 13/16	8 13/16	---	---	---	---	---	---	
C41EF	1 1/2	2	4	3 5/16	5 3/16	2 15/16	2 1/16	2 13/16	5	2 13/16	8 13/16	5 1/8	3 1/8	9 7/16	---	---	---	
C51AB	1/2	3/4	5	3 1/2	4 3/8	3 1/16	1 5/16	2 3/4	5	2 13/16	8 13/16	---	---	---	---	---	---	
C51BC	3/4	1	5	3 1/2	4 7/16	3 1/16	1 5/16	2 13/16	5	2 13/16	8 13/16	5 1/8	3 1/8	9 7/16	---	---	---	
C51CD	1	1 1/4	5	3 5/8	4 9/16	3 3/16	1 1/2	3	5	2 13/16	8 13/16	5 1/8	3 1/8	9 7/16	---	---	---	
C51DE	1 1/4	1 1/2	5	3 11/16	4 15/16	3 3/4	1 7/8	3 1/16	---	---	---	5 1/8	3 1/8	9 7/16	---	---	---	
C61AB	1/2	3/4	6	3 15/16	4 5/8	3 7/16	1 1/2	3 5/16	---	---	---	5 1/8	3 1/8	9 7/16	---	---	---	
C61BC	3/4	1	6	3 15/16	4 7/16	3 15/16	1 5/16	3 1/4	---	---	---	5 1/8	3 1/8	9 7/16	5 7/8	3 9/16	11 5/16	
C61CD	1	1 1/4	6	3 15/16	5 3/16	4 5/8	2 1/8	3 3/16	---	---	---	5 7/8	3 9/16	11 5/16	---	---	---	

All units in inches

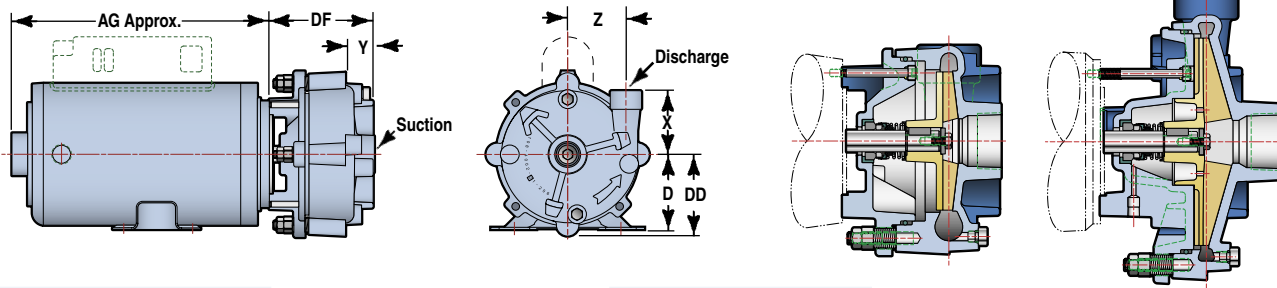
Performance Curves (Single Phase)

(High service factor ODP motor HP selections @ 1.0 S.G.)

3450 RPM



Dimensions (Single Phase)



Pump Size	Single Phase ODP Motors											
	48 Frame (1/3 - 1 1/2HP)					56 Frame (2HP)						
Model	Disch.	Suction	Imp. Ø	DD	DF	X	Y	Z	D	AG(Max.)	D	AG
C41AB	1/2	3/4	4	3 1/4	4 3/16	2 9/16	1 3/16	2 5/16	3	10 1/4	---	---
C41BC	3/4	1	4	3 1/4	4 3/8	2 5/8	1 5/16	2 7/16	3	10 1/4	---	---
C41CD	1	1 1/4	4	3 1/4	4 9/16	2 3/4	1 1/2	2 9/16	3	10 13/16	---	---
C41DE	1 1/4	1 1/2	4	3 7/16	4 13/16	2 15/16	1 3/4	2 11/16	3	10 13/16	---	---
C41EF	1 1/2	2	4	3 5/16	5 3/16	2 15/16	2 1/16	2 13/16	3	11 5/16	---	---
C51AB	1/2	3/4	5	3 1/2	4 3/8	3 1/16	1 5/16	2 3/4	3	10 13/16	---	---
C51BC	3/4	1	5	3 1/2	4 7/16	3 1/16	1 5/16	2 13/16	3	11 5/16	---	---
C51CD	1	1 1/4	5	3 5/8	4 9/16	3 3/16	1 1/2	3	3	11 5/16	3 1/2	10 15/16
C51DE	1 1/4	1 1/2	5	3 11/16	4 15/16	3 3/4	1 7/8	3 1/16	3	11 5/16	3 1/2	10 15/16
C61AB	1/2	3/4	6	3 15/16	4 5/8	3 7/16	1 1/2	3 5/16	3	11 5/16	---	---
C61BC	3/4	1	6	3 15/16	4 7/16	3 15/16	1 5/16	3 1/4	3	11 5/16	3 1/2	10 15/16

All units in inches
Bulletin C © 2005 MTH Tool Company

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