

Centrifugal Pumps

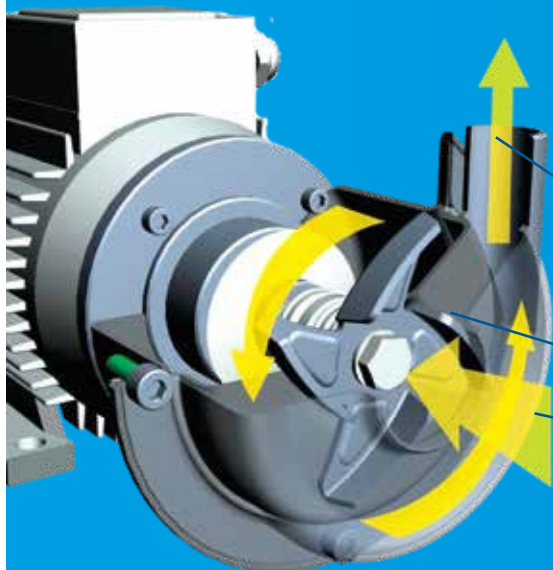
versatile solution for various industries

Tapflo Centrifugal pumps are some of the most versatile pumps on the market today. They can be used in a variety of installations in numerous applications. Thanks to the simple operating principle, with a compact and reliable design the pump range has a very wide spectrum of applications - from transfer of food products to pumping chemicals.

Tapflo centrifugal pumps range:

» CTX high performance centrifugal pumps	p. 4	» CTV vertical centrifugal pumps	p. 18
» CT horizontal centrifugal pumps	p. 10	» CTP plastic mechanically sealed centrifugal pumps	p. 21
» CTS self-priming centrifugal pumps	p. 15	» CTM magnetic drive centrifugal pumps	p. 24

Working principle



The key component of a centrifugal pump is an impeller. The liquid enters the pump casing axially to the impeller eye. The rotating impeller generates a centrifugal force accelerating the liquid through the pump casing and into the discharge piping.

DISCHARGE
IMPELLER
SUCTION

Impeller types

Centrifugal pumps from Tapflo are available with all major types of impellers: closed, semi-open and open.

Closed impeller

- » designed for clean liquids, without impurities
- » high efficiency

Semi-open impeller

- » designed for liquids with slight impurities
- » efficiency almost as good as closed impeller

Open impeller

- » designed for liquids with solid particles



Closed impeller
(CTM)



Closed impeller
(plastic CTV)



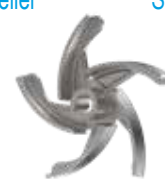
Semi-open impeller
(CTP)



Semi-open impeller
(CTI, CTH)



Open impeller
(CTX)



Open impeller
(CTI, CTH, CTS, CTV)

Wide range of applications



Food & beverage

Transfer of various ingredients and food and beverage products.



Research & pharma

Transfer of a variety of high-grade chemicals and solvents.



Water treatment

Fluid transfer in water treatment installations.



Waste water treatment

Emptying sumps.



Surface treatment

Transfer and circulation in galvanizing, hot-dip, pickling and oxidation processes.



Mechanical industry

Transfer of flocculent, suspensions, chemical reagents and sludges.



Demineralization

Demi-water circulation and transfer in many industrial applications.



Heat exchangers

Circulation in heat exchangers.



Paint industry

Transfer of water and solvent based paints, ink, varnish, glue, adhesives.



Paper mills

Dosing various chemicals.

CTX High Performance Centrifugal Pumps

the premium pump series from Tapflo with superior performance

Thanks to the robust construction and a compact and reliable design, CTX pumps assure long term failure-free operation thus short downtimes.

CTX pumps are available in hygienic and industrial execution.

CTX H - hygienic execution

- » **wetted parts** electropolished to $Ra < 0.8 \mu m$ as standard ($Ra < 0.5 \mu m$ on request)
- » **external surfaces** glass blasted to $Ra < 3.2 \mu m$
- » single and double mechanical seals and elastomers **FDA and EC1935 approved**
- » **hygienic connections** with DIN 11851 as standard

CTX I - industrial execution

- » **wetted parts** and **external surfaces** glass blasted to $Ra < 3.2 \mu m$ as standard
- » **industrial connections** with EN1092-1 flange as standard



EN 10204



Certificates may vary depending on material execution of particular product.

Features

- | | |
|------------------------------------|--|
| ✓ High efficiency | ✓ Adjusted (trimmed) impeller |
| ✓ Hygienic & Industrial execution | ✓ Robust construction, easy maintenance, less downtime |
| ✓ Single or double mechanical seal | ✓ Modular design concept |
| ✓ Low noise, low vibration | ✓ Low NPSHr |

Open impeller

CTX series pumps have **robust, high efficiency** and **low NPSH design** open impellers.

The adjustment of CTX pumps performance to concrete duty points or ranges could be done by **impellers trimming** at constant speeds or by pump speed adjustment at constant impeller diameters.

CTX range open impellers are easily cleanable and suitable for pumping liquids also with **suspended solids**.



Designed for quality performance

Hygienic mechanical seal arrangement

Single mechanical seal

The seal spring is not in contact with the medium what makes seal wetted area fully cleanable.

Double mechanical seal

The seal is applied:

- when the fluid and its vapors are hazardous to the operator or environment, and must be contained
- when aggressive media are used at high pressures or temperatures
- for many polymerizing, crystalizing media.

Seal in back-to-back arrangement is installed in separate chamber.



Variety of connections

CTX H Hygienic execution - DIN 11851, DIN 32676 and other (on request).

CTX I Industrial execution - flanged connections according to EN 1092-1 type 11, ANSI 150 Lbs. Other connection types on request.



Casing available in $Ra < 0.5$

» Hygienic CTX H **wetted parts** electropolished to $Ra < 0.8 \mu m$ as standard ($Ra < 0.5 \mu m$ on request), **external surfaces** glass blasted to $Ra < 3.2 \mu m$.



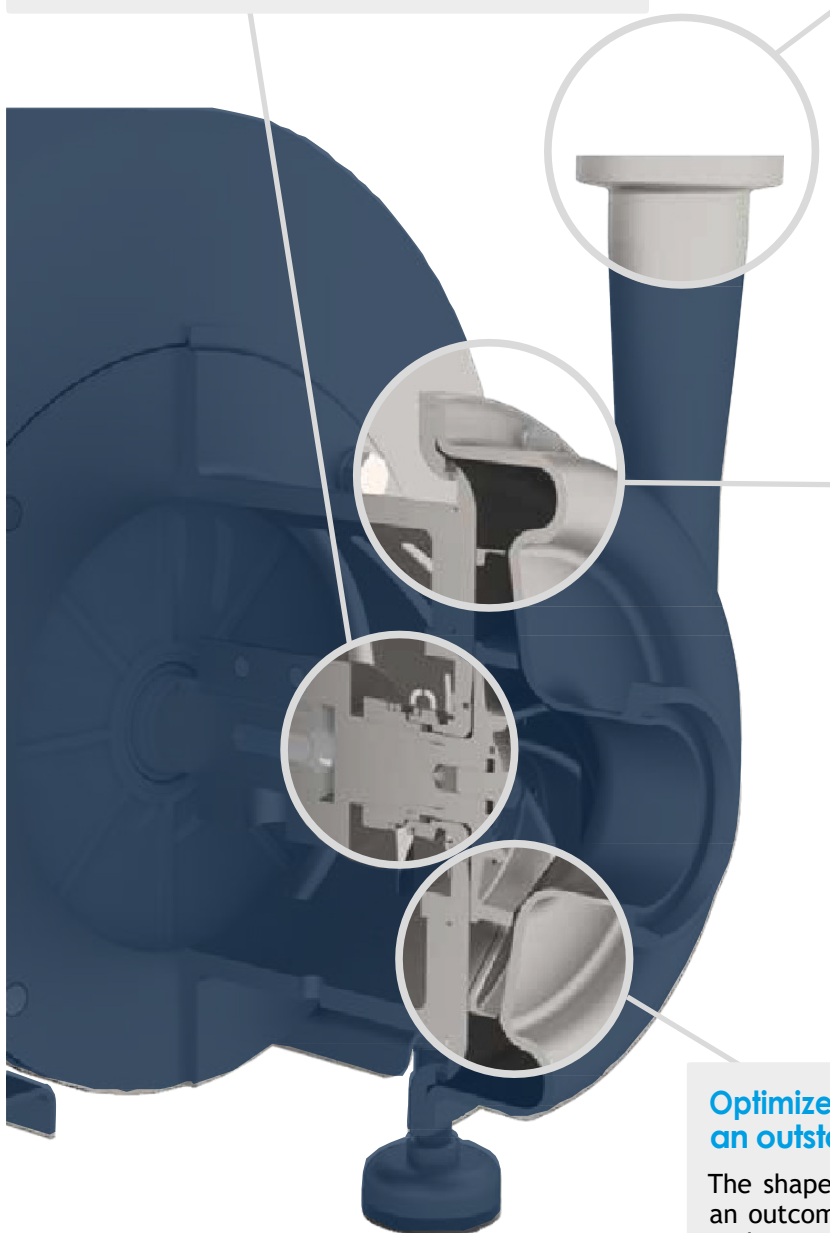
» Industrial CTX I glass blasted $Ra < 3.2 \mu m$ of the wetted parts and the external surfaces.



Optimized casing and impeller design for an outstanding performance

The shapes of the chamber and the impeller are an outcome of an advanced multivariate analysis and numerous performance tests.

Both these elements were designed and optimized to deliver the most efficient working parameters.



CTX H- hygienic series

Materials, data and limits

Casing	AISI 316L stainless steel wetted parts: electropolished to Ra<0.8 µm
Impeller	Stainless steel AISI 316L electropolished to Ra<0.8 µm
Mechanical seal	Single, SiC/carbon (std) or SiC/SiC, FDA approved Double, SiC/carbon (std) or SiC/SiC, FDA approved
O-rings	EPDM, FKM, NBR (all FDA approved)
Motor*	IEC standard, 3-phase, 2-pole/4-pole, IP55
Pressure rating @ 20°C	PN10 - CTX 40-165, CTX 50-145, CTX 50-200, CTX 65-175 PN16 - CTX 65-230, CTX 65-240, CTX 80-205, CTX 80-212, CTX 80-260, CTX 100-230
Liquid temp.	-10 °C ... +120 °C (140 °C for short periods during SiP)
Ambient temp.	-20 °C ... +40 °C
Viscosity	max ~150 cSt

*other motor options available on request

Connection dimensions

Model	DIN 11851 thread (std.)		DIN 32676 clamp		SMS3017 clamp		SMS 1145 thread		RJT thread	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
CTX 40-165	DN40	DN32	DN40	DN32	38	33.7	38	32	1 1/2"	1 1/4"
CTX 50-145	DN50	DN40	DN50	DN40	51	38	51	38	2"	1 1/2"
CTX 50-200	DN50	DN40	DN50	DN40	51	38	51	38	2"	1 1/2"
CTX 65-175	DN65	DN50	DN65	DN50	63.5	51	63.5	51	2 1/2"	2"
CTX 65-230	DN65	DN50	DN65	DN50	63.5	51	63.5	51	2 1/2"	2"
CTX 65-240	DN65	DN40	DN65	DN40	63.5	38	63.5	38	2 1/2"	1 1/2"
CTX 80-205	DN80	DN50	DN80	DN50	76.1	51	76	51	3"	2"
CTX 80-212	DN80	DN65	DN80	DN65	76.1	63.5	76	63.5	3"	2 1/2"
CTX 80-260	DN80	DN65	DN80	DN65	76.1	63.5	76	63.5	3"	2 1/2"
CTX 100-230	DN100	DN80	DN100	DN80	101.6	76.1	101.6	76	4"	3"

Options and special executions



Built-on inverter

This is **easiest and most flexible way of changing pump working parameters**. In addition, the pump and motor are protected from overloading and a soft-start function is included.



Adjustable feet

The solution allows **easy cleaning** of the surface underneath the pump. It can also prove useful when there is a need to move the pump to a different location.



Inducer

The inducer increases inlet pressure thus lowering the NPSHr of the pump. This option is very **easy to accommodate even in existing pumps** as only the inducer has to be screwed onto the impeller.



Hygienic connections

The hygienic CTX H pumps are equipped with a wide range of connections such as: **DIN 11851, DIN 32676, SMS3017, SMS 1145, RJT and other**.



Hygienic shroud

The hygienic motor shroud in AISI 304L **protects the motor against flooding**, deposition of dirt, from spraying water during pump cleaning procedure.



CTX I- industrial series

Materials, data and limits

Casing	AISI 316L stainless steel glass blasted to Ra<3.2 µm
Impeller	AISI 316L stainless steel glass blasted to Ra<3.2 µm
Mechanical seal	Single, SiC/carbon (std) or SiC/SiC, FDA approved Double, SiC/carbon (std) or SiC/SiC, FDA approved
O-rings	EPDM, FKM, NBR (all FDA approved)
Motor*	IEC standard, 3-phase, 2-pole/4-pole, IP55
Pressure rating @ 20°C	PN10 - CTX 40-165, CTX 50-145, CTX 50-200, CTX 65-175 PN16 - CTX 65-230, CTX 65-240, CTX 80-205, CTX 80-212, CTX 80-260, CTX 100-230
Liquid temp.	-10 °C ... +120 °C (140 °C for short periods during SiP)
Ambient temp.	-20 °C ... +40 °C
Viscosity	max ~150 cSt

*other motor options available on request



Connection dimensions

Model	BSPT male thread		EN1092-1 flange (std.)		ANSI 150 Lbs flange	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
CTX 40-165	1 1/2"	1 1/4"	DN40	DN32	1 1/2"	1 1/4"
CTX 50-145	2"	1 1/2"	DN50	DN40	2"	1 1/2"
CTX 50-200	2"	1 1/2"	DN50	DN40	2"	1 1/2"
CTX 65-175	2 1/2"	2"	DN65	DN50	2 1/2"	2"
CTX 65-230	2 1/2"	2"	DN65	DN50	2 1/2"	2"
CTX 65-240	2 1/2"	1 1/2"	DN65	DN40	2 1/2"	1 1/2"
CTX 80-205	3"	2"	DN80	DN50	3"	2"
CTX 80-212	3"	2 1/2"	DN80	DN65	3"	2 1/2"
CTX 80-260	3"	2 1/2"	DN80	DN65	3"	2 1/2"
CTX 100-230	4"	3"	DN100	DN80	4"	3"

Options and special executions



Built-on inverter

This is **easiest and most flexible way of changing pump working parameters**. In addition, the pump and motor are protected from overloading and a soft-start function is included.



Industrial flanged connections

The industrial CTX I pumps are equipped with connections according to **EN 1092-1 type11, ANSI 150 Lbs**. Other connection types on request



Adjustable feet

The solution allows **easy cleaning** of the surface underneath the pump. It can also prove useful when there is a need to move the pump to a different location.



Mounting brackets

Complete pump unit may be assembled on a baseplate **which can be firmly, permanently fixed to the foundation**

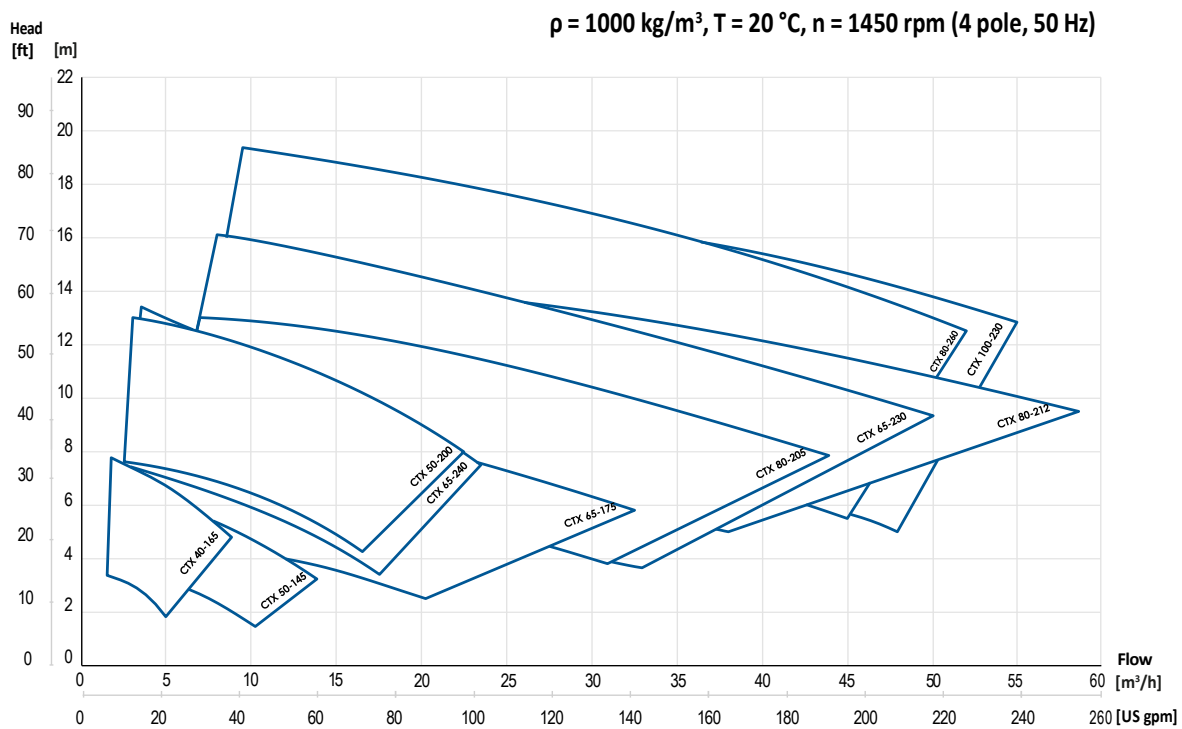
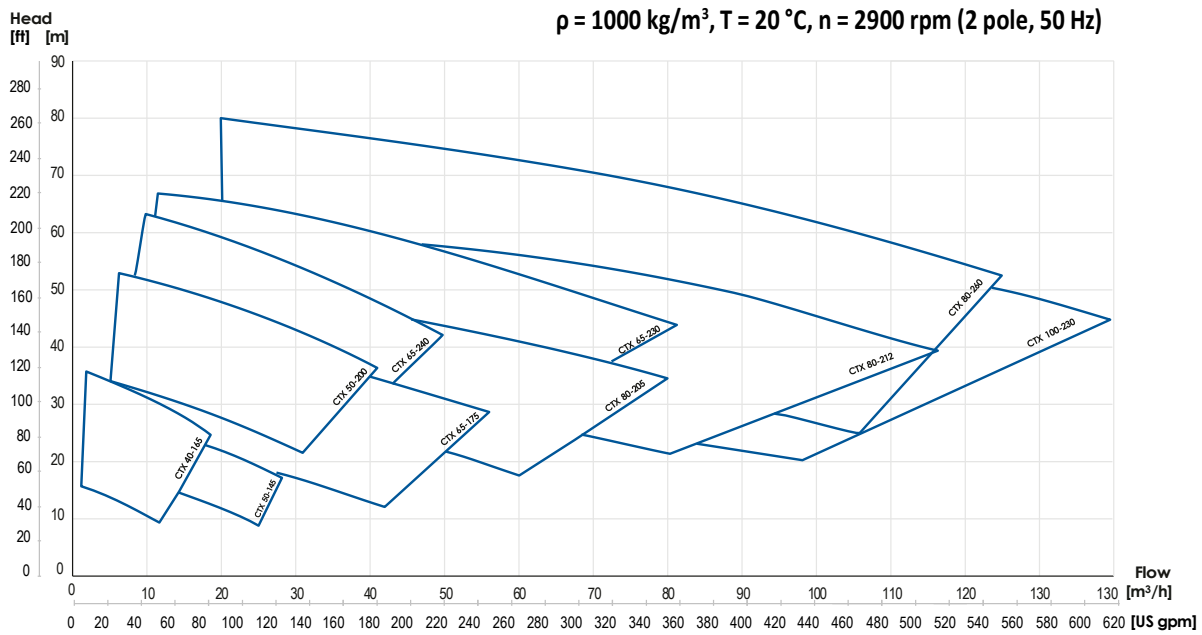


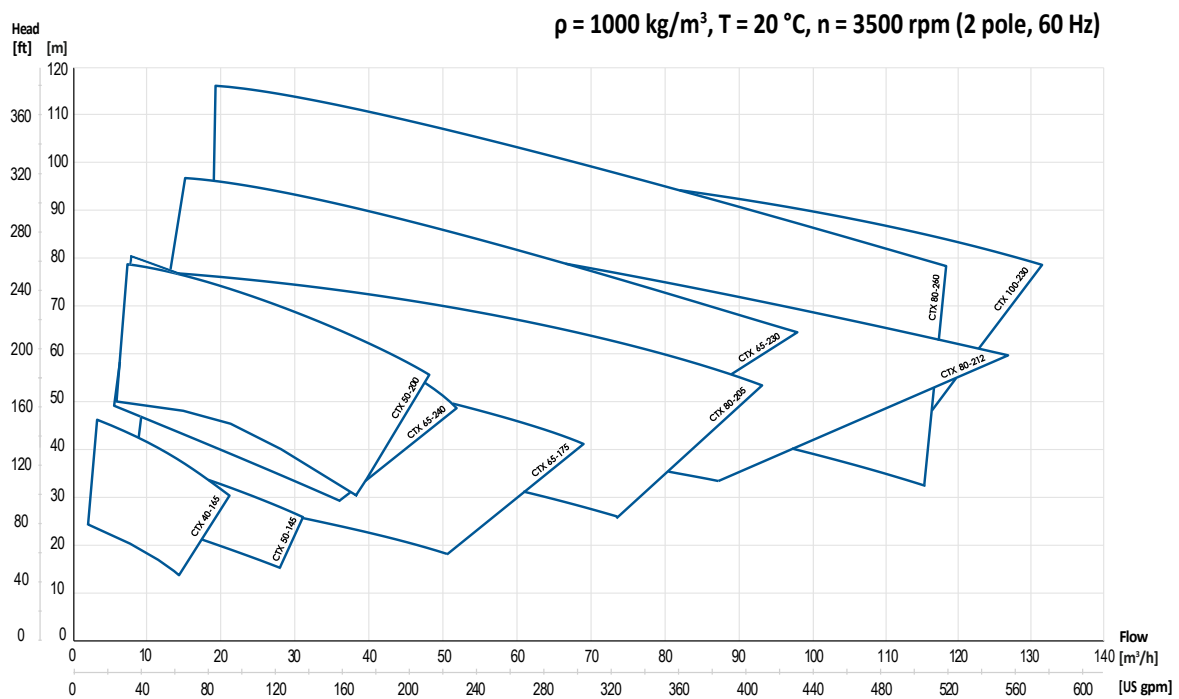
Inducer

The inducer increases inlet pressure thus lowering the NPSHr of the pump. This option is very **easy to accommodate even in existing pumps** as only the inducer has to be screwed onto the impeller.

Performance curves

The performance curves are based on water.





Available motor powers

2-pole motor	40-165	50-145	50-200	65-175	65-230	65-240	80-208	80-212	80-260	100-230
Motor power [kW]	1.5; 2.2; 3; 4; 5.5; 7.5		3; 4; 5.5; 7.5; 11; 15; 18.5			5.5; 7.5; 11; 15; 18.5; 22; 30; 37; 45				
4-pole motor	40-165	50-145	50-200	65-175	65-230	65-240	80-208	80-212	80-260	100-230
Motor power [kW]	1.5		2.2			5.5				

CTX Pump code

I. Tapflo centrifugal pump

CTX

II. Pump execution

H

III. Pump size

65-240/

IV. Impeller size

220

V. Pump options

1SSV3T

VI. Motor power

75

VII. Motor options

M

CTXS - self-priming series

hygienic and industrial

Thanks to its self-priming capability, the pump can be used in situations where a dry suction lift is necessary. As the standard CTX pump is not capable of generating negative pressure, by a simple modification, we can allow the pump to lift the liquid from up to 5 m. To maintain a liquid ring inside the pump after the initial filling, the return pipe will re-circulate the liquid from the discharge side of the pump.



EN 10204

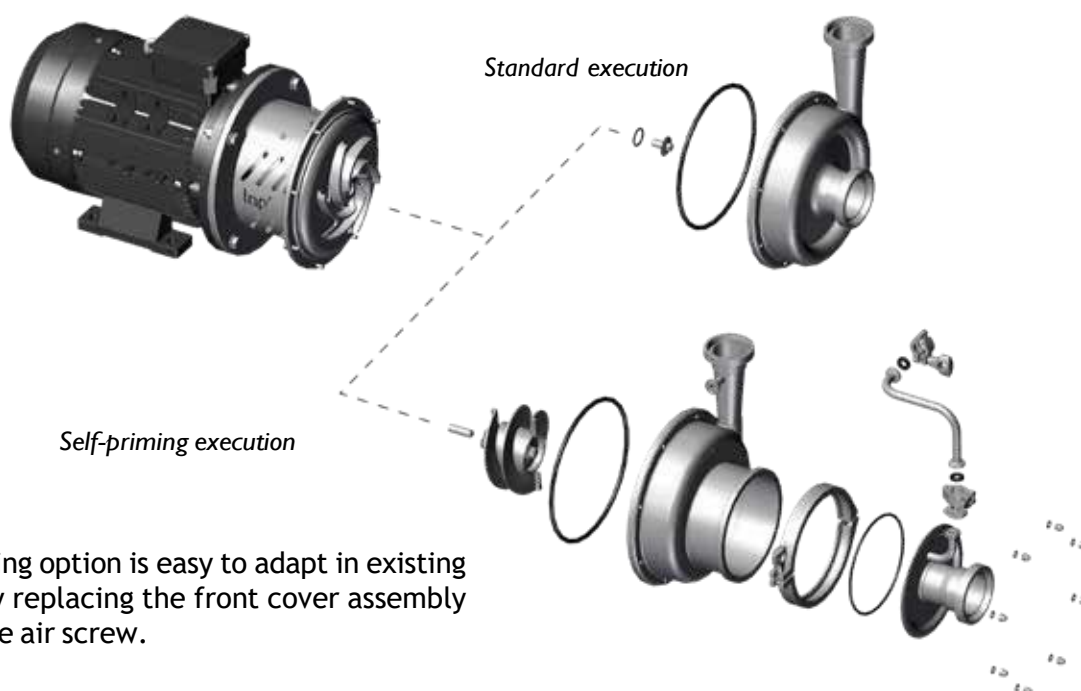


Certificates may vary depending on material execution of particular product.

Features

- ✓ Self-priming - up to 5 m
- ✓ Hygienic and Industrial solution
- ✓ Easy maintenance and cleaning
- ✓ Simple and compact design

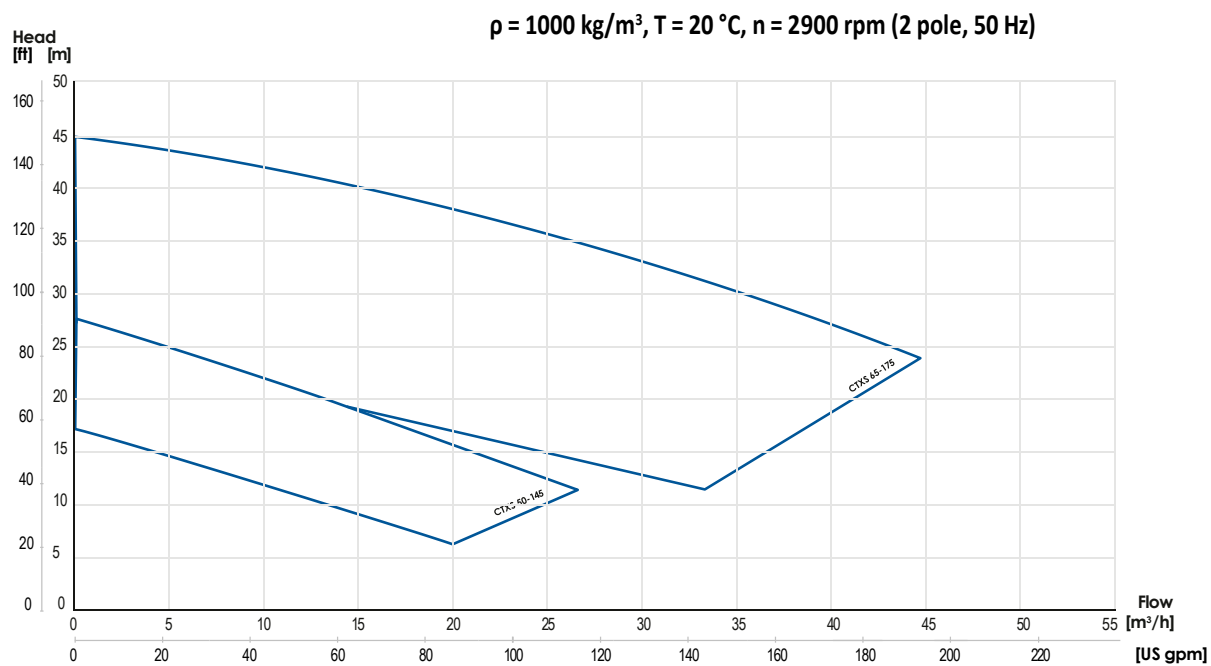
Comparison of standard and self-priming execution.



The self-priming option is easy to adapt in existing pumps just by replacing the front cover assembly and adding the air screw.

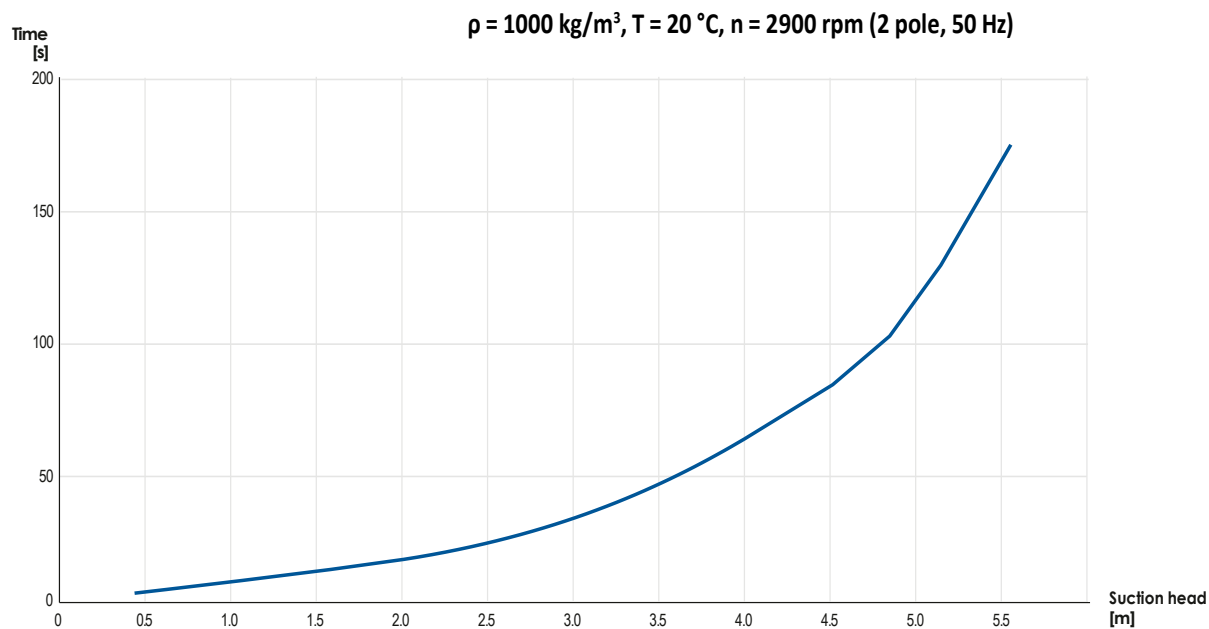
Performance curves

The performance curves are based on water.



Suction curves

The suction curve is based on water.



CTX Pump code

I. Tapflo centrifugal pump

CTX

II. Pump execution

H

III. Pump size

65-240

IV. Impeller diameter

220

V. Pump options

1SSV3T

VI. Motor power / IEC motor size

75

VII. Motor options

M

CTH & CTI Centrifugal Pumps

meet the demands of various modern industries

The CT pumps are open or semi-open impeller single stage centrifugal pumps. They are manufactured in high finish and mechanically strong material - AISI 316L stainless steel. CT pumps are available in hygienic and industrial execution.

CTH - hygienic execution

- » **pump casing and wetted parts** electropolished to $Ra < 0,8 \mu m$
- » intended for hygienic duties in food, beverage and pharmaceutical industries, **where cleanability is an important factor**
- » mechanical seals and elastomers **FDA and EC1935 approved**
- » **hygienic connections** with DIN 11851 as standard

CTI - industrial execution

- » **pump casing** (both external and wetted parts) glass blasted to $Ra < 1,6 \mu m$
- » a variety of connection types, mechanical seal options and other executions are available to **satisfy most of industrial duties**
- » **as standard BSPT thread connection** or with flanged connections according to **EN 1092-1 or ANSI 150 Lbs**



Certificates may vary depending on material execution of particular product.

Features

- | | |
|-----------------------------|-----------------------------------|
| ✓ Simple and compact design | ✓ Competitive price-quality ratio |
| ✓ Low maintenance cost | ✓ Multiple options |
| ✓ Open impeller | ✓ Solids handling |
| ✓ High grade materials | ✓ Wide range of applications |

Big choice of sealing solutions

To suit most type of liquids the CTI & CTH pump range features top brand mechanical seals in a variety of materials:

- » ceramics / carbon,
- » carbon / SiC
- » SiC / SiC

and elastomer parts made of EPDM (standard), FKM, FFKM, FEP / silicon or NBR.



CTH - hygienic series

Materials, data and limits

Casing	AISI 316L stainless steel electropolished to Ra<0.8 µm
Impeller	AISI 316L stainless steel electropolished to Ra<0.8 µm
Mechanical seal	Single ceramic/carbon (standard), SiC/SiC or SiC/carbon
O-rings	EPDM, FKM, FFKM, NBR, FEP compliant with FDA and EC 1935/2004 directive requirements
Motor*	IEC standard, 3-phase, 2-pole/4-pole, IP55
Max pressure	10 bar (PN10)
Temperature	max 90 °C, max 180 °C for long coupled version
Viscosity	max ~200 cSt
Particles	max diameter is Ø 6 mm (with standard open impeller), bigger if soft particles

*other motor options available on request



Connection dimensions

Model	DIN 11851 thread (standard)		DIN 32676 clamp		ISO 2852 clamp		SMS 1145 thread		RJT thread	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
CTH A...	25	25	25	20	25	21.3	38	25	1 1/2"	1"
CTH B...	40	32	40	25	38	25	51	38	1 1/2"	1 1/2"
CTH C...	40	40	40	40	38	38	51	38	3"	3"
CTH D...	65	50	65	50	70	51	63	51	3"	2"
CTH E...	65	50	65	50	70	51	63	51	3"	2"

Options and special executions



Hygienic shroud

The hygienic motor shroud in polished AISI 304L **protects the motor from spraying water during pump cleaning procedure.**



Buffer fluid system

A great option **when the product tends to solidify or crystalize.** An oil reservoir is connected to the mechanical seal chamber.



Long coupled execution

The perfect solution **when pumping hot products** like edible oil. Complete pump unit **mounted on baseplate, with coupling and cover.**



Casing drainage

Draining plug with variety of connection types, **allow to empty the pump** at the end of the process.



Heating jacket

Great **protection for the mechanical seal** in cases where product solidification is likely. The heating jacket is also **used when the pumped product has to maintain a specific temperature**, high or low. A heating or cooling medium is continuously circulated in the jacket.



Adjustable feet

The solution allows **easy cleaning** of the surface underneath the pump. It can also prove useful when there is a need to move the pump to a different location.

CTI - industrial series

Materials, data and limits

Casing	AISI 316L stainless steel glass blasted to Ra<1,6 µm
Impeller	AISI 316L stainless steel electropolished
Mechanical seal	Single ceramic/carbon (standard), SiC/SiC or SiC/carbon
O-rings	EPDM (standard), FKM, FFKM, FEP/silicone or NBR
Motor*	IEC standard, 3-phase, 2-pole/4-pole, IP55
Max pressure	10 bar (PN10)
Temperature	max 90 °C, max 180 °C for long coupled version
Viscosity	max ~200 cSt
Particles	max diameter is Ø 6 mm (with standard open impeller), bigger if soft particles

*other motor options available on request



Connection dimensions

Model	BSPT male thread (standard)		EN 1092-1		ANSI 150 Lbs flange	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
CTI A...	1"	¾"	DN25	DN 20	1"	¾"
CTI B...	1 1/2"	1"	DN40	DN25	1 1/2"	1"
CTI C...	1 1/2"	1 1/2"	DN40	DN40	1 1/2"	1 1/2"
CTI D...	2 1/2"	2"	DN65	DN50	2 1/2"	2"
CTI E...	2 1/2"	2"	DN65	DN50	2 1/2"	2"

Options and special executions



Flushed seal

Ideal **when abrasive or sticky particles are present**. System where a small amount of the pumped product is recirculated from the discharge side to the seal chamber, will protect the mechanical seal and seal chamber from excessive wear.



Buffer fluid system

A great option **when the product tends to solidify or crystallize**. An oil reservoir is connected to the mechanical seal chamber.



Long coupled execution

The perfect solution **when pumping hot products** like oil or paraffin wax at temperatures **up to 180 °C**. Complete pump unit **mounted on baseplate, with coupling and cover**.



Casing drainage

The drain connection at the bottom of the pump casing **allows to fully drain the pumped liquid from the casing**.



Flanged connections

The CTI pump can be supplied with a **standard BSPT thread connection** or with flanged connections according to **EN 1092-1 or ANSI 150 Lbs**.

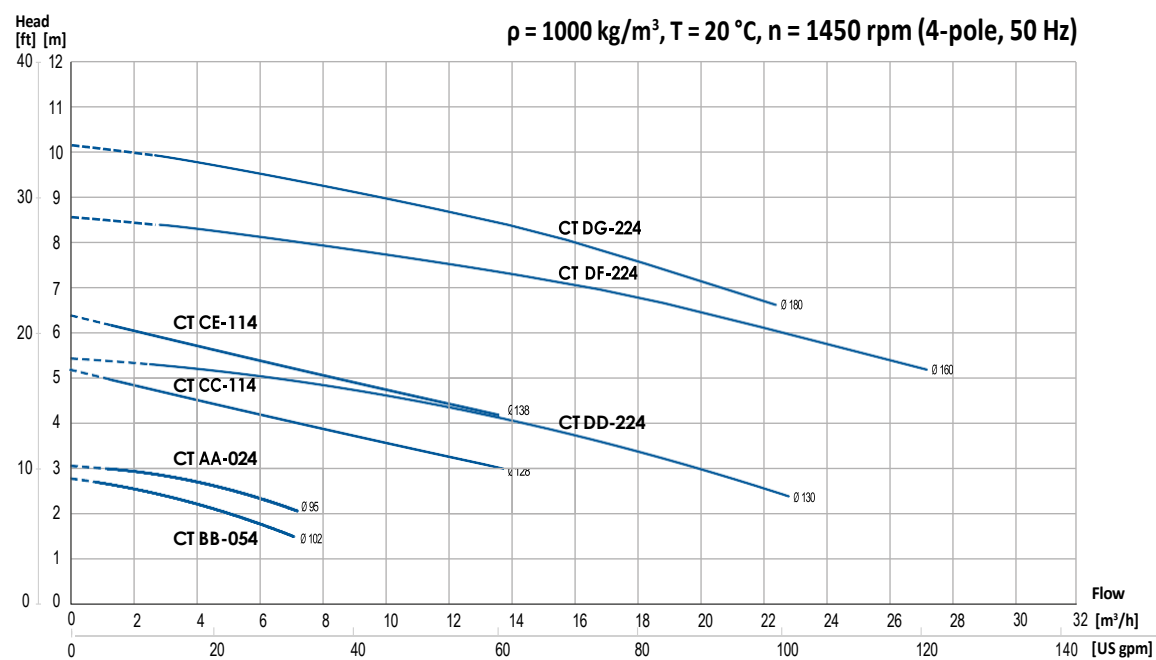
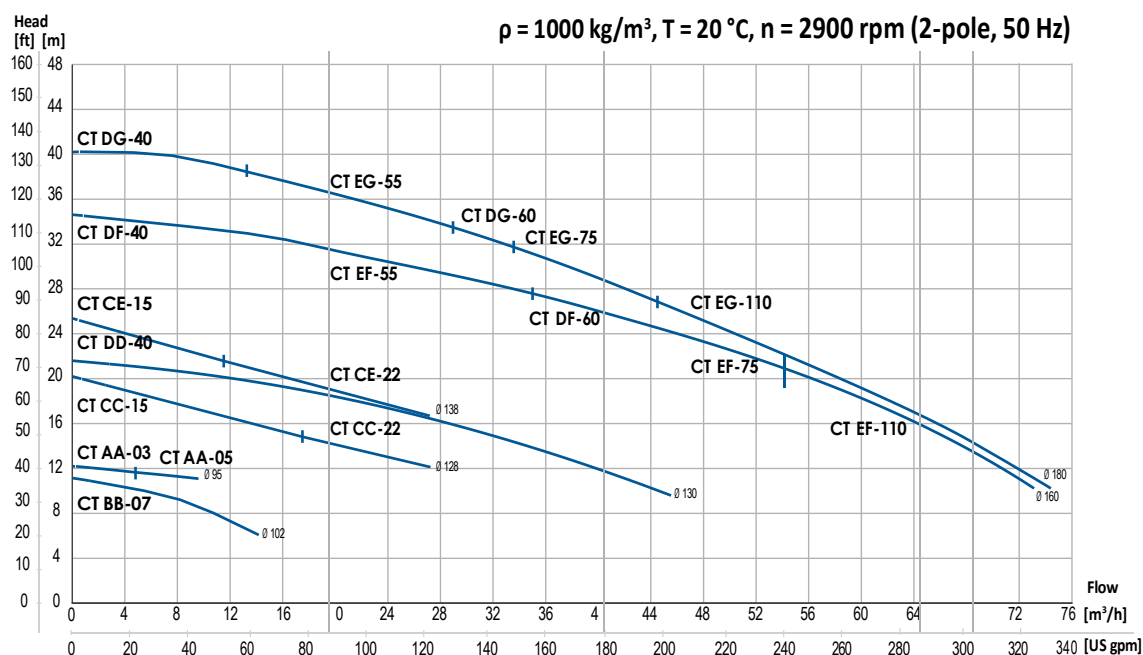


Mounting brackets

Complete pump unit may be assembled on a baseplate **which can be firmly, permanently fixed to the foundation**.

Performance curves

The performance curves are based on water.



Available motor powers

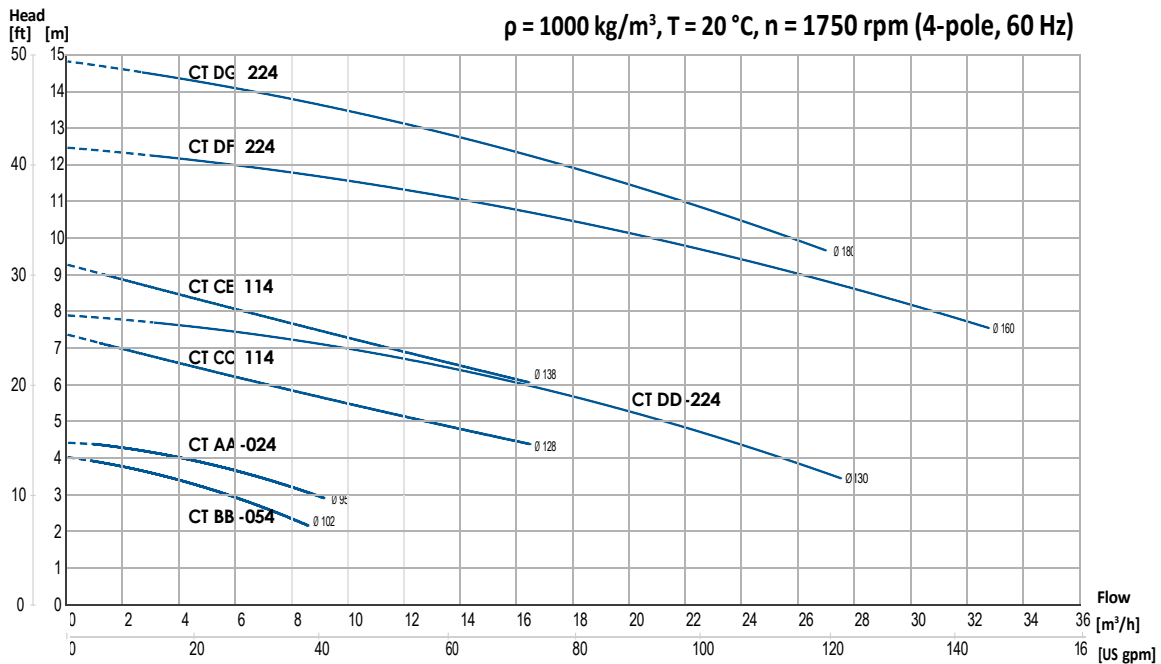
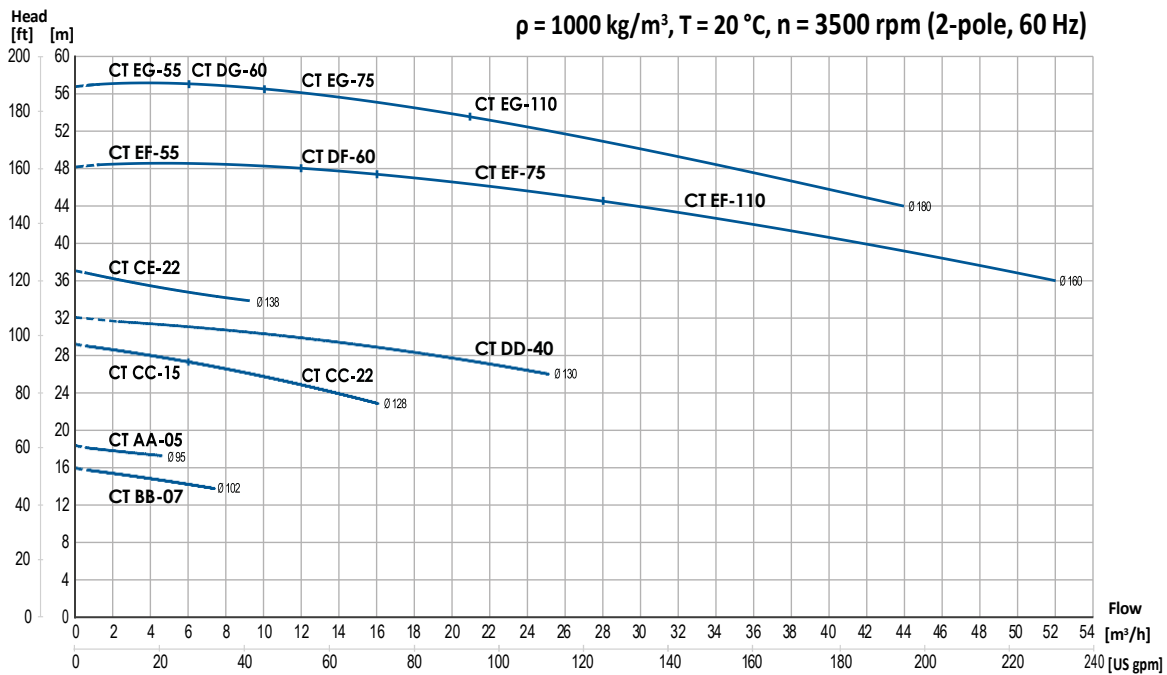
2-pole motor	AA-03	AA-05	BB-07	CC-15	CC-22 CE-22	DD-40 DF-40	DF-60 DG-60	EF-55 EG-55	EF-75 EG-75	EG-110 EF-110
Motor power [kW]	0.37	0.55	0.75	1.5	2.2	4.0	6.0	5.5	7.5	11*
IEC motor size	71	71	80	90	90	112	112	132	132	160

* Long coupled execution

4-pole motor	AA-024	BB-054	CC-114; E-114	DD-224; DF-224; DG-224
Motor power [kW]	0.25	0.55	1.1	2.2
IEC motor size	71	80	90	100

Performance curves

The performance curves are based on water.



CT Pump code

I. Tapflo centrifugal pump

CT

II. Pump execution

I

III. Casing size

C

IV. Impeller size

C

V. Pump options

1CGV3F

VI. Motor power

03

VII. Motor options

M

CTS Self-priming Centrifugal Pumps

perfectly complement the series of centrifugal pumps

The CTS are open impeller self-priming centrifugal pumps, manufactured from AISI 316L stainless steel. They are capable of creating up to 4,5 m of suction lift. The CTS series maintains all the benefits and strengths of the standard CT pumps. CTS pumps are available in hygienic and industrial execution.

CTS H - hygienic execution

- » surfaces electropolished to $Ra < 0.8 \mu m$
- » meet the demands of **food and sanitary applications** (high finish, mechanical strength)
- » mechanical seals and elastomers **FDA and EC1935 approved**
- » **hygienic connections** with DIN 11851 as standard

CTS I - industrial execution

- » a reliable choice for **industrial applications** (mechanical strength and AISI 316L chemical resistance)
- » **as standard BSPT thread connection** or with flanged connections according to **EN 1092-1** or **ANSI 150 Lbs**



EN 10204



Certificates may vary depending on material execution of particular product.

Features



Self-priming



Ideal for highly aerated liquids

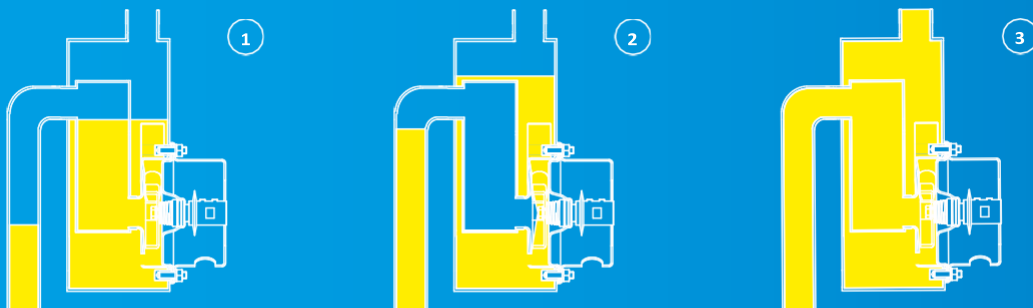


Easy installation and maintenance



Simple and compact design

Working principle



- (1) In order for the priming action to be achieved, the pump casing has to be filled with liquid to a level above the impeller.
- (2) When the pump starts its operation, it is slowly sucking out the air from the suction line thus creating negative pressure and lifting the product. The air is mixed with the liquid in the pump casing.
- (3) In order to achieve the self-priming capability the shut off/regulation valve on the discharge side must be opened. The air escapes the casing through the discharge line while the liquid returns to the impeller as it has a higher specific gravity than the liquid/air mixture. This process continues until the suction line is completely free of air and the pump can operate as a standard centrifugal pump

CTS H - hygienic series

Materials, data and limits

Casing	AISI 316L stainless steel electropolished to Ra<0.8 µm
Impeller	AISI 316L stainless steel electropolished to Ra<0.8 µm
Mechanical seal	Single ceramic/carbon (standard), SiC/SiC or SiC/carbon
O-rings	EPDM FDA (standard), FEP/silicone FDA, FKM FDA, FFKM FDA or NBR FDA
Motor*	IEC standard, 3-phase, 2-pole, IP55
Pressure rating	PN2,5 (CTS C) at 20 °C; PN4 (CTS D,E) at 20 °C
Temperature	max 90 °C
Viscosity	max ~200 cSt
Particles	max diameter is Ø 6 mm (with standard open impeller), bigger if soft particles

*other motor options available on request

Connection dimensions

Model	DIN 11851 male thread		DIN 11851
	Inlet	Outlet	Drain
CTS H C...	DN40	DN40	DN15
CTS H D...	DN65	DN50	DN15
CTS H E...	DN65	DN50	DN15



CTS I - industrial series

Materials, data and limits

Casing	AISI 316L stainless steel
Impeller	AISI 316L stainless steel
Mechanical seal	Single ceramic/carbon (standard), SiC/SiC or SiC/carbon
O-rings	EPDM (standard), FKM, FFKM, FEP/silicone or NBR
Motor*	IEC standard, 3-phase, 2-pole, IP55
Pressure rating	PN2,5 (CTS C) at 20 °C; PN4 (CTS D,E) at 20 °C
Temperature	max 90 °C
Viscosity	max ~200 cSt
Particles	max diameter is Ø 6 mm (with standard open impeller), bigger if soft particles

*other motor options available on request

Connection dimensions

Model	BSPT male thread (standard)		BSPP (G) female thread
	Inlet	Outlet	Drain
CTS I C...	1 1/2"	1 1/2"	3/8"
CTS I D...	2 1/2"	2"	3/8"
CTS I E...	2 1/2"	2"	3/8"



Options and special executions



Hygienic shroud (CTS H)

The hygienic motor shroud in polished AISI 304L, **protects the motor from spraying water during pump cleaning procedure.**



Buffer fluid system (CTS H, CTS I)

A great option **when the product tends to solidify or crystallize.** An oil reservoir is connected to the mechanical seal chamber.



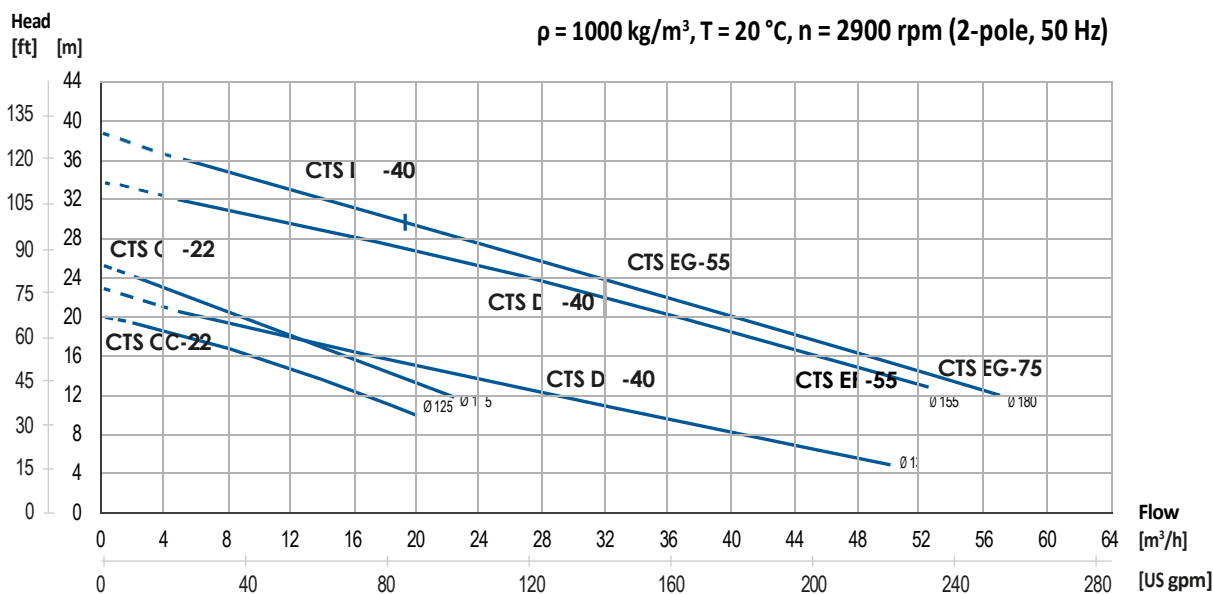
Quench (CTS H, CTS I)

This option is similar to the lubricated seal option and is **recommended when there is a potential risk of dry running**, or where the product **tends to solidify or crystallize when in contact with air.**

There is however an added value to this option, as circulating quench liquid removes heat from the mechanical seal.

Performance curves

The performance curves are based on water.



Available motor powers

2-pole motor	CC-22; CE-22	DD-40; DF-40	EF-55; G-55	EF-75; EG-75
Motor power [kW]	2.2	4.0	5.5	7.5
IEC motor size	90	112	132	132

CTS Pump code

I. Tapflo self-priming centrifugal pump

II. Pump execution

III. Casing size

IV. Impeller size

V. Pump options

VI. Motor power

VII. Motor options

CTS

I

C

C

-

1CGV3F

-

02

P

CTV Vertical Centrifugal Pumps

provide reliable circulation and fluid transfer of various liquids

The CTV are a vertical, seal less centrifugal pumps made from PP, PVDF or AISI 316L stainless steel. The CTV series are single-stage pumps with the pump casing directly submerged in the liquid. It is driven by an asynchronous electric motor. They are successfully used in various applications in today's industries.

CTV - plastic execution (PP or PVDF)

- » impeller with **high back vanes** to avoid liquid from reaching the motor.
- » motor shaft sleeve in **PP or PVDF** to avoid any **metal in contact with the liquid** - no corrosion

CTV - stainless steel execution (AISI 316L)

- » **open impeller** for good solids handling
- » **all wetted metal components** made of corrosion resistant **AISI 316L stainless steel**

EN 10204



Certificates may vary depending on material execution of particular product.

Features

- ✓ Leakage free & safe dry running
- ✓ Low maintenance cost
- ✓ Replacing self-priming pumps
- ✓ Handling liquids with particles possible (up to Ø 6 mm)

Options and special executions



Suction extension (PP, PVDF, SS)

It is a great solution **when there is a need to empty a tank** or sump from a lower level than the immersion depth of the pump.

A 500 mm and 1000 mm extension pipe is available as a standard.



Left-hand thread on pump cover (PP, PVDF)

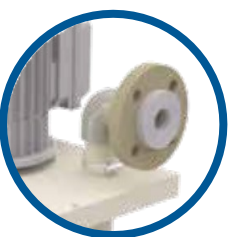
For plastic CTV pump there is an option of a left-hand thread on the pump cover. The thread can be differed from standard one with a cut on the socket.

This way unintentional unscrewing of pump cover is avoided. This option is recommended **especially when viscous liquids are pumped**.



Strainer (PP, PVDF, SS)

A suction strainer is also a possible option **where the liquid is dirty or contains solids**.



Optional discharge connection (PP, PVDF, SS)

If required, the CTV pump can be delivered with optional connections on the discharge side. Flanges following **ANSI and DIN standard are available**. Loose or welded flange.



CTV - plastic series

Materials, data and limits

Casing	PP or PVDF
Impeller	PP or PVDF
Casing O-ring	EPDM (for PP), FKM (for PVDF) or FEP/Silicone
Motor*	IEC standard, 3-phase, 2-pole, IP55
Temperature	PP: max 70 °C PVDF: max 100 °C
Particles	max diameter is Ø 6 mm

*other motor options available on request

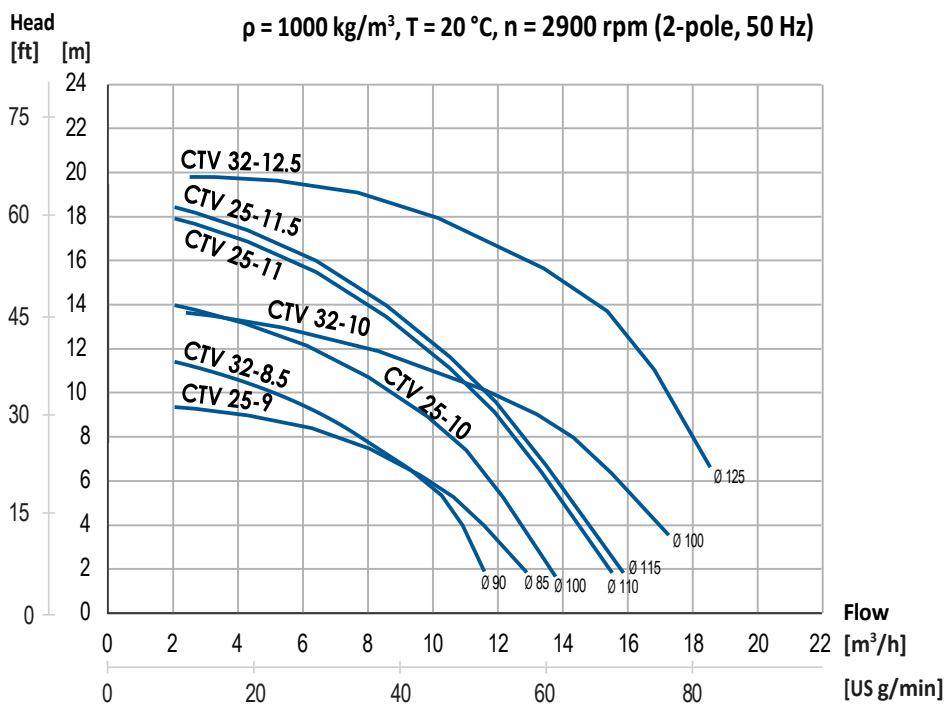
Connection dimensions

Model	BSPP (G) thread (standard)	
	Inlet	Outlet
CTV 25-9	1 1/2"	1"
CTV 25-10	1 1/2"	1"
CTV 25-11	1 1/2"	1"
CTV 25-11.5	1 1/2"	1"
CTV 32-8.5	1 1/2"	1 1/4"
CTV 32-10	1 1/2"	1 1/4"
CTV 32-12.5	1 1/2"	1 1/4"

on request ANSI and DIN flanges

Performance curves

The performance curves are based on water.



Available motor powers

2-pole motor	25-9; 20-9	25-10; 25-9.8	25-11; 25-9.8	25-11.5; 40-12.5-15	32-8.5	32-10	32-12.5; 40-12.5-22; 40-13.5
Motor power [kW]	0.55	0.75	1.1	1.5	1.1	1.5	2.2



CTV - stainless steel series

Materials, data and limits

Casing	AISI 316L stainless steel
Impeller	AISI 316L stainless steel
Casing O-ring	EPDM, FKM or FEP/Silicone
Motor*	IEC standard, 3-phase, 2-pole, IP55
Temperature	max 100 °C
Particles	max diameter is Ø 6 mm

*other motor options available on request

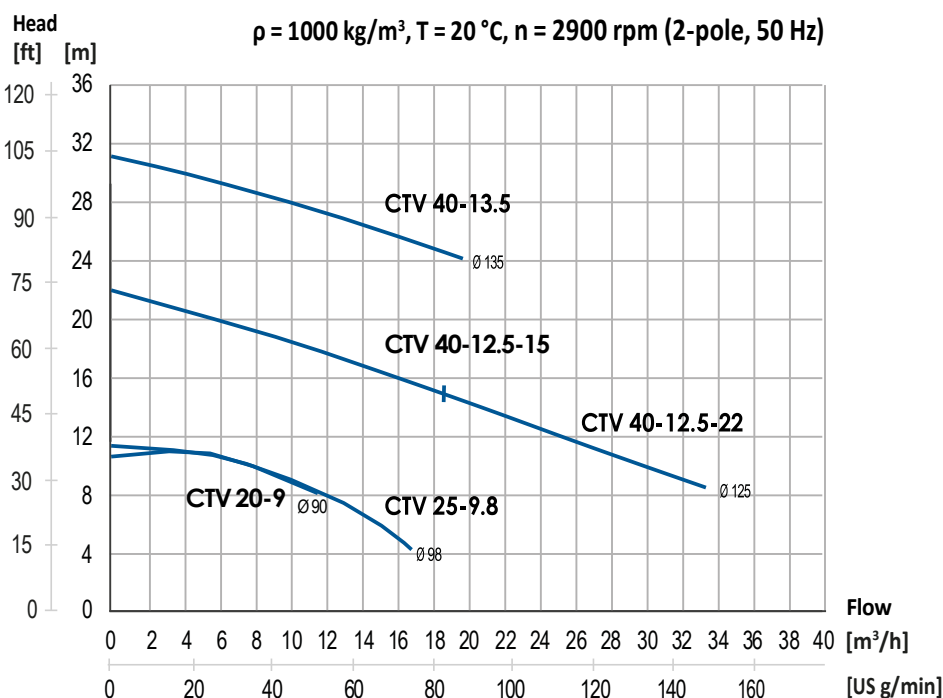
Connection dimensions

Model	BSPT (R) male thread (standard)	
	Inlet	Outlet
CTV 20-9	1"	¾"
CTV 25-9.8	1 1/2"	1"
CTV 40-12.5	1 1/2"	1 1/2"
CTV 40-13.5	1 1/2"	1 1/2"

on request ANSI and DIN flanges

Performance curves

The performance curves are based on water.



CTV Pump code

I. Tapflo vertical centrifugal pump

CTV

II. Pump size

25

-

III. Impeller size

10

IV. Pump housing material

P

-

V. Pump options

2V

-

VI. Motor power

07

VII. Motor options

R

CTP Plastic Mechanically Sealed Centrifugal Pumps

unrivalled with strong acids also containing solid particles

The CTP are semi-open impeller single stage centrifugal pumps. Since there are no metal parts on the liquid side, the pumps are ideal for chemical transfer and circulation duties.

CTP pumps are available in polypropylene (CTP PP) and polyvinylidene fluoride execution (CTP PVDF).

CTP PP - polypropylene execution

- » temperature resistance **up to 70 °C**
- » for circulation of pickling baths and degreasing processes
- » provides great mechanical strength

CTP PVDF - polyvinylidene fluoride execution

- » temperature resistance **up to 90 °C**
- » for hot medias
- » great mechanical properties and chemical resistance



Certificates may vary depending on material execution of particular product.



Features

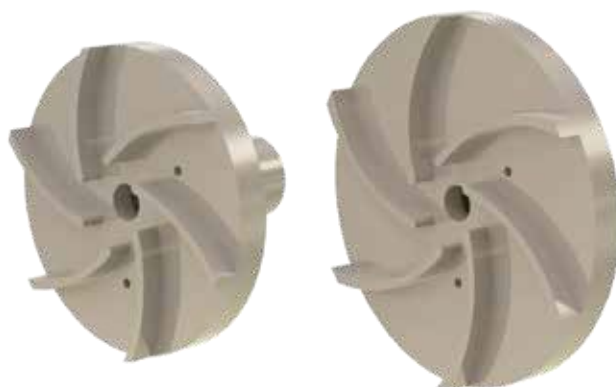
- ✓ Safety drain on air side of the pump
- ✓ Handling liquids with particles possible, even with metallic solids
- ✓ Compact and reliable
- ✓ No metal parts in contact with the liquid
- ✓ Few parts, low maintenance cost, easy to handle

Trimmed impeller

Impeller trimming means **reducing the outer diameter** of the impeller. This leads to the reduction of the circumferential speed inside the centrifugal pump. This operation is done **to fit the required duty point**.

Reduction of the impeller diameter provides an easy and effective way to permanently **reduce both flow and head without changing the rotational speed of the motor**.

The impellers can be trimmed by a maximum of **10 mm** on the diameter.



Robust and compact design

Mechanical seal

The **spring** is located on the dry side of the pump therefore all metallic parts are protected against contact with the liquid. This means no elastic bellow is required.

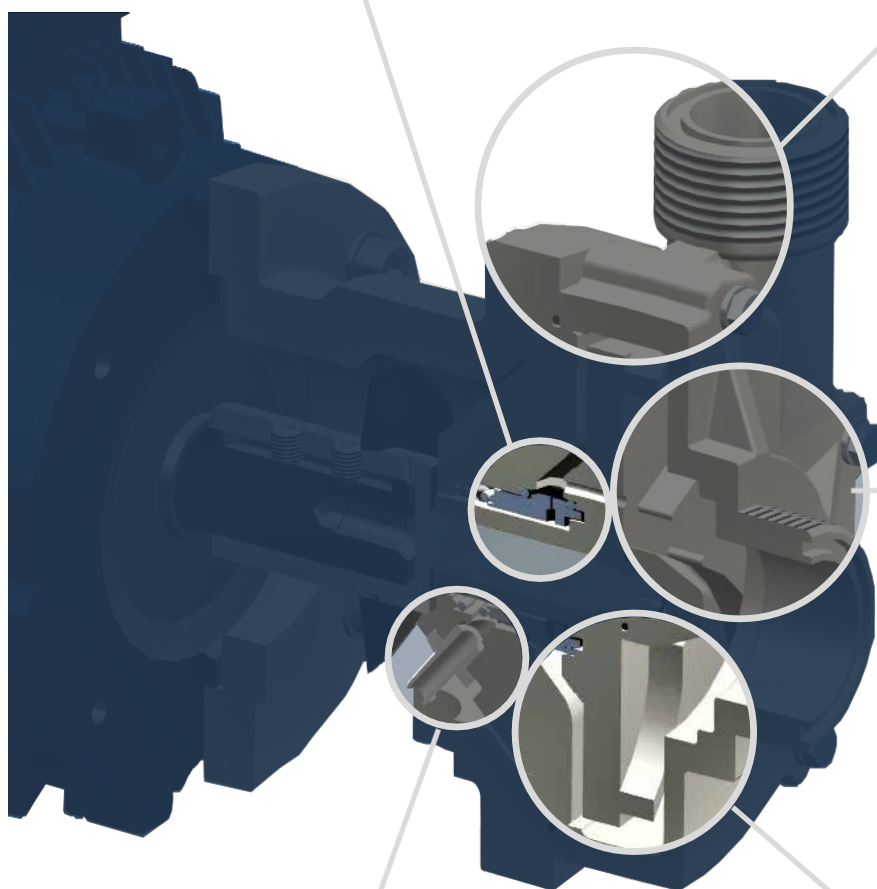


PP & PVDF wetted materials

Can handle highly corrosive liquids also containing solids and metallic particles. Pumps can handle hot alkali and acids.

The version in **PP-GF** (glass fibre reinforced polypropylene) provides great mechanical strength and allows liquid temperatures **up to 70 °C**.

The **PVDF** (polyvinylidene fluoride) version has superior chemical resistance and allows temperatures **up to 90 °C**.



Chemically resistant pumps

The wetted components are non-metallic injection moulded thermoplastics enabling **excellent corrosion resistance**.

The **shaft** is protected by means of a plastic sleeve and nut compatible with the pump housing material.

Safety drain

The special revision hole in the back casing provides a **drainage from the mechanical seal in case any leakage occurs**.

This prevents the motor and shaft from getting into contact with the pumped liquid. The PVDF barb connector allows to plug a hose and reroute the liquid out of the pump.

Semi open impeller

Allows pumping liquids with particles up to **Ø 3 mm** and **10% in concentration**.

A semi open impeller also **improves the transfer of liquids with higher viscosity**.



CTP PP & PVDF

Materials, data and limits

Casing	PP-GF (30%) or PVDF
Back casing, Impeller	PP or PVDF
Lantern (not wetted)	PP
Mechanical seal	Rotating part: SiC or Graphite, Stationary part: SiC, Spring: Hastelloy C-276 ¹
O-rings	EPDM, FEP/FKM, FKM
Shaft	AISI 316L stainless steel (standard) or Hastelloy® C-276
Motor*	IEC standard, 3-phase, 2-pole, IP55
Pressure rating	PP: PN6 at 20 °C; PN2 at 70 °C PVDF: PN6 at 20 °C; PN2 at 90 °C
Temperature	PP: 0 °C - 70 °C; PVDF: 0 °C - 90 °C
Viscosity	max ~200 cSt
Particles	max diameter is Ø 3 mm and 10% in concentration

¹Hastelloy® C is a registered trademark of Haynes International, Inc.

*other motor options available on request

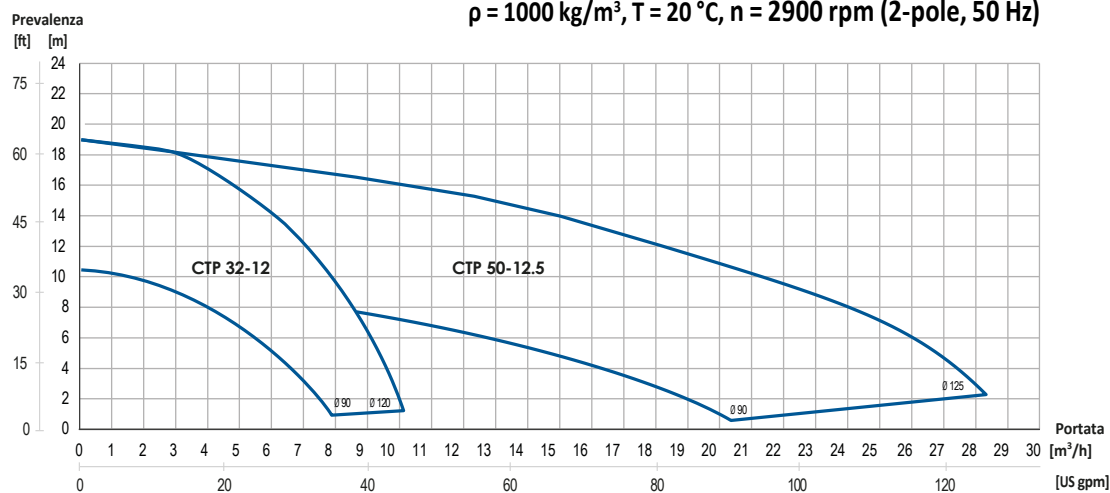
Connection dimensions

Model	BSPT male thread (standard)		DIN 2633/ PN16 flange		Hose	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
CTP 32-12	1 1/4"	1"	DN32	DN25	Ø32	Ø25
CTP 50-12.5	2"	1 1/2"	DN50	DN40	Ø50	Ø40

Performance curves

The performance curves are based on water.

$\rho = 1000 \text{ kg/m}^3$, $T = 20^\circ\text{C}$, $n = 2900 \text{ rpm}$ (2-pole, 50 Hz)



Available motor powers

2-pole motor	32-12		50-12.5	
Motor power [kW]	0.75	1.1	3.0	4.0
IEC motor size	80		100	112

CTP Pump code

I. Tapflo mechanically sealed plastic centrifugal pump II. Pump size III. Impeller size IV. Pump housing material V. Pump options VI. Motor power VII. Motor options

CTP

32

12.5

P

-

1SSV

-

07

P

CTM Magnetic Drive Centrifugal Pumps

work perfectly with chemically corrosive and toxic liquids

CTM is a compact close coupled pump perfect for service in little spaces like in OEM installations.

Tapflo CTM magnetic drive pumps are centrifugal pumps where the power from the motor is transmitted to the impeller by means of a magnetic coupling.

CTM pumps are designed and manufactured for transfer of chemicals and circulation in surface treatment industry.

CTM PP - polypropylene execution

- » temperature resistance **up to 70 °C**
- » provides great mechanical strength

CTM PVDF - polyvinylidene fluoride execution

- » temperature resistance **up to 90 °C**
- » superior chemical resistance

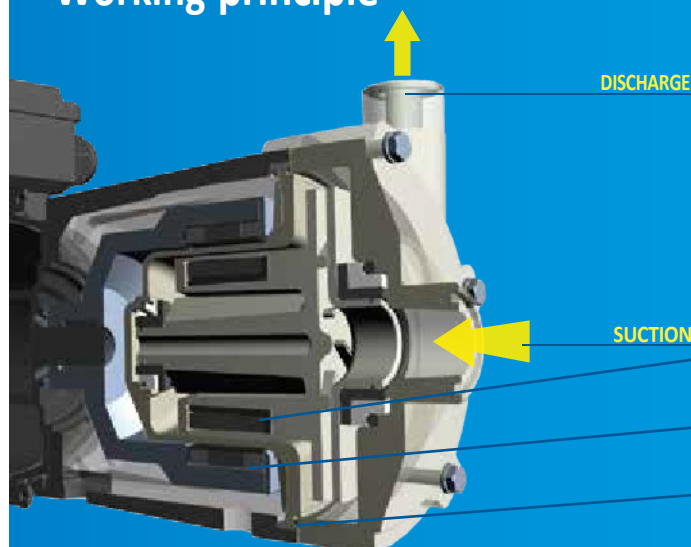


Certificates may vary depending on material execution of particular product.

Features

- ✓ No leakage
- ✓ Economical operation
- ✓ Hermetic system
- ✓ Magnetic power transmission
- ✓ Seal less pump

Working principle



The power from the motor is transmitted to the impeller by means of a magnetic coupling.

A so called isolation shell between the drive magnet and the impeller magnet separates the liquid side from the drive.

IMPELLER MAGNET ASSEMBLY

Driven by the drive magnet assembly

DRIVE MAGNET ASSEMBLY

Connected to the motor

ISOLATION SHELL

(Rear housing) separating the liquid side from the atmosphere

Compact but powerful

Reliable design without shaft

The **impeller magnet assembly** is designed **with very powerful bushings** where a conventional crack sensitive shaft is not needed.

This results in a **pump that has fewer parts** and is **very reliable in service**.

Powerful magnet couplings

Our magnets in NdFeB (neodymium-iron-boron) with our unique magnet cage system **have a superior strength also under demanding circumstances**.

The power from the drive is transmitted **even at high temperatures** and with high specific gravity liquids.

Furthermore, the robust steel frame for the external magnet increases the magnet power and grants a gentle start-up of the pump.

Non-metallic pumps

The wetted components are non-metallic injection moulded thermoplastics enabling **excellent corrosion resistance**.

The version in **PP-GF** (glass fibre reinforced polypropylene) provides **great mechanical strength** and allows liquid **temperatures up to 70 °C**.

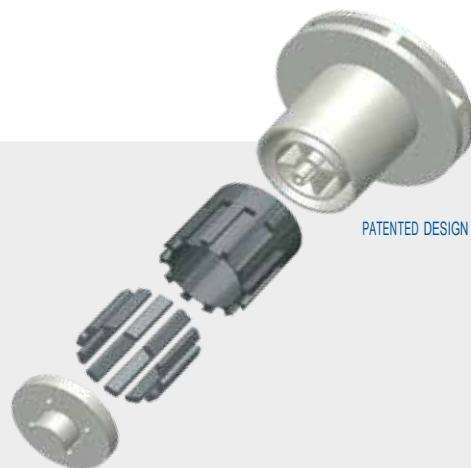
The **PVDF** (polyvinylidene fluoride) version has **superior chemical resistance** and allows **temperatures up to 90 °C**.

Excellent performance with magnet cage system

The magnets are encapsulated in their cage with the unique system that avoids the use of resins and glue.

This grants a safe system with better performance at high temperatures. Furthermore, the impeller is injection moulded, resulting in excellent performance and no weak points.

CTM20-7 has a semi-open impeller while models CTM25-8, CTM25-10, CTM32-12,5, CTM40-12,5 and CTM50-12,5 have closed impellers to obtain best pumping parameters.



CTM PP & PVDF

Materials, data and limits

	20-7	25-8; 25-10; 32-12.5; 40-12.5; 50-12.5
Casing	PP-GF (30%), PVDF	
Impeller	PP/NdFeB, PVDF/NdFeB	
O-rings:	EPDM, FKM, FEP/FKM, FFKM	
Motor*	IEC standard, 3-phase, 2-pole, IP55	
Pressure rating	PP: PN4 at 20 °C, PN2 at 70 °C PVDF: PN4 at 20 °C, PN2 at 80 °C	PP: PN6 at 20 °C; PN2 at 70 °C PVDF: PN6 at 20 °C; PN2 at 90 °C
Temp.	PP: 0 °C - 70 °C	
	PVDF: 0 °C - 80 °C	PVDF: 0 °C - 90 °C
Viscosity	max ~200 cSt	

*other motor options available on request

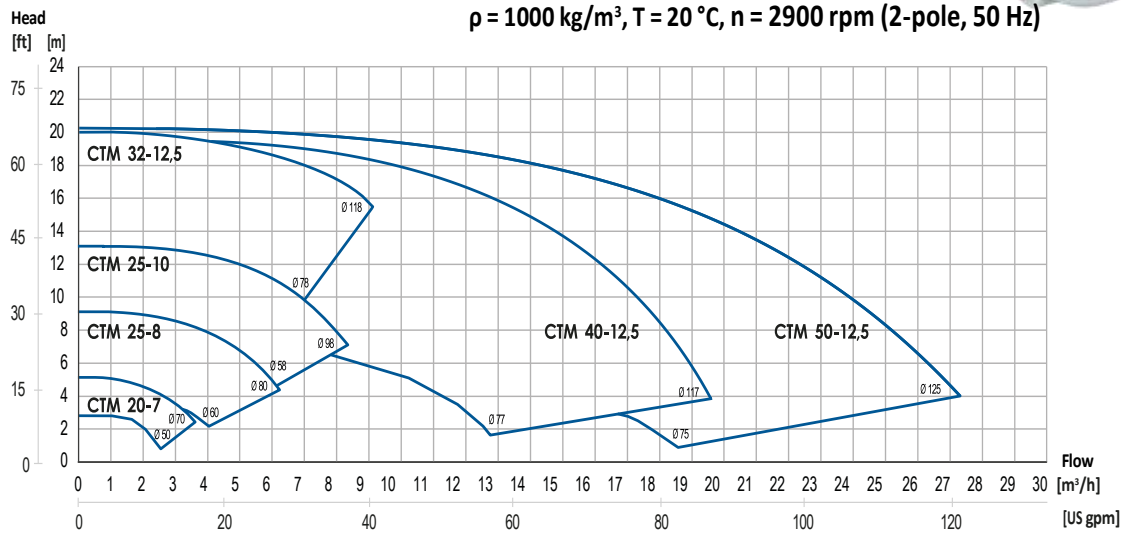
Connection dimensions

Model	BSPT male thread (standard)		DIN 2633/ PN16 flange		Hose	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
CTM 20-7	¾"	¾"	-	-	-	-
CTM 25-8	1"	1"	DN25	DN25	Ø25	Ø25
CTM 25-10	1"	1"	DN25	DN25	Ø25	Ø25
CTM 32-12.5	1 1/4"	1"	DN32	DN25	Ø32	Ø25
CTM 40-12.5	1 1/2"	1 1/4"	DN40	DN32	Ø40	Ø32
CTM 50-12.5	2"	1 1/2"	DN50	DN40	Ø50	Ø40

Performance curves

The performance curves are based on water.

$\rho = 1000 \text{ kg/m}^3$, $T = 20 \text{ °C}$, $n = 2900 \text{ rpm}$ (2-pole, 50 Hz)



Available motor powers

2-pole motor	20-7	25-8	25-10	32-12.5	40-12.5	50-12.5
Motor power [kW]	0.12	0.25	0.55	0.75 1.1	1.5 2.2	3.0 4.0
IEC motor size	56	63	71	80	90	100 112

CTM Pump code

I. Tapflo magnetic drive centrifugal pump

CTM

II. Pump size

25-10

III. Pump housing material

P

IV. Pump options

1V

-

V. Motor power

05

VI. Motor options

P

Mobile Pump Solutions

solve the problem of spread technological processes

The portability of the units allows easy movement to various locations. This means almost limitless application.

Mobile pump units are available in both hygienic and industrial designs. The great advantage is the compatibility with the majority of Tapflo centrifugal pumps range.

Moreover, it is possible to compose the trolley to your own needs by using a number of accessories such as ON-OFF switches, frequency inverters, or cable holders.

Hygienic Trolleys

- » Stainless steel polished drip tray
- » Valve for drainage
- » 3 sizes available



Industrial Trolleys

- » Stainless steel construction
- » Compact and strong baseplate
- » 3 sizes available



Special executions



CTH Liquid Soap Dispensing Unit on M hygienic trolley



CTI mobile transferring pump on the dedicated trolley