

tapflo®

# CENTRIFUGAL PUMPS

2021 | 1

Featuring

**NEW CTX pumps**



» All about your flow™

[www.tapflo.com](http://www.tapflo.com)

# Centrifugal Pumps

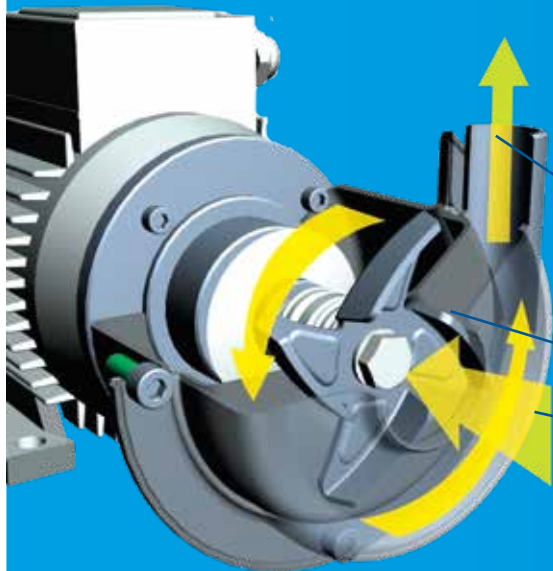
## versatile solution for various industries

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
- » CT horizontal centrifugal pumps p. 10
- » CTS self-priming centrifugal pumps p. 15
- » CTV vertical centrifugal pumps p. 18
- » CTP plastic mechanically sealed centrifugal pumps p. 21
- » 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 µm** as standard (**Ra<0.5 µm** on request)
- » **external surfaces** glass blasted to **Ra<3.2 µm**
- » 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 µm** 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
- ✓ Hygienic & Industrial execution
- ✓ Single or double mechanical seal
- ✓ Low noise, low vibration
- ✓ Adjusted (trimmed) impeller
- ✓ Robust construction, easy maintenance, less downtime
- ✓ Modular design concept
- ✓ 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.

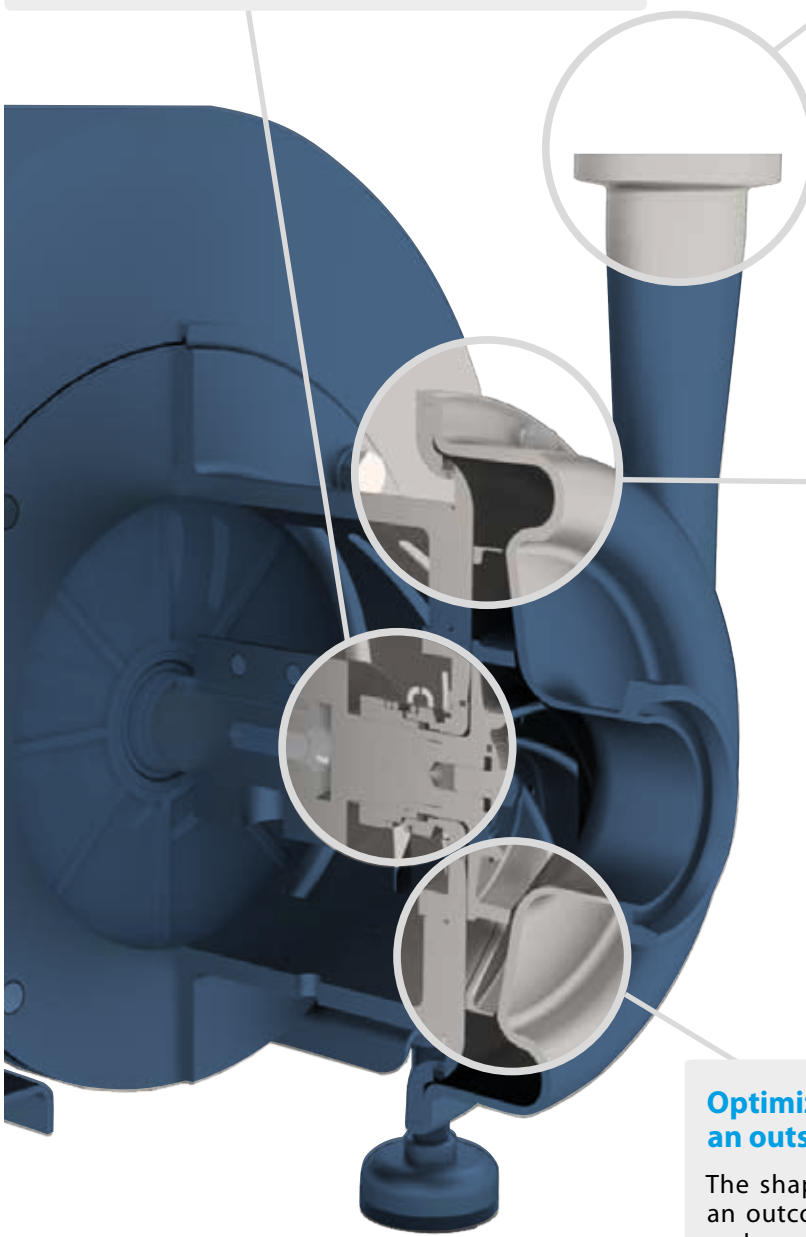
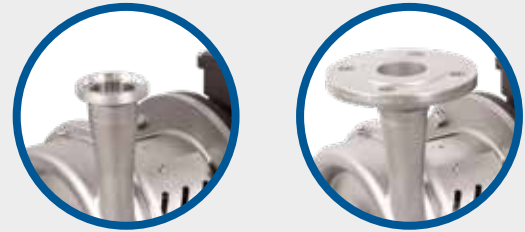
Seal in back-to-back arrangement is installed in separate chamber.



## 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 µm** as standard (**Ra<0.5 µm** on request), **external surfaces** glass blasted to **Ra<3.2 µm**.



» Industrial **CTX I** glass blasted **Ra<3.2 µm** 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

<b>Casing</b>	AISI 316L stainless steel wetted parts: electropolished to Ra<0.8 µm
<b>Impeller</b>	Stainless steel AISI 316L electropolished to Ra<0.8 µm
<b>Mechanical seal</b>	Single, SiC/carbon (std) or SiC/SiC, FDA approved Double, SiC/carbon (std) or SiC/SiC, FDA approved
<b>O-rings</b>	EPDM, FKM, NBR (all FDA approved)
<b>Motor*</b>	IEC standard, 3-phase, 2-pole, IP55
<b>Pressure rating @ 20°C</b>	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
<b>Liquid temp.</b>	-10 °C ... +120 °C (140 °C for short periods during SiP)
<b>Ambient temp.</b>	-20 °C ... +40 °C
<b>Viscosity</b>	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
<b>CTX 40-165</b>	DN40	DN32	DN40	DN32	38	33.7	38	32	1 ½"	1 ¼"
<b>CTX 50-145</b>	DN50	DN40	DN50	DN40	51	38	51	38	2"	1 ½"
<b>CTX 50-200</b>	DN50	DN40	DN50	DN40	51	38	51	38	2"	1 ½"
<b>CTX 65-175</b>	DN65	DN50	DN65	DN50	63.5	51	63.5	51	2 ½"	2"
<b>CTX 65-230</b>	DN65	DN50	DN65	DN50	63.5	51	63.5	51	2 ½"	2"
<b>CTX 65-240</b>	DN65	DN40	DN65	DN40	63.5	38	63.5	38	2 ½"	1 ½"
<b>CTX 80-205</b>	DN80	DN50	DN80	DN50	76.1	51	76	51	3"	2"
<b>CTX 80-212</b>	DN80	DN65	DN80	DN65	76.1	63.5	76	63.5	3"	2 ½"
<b>CTX 80-260</b>	DN80	DN65	DN80	DN65	76.1	63.5	76	63.5	3"	2 ½"
<b>CTX 100-230</b>	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.



### 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

<b>Casing</b>	AISI 316L stainless steel glass blasted to Ra<3.2 µm
<b>Impeller</b>	AISI 316L stainless steel glass blasted to Ra<3.2 µm
<b>Mechanical seal</b>	Single, SiC/carbon (std) or SiC/SiC, FDA approved Double, SiC/carbon (std) or SiC/SiC, FDA approved
<b>O-rings</b>	EPDM, FKM, NBR (all FDA approved)
<b>Motor*</b>	IEC standard, 3-phase, 2-pole, IP55
<b>Pressure rating @ 20°C</b>	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
<b>Liquid temp.</b>	-10 °C ... +120 °C (140 °C for short periods during SiP)
<b>Ambient temp.</b>	-20 °C ... +40 °C
<b>Viscosity</b>	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 ½"	1 ¼"	DN40	DN32	1 ½"	1 ¼"
CTX 50-145	2"	1 ½"	DN50	DN40	2"	1 ½"
CTX 50-200	2"	1 ½"	DN50	DN40	2"	1 ½"
CTX 65-175	2 ½"	2"	DN65	DN50	2 ½"	2"
CTX 65-230	2 ½"	2"	DN65	DN50	2 ½"	2"
CTX 65-240	2 ½"	1 ½"	DN65	DN40	2 ½"	1 ½"
CTX 80-205	3"	2"	DN80	DN50	3"	2"
CTX 80-212	3"	2 ½"	DN80	DN65	3"	2 ½"
CTX 80-260	3"	2 ½"	DN80	DN65	3"	2 ½"
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.

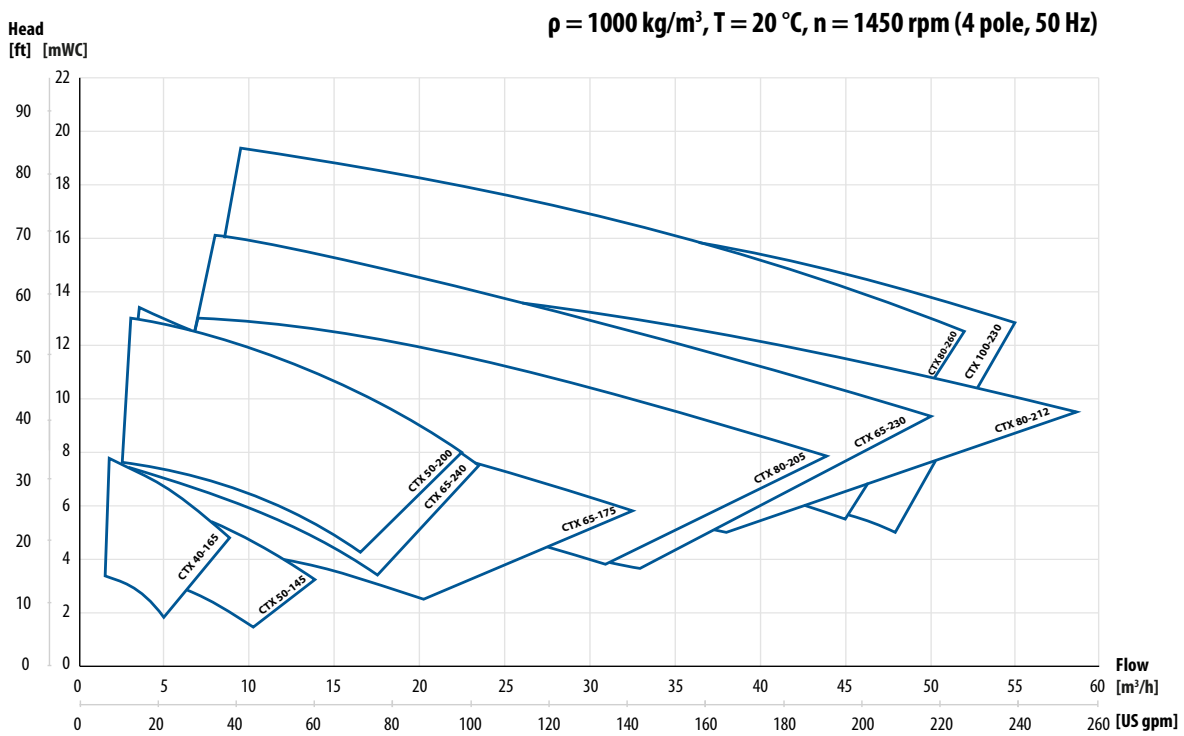
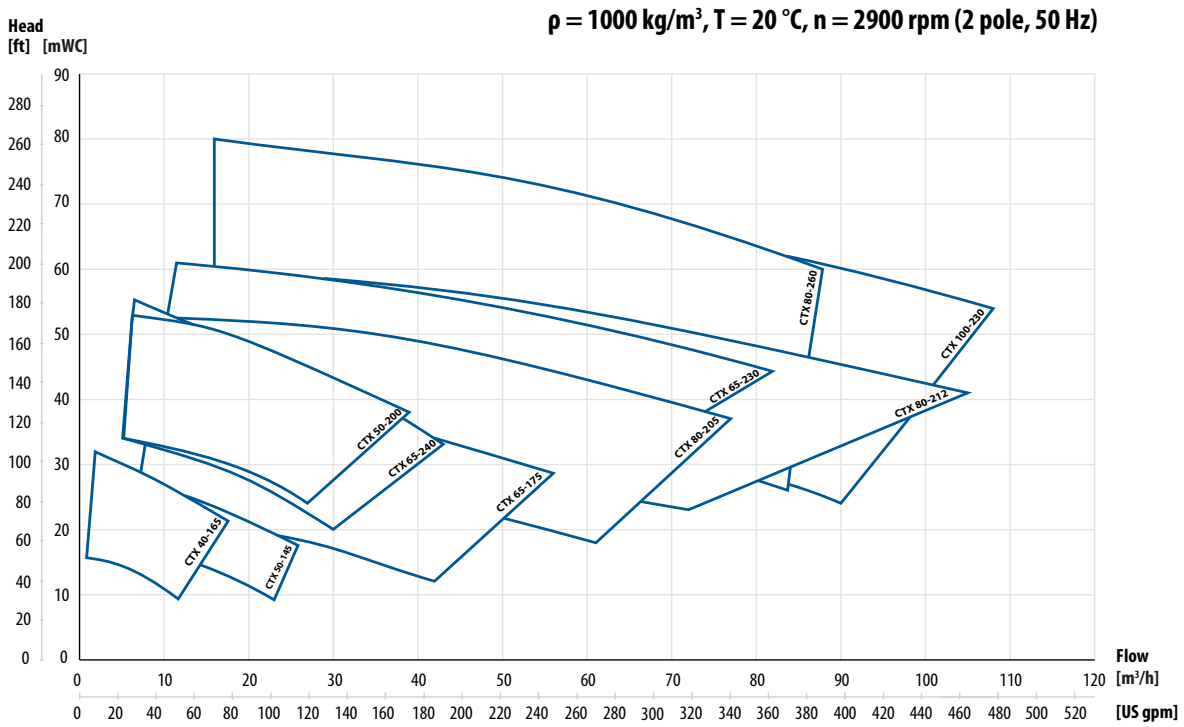


### Mounting brackets

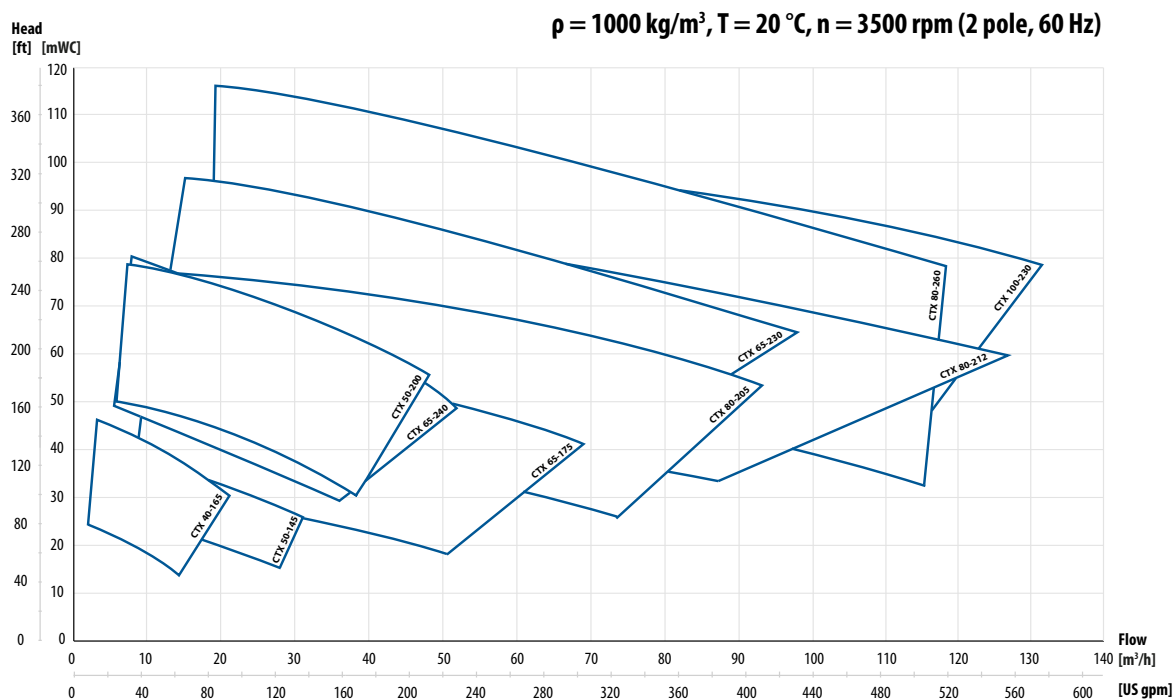
Complete pump unit may be assembled on a baseplate **which can be firmly, permanently fixed to the foundation**

## 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
<b>Motor power [kW]</b>	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
<b>Motor power [kW]</b>	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**

# CTI & CTH 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 µm**
- » 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 µm**
- » 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
- ✓ Low maintenance cost
- ✓ Open impeller
- ✓ High grade materials
- ✓ Competitive price-quality ratio
- ✓ Multiple options
- ✓ Solids handling
- ✓ 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

<b>Casing</b>	AISI 316L stainless steel electropolished to Ra<0.8 µm
<b>Impeller</b>	AISI 316L stainless steel electropolished to Ra<0.8 µm
<b>Mechanical seal</b>	Single ceramic/carbon (standard), SiC/SiC or SiC/carbon
<b>O-rings</b>	EPDM, FKM, FFKM, NBR, FEP compliant with FDA and EC 1935/2004 directive requirements
<b>Motor*</b>	IEC standard, 3-phase, 2-pole, IP55
<b>Max pressure</b>	10 bar (PN10)
<b>Temperature</b>	max 90 °C, max 180 °C for long coupled version
<b>Viscosity</b>	max ~200 cSt
<b>Particles</b>	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
<b>CTI A...</b>	25	25	25	20	25	21.3	38	25	1 ½"	1"
<b>CTI B...</b>	40	32	40	25	38	25	51	38	1 ½"	1 ½"
<b>CTI C...</b>	40	40	40	40	38	38	51	38	3"	3"
<b>CTI D...</b>	65	50	65	50	70	51	63	51	3"	2"
<b>CTI E...</b>	65	50	65	50	70	51	63	51	3"	2"

## Options and special executions



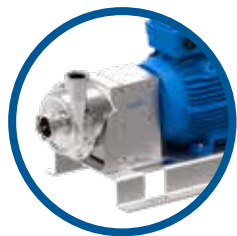
### Hygienic shroud

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 crystallize.** 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

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

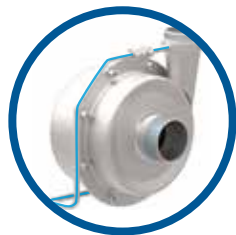
\*other motor options available on request



## Connection dimensions

Model	BSPT male thread (standard)		EN 1092-1		ANSI 150 Lbs flange	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
<b>CTH A...</b>	1"	¾"	DN25	DN 20	1"	¾"
<b>CTH B...</b>	1 ½"	1"	DN40	DN25	1 ½"	1"
<b>CTH C...</b>	1 ½"	1 ½"	DN40	DN40	1 ½"	1 ½"
<b>CTH D...</b>	2 ½"	2"	DN65	DN50	2 ½"	2"
<b>CTH E...</b>	2 ½"	2"	DN65	DN50	2 ½"	2"

## Options and special executions



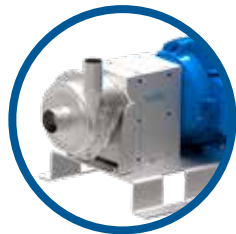
### Flushed seal

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 through a strainer, 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**.

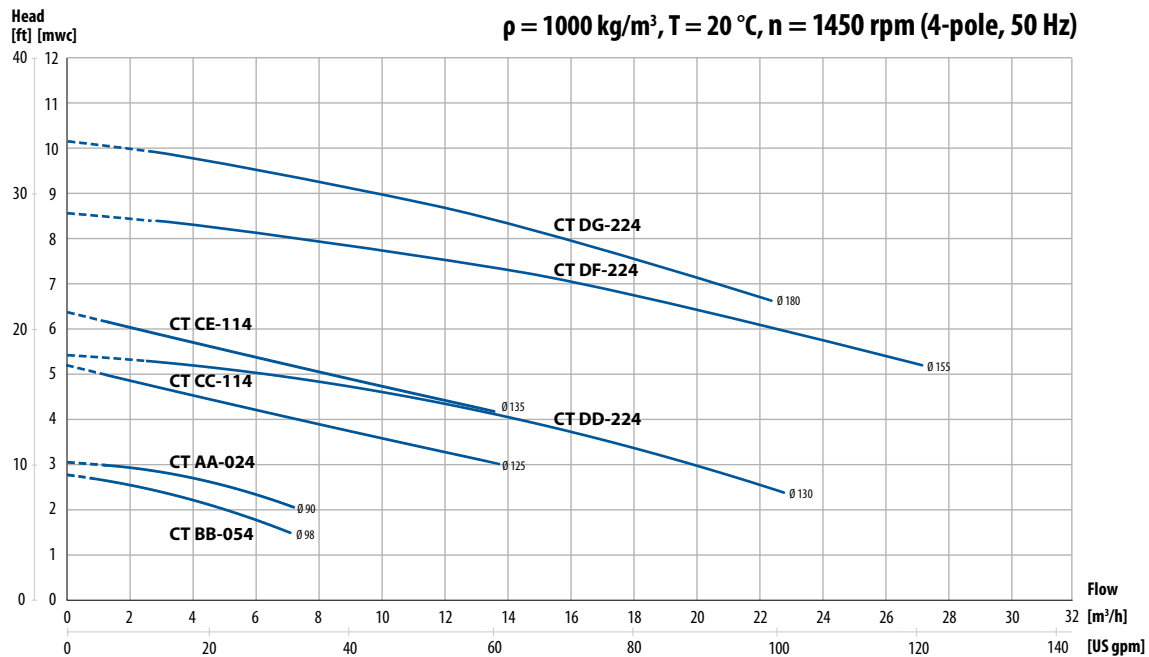
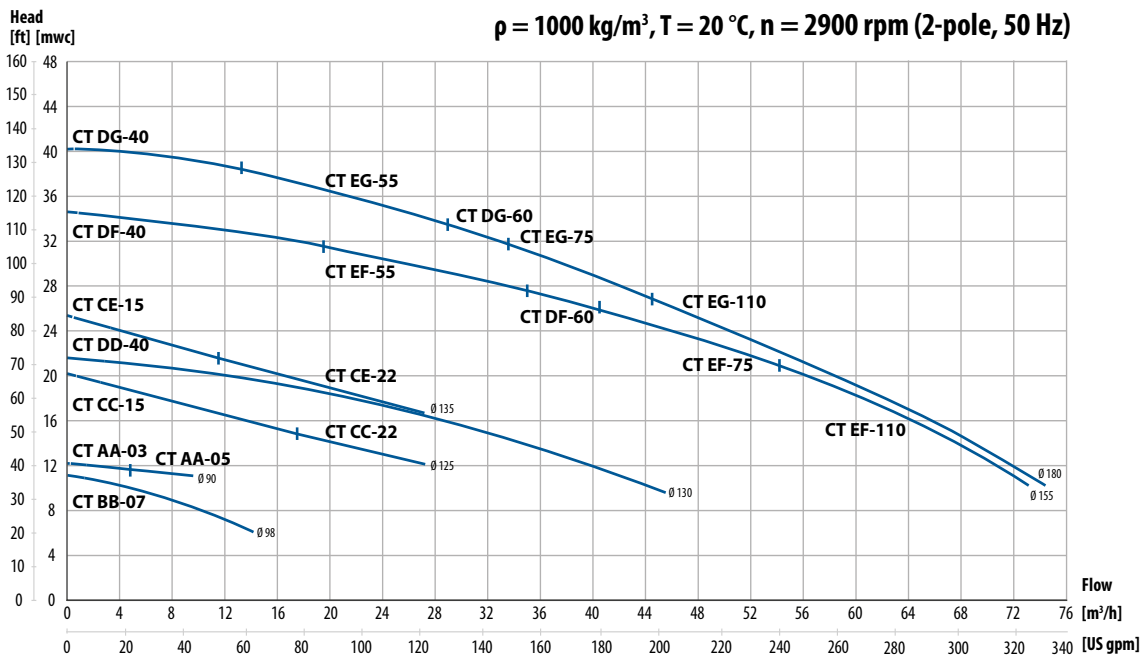


### Mounting brackets

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

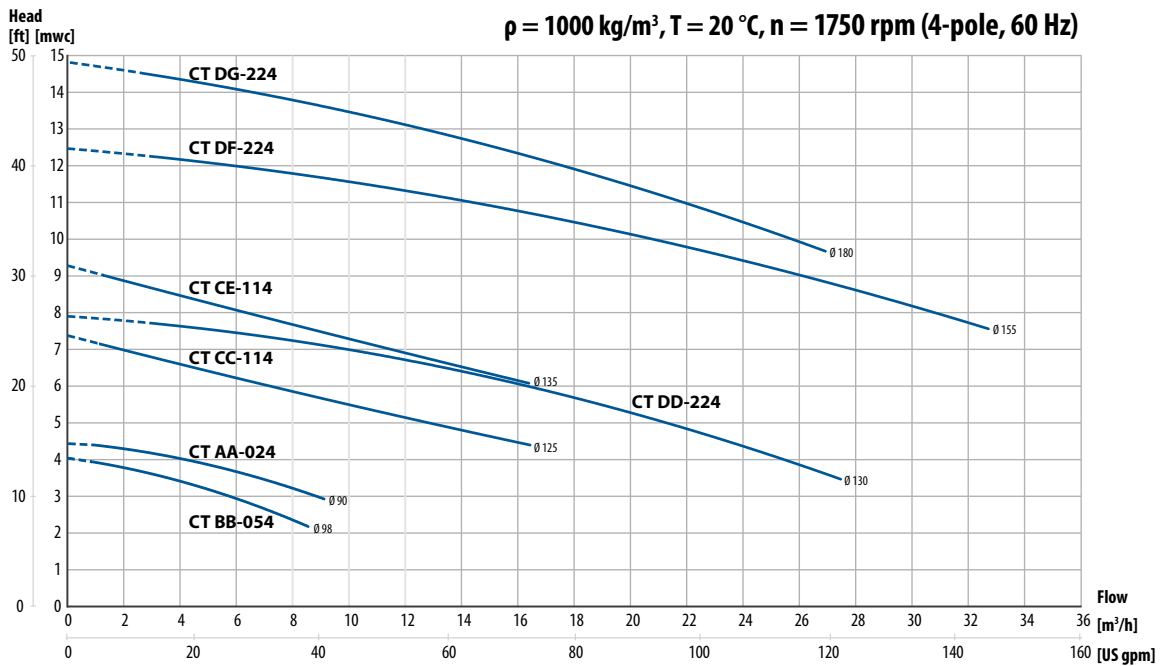
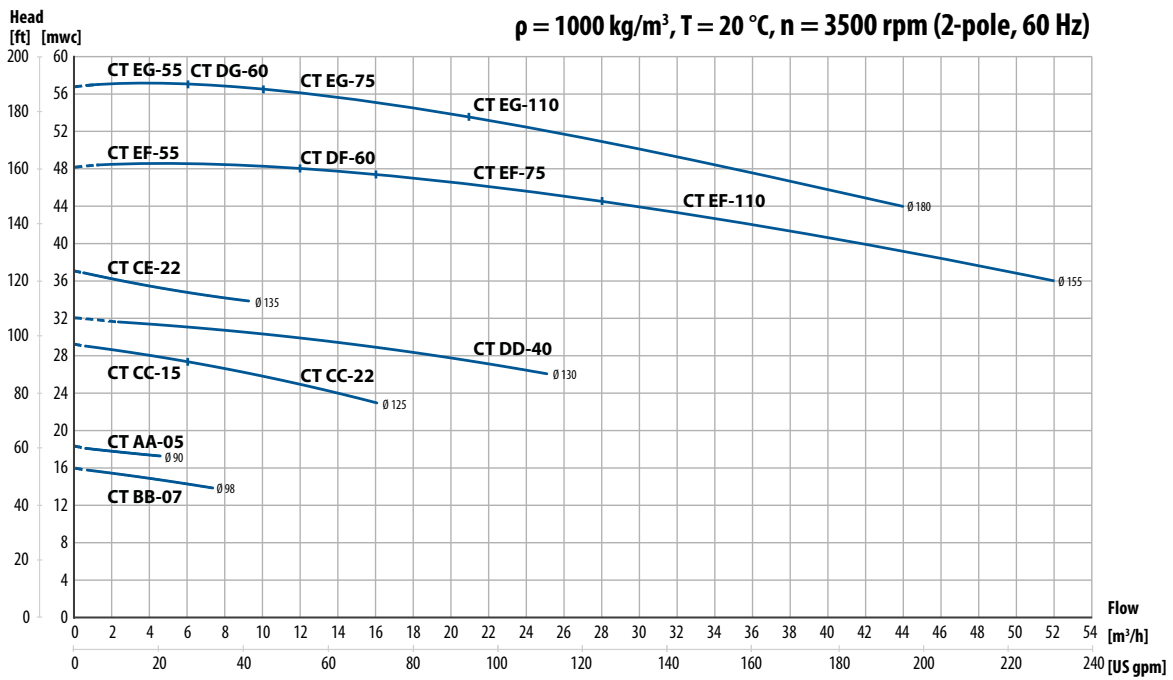
2-pole motor	AA-03	AA-05	BB-07	CC-15	CC-22 CE-22	DD-40 DF-40	DF-60 DG-60	EF-55 EG-55	EF-75 EG-75	EG-110 EF-110
<b>Motor power [kW]</b>	0.37	0.55	0.75	1.5	2.2	4.0	6.0	5.5	7.5	11*
<b>IEC motor size</b>	71	71	80	90	90	112	112	132	132	160

\* Long coupled execution

4-pole motor	AA-024	BB-054	CC-114; E-114	DD-224; DF-224; DG-224
<b>Motor power [kW]</b>	0.25	0.55	1.1	2.2
<b>IEC motor size</b>	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 µm**
- » 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**

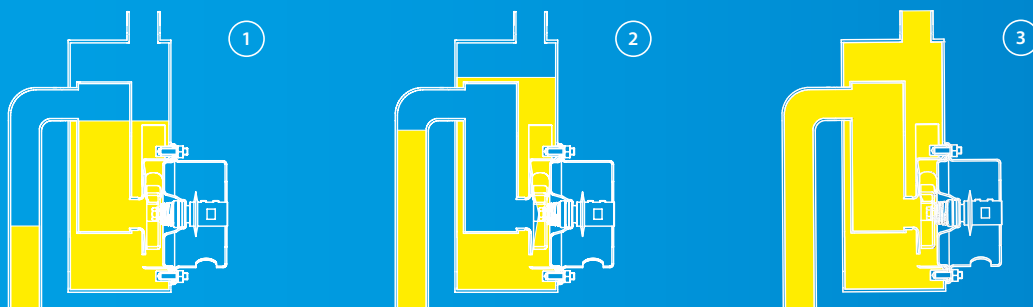


Certificates may vary depending on material execution of particular product.

## 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

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

<b>Casing</b>	AISI 316L stainless steel
<b>Impeller</b>	AISI 316L stainless steel
<b>Mechanical seal</b>	Single ceramic/carbon (standard), SiC/SiC or SiC/carbon
<b>O-rings</b>	EPDM (standard), FKM, FFKM, FEP/silicone or NBR
<b>Motor*</b>	IEC standard, 3-phase, 2-pole, IP55
<b>Pressure rating</b>	PN2,5 (CTS C) at 20 °C; PN4 (CTS D,E) at 20 °C
<b>Temperature</b>	max 90 °C
<b>Viscosity</b>	max ~200 cSt
<b>Particles</b>	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 ½"	1 ½"	¾"
CTS I D...	2 ½"	2"	¾"
CTS I E...	2 ½"	2"	¾"





## 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 crystalize.** An oil reservoir is connected to the mechanical seal chamber.



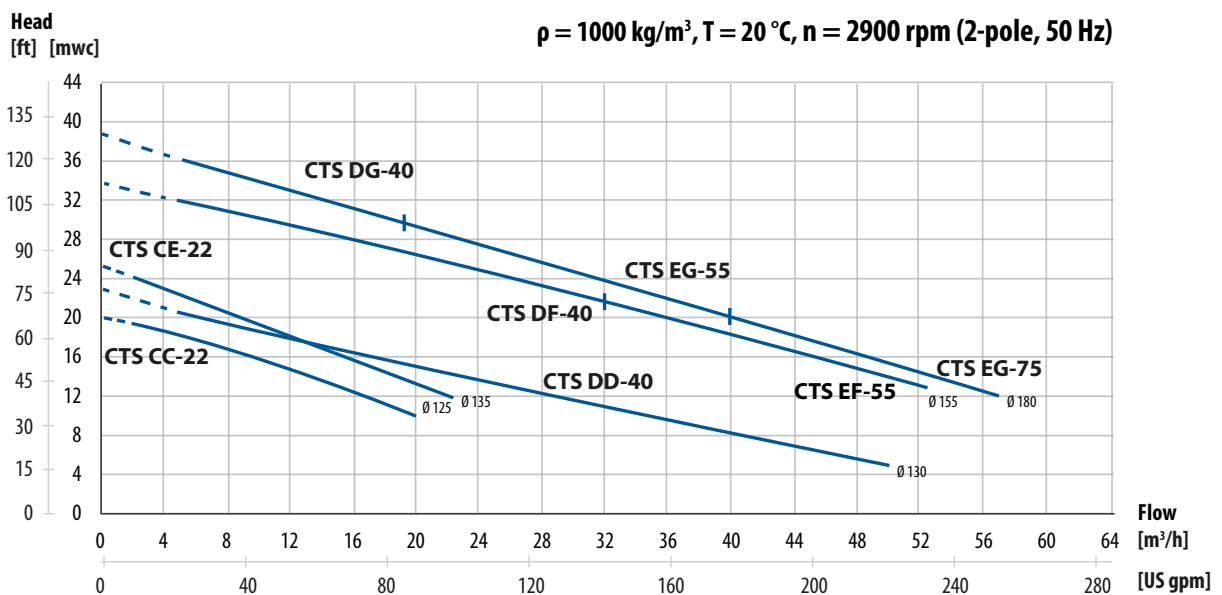
### Quench (CTS H, CTS I)

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 crystalize 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
<b>Motor power [kW]</b>	2.2	4.0	5.5	7.5
<b>IEC motor size</b>	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

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

\*other motor options available on request

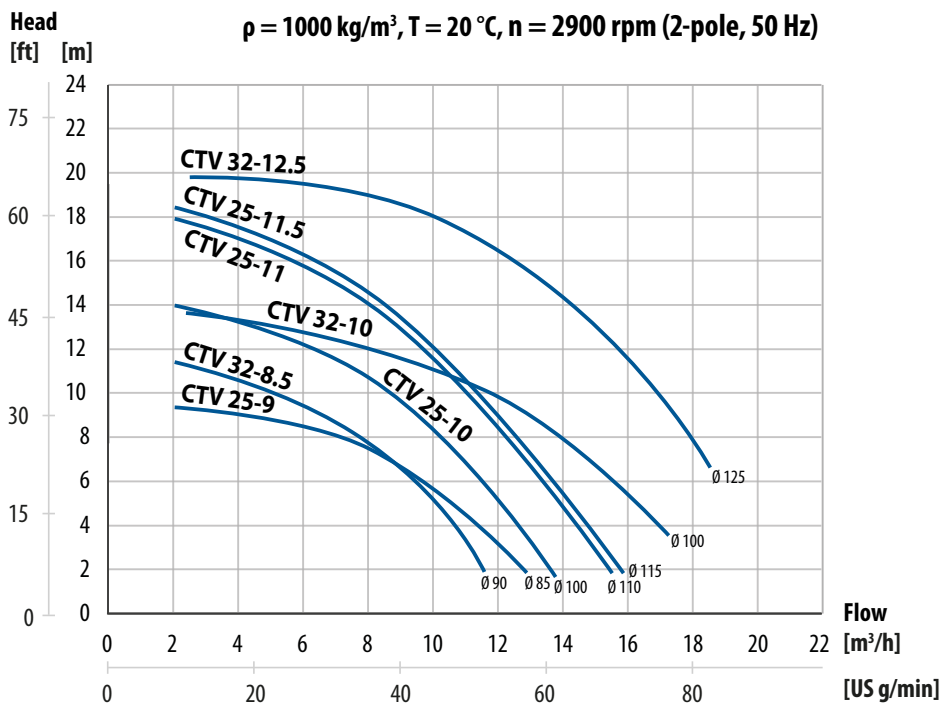
## Connection dimensions

Model	BSPP (G) thread (standard)	
	Inlet	Outlet
<b>CTV 25-9</b>	1 ½"	1"
<b>CTV 25-10</b>	1 ½"	1"
<b>CTV 25-11</b>	1 ½"	1"
<b>CTV 25-11.5</b>	1 ½"	1"
<b>CTV 32-8.5</b>	1 ½"	1 ¼"
<b>CTV 32-10</b>	1 ½"	1 ¼"
<b>CTV 32-12.5</b>	1 ½"	1 ¼"

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
<b>Motor power [kW]</b>	0.55	0.75	1.1	1.5	1.1	1.5	2.2

# CTV - stainless steel series

## Materials, data and limits

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

\*other motor options available on request

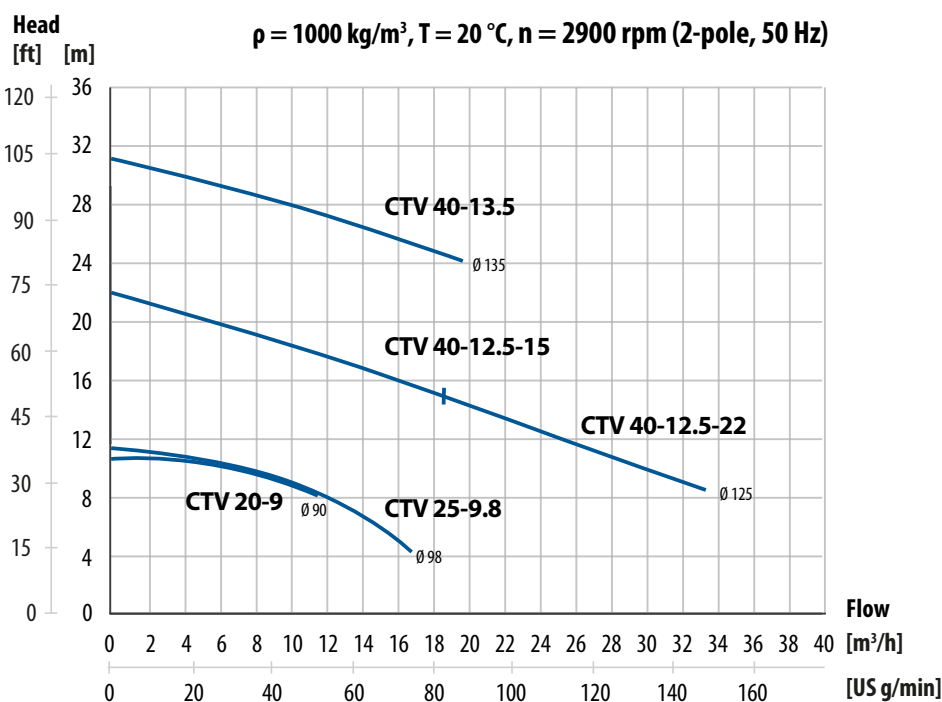
## Connection dimensions

Model	BSPT (R) male thread (standard)	
	Inlet	Outlet
<b>CTV 20-9</b>	1"	¾"
<b>CTV 25-9.8</b>	1 ½"	1"
<b>CTV 40-12.5</b>	1 ½"	1 ½"
<b>CTV 40-13.5</b>	1 ½"	1 ½"

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

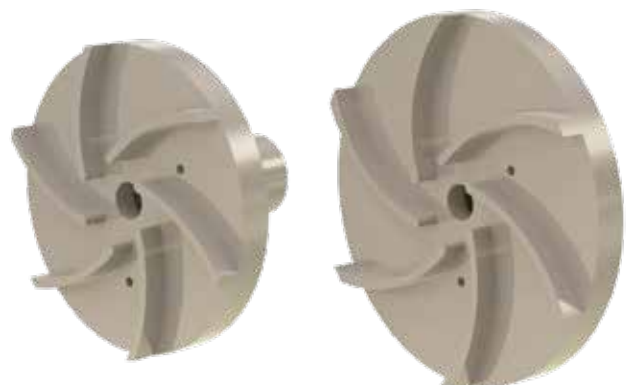
- ✓ Safety drain on air side of the pump
- ✓ Handling liquids with particles possible, even with metallic solids
- ✓ Compact and reliable
- ✓ No metal parts in contact with the liquid
- ✓ Few parts, low maintenance cost, easy to handle

## 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.

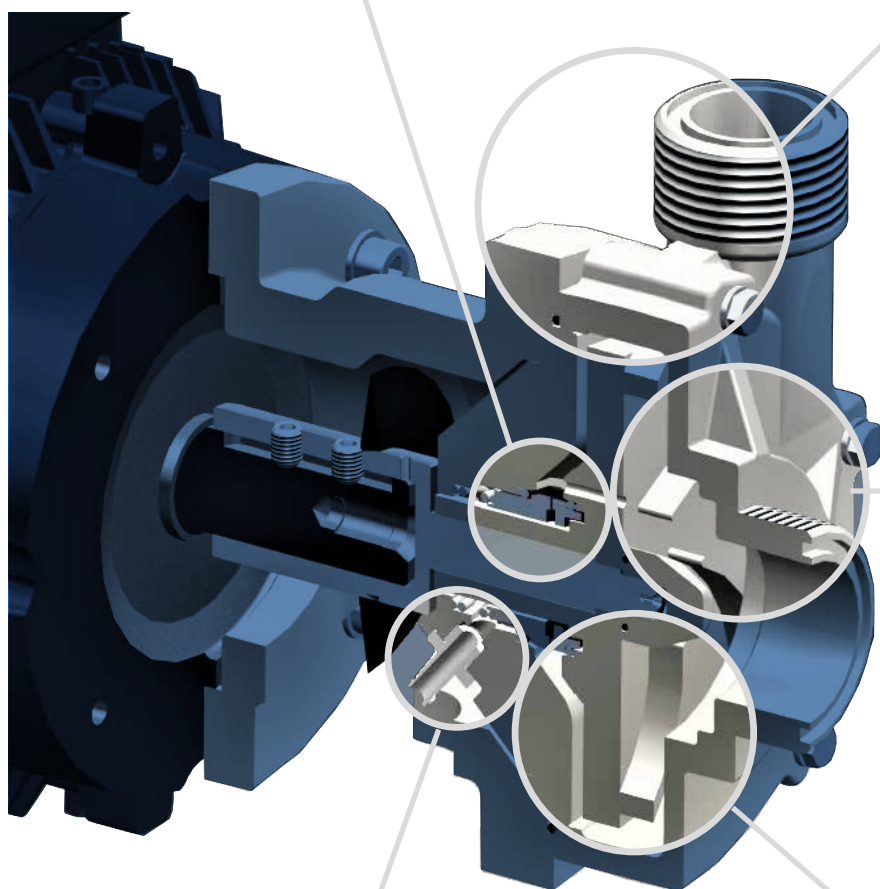


## PP & PVDF wetted materials

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

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

<sup>1</sup>Hastelloy® C is a registered trademark of Haynes International, Inc.

\*other motor options available on request

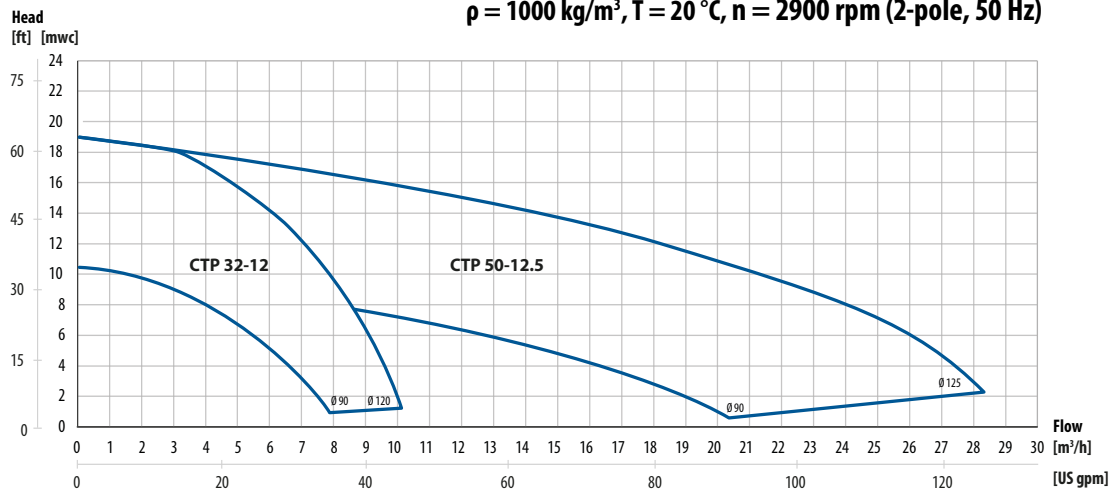
## Connection dimensions

Model	BSPT male thread (standard)		DIN 2633/ PN16 flange		Hose	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
<b>CTP 32-12</b>	1 ¼"	1"	DN32	DN25	Ø32	Ø25
<b>CTP 50-12.5</b>	2"	1 ½"	DN50	DN40	Ø50	Ø40

## Performance curves

The performance curves are based on water.

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



## Available motor powers

2-pole motor	32-12		50-12.5	
<b>Motor power [kW]</b>	0.75	1.1	3.0	4.0
<b>IEC motor size</b>	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

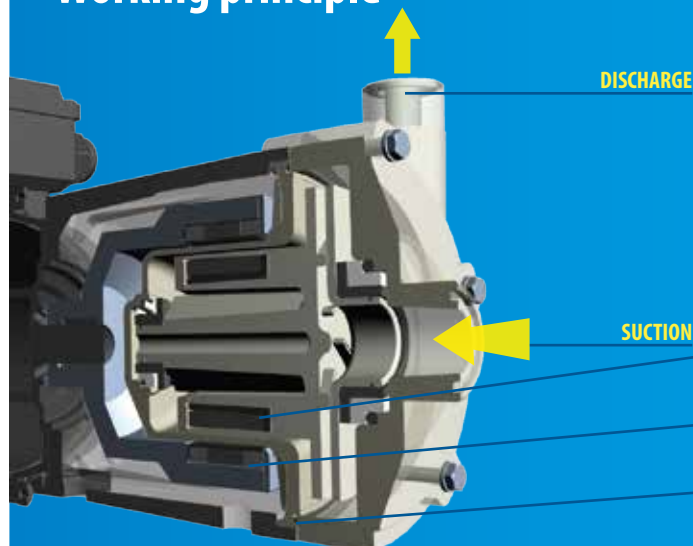


Certificates may vary depending on material execution of particular product.

## 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.

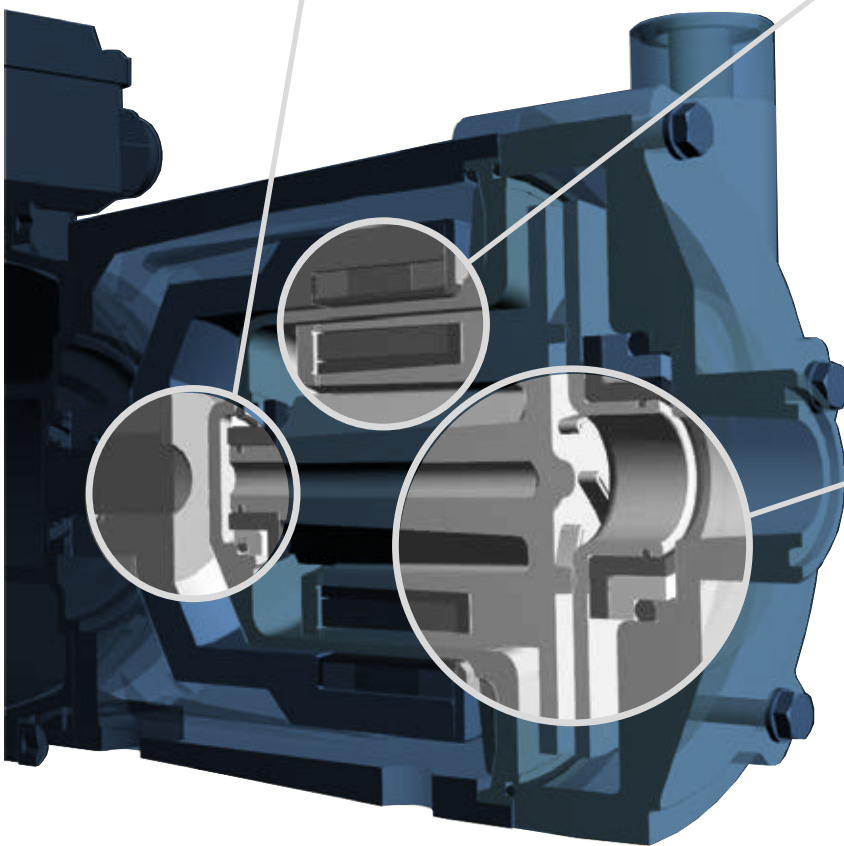
This results in a **pump that has fewer parts** and is **very reliable in service**.

## 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**.

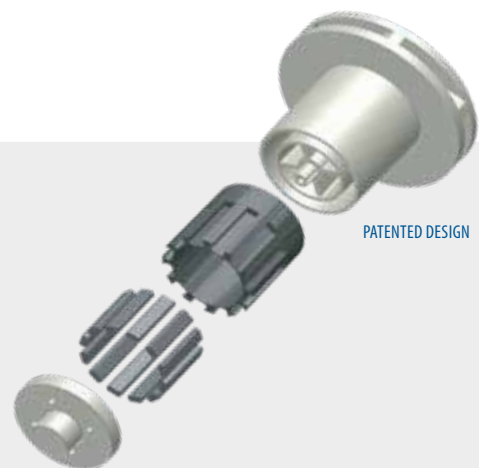
The **PVDF** (polyvinylidene fluoride) version has **superior chemical resistance** and allows **temperatures up to 90 °C**.

## 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
<b>Casing</b>	PP-GF (30%), PVDF	
<b>Impeller</b>	PP/NdFeB, PVDF/NdFeB	
<b>O-rings:</b>	EPDM, FKM, FEP/FKM, FFKM	
<b>Motor*</b>	IEC standard, 3-phase, 2-pole, IP55	
<b>Pressure rating</b>	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
<b>Temp.</b>	PP: 0 °C - 70 °C PVDF: 0 °C - 80 °C	PVDF: 0 °C - 90 °C
<b>Viscosity</b>	max ~200 cSt	

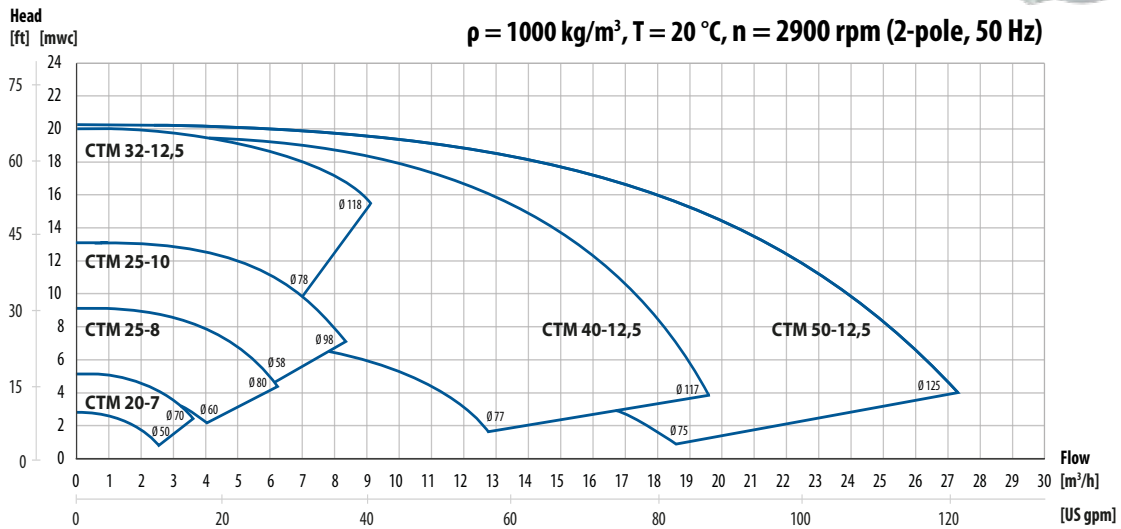
\*other motor options available on request

## Connection dimensions

Model	BSPT male thread (standard)		DIN 2633/ PN16 flange		Hose	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
<b>CTM 20-7</b>	¾"	¾"	-	-	-	-
<b>CTM 25-8</b>	1"	1"	DN25	DN25	Ø25	Ø25
<b>CTM 25-10</b>	1"	1"	DN25	DN25	Ø25	Ø25
<b>CTM 32-12.5</b>	1 ¼"	1"	DN32	DN25	Ø32	Ø25
<b>CTM 40-12.5</b>	1 ½"	1 ¼"	DN40	DN32	Ø40	Ø32
<b>CTM 50-12.5</b>	2"	1 ½"	DN50	DN40	Ø50	Ø40

## Performance curves

The performance curves are based on water.



## Available motor powers

2-pole motor	20-7	25-8	25-10	32-12.5	40-12.5	50-12.5
<b>Motor power [kW]</b>	0.12	0.25	0.55	0.75 1.1	1.5 2.2	3.0 4.0
<b>IEC motor size</b>	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

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