

tapflo®

CTS SELF-PRIMING CENTRIFUGAL PUMPS

2021 | 1



» All about your flow™

www.tapflo.com

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**

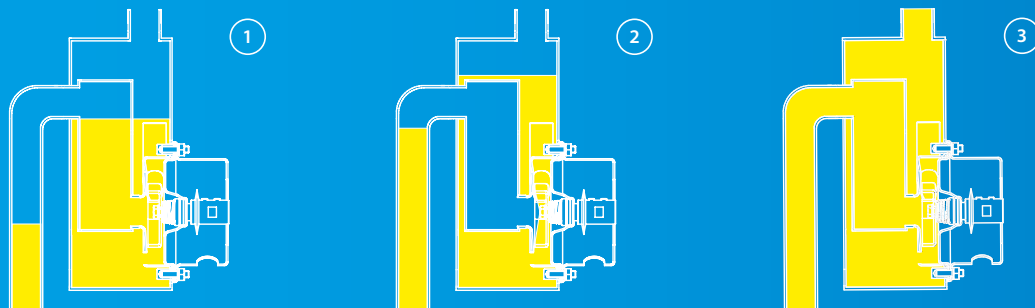


Certificates may vary depending on material execution of particular product.

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

Wide range of applications (CTS H & CTS I)

CTS H

Industries:

- » dairy
- » ice cream
- » beverage
- » food
- » pharma
- » cosmetics
- » brewery and winery

Applications:

diary,
fats,
juices,
alcohol,
semi products,
food additives,
ingredients for cosmetic and pharmaceutical,
products in explosive and safe zones,

mild and aggressive chemicals,
hot and cold liquids,
suspensions and emulsions,
cleaning and washing agents,
wastewater,
feeding and unloading of storage tanks,
containers, filters, sumps,
powering process equipment, dosing systems,
dispensing units,



CTS I

Industries:

- » chemical,
- » mining,
- » oil & gas,
- » packaging,
- » printing,
- » automotive,
- » machinery,
- wastewater treatments plants,

Applications:

oils,
fuels,
solvents,
concentrated or diluted acids and alkalis in
explosives and safe zones,
mild and aggressive chemicals,
hot and cold liquids,

suspensions and emulsions,
cleaning and washing agents,
wastewater
cooling and heating media,
feeding and unloading of storage tanks,
containers, filters, sumps.
powering process equipment, dosing systems,
dispensing units, test rigs,



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 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.



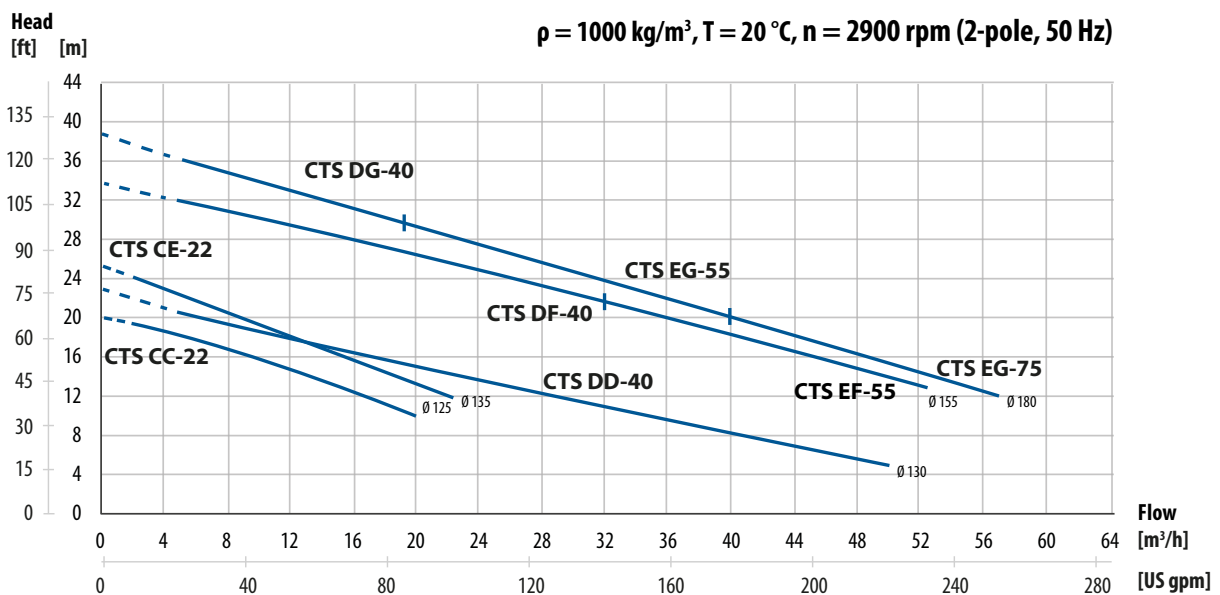
Quench (CTS H, CTS I)

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
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

CTS pumps execution versions

 **Standard**
 **Option**

* Certificate delivered with the pump (for other- on request)

CTS-H

CTS-I



USP VI approved materials

U.S. Pharmacopeial Convention (USP) class I to VI defines how a plastic or rubber material may be exposed of human tissue. Class VI requires the most stringent testing and such materials may be used for example in implant devices.



FDA §21 CFR 177 materials

FDA (U.S. Food and Drug Administration) §21 CFR 177 lists polymers, e.g. rubber and plastic materials approved for equipment in contact with food products.



EN 10204

EN 10204 material traceability

The EN 10204 norm gives you a checklist and traceability of materials used in the equipment. 2.1 is a general statement of compliance with material specifications, while 3.1 provides specific track records all the way to the steel mill batch (normally only on metals in contact with the product).



EC 1935/2004 regulation

This EU regulation applies to all food contact materials, e.g. metals, plastics and rubber materials. It requires that these materials are safe, are labeled with the glass-and-fork symbol, are traceable throughout the production chain (according to above EN 10204) and that they are produced according to good manufacturing practice (GMP).



CE compliant

A product classified as machinery that carries the CE mark fulfill the essential health and safety requirements of the EC Machinery Directive 2006/42/EEC.



ATEX Directive 94/9/EC

Equipment intended and approved for safe operation in potentially explosive atmospheres. The equipment is divided in main groups, categories, apparatus groups and temperature classes to define its suitability in the actual zone.



Product range

Diaphragm pumps & accessories

NEW



Electrically operated pumps



PE & PTFE pumps



Metal pumps



Pharmaceutical pumps



Sanitary pumps



TC Intelligent pumps



Powder pumps



TF Filter press pumps

NEW



Steinle filter press pumps



Aseptic pumps



Peristaltic Pumps



Active pulsation dampeners



Systems & accessories



Trolleys



PT pumps



PTL pumps

Centrifugal pumps, filter units & accessories

NEW



CTX centrifugal pumps



CTI & CTH centrifugal pumps



CTS self-priming centrifugal pumps



CTV vertical centrifugal pumps



CTP plastic centrifugal pumps



CTM magnetic drive centrifugal pumps



Trolleys



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