tapflo®

CT CENTRIFUGAL PUMPS

edition 2017 rev 1

All about your flow

www.tapflo.com

All about your flow

Tapflo is a leading pump manufacturer with the ambition to provide a wide range of premium products for various industrial applications. We focus on delivering the best fluid processing solutions and support on all stages of the process, worldwide.

About Tapflo

Tapflo is an independent, Swedish, family owned, manufacturer and global supplier of air operated diaphragm pumps, centrifugal pumps and other industrial process equipment. The company was founded in Kungälv, Sweden in 1980 and has since then been working with design and manufacture of thermoplastic, metal and sanitary series diaphragm pumps and also with complete range of centrifugal pumps and industrial equipment. After years of dynamic development the company evolved into Tapflo Group with worldwide operations. Tapflo Group is represented by own companies and independent distributors all over the world on 6 continents.

Quality certified

At Tapflo we believe that quality is one of the highest values, both for our customers as well as our employees. As a result, we comply with various globally recognised certification and quality control institutions. Many of our products comply with EC ATEX directives for equipment intended for use in explosion hazardous environments.
The aseptic series is EHEDG certified (European Hygienic Engineering & Design Group), the pharmaceutical series has USP VI and EC 1935/2004 approval.
All our products are obviously CE marked and followed by our comprehensive instruction manuals. Tapflo manufacturing process is certified according to ISO 9001:2015.

Our values

Long term engagement is our core

Our aim is to continuously provide premium products according to evolving needs of our customers. That is why we see each customer relationship as a long term commitment.

Local means on your terms

Tapflo is your global partner providing local support. No matter where your plant is located you can expect us to support you locally.

Flexibility the foundation of good service

We are prepared to deal with reality, knowing that in practice this means answering questions, offering solutions and supplying spare parts with a minimal loss of time.

Customizing to bring the product to the needs

Our intention is always to help our clients find the most cost effective solutions to increase their company's efficiency.
If this means changing the design of the pump we see it as a challenge - not a problem.

To produce is to develop

When you are actively involved in the manufacturing of a product, it is almost impossible not to discover ways to improve it. This allows us to frequently offer solutions that are even more sustainable and efficient.

CT Centrifugal Pumps

The CT pumps are open or semi open single stage centrifugal pumps. They are manufactured in high finish and mechanically strong material - AISI 316L stainless steel. The pump range meets the demands from a variety of today's industries. After all, CT is still available at a very appealing price level.

Features & Benefits

- Simple design
- Few parts
- Open impeller
- Up-graded materials
- Different options
- Compact design
- High capacity
- Competitive price
- Low maintenance cost
- Solids handling
- Good quality/cost ratio
- Wide range of applications

Wide range of applications

Food & beverage (CTH)

Transfer of various ingredients and products like edible oil, flavor, alcohol, dairy products and juice. With heating jacket version there are further possibilities like pumping margarine, paraffin and chocolate. There are also many auxiliary applications like transfer of CIP liquids, detergents and water.

Chemical & pharma (CTI & CTH)

Transport of chemicals from storage tanks, containers and baths, for example in pickling, galvanization and degreasing. Handling of waste products.

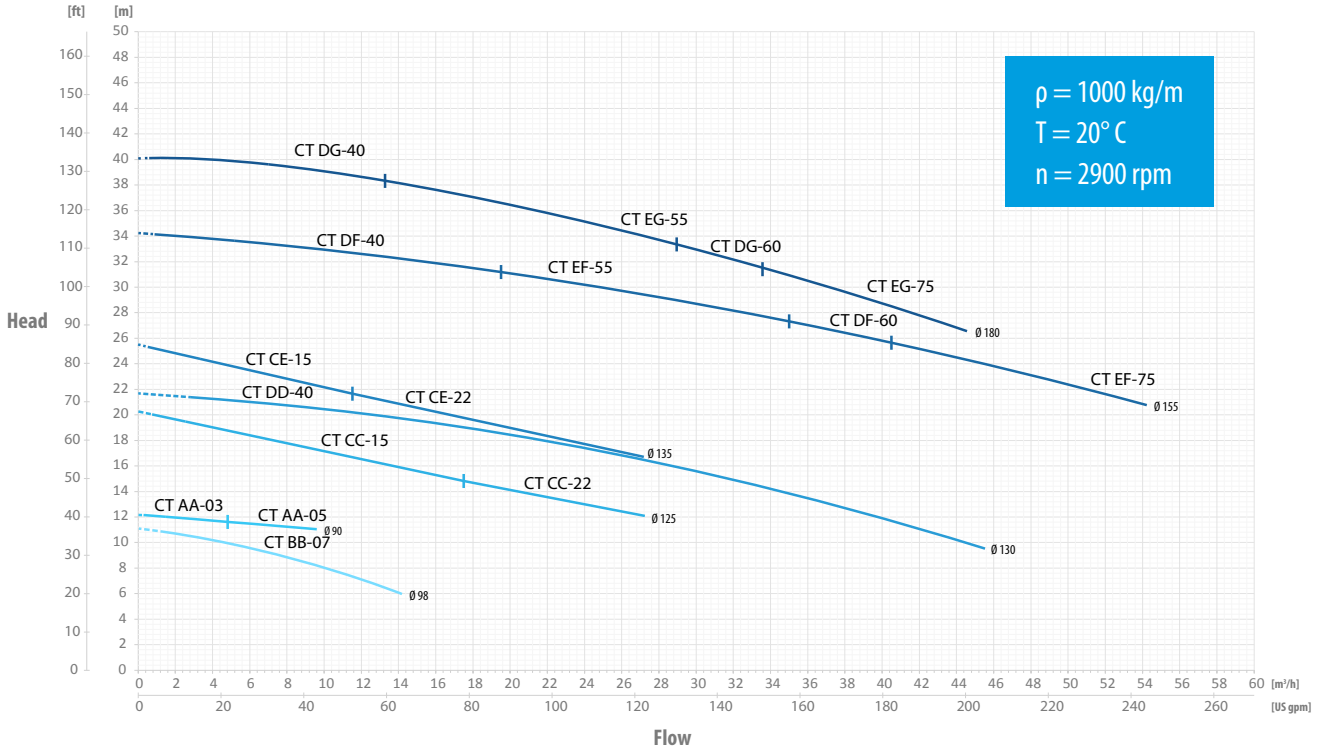
Mechanical industries (CTI)

Pumping samples, dosing acids and alkalis for pH-control. Transfer of flocculent, suspensions, chemical reagents and sludges. The pumps are resistant to hydrochloric acid and ferric chlorite, plus many others.

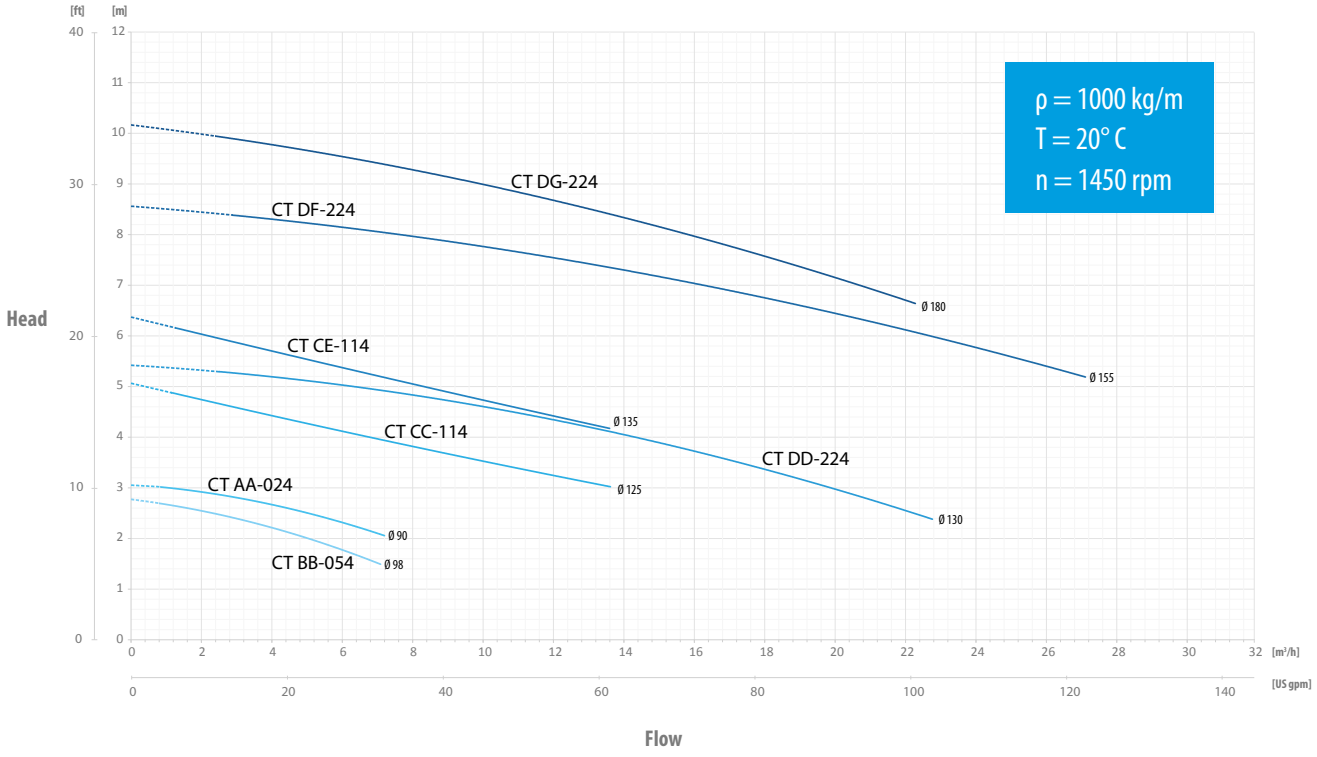
Performance curves

The performance curves are based on water at 20°C. Other circumstances will affect the performance. These curves are only for first selection, contact us for detailed curves with required power etc.

2900 rpm (2-pole, 50 Hz)



1450 rpm (4-pole, 50 Hz)



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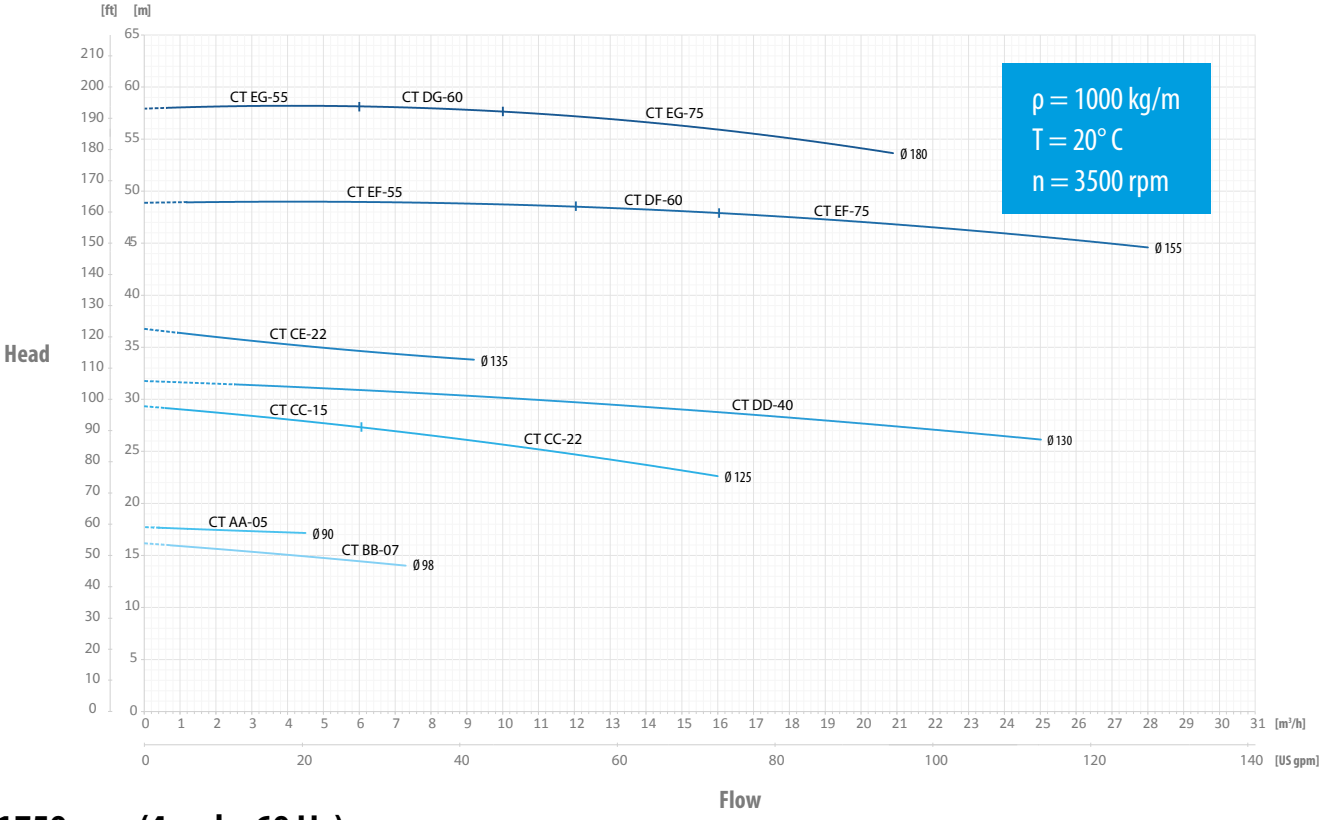
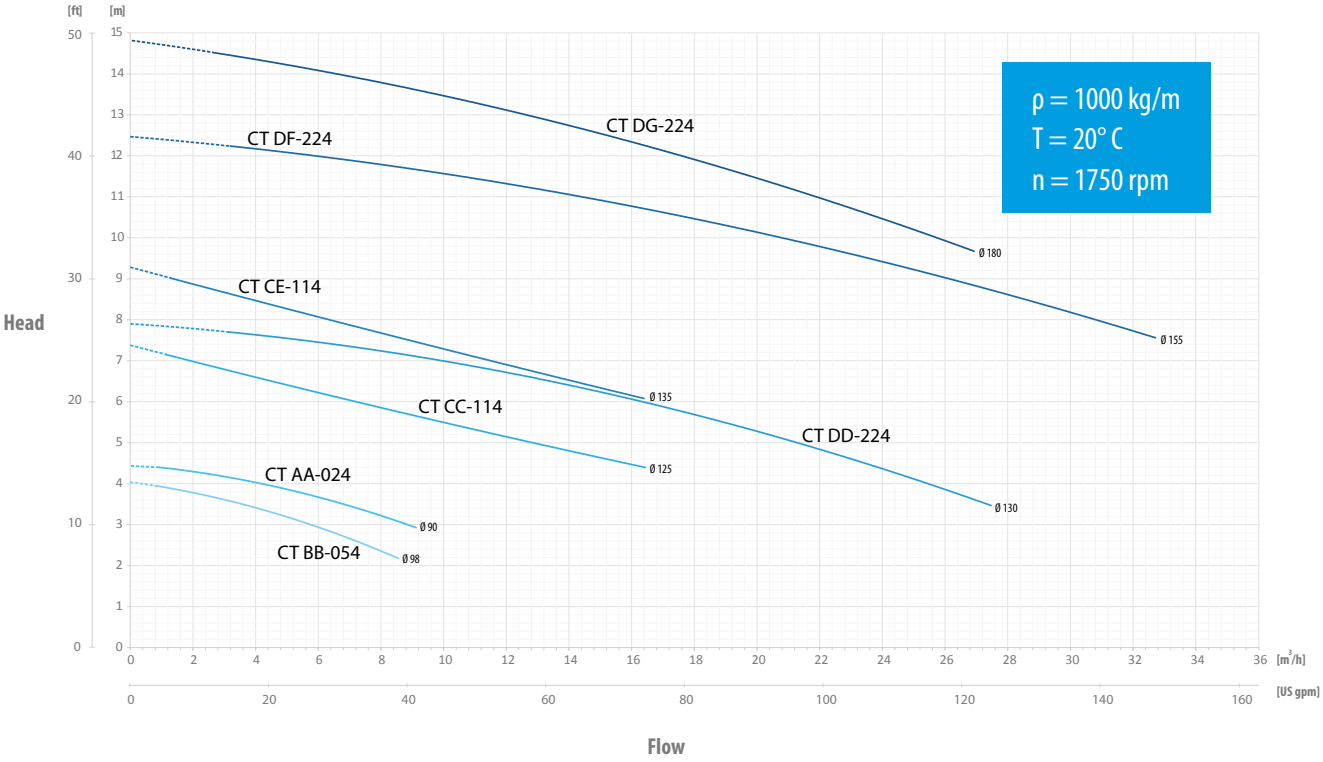
Performance curves

3500 rpm (2-pole, 60 Hz)



1750 rpm (4-pole, 60 Hz)



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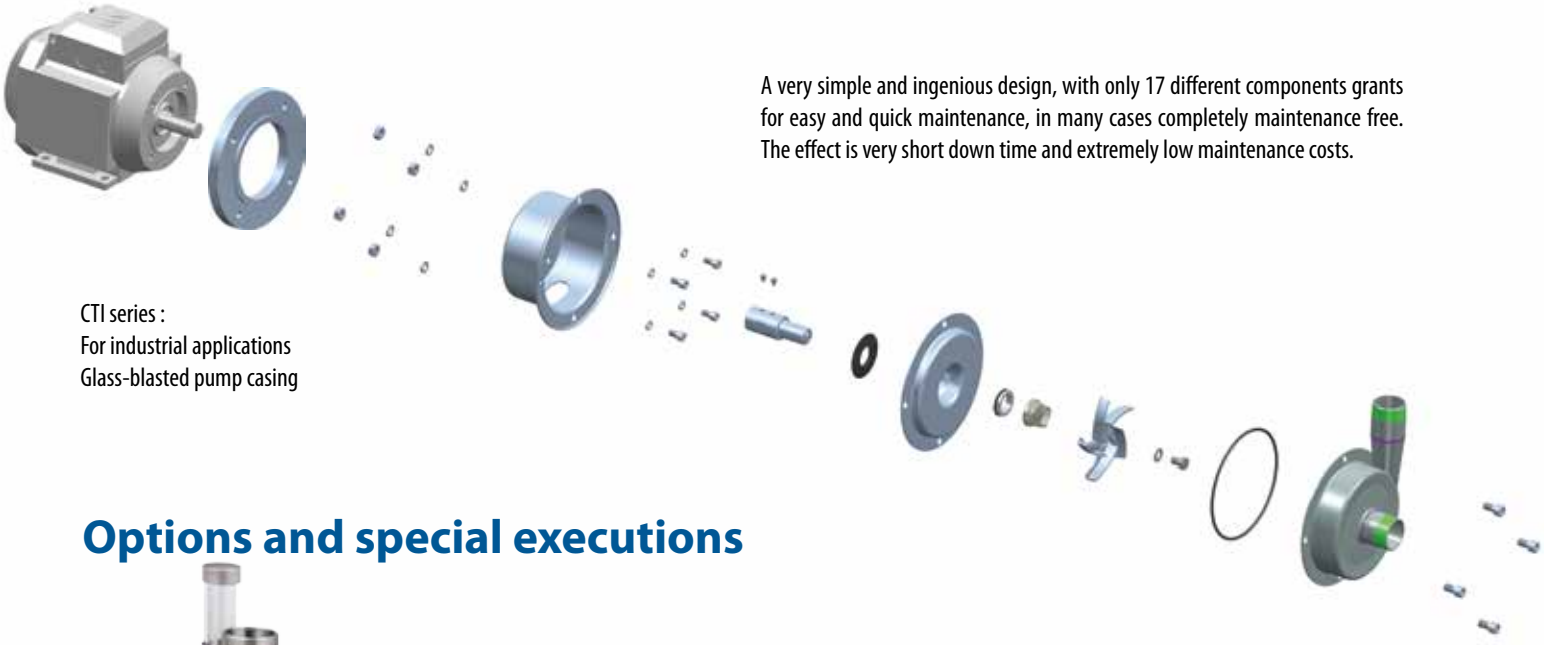
available in ATEx

CTI - industrial series

The industrial series CTI is designed with glass blasted pump casing. A variety of connection types, mechanical seal options and other executions are available to satisfy most type of industrial duties.



A very simple and ingenious design, with only 17 different components grants for easy and quick maintenance, in many cases completely maintenance free. The effect is very short down time and extremely low maintenance costs.

CTI series :
For industrial applications
Glass-blasted pump casing

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 save the mechanical seal and seal chamber from being worn.

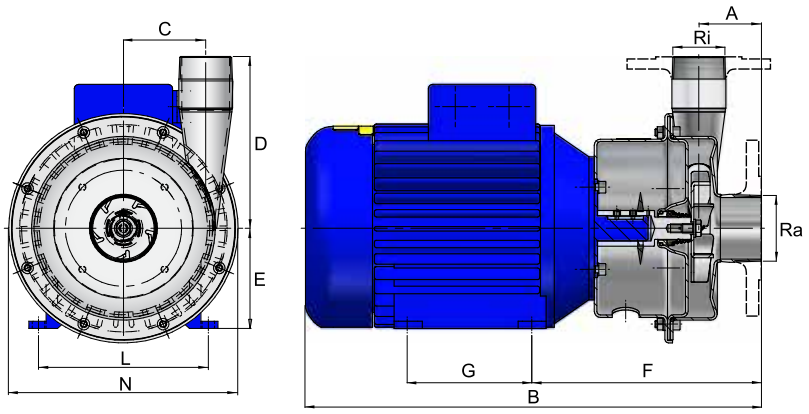
Lubricated seal
A great option where there is a potential risk of dry running, or where the product tends to solidify or crystallize. An oil cup is connected to the mechanical seal chamber.

Long coupled execution
The perfect solution when pumping hot products like oil at temperatures up to 180°C. Complete pump unit mounted on baseplate, with coupling and guard.

Flanged connections
Instead of the standard BSP threaded connections, you can order all CTI pumps with flanged connections according to DIN (2633) or ANSI 150.

Casing drainage
Plug at the bottom of the pump casing allows draining.

CTI - technical data



Connection dimensions

Model	BSPT male thread (standard)*		DIN 2633/ PN16 flange		ANSI 150 flange	
	Ra	Ri	Ra	Ri	Ra	Ri
CTI A..	1″	3/4″	25	20	1″	3/4″
CTI B..	1 1/2″	1″	40	25	1 1/2″	1″
CTI C..	1 1/2″	1 1/2″	40	40	1 1/2″	1 1/2″
CTI D..	2 1/2″	2″	65	50	2 1/2″	2″
CTI E..	2 1/2″	2″	65	50	2 1/2″	2″

* = NPT thread available as option

General dimensions

Model	Motor power (kW)	IEC motor size	A	B**	C	D	E	F	G	L	N
CTI AA-03	0.37	71	60	358	36	100	71	193	90	112	145
CTI AA-05	0.55	71	60	358	36	100	71	193	90	112	145
CTI BB-07	0.75	80	63	395	50	110	80	205	100	125	170
CTI CC-15	1.5	90	64	451	68	160	90	226	125	140	205
CTI CC-22	2.2	90	64	451	68	160	90	226	125	140	205
CTI CE-22	2.2	90	64	451	68	160	90	226	125	140	205
CTI DD-40	4.0	112	70	510	92	192	112	257	140	190	256
CTI DF-40	4.0	112	70	510	92	192	112	257	140	190	256
CTI DF-60***	6.0	112	70	521	92	192	112	262	140	190	256
CTI DG-60***	6.0	112	70	521	92	192	112	262	140	190	256
CTI EF-55	5.5	132	70	587	92	192	132	304	140	216	256
CTI EG-55	5.5	132	70	587	92	192	132	304	140	216	256
CTI EF-75	7.5	132	70	587	92	192	132	304	140	216	256
CTI EG-75	7.5	132	70	587	92	192	132	304	140	216	256
CTI AA-024	0.25	71	60	358	36	100	71	193	90	112	145
CTI BB-054	0.55	80	63	395	50	110	80	205	100	125	170
CTI CC-114	1.1	90	64	451	68	160	90	226	125	140	205
CTI CE-114	1.1	90	64	451	68	160	90	226	125	140	205
CTI DD-224	2.2	100	70	478	92	192	100	250	140	160	256
CTI DF-224	2.2	100	70	478	92	192	100	250	140	160	256
CTI DG-224	2.2	100	70	478	92	192	100	250	140	160	256

** = This dimension may vary depending on motor brand
*** = Special motor with increased power. Not available in EX-proof (ATEX) version

Materials, data and limits

Casing	Stainless steel AISI 316L glass blasted
Impeller	Stainless steel AISI 316L electro polished, open (standard) or optional semi open type
Mechanical seal	Single ceramic/graphite (standard), SiC/SiC or SiC/graphite, optional with oil lube or flushed
O-rings	EPDM (standard), FKM, FEP/silicone or NBR
Motor	IP55, IEC frame B3/B14 (B3 on long coupled version). Available with ATEX cat 2 or 3, Ex e or Ex d motor , 230/400 V, 50/60 Hz, 3-phase
Max pressure	10 bar (PN10)
Temperature	max 90°C, max 180°C for long coupled version
Viscosity	max ~200 cSt
Particles	max diameter 6 mm (with standard open impeller), bigger if soft particles

Changes reserved without notice

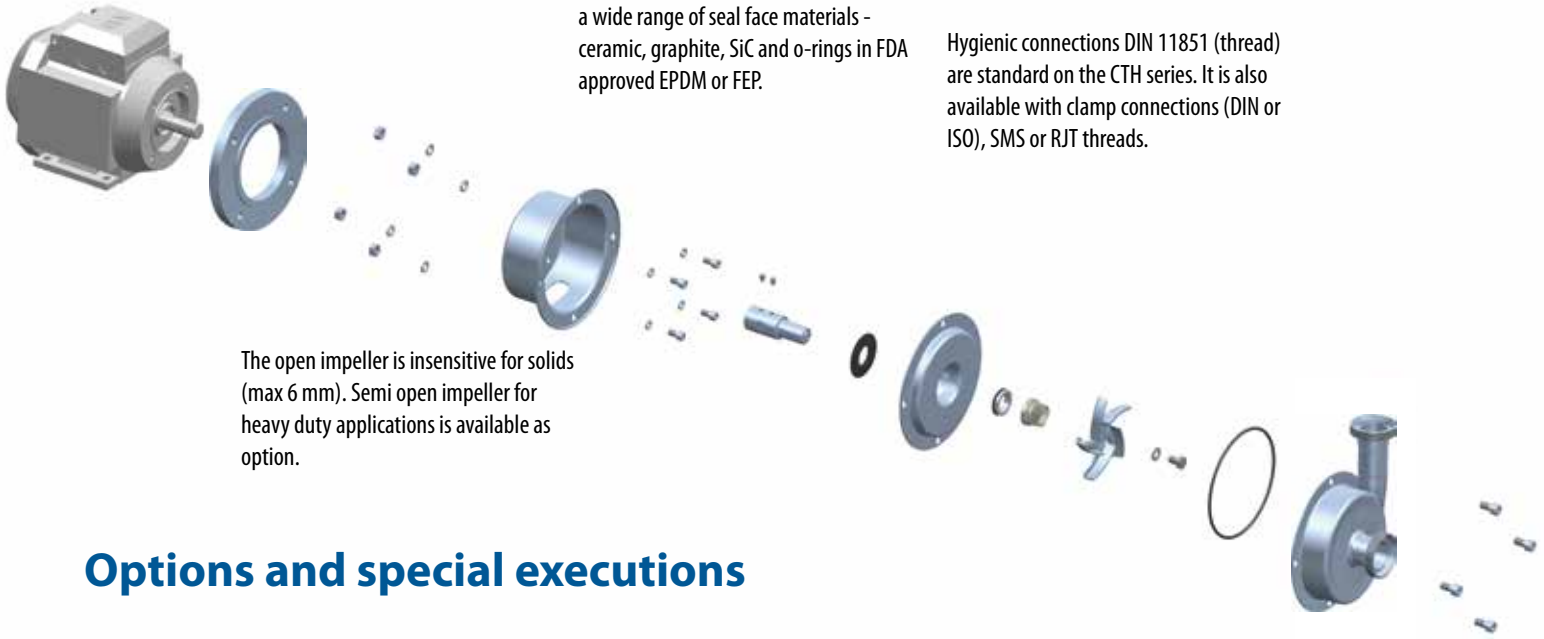
available in ATEx

CTH - hygienic series

The hygienic series CTH is supplied with electro polished pump casing and internals. This series is specially dedicated for hygienic duties in food, beverage and pharmaceutical industries, where clean and drain-ability are important keys.

Standard single mechanical seal provides a wide range of seal face materials - ceramic, graphite, SiC and o-rings in FDA approved EPDM or FEP.

Hygienic connections DIN 11851 (thread) are standard on the CTH series. It is also available with clamp connections (DIN or ISO), SMS or RJT threads.



The open impeller is insensitive for solids (max 6 mm). Semi open impeller for heavy duty applications is available as option.

Options and special executions

Heating jacket
Great protection for the mechanical seal in cases where there is a risk for solidification of the product. 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. Chocolate glaze, paraffin, starch, glucose syrup, margarine and eatable oil are some application examples.

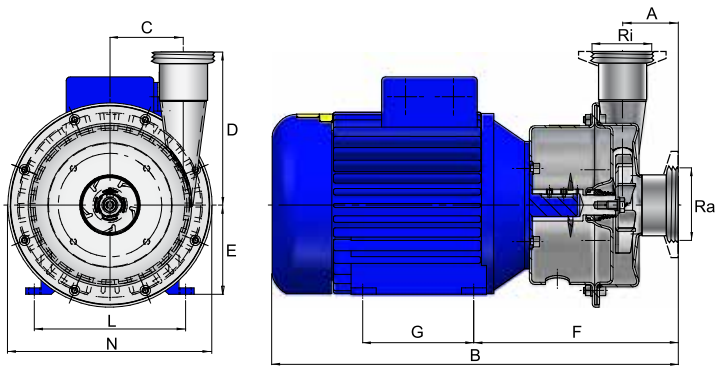
Hygienic shroud
The hygienic motor shroud in polished AISI 316L protects the motor from spraying water.

Casing drainage
Plug at the bottom of the pump casing allows draining. Optional connections like Tri-clamp, DIN 11851 or SMS 1145 available.

Long coupled excecution
The perfect solution when pumping hot products like eatable oil. Complete pump unit mounted on baseplate, with coupling and guard. See image on page 6.

Lubricated seal
A great option where there is a potential risk of dry running, or where the product tends to solidify or crystallize. An oil cup is connected to the mechanical seal chamber.

CTH - technical data



Connection dimensions

Connection type	Dim	Model CTH				
		A..	B..	C..	D..	E..
DIN 11851 thread (standard)	Ra	25	40	40	65	65
	Ri	25	32	40	50	50
DIN 32676 clamp	Ra	25	40	40	65	65
	Ri	20	25	40	50	50
SMS 3017 clamp	Ra	38	38	38	70	70
	Ri	25	25	38	51	51
SMS thread	Ra	38	51	51	63	63
	Ri	25	38	38	51	51
RJT thread	Ra	1 1/2"	1 1/2"	2"	3"	3"
	Ri	1"	1 1/2"	2"	2"	2"

General dimensions

Model	Motor power (kW)	IEC motor size	A	B**	C	D	E	F	G	L	N
CTH AA-03	0.37	71	60	358	36	100	71	193	90	112	145
CTH AA-05	0.55	71	60	358	36	100	71	193	90	112	145
CTH BB-07	0.75	80	63	395	50	110	80	205	100	125	170
CTH CC-15	1.5	90	64	451	68	160	90	226	125	140	205
CTH CC-22	2.2	90	64	451	68	160	90	226	125	140	205
CTH CE-22	2.2	90	64	451	68	160	90	226	125	140	205
CTH DD-40	4.0	112	70	510	92	192	112	257	140	190	256
CTH DF-40	4.0	112	70	510	92	192	112	257	140	190	256
CTH DF-60***	6.0	112	70	521	92	192	112	262	140	190	256
CTH DG-60***	6.0	112	70	521	92	192	112	262	140	190	256
CTH EF-55	5.5	132	70	587	92	192	132	304	140	216	256
CTH EG-55	5.5	132	70	587	92	192	132	304	140	216	256
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CTH DG-224	2.2	100	70	478	92	192	100	250	140	160	256

** = This dimension may vary depending on motor brand
*** = Special motor with increased power. Not available in EX-proof (ATEX) version

Materials, data and limits

Casing	Stainless steel AISI 316L electro polished Ra <0.8
Impeller	Stainless steel AISI 316L electro polished Ra <0.8, open (standard) or optional semi open type
Mechanical seal	Single ceramic/graphite (standard), SiC/SiC or SiC/graphite, optional flushed
O-rings	EPDM FDA approved (standard), or FEP/silicone FDA approved , FKM FDA approved, NBR FDA approved
Motor	IP55, IEC frame B3/B14 (B3 on long coupled version). Available with ATEX cat 2 or 3, Ex e or Ex d motor , 230/400 V, 50/60 Hz, 3-phase
Max pressure	10 bar (PN10)
Temperature	max 90°C, max 180°C for long coupled version
Viscosity	max ~200 cSt
Particles	max diameter 6 mm (with standard open impeller), bigger if soft particles

Changes reserved without notice

Ordering a CT pump

CTI and CTH series are available in standard versions from stock as well as special versions to suit any requirements. When ordering, please follow below example.

CT Pump code

I. Tapflo centrifugal pump	II. Pump execution	III. Casing size	IV. Impeller size		V. Pump options	VI. Motor power	VII. Motor option
CT	I	C	C	-	1CGV3F-	02	M

I. CT = Tapflo centrifugal pump

II. Pump execution:
I = Industrial
H = Hygienic

III. Casing size (motor flange diameter / IEC size):
A = 105 mm / 71
B = 120 mm / 80
C = 140 mm / 90
D = 160 mm / 100 or 112
E = 200 mm / 132

IV. Impeller size
A = 90 mm
B = 98 mm
C = 125 mm
D = 130 mm (reinforced as standard)
E = 135 mm
F = 155 mm (reinforced as standard)
G = 180 mm (reinforced as standard)

V. Pump options:

1. Mechanical seal:
Blank* = ceramic/graphite/EPDM (FDA on CTH)
1CGV = ceramic/graphite/FKM (FDA on CTH)
1CGF = ceramic/graphite/FEP (FDA)
1CGN = ceramic/graphite/NBR (FDA on CTH)
1SSE = SiC/SiC/EPDM (FDA on CTH)
1SSV = SiC/SiC/FKM (FDA on CTH)
1SSF = SiC/SiC/FEP (FDA)
1SSN = SiC/SiC/NBR (FDA on CTH)
1SGE = SiC/graphite/EPDM (FDA on CTH)
1SGV = SiC/graphite/FKM (FDA on CTH)
1SGF = SiC/graphite/FEP (FDA)
1SGN = SiC/graphite/NBR (FDA on CTH)

2. Mechanical seal type:
P = Standard mechanical seal with OP-ring
K = Different hardness of static and dynamic seal elements – J/D with OP-ring (SiC/SiC only)

3. Connection options
Blank* = Thread BSPT on CTI
Thread DIN 11851 on CTH
3A = ANSI flange (CTI only)
3B = BSPT thread (on CTH)
3C = Clamp SMS 3017 (CTH only)
3F = Flange DIN2633 PN 10/16
3T = Clamp DIN 32676 (CTH only)
3S = Thread SMS 1145 (CTH only)
3R = Thread RJT (CTH only)
3P = ISO 1127 clamp (CTH only)
3DA = DIN11866-1A thread (CTH only)
3X = Thread DIN 11851 (on CTI)

4. Special executions
4J = Pump with heating jacket
4F = Flushed seal
4Z = Lubricated seal
4H = Semi open heavy duty impeller (C-G sizes)
4K = Drain plug (3/8" BSP thread as standard)
4PX = Welds polishing (CTH only)
4W = Reinforced impeller (D and F sizes only)
4Q = External quench
4B = Reinforced front cover; special O-ring
4O = Increased number of mounting holes

VI. Motor power / IEC motor size
2900 rpm motors (2-pole):
03 = 0.37 kW / 71
05 = 0.55 kW / 71
07 = 0.75 kW / 80
11 = 1,1 kW / 90
15 = 1.5 kW / 90
22 = 2.2 kW / 90
40 = 4.0 kW / 112
55 = 5.5 kW / 132
60 = 6.0 kW / 112
75 = 7.5 kW / 132
110 = 11.0 kW / 160 (long coupled pump only)
1450 rpm motors (4-pole):
024 = 0.25 kW / 71
054 = 0.55 kW / 80
114 = 1.1 kW / 90
224 = 2.2 kW / 100

VII. Motor options
M = Hygenic motor shroud (CTS H)
B = Long coupled pump
P = Single phase motor
X2d = Ex d IIB T4 motor
X2e = Ex e IIB T3 motor
X3e = Ex e II 3G T135C motor - tropic
T = Motor with PTC thermistor
V...F... = Motor for special voltage, frequency
* = standard execution

Special executions and options

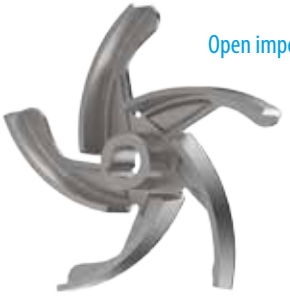
Big choice of sealing solutions

The CTI & CTH pump range features top brand mechanical seals in a variety of materials to suit most type of liquids. They are available in combinations of ceramic, graphite and SiC.

For special duties, flushed and lubricated, quenched seals are available.

Semi-open impeller

Tapflo CT pumps can be fitted with a semi-open impeller in comparison to its standard open impeller. This option ensures more stable operation, lower noise, lower vibrations and more robust construction. It is recommended to use the semi-open impeller when hard solids can be present in the pumped liquid.



Open impeller

Semi-open impeller

Other Tapflo products

Tapflo is today one of the leading European manufacturers of air operated diaphragm pumps. With comprehensive ranges in metals and plastics, the diaphragm pumps are the core of Tapflo. The portfolio is now also widened with magdrive centrifugal pumps, vertical centrifugal pumps and filter units.

CTS self-priming centrifugal pumps

The CTS series maintains all the benefits and strengths of the standard CT pump. The self-priming feature allows to use the pump in applications where standard CT pumps do not prove useful. The CTS pump is capable of creating up to 4,5 m of suction lift. By replacing only one element - the casing with a self-priming chamber – we can achieve various advantages for our pump. The pump can now suck the liquid form a lower level than it is positioned or handle liquids with high content of air.

CTM magdrive centrifugal pumps

CTM is a compact and seal less pump, where the power from the motor is transmitted to the impeller by means of a magnetic coupling. The wetted components are non-metallic injection moulded thermoplastics PP-GF or PVDF. The pumps handle many types of low viscous clean liquids such as chemical aggressive and toxic ones.

CTV Vertical centrifugal pumps

CTV is a seal less and dry running safe pump specialized for transfer and circulation of various liquids from containers, sumps and tanks. It is manufactured from PP (polypropylene), PVDF or stainless steel AISI 316L.

Filter units

Cartridge filters with 1, 3 or 7 cartridges are stand alone units equipped with a CTM mag drive pump or combined with CTV vertical pump. The cartridges are available in porosities of 1, 10, 20 and 50 µm providing up to 95% filtering efficiency. The FTA series is available in PP.

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Tapflo products and services are available in 75 countries on 6 continents.

Tapflo is represented worldwide by own Tapflo Group Companies and carefully selected distributors assuring highest Tapflo service quality for our customers' convenience.

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