

tapflo®

CTM MAGNETIC DRIVE CENTRIFUGAL PUMPS

edition 2015 rev 1



» All about your flow

www.tapflo.com

All about your flow. Everywhere.

Tapflo is a leading pump manufacturer with the ambition to provide a wide range of premium products for various industrial applications. Tapflo is represented by own companies and independent distributors in more than 60 countries spread over the world on 6 continents – products and spare parts are available worldwide. The headquarters are situated in Sweden.



About Tapflo

Tapflo Group 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 as Temag Pumpar 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.

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 approval.

All our products are obviously CE marked and followed by our comprehensive instruction manuals. Tapflo manufacturing process is certified according to ISO 9001:2001.



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.

CTM Magnetic Drive Pumps

ideal for safe fluid handling

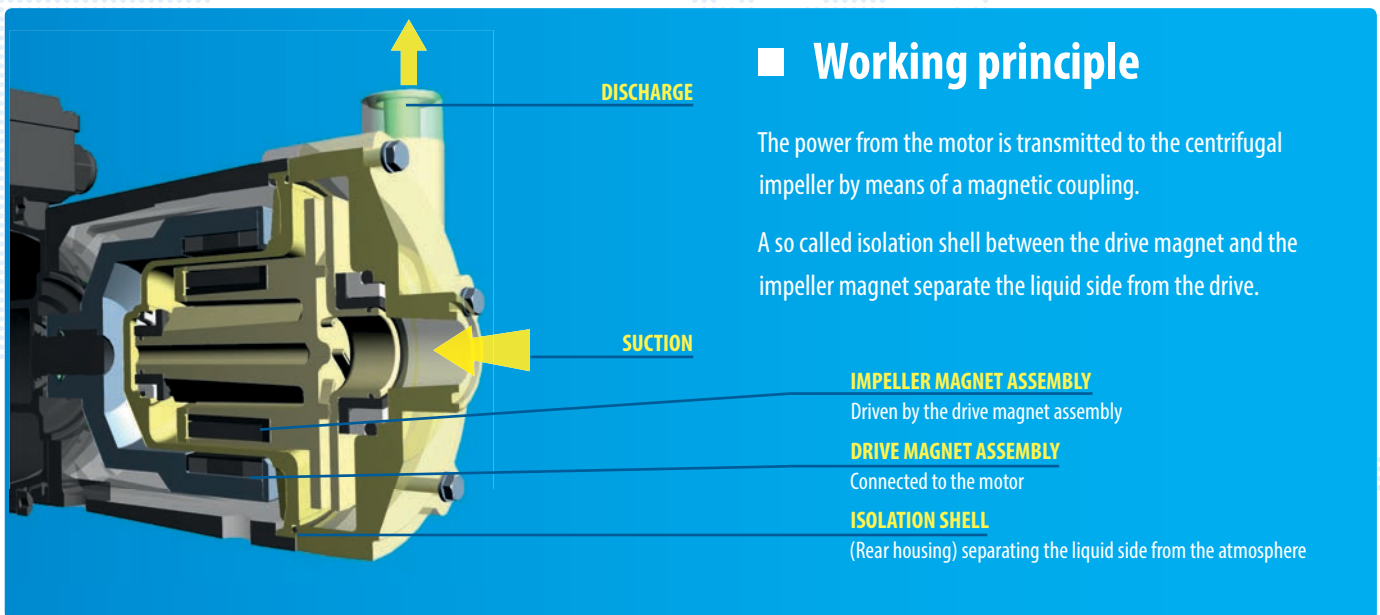
Tapflo CTM horizontal centrifugal pumps are pumps of centrifugal type where the power from the motor is transmitted to the centrifugal impeller by means of a magnetic coupling.

CTM pumps are designed and manufactured for chemical transfer and circulation surface treatment industries.

CTM is a perfect choice for a chemically corrosive and toxic liquids.

■ Features & Benefits

- ✓ **No leakage**
safe working environment
and environmental friendly
- ✓ **Economical operation**
high degree of efficiency
and no waste of product
- ✓ **Magnetic power transmission**
no mechanical seal problems
- ✓ **Safe handling of hazardous fluids**
seal less pump
- ✓ **Hermetic system**
no poisonous or dangerous vapours



Perfect pump
for clean and thin liquids like pure
chemicals, acids and alkalis.

Wide range of applications

CTM pumps are used in most industries where liquids are pumped. The pumps handle many types of low and normal viscous clean liquids such as chemical aggressive and toxic.

Transfer of chemicals

Transfer of various chemicals from storage tanks to smaller containers

Surface treatment

Transfer, filtering and circulation of surface treatment baths

Food and beverage

Pumping of CIP detergent used for cleaning of pipes and other food process equipment

Water treatment

Dosing of acids and alkalis used as cleaning chemicals in nanofiltration

Chemical manufacture

Pumping of chemicals in industrial detergent equipment

Demineralization

Demi-water circulation and transfer in many industrial applications

Photo processing

Transfer of photo development chemicals and inclusion in processing machines

Liquid crystal manufacture

Pumping of concentrated acids and alkalis



Compact but powerful

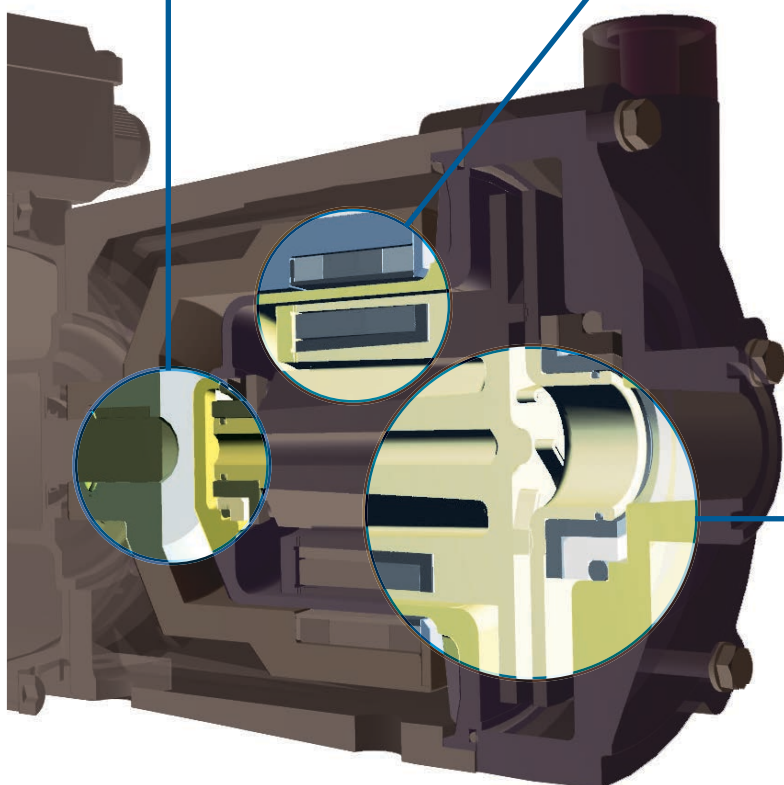
CTM is a close coupled compact pump ideal for service in little spaces like in OEM installations.

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 startup of the pump.

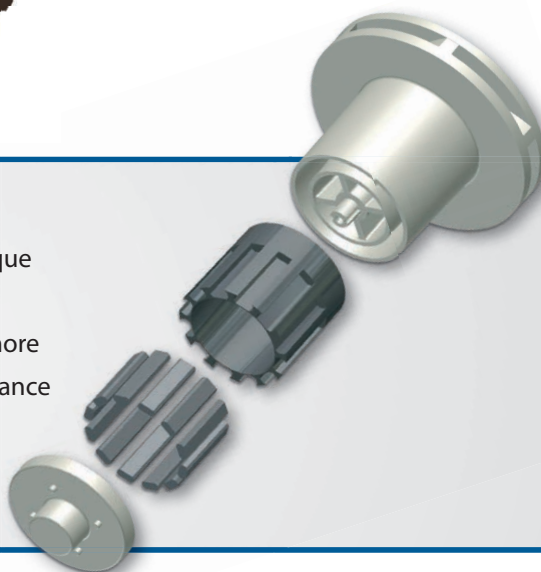


Non-metallic pumps

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 DiFluoride) version has superior chemical resistance and allows temperatures up to 80°C.

Excellent performance with magnet cage system

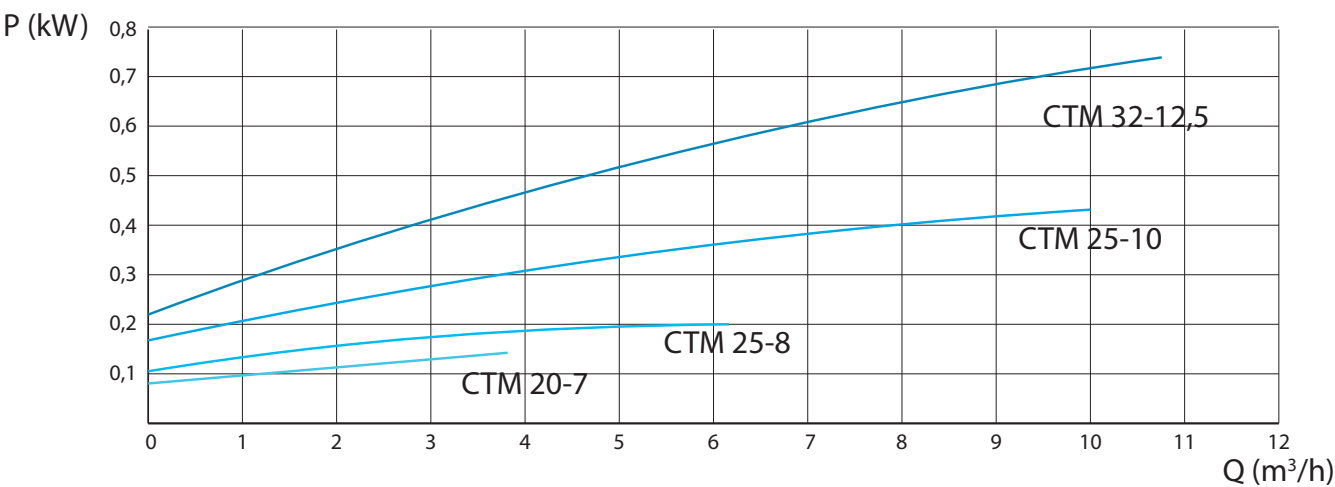
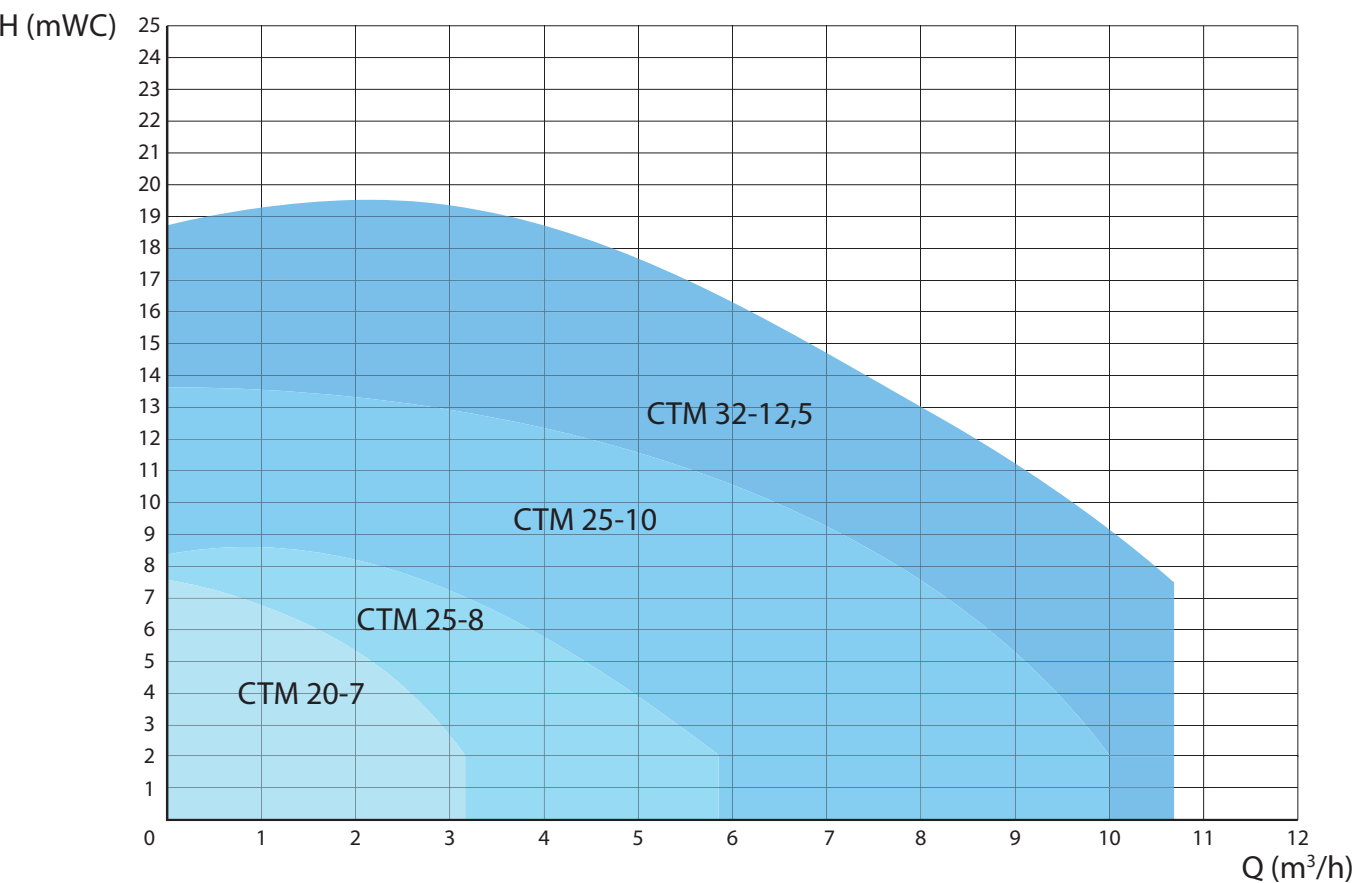
The magnets are totally encapsulated in their cage with the unique system that avoids the use of resins and glue. This grants a safe system with better performance at high temperatures. Furthermore the impeller is injection moulded, resulting in excellent performance and no weak points. CTM 20-7 has a semi-open impeller while models CTM 25-8, CTM 25-10 and CTM 32-12,5 have closed impellers to obtain best pumping parameters.



Performance curves

Performance curves are based on 2900 rpm motor speed.
Please contact us for individual detailed performance curves.

H	=	Head in mWC
Q	=	Flow in m³/h
N	=	Required motor power in kW



Changes reserved without notice



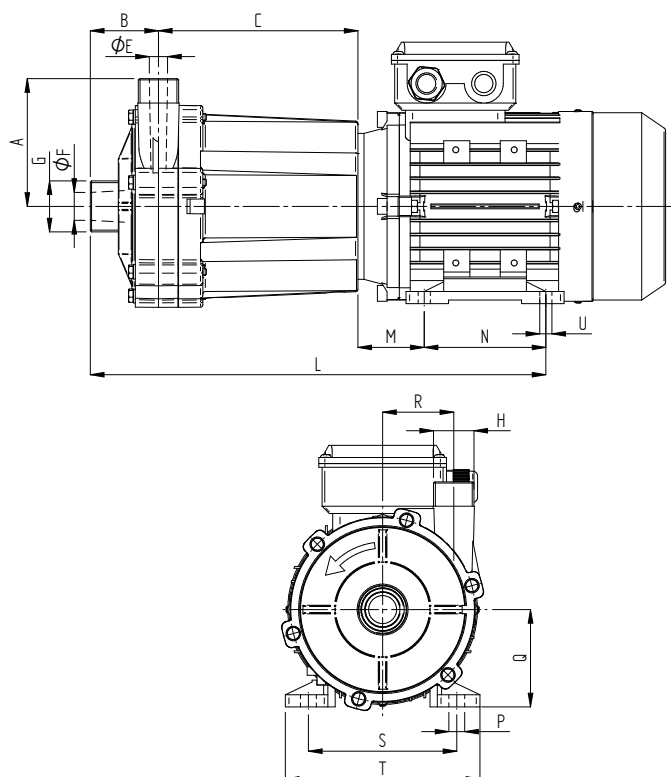
NEW CTM 32-12,5
Currently the all new, more powerful
CTM pump is being introduced

Technical data

Dimensions

	CTM 20-7	CTM 25-8	CTM 25-10	CTM 32-12.5 <small>NEW</small>
A	70	90	100	105
	2.76	3.54	3.94	4.13
B	48	58.50	63	56
	1.89	2.30	2.48	2.20
C	93.5	100.5	136.5	164
	3.68	3.96	5.37	6.46
ØE	15	18	18	15
	0.59	0.71	0.71	0.59
ØF	15	18	18	23
	0.59	0.71	0.71	0.91
G	¾"	1"	1"	1 ¼"
	¾	1	1	1 ¼
H	¾"	1"	1"	1"
	¾	1	1	1
L	248.5	279	334.5	374.5
	9.78	10.98	13.17	14.74
M	36	40	45	54.5
	1.42	1.57	1.77	2.15
N*	71	80	80	100
	2.80	3.15	3.15	3.94
P*	9	10	10	13
	0.22	0.28	0.28	0.51
Q	56	63	71	80
	2.20	2.48	2.80	3.15
R	35	39.5	43.5	58.5
	1.38	1.56	1.71	2.30
S*	90	100	112	125
	3.54	3.94	4.41	4.92
T	112	126	141	160
	4.41	4.96	5.55	6.3
U*	5.5	7	7	10
	0.22	0.28	0.28	0.39
MOTOR				
POWER	0.12 kW	0.25 kW	0.55, 0.75 kW	0.75, 1.1 kW
SIZE	56	63	71	80
OPTIONAL CONNECTIONS				
FLANGE	-	DN25	DN25	DN32 / DN25
HOSE	-	Ø20	Ø 20	Ø32 / Ø20

Dimensions in mm (where other is not indicated) | Dimensions in inch (where other is not indicated)



General characteristics

Temperature range	PP pumps: 0°C - 70°C PVDF pumps: 0°C - 80°C (CTM20); 0°C - 90°C (CTM25, CTM32)
System pressure rating	CTM20: PP pumps: PN4 at 20°C, PN2 at 70°C PVDF pumps: PN4 at 20°C, PN2 at 80°C CTM25 and CTM32: PP pumps: PN6 at 20°C; PN2 at 70°C PVDF pumps: PN6 at 20°C; PN2 at 90°C
Viscosity	200 cSt max
Motor	IEC standard, 3x380 VAC (other voltage upon request), 2900 rpm, IP55, frame B3/B14

CTM Pump code

I. Tapflo magnetic drive centrifugal pump

II. Pump size

III. Pump housing material

IV. Pump options

V. Motor power

VI. Motor options

CTM 25-10 P 1V - 05 P

I. CTM = Tapflo magnetic drive centrifugal pump

II. Pump size: 20-7 | 25-8 | 25-10 | 32-12.5

III. Pump housing material:

P = PP (Polypropylene)

K = PVDF (Polyvinylidene fluoride)

IV. Pump options:

1. Casing O-ring:

blank* = EPDM for PP, FKM for PVDF pump

F = FEP / Silicone

V = FKM

2. Static bushing:

blank* = Al2O3 (ceramic)

S = SiC (silicone carbide)

3. Rotating bushing:

blank* = PTFE-graphite

S = SiC (silicone carbide)

4. Connection options:

blank* = BSP external thread

F = Flange DIN PN10 (CTM20, CTM25); PN16 (CTM32)

H = Hose connection

* = standard execution

V. Motor power / IEC mechanical size:

01 = 0.12 kW / 56

02 = 0.25 kW / 63

05 = 0.55 kW / 71

07 = 0.75 kW / 80

11 = 1.1 kW / 80

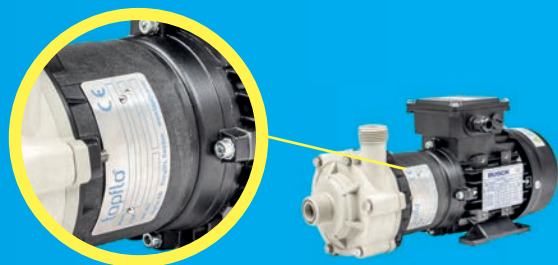
VI. Motor options

P = 1-phase motor (220/230 VAC)

V = 500 V motor

T = PTC motor protection

F60 = 60 Hz motor



Ask us for complete pump code with all available options and executions. Changes reserved without notice.

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Tapflo products and services are available in 64 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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CTV vertical pumps

2012 rev 1



topflo®



Tapflo - your reliable pumpchoice

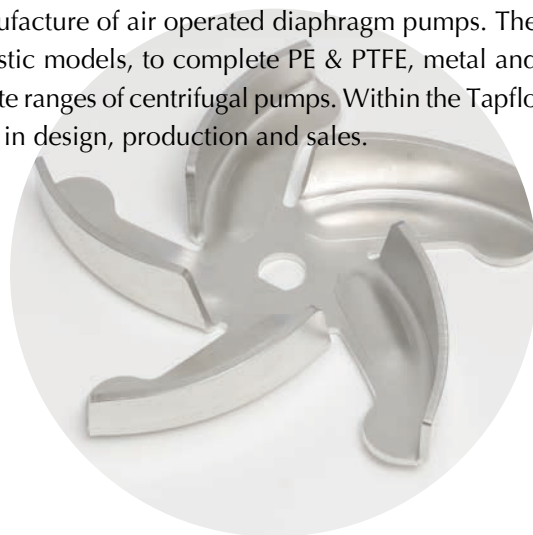
With experience from industrial fluid handling and pump manufacture since 1970, we know what you as a customer require from an industrial pump. Ever since we started our manufacture of air operated diaphragm pumps, we have always had our winning concept in mind: to create pumps for reliable duty and with a minimal number of components enabling easy maintenance. We are always keenly aware of new requirements and ideas from our customers. The products are therefore always in continuous progress with improved detail solutions, new materials and further accessories.

Tapflo quality

The Tapflo pump is usually an essential part in the process with hazardous fluids. We always strive to supply the safest and most environmental friendly solution for these fluids. As a part of our safety thinking, we are in the frontline following important standards, guidelines and directives. Many of our products comply with the EC ATEX directive for equipment in explosion hazardous environments. All our pumps are of course CE marked and followed by our comprehensive instruction manuals. Tapflo is an ISO 9001:2001 certified company.

The history of Tapflo

Tapflo was founded in Kungälv (north of Gothenburg), Sweden 1985 and has since then been working with design and manufacture of air operated diaphragm pumps. The product range has grown from a few plastic models, to complete PE & PTFE, metal and sanitary series and lately also with complete ranges of centrifugal pumps. Within the Tapflo group today 130 employees are working in design, production and sales.



The superior solution for a reliable fluid circulation and transfer

CTV is a single stage vertical centrifugal pump that is simple but very reliable in duty. The pump is specialized for transfer and circulation of various liquids from containers, sumps and tanks. CTV is manufactured from PP (polypropylene), PVDF or stainless steel AISI 316L.



Leakage free and dry running safe

CTV is installed vertically with the motor above the liquid surface. In this way the pump does not need any mechanical seal that usually is a source for leakage problems. Further on the pump is designed to be dry running safe.

Nearly maintenance free

The simple design without bearings or mechanical seals grants for a pump that is usually maintenance free. CTV is also insensitive of solids, up to ?? mm are allowed (depending of pump size).

Replacing self priming pumps

In many installations the CTV pump replaces a self priming pump. The pump head of the CTV is submersed in the liquid. The pump operates more reliable compared with a self priming pump. The submersion depth is 419-425 mm (depending on model) but may also be equipped with a suction extension.



CTV pumps are successfully used in various applications in today's industries. Below are some examples.

Surface treatment

Transfer and return pumping in galvanizing, hot zinc, pickling and oxidation processes

Water treatment

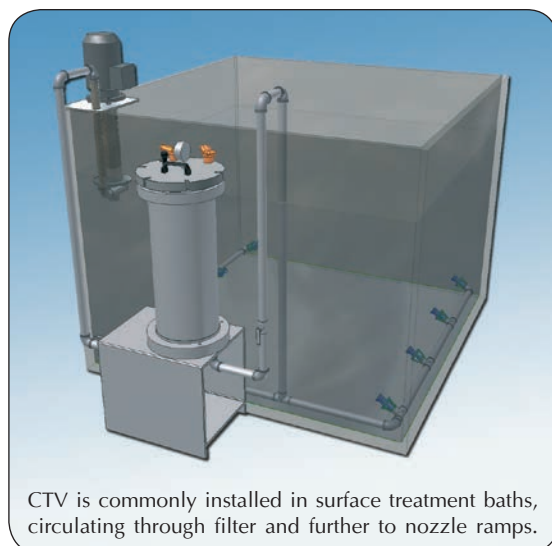
Transfer and return pumping

Heat exchangers

Return pumping in heat exchangers

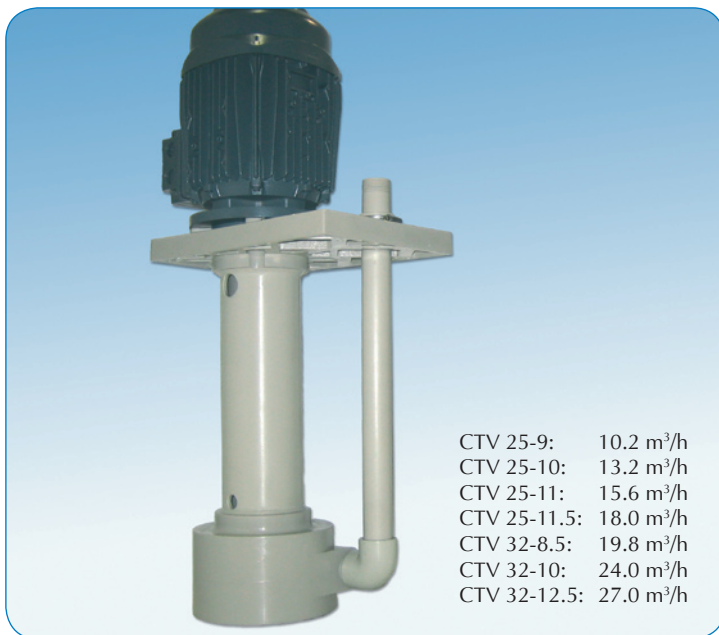
Waste disposal

Emptying sumps



CTV is commonly installed in surface treatment baths, circulating through filter and further to nozzle ramps.

▼ Pumps in PP & PVDF



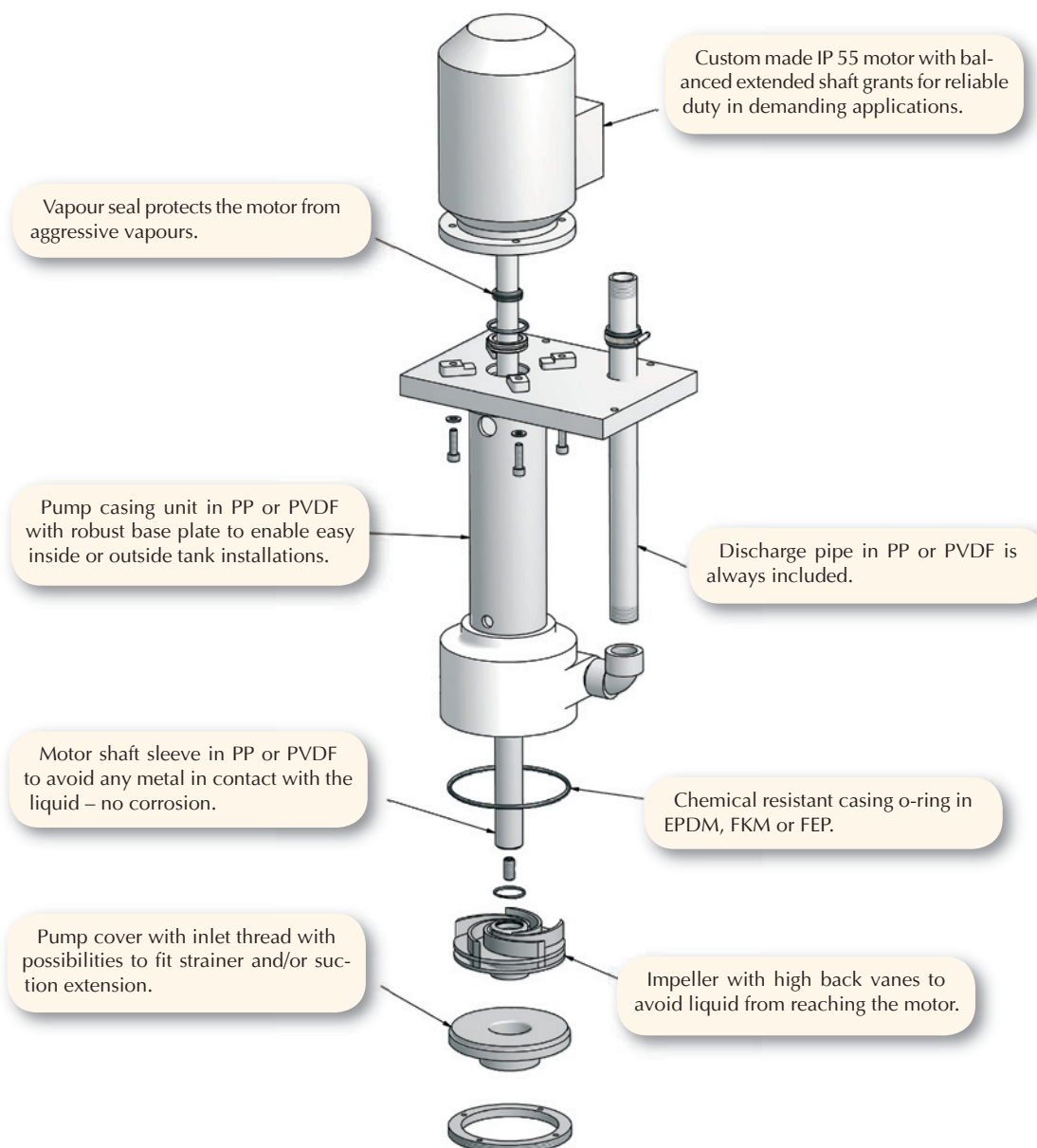
CTV 25-9:	10.2 m ³ /h
CTV 25-10:	13.2 m ³ /h
CTV 25-11:	15.6 m ³ /h
CTV 25-11.5:	18.0 m ³ /h
CTV 32-8.5:	19.8 m ³ /h
CTV 32-10:	24.0 m ³ /h
CTV 32-12.5:	27.0 m ³ /h

PP

PP (polypropylene) is suitable for most type of chemicals at temperatures up to 70°C. Ideal for pickling baths and acid degrease solutions etc.

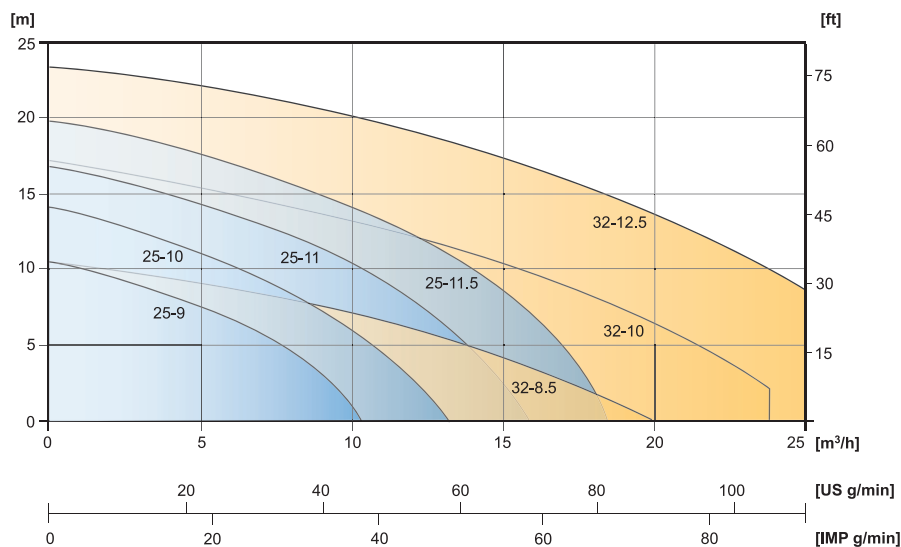
PVDF

PVDF (polyvinylidene fluoride) has superior chemical and mechanical features. Ideal with hot acids up to 100°C, for example hot hydrofluoric acid.



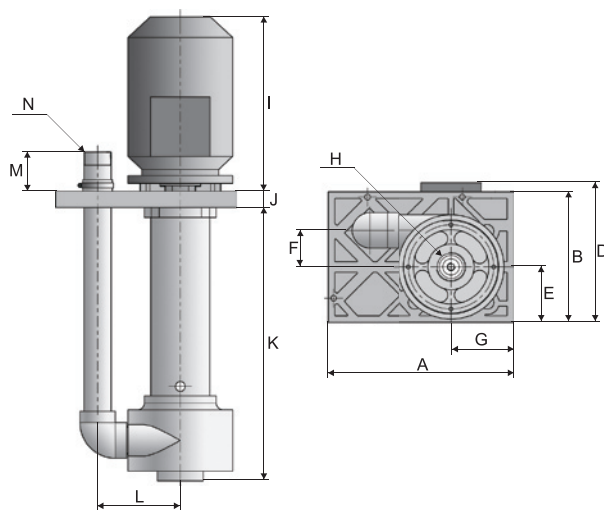
Performance curves

The performance curves are based on water at 20°C.



Dimensions and technical data

Dimensions in mm, where other is not indicated

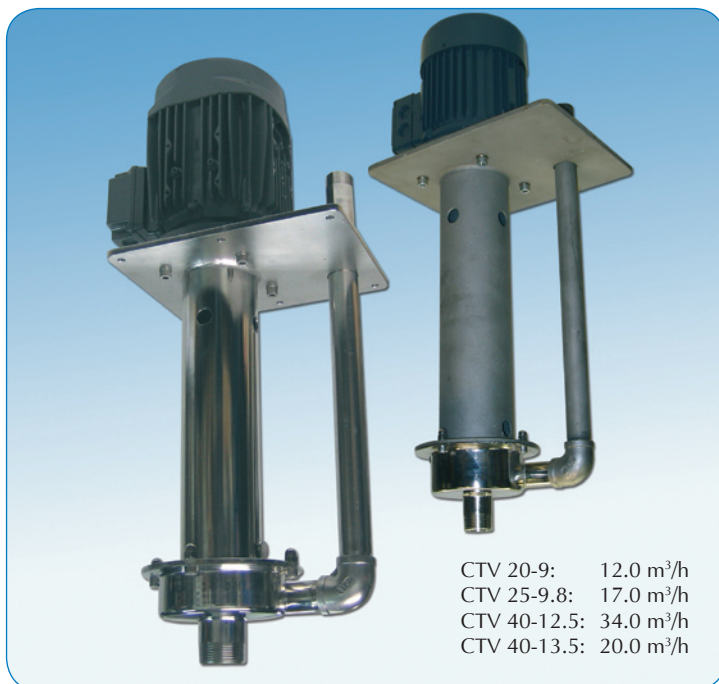


Dimension	CTV 25	CTV 32
A	285	285
B	200	200
E	85	85
F	56	56
G	95	95
H	1"	1 1/4"
J	25	25
K	419	419
L	123	126
M	60	60
N	1"	1 1/4"
Motor power	D	I
0.55 kW	196	213
0.75-2.2 kW	214	267

General characteristics	25-9	25-10	25-11	25-11.5	32-8.5	32-10	32-12.5
Max capacity (m³/h)	10.2	13.2	15.6	18.0	19.8	24.0	27.0
Max head (m)	10	14	16	19	10	17	23
Motor power (kW)	0.55	0.75	1.1	1.5	1.1	1.5	2.2
Outlet dimension (male BSP)	1"	1"	1"	1"	1 1/4"	1 1/4"	1 1/4"
Motor data	3-phase, 2-pole (~2900 rpm), 380-420 VAC, 50 Hz, IP 55						
Max temperature	Pump in PP: 70°C, pump in PVDF: 100°C						
Materials							
Pump casing and impeller	PP or PVDF						
Casing o-ring	EPDM, FKM or FEP						

Contact us for detailed curves. Changes reserved without notice

▼ Pumps in stainless steel



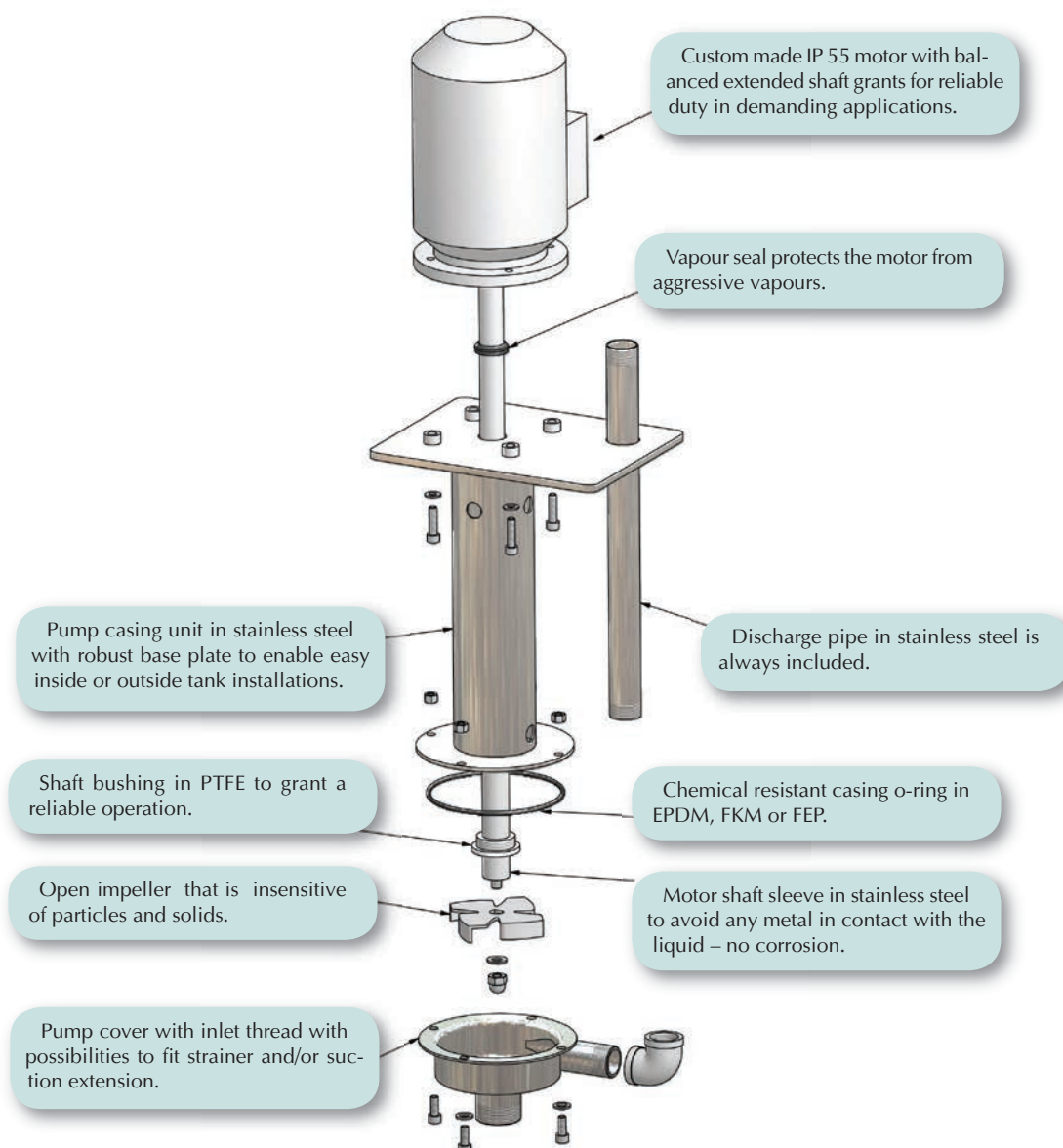
CTV 20-9: 12.0 m³/h
CTV 25-9.8: 17.0 m³/h
CTV 40-12.5: 34.0 m³/h
CTV 40-13.5: 20.0 m³/h

Stainless steel pumps

The stainless steel version is ideal at higher temperatures, up to 100°C and in special applications like hot sodium hydroxide.

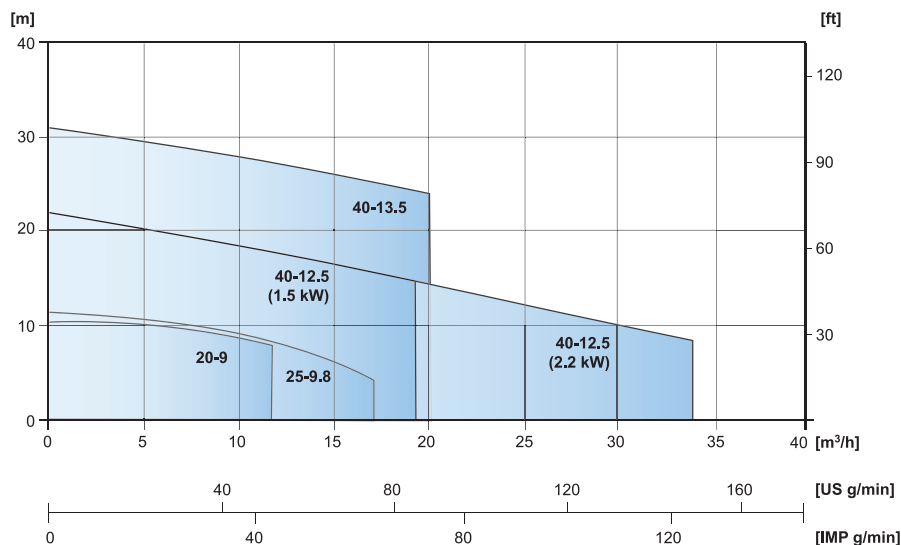
All wetted metal components are made from corrosion resistant stainless steel AISI 316L.

For special applications like handling of chromium nickel, electro polished models are available (pump on left side).



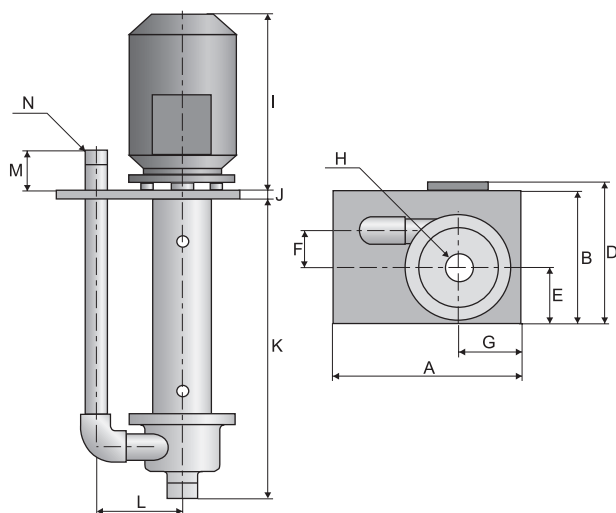
Performance curves

The performance curves are based on water at 20°C.



Dimensions and technical data

Dimensions in mm, where other is not indicated



Dimension	CTV 20	CTV 25	CTV 40
A	267	267	267
B	207	207	207
E	102.6	102.6	102.6
F	36	50	66
G	93.5	93.5	93.5
H	1"	1 1/2"	1 1/2"
J	8	8	8
K	420.5	420.5	425
L	113.5	127	139
M	60	60	60
N	3/4"	1"	1 1/2"
Motor power	D		I
0.55 kW	214		211
0.75-2.2 kW	253		265

General characteristics	20-9	25-9.8	25-9.8	40-12.5	40-12.5	40-13.5
Max capacity (m³/h)	12.0	17.0	17.0	19	34	20
Max head (m)	10	11	11	22	22	31
Motor power (kW)	0.55	0.75	1.1	1.5	2.2	2.2
Outlet dimension (male BSP)	3/4"	1"	1"	1 1/2"	1 1/2"	1 1/2"
Motor data	3-phase, 2-pole (~2900 rpm), 380-420 VAC, 50 Hz, IP 55					
Max temperature	100°C					
Materials						
Pump casing and impeller	Stainless steel AISI 316L					
Casing o-ring	EPDM, FKM or FEP					

Changes reserved without notice

Please contact us at your nearest Tapflo office

Tapflo has approximately 50 sales offices spread over more than 20 countries. In addition to this we are represented by independent distributors in about another 30 countries.

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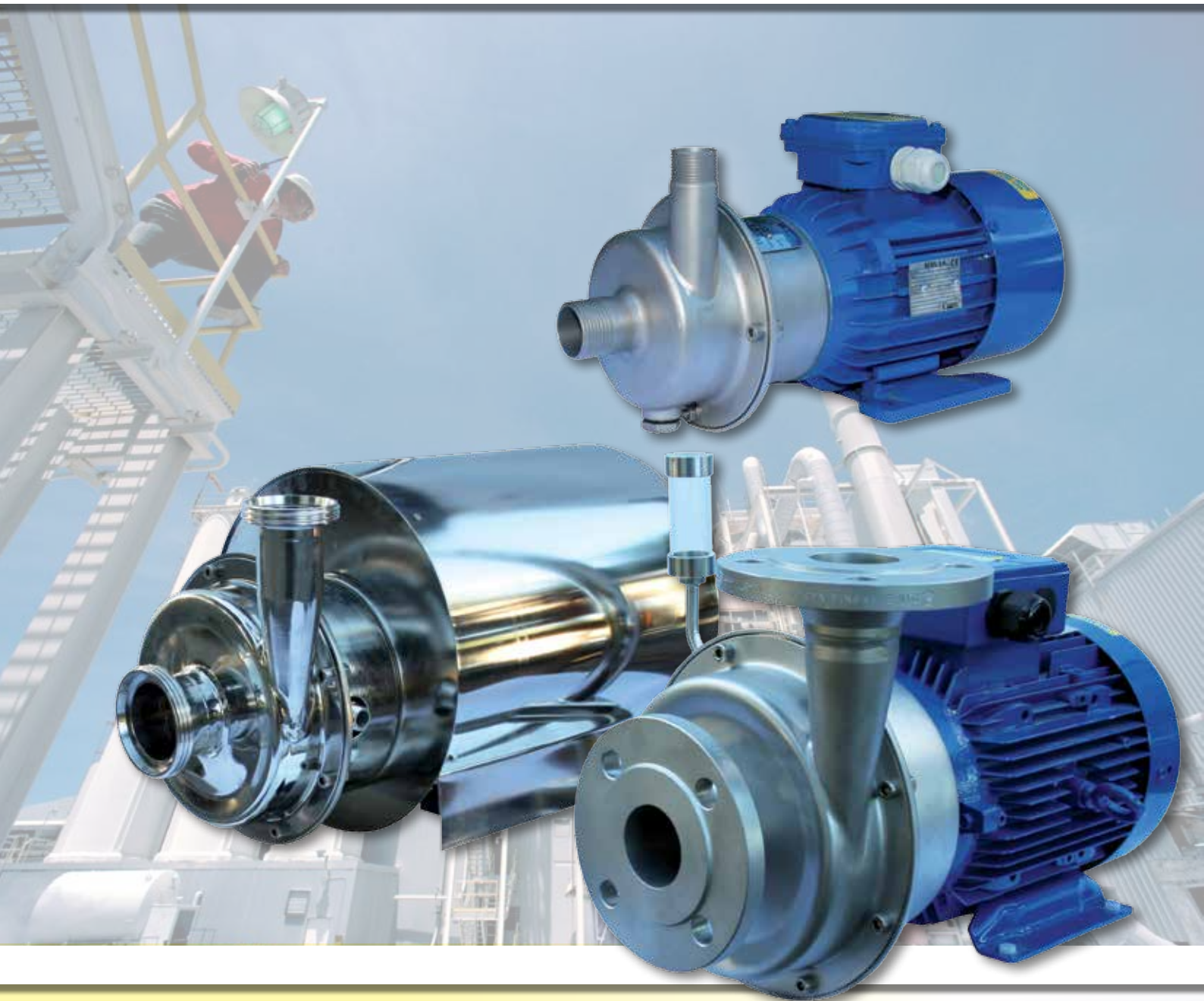
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CT centrifugal pumps

2012 rev 1



topflo®

your reliable pumpchoice



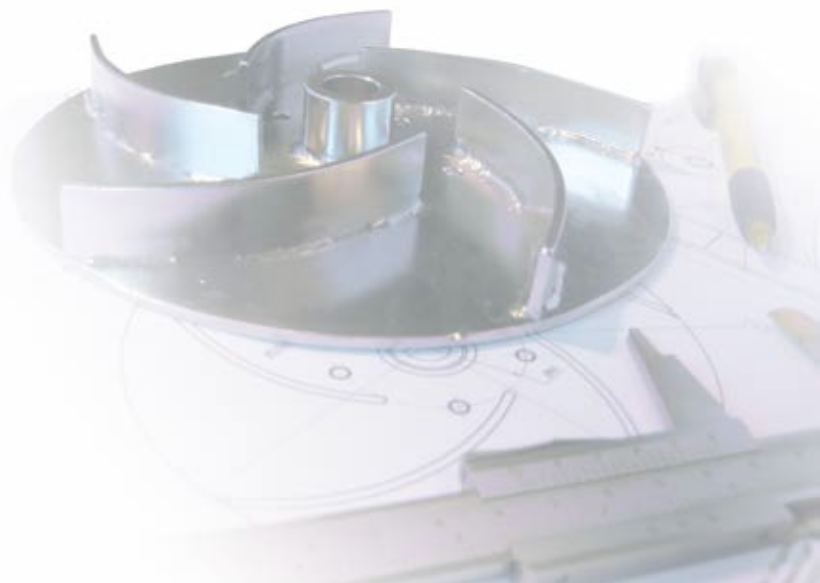
With experience from industrial fluid handling and pump manufacture since 1970, we know what you as a customer require from an industrial pump. Ever since we started our manufacture of air operated diaphragm pumps, we have always had our winning concept in mind: to create pumps for reliable duty and with a minimal number of components enabling easy maintenance. We are always keenly aware of new requirements and ideas from our customers. The products are therefore always in continuous progress with improved detail solutions, new materials and further accessories.

Tapflo quality

The Tapflo pump is usually an essential part in the process with hazardous fluids. We always strive to supply the safest and most environmental friendly solution for these fluids. As a part of our safety thinking, we are in the frontline following important standards, guidelines and directives. Many of our products comply with the EC ATEX directive for equipment in explosion hazardous environments. All our pumps are of course CE marked and followed by our comprehensive instruction manuals. Tapflo is an ISO 9001:2001 certified company. The EHEDG certification of our aseptic diaphragm pump was achieved in 2009.

The history of Tapflo

Tapflo was founded in Kungälv (north of Gothenburg), Sweden 1985 and has since then been working with design and manufacture of air operated diaphragm pumps. The product range has grown from a few plastic models, to complete PE & PTFE, metal and sanitary series and lately also with complete ranges of centrifugal pumps. Tapflo has now established sales offices in 20 countries and independent distributors in another 30 countries – spare parts and pumps are available worldwide.



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

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.

With 2900 rpm motor:

CTI AA-03	7 m³/h, 10 m
CTI AA-05	12 m³/h, 10 m
CTI BB-07	17 m³/h, 11 m
CTI CC-15	19 m³/h, 22 m
CTI CC-22	34 m³/h, 22 m
CTI CE-22	20 m³/h, 31 m
CTI DD-40	50 m³/h, 22 m
CTI DF-40	28 m³/h, 35 m
CTI EF-55	42 m³/h, 35 m
CTI EG-55	30 m³/h, 44 m
CTI EF-75	60 m³/h, 35 m
CTI EG-75	35 m³/h, 44 m
CTI EG-110B	50 m³/h, 44 m

With 1450 rpm motor:

CTI AA-024	7 m³/h, 2.7 m
CTI BB-054	9 m³/h, 2.8 m
CTI CC-114	18 m³/h, 5.5 m
CTI CE-114	22 m³/h, 7.7 m
CTI DD-224	25 m³/h, 5.5 m
CTI DF-224	34 m³/h, 8.7 m
CTI DG-224	42 m³/h, 12.0 m



available in
AT 

CTH – hygienic series

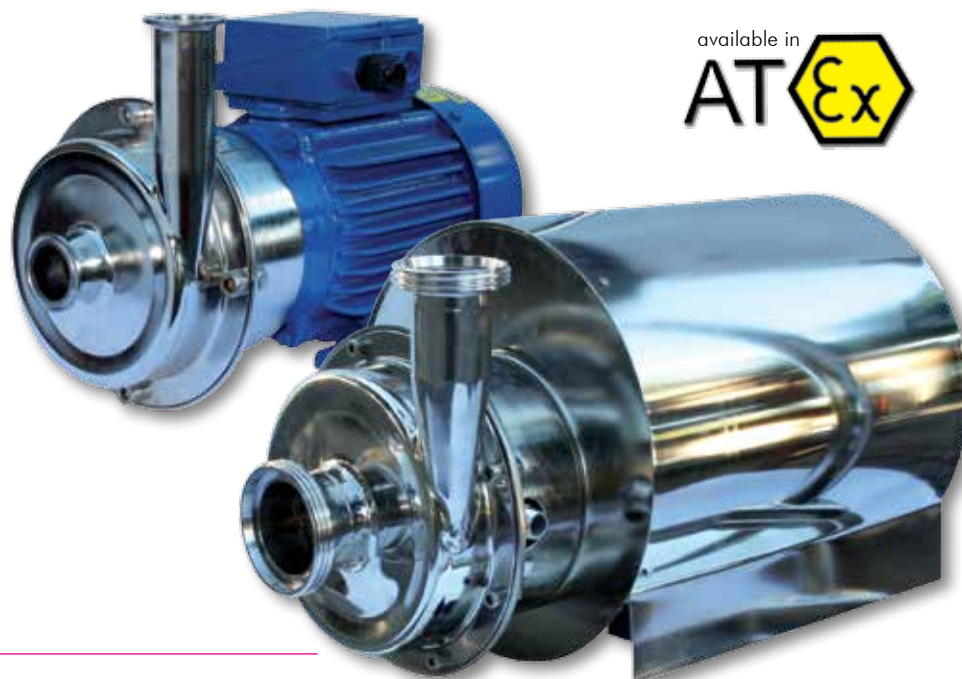
The hygienic series CTH is supplied with electro polished pump casing and internals. This series is specially dedicated for hygienic duties in food, beverage and pharmaceutical industries, where clean- and drain-ability are important keys.

With 2900 rpm motor:

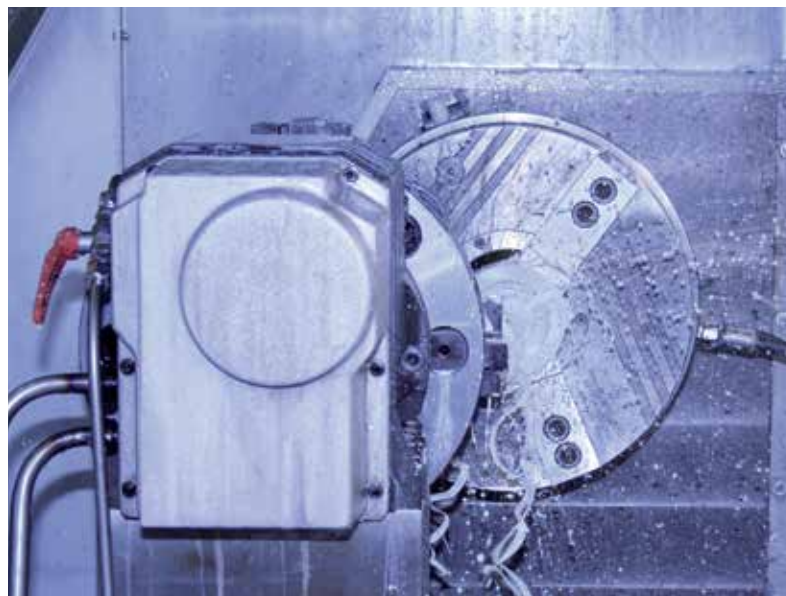
CTH AA-03	7 m³/h, 10 m
CTH AA-05	12 m³/h, 10 m
CTH BB-07	17 m³/h, 11 m
CTH CC-15	19 m³/h, 22 m
CTH CC-22	34 m³/h, 22 m
CTH CE-22	20 m³/h, 31 m
CTH DD-40	50 m³/h, 22 m
CTH DF-40	28 m³/h, 35 m
CTH EF-55	42 m³/h, 35 m
CTH EG-55	30 m³/h, 44 m
CTH EF-75	60 m³/h, 35 m
CTH EG-75	35 m³/h, 44 m
CTH EG-110B	50 m³/h, 44 m

With 1450 rpm motor:

CTH AA-024	7 m³/h, 2.7 m
CTH BB-054	9 m³/h, 2.8 m
CTH CC-114	18 m³/h, 5.5 m
CTH CE-114	22 m³/h, 7.7 m
CTH DD-224	25 m³/h, 5.5 m
CTH DF-224	34 m³/h, 8.7 m
CTH DG-224	42 m³/h, 12.0 m



available in
AT 



Wide range of applications

The CT range has a very wide range of applications – from transfer of water, to pumping of mild chemicals. Now with the hygienic series CTH, the number of applications within food, beverage and pharmaceutical industries has increased dramatically.

Food & beverage (CTH series)

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 series)

Transfer of a variety of mild chemicals and solvents.

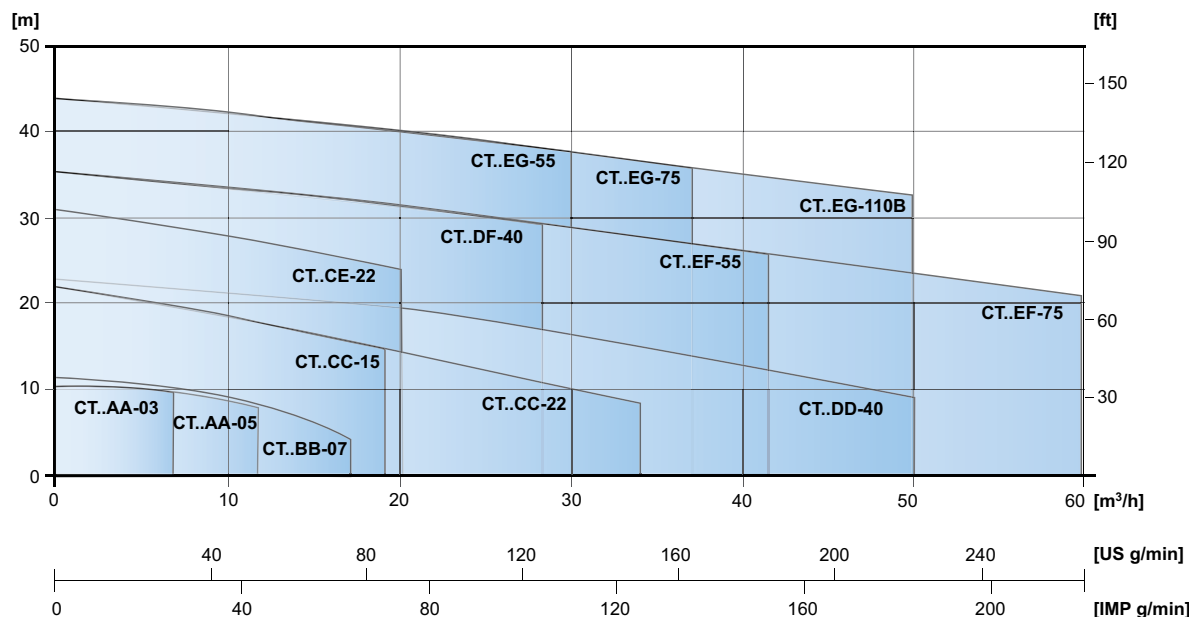
Mechanic industries (CTI series)

Handling of oil, lubricants, coolants and detergents etc.

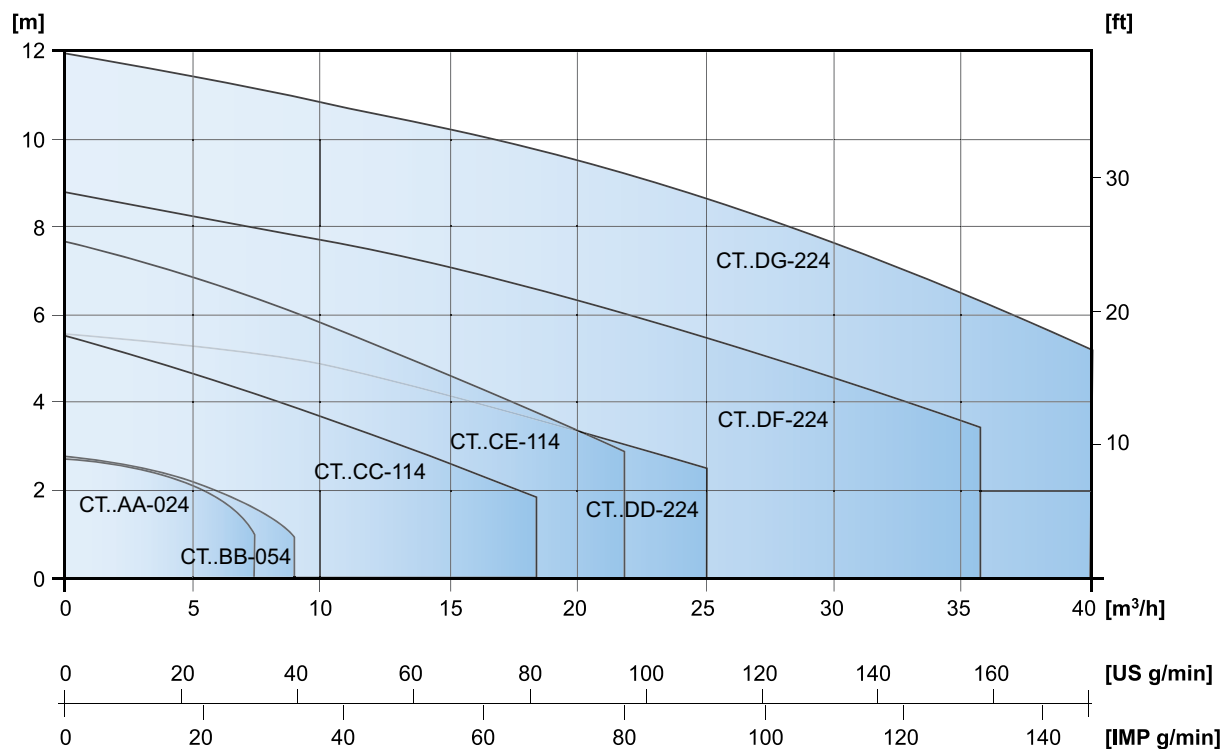
Performance curves

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, NPSH etc.

With 2900 rpm motor

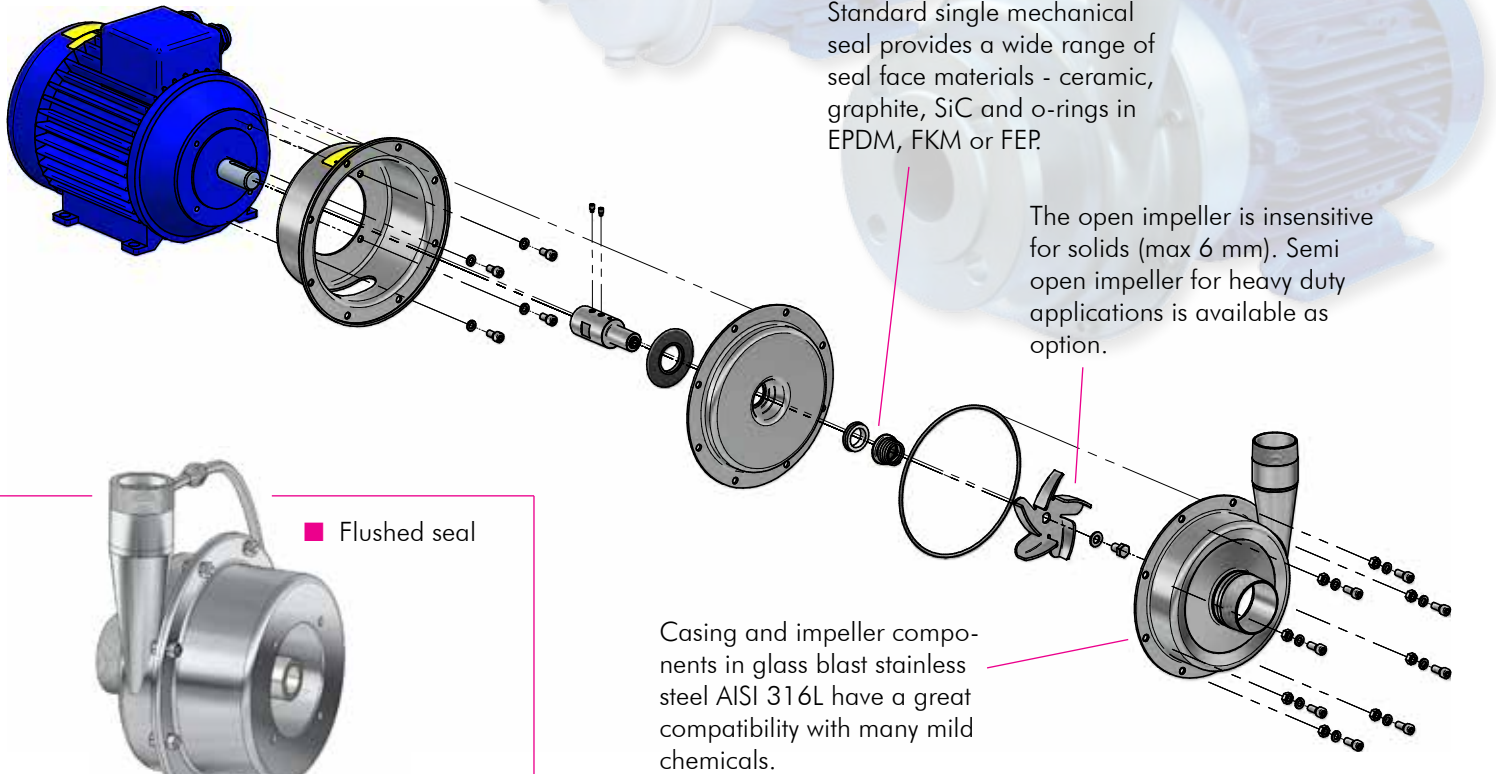


With 1450 rpm motor



CTI - industrial series

A very simple and ingenious design, with only 19 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.



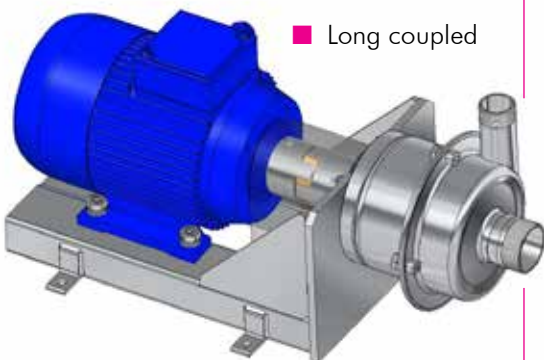
■ Flushed seal



■ Lubricated seal



■ Long coupled



Options and special executions

■ Flushed seal

Ideal when abrasive or sticky particles are present. This system where a small amount of the pumped product is recirculated from the discharge side to the seal chamber, 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.

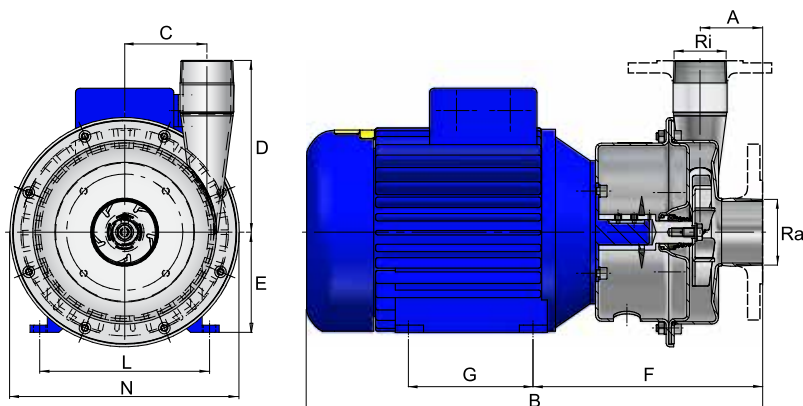
■ Flanged connections

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

■ Draining device

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 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 EG-110B***	11.0	160	70	-	92	192	-	-	-	-	-
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

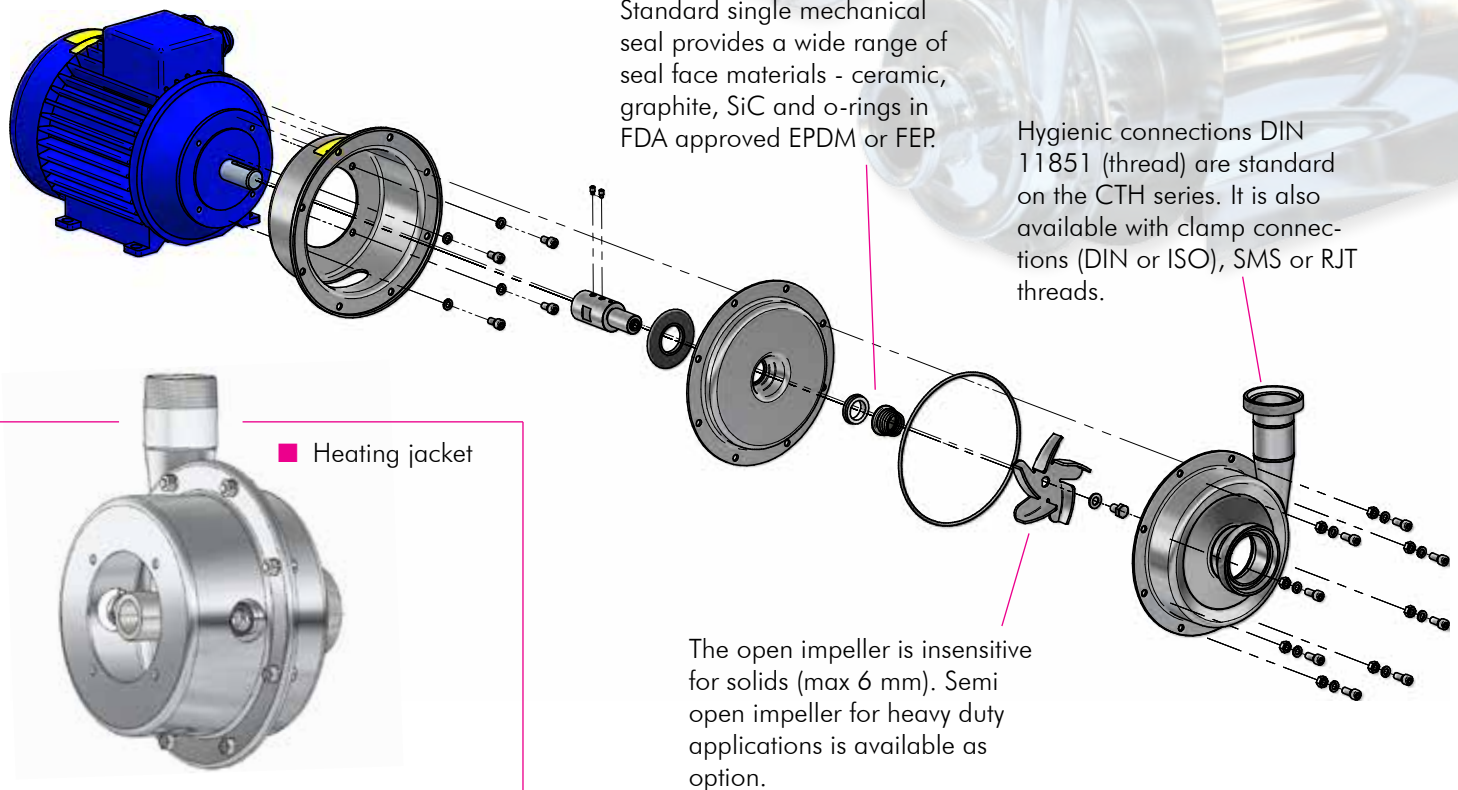
*** = Available in long coupled version only, ask us for dimensional drawing

Materials, data and limits

Casing	Stainless steel AISI 316L glass blast
Impeller	Stainless steel AISI 316L glass blast, 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, Eex e or Eex d motor
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

CTH - hygienic series

The CTH series is dedicated for hygienic duties mainly within food, beverage and pharmaceutical industries. With casing and impeller in <0.8 Ra electro polished stainless steel AISI 316L, draining possibilities and hygienic shroud option it meets the demands of clean ability and high finish. Elastomers are approved according to FDA article 177.2600.



■ Heating jacket

■ Hygienic shroud

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 edible oil are some application examples.

■ Hygienic shroud

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

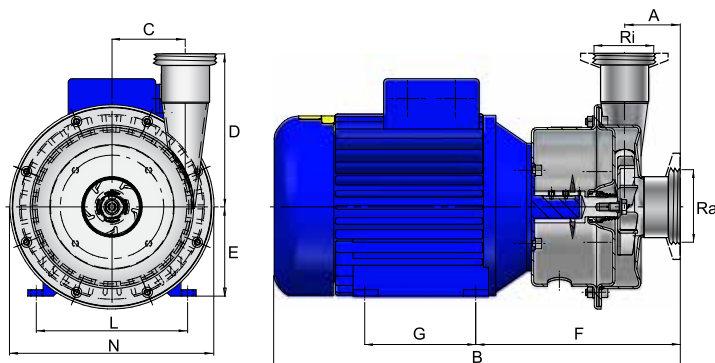
■ Casing drainage

By positioning the outlet horizontal at the bottom, the pump features a hygienic and automatic draining.

■ Long coupled execution

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

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
ISO 2852 clamp	Ra	25	38	38	70	70
	Ri	21.3	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 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
CTH EF-75	7.5	132	70	587	92	192	132	304	140	216	256
CTH EG-75	7.5	132	70	587	92	192	132	304	140	216	256
CTH EG-110B***	11.0	160	70	-	92	192	-	-	-	-	-
CTH AA-024	0.25	71	60	358	36	100	71	197	90	112	145
CTH BB-054	0.55	80	63	395	50	110	80	205	100	125	170
CTH CC-114	1.1	90	64	451	68	160	90	226	125	140	205
CTH CE-114	1.1	90	64	451	68	160	90	226	125	140	205
CTH DD-224	2.2	100	70	478	92	192	100	250	140	160	256
CTH DF-224	2.2	100	70	478	92	192	100	250	140	160	256
CTH DG-224	2.2	100	70	478	92	192	100	250	140	160	256

** = This dimension may vary depending on motor brand

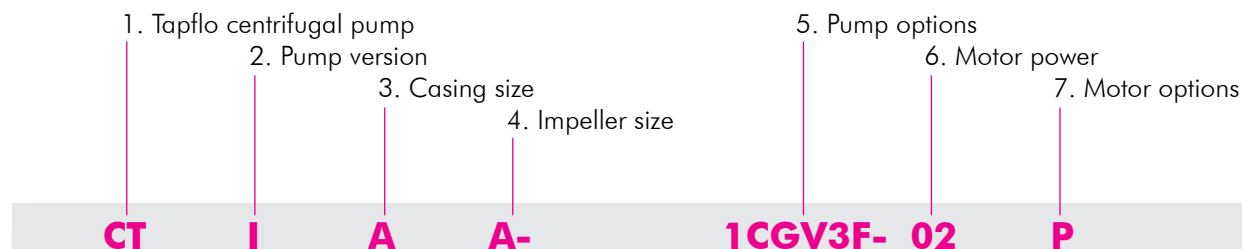
*** = Available in long coupled version only, ask us for dimensional drawing

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
Motor	IP55, IEC frame B3/B14 (B3 on long coupled version). Available with ATEX cat 2 or 3, Eex e or Eex d motor
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

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.



1. CT = Tapflo centrifugal pump

2. Pump version

- I = Industrial version
- H = Hygienic version

3. Casing size

Motor flange diameter / motor IEC size

- A = 105 mm / 71
- B = 120 mm / 80
- C = 140 mm / 90
- D = 160 mm / 100 or 112
- E = 200 mm / 132

4. Impeller size

- A = 90 mm
- B = 98 mm
- C = 125 mm
- D = 130 mm
- E = 135 mm
- F = 155 mm
- G = 180 mm

5. Pump options

1. Mechanical seal

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

3. Connection options

- Blank* = Thread BSP on CTI
- Thread DIN 11851 on CTH
- 3A = Flanged ANSI 150 (CTI only)
- 3F = Flanged DIN 2633, PN10/16 (CTI only)
- 3C = Clamp ISO 2852 (CTH only)
- 3T = Clamp DIN 32676 (CTH only)
- 3S = Thread SMS (CTH only)
- 3R = Thread RJT (CTH only)

4. Special executions

- 4J = Heating jacket
- 4F = Flushed seal
- 4Z = Oil lubricated seal
- 4H = Semi open heavy duty impeller
- 4K = Drain plug
- 4P05 = Polished to Ra<0.5 (CTH only)

6. 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
- 15 = 1.5 kW / 90
- 22 = 2.2 kW / 90
- 40 = 4.0 kW / 112
- 55 = 5.5 kW / 132
- 75 = 7.5 kW / 132
- 110 = 11.0 kW / 160**

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

7. Motor options

- M = Hygienic motor shroud (CTH only)
- B = Long coupled pump w. base plate/coupling
- X2d = Eex d IIB T4 motor
- X2e = Eex e IIB T3 motor
- P = Single phase motor
- T = Motor with PTC thermistor

* = standard execution

** = available in long coupled version only

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.

■ Air operated diaphragm pumps

PE & PTFE pumps

Pumps made of polyethylene (PE) or virgin PTFE- plastics are suitable for handling almost any kind of liquid.

Metal pumps

Available in aluminium, cast iron, stainless steel, Hastelloy and PTFE-coated aluminium.

Sanitary pumps

Pumps particularly designed to meet the requirements of the food, beverage, pharmaceutical and cosmetic industries.

Pharmaceutical pumps

This series is produced to serve the biotech- and pharmaceutical industries in numerous applications.

EHEDG aseptic pumps

Our new aseptic series for sterile applications in primarily the pharmaceuticals, bio technology and foodstuffs industries.



■ Magdrive centrifugal pumps



■ Vertical centrifugal pumps



■ Filter units



Please contact us at your nearest Tapflo office

Tapflo has approximately 50 sales offices spread over more than 20 countries. In addition to this we are represented by independent distributors in about another 30 countries.

■ Australia ■ Belarus ■ Belgium ■ Bosnia ■ Brazil ■ Bulgaria ■ Chile ■ China ■ Colombia ■ Croatia ■ Czech/Slovakia ■ Denmark ■ Ecuador ■ Estonia ■ Finland ■ France ■ Greece ■ Germany ■ Hong-Kong ■ Hungary ■ India ■ Indonesia ■ Iran ■ Ireland ■ Israel ■ Italy ■ Kazakhstan ■ Latvia ■ Lithuania ■ Macedonia ■ Malaysia ■ Montenegro ■ The Netherlands ■ New Zealand ■ Norway ■ Poland ■ Philippines ■ Romania ■ Russia ■ Singapore ■ Slovenia ■ South Africa ■ Spain ■ Sweden ■ Switzerland ■ Syria ■ Taiwan ■ Thailand ■ Turkey ■ Ukraine ■ United Arab Emirate ■ United Kingdom ■ USA

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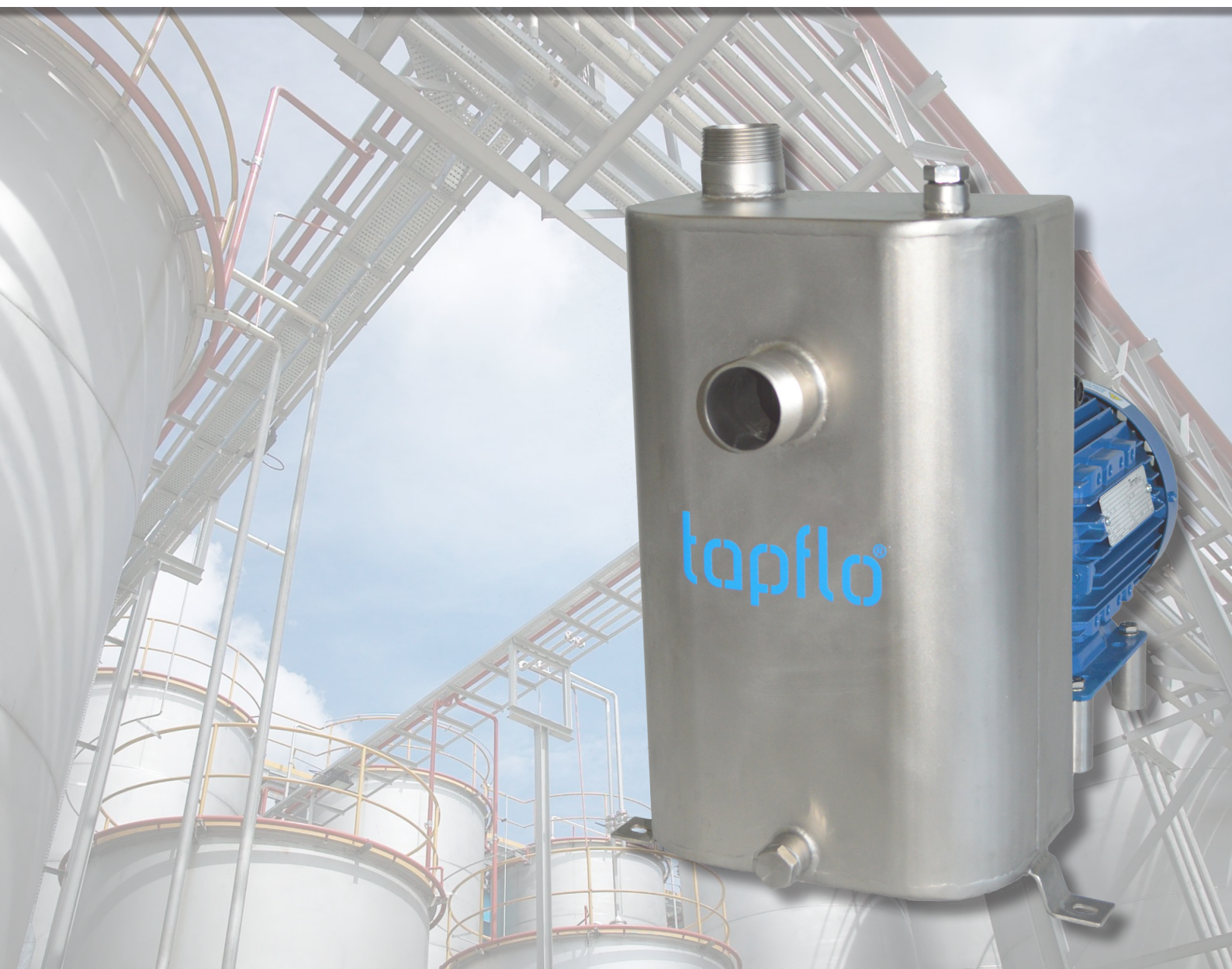
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CTS self-priming centrifugal pumps

2014 rev 1



topflo®

CTS self-priming centrifugal pumps

CTS is an open impeller self-priming centrifugal pump, manufactured from AISI 316L stainless steel.

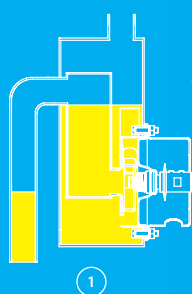
CTS H with excellent electro polished surfaces, FDA approved seals, high finish and mechanical strength, meet the demands from food and sanitary applications.

CTS I with AISI 316L chemical resistance and mechanical strength is a reliable choice for industrial applications.

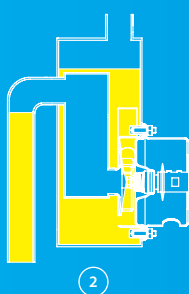
The self-priming feature allows to use the pump in applications where standard CT pumps do not prove useful. The CTS pump is capable of creating up to 4,5 m of suction lift.



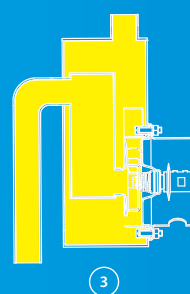
■ How it works



In order for the priming action to be achieved, the pump casing has to be filled with liquid to a level above the impeller.



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. 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.



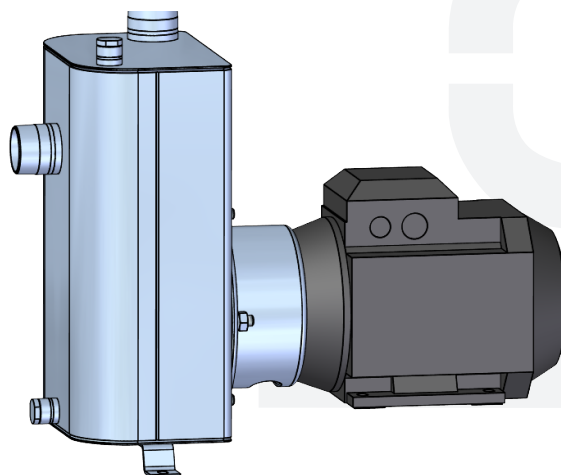
This process continues until the suction line is completely free of air and the pump can operate as a standard centrifugal pump.

Self-priming vs. standard centrifugal pump comparison

The CTS pump is a great alternative to our standard CT pumps when the self-priming ability is needed.

By replacing only one element - the casing with a self-priming chamber – we can achieve various advantages for our pump.

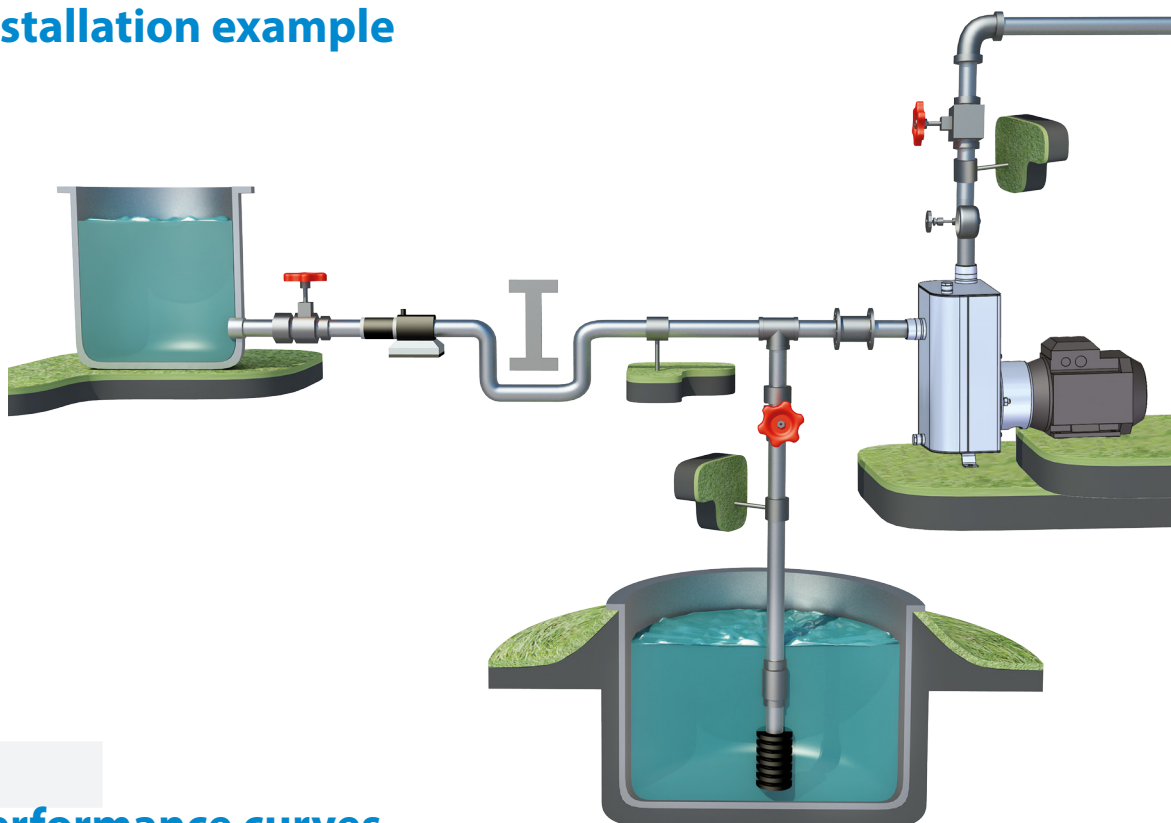
The pump can now suck the liquid from a lower level than it is positioned or handle liquids with high content of air.



■ Key features

- ✓ Wide range of optional executions: lubricated seal for safety, foot valve for quicker starting after stoppage of the pump, appropriate for hygienic applications (CTS H series).
- ✓ No need for additional pumps or equipment for self-priming.
- ✓ Ideal for highly aerated liquids.
- ✓ Easy installation and maintenance. Only the suction pipe has to be immersed and the pump can be located at a convenient spot. Disassembly of the pump can be done without interfering into the piping.
- ✓ Replace only one part on your CT pump to achieve the self-priming ability.

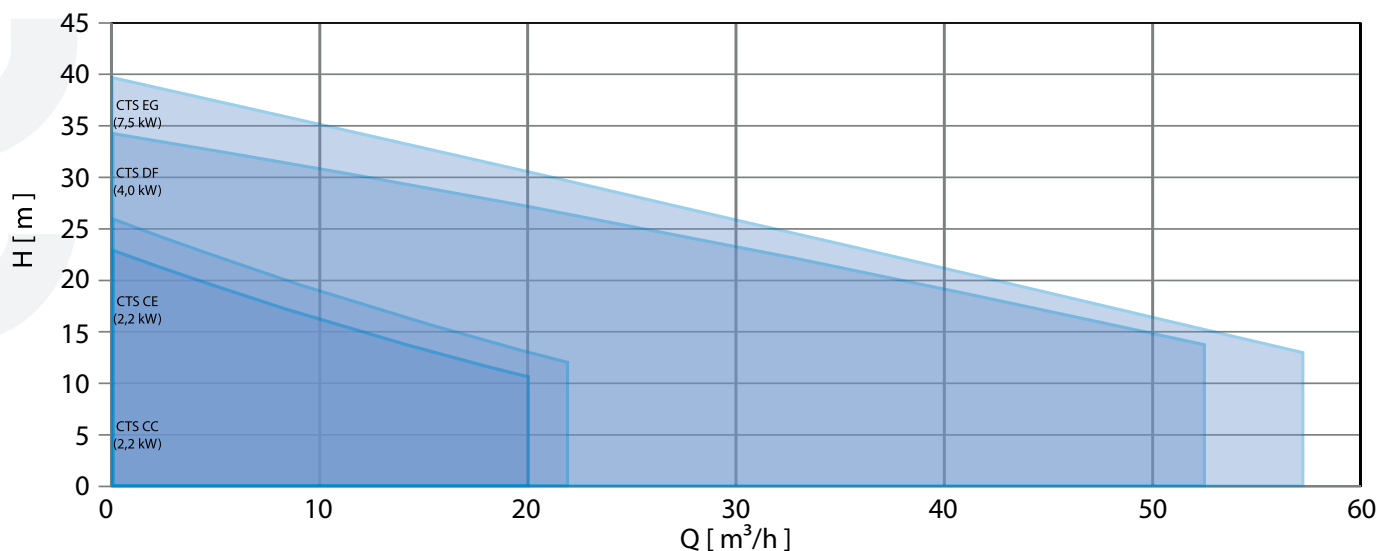
Installation example



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, NPSH etc.

With 2900 rpm motor



■ CTS Pump code

The details, specification, size and materials of the major components.



* = Ask us for complete pump code with all available options and executions. Changes reserved without notice

CTS pumps execution versions

✓ **Standard** ✓ **Option**



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

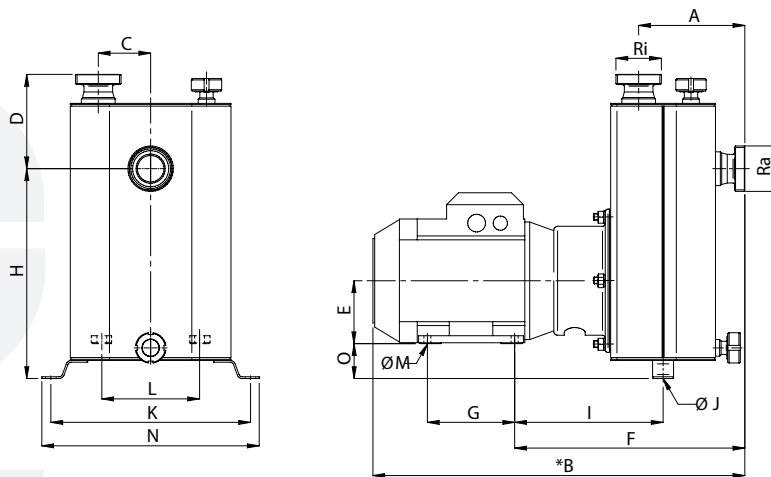
Equipment intended and approved for safe operation in potentially explosive atmospheres. The equipment is divided in main groups, categories, apparatus groups and temperature classes to define its suitability in the actual zone.

CTS-H

CTS-I



CTS pumps - technical data



Connection dimensions

Connection dimensions BSPT (male thread)		
Model	Ra	Ri
CTSI C..	1 1/2"	1 1/2"
CTSI D..	2 1/2"	2"
CTSI E..	2 1/2"	2"

Connection dimensions DIN 11851 (male thread)		
Model	Ra	Ri
CTSH C..	DN40	DN40
CTSH D..	DN65	DN50
CTSH E..	DN65	DN50

General dimensions

Note: Dimensions in table are the same for CTSH and CTSI

Model	Motor power (kW)	IEC motor size	A	*B	C	D	E	F	G	H	I	ØJ	K	L	ØM	N	O
CTS CC-22	2.2	90	152	532,5	75	135	90	329,5	125	300,5	212,5	9	286	140	10	311	50
CTS CE-22	2.2	90	152	532,5	75	135	90	329,5	125	300,5	212,5	9	286	140	10	311	50
CTS DD-40	4.0	112	170	641	90	120	112	378	140	377	243	9	336	190	12	362	55
CTS DF-40	4.0	112	170	641	90	120	112	378	140	377	243	9	336	190	12	362	55
CTS EF-55	5.5	132	170	692	90	120	132	414	178	377	279	9	336	216	12	362	35
CTS EG-55	5.5	132	170	692	90	120	132	414	178	377	279	9	336	216	12	362	35
CTS EF-75	7.5	132	170	692	90	120	132	414	178	377	279	9	336	216	12	362	35
CTS EG-75	7.5	132	170	692	90	120	132	414	178	377	279	9	336	216	12	362	35

*This dimension may vary depending on motor brand

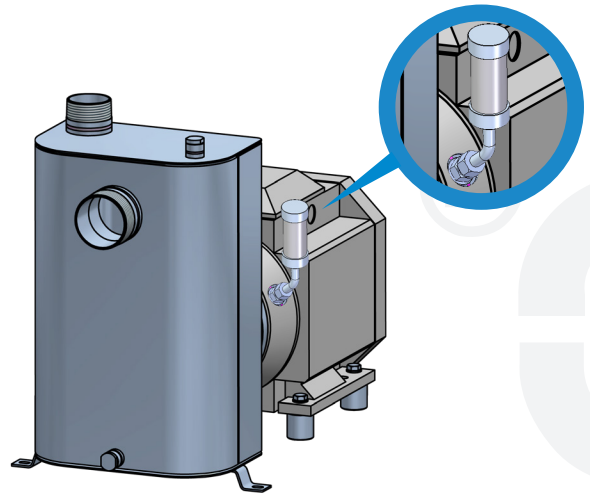
Materials, data and limits

Model	CTS-H	CTS-I
Casing	Stainless steel AISI 316L electro polished Ra <0.8	Stainless steel AISI 316L glass blast
Impeller	Stainless steel AISI 316L electro polished Ra <0.8, open (standard) or optional semi open type	Stainless steel AISI 316L glass blast, open (standard) or optional semi open type
Mechanical seal	Single ceramic/graphite (standard), SiC/SiC or SiC/graphite optional with oil lube	Single ceramic/graphite (standard), SiC/SiC or SiC/graphite, optional with oil lube
O-rings	EPDM FDA approved (standard), or FEP/silicone FDA approved	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, Eex e or Eex d motor	
Pressure rating	PN 2,5 bar (CTS C) at 20°C; PN 4 bar (CTS D,E) at 20°C	
Temperature	max 90°C	
Viscosity	max ~200 cSt	
Particles	max diameter is 6 mm (with standard open impeller), bigger if soft particles	

Options and special executions

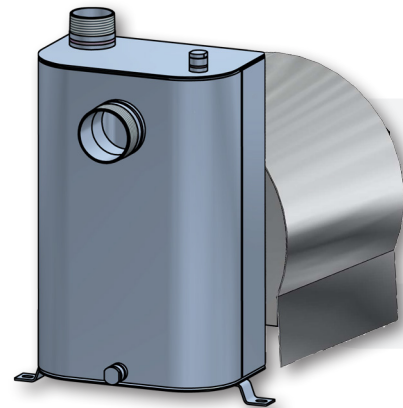
Lubricated seal (CTS I and CTS H)

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



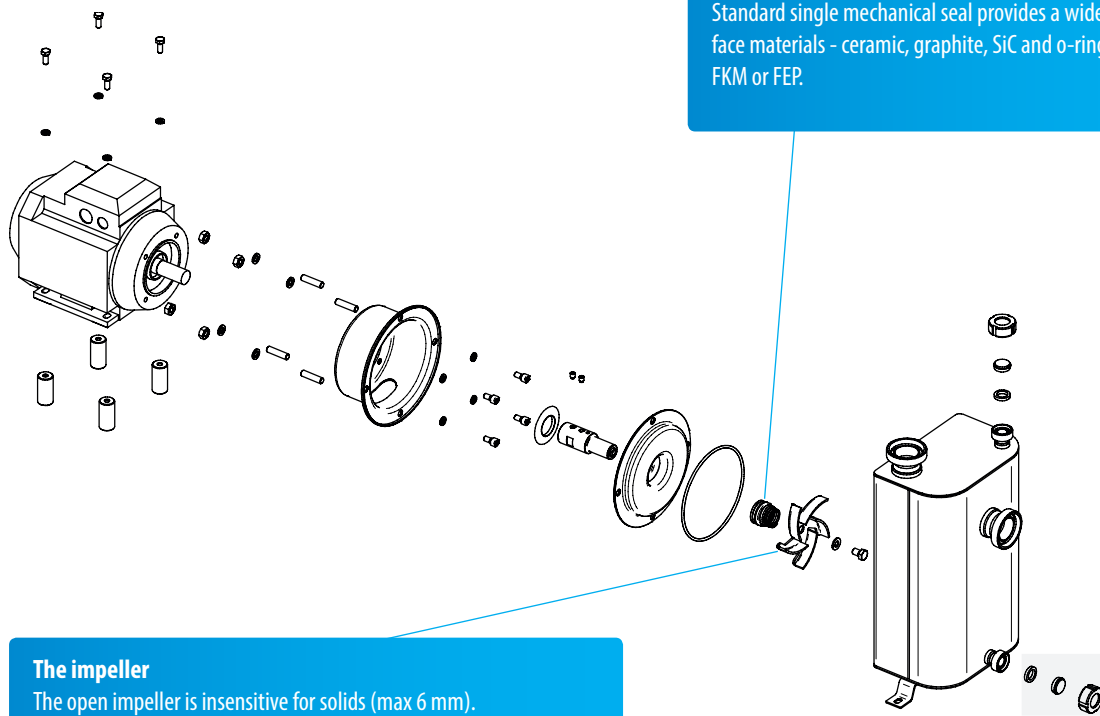
Hygienic shroud (CTS H)

The motor shroud is made of polished AISI 316L stainless steel and protects the electrical motor from splashing liquid. It also allows easy cleaning of the pump assembly.



Ingenious design

A very simple and ingenious design, easy and quick maintenance, in many cases completely maintenance free. The effect is very short down time and extremely low maintenance costs.



Mechanical Seal

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

The impeller

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

Wide range of applications

The CTS-I series has a very wide range of applications – from transfer of water, to pumping of mild chemicals. Together with the hygienic CTS - H series, the number of applications within food, beverage and pharmaceutical industries increases significantly.



Food & beverage

CTH series

Transfer of various ingredients and products like edible oil, flavor, alcohol, dairy products and juice. CTH pumps are also a perfect choice for many applications like transfer of CIP liquids, detergents and water.



Chemical & pharma

CTI & CTH series

Transfer of a variety of mild chemicals and solvents.



Mechanical industry

CTI series

Handling of oil, lubricants, coolants and detergents etc.

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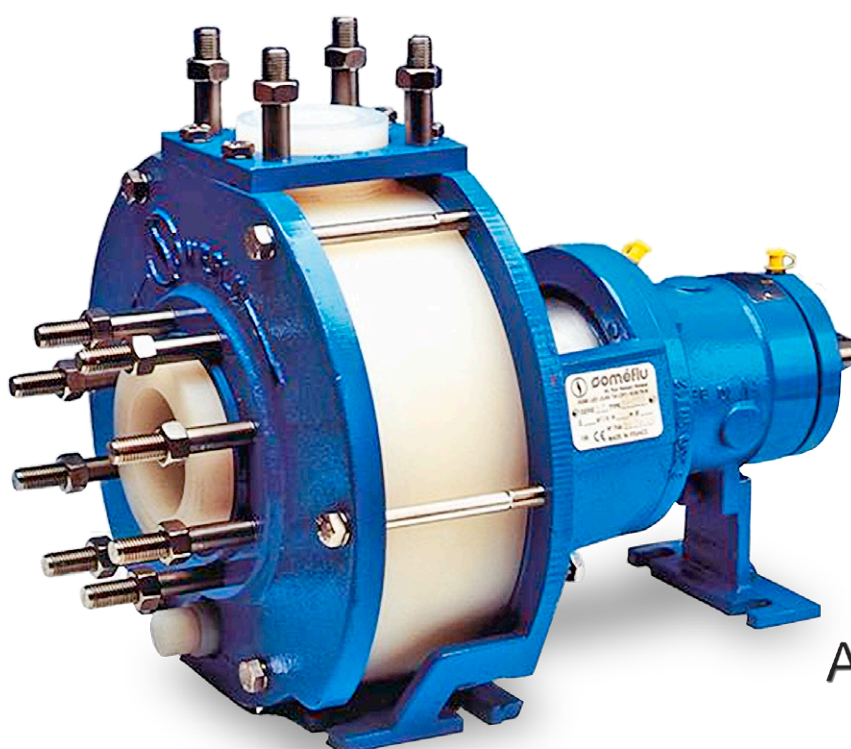
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AT 

- Kraftig konstruktion
- PP, PE, PVDF, PTFE och PFA
- Keminorm enligt ISO 2858

Centrifugalpump NP

Användningsområde

NP-serien är konstruerad för att klara tuffa applikationer med aggressiva och korrosiva vätskor som även kan innehålla partiklar. Pumpen, som uppfyller keminorm enligt ISO 2858, är byggd för att fungera i krävande miljöer som ställer hårda krav på material och konstruktion.

Typiska användningsområden finns inom kemi- och metallindustri för hantering av olika kemikalier och cirkulation av betbad. Andra vanliga applikationer finns inom rökgasreningsområdet där pumpen används bl.a. för cirkulation av skrubbevatten.

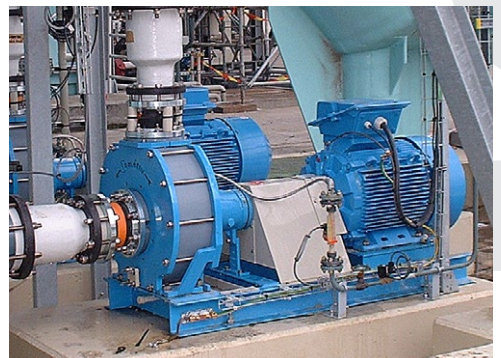
Fördelar

- Ramverk i metall gör att pumpen klarar kraftig yttre belastning.
- Plastdetaljer tillverkade från homogena plastblock.
- Pumpen har patrontätning som standard vilken enkelt kan kompletteras med spolning.
- Alla modeller kan fås i ATEX utförande.
- Robust upplagring för att klara höga varvtal och axiella och radiella belastningar.
- Kan fås med tillbakadragen s.k. vorteximpeller för hantering av större partiklar eller slitande media.



Applikationer

- 1) Syrahantering betanläggning
- 2) Salt vatten/sköljvatten
- 3) Scrubberanläggningar.



Pumphus och vätskeberörda delar

tillverkas från solida plastblock. Inga metall-
delar kommer i kontakt med den pumpade
vätskan.

Kraftiga ståldetaljer

håller ihop pumpen och
bär upp belastningen från
ledningarna.

Axeln är helt innesluten i
plast och exponeras inte
mot den pumpade
vätskan.

Kraftig upplagring klarar
höga varvtal och axiella
och radiella belastningar.

Kraftig impeller gjuten
kring en väl tilltagen
centrumförstärkning i
brons. Impellerns position i
horisontalled justeras
enkelt från utsidan.

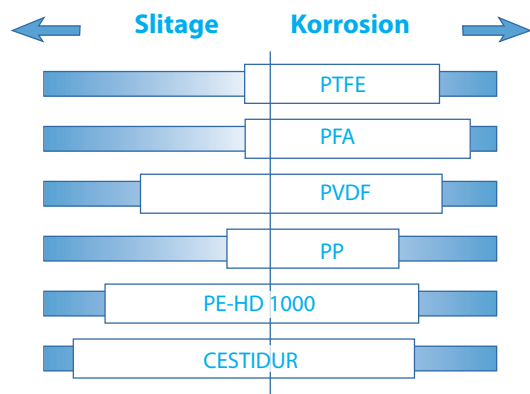
Kraftig axel förhindra nedböjning
och ger axeltätningen optimal
livslängd. Klarar höga varvtal och
axiella och radiella belastningar.

Impellern är infäst i bakkant och
är därmed säkert fixerad även om
pumpen skulle gå baklänges.

Material

Materialet i pumphuset kan väljas för
att klara de flesta typer av aggressiva
vätskor.

- Pumphus: PP, PEHD, PVC, PVDF, PTFE, PFA och Cestidur
- Pumphus: Epoxybehandlat stål



Tekniska data

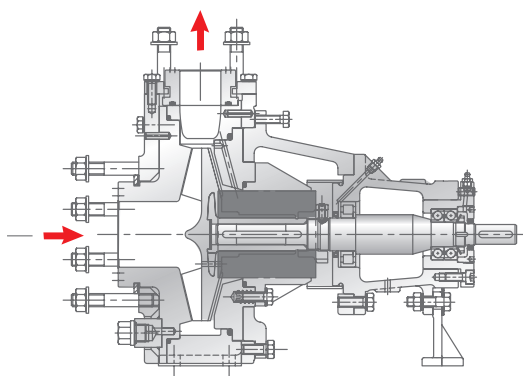
Max kapacitet: 1 500 m³/h

Max tryck: 90 mvp

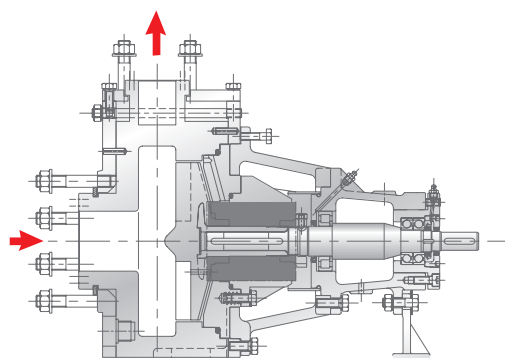
Anslutningar: Fläns enligt DIN 2533
ISO PN16

Axeltätning: Patröntätning med enkel eller dubbel tätning vilka kan försees med kontinuerlig spolning eller enbart renspolning vid driftstopp. Även fettsmord tätning finns som alternativ.

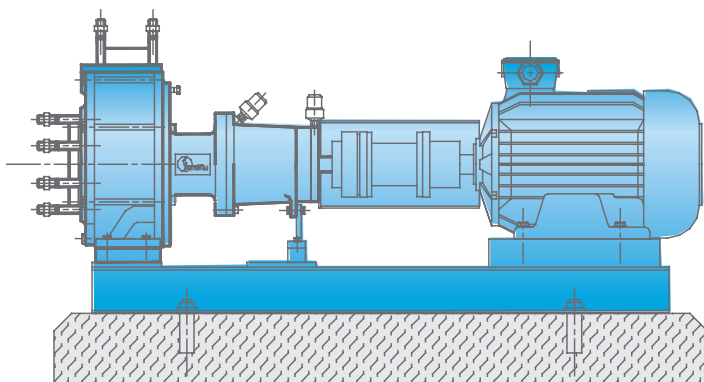
Design och konstruktion



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