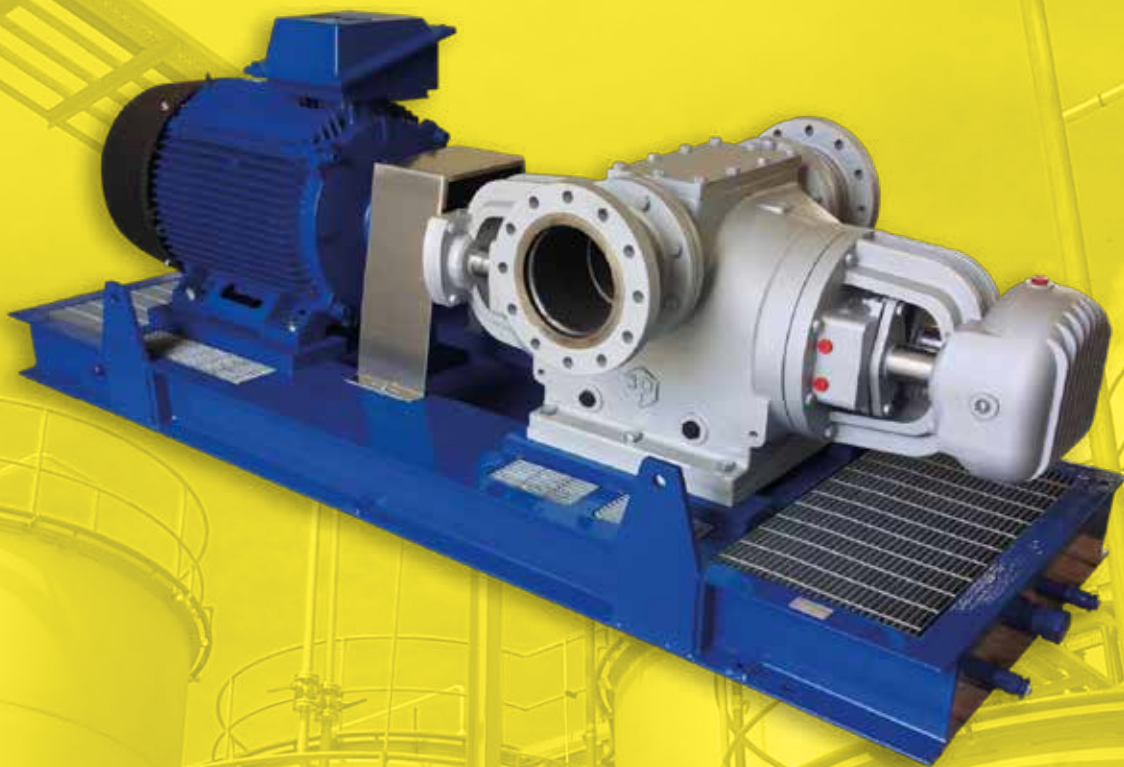


TWIN SCREW PUMPS

2020 | 1



» All about your flow™

We began our journey 40 years ago in Kungälv, a small town on the Swedish west coast, as a family company with an ambition to one day become a global player on the pump market.

Since 1980, we have taken pride in delivering a wealth of knowledge and passion for pumps to the industry, whilst supplying a wide range of premium products for various industrial applications.

Over the years, the company has developed into a global Tapflo Group with branches and distributors present in nearly every region of the world.

One thing did not change - we are still a family company.

Our solutions are designed and manufactured in Europe and distributed globally to offer the best service and flow solutions to our customers for a variety of applications.

Our values, Commitment, Quality and Simplicity are reflected both in our product and business approach.



For fast and flexible service and high-quality products readily available worldwide, choose Tapflo.

Quality commitment

At Tapflo we are simply committed to quality. As a result, our production standards, as well as products quality, comply with various globally recognised certification and quality control standards. The Tapflo manufacturing process is certified according to ISO 9001:2015, confirming that our processes are appropriate, effective, customer-focused and continuously improved.



Tapflo values

Our culture is concluded in Our values

Commitment

We are different from our competitors because of our willingness to exceed the customers' expectations, move fast and be flexible. Our culture is based on the spirit of togetherness, enthusiasm and integrity. We come from all over the world but we share the same values and we respect each other. We are committed.

Quality

We understand that the quality in our work is never better than the weakest link, that's why we focus on every small detail. We share a common passion for continuously finding more efficient and effective ways to provide value to our customers. As a manufacturer we have control of the complete process both in terms of our products and the way we operate internally. That is why we manufacture the highest quality pumps in our segment.

Simplicity

We have a saying, "Simple is art" which means we try to find smooth and uncomplicated solutions in everything. By keeping it simple we can focus on the essential, like designing uncomplicated pumps with few components. For us it is a key to success; strive to simplify what is complex.

Twin Screw Pumps

Single and Double End Positive Displacement Pumps

The PERA-PRINZ® Screw Pumps are rotating positive displacement pumps, externally and internally supported.

One or two pairs of screws, which operate without being in contact with each other, ensure a constant flow, pulsation-free, together with a high suction lift capability with very low NPSH values.

The trim design is modular with a high degree of interchangeability of parts between their variants, inside the same pump series.

Each pump can be customized for a specific application allowing the customer to be served in an optimal way.

External supports and gears is supplied as standard while Internal supports and gears can be supplied on request, in case the pumped fluid is sufficiently clean and lubricating.




Fast facts

Flow Rate:	up to 3500 m ³ /h (15.400 GPM)
Pressure:	up to 24 bar (348 PSI) – executions at higher pressures upon request
Suction Lift:	from 7 to 8,5 meters (the pump NPSH being very low)
Temperature:	up to 180°C (356°F)

Features & Benefits


- ✓ Self priming
- ✓ They ensure a constant flow, pulsation-free
- ✓ Low noise level and low vibrations
- ✓ Capable of operating at high angular speeds thanks to the screws low inertia
- ✓ Capability of handling a wide range of viscosities and pressures
- ✓ Capability of dry running for a limited period and in particular conditions
- ✓ Compact design and dimensions, easy access for maintenance
- ✓ Horizontal installation (standard) and vertical installation (on request)
- ✓ Reversed flow in low pressure applications, multi-phase service (on request)

Wide range of applications

A close-up photograph of several round-bottom flasks in a laboratory setting, some containing liquids.

Petrochemical Industry

light and heavy hydrocarbons, lubricating oil, bitumen and tar, benzene and toluene, gasoline, phenol, diesel, fuel oil, crude oil, fluids from the refinery process, petrochemical products, all types of oils, waste oil, recycled oil

A person wearing a white lab coat, a hairnet, and safety goggles, working in a laboratory.

Chemical Industry

acids and concentrated acids, solvents, lubricating oils, aliphatic and sulphuric acids, additives, wax, glycerin, latex, polyoils, glues, alkaline solutions, emulsions, soaps and detergents, caustic soda, solvents, liquid sulfur, rubber suspensions, paraffin, plasticizers, starches, oily muds, polymers / fibers suspensions, polyester, resins

A color calibration chart with various colored squares and a black pen resting on it.

Paper & Inks Industry

acid water, iso-cyanate, caustic soda, mud, cellulose / fibers suspensions, glues, thickeners, additives, industrial water, lye, sewage, enamels and paints, emulsions, lime, colouring & pigments, emulsions, pastes,

A large, curved metal structure, likely a ship hull, under construction or repair.

Marine & Shipbuilding

transfer of tanker fluids, diesel, bilge water, sludge, ooze, seawater, sewage cargo load and offload, service fluids and water, residues

A person in a blue uniform working on a conveyor belt in a food processing facility.

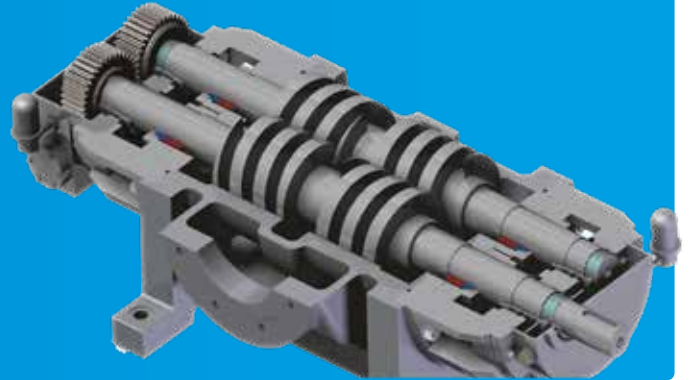
Food & Beverage

vegetable and animal oils, fruit juices, pastes, jam, syrups and molasses animal fats, lecithin, cream, alcohol, chocolate, caramel and fudge, sauces and dough, dairy products, wines

Working principle

The screws rotate inside the pump enclosure, creating several separate chambers and pushing the fluid trapped inside in accordance with the progression of the screws pitch. The flow rate is particularly uniform and pulsation-free, and the pumped fluid flows in an axial direction (not circumferentially, as it happens in the centrifugal pumps). Fluids that are sensitive to shear forces or turbulent flows are subject only to very limited stresses during the pumping phase.

Thanks to the absence of pulsations, to the low flow internal velocities, to the minimization of the centrifugal movements and to the absence of contact between the screw rotors, the pumped product does not suffer of changes of volume, texture, aspect and properties. Thanks to the low inertia of the rotating parts, the screw pumps can work at rotating speeds higher than other positive displacement pumps of equivalent volume chambers.



ADDITIONAL FEATURES

- ✓ The components of the pera-prinz® screw pumps are machined with very accurate tolerances and with very high quality surface finishing, in order to reduce the clearance and minimize the leakages and slip.
- ✓ The pera-prinz® screw pumps can also be used as dosing pumps and metering pumps, in particular in applications in which the pressure and fluid viscosity are constant during the operation.
- ✓ For viscous fluids, simply by changing the rotation speed, flow rates directly proportional to velocity can be achieved, with a good repeatability too.
- ✓ Thanks to their working principle, the screw pumps can suction also limited percentages of air, gas or vapors that are entrapped in the fluid.
- ✓ The screws can be either solid-piece or coated / overlaid, in order to be more resistant to abrasion and wear out.
- ✓ The radial and axial forces are balanced, either hydraulically, either by the permanently lubricated bearings that are mounted in a separate chamber from the pump casing, in order to extend their operating life (they are not in contact with the pumped fluid).
- ✓ The movement between the two screws is transmitted by gears in oil bath (not in contact with the pumped fluid), allowing a silent and long-lasting operation.
- ✓ The reverse flow is possible simply by reversing the axis direction of rotation: in case the reversible capability is required, on low-pressure applications, we can supply a suitable pump version.
- ✓ We can also supply mechanical seals, single or dual, or packing type (stuffing box), or cartridge type, or with seal flushing, or with heating/cooling devices.
- ✓ The pump casing can be supplied with cooling or heating device, that can be integral or with welded jacket.
- ✓ In toxic or dangerous fluids applications, we can supply the screw pumps hermetically sealed, complete with magnetic drive: this solution does not allow any leakage to the external environment, compared to the mechanical seals version that cannot assure zero emissions.

HM series

Pumps with One Pairs of Screws

Single End – External Bearings and Gears.

This type of pump, with one pair of screws, single end, is suitable for pumping high viscosity fluids, which do not contain solid particles.



HD series

Pumps with Two Pairs of Screws

Double End – External Bearings and Gears

This type of pump, with two pairs of screws, is suitable for transferring fluids with high viscosity, which do not contain solid particles.

The HD series is supplied in the “double end” execution, that consists of two pumping systems with a single pair of screw each, having the same drive rotor; the two pairs of screws are opposite and symmetrical, as they were two pumps with a single pair of screw in parallel.

The fluid enters into the suction port and is then split and transferred to the two opposite sides of the pumping elements, that push it towards the center through the several screws chambers.

The fluid is then discharged to the supply port, which is on the opposite side to the inlet port.

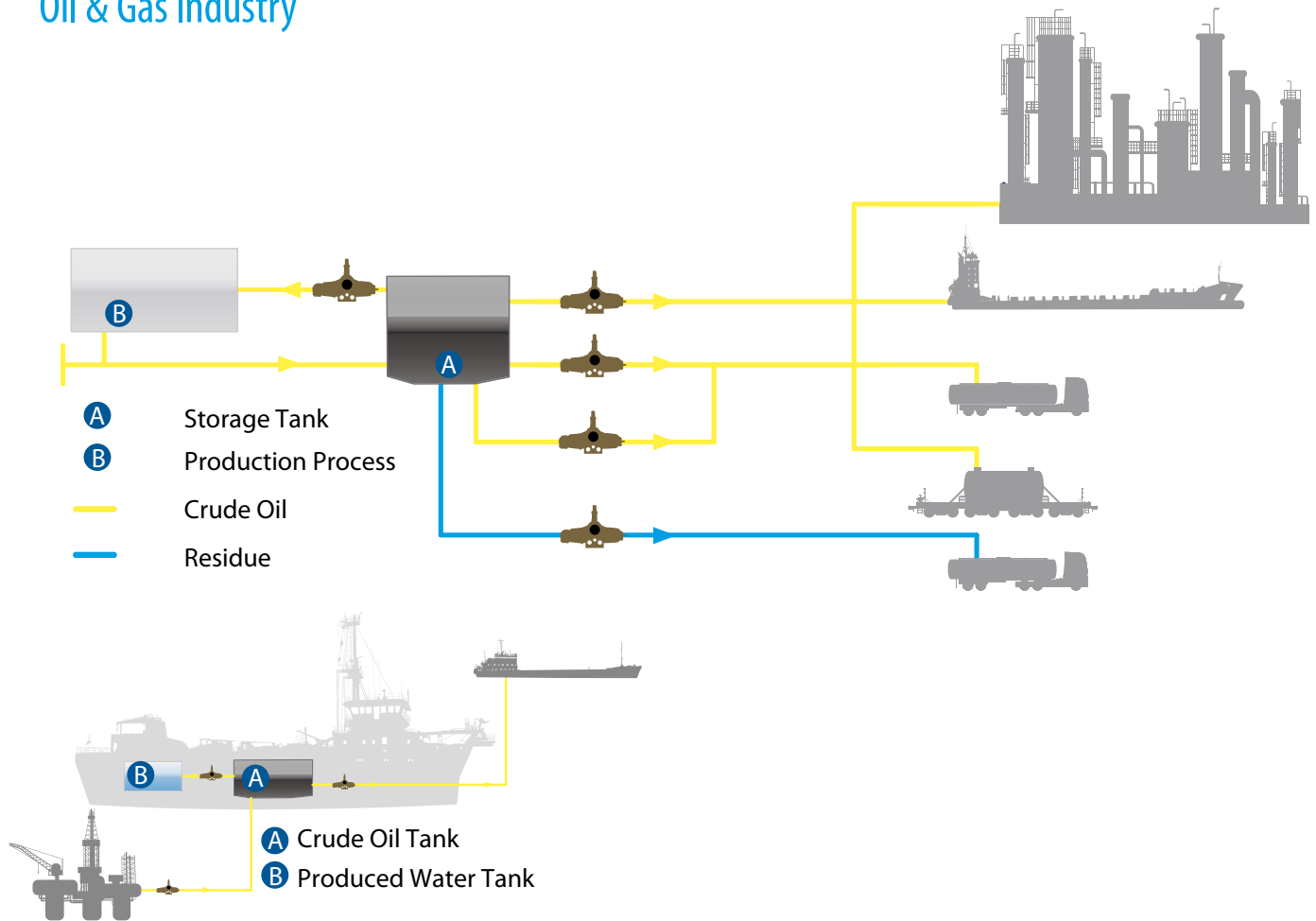


Technical data

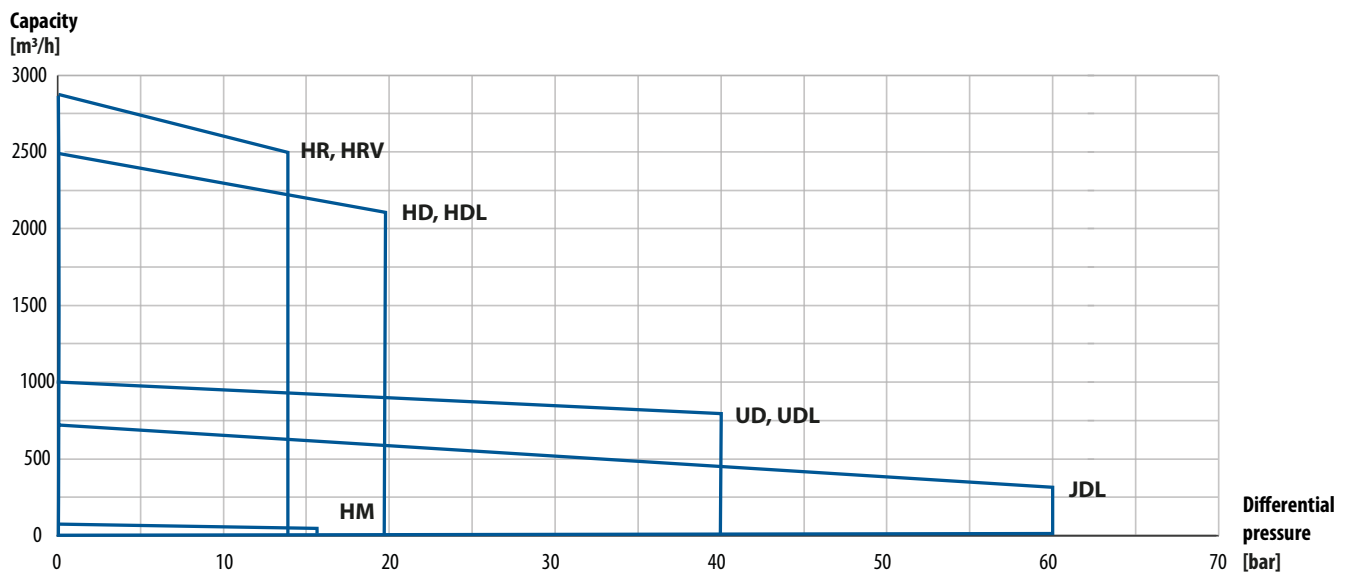
	HM SERIES	HD SERIES
Maximum manometric head:	Up to 24 bar [348 PSI] Higher Pressures available on request	up to 20 bar [290 PSI] Higher Pressures available on request
Flow rates:	up to 500 m ³ /h [up to 2201 GPM]	up to 3500 m ³ /h (15.400 GPM)
Viscosity of the pumped fluid:	up to 35.000 cSt	up to 35.000 cSt
Pipe Nominal Size DN:	from 40 to 100	from 50 to 600
Rotation speed:	up to 1750 rpm	up to 1750 rpm
Temperature range:	-20 / +180 °C [-4 / 356 °F]	-46 / +180°C [-50 / 356°F]
Handling Solid Particles & Dirty Fluids:	No	No
Handling Aggressive Fluids:	Yes	Yes
Pulsations:	Minimized (almost zero)	Minimized (almost zero)
Dosing capability:	Good	Good
Flanged connections available:	ANSI 150 & 300 DIN PN 16, PN 25 UNI PN 16 (low pressures only)	ANSI 150 & 300 ANSI 600 (high pressures executions) DIN PN 16, PN 25, PN 40 UNI PN 16 (low pressures only)
Bearing types:	Bearings in Oil Bath	Bearings in Oil Bath

Simplified Operating Scheme

Oil & Gas Industry



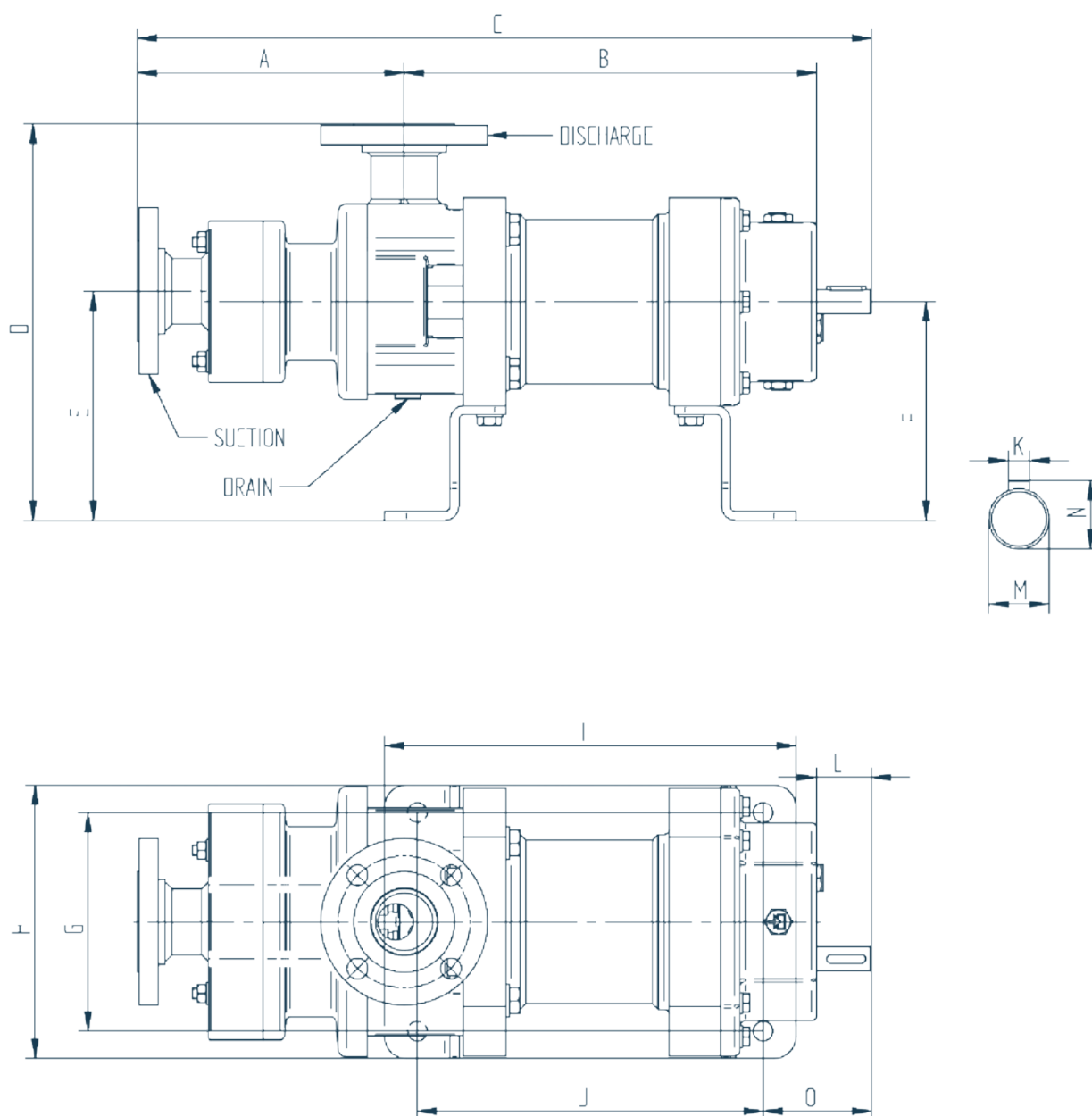
Coverage chart



Overall dimensions

HM Series

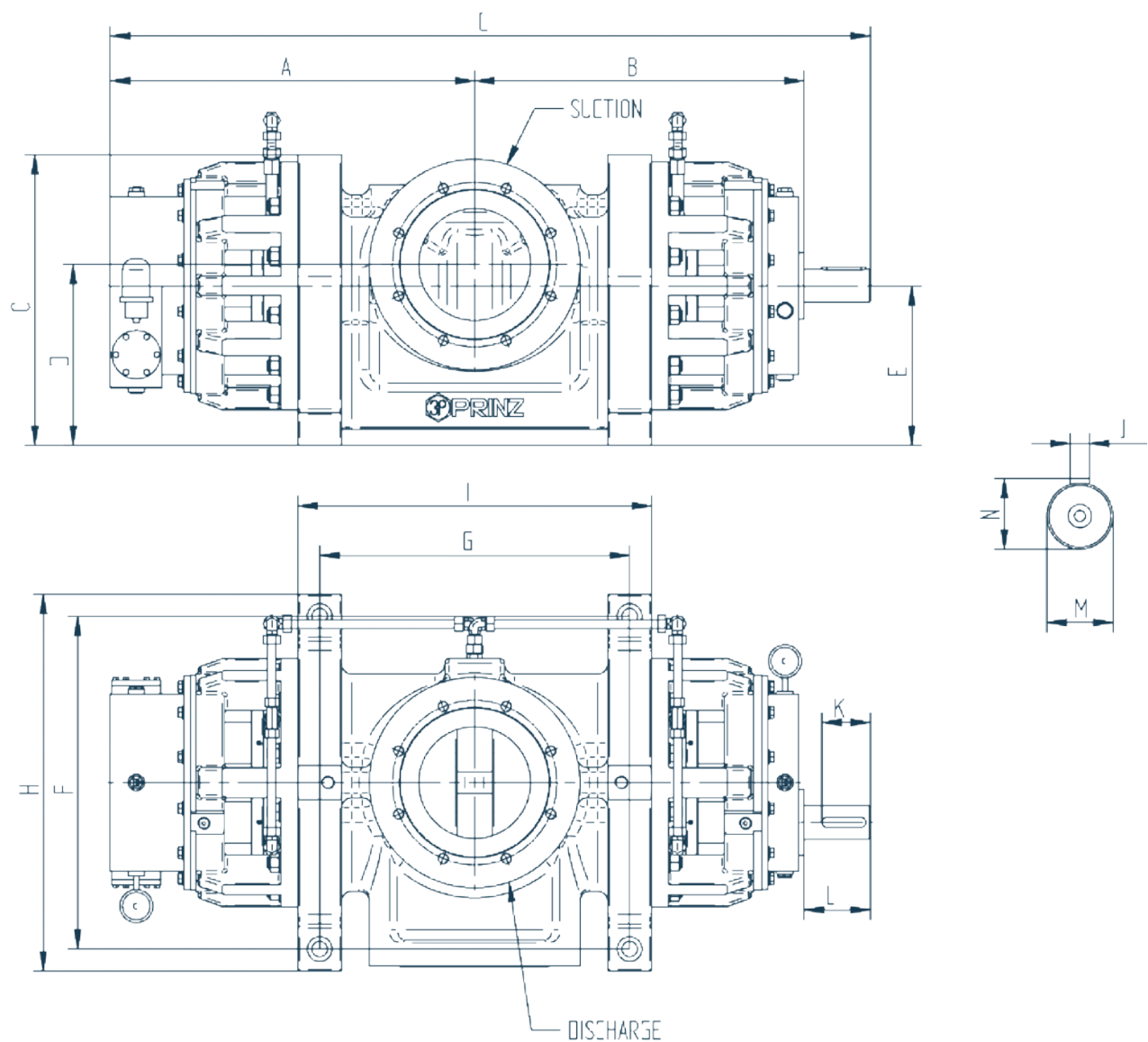
Horizontal installation external bearings and gears



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Suction	Discharge	Drain
HM50	195	265	505	290	165	161	80	200	250	160	6	45	18	20,5	50	1½" ANSI 150	1½" ANSI 150	½" NPT
HM100	244	377	671	363	210	200	200	250	376	316	8	50	22	25	99	2" ANSI 150	2" ANSI 150/300	½" NPT
HM200	278	479	827	410	240	225	250	300	440	380	10	70	35	38	128	3" ANSI 150	3" ANSI 150	½" NPT

HD Series from HD 06 up to HD 22

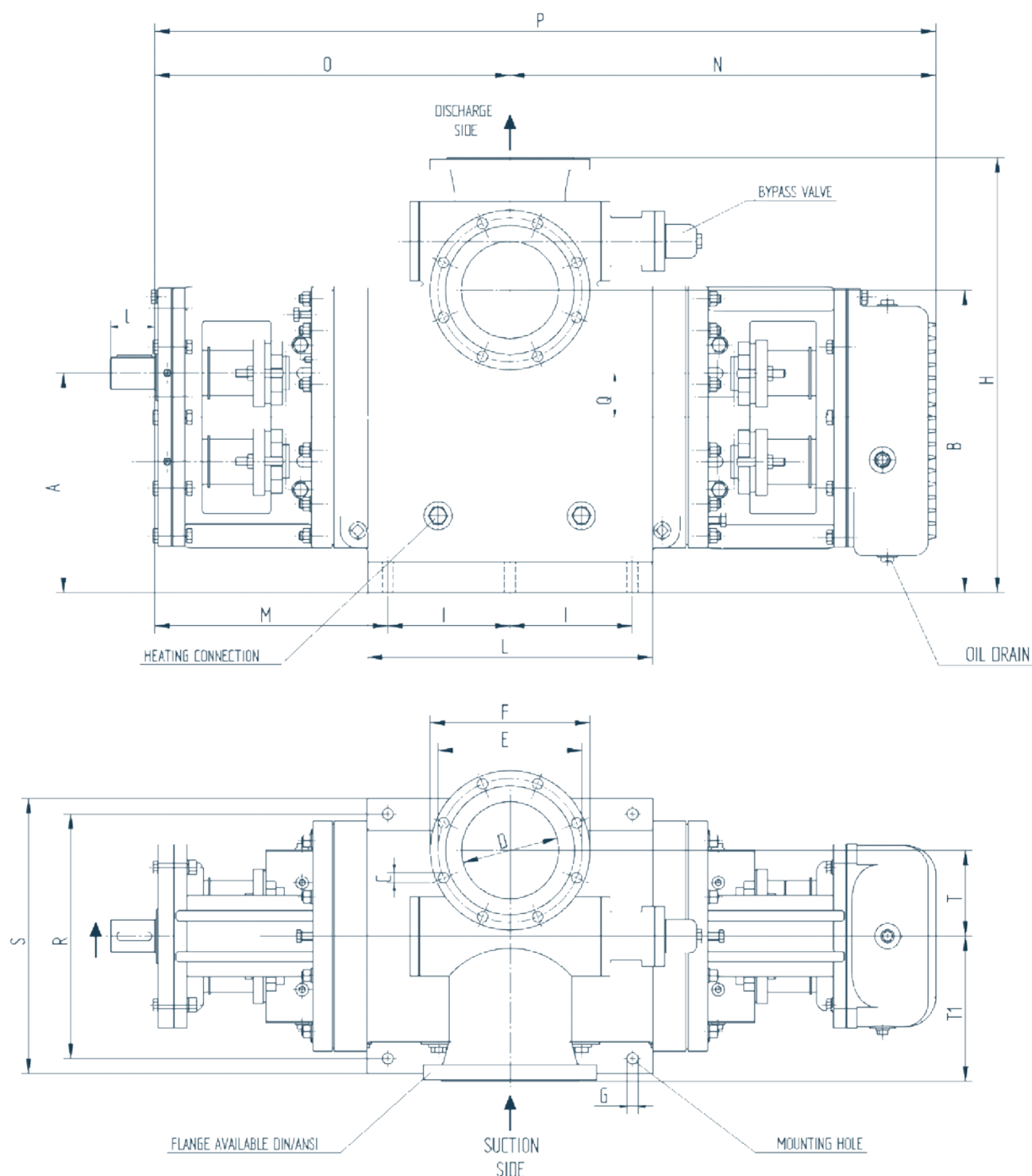
Horizontal installation external bearings and gears



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Suction	Discharge	Drain
HD06	365	330	755	190	147	318	298	364	343	8	50	60	28	31	279	2" ANSI 150/300	1/2" NPT	
HD07	425	385	890	225	175	370	345	425	400	10	71	80	35	38	325	3" ANSI 150/300	1/2" NPT	
HD10	500	450	1050	250	220	440	410	450	475	14	83	100	45	48,5	400	4" ANSI 150/300	1/2" NPT	
HD12	599	542	1251	296	261	524	494	590	569	16	88	110	55	59	476	6" ANSI 150/300	3/4" NPT	
HD14	661	597	1378	328	289	604	562	683	642	18	88	120	60	64	527	8" ANSI 150/300	1" NPT	
HD17	800	725	1665	400	350	735	685	830	780	20	120	140	70	74,5	640	10" ANSI 150/300	1" NPT	
HD20	945	855	1970	470	415	865	805	975	920	22	150	170	80	85	755	12" ANSI 150/300	1" NPT	
HD22	1050	940	2170	515	455	950	885	1075	1010	22	155	180	85	90	830	14" ANSI 150/300	1 1/2" NPT	

HD series

Horizontal installation external bearings and gears



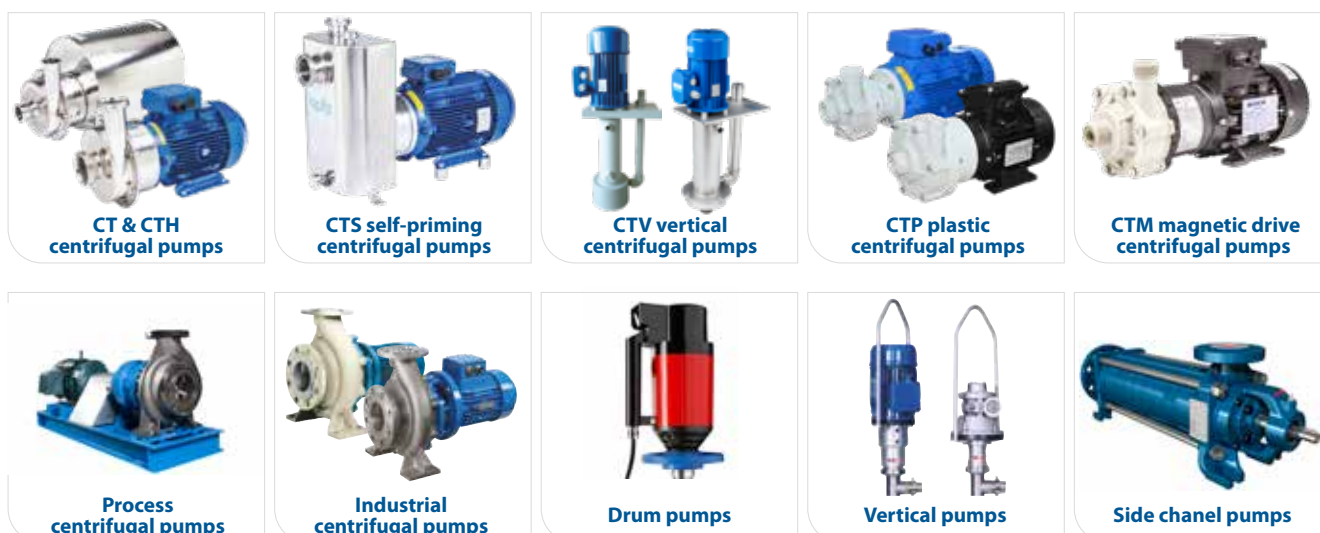
Type	Flange suction / Discharge																			Shaft			
	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	T1	d	l	m	n
HD 22	550	750	22	300	400	445	32	990	305	730	510*	952	812	1767	100	730	840	225	450	70	105	20*	74,5

* Dimension for pump types larger than HD 22 please contact us.

Positive Displacement Pumps



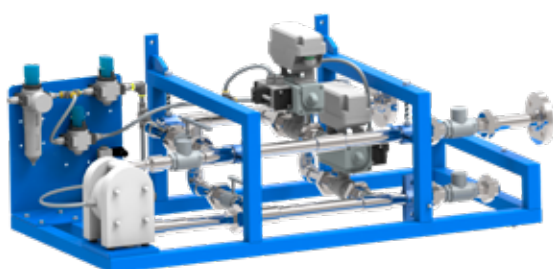
Centrifugal Pumps



Accessories



Unique constructions at a high level



Custom design aims to adapt standard solutions for non-standard needs in industrial processes. This is often achieved by making small modifications to standard products and thus becoming applicable to specific process requirements.

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Tapflo Serbia is part of the international Swedish Tapflo Group

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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