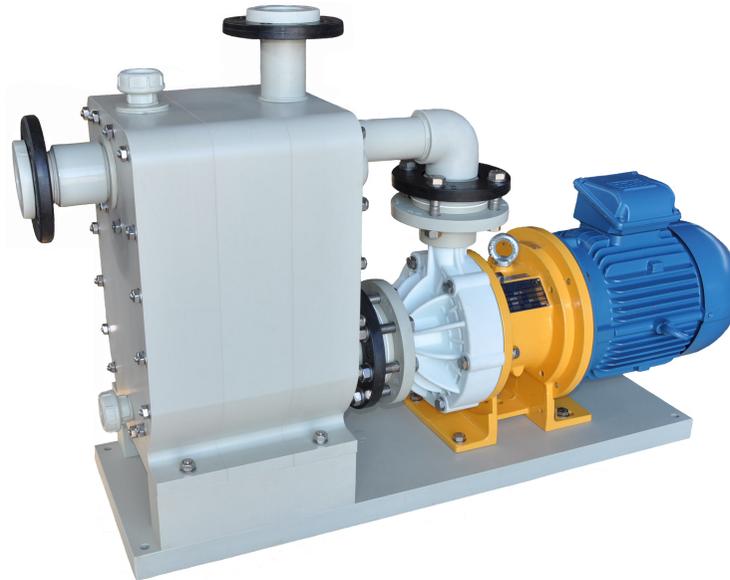




PRIM 2 Volumes  
STN 40



PRIM 3 Volumes  
STN 70

## Self-Priming Module



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# PRIM : Characteristics and applications

## TECHNICAL CONCEPT :

The PRIM module is an equipment that transforms a standard centrifugal pump with closed impeller into a self-priming pump.

It's connected to the pump itself by simple pipes and fittings. So the pump remains unchanged. No modification needed. It's a single accessory, separate from the pump, and assembled on common base plate .

- Conception by **CAO 3D** and built by **CNC** machining from **massive blocks**. It means strong and long life construction. All pipes are welded by **polyfusion** (PP) or sticken (PVC) without any manual welding. This technology is safe and reliable for long time.

## STANDARDISATION :

- With only 3 elements, we can equip every pump with a standard module, up to a useful capacity of 50 m<sup>3</sup>/h

- . Suction volume : 1 piece
- . Intermediate volume : 0, 1 or 2 pieces
- . Discharge volume : 1 piece

The selected number of volumes depends on the size of the pump and the expected capacity. From 2 to 4 volumes.

- The different volumes are mechanically assembled together by a large number of stud bolts in inox A2 and 2 O-rings in EPDM until they make a unique box.

- 2 baseplates cover the whole range : short base 800 mm for STN 30-40 and long base 1000 mm for all other pumps.

## ADAPTED PUMP UNIT :

All pumps with closed impeller are adapted to PRIM module. They can be Magnetic Driven or Mechanical seal as well. For dimensions reasons, close coupled versions are preferred but it's not mandatory.

**OPERATION LIMITS :** Temperature : PP = 70 °C maxi (if NPSH OK) /PVC = 50°C maxi / Discharge pressure max = 7 bar / Test pressure max = 3 bar

## APPLICATIONS :

Everywhere a self-priming pump is required, mainly on :

- Liquids : corrosive, dangerous, polluting such as acids, basics, conductive solvents, with or without solids in suspension.
- Applications : underground tanks with pumping unit above, remove liquid from retentions, truck unloading with pipes including air pockets, mobile units etc...
- Fields : chemicals, fine chemicals, pharmaceuticals, surface treatment, water treatment, detergents, phytos, fertilisers, nuclear industry, etc...

## MATERIALS :

**PRIM module** : in standard PP Polypropylene / on request PVC

**Pump** : all materials : PP, PVDF, ETFE, PFA, Inox 316, Inox 304, Cast Iron, alloys.

## WARNINGS :

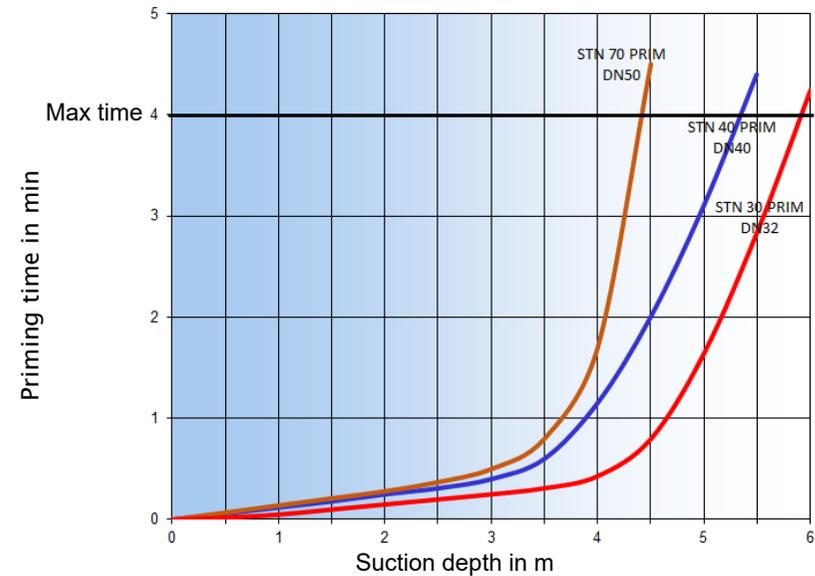
- For correct working, the PRIM module have to evacuate the air included in suction pipe towards the discharge pipe. Please verify that air is able to exit the discharge pipe freely, without liquid plug or contre-pressure.

- The pump will be able to be primed only if the suction height is compatible with a correct available NPSH. Self priming time must be under 4 minutes.

- Please reduce to the minimum the suction height and the horizontal length of suction pipe, to reduce the volume of air to be extracted.

**PROTECTION :** The PRIM module have to be filled of liquid before the first start.

Then it will remain enough liquid in the module for the other next starts. It's not necessary to fill up again. This characteristic gives a natural protection of the pump against **dry-running** for 4 minutes.



**PRIMING TIME** (indicative): tests made with horizontal pipe 0.5 m on suction

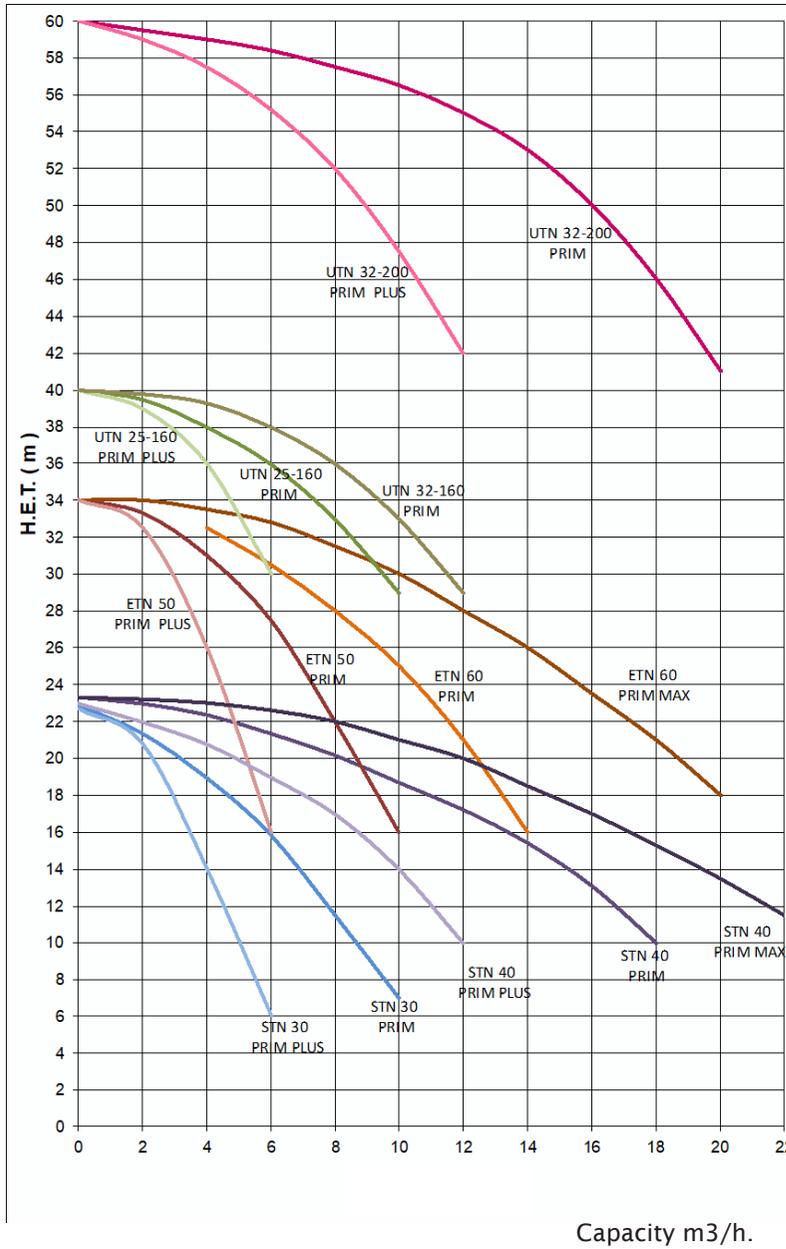
# PRIM : Performances

**PRIM** : Standard model.

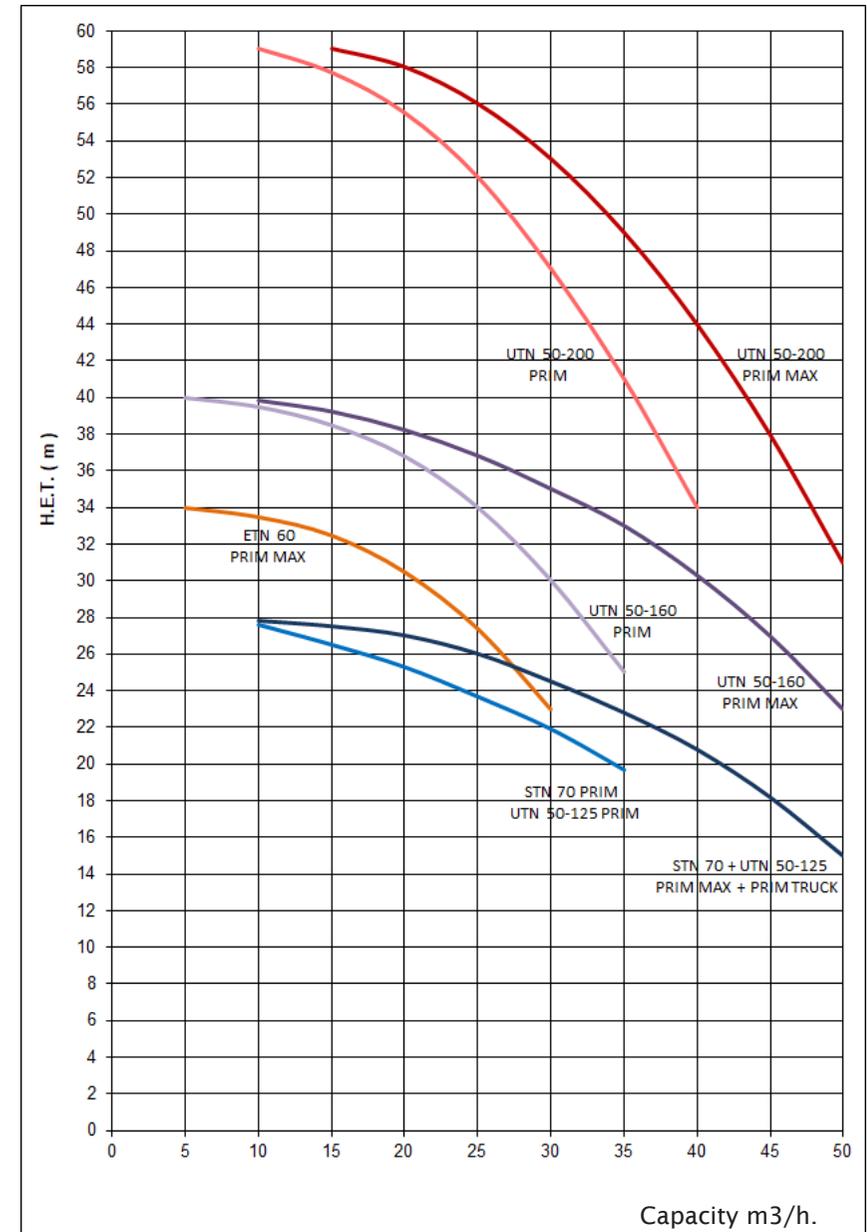
**PRIM-Plus** : Optimized model for maximum suction capabilities when performances Q/H are not the first issue.

**PRIM-Max** : optimized model for maximum capacity when suction conditions are light or moderate.

**PRIM-TRUCK** : special model designed for unloading trucks easily.



PRIM 2 Volumes



PRIM 3 + 4 Volumes

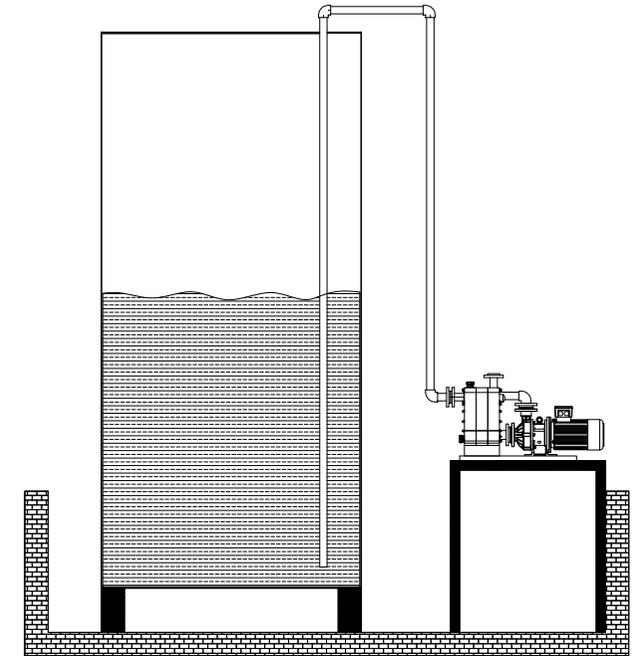
# PRIM : Range and installations

Capacity range (m3/h)	VOL	Connections	1	5	8	10	15	20	25	30	35	40	45	50
STN 30 PRIM PLUS	2	DN 25 x DN 25												
STN 30 PRIM	2	DN 32 x DN 32												
STN 40 PRIM PLUS	2	DN 32 x DN 32												
STN 40 PRIM	2	DN 40 x DN 40												
STN 40 PRIM MAX	2	DN 50 x DN 50												
STN 70 PRIM	3	DN 50 x DN 50												
STN 70 PRIM MAX	4	DN 65 x DN 65												
STN 70 PRIM TRUCK	3	DN 80 x DN 65												
ETN 50 PRIM PLUS	2	DN 25 x DN 25												
ETN 50 PRIM	2	DN 32 x DN 32												
ETN 60 PRIM PLUS	2	DN 32 x DN 32												
ETN 60 PRIM	2	DN 40 x DN 40												
ETN 60 PRIM MAX	3	DN 50 x DN 50												
ETN 70 PRIM	3	DN 50 x DN 50												
ETN 70 PRIM MAX	4	DN 65 x DN 65												
ETN 70 PRIM TRUCK	3	DN 80 x DN 65												
UTN / UCL 25-160 PRIM PLUS	2	DN 25 x DN 25												
UTN / UCL 25-160 PRIM	2	DN 32 x DN 32												
UTN / UCL 32-160 PRIM	2	DN 40 x DN 40												
UTN / UCL 32-200 PRIM PLUS	2	DN 32 x DN 32												
UTN / UCL 32-200 PRIM	2	DN 40 x DN 40												
UTN / UCL 50-125 PRIM	3	DN 50 x DN 50												
UTN / UCL 50-125 PRIM TRUCK	3	DN 80 x DN 65												
UTN / UCL 50-160 PRIM	3	DN 50 x DN 50												
UTN / UCL 50-160 PRIM MAX	4	DN 65 x DN 65												
UTN / UCL 50-200 PRIM	3	DN 50 x DN 50												
UTN / UCL 50-200 PRIM MAX	4	DN 65 x DN 65												

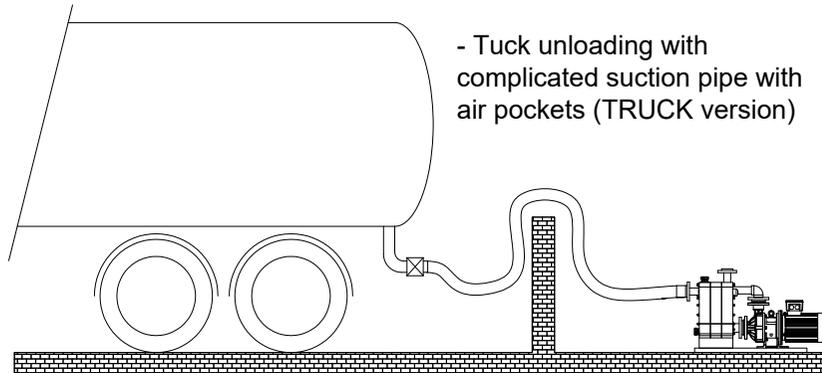
NOTE : Suction pipe diameter have to be identical to suction diameter of the PRIM module

## Typical installation schemes :

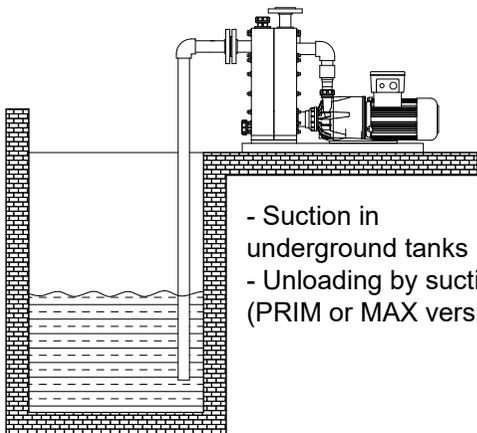
- Transfer with tank connection on top position (PLUS version)



- Truck unloading with complicated suction pipe with air pockets (TRUCK version)

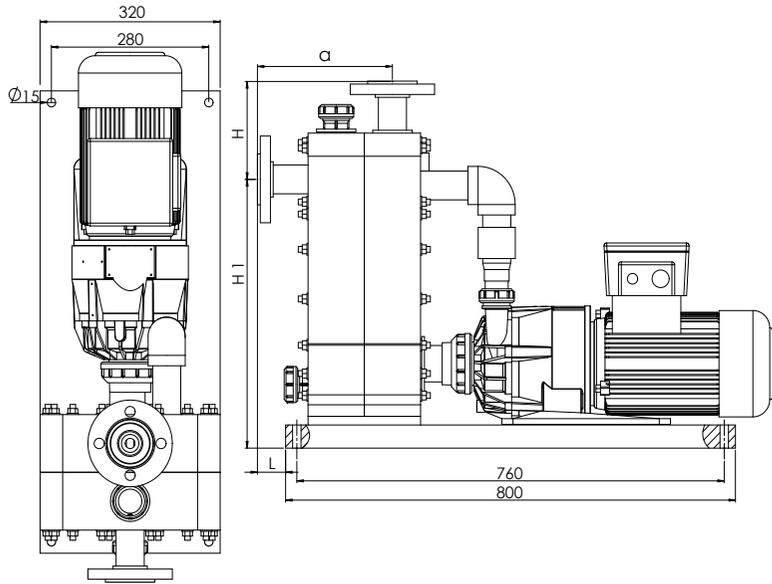


- Suction in underground tanks  
- Unloading by suction (PRIM or MAX versions)

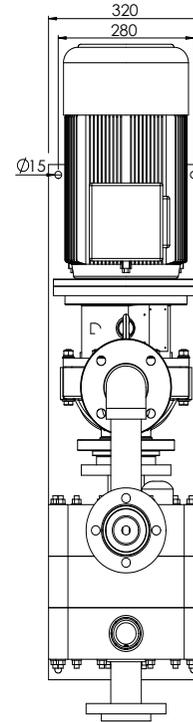


# PRIM : Dimensions

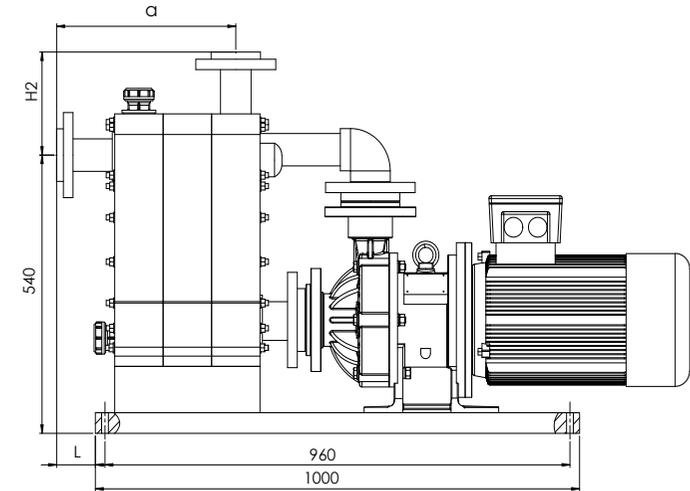
## STN30/STN40 - PRIM



Dimensions	VOL	Flanges	H1		L	a	H
			Mot 80/90/100	Mot 112			
STN 30 PRIM PLUS	2	DN 25 x DN 25	450		50	240	170
STN 30 PRIM	2	DN 32 x DN 32	450		50	240	170
STN 40 PRIM PLUS	2	DN 32 x DN 32	450	450	50	240	170
STN 40 PRIM	2	DN 40 x DN 40	450	450	50	240	170
STN 40 PRIM MAX	2	DN 50 x DN 50	450	450	80	270	200



## STN-70/ETN/UTN/UCL - PRIM



Dimensions	VOL	Flanges	L	a	H2
STN 70 PRIM	3	DN 50 x DN 50	80	370	200
STN 70 PRIM MAX	4	DN 65 x DN 65	100	490	220
STN 70 PRIM TRUCK	3	DN 80 x DN 65	100	390	220
ETN 50 PRIM PLUS	2	DN 25 x DN 25	50	240	170
ETN 50 PRIM	2	DN 32 x DN 32	50	240	170
ETN 60 PRIM PLUS	2	DN 32 x DN 32	50	240	170
ETN 60 PRIM	2	DN 40 x DN 40	50	240	170
ETN 60 PRIM MAX	3	DN 50 x DN 50	80	370	200
ETN 70 PRIM	3	DN 50 x DN 50	80	370	200
ETN 70 PRIM MAX	4	DN 65 x DN 65	100	490	220
ETN 70 PRIM TRUCK	3	DN 80 x DN 65	100	390	220
UTN / UCL 25-160 PRIM PLUS	2	DN 25 x DN 25	50	240	170
UTN / UCL 25-160 PRIM	2	DN 32 x DN 32	50	240	170
UTN / UCL 32-160 PRIM	2	DN 40 x DN 40	50	240	170
UTN / UCL 32-200 PRIM PLUS	2	DN 32 x DN 32	50	240	170
UTN / UCL 32-200 PRIM	2	DN 40 x DN 40	80	270	200
UTN / UCL 50-125 PRIM	3	DN 50 x DN 50	80	370	200
UTN / UCL 50-125 PRIM TRUCK	3	DN 80 x DN 65	100	370	200
UTN / UCL 50-160 PRIM	3	DN 50 x DN 50	80	370	200
UTN / UCL 50-160 PRIM MAX	4	DN 65 x DN 65	100	490	220
UTN / UCL 50-200 PRIM	3	DN 50 x DN 50	80	370	200
UTN / UCL 50-200 PRIM MAX	4	DN 65 x DN 65	100	490	220