

Inspection chambers Canplast

If you are looking for a simple, fast and long-lasting solution, all you need to do is explain your project to us and we will supply to you the inspection chamber that is most adapted to your needs.

For over 50 years, Canplast inspection chambers have proven their worth due to their comparative advantages and adaptability, which allow them to meet the requirements of all our clients' projects.

A perfect solution

As a general rule, that chambers must be made of the same material as the pipe. But what if a pipe is made of PVC, PE or PP? Is it possible to make a chamber in these materials? How can we build it? How can we install it? Will it not be too fragile, too flexible or too unstable? To these questions, Canplast replies as follows:

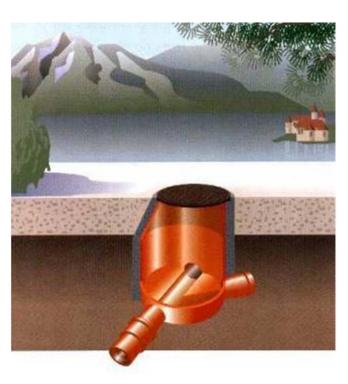
The custom made plastic chamber is used as a "watertight freestanding formwork to be concreted." It is delivered on site while the work is in-progress. It is then connected to the pipe which has already been laid, levelled, shuttered and encased with concrete. The result is a concrete chamber, lined with plastic inside. The perfect chamber!

The use of synthetic chambers makes it possible to elegantly solve the problems that are usually affecting the construction of traditional concrete chambers. They undeniably improve the quality of the work while maintaining short lead times and a cost advantage.

While the general use of custom made plastic chambers is recent, the concept itself is not new! Our company laid the first ones in 1966 in the canton of Vaud. Since then, the use of plastic "freestanding formwork" for civil engineering has become widespread and it is now a "must" for any engineer who appreciates a well-done job. Nowadays, when inspected, these chambers are always impeccable and now constitute the long-term point of reference rightly demanded by engineers, architects and project managers. Canplast custom made prefabricated chambers in PVC, PE or PP always offer complete adaptability with respect to the designer's requirements.

The advantages of our chambers

- Watertightness: Culverts, pavements, shafts, and all connections to the collector are completely watertight
- Abrasion resistance: PVC, PE and PP have an excellent resistance to abrasion caused by sand and gravel carried by runoff
- Corrosion resistance: The materials have an optimum resistance to corrosion caused by household and industrial wastewater
- Hydraulic operation: The favourable roughness coefficient and the perfect geometry of the moulded base reduce capacity losses and eliminate deposits as well as encrustations on the base and walls of the culvert





- Uniformity of the pipe network: When a collector is built with pipes made of synthetic material, it
 makes sense to build inspection chambers in the same material since the technical requirements that
 dictated the choice of the pipes also apply to the chambers
- Ease of installation: The execution of an English-type PVC, PE or PP culvert does not require the use of a qualified workforce by the company. Overseeing of this work by the supervisor becomes unnecessary
- **Speed of installation :** The installation of the Canplast chambers is performed at the same pace as that of the pipes, thus the execution times are reduced
- **Instant commissioning :** Delivered as the work progresses, the chambers are laid at the same time as the pipes
- Custom-made: They can be freestanding or encased in concrete

Discover our choice of dimensions

Choice of structure

In most cases, the chamber made of synthetic material plays the role of watertight freestanding formwork. For sites with self-supporting pipes, which complicates the supply of concrete, a non-concrete freestanding solution can be taken into consideration.

Choice of fittings

The standard version includes a M/F fitted inlet with lip seal and an outlet with chamfered pipe. On request, we can manufacture fittings for different types of pipes :

- Concrete
- Cast iron
- Polyester
- Stone, etc.

Choice of access

When the chamber is entirely made of plastic, a horizontal "manhole" reduction or cone can be delivered separately or directly welded to the shaft. Canplast chambers can be delivered with built-in rungs or fixed ladders of different models. However, the portable ladder remains the most commonly used means of access.

Choice of form

The chamber base is usually circular. Occasionally, it can be square or oval. The section, direction and gradient changes of the collector are taken into account accurately. The height of the pavements, as well as their gradient, can be in accordance with the technical office's specifications.

Choice of shaft

The Canplast chamber base, topped with a traditional concrete ring shaft, is the most frequent and advantageous option. When the Canplast chamber is placed on building sites, it is very common that the shaft is fabricated in plastic up to the upper level of the apron. In the presence of a water table, the Canplast chamber base must be fitted with a sealing joint or raised by a plastic shaft. Special reinforcements are needed so that the chamber can resist hydrostatic pressure.



Delivery time

In order to ensure their efficiency, the option of a "plastic chamber" solution must be manufactured in a very short time. Our well-organised infrastructure allows us to respect this requirement. The manufacturing time of a Canplast chamber is generally not greater than 48 hours. Delivery, at your local merchant's or on the site, is carried out as soon as possible by our trusted transport company.

Showroom

In our Showroom, you will see models of Canplast rooms operating in a closed circuit.

Technical service

- **Design stage**: Canplast puts a team of technicians at your disposal; they will be more than happy to advise you during the development of your project (submission texts, fabrication details, etc.)
- **Specific quote:** As each chamber is a special case, it is not possible to publish a price list. However, for each submission, we can submit a detailed offer.
- **Ease of maintenance :** Council services appreciate the plastic chambers, clean, without deposits and showing no signs of wear. Cleaning and maintenance costs are virtually non-existent.
- At construction: Civil works often require an adaptation of the layout because of the different obstacles encountered. For this reason, measurements are normally taken after the start of the excavation. Our technicians will be happy to visit the site in order to assist you when taking the measurements.
- **Specialised work**: Our specialised assemblers, who have fully equipped vehicles, can intervene on construction sites. Their presence is very much appreciated for transforming existing structures and performing any work on plastics for which the company is not equipped.
- Attractive price: The price of a Canplast chamber is very attractive when considering the simplicity of installation, the quality of the finished work and its behaviour over time. Our company laid the first chambers in 1966 in the canton of Vaud. After more than fifty years, they are still in perfect condition.
- Submission texts: We propose, to the engineer and the architect, some standard submission texts of
 submission for the most common PVC chambers. These texts can be adapted for PE or PP chambers.
 Articles relating to other works, such as formwork, concrete pipe shafts, cast iron covers, etc., will be
 written by the technical office based on its standard texts.



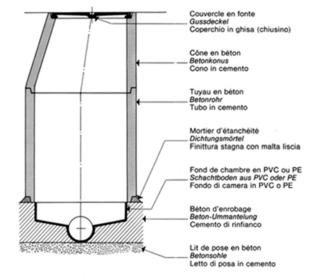


Canplast Chamber Base

TYPE 1

The diameter of the plastic base is equal to that of the shaft made of concrete rings. The majority of chamber bases are made of PVC, but PE is recommended in special cases (high impact resistance, very aggressive water, laying of welded pipes, etc.). PP is recommended for high temperatures. The diameters most commonly used for plastic chamber bases are: Ø 800 mm, Ø 900 mm, Ø 1'000 mm and Ø 1'200 mm.

Standard height of the Canplast chamber base = collector \emptyset + 150 mm.



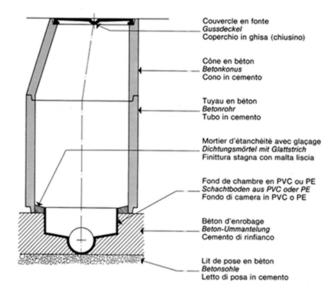
TYPE 2

The diameter of the plastic base is smaller than that of the shaft made of concrete rings. For oval concrete shafts, or for shafts with a diameter greater than the plastic base. This solution comes with the following advantages:

- Lower price compared to type 1.
- Possibility to offset the shaft in relation to the plastic base.
- · Possibility of sealing mortar after backfilling.
- Possibility of installing a sealing joint around the plastic base.

The diameters most commonly used for plastic chamber bases are: \emptyset 630 mm, \emptyset 710 mm, \emptyset 800mm, \emptyset 900 mm and \emptyset 1'000 mm.

Standard height of the Canplast chamber base = collector \emptyset + 150 mm.





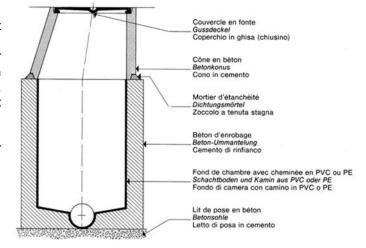
Complete chambers

Canplast chamber With synthetic shaft

Custom-made in PVC, PP or HDPE (PP: see Canplast Pro© freestanding chambers)

The chambers, with plastic shaft, are generally used for the collectors situated in the water table. Depending on the height, the shaft must be concreted in several stages. The chamber must be wedged in order to prevent movement during concreting.

The diameters most commonly used for plastic chamber bases are 800 mm and 1'000 mm.

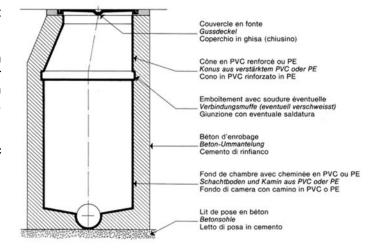


Canplast Complete Chamber With synthetic shaft and cone

Custom-made in PVC, PP or HDPE (PP : see Canplast Pro® freestanding chambers)

The complete Canplast chamber offers optimum resistance to the fumes produced by wastewater over its entire surface. This solution is generally adopted on the worksites during the installation in the apron, especially in the presence of a water table.

The diameters most commonly used for plastic chamber bases are 800 mm and 1'000 mm.







Submission text

We propose, to the engineer and the architect, some standard submission texts for the most common PVC chambers. These texts can be adapted for PE or PP chambers. Articles relating to other works, such as formwork, concrete pipe shafts, cast iron covers, etc., will be written by the technical office based on standard texts.

Submission with general definition

This option offers many combinations and allows the possibility to adapt the project as the work progresses. This method is recommended when there are several different chambers, the dimensions and geometry of which will only be defined during work.

Item	Text	Quantity	Units
0,5-0,7 d	Supply and installation of chamber base with Canplast type straight culvert in PVC, PE, PP used as watertight freestanding formwork, to be concreted D = mm d = mm D = mm d = mm D = mm d = mm		Pce Pce Pce
B I	Supplement for cross bend. D =mm		Pce Pce Pce
	Supplement for inlet outside culvert d= mm d= mm d= mm		Pce Pce Pce



	Supplement for straight inlet in culvert d= mm d= mm d= mm	Pce Pce Pce
d l	Supplement for bent inlet in culvert d= mm d= mm d= mm d= mm	Pce Pce Pce
	Supplement for raised pavement	 Pce
	PSupplement for two raised pavements	Pce
D E	Supplement for shaft extensions. D= mm D= mm D= mm	M' M' M'
D	Supplement for manufacture workshop-fitted sealing joint. D= mm D= mm D= mm	Pce Pce Pce
D d	Supplement for asymmetrical cone. D= mm d= mm D= mm d= mm D= mm d= mm	Pce Pce Pce



a a	Supplement for "TICINO"-type asymmetrical cone, H=270 mm. D= mm d= mm D= mm d= mm D= mm d= mm	Pce Pce Pce
a a	Supplement for horizontal reduction. D= mm d= mm D= mm d= mm D= mm d= mm	Pce Pce Pce

Submission with detailed definition

This solution defines each chamber with great accuracy. It requires very detailed wording which can only be established on the basis of the implementation plans. This method is recommended when there are few chambers with well-defined dimensions.

Article	Texte	Quantité	Unité
e 250 e 250	Supply and installation of a prefabricated Canplast-type PVC, PE, PP chamber used as watertight freestanding formwork, to be concreted. Ø 800 mm, total height 900 mm, main collector Ø 250 mm, with a bend of 28°, including: -1 x Ø 200 mm straight inlet in culvert -1 x Ø 160 mm inlet with bend in culvert		
0.800mm			Pce



0 25.60	Supply and installation of a prefabricated Canplast-type PVC (PE) chamber used as watertight lost formwork, to be concreted. Fabricated in two adjustable elements, with tangential inlet, inclined flat base and centered outlet. D=mm d1=mm d2=mm H=mm D=mm d1=mm d2=mm H=mm	Pce Pce
Dp 2.5 d)	Supply and installation of a prefabricated Canplast-type PVC, (PE) chamber used as watertight freestanding formwork, to be concreted. Fabricated in two adjustable elements, with tangential inlet, conical base and centered outlet. D=mm d1=mm d2=mm H=mm D=mm d1=mm d2=mm H=mm	Pce
70<0<7.36	Supplement for tangential inlet with circular-rectangular. D=mm	Pce



Canplast Pro® freestanding chambers - Presentation

Canplast PRO 600-800 and 1000[©]

In addition to its inspection chambers used as watertight freestanding formwork, Canplast offers its Canplast Pro© chambers in PP, freestanding, guaranteeing durability, safety, ease of installation and operation. With their modular design, many configurations can be realised in our manufacture workshops, **custom-made** and according to the needs of the project as well as the demands of the company and engineer in charge.

Applications

Chambers for connecting, inspecting, cleaning and visiting non-pressure wastewater and rainwater drainage networks.

Characteristics, reference standards and quality trademark

- Chamber base and shafts in PP (Polypropylene)
- Colour: Brown Orange
- Modular type
- Water table : reinforced base and peripheral ribs
- Telescopic extension possible
- Inputs, outlets and custom made gradients
- Access by cast iron cover on distribution slab
- Standard EN 13598-1 for PRO 600[©]
- Standard EN 13598-2 for PRO 800[©] and PRO 1'000[©]





Pro 800 - Pro 1000



Qualities and advantages

- ✓ Lightness, ease and speed of installation ("ready to install" delivery possible, assembly of components in our manufacture workshops)
- ✓ Guaranteed watertight
- ✓ Exceptionally high rigidity of the extension : double wall CR8 minimum PP
- ✓ Mechanical resistance to impact, abrasion and corrosion
- ✓ Ease of operation, available access scale (rungs)
- ✓ Dimensional compatibility with all plastic pipes (PVC-PE-PP)
- ✓ Adaptability according to plan of the technical office
- ✓ Longevity of networks fully recyclable PP

Our range of products

- Complete range :
 - o Diameter of the chambers: 600, 800 and 1'000 mm
 - o Diameter of the pipes: 160, 200, 250, 315, 400 and 500 mm
- · Adjustable, with different heights available
- PRO 600, PRO 800 and PRO 1'000: Telescopic extension possible



Price of PRO 600[©] chamber bases

Chamber Ø	Collector Ø	Secondary inlets	Height	Price
(mm)	(mm)	(mm)	(mm)	(CHF)
630	160, straight	-	400	265
630	160, straight	2x 160	400	295
630	200, straight	1	400	270
630	200, straight	2x 200	400	330
630	250, straight	1	500	378
630	250, straight	2x 250	500	514

Adaptability in our manufacture workshops



Figure 1: Element with rungs incorporating a pipe with cleaning hatch



Figure 2: Interior of a chamber with rungs



Control and delivery



Figure 3 : Shut-off for chamber inspection



Figure 4 : Chamber watertightness control

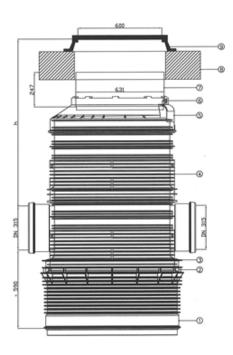


Figure 5: Laying a room to fill

Technical plan

Example below: Standard Canplast Pro® chamber Ø 800 mm with dump.

N°	Designation	Ø	Code
1	PRO 800 Base / Flat bottom	800	50100585
2	Extension seal 800	800	50300190
3	Body 800/315 0°/180°	800/315	50100725
4	Extension 800	800 ; H=0,5 m	50400132
5	800/630 Cone with hooks	800/630	50400104
6	Cone seal	630	50300139
7	Telescopic extension	631	50400081
8	Concrete frame for cast iron cover	615/710	5020075
9	600 D400 EN 124 Cover	600	50201303





Freestanding chambers - Implementation

Canplast PRO 600-800 and 1000[©]

Transport and storage on site

All chamber components and seals must be checked upon delivery to ensure compliance. All of these must be stored in a way that prevents degradation. In particular, the sealing joints must be kept clean and away from the sunlight. Unloading and transport to the excavation must be done with appropriate lifting equipment.

Earthwork

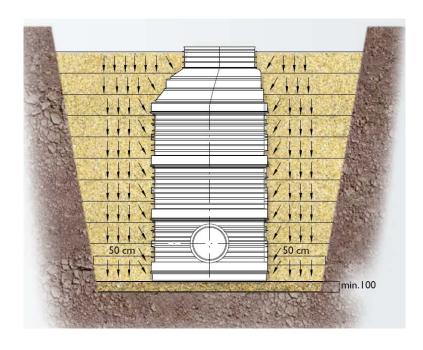
The excavation width must be greater than 50cm on each side of the chamber. The characteristics of the natural ground must be taken into account and the earthworks must be carried out according to the professional standards and practices.

Bedding

The quality of the bedding is decisive for the implementation. The load bearing capacity of the ground will have to guarantee the stability of the system.

The bedding must have a minimum thickness of 10 cm and be made up of a compactable material (sand or gravel grade 0-32) which is carefully levelled.

If the base of the excavation is unstable, it must be stabilised before the laying/compacting of the bedding.





Laying elements

Workshop fully assembled elements

The complete chamber is delivered to the site.

- 1) Placing the chamber on the prepared bedding.
- 2) Connection of plastic pipes by simple M/F fitting. Check, if necessary, clean, and lubricate the female ends of the chamber. If other materials, such as cement, stone, fibre cement or ductile cast iron pipes, must be connected, please use special fittings.
- Backfilling and compaction around the chamber in successive layers of 30cm.
- 4) Placing of the concrete crown with the lid.



Components to be assembled on site

The chamber components are delivered on site.

- 1) Installation of the basic component on the prepared bedding.
- 2) Connection of plastic pipes by simple M/F fitting. Check, if necessary, clean, and lubricate the female ends of the chamber.
- 3) Backfilling and blocking of the base component with the necessary compacting material.
- 4) Insertion of the seal in the groove provided for this purpose. Be sure to lubricate this seal.
- 5) Insert the extension or reduction cone using a lifting device. Connect these components using the appropriate tools.
- 6) Backfilling and compaction around the chamber in successive layers.
- 7) Placing the concrete crown with the lid.



Insertion of the sealing joint (point 4)



Insertion of the extension (point 5)



Insertion of the sealing joint on the telescopic reduction cone



Drop chamber

The drop chamber is ideal in order to modify the level between the inlet and outlet of a manhole. This solution helps controlling and the cleaning the collectors, and it is well adapted when the gradients are slight.









Flow-break chamber

For sections with steep gradients, the use of flow-break chambers is essential. These special chambers make it possible to reduce the flow velocity and simultaneously, using centrifugal force, they can separate the water from the air which mix in the pipe.













Chambers for protection zones

The construction of a collector through a water protection zone requires special precautions. The use of pipes and double-skinned chambers gives the necessary safety for safeguarding sources and the water table. The manholes provide the opportunity to inspect the flow of sewers and to control any infiltration from the ground or leaks of the sewage pipe at any time.











Separative system

Advantages

The Canplast double chambers for clean water and wastewater offer the possibility to solve many problems related to the execution of pipes in a limited space. This solution is ideal in all cases where you want to reduce the influence of the work. With this execution the two collectors switch direction in the same place, which reduces the distance between the wastewater and clean water pipes.

This method significantly reduces the volume of excavation and backfilling. Only one cast iron cover and one shaft are needed instead of two, when using traditional chambers. Through various control opening systems, contact between clean water and wastewater networks is avoided.

Special cases

Double chambers for clean water and wastewater can be produced with collectors at different levels suitable for the project. Generally, wastewater is at a lower level than clean water. It is however possible to make manholes with the two collectors at the same level.







Cable chambers

Custom made manufacturing provides a guarantee of cleanliness and precision.

The use of synthetic chambers for electric cables definitely solves the problems that arise during the construction of traditional concrete chambers, by greatly improving the quality of the finished structure.

After strict controls, they always appear clean and impeccable. They rightly constitute the long-term golden









Stormwater runoff

Typical stormwater runoff, placed on a unitary system pipe system, makes it possible to discharge all the water to the treatment plant in dry weather. In case of heavy rain or thunderstorms, the surplus is evacuated to a watercourse. Prefabrication in the manufacture workshop generally reduces the size of the structure and the time required for the company to work on the site.













Injected or custom-made valves

Overview

A backflow valve should be installed whenever there is a possibility of backflow. The backflow is due to a loading of the communal collector which can be caused by heavy storms. This phenomenon is often observed along unit collectors or near stormwater runoffs on separating collectors.

Most often, the unfavourable situation is not known at the time of construction and the valve becomes a backup solution to prevent further flooding. The choice of the model of the valve is often dictated by the characteristics of the pipe and by the existing inspection chambers.

Operation of a valve

Ideally, the valve should be opened in order to allow normal flow and closed when there is backflow. In practice, operation is much simpler when discharging rainwater or solids-free wastewater from floor grills or sinks. The flow of water pushes a clapper that remains closed when there is no flow. For wastewater containing solids, systems that promote the passage of solids carried by water should be used.

Which type of valve to choose?

The table below allows you to choose the most suitable model:

Applications	Clapper valves	Valve without float	Float valves	Wastop® valves	Waback [®] valves
Clean water, rainwater	yes	yes	yes	yes	yes
Solids-free, wastewater	yes	yes	yes	yes	yes
Wastewater, containing solids	no	no	yes	possible	yes
Fixing in existing manhole	unlikely	possible	possible	yes	yes
Fixing in new manhole	possible	possible	possible	yes	yes
Creation of a new manhole	possible	possible	possible	not necessary	possible
Anti-odour on overflow	no	yes	no	yes	no
Low level variation	yes	yes	no	yes	yes
High level variation	no	yes	necessary	yes	possible
Collector Ø in mm	110 to 315	110 to 400*	110 to 400*	75 to 1'400	110 to 315
Material used	PVC	PVC	PVC	PE	PE
Price category in CHF	from 290	from 430	from 500	from 590	from 2'800
Price category in CHF					

^{*}other dimensions on request



Clapper non-return valves

Area of use

This type of valve is inserted in the pipe system as a normal PVC short pipe. It can be put in place as a preventive measure during construction, or later, after having observed the presence of a backflow. If it is buried, it is necessary to put it at the bottom of a manhole in order to have access to it, control its operation and clean it. It is also useful to prevent some animals, such as rodents, from getting back into the pipe.





PVC non-return valves without float

Area of use

This type of valve can be installed in an existing or new inspection chamber. It is suitable for rainwater or wastewater that is **free of solids**. It can also be used as an anti-odour valve on overflow pipes. The difference in level between the lower level of the upstream pipe and the base of the inspection chamber must be at least 20 to 40 mm depending on the model. The valve must remain accessible for inspection or maintenance.





PVC non-return float valves

Area of use

The non-return valve prevents backflow of wastewater into basements when the communal collector or the collector of the residential area is loaded.

The Canplast PVC valve is designed for installation on plastic pipes, but it can also be adapted to other types of pipes. This type of valve can be installed in an existing or new inspection chamber. It is recommended for wastewater that contain solids. The difference in level between the lower level of the upstream pipe and the base of the inspection chamber must be sufficient to allow the floats to move. The valve must remain accessible for inspection or maintenance.





Operation

When the pipe runs normally, the weight of the floats keeps the damper open. When the water level rises in the collector, the floats rise and close the damper.

For proper operation, it is necessary that the movement of the floats not be hindered by a possible build-up of solid matters. The non-return valve should be cleaned regularly.

Wastop® backflow valves

The Wastop® valve consists of a stainless steel or plastic cylinder with a conical polyurethane membrane attached inside.

The Wastop® valve:

- is the only valve that can be installed easily and at no additional cost in an existing inspection chamber or along an accessible pipe.
- is the only one that can be installed on both low gradients and vertical columns.
- can be installed in all pipes of circular section whatever the material.
- can be installed in all pipes from Ø 75 mm to Ø 1'400 mm.
- prevents backflow. It also has the advantage of preventing odours from rising in the building.







Waback® non-return valves

When to use a Waback® valve

WaBack® is a manhole that is installed outside buildings, on the wastewater outlet, where it plays the role of a backflow valve.

The installation of a Waback® on the wastewater outlet of the building offers a safe protection against the flooding of basements in the zones at risk.

WaBack® works both as a non-return valve and as a manhole. Installed during construction, this "all-in-one" module reduces installation costs.

Its small size allows it, in some cases, to be installed in existing concrete manholes of 80 cm diameter and over.

Wastewater is often very loaded with solids. In this context, Waback® is a safe choice. Its pipe is fully open at normal flow, which minimizes the risk of technical incidents and the need for maintenance operations.

The standard model of Waback® is prefabricated in polyethylene. It is quickly available from our stock.

WaBack® is also obtainable in "mini" version for cellar installation.



