

TRUCK SAMPLING SYSTEM
FOR THE ANALYSIS OF THE INCOMING GRAPES

CC01



Quality of grapes starts
from the grading area

 **maselli
misure**
PROCESS ANALYZERS

Quality of grapes starts from the grading area

The determination of the quality of incoming grapes in the grading area is a fundamental step for the overall evaluation of grapes that every winery or grower association shall take into account while winemaking. More than the analysis itself, sampling is the most important but also the most critical operation since it is here that the sample to be analyzed to assess the quality of the entire load is obtained. Therefore the truck sampling system's main function is:

- to grant that the sample is as much representative as possible of the entire load
- to make sure the sample is easy to be analyzed

- to speed up the sample preparation time to minimize the overall evaluation time cycle

To respond to all these exigencies, the Maselli CC01 has been designed to allow:

- thorough coring enabling to extraction of the grapes located in the lower part of the truck
- high-efficient crushing of grapes
- rapid coring enabling to take more than one sample from the same truck so to grant the representativeness

1. Hydraulic directional control valve

The hydraulic directional control valve gives power and control all the actuators. It is mounted on the back of the sub-base and it is formed by an assembly of low-voltage solenoid valves. The valves control



all the movements of the probe. The directional control valve is activated remotely through an electrical signal that drives the solenoid valves. It can be activated by acting on the directional control valves via three control levers. All connections between the elements of the hydraulic circuit are made with flexible hose and provided

with quick couplers. The different components have been designed giving priority to the simplicity and robustness.

2. Hydraulic power unit

The hydraulic power unit is installed in the lower part of the sub-base. Its construction is very compact and its components are mounted so to grant an easy service check as well as routine maintenance. The coupling between the electrical motor and the pump is realized through an elastic connection which ensures an extremely low-noise operation. The power unit is equipped with a 45-liters tank containing the hydraulic oil, with a pressure gauge indicating the operating pressure and level gauge for checking the oil level and filter service indicator.



3. Movements

Rotation: the arm can rotate 359° either clockwise or counter clockwise. It is possible to restrict the rotation angle (upon request). Rotation takes place through a rack driven by an hydraulic piston. The system is equipped with flow control valves allowing a smooth and fluid overall rotation movement.

Extension: the maximum extension of the boom is over 6m; when totally retracted maximum extension is reduced up to 3mt.

Tilt: amplitude of tilting movement allows the sampling probe to reach the ground level and raise up to over 7m (engine level).



Key Features

- Wide operating range
- High penetration
- Noiseless
- Dual controls (electrical remote / lever on column)
- Electrically-operated probe
- Fluid and progressive movements
- Easy to install
- Low maintenance requirements
- Rugged structure very weather-resistant
- Low concentration of impurities in the final product



4. Sampling probe



STANDARD SAMPLING PROBE

Samples are collected by a motorized probe which picks up the grapes by means of an auger and then crash them by means of a high-efficiency crusher so to obtain a clear must for subsequent analysis. Transfer of must from the sampling probe to the station takes place by fall gravity. Must transfer is made of: three stainless steel telescopic tubes which prevent the risk of contamination from previous samples; hose delivering the must to the analysis station. The sampling probe, driven by an electric motor, is designed so to allow easy maintenance and cleaning.

There are two different types of probe available whose length varies depending on the load, plus one more version specific for the automatic collection with liquid separation. On the long sampling probe it is possible to install the Analysis System SC04.

5. Remote Control and electrical panel

CC01 sampler is actuated by a remote control allowing either direct operations on the probe or some on the combined Analysis Station SA00. The remote control comes with a shoulder strap and grab bar for comfortable use when walking; with included accessories the remote control can be fixed to a basement or to a wall. The waterproof electrical panel contains the entire power section, the manipulator control circuits and the low voltage power supplies for the hydraulic actuators.



Maselli Misure modular systems for sampling and analysis

Maselli Misure provides complete systems for the analysis of grapes in the grading area which include: the sampling probe CC01, mono and multiparametric analysis stations, remote displays, data collection and processing devices. Different versions can be available: sampling with automatic must transfer to the analysis station, sampling with manual must transfer to the analysis station, or sampling with direct must analysis.

A. Sampling with automatic must transfer to the analysis station

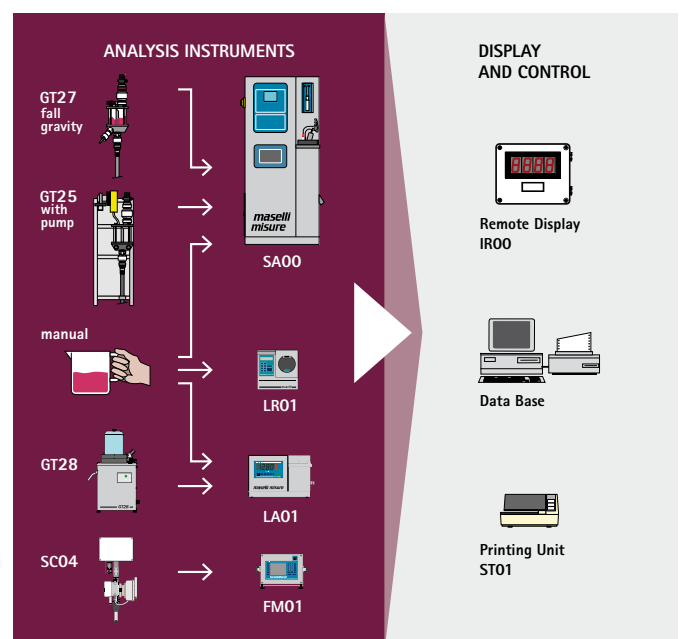
Must transfer between the sampling probe CC01 and the analysis unit SA00 happens by an automatic transfer unit by fall gravity (GT27) or by a transfer pump (GT25) if the analysis unit is distantly located. For analysis unit LA01, the transfer unit GT28 is actuated by a dedicated PLC.

B. Sampling with manual must transfer to the analysis station

The grape must is prepared with the sampling probe CC01 and then transferred to the analysis stations manually.

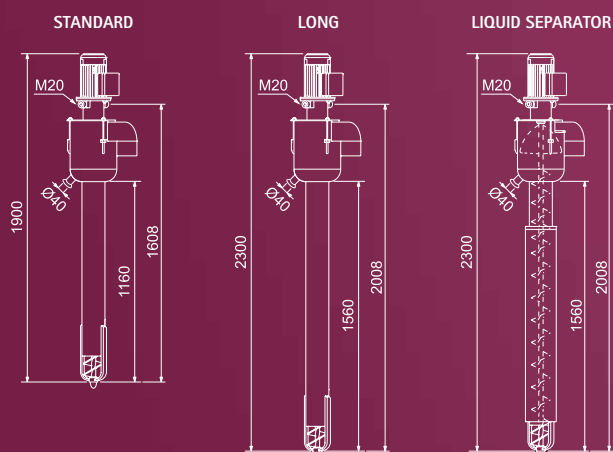
C. Sampling with direct must analysis

With the Analysis System SC04, the must analysis is performed directly on the sampling probe.

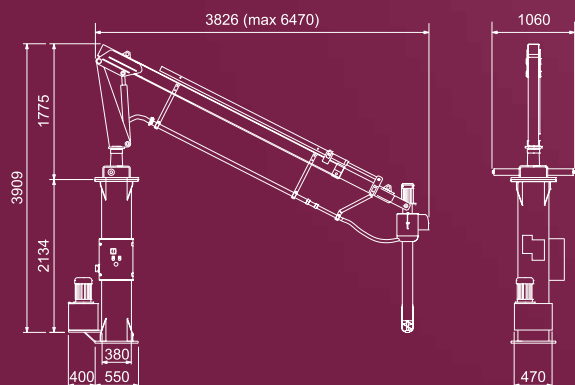


CC01

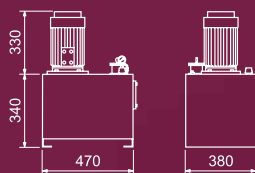
Sampling probe dimensions



Boom dimensions



Hydraulic power pack dimensions



TECHNICAL DATA

BOOM SPECIFICATIONS:

Number of hydraulic extensions:	1
Rotation torque:	300 kgm
Rotation angle	
(mechanical limitations also available):	359°
Hydraulically automated horse-burst valves on all boom cylinders	
2-piece construction: sub-basement and manipulator	
Equipped with base flange with anchor bolts to the foundations	
Electro-hydraulic directional control valve with 3 functions and manual emergency controls	
Sub-base weight:	260 kg
Manipulator weight:	420 kg
Color of boom:	RAL 5003

HYDRAULIC POWER PACK SPECIFICATIONS:

Maximum working pressure:	120 bar
Pump delivery:	12 l/min
Oil reservoir capacity:	45 l
Recommended oil (standard):	type VG 46 hydraulic oil
(hot climates):	type VG 68 hydraulic oil
Complete with pressure gauge, filter with clog indicator and oil level gauge	
Weight of hydraulic power pack:	50 kg

ELECTRICAL SECTION SPECIFICATIONS:

Three-phase power supply:	AC 3/PE 230/400V ±10% 50...60Hz 4.5kW
Electrical panel protection category:	IP 55
Portable remote control module with 10 meter cable, joysticks, with integrated control functions for series SA	
Weight of electrical panel:	30 kg
Weight of portable control module:	1.5 kg

SAMPLING PROBE SPECIFICATIONS:

Constructed in stainless steel	
Electric motor:	1.5 (2) hp 900 rpm
Rotation	
Auger diameter:	130 mm
Reinforced nose bearing assembly	
Must transfer telescopic tube:	stainless steel
"Garolla" quick connections	
Weight:	80 kg