1 Scope

This specification covers the general performance, construction and technical requirements for a Componenti Vending S.p.A. Peristaltic Pump series 630 to be used for dispensation purposes in Vending and Catering Machines.
The detailed performance and installation requirements are reported in the applicable data sheet.
All the peristaltic pumps can be assembled with Componenti Vending gearbox.
The peristaltic pump is NSF ANSI STD-18 approved.

2 Reference Documents

- ***CEI EN 60335-1 (CEI 61-150 - IEC335-1), 2004-04*** "Safety of household and similar electrical appliances: general requirements";
- ***2002/95/EEC*** "RoHS - Reduction of Hazardous Substances" and 2002/96/EEC "WEEE - Waste from Electrical and Electronic Equipment";
- ***2006/42/CE*** "Machinery Safety Directive";
- ***2006/95/CE*** "Low Voltage Safety Directive";
- ***67/548/EEC*** "Dangerous substances Directive";
- ***2004/108/EC*** "Electromagnetic compatibility Directive (EMC)";
- ***NSF/ANSI Std 18*** "Manual Food and Beverage Dispensing Equipment";
- ***EN60529 (IEC529): "*** Classification of degrees of protection provided by enclosures";
- ***IEC85****: "*Classification of insulating materials for motor on the basis of thermal stability**";**
- Spec.no.388 – dwg. SMR2388. Gear motor technical specification;
- Spec. no 1141-dwg. SPP0002 for assembling in machine;
- Spec. no 1013-dwg. SPP6028 punching dimensions reference for assembling without metal plate;
- Spec. no 1014-dwg. SPP6059 punching dimensions reference for assembling with metal plate.

3 Requirements

3.1 General description

The pump is made of: a base, a fixed cover, a removable cover, an under cover sledge and rotor available, with or without springs.
There are also different versions of the guides available for different diameters of the hoses.
Intended for Panel Mounting, in AC and DC versions, offers a minimum and maximum flow rate of 0.21 l/min up to 2.2 l/min.
The pump is normally fitted with a Componenti Vending gearmotor, but can also be fitted with different gear motor on request.
Componenti Vending gearmotors are available in the following electrical voltage and frequency range: 230 V - 50 Hz AC, 117 V - 60 Hz AC and 12/24 V DC.

A.C. motor is normally fitted with a thermal cut out rated 130°C.
DC motors fitted with an encoder are available on request.

3.2 Installation and operating procedure

The pump is intended for use in vending/catering machines or similar to be installed in a suitable metal cabinet.
For installation procedure see Spec.1141 and 1013 for pump without sheetmetal or spec. 1014 with sheetmetal.
When the pump is supplied with a support it can be fitted by means of three screws.
The gear motor is fixed either to the support or to the sheetmetal cabinet by means of four screws.
The pump can be operated continuously or on a standard duty cycle 7 sec on / 8 sec off at an ambient temperature from -4°C up to 60°C depending on the motor version (performance is subject to working temperature, where not specified the performance figures refer to a standard working temperature of 20°C).
The pump is normally fitted with guides depending of the diameter of the hose.
Minimum and Maximum liquid temperatures depend on hose size, ageing, and on the type of fluid in order to avoid freezing or evaporation and possible cavitations during pumping.
We recommend :

- Correct assembly of the hose in the peristaltic pumps to avoid spillage, hose restriction or obstruction of flow.
- Control correct assembly of both gear motor and peristaltic pump.
- Installing the pump inside the machine inside to facilitate regular servicing.

Description of the series:

- S633: with DC gear motor or without gear motor. If the code is 630A0000x, means peristaltic pump without motor, otherwise with DC gear motor series 261 or 265.
- S634: with AC gear motor series 269.

3.3 Tubing

The peristaltic pump series 630 can be used with hose wall thickness from 1.6mm to 2.4mm thickness. The max. external diameter of the hose that can be used is 12.8mm and the minimum diameter 6.4mm. The material of the hose depends on the specific application.
The pump is normally supplied without hose. Componenti vending can supply different hose diameters and materials on request, in particular:

- Silicone (translucent food grade hosing which is odourless, non-toxic, and has FDA approvals): 3.2x6.4 - 4.8 x 8.0 - 6.4 x 9.6- 8.0x11.2 mm
- Santoprene (271-64) (Long tube life. Carrying FDA food grade approval. Hose life expectancy can to be up to 10 times the life of other hosing. Excellent chemical compatibility): 3.2x6.4 - 4.8 x 8.0 - 6.4 x 9.6 - 7.5 x 10.7mm

Other hose materials are available on request.

Always consult Componenti Vending spa for advice on hosing.

Life expectancy of the hose will be determined by factors such as temperature, back pressure, pump speed and chemical compatibility. To achieve optimum hose durability the peristaltic pump must be installed using the following guidelines:

1. High pump speeds equals less hose life.
2. Avoid restrictions in outlet and keep the pump discharge head to a minimum.
3. Be careful when aligning the hose with respect to roller (must be centred) and avoiding any sharp bends passing through.
4. Avoid dry running.
5. Minimise suction lift.
6. Choose a hose material that is chemically compatible with your fluids
7. Ideal maximum pressure is 1 bar.

3.4 Dimensions

For all dimensions see applicable data sheets

3.5 Colour

The pump is produced in black plastic; the inner cover, the guides and the rollers are in white plastic.

3.6 Finish

The external surfaces are not treated.

3.7 Performances

1) Flow rate from 0,21 to 2.2 l/min max. See applicable datasheets for more details.
2) Maximum differential pressure: 3 bar
3) Fluid temperature: from 4°C to 98°C;
4) Life: two years minimum, or 200,000 duty cycles 7”on/8” off at an average external temperature of 20°C (no guarantee on hosing, rollers, brush wear or damage after installation) using Componenti vending gearmotors.
5) Electrical rating (see applicable data sheet)

a) 230V AC– 50Hz, 117 V AC– 60 Hz (*), 24/12 V dc:
   i) Voltage 230 V / 117 V / 24 V /12 V -15% / +10%
   ii) Frequency 50 Hz – 60 Hz +/- 10%
   iii) Ambient temperature from 0° to 60°C
   iv) Insulation: class B
   v) Normal cycle 7 sec on / 8 sec off
   vi) Dielectric strength: 50 Hz, 1000V+2*Vn (Nominal Voltage)

(*) Could be powered also at 110V AC/50Hz

3.8 Maintenance

The pump operates without recurring maintenance. Simple operation to substitute internal hosing. Foreign material (sand, water, dust, dirt, metallic parts or similar) could possibly damage either the motor (IP20) the housing or the shaft, therefore adequate internal protection must be considered during handling, installation and maintenance.

All electrical connections must be appropriate to motor rating, and in a manner to avoid risk of electrical hazard.
The machine installation must be provided with a suitable electrical enclosure in accordance with end-use Standards.

3.9 Environmental Conditions

Operation ambient temperature: from -4°C to 60°C

3.10 Material

Group	Type	Material	Employed
	PA6 60%FV	PA6-Nilamid BXP 13301 Black	Base and fixed cover
	PA6 60%FV	PA6 60%FV - Nilamid BXP133-01 Black	Roller assembly Cover and rollers support
	POM	POM Hostaform C13031 Natural	Inner cover, rollers, tube guide and hose support
Metal	Various	Stainless steel , bronze , low carbon steel,	Shaft, Roller shafts, Spring, Screws and plate support

For Gear motor materials refer to applicable technical specification.
All the materials are conform to the 2002/95/CE RoHS directive.

3.10.1 Toxic, hazardous substances, and ozone deployment chemicals

Non toxic, hazardous substances and ozone deployment chemicals are used.
Plastic materials used are classified as non dangerous in accordance with EC/67/548
During combustion the plastic material could produce carbon monoxide or dioxide.
Overheated could produce Toxic exhalation of metallic oxide.

3.10.2 Recycled, recovered, or environmentally materials

All metal parts can be recycled.
All the plastic parts are designed for an easy disassembling.
All the plastic materials can be burned in approved site according to local regulation

3.11 Electromagnetic radiation

Electromagnetic behaviour must be characterised in the machine according to 2004/108/EC.
The Componenti DC gearmotor is available also with suppressor to reduce electrical disturbance. Shade poles AC motor are classified as "inherently benign equipment".

3.12 Product marking

Each pump is fitted with label with NFS logo, the electrical rating, Componenti logo and production week.
The 117V AC motors are also available in UL version marked as UL recognised component.

Part Numbers, Description, NSF logo, and Customer P/N and orderd are reported on the label on packaging.

3.13 Interchangeability

All spare parts can be substituted without reworking or adaptation.
To fit the pump head to the gearmotor proper alignment will be necessary.

3.14 Safety

The pump can be opened with the rotor assembly in motion. A switch to detect the cover position is available on request. During maintenance or hose positioning be assured there is no possibility to start the gearmotor. For gearmotor, see applicable specification.

3.14 Human Factors

The pump can be fitted, and removed using a standard screwdriver. A tool is required to the align the pump with the gearmotor.
The hose can be positioned or substituted without the use of any hand tool.

4 Conformance inspection

All pumps are fully tested before despatch. The following tests are conducted prior shipment:

- AC motor insulation system.
- Functional testing (free rotation without fluid).
- Performance tests (current, voltage and flow rate)

5 Packaging

Peristaltic pumps, assembled with componenti vending gearbox S265, are normally packaged in single boxes (2 peristaltic pumps per box).
In each master carton there are 4 single boxes, totalling 8 peristaltic pumps.
48 master cartons will fit on one pallet which is equivalent to 384 single units.
Different quantities if packaged disassembled or with other gearboxes. Please contact Componenti Vending for further information.