

# G5® VIBROTHERAPY GUIDE



## INTRODUCTION

### Therapeutic use of mechanical vibratory waves.

#### Introduction

Mechanical vibratory waves (sonic, infrasonic and ultrasonic) have been widely used for many years in physiotherapy, massotherapy and in functional rehabilitation. Sonotherapy, or Vibrotherapy, consists of applying low frequency mechanical vibrations to the skin, the initial wave vector.

It combines the effects of massage, heat and mobilisation of the subcutaneous tissues and deeper zones following the directional flows created by the vibrations.



#### Mechanical vibratory waves

Vibration causes longitudinal mechanical waves, characterised by a succession of compressions and decompressions of the material concerned.

Mechanical waves consist of a periodic oscillatory movement defined by frequency and amplitude.

Vibratory waves are ranked according to their frequency :

- 0 – 20 Hz : infrasonic waves
- 20 – 20 000 Hz : sonic waves
- > 20 000 Hz : ultrasonic waves

The denser the medium, the higher their propagation velocity : 340 m/sec through air, 1500 m/sec through water and muscles, 3000 m/sec through bone, and 5000 m/sec through glass and steel.

For in-depth propagation of mechanical waves, vibrations must be applied vertically to the surface.

Vibrations not applied vertically produce mechanical waves that effect only the surface of the skin.

Depending on the treatment, mechanical waves can be reflected, refracted, absorbed, focused or diffracted.

#### PHYSIOTHERAPIE GENERALE FRANCE S.A.

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

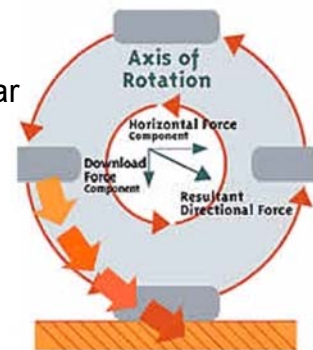
## Infrasonic waves

These extremely low frequency vibrations (<20 Hz) are obtained by an eccentric rotary system which produces waves that are passed along several axes.

For application to the skin, these vibrations can be manual or instrumental. The advantage of instrumental vibrations is that their frequency, amplitude, power, time of application and force exerted can all be very precisely adjusted.

Mechanical vibrations can therefore be applied over periods of time, with both consistency, regularity and without any of the tire fatigue to manual techniques.

The G5® appliances produce vibrations which can be perpendicular or tangential to the skin with vibrations which are simultaneously perpendicular and tangential.



The G5® system equipped with various applicators designed to optimise the effects of the vibrations not only according to the treatment but also to the sensitivity of the body zone being treated.



## Properties of infrasonic waves

Infrasonic waves produce general effects, on the respiratory function, and on bronchial clearance.

### THE G5® SYSTEM GENERAL EFFECTS :

Infrasonic frequencies produce analgesic, trophic, myo-relaxing and fibrolytic effects.

### WHEN APPLIED PERPENDICULARLY, LOW FREQUENCY VIBRATIONS CAN HELP

- the diffusion of intramuscularly injected fluids,
- in the treatment of contractures and discopathies of a patient when in a horizontal position.

### WHEN APPLIED TANGENTIALLY, LOW FREQUENCY VIBRATIONS

- give extra suppleness to fibrous scars,
- give extra suppleness to adhesions and hardening of subcutaneous tissues (reflex zones, cellular pain).



### EFFECTS ON THE RESPIRATORY FUNCTION

Mechanical vibrations improve arterial oxygenation and the respiratory function.

### EFFECTS ON BRONCHIAL CLEARANCE

It can be observed that the application of G5® infrasonic vibrations on the thorax during a session of respiratory rehabilitation, appears to facilitate and improve the results of AFE manoeuvres and controlled expectoration.



## General effects continued:

The patient has a feeling of comfort and relaxation, making it a highly motivating and enhancing technique, complementary to active, manual techniques.

Studies on the value of mechanical vibrations in respiratory rehabilitation have shown that vibratory techniques appear to produce a positive change in gasometry, ventilatory volumes, ventilatory frequency, expiratory time, dyspnea and bronchial clearance.



As far as bronchial clearance is concerned :

- the operational frequency of the G5® system should be under 25 Cycles per Second with the optimal frequency being set at around 13 Cycles per Second
- application should be perpendicular to the thoracic wall.



## Effects on the skin and underlying tissues

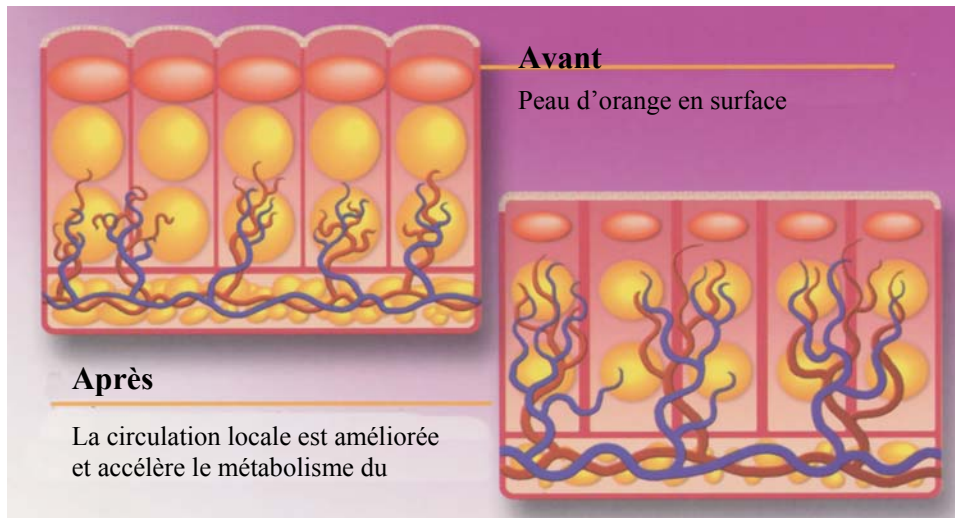
- Stimulation of the peripheral capillary circulation by friction of the skin resulting in cutaneous hyperemia. Actions: increases cellular metabolism and oxygenation of the tissues.
- Modification of cellular permeability. Results in better penetration of active ingredients.
- Cellular stimulation and tissular regeneration results from the trophic effect of the vibrations.
- Analgesic action by stimulation of the intradermal and hypodermal receptors.
- Mobilisation of the sub-cutaneous tissues by stimulation and massage.

**PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293



## G5® effects on the vascular and lymphatic system

- Stimulating, action enhancing lymphatic and blood circulation.
- Vasotonic arterial stimulation.
- Peripheral vasodilatation.

## G5® effects on muscles

- Decongesting, defibrotic and dilacerating action,
- Vasomotor action, superficial and deep drainage of the muscles,



- Stimulation of the articular, tendinous and muscular mechanical receptors.
- Stimulation and massage of the muscles: maintenance of muscular tone, muscular recovery, elimination of toxins (trophic action).

## G5® system effects on the Central Nervous System

Low frequency vibrations induce a state of relaxation evidenced by EEG.

## Techniques for the application of mechanical vibrations

The G5® massage machines produce mechanical vibrations which can be perpendicular and or/ tangential to the tissues. The mechanical vibrations are transmitted through applicators fitted to the oscillating head of the applicances.

Various types of applicator have been made, their structure and shape being designed to correspond to specific body areas and applications.



AP223



AP225S



AP227



AP228SD

The G5® applicators can be used with massage creams, oils, balms, or with a special therapeutics creams.

A detailed description for the use of each applicator attached to this guide.

The G5® applicators are moved over the skin in various ways :

- Smooth, light strokes
- Smooth, deep strokes
- Smooth, circular strokes



## Adjustment of the vibratory frequency ranges.

The G5® appliances are all equipped with a system for the adjustment and setting of the vibratory frequency, generally from 0 to 60 Cps (Cycles per Second). The vibratory frequency is adjusted according to the body area treated, to the therapeutic effect required and to the nature of the applicator.

## Therapeutic indications

There is a wide range of therapeutic indications for G5® vibrotherapy , backed by over 50 years of studies, analyses, experience and reports.

### Surgical indications

- **Peripheral circulatory disorders :**

- after effect of phlebitis
- arteritis
- trophic varicose disorders
- acrocyanosis

- **Traumatic after effects**, especially joint stiffness, the disappearance of which as a result of vibrations causes a better active mobilisation and a faster recovery.

- **Recent trauma :**

- massage after removal of a plaster cast (combats stiffness, reduces muscular atrophy, and enhances proprioceptive rehabilitation)
- substantially reduces oedemas.



### Medical indications :

- **treatment of nervous hypertonia**, with anxiety, insomnia

- **treatment of neurovegetative dystonia :**

- intestinal
- hepatic
- cardiac

- **treatment of cellulitis**



AP216



AP217SD



AP222

#### PHYSIOTHERAPIE GENERALE FRANCE S.A.

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## Local treatments

These indications include above all rheumatic, post-traumatic and even visceral pain.

- recent or old sprains
- painful after effects of a fracture
- post-traumatic stiffness or following immobilisation in a cast
- post-traumatic oedema
- myalgias
- lumbagos
- torticollis
- peri-arthritis
- arthritic pain
- sciatica
- neuralgias.

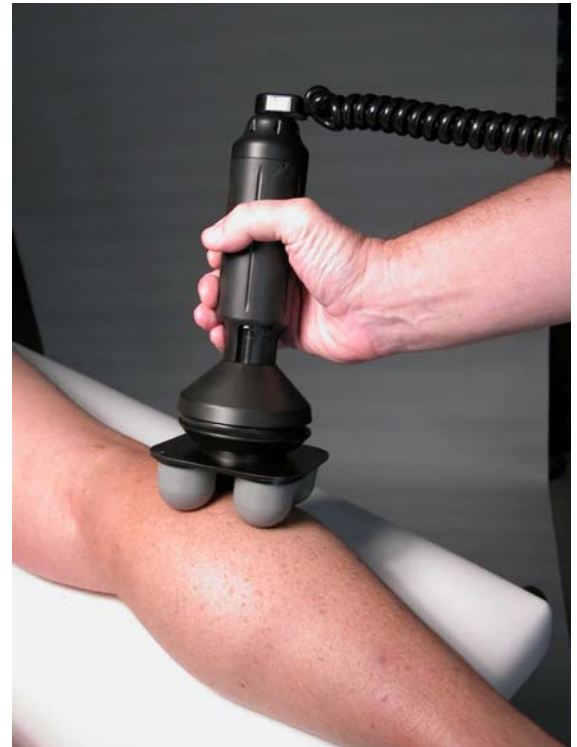


## Therapeutic use of low frequency G5® vibrations

### Summary table

Applications :

Physiotherapy / Massage /  
Functional rehabilitation



Respiratory physiotherapy /  
Bronchial clearance

**PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## General recommendations and maintenance of G5® appliances

Never leave your G5® unit on when it not in use. It is designed to work “ under load”.  
Turn your G5® appliance on only once you are ready to use it on your patient.

Avoid pinching or kinking the cable.

Start at a slow speed when cold. Your G5® appliance must be started up slowly whenever it has been kept in a cold place, as the permanent lubricant in the hose becomes thicker. If the appliance appears to be struggling because of the cold, pull it out over its entire length for a few minutes.

Never lubricate or oil your G5® appliance yourself. All the bearings are sealed. The hose is sealed and self-lubricated.

Cleaning of G5® appliances. Use a mix of soap and warm water to clean the outside of the appliance. Never use alcohol or over-aggressive cleaning products which will discolour the appliance and will also invalidate the warranty. All the accessories and applicators are to be cleaned in the same way.



## Maintenance and repair.

Under normal conditions of use, your G5® appliance will give you total satisfaction for many years. Should any mechanical problem occur in time, however, contact us or your dealer. Major repairs are to be performed in our workshops. Minor repairs can be handled by your local, approved dealer.

Handling the massage head. Hold the base of the massage head rod between your fingers and thumb, like a pen, with the fingers covering the base of the head (see photo). This ensures maximum control and minimum fatigue.

Always keep your “free hand” in contact with the patient / client.



### **PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## G5® Applicators / Description



### Percussion Adaptor N° **AP209FR**

Fitted to the oscillating head of the G5® appliances, this transforms tangential vibrations into directional vibro-percussions.



### Applicator N° **AP210**

Small diameter applicator in polyurethane foam. Must be used with the disposable protection covers N° AP234



### Applicator N° **AP212**

Slightly larger applicator in polyurethane foam. Can be used with the disposable protection covers N° AP235.



### Applicator N° **AP215S**

Multi-stud applicator in silicone.  
Anti-allergenic.



### Applicator N° **AP216**

Applicator fitted with 4 polymer balls for extensive muscular massage.



### Applicator N° **AP217SD**

Semi-spherical silicone applicator.



### Applicator N° **AP222**

Medium-sized conical applicator for stimulation of painful points.



### Applicator N° **AP223**

Applicator with 2 massage heads for para-vertebral muscles.



### Applicator N° **AP225S**

Multi-stud applicator in silicone for cutaneous friction.

### PHYSIOTHERAPIE GENERALE FRANCE S.A.

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293



Applicator N° **AP226SD**  
Flat multi-facet applicator in silicone.



Applicator N° **AP227**  
Conical applicator for precise stimulation of painful trigger points.



Applicator N° **AP228SD**  
Hollow applicator to hold ice or hot water.



Applicator N° **AP229SD**  
Large silicone applicator used with a massage cream / oils and in bronchial clearance techniques.



Applicator N° **AP230**  
Curved applicator in removable polyurethane foam. The ideal special applicator for lymphatic drainage. Can be used with its protective cover N° AP236.

**Notes : the polyurethane foam applicators should not be applied directly on the skin without any adjuvant or massage product (oil, cream, etc.) and for hygiene recommended to use their protective cover.**



For use with these products, they must be protected with the appropriate, disposable cover (covers N°AP235 and AP236 for applicators N°AP212 and AP230).

Use Only  
Genuine



Applicators


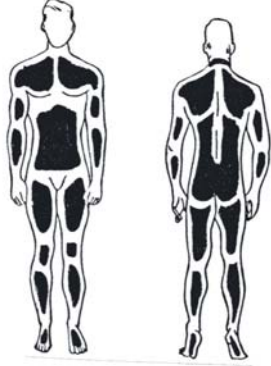


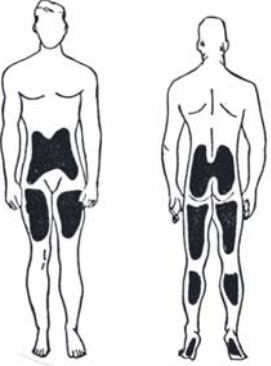

**PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

**APPLICATIONS**  
**PHYSIOTHERAPY / MASSAGE / FUNCTIONAL REHABILITATION**

Ref. Applicator	Product	Body Zone	Applications	Frequency of use (Cps)	Max. time (mn)	Method
<p><b>AP210</b> <b>AP212</b> with microfibre covers 234/235</p>			<p>Application without adjuvant directly on the skin. Massage of hyposensitive zones.</p>	<p>30-45 Cps</p>	<p>5-7 mn</p>	
<p><b>AP215S</b></p>			<p>Silicone over-moulded applicator. Deep muscular massage. Action of petrissage. Trophic &amp; circulatory massage.</p>	<p>15-45 Cps</p>	<p>5-10 mn</p>	


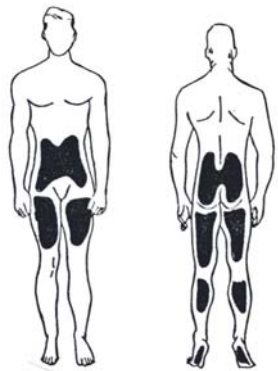


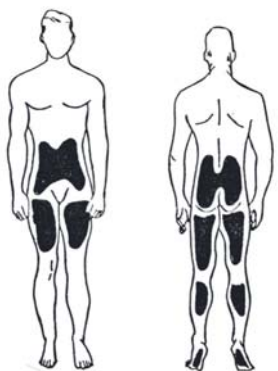

**PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljalous France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## APPLICATIONS PHYSIOTHERAPY / MASSAGE / FUNCTIONAL REHABILITATION

Ref. Applicator	Product	Body Zone	Applications	Frequene of use (Cps)	Max. time (mn)	Method
AP216			Massage of the lumbar zone, paravertebral muscles. Deeper action than the AP215 applicator. To favour on sensitive zones.	10-30 Cps	15 mn	
AP217			Recommanded for plantar reflexotherapy & abdominal massage with massage adjuvant. Abdominal peristaltic massage. Application on paravertebral muscles.	30 Cps	10-15 mn	


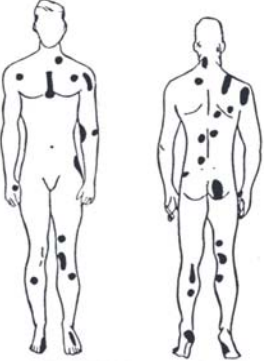


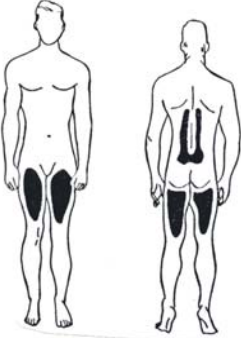

### PHYSIOTHERAPIE GENERALE FRANCE S.A.

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## APPLICATIONS PHYSIOTHERAPY / MASSAGE / FUNCTIONAL REHABILITATION

Ref. Applicator	Product	Body Zone	Applications	Frequenece of use (Cps)	Max. time (mn)	Method
AP222			Massage of painful points « trigger points ». Painless designed action. Plantar reflexotherapy. Proprioceptive stimulation.	45-50 Cps	1 mn on each stimulated point	
AP223			Massage of the dorsal-lombar zone. Trophic massage of the important muscle masses.	30-45 Cps	10 mn	


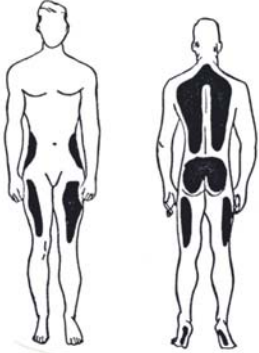


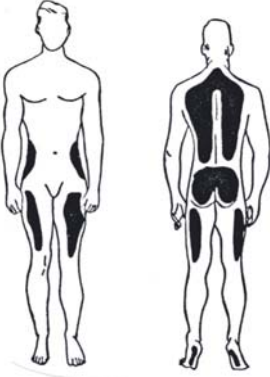

**PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## APPLICATIONS PHYSIOTHERAPY / MASSAGE / FUNCTIONAL REHABILITATION

Ref. Applicator	Product	Body Zone	Applications	Frequency of use (Cps)	Max. time (mn)	Method
AP225S			Application by superficial massage. Cutaneous rub effect.	30-45 Cps	30 to 45 seconds	
AP226S			Application by superficial massage. Cutaneous rub effect.	30-45 Cps	2 mn	


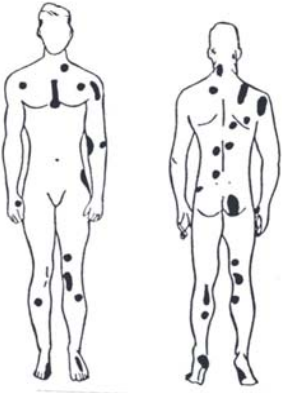


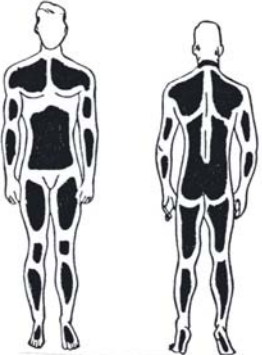

### PHYSIOTHERAPIE GENERALE FRANCE S.A.

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## APPLICATIONS PHYSIOTHERAPY / MASSAGE / FUNCTIONAL REHABILITATION

Ref. Applicator	Product	Body Zone	Applications	Frequency of use (Cps)	Max. time (mn)	Method
AP227			Thin hard rubber cone with smaller diameter. Action more precise on trigger points.	45-50 Cps	1 mn on each stimulated point	
AP228SD			Cold or hot contact application (whether filled with ice or hot water). Use a massage adjuvant or a patent medicine.	30-45 Cps	5 mn with ice 10 mn with heat of contact	


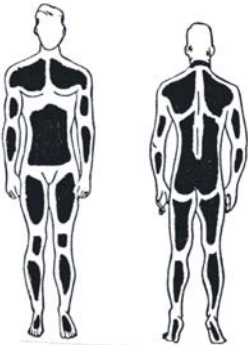


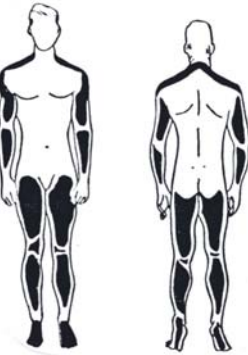

### PHYSIOTHERAPIE GENERALE FRANCE S.A.

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293

## APPLICATIONS PHYSIOTHERAPY / MASSAGE / FUNCTIONAL REHABILITATION

Ref. Applicator	Product	Body Zone	Applications	Frequency of use (Cps)	Max. time (mn)	Method
AP229SD			Identical use as the AP212 applicator with massage adjuvant. Also used in bronchial clearing techniques.	30-45 Cps	7 mn	
AP230 with microfibre covers AP235 AP236			Special limb drainage. Its shape fits the segments outline. Both deep & superficial action in the venous return direction.	10-30 Cps	5 mn	

**PHYSIOTHERAPIE GENERALE FRANCE S.A.**

B.P. 18 - Z.I. Belloc - 47700 Casteljaloux France Tel: (33) 553 930 425 Fax : (33)553 935 381

e-mail : [pgf@G5europe.com](mailto:pgf@G5europe.com) web site : [www.g5europe.com](http://www.g5europe.com)

Siret: 334 214 293 00030 Code APE 331 B N° TVA FR 63 334 214 293