



Suction Controllers

(High, Medium and Low Suction
With and Without Collection Jar)

proven through performance



User Manual

Manual No. SUC 91005 240
Issue 15

Safety

Thank you for purchasing this Clements Suction Controller

For your safety it is imperative that this unit only be operated by authorised personnel in accordance with the instructions as described in this manual. Operated in this way, the Suction Controller will provide years of service.

Due to continual improvements in product design, the Suction Controller may vary in detail from the descriptions in this manual. In the event of further questions please contact your local distributor or BMDi TUTA Healthcare direct.

User Manual Suction Controllers

Manual Number SUC 91005 240 Issue 15

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Intended Use

To vary the vacuum level of a continuous vacuum source, within the stated operating vacuum range, for the aspiration of fluids and particulate matter in medical procedures carried out by clinically trained and authorised personnel.

Specifications

All Suction Controllers

	Standard	With 300ml Jar antibacterial	With 500ml Jar
Height	195 mm	335 mm	350 mm
Width	60 mm	70 mm	70 mm
Depth	105 mm	105 mm	105 mm
Weight	510 g	555 g	535 g
Filter	Porous Bronze Filter	HEPA Filter Paper	nil
Overfill Protection	Float Valve		
Duty Cycle	Continuous		
Collection Container	Polycarbonate jar, Autoclavable to 121°C		
Ambient Temperature	+5°C to 35° C		
Standard Conditions	25°C, Sea Level, 101 kPa		
Australian Standard	AS 2120.3		
ARTG Listing	174684		
GMDN	37780		
Class	Class I (EU Class IIa)		

Specifications

High Vacuum High Flow Controllers

Connector	Catalogue Number
JIS T7101	SUC89220
Ohmeda	SUC89230
Ring Index - AS 2896	SUC89240
1/8 BSP Threaded	SUC89241
BS MKIV (BS 5682)	SUC89242
Puritan Bennett	SUC89243
Drager	SUC89259

Specifications

High Suction Controllers

Vacuum Range	0 to –96 kPa [0 to –720 mmHg]
Flow Rate	50 litres/minute
Gauge	Bourdon Tube type Dual scale, graduated in kPa and mmHg
Gauge Range	0 to -100 kPa, graduated at 5 kPa 0 to – 760 mmHg graduated at 20 mmHg

Infant Medium Vacuum High Flow Controllers

Connector	Catalogue Number
JIS T7101	SUC89221
Ohmeda	SUC89231
Ring Index - AS 2896	SUC 89249
1/8" BSP Threaded	SUC 89254
BS MKIV (BS 5682)	SUC 89279
Puritan Bennett	SUC 89277
Drager	SUC 89280

Specifications

Medium Suction Controllers

Vacuum Range	0 to –60 kPa [0 to –450 mmHg]
Flow	50 litres/minute
Gauge	Bourdon tube type Dual scale, graduated in kPa and mmHg
Gauge Range	0 to –60 kPa, graduated at 2 kPa 0 to –450 mmHg graduated at 10 mmHg

Specifications

Low Vacuum High Flow Controller

Connector	Catalogue Number
JIS T7101	SUC89222
Ohmeda	SUC89232
Ring Index - AS 2896	SUC89250
1/8" BSP Threaded	SUC89260
BS MKIV (BS 5682)	SUC89252
Puritan Bennett	SUC89274
Drager	SUC89276

Specifications

Low Suction Controllers

Vacuum Range	0 to -20 kPa [0 to -150 mmHg]
Flow	20 litres/minute
Gauge	Diaphragm type Dual scale, graduated in kPa and mmHg
Gauge Range	0 to -25 kPa, graduated at 1 kPa 0 to -180 mmHg graduated at 5 mmHg

Transportation and Storage

Environmental conditions for transportation and storage are shown in the following table.

Parameter	Minimum	Maximum
Temperature	10°C	40°C
Humidity	60% RH	95% RH
Barometric Pressure	700 mBar	1060 mBar

Warning Symbols Legend

The warning symbols marked on the equipment and their meanings are shown as follows.



Caution, consult accompanying documents

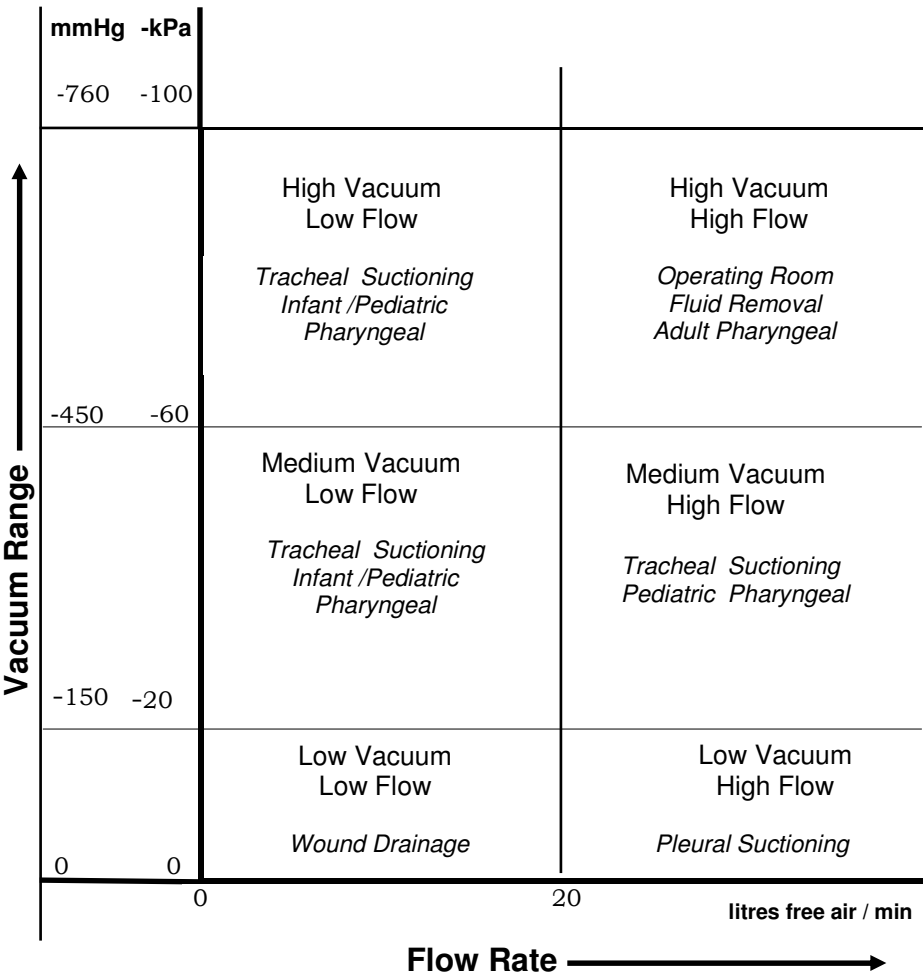
Waste Materials

The contents of the collection jars, suction tubing, bacteria filter, internal exhaust filter may contain biohazard wastes. Handle using safe handling procedures, which may include the use of rubber gloves and eye protection, and dispose of according to local protocols for biohazard materials.

Recycling

At the end of their service life, the Controller should be dismantled if necessary, and returned to a local materials recycling centre.

Vacuum and Flow Range Definitions



The above graph shows the range of vacuum and flow levels as defined in Section 1, Clause 2 *Terminology and Definitions* of AS 2120.3 1992 for Medical Suction Equipment and some typical applications.

Installation and Operation

Please Note !

As can be seen from the graph on the previous page Clements suction controllers are suitable for a range of applications requiring different vacuum levels. It must be noted however, that to avoid potential harm to patients, it is extremely important that the appropriate model is used for each application.

High Suction for *High* Suction applications ONLY

Medium Suction for *Medium* Suction applications ONLY

Low Suction for *Low* Suction applications ONLY

All Controllers

Carefully examine the suction controller for any visual signs of damage that might have occurred during shipment.

Attach the suction controller to the wall outlet with the index handwheel or relative connector.

For High Suction Controllers

- 1 Ensure control knob is turned OFF.
- 2 Occlude the inlet port at the bottom of the plastic hose tail or at the tubular inlet / outlet nozzle if a collection jar is fitted.
- 3 Turn on full vacuum by rotating the control knob fully clockwise. The reading should be equal to the pipeline vacuum.

For Low and Medium Suction Controllers

- 1 Ensure control knob is turned OFF.
- 2 Occlude the inlet port at the bottom of the plastic hosetail or at the tubular inlet / outlet nozzle if a collection jar is fitted.
- 3 Slowly turn on vacuum by rotating the control knob clockwise.
- 4 When fully open, the gauge reading should **NOT** read above -20 kPa [-150 mmHg] for Low Suction and -60 kPa [-450 mmHg] for Medium Suction.
- 5 If readings are above these levels then the procedure is as follows:
 - Turn off vacuum.
 - Check safety blow back valve by pressing the ball located on the bottom of the controller body inwards a couple of times.
 - Repeat steps 2 – 4 above.

If readings are still above maximum level contact your engineering dept., Clements distributor or Clements direct.

General Usage

To set the controller to desired setting.

- 1 Occlude inlet.
- 2 Wind controller control knob to register higher than required setting.
- 3 Allow setting to stabilise.
- 4 Slowly wind back controller knob to required level
- 5 Release inlet.
- 6 Occlude inlet and check the unit returns to set level.
- 7 Release inlet, then apply to patient.

Spare Parts

SUC 80253	Vacuum Gauge for Low Vacuum Products, Bottom Entry, Vacuum Range 0 to –25 kPa
SUC 80330	Vacuum Gauge for High Vacuum Products, Bottom Entry, Vacuum Range 0 to –100 kPa
SUC 80970 001	Plastic Hose Tail with O Ring (Pack of 20)
SUC 89107	Service Kit for Controllers
SUC 89140 038	KIT Ring Index Connector for Low Vacuum Controllers, and Venturis. (Hand wheel, 1/8" BSP Threaded Nipple, and O-Ring)
SUC 89140 085	MAK 300 antibacterial canister with lid
SUC 89160 004	Vacuum Gauge for Medium Vacuum Products, Bottom Entry , Vacuum Range 0 to -60 kPa.
SUC 89240 019	Puritan Bennett Connector with 1/8" BSP Thread
SUC 89240 069	KIT Knob Replacement for Suction Pumps and Controllers (Vacuum Control Knob, Screw)
SUC 89240 074	BS MKIV Connector with 1/8 BSP Thread
SUC 89240 080	Adaptor for connecting MAK canisters to Controllers
SUC 89240 081	MAK 500 canister with lid
SUC 89240 084	MAK 500 Jar only

Spare Parts (continued)

SUC 89240 086	Lid Only for MAK 500 Jar
SUC 89240 088	MAK 300 jar only
SUC 89240 090	HEPA bacterial filters (pack of 20)
SUC 89250 006	Drager Connector with 1/8" BSP Thread
SUC 89310 001	Porous Bronze Filter (Pack of 20)
SUC 89771	Ring Index Connector Kit for Wall Suction Products (Hand wheel, 1/8" BSP Threaded Nipple, O-Ring)
SUC 91005 240	User Manual for Suction Controllers

Troubleshooting

Fault	Check	Rectify
No Vacuum / Flow	On / Off Knob Wall outlet blocked Body blocked Filter blocked	Ensure turned on Refer to engineering dept. Strip and clean Clean or replace
Gauge Faulty	Check against master gauge	Replace
Bronze Filter	Damage or corrosion	Autoclave, wash

Cleaning and Sterilisation : Controller

Warning

Do not immerse or autoclave the Controller unless the gauge, plastic handwheel, and nozzle have been removed.

Cleaning

Clean using a pH neutral disinfectant for wiping or immersion cleaning. Flush after immersion using distilled water and dry before reassembly of the Controller.

Sterilisation

The Controller may be safely autoclaved at 121°C for 15 minutes, once the gauge, plastic handwheel, and nozzle have been removed.

Cleaning and Sterilisation : Jar

Cleaning

Clean using a pH neutral disinfectant for wiping or immersion cleaning. Flush after immersion using distilled water and dry before reassembly of the Jar.

Sterilisation

The MAK collection jar and components are all autoclavable. The jar and components may be safely autoclaved at 121°C for 15 minutes.

Tools and Materials Required

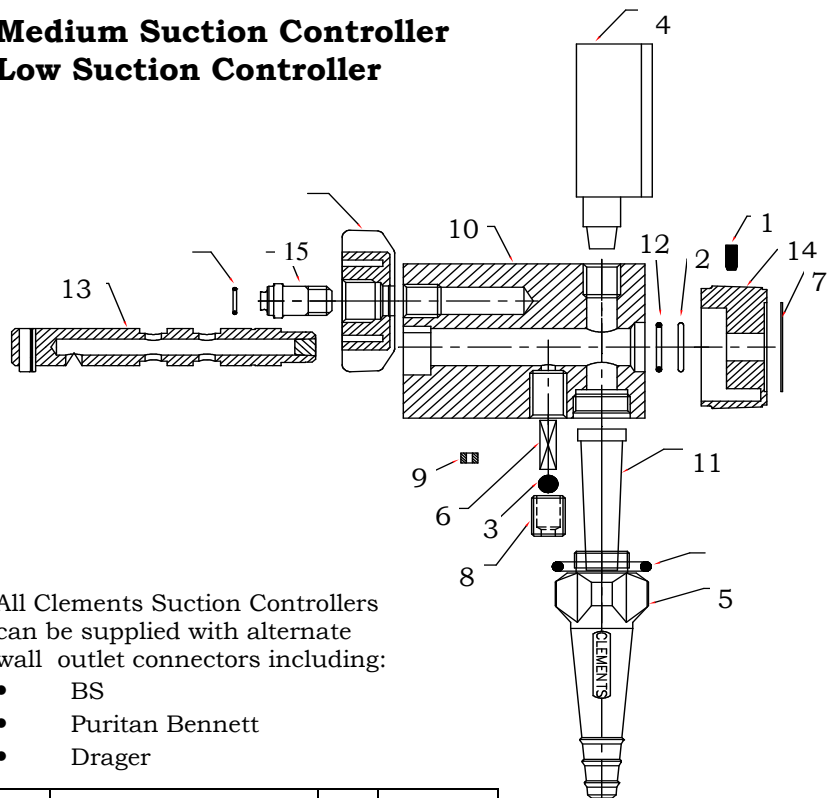
- 1 Small adjustable spanner
- 2 Circlip pliers
- 3 Allen key set, imperial
- 4 Vacuum grease
- 5 Can of spray, Dow Corning Molykote D-321R Sealer

Cleaning and Sterilisation

Disassembly Procedure

- 1 Remove unit from wall.
- 2 Remove the hand wheel by inserting an allen key into the brass nipple in the centre of the hand wheel. Make sure the allen key is pushed home into the brass nipple before unscrewing.
- 3 Remove the gauge.
- 4 Remove the bronze filter by unscrew plastic nozzle.
Replace the bronze filter if damaged or discoloured.
- 5 Remove the yellow knob by inserting an allen key into the side of the knob and pull off.
- 6 Remove the circlip and O-Ring (O-Ring fitted to current models only).
- 7 Push the bronze shaft out by gently twisting and pushing. Once the shaft is out, gently clean the shaft with a soft brush using a degreaser. Wash and blow-dry. Use the same care when cleaning out the bore in the controller body.
- 9 Coat the shaft with Molykote surface spray and let dry.
- 8 Coat the bore in the body liberally with vacuum grease.
- 10 To assemble - reverse the order.
- 11 To test - knob should be firm and smooth to turn. Vacuum when tested should read the same as the vacuum source. Flow should have a max of 2-3 lpm loss only.
- 12 Clean any vacuum grease off the body.

Medium Suction Controller
Low Suction Controller



All Clements Suction Controllers can be supplied with alternate wall outlet connectors including:

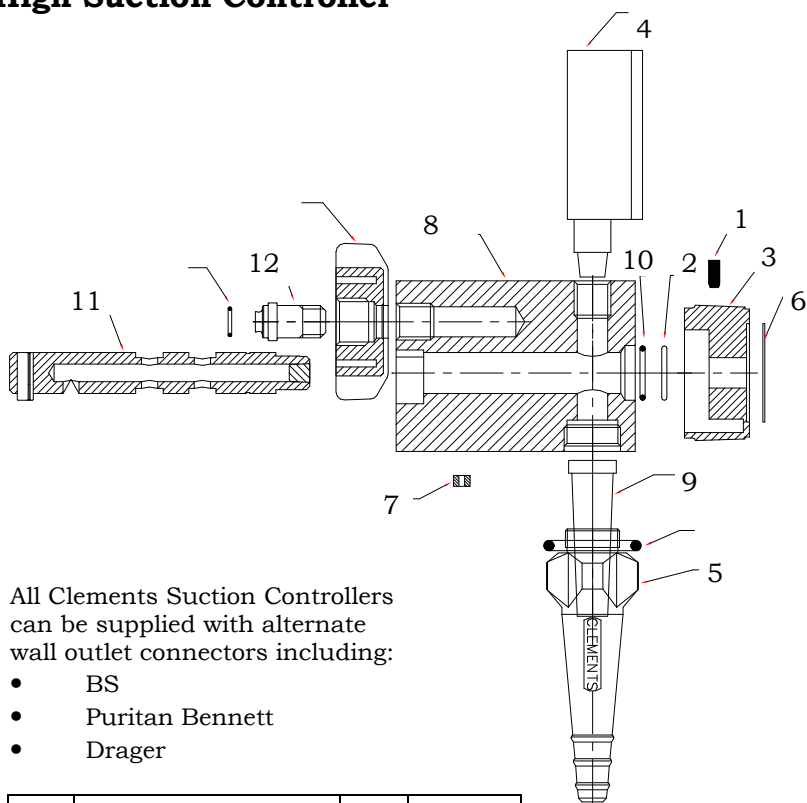
- BS
- Puritan Bennett
- Drager

1	Screw	9	Plug
2	Circlip	10	Body
3	Ball	11	Filter
4	Gauge	12	"O" Ring
5	Hosetail with "O" Ring	13	Shaft
6	Spring	14	Knob
7	Label	15	Nipple
8	Body, Safety Valve		

All Controllers are available with a 1/8" BSP Threaded Inlet to allow the connector of your choice to be fitted.

Parts List

High Suction Controller



All Clements Suction Controllers can be supplied with alternate wall outlet connectors including:

- BS
- Puritan Bennett
- Drager

1	Screw	7	Plug
2	Circlip	8	Body
3	Knob	9	Filter
4	Gauge	10	“O” Ring
5	Hosetail with “O” Ring	11	Shaft
6	Label	12	Nipple

All Controllers are available with a 1/8” BSP Threaded Inlet to allow the connector of your choice to be fitted.

Parts List

Warranty

BMDi TUTA Healthcare Pty Limited ("BMDi TUTA Healthcare") warrants that this product is free from defects in workmanship and materials for a period of 12 months from the date of shipment by BMDi TUTA Healthcare or its authorised agent to the purchaser. Subject to the conditions of this warranty, if the product fails to operate for any reason within the warranty period and the product is returned to the place of purchase at the purchaser's expense, BMDi TUTA Healthcare will repair or replace the product free of charge.

If a valid warranty claim is made within 30 days from the date of shipment, then BMDi TUTA Healthcare will also reimburse the purchaser for reasonable freight costs in returning the product to the place of purchase.

Conditions of Warranty

1. The product must be returned to the place of purchase with proof of purchase.
2. This warranty is only available to the original purchaser of the product.
3. The product must not have had its serial number removed, defaced or changed, its casing opened, its power supply altered or have been tampered with in any other way.
4. This warranty does not cover :
 - inadequate or incorrect site preparation;
 - improper installation;
 - connection to the wrong voltage;
 - failure of the product due to misuse;
 - the use or operation of the product outside of the physical, electrical or environmental specifications of the product;
 - use in a manner or environment in which the product is not designed to be used;
 - improper adjustment, calibration or operation by the purchaser;
 - the use of accessories including consumables, hardware or software which were not manufactured or approved in writing by BMDi TUTA Healthcare;

- any modifications of the product which were not authorised in writing by BMDi TUTA Healthcare;
 - any contamination or leakages caused or induced by the purchaser; and
 - inadequate or improper maintenance of the product.
5. This warranty does not cover normal wear and tear.
 6. BMDi TUTA Healthcare will not be responsible for damage or loss caused during shipping.
 7. In Australia, apart from any warranties implied by the Trade Practices Act 1974 all other warranties expressed or implied and whether arising by virtue of statute or otherwise are hereby excluded.
 8. Outside Australia, all other warranties expressed or implied and whether arising by virtue of statute or otherwise (including any warranties implied by the Vienna Convention) are hereby excluded.
 9. BMDi TUTA Healthcare' obligations under this warranty are limited to the repair or replacement of the product, within the terms of this warranty and the total liability of BMDi TUTA Healthcare for loss or damage of every kind whether arising pursuant to the terms of the sale of the product or otherwise in connection with the product is limited to the amount paid by the purchaser to BMDi TUTA Healthcare for the product.
 10. Apart from any liability imposed by Part VA of the Trade Practices Act, BMDi TUTA Healthcare accepts no other liability for any loss or damage occasioned (including consequential loss or damages) in any way as a result of the use of the product.
 11. The warranty does not extend to cover damage to the following parts as they are inherently prone to wear :
 - motor brushes
 12. This warranty does not extend to cover corrosion due to any cause nor to any damage to painted or anodised surfaces.
 13. BMDi TUTA Healthcare will give the purchaser the benefit of any manufacturer's warranty in respect of any components in the product which were not manufactured by BMDi TUTA Healthcare, if such a manufacturer's warranty is available.

