





SERIES RC

AIR RELEASE AND VACUUM BREAK VALVES





AIR RELEASE AND VACUUM BREAK VALVES SERIES RC

The Unique defence against pipe bursts and pipeline system damage!

Vent-O-Mat Series RC has evolved from a long lineage of research and development into a product that has proven unsurpassed for air release, vacuum protection, surge alleviation and pipeline flow enhancement.

The basis of the Vent-O-Mat design is in the understanding of the physical laws that govern air valve and pipeline operation. Reaction to pipeline dynamics is therefore instantaneous and protection provided is relevant to the pipeline's needs.

Vent-O-Mat Series RC truly represents the pinnacle of valve design evolution. This valve design provides the most comprehensive, effective and efficient pipeline protection relative to initial cost of any other available pipeline component. This can easily be gauged from the below:

Automatic Surge Protection

The unique Series RC valve incorporates as standard, three design features to automatically protect a pipeline, under all pipeline operating conditions, from the destructive surge and water hammer phenomena. These features are independent of any mechanical devices ensuring reaction in a very low milli second time span.

Effective Air Release

The RC design ensures effective de-aeration under all pipeline flow and operating conditions, via either one of three discharge orifices.

Vacuum Protection

The RC series large orifice diameters equal the nominal size of the valve. This ensures the least possible resistance to the intake of air and consequently the least possible negative pressure within a draining pipeline. The use of solid, cylindrical floats ensures instantaneous reaction, discourages the "Venturi" phenomenon and is a further guarantee of effective vacuum protection.

Guaranteed Performance

The RC has been designed and developed to provide the optimum usable and safe performance relative to all functions. Selection data has been substantiated through third party testing and can therefore be confidently referenced.

The surge protection function of the RC design has been incorporated in the well-known **SURGE 2000** surge analysis software programme and can be analysed with great accuracy in other commercially available surge analysis programmes such as FLOWMASTER and TRANSAM.

Unparalleled Service

Vent-O-Mat is committed to customer service and to the selling of solutions. Our highly dedicated team is available at all times to assist with air valve sizing and positioning. Assistance is also provided in finding the most cost effective and/or efficient surge protection strategy relevant to the pipeline's needs.

International Representation

Vent-O-Mat is represented in the following countries and regions:

- * USA * Thailand * South Africa * Namibia * Kuwait * Canada * Germany * Zimbabwe * Hong Kong * Brazil * Carribean * Kenya * Tanzania * Taiwan * France
- * United Arab Emirates * Egypt * Malawi * New Zealand * Singapore
 - * South America * UK * Zambia * Vietnam * Australia



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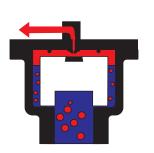
Series RC

OPERATION: SINGLE SMALL ORIFICE AIR RELEASE VALVE

Water Air

VENTING UNDER PRESSURE

Liquid enters the valve chamber raising the float upward to close the small orifice. Disentrained air rises through the liquid and accumulates in the top of the valve chamber. When the volume of air is sufficient the float is no longer buoyant and gravitates downwards thereby opening the small orifice and allowing accumulated air to be discharged to atmosphere. As the air is discharged the liquid raises the float to re-seal the small orifice and prevent escape of liquid.



OPERATION: DOUBLE ORIFICE AIR RELEASE & VACUUM BREAK VALVE



HIGH VOLUME AIR DISCHARGE (FILLING OF A PIPELINE)

Air enters the valve and flows through the annular area around the kinetic shield and discharges out of the large orifice into atmosphere.



(2)

PRESSURIZED AIR DISCHARGE (PIPELINE OPERATING)

Subsequent to the filling of a pipeline, liquid enters the valve chamber and the floats are buoyed so that the upper float closes the large orifice, the valve will then become internally pressurized. Disentrained air rises through the liquid and accumulates in the valve chamber, when the volume of air is sufficient to displace the liquid, the lower float is no longer buoyant and gravitates downwards thereby opening the small orifice and allowing accumulated air to be discharged to atmosphere. As the air is discharged the liquid raises the lower float to re-seal the small orifice and prevent escape of liquid.



(3)

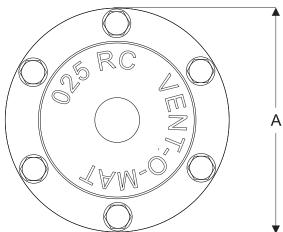
HIGH VOLUME AIR INTAKE (PIPELINE DRAINING)

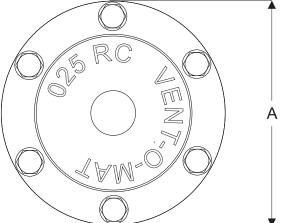
Simultaneous drainage of liquid from the valve chamber and the loss of pressure causes both floats to gravitate downwards thereby opening the large orifice and allowing atmospheric air through the valve to replace draining liquid in the pipeline and prevent potentially damaging internal negative pressure.





Series RC GENERAL SPECIFICATIONS SCREWED - DN25 (1")





| VENT - O - MAT В RC DN025 PN 16

Single Small Orifice Air Release Valve

End Connection:

Screwed Female 1" BSP/NPT

Nominal Size:

DN 25 (1")

Model No's: Pressure Rating- Bar (PSI):

RC 1610 & 1620 PN16 (232 PSI)

Operating Pressure Range - bar (PSI):

Min. Max. 0.5 (7.2) _____ 16(232) PN 16 (232 PSI)

Operating Temperature Range

4° C (40 F) to 80° C (180 F)

Acceptable Media:

Potable or strained raw water.

Function:

i) Pressurized air discharge - Pipeline operating.

Standard Factory Tests:

- i) Hydrostatic 1.5 x max. rated working pressure
- ii) Low head leak 0.5 bar (7.2 PSI)
- iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

OVERALL DIMENSIONS & WEIGHTS

D	N	MODEL No.	PRESSURE RATING	Α		В		С		WEIGHT	
mm	in	MODEL No.		mm	in	mm	in	mm	in	kg.	lb.
25	1	25 RC 1610/1620	PN16 (232 PSI)	120	4.72	106	4.17	25	1	3	6.6





Series RC SERIES RC - MODEL 025RC1610/1620 SINGLE SMALL ORIFICE AIR RELEASE VALVE

(For the release of air in small volumes only, not suitable for vacuum service).

SIZE:

DN 25 (1")

OPERATING PRESSURE RANGE:

0,5 - 16 bar (7,2 - 232 psi)

TEMPERATURE RANGE:

Water: 4° (40 F) to 80° (180 F)

TEST PRESSURE:

1.5 x Maximum Working Pressure

PRESSURE RATING:

PN 16 (232 psi)

END CONNECTION:

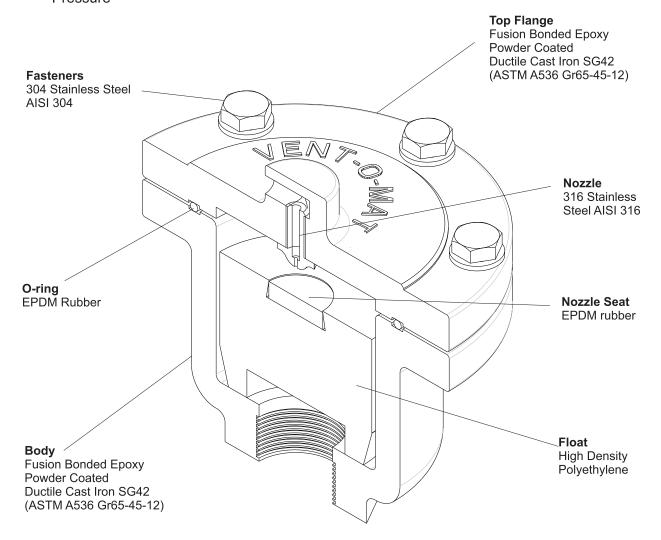
Screwed Female 1" BSP/NPT

WEIGHT:

3kg. (6,6 lb)

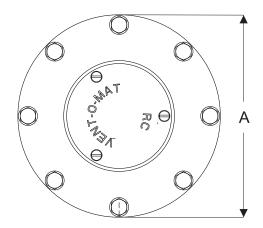
FUNCTION:

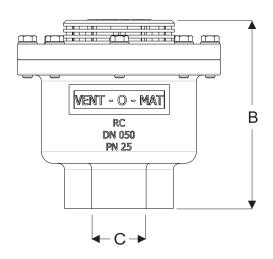
Pressurized air discharge - Pipeline Operating





Series RC GENERAL SPECIFICATIONS SCREWED - DN50 (2")





Type:

Double Orifice Air Release & Vacuum Break Valve

End Connection:

Screwed Female 2" BSP/NPT

Nominal Size:

DN 50 (2")

Model No's: Pressure Ratings bar (psi):

RC 2511 & 2521 PN 25 (363 psi)

Operating Pressure Range - bar (psi):

Min. Max. PN25 (363 PSI) _____ 0.5 (7.2) ____ 25(363)

Operating Temperature Range:

4° C (40 F) to 80° C (180 F)

Acceptable Media:

Potable or strained raw water.

Function:

- i) Pressurized air discharge Pipeline operating.
- ii) High volume air discharge Pipeline Filling.
- iii) High volume air intake Pipeline Draining.

Standard Factory Tests:

- i) Hydrostatic 1.5 x max. rated working pressure
- ii) Low head leak 0.5 bar (7.2 psi)
- iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

OVERALL DIMENSIONS & WEIGHTS

DI	N	MODEL No.	PRESSURE RATING	Α		В		С		WEIGHT	
mm	in			mm	in	mm	in	mm	in	kg.	lb.
50	1	50 RC 2511/2521	Pn25 (363 PSI)	171	6.73	222	8.74	50	2	8	17.6





TEST PRESSURE

Series RC

SERIES RC - MODELS 050 RC 2511 & 2521 DOUBLE ORIFICE AIR RELEASE & VACUUM BREAK VALVE

SIZE: PRESSURE RATING:

DN 50 (2") PN 25 (363 psi)

OPERATING PRESSURE RANGE:

END CONNECTION:

0,5 - 25 bar (7,2 - 363 psi)

Screwed Female 2" BSP/NPT

Water: 4° (40 F) to 80° (180 F) **WEIGHT:**

MAXIMUM DISCHARGE: (Large Orifice)

8kg. (17,6 lb)

MAXIMUM INTAKE: (Vacuum) 1.5 x Maximum Working Pressure

130 l/sec. (275,5 scf/min) at -0.35 bar (-5,1 psi) ∆p pipe pressure.

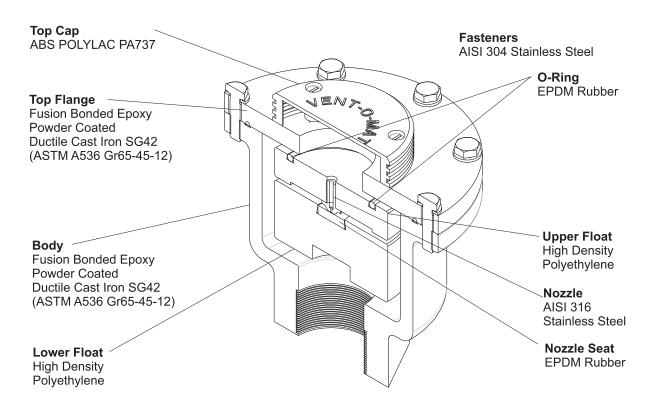
FUNCTION:

TEMPERATURE RANGE:

103,8 l/sec. (220 scf/min)

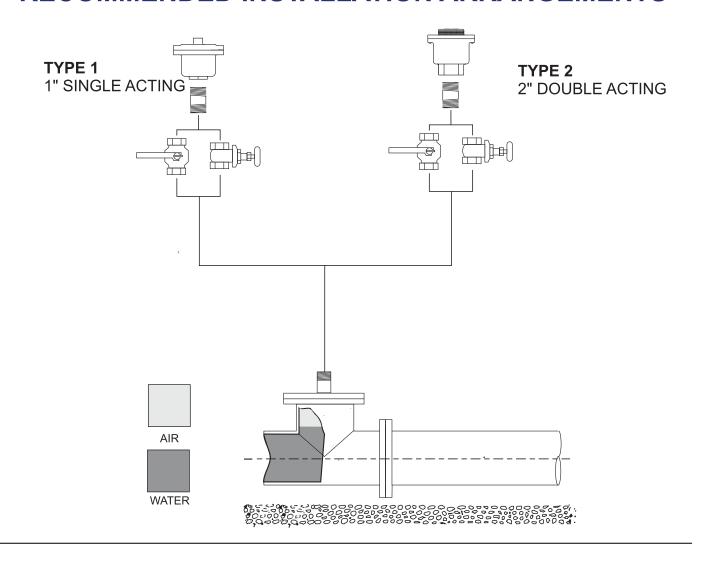
(i) High volume air discharge - Pipeline Filling(ii) High volume air intake - Pipeline Draining

(iii) Pressurized air discharge - Pipeline Operating

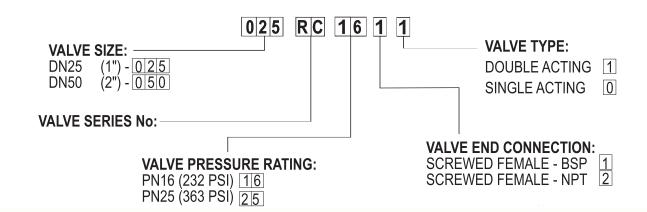




Series RC RECOMMENDED INSTALLATION ARRANGEMENTS



ORDERING GUIDE







Series RC

Complete the form below for any additional information and fax/post to: Vent-O-Mat® USA - Div of RF Valves, Inc. 1342 Charwood Road Suite A, Hanover MD 21076 **USA** Phone: +1-410-850-4404 Fax: +1-410-850-4464 Sales: +1-770-725-5440 E-mail: ventomat@rfvalve.com Web: www.ventomat.us Company Name: Postal Address: Postal Code: _____ Country: _____ Tel: _____ Fax: _____ Contact Name: _____ Title: _____ **Comments:** Products you are interested in: **VENT-O-MAT® Series RBX Air Release & Vacuum Break Valves** compact single chamber design with integral "Anti-Shock" surge dampening mechanism. VENT-O-MAT® Series RGX Sewage Air Release & Vacuum Break Valves compact single chamber design with integral "Anti-Surge" surge dampening mechanism. **VENT-O-MAT® Series RPS Air Release & Vacuum Break Valves** glass reinforced polypropylene CATT air valve for industrial, irrigation and small reticulation systems LevelDex® High Performance Endline Level Control Valves end line valve with cushioned closing characteristics for level control in tanks and reservoirs.



DEFINITIONS

1.1 Seller

Dynamic Fluid Control (Ply) Ltd

1.2

The party who places an order on the Seller, which is accepted by the Seller in terms of Clause 2. (such acceptance hereinafter being referred to as "Acceptance of Order").

1.3 Goods

The materials, products and or services ordered by the Purchaser and accepted by the Seller in terms of Clause 2,

Contract.

These General Conditions of Tender and Sale, technical specifications of the Purchaser's order as have been specifically agreed m writing and the Acceptance of Order, together with only such other terms and conditions as may be specifically agreed in writing between the partie

ACCEPTANCE OF ORDER

The Purchaser's order shall constitute an offer, and a contract shall only come into existence when the Seller accepts the Purchaser's order, by issuing an Acceptance of Order or by performing in response to the Order. Unless otherwise specifically agreed in writing in the contract any other terms and conditions including those forming part of the Purchaser's order, which deviate from the General Conditions, shall not form part of the Contract, and shall be of no force. or effect In the event that the Purchaser and the Seller engage in negotiations over amendments or

additions to or deletions from the General Conditions of Tender and Sale, these General Conditions shall govern the sale of the goods until such negotiations are finalised and these General Conditions amended (if at all) by agreement in writing.

SCOPE OF CONTRACT

The Seller's obligations in terms of the Contract will be to produce the Goods in accordance with such designs, instructions, itemised details, plans. drawings, programmes and specifications (the specifications) as form part of the Contract, and in particular the Seller will not be responsible for the adequacy of or for any costs occasioned by the inadequacy of any such specifications or for any foundations or supporting structures of other work as may have been provided, prepared or specified or on behalf o the Purchaser.

Liability for Defects

The Seller undertakes that the Goods will conform to such specifications in respect of each other as have been specifically accepted by the Seller in writing and in the event of the Goods proving not to be in accordance with such specifications, the Seller shall, if the Goods proving not to be in accordance with such specifications, the Seller shall, if requested to do so in writing within a reasonable time of discovery of such failure to conform to such specifications (hereinafter referred to as defects), but not in any event after 6 months have elapsed from the date of delivery of such defective Goods to the Purchaser, at its option, repair or replace the defective portions/components of the Goods, by supplying the repaired or replacement portion components of the Goods to the. initial place of delivery, or at the further option of the Seller, to credit the Purchaser with the invoice value of the defective portion/components of the Goods in question, Notwithstanding anything to the contrary anywhere contained, the Seller shall have no liability in respect of any defects in the Goods, whether latent or patent, not notified to the Seller in writing before the end of the aforesaid 6 month period Liability for Delay Subject to the provisions of Clause 8 and 10, the Seller undertakes to supply the Goods

Subject to the provisions of Clause 8 and 10, the Seller undertakes to supply the Goods in accordance with such delivery dates as are specifically agreed in contract, and in the event that the Goods are not supplied in accordance with such dates, or within extensions event that the Goods are hot supplies in accordance with student actes, of winnin extensions or revisions of such dates, or if delays caused by the discovery of defects after delivery, the Seller's liability shall be limited to such penalty for late delivery as may have been specifically accepted by the Seller in writing in respect of each order accepted by the Seller. Such penalty shall only be payable in the event that, and to the extent that, the Purchaser is himself legally obliged to pay penalties in respect of each delay and in no event shall such penalty exceed 10% of the unescalated Contract Price of such portions of the Goods as cannot, because of the delay, be put to the use intended, and such penalty shall constitute the Seller's sole liability and the Purchaser's sale remedy for such delay. Notwithstanding anything to the contrary anywhere contained, the liability of the Seller

howsoever arising out of the Contract or in Delict or by operation of statute shall not extend beyond the obligations specifically assumed in terms of this Clause 4, and the Seller.

gives no other warranties, expressed or implied in respect of (without limitation) workmanship, materials, fitness for purpose, merchantability or products liability not set out herein; 431

products naturally not see our needing, in respect of "brought out" or proprietary items not if its own manufacture, gives no greater warranty and accepts no greater liability than that given or accepted by and enforceable against the supplier/manufacturer thereof. 4.32

gives no warranties in respect of Goods used other than for the intended purpose, or for defects arising through fair wear and tear or neglect, shall in no event be liable for the Purchaser's loss of profits, loss of use, loss of 4.3.3 production, loss of custom or goodwill, or for any special, indirect or consequential damages howsoever arising.

DELIVERY

Unless otherwise stipulated in the Contract, delivery shall be "ex the Seller's works" and the Contract Price is based on such "ex works" delivery and is exclusive of any sales tax payable in terms of any applicable statute, packaging, freight and insurance during

transport.

The risk in and to the Goods will pass to the Purchaser on Delivery and claims for non delivery or for shortages or damage upon receipt of the Goods must be made m writing by the Purchaser within the earlier of 7 (seven) days of the relevant consignment note or receipt of the Goods as the case may be, failing which the Seller shall have no liability in respect of such claims.

Should the Purchaser fail or refuse to take delivery of the Goods when delivery is tendered by the Seller, the Purchaser shall be liable for such costs as may be incurred by the Seller as consequence thereof.

Unless otherwise specifically agreed in writing in each particular instance:

the contract price to be paid by the Purchaser for the Goods shall be as set out in the tender and is based on the costs of materials, transport, labour, insurance rates, exchange rates and import duties ruling at the date of the tender and any variation in such costs or rates and import dunies ruling at the date of the tender and the date of payment, shall be for the account of the Purchaser, and shall be determined in accordance with the formula included in the Contract, and if no formula is so included, in accordance with the prevailing relevant formulae, principles and indices published by SEIFSA.

If the Goods or any parts thereof are to be imported, the price will be based on the rates of exchange, freight, insurance premiums, lighterage, landing charges, port dues, custom

duty and railage at the date of tender, or as specifically agreed. Should these rates vary between the date of the tender and the date upon which charges are incurred, the price shall be varied by the amount of the increase or decrease in such charges.

the Contract Price shall be paid in cash, free of exchange, deduction or set off within 30 (thirty) days of the date of Seller's statement, provided that in any event, notwithstanding delivery of the Goods to the Purchaser or to any third party, it is specifically agreed that it is the intention of the parties that the Goods shall not accede to any other property, it is the intention of the parties that the Goods shall not accede to any other property, whether moveable or immovable, and that it is as far as any other goods or equipment are concerned the Goods shall, for the purposes of accession be deemed to be the Principle items, and that ownership of the goods and any items accessory thereto shall all times remain vested in the Seller, and shall not pass to the Purchaser until the full Contract Price has been paid. In the event of non-payment, the Purchaser hereby irrevocably authorises the Seller or its duly authorised agents to repossess the Goods wheresoever they may be found, and further, at its option, in detach or unmix by itself, its agents or servants, the Goods from anything to which they are attached or in which they are installed or annexed without being responsible for any damage that may be-caused thereby and may, for such purpose, by itself, its servants or agents, enter upon caused thereby and may, for such purpose, by itself, its servants or agents, enter upon any land or building, vehicle or vessel or other place upon which the Goods are reasonably thought to be situated.

Payments delayed after the due date for payment shall be subject to interest charges, compounded monthly with effect from the date of delivery, at prime bank overdraft rate. Where payment by the Purchaser is effected by cheque, and where the post is used the risk of loss arising from the use of a cheque or the use of the post, shall rest with the Purchaser.

RENUNCIATION OF BENEFITS

The Purchaser hereby renounces the benefits oft any other rights; not expressly referred to in these General Conditions are not expressly agreed in writing and to which it may be entitled, or which it may acquire in terms of the Agricultural Credit Act, 28 of 1966 as amended, the Moratorium Act. 25 of 1963 or any other similar rights under any other statute.

The Seller shall supply the Goods strictly in accordance with the Contract. Should the Purchaser The Seiler shall supply the Goods strictly in accordance with the Contract. Should the Purchaser require variations to the Goods, or to the quantities thereof, or should the Seller be hindered, delayed or prevented from supplying in terms of the Contract or be exposed to extra cost owing to extensions or to emissions from the order, deviations from the specifications, late, defective or non-receipt of information or rep issue materials or by any other act, default or emission by or on behalf of the Purchaser, the Seller shall be entitled to an appropriate variation to the rates or to the Contract Price or to the programme, or any other obligation of the Seller, provided that no such variation required by the Purchaser shall, without the written consent of the Seller, together with such other variations as may have been requested, involve a variation of more than 10% (ten percentum) to the Contract Price or to the quantities set out In the Contract.

RETURNS

Returns, it accepted by the Seller at its sole discretion and upon such terms as it may prescribe, shall be credited Subject to a deduction of a minimum of 10% (ten percentum) as a handling charge, subject to the goods being within their specified shelf life and in a marketable condition and provided further that the Purchaser shall be liable for all costs of delivery to the Seller's designated

FORCE MAJEURE

Neither party shall be liable to the other for inability to perform or delayed performances in terms of the Contract, should such inability delay arise from any cause beyond the reasonable control of such party, the existence or happening of which cause has been drawn to the attention of the other party within a reasonable time of the occurrence of such cause (hereinafter referred to as "a Force Majeure event").

For the purposes of this clause a Force Majeure event shall, without limitation to the generality of (the aforegoing, be defamed to include, strikes, lock outs, labour disputes,

accidents, plant and machinery breakdowns, fire, explosions, theft, war (whether declared or not) invasion, acts of foreign enemies, hostilities, riot, civil insurrection, flood, earthquake, lightning, act of local or national government, martial law, failure or delay or, the part of the Seller's supplier(s) of service, of "bought out" or raw materials, to meet delivery dates, or any failure or delay on the part of the Purchaser or the Purchaser's agents or other Contractors to provide the Seller with free issue materials, specifications, or defects or changes in such Specifications, or any other cause beyond the reasonable control of the party effected.

PATENTS COPYRIGHT AND CONFIDENTIALITY

The Purchaser shall indemnify and hold harmless the Seller against all claims and expenses of whatsoever nature and description arising from alleged or infringement of any Letters Patent, Trade Mark, Designs or Copyright occasioned by the Seller's performance of this Contract.

performance of this Contract.

The Seller warrants however that any designs specified by it shall not Infringe any of such Letters Patent, Trade Marks, Designs or Copyright.

The Purchaser shall keep confidential and shall not use for any purpose other than the Contract itself, all drawings and designs supplied by the Seller in terms of the Contract, and the Purchaser shall Indemnify the Seller against any loss suffered by the Seller as a result of the breach of this clause. Such drawings and designs supplied by the Seller remains the exclusive property of the Seller and shall be promptly delivered and returned to the Company upon completion of the Contract. 11.3 to the Company upon completion of the Contract.

Should either party be in breach of any material obligations imposed in terms of the Contract and fail to remedy such breach or take positive steps towards remedying such breach within 14 (fourteen) days of written notice of such breach from the other party, then the non defaulting party shall be entitled to cancel the Contract, without prejudice to such other rights that such non defaulting party may have in terms of this agreement or at law.

GOVERNING LAW AND DISPUTES

13.1 The Contract shall be construed and interpreted in accordance with, the laws of the Republic of South Africa.

Any disputes arising between the parties in respect of the Contract shall, at the option of the Seller, be justiciable in the Magistrates Court of South Africa having jurisdiction over the Purchaser, notwithstanding the fact that the dispute might otherwise have fallen outside the jurisdiction of such Magistrates Court and the Purchaser to such jurisdiction FUTURE CONTRACTS

These General Conditions of Tender and Sale (as they may be amended front time to time by the Seller shall also apply to any future, oral or written contract for the supply of goods and/or services by the Seller to the Purchaser, save to the extent that such conditions are in any future contracts specifically varied or excluded or are inconsistent with what is expressly agreed in any such future

These General Conditions of Tender and Sale are available in the other official language, upon

VENT-O-MAT®



VENT-O-MAT®



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