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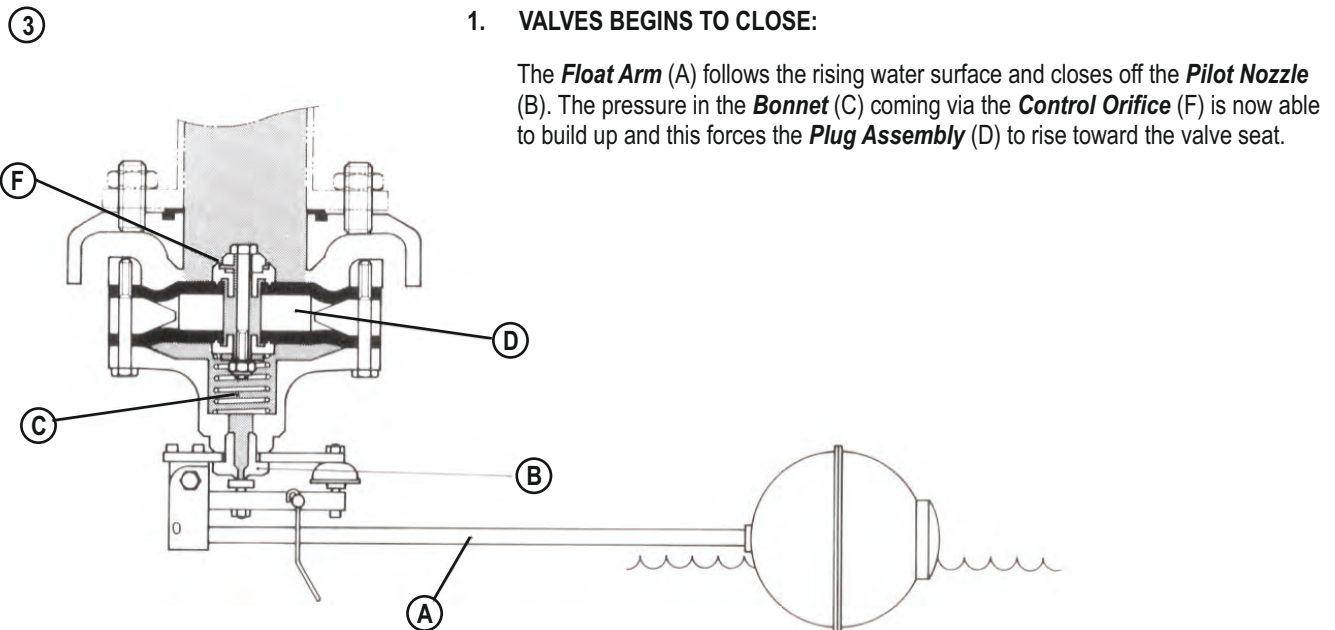
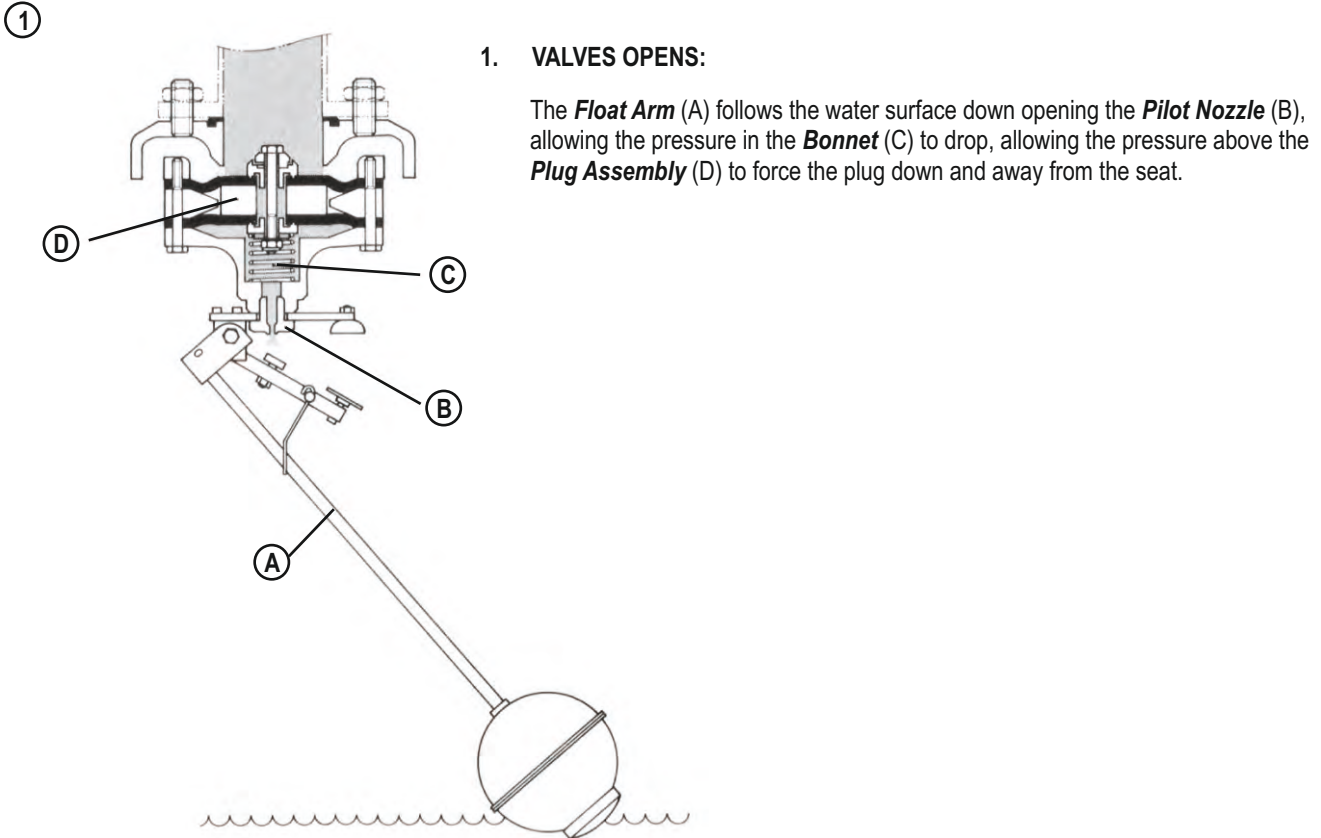
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LEVEL CONTROL VALVES

LevelDex[®] - OPERATING PRINCIPLE

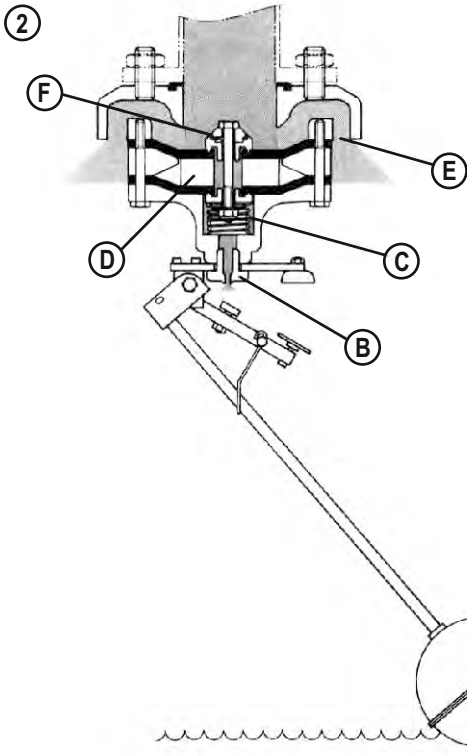
NOTE: *LevelDex[®]* is a hydraulic, differential area control valve that uses upstream pressure to function. The Pilot exerts no mechanical force on the valve.



LEVEL CONTROL VALVES

LevelDex® - OPERATING PRINCIPLE

NOTE: LevelDex® is a hydraulic, differential area control valve that uses upstream pressure to function. The Pilot exerts no mechanical force on the valve.

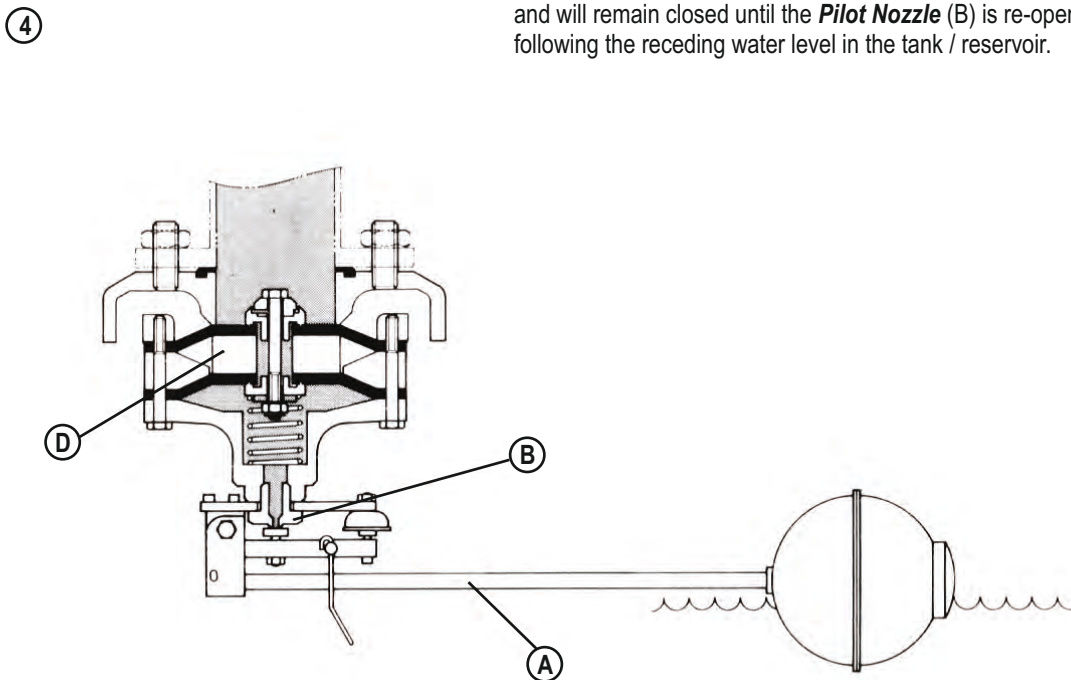


2. VALVES FULLY OPEN:

Water forces the **Plug Assembly** (D) down and exits via the **Annular Outlets** (E) into the tank / reservoir.
The upstream pressure goes into the **Control Orifice** (F) and down into the **Bonnet area** (C) and is able to exit out of the **Pilot Nozzle** (B) into the tank / reservoir.

4. VALVE FULLY CLOSED:

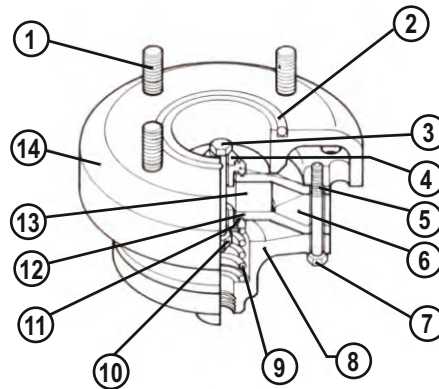
The **Plug Assembly** (D) is forced up against the valve seat and the valve is closed and will remain closed until the **Pilot Nozzle** (B) is re-opened by the **Float Arm** (A) following the receding water level in the tank / reservoir.



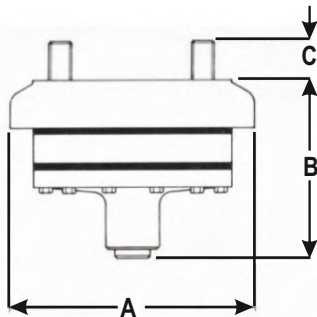
LEVEL CONTROL VALVES

LevelDex® - TECHNICAL DATA

LevelDex® - MATERIALS OF



Item No.	Description	Material Specification
1	Studs	Stainless Steel 304
2	O-Ring	Nitrile
3	Bolt	Stainless Steel Gr. A2
4	Restrictor	Stainless Steel 304
5	Upper Filter	Gunmetal
6	Support Ring	High Density Polyethylene
7	Bolt	Stainless Steel Gr. A2
8	Bonnet	Cast Iron, Fusion Bonded Epoxy Powder Coated
9	Spring	SAE Stainless Steel
10	Nut	Stainless Steel Gr. A2
11	Lower Filter	Stainless Steel Gr. A2 and Brass
12	Diaphragm	EPDM
13	Plug	High Density Polyethylene
14	Body	Cast Iron, Fusion Boded Epoxy Powder Coated



LevelDex® - DIMENSIONS AND WEIGHTS

NOTE 1: All **LevelDex®** Valves are supplied with stud connections suitable for alignment to flanges conforming to PN10 or PN16 ratings of SANS1123 & BS EN 1092 standard or ANSI B.16.1 class 150.

NOTE 2: **LevelDex®** Valves are controlled by either a direct mounted two level magnetic latch pilot suitable for DN 50 (2") to DN 150 (6") valves (see page 5) or a remote mounted two level magnetic latch pilot suitable for DN 50 to DN 200 valves (See

Valve Size		Valve Model No.	A		B		C		Weight	
mm	inches		mm	inches	mm	inches	mm	inches	kg.	lbs
50	(2")	1601	180	7 3/32	129	5 3/32	32	1 3/32	6	13,2
		1605	180	7 3/32	135	5 5/16	32	1 1/32	6	13,2
80	(3")	1601	212	8 1/32	144	5 1/16	32	1 3/32	10	22,1
		1605	212	8 1/32	150	5 23/32	32	1 3/32	10	22,1
100	(4")	1601	270	10 23/32	190	7 1/2	47	1 7/8	18	39,7
		1605	270	10 23/32	196	7 23/32	47	1 7/8	18	39,7
150	(6")	1601	350	13 23/32	226	8 23/32	47	1 7/8	34	77,2
		1605	350	13 23/32	232	9 1/8	47	1 7/8	34	77,2
200	(8")	1601	448	17 1/2	282	11 1/8	47	1 7/8	96	211,7
		1605	448	17 1/2	288	11 13/32	47	1 7/8	96	211,7

LEVEL CONTROL VALVES

LevelDex[®] - TECHNICAL DATA

LevelDex[®] Valves are available as standard, for service at Static Pressures of 160 m H₂O (232 psi) and Dynamic Pressures of 10 m H₂O (14,2 psi) for model 1601 valves and 50 m H₂O (71 psi) for model 1605 valves (see table below). Valves for service at higher static and or dynamic pressures are available on request.

Model	STATIC (CLOSED VALVE) MAX DIFFERENTIAL m H ₂ O	MAX DIFFERENTIAL psi	DYNAMIC (OPEN VALVE)			
			Max. M H ₂ O	Max. psi	Min. M H ₂ O	Min. psi
1601	160	232	10	14.2	1	1.42
1605	160	232	50	71.0	5	7.1

LevelDex[®] - STANDARD FLOW CHARACTERISTICS (FULLY OPEN VALVE)

Basic Formula (Kv): $Q = Kv \sqrt{?H}$

Basic Formula (Cv): $Q = Cv \sqrt{?P}$

Where: Q= Flow in litres / sec (ℓ/s)

Where: Q= Flow in US Gallons.min. (G.P.M.)

Where: ?H= Differential Head in Meters H₂O

Where: ?P= Differential Pressure psi (lbs/in²)

Kv = Flow Coefficient
(flow in ℓ/s for 1m ?H)

Cv = Flow Coefficient
(flow in G.P.M. For 1psi ?P)

Kv/Cv TABLES

Valve Size	Kv/Cv	50 (2")	80 (3")	100 (4")	150 (6")	200 (8")
Model 1601	Kv	2.94	8.06	14.93	27.67	45.28
	Cv	39.1	106.4	196.6	368.1	602.0
Model 1605	Kv	2.75	8.06	13.3	26.06	43.96
	Cv	36.64	107.2	176.8	346.7	584.7

LevelDex[®] - RECOMMENDED MAXIMUM & MINIMUM FLOW - U.S GALLONS / MIN

Valve Size		50 (2")	80 (3")	100 (4")	150 (6")	200 (8")
Model 1601	Max Flow	147.3	401.0	740.8	1387.1	2268.5
	Min Flow	46.6	126.8	234.3	438.6	717.4
Model 1605	Max Flow	306.7	903.3	1489.7	2921.3	4926.7
	Min Flow	96.9	285.6	471.1	921.9	1557.9

LevelDex[®] - RECOMMENDED MAXIMUM & MINIMUM FLOW - LITRES/SEC.

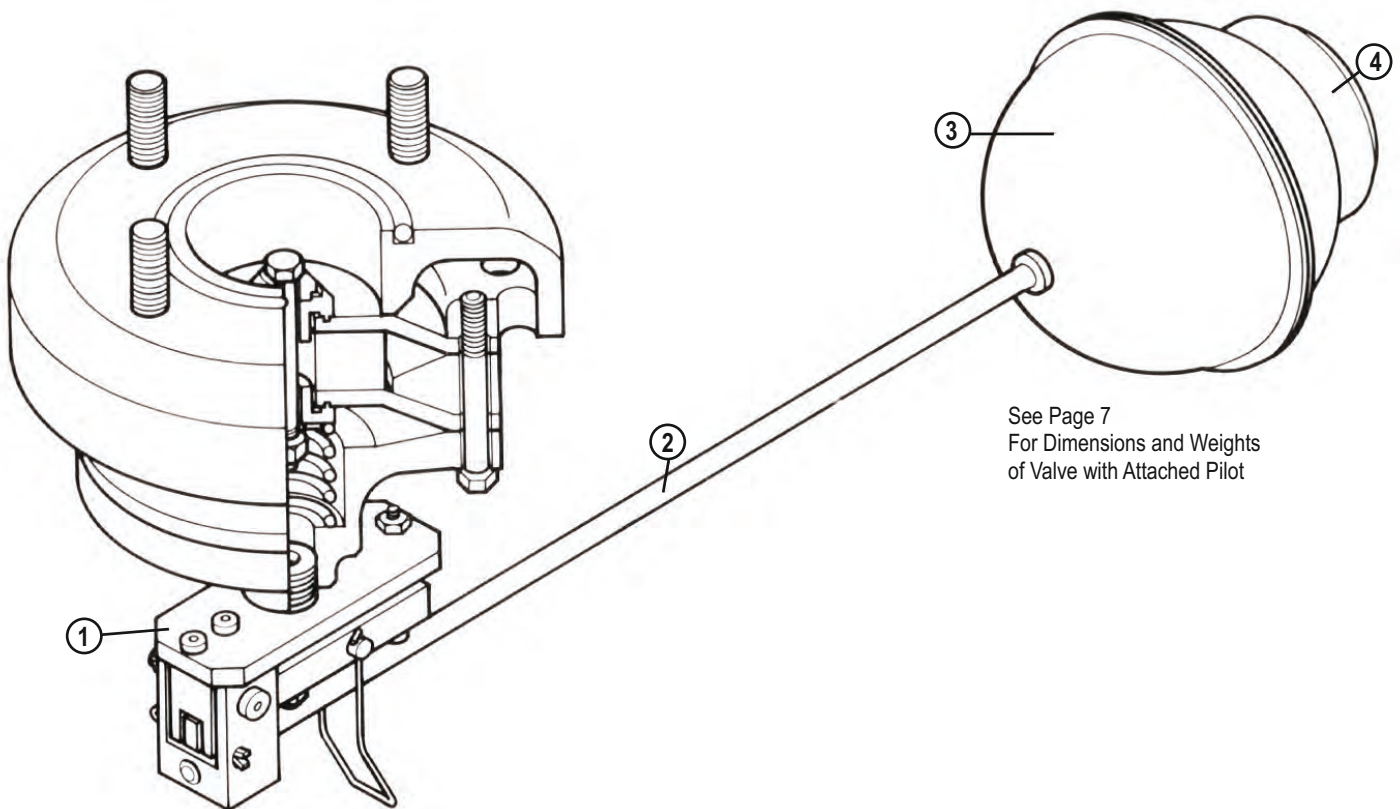
Valve Size		50 (2")	80 (3")	100 (4")	150 (6")	200 (8")
Model 1601	Max Flow	9.3	25.4	47.2	87.5	143.2
	Min Flow	2.94	8.06	14.93	27.67	45.28
Model 1605	Max Flow	19.4	56.7	94.05	184.3	310.8
	Min Flow	6.15	17.89	29.74	58.3	98.3

LEVEL CONTROL VALVES

LevelDex[®] - TECHNICAL DATA

DIRECT MOUNTED TWO LEVEL MAGNETIC LATCH PILOT WITH SHORT DEAD BAND

Model No. LM 2500
(Recommended for DN 50 (2") to DN 150 (6") Valves)



See Page 7
For Dimensions and Weights
of Valve with Attached Pilot

- | | |
|------------------|---------------------------------|
| 1. Pilot Body: | Stainless Steel 304 |
| 2. Float Arm: | Stainless Steel 304 |
| 3. Float: | ABS Plastic |
| 4. Float Weight: | Cast Iron - Epoxy Powder Coated |
| Fasteners: | Stainless Steel 304 |
| Attachment: | ½" BSP/NPT Male to Valve Bonnet |
| Weight: | 2,5kg. (5,5lbs) |

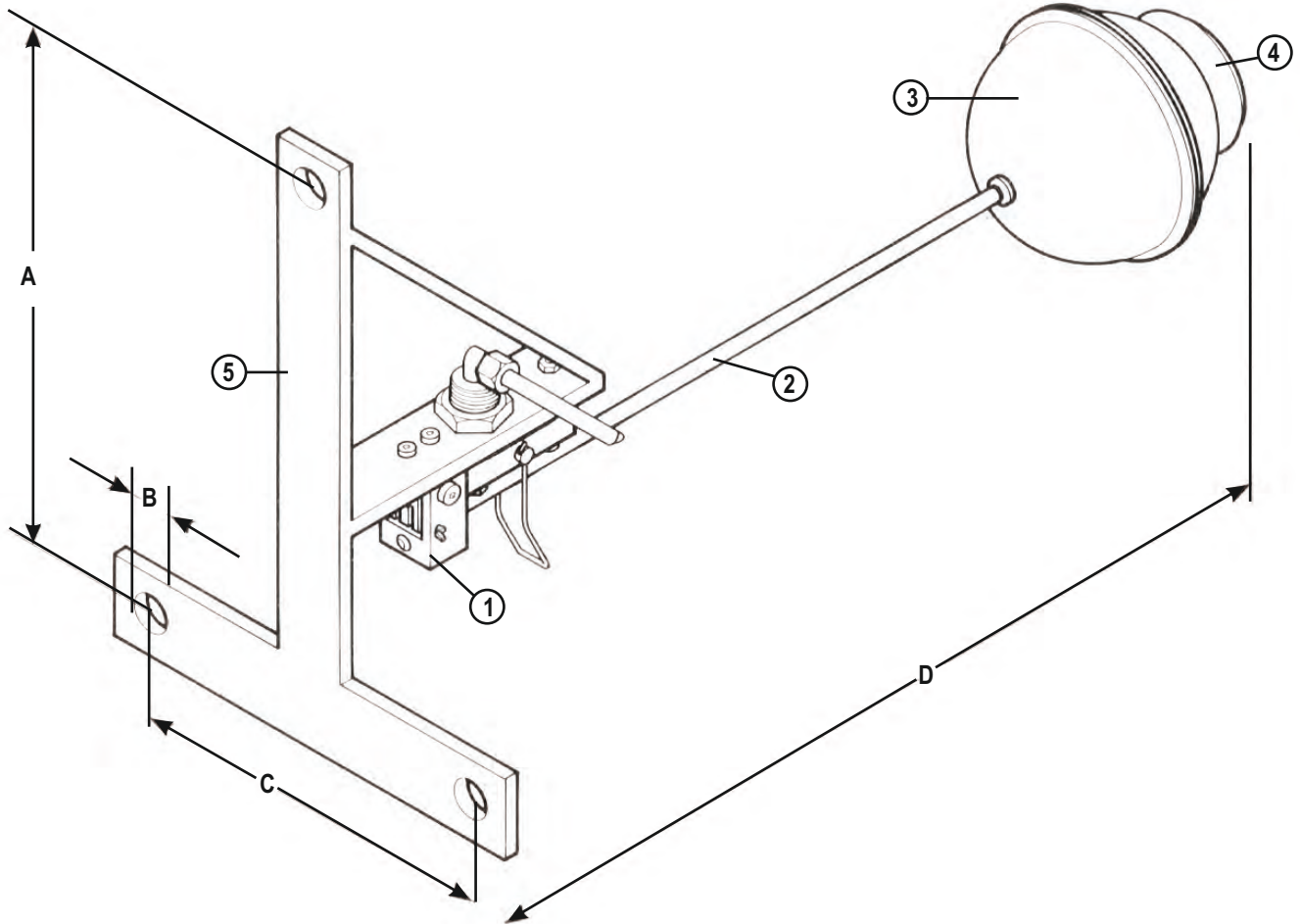
Supplied as standard on DN. 50 (2") to DN. 150 (6") **LevelDex[®]** Valves.

LEVEL CONTROL VALVES

LevelDex[®] - TECHNICAL DATA

REMOTE MOUNTED TWO LEVEL MAGNETIC LATCH PILOT WITH SHORT DEAD BAND

Model No. LR 2500
 (Recommended for DN 50 (2") to DN 200 (8") Valves)



- 1. Pilot Body: Stainless Steel 304
- 2. Float Arm: Stainless Steel 304
- 3. Float: ABS Plastic
- 4. Float Weight: Cast Iron - Epoxy Powder Coated
- Fasteners: Galvanized Mild Steel
- Attachment: 1/4" Tube to Valve Bonnet
- Weight: 4kg. (8,8 lbs)

Supplied as standard on DN. 200 (8") **LevelDex[®]** Valves.

A		B		C		D	
mm	inches	mm	inches	mm	inches	mm	inches
292	11½	∅17,5	∅ 1/6	156	6 5/32	930	36 5/8

NOTE:

Supplied as standard on all DN200 (8") **LevelDex[®]** valves but can be used on the whole range..

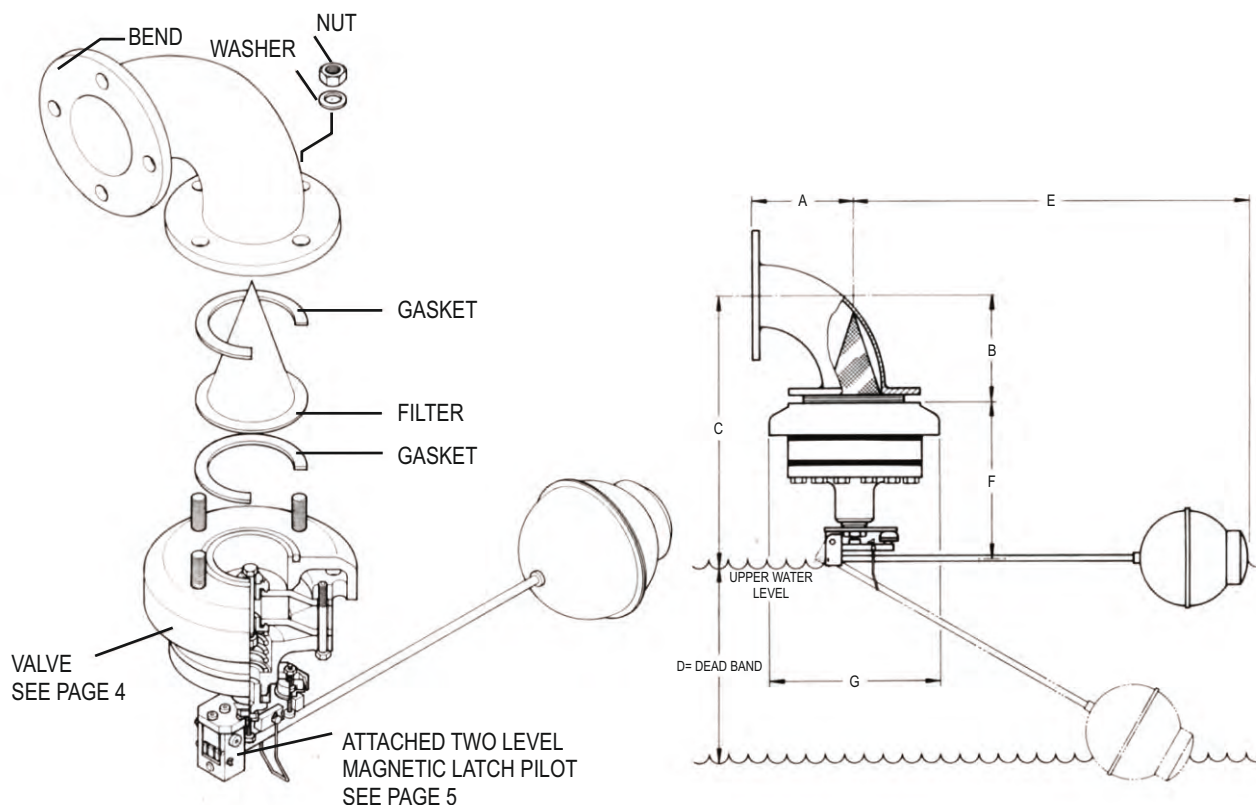
LEVEL CONTROL VALVES

LevelDex® - TECHNICAL DATA

LevelDex® - OVERALL DIMENSIONS AND PRE-FILTRATION OPTION

All control valves are susceptible to malfunction or damage caused by debris in the pipeline. An optional strainer protects the **LevelDex®** from malfunction or damage. The strainer is easily accessible for the purpose of cleaning. (Note: Pre filtration may reduce valve performance)

**Bend/ Attached Pilot Arrangement
(Recommended for DN 50 (2") to DN 150 (6") Valves)**



Valve Size		Valve Model No.	A		B		C		D		E		F		G		Weight	
mm	in		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
50	(2")	050 LX 1601	130	5 1/8	139	5 1/2	318	12 5/16	305	12	660	26	179	7 1/16	180	7 1/8	15	33,1
		050 LX 1605	130	5 1/8	139	5 1/2	318	12 3/4	305	12	660	26	185	7 5/16	180	7 1/8	15	33,1
80	(3")	080 LX 1601	114	4 1/2	123	4 7/8	317	12 1/2	305	12	660	26	194	7 1/16	212	8 3/8	20	44,1
		080 LX 1605	114	4 1/2	123	4 7/8	323	12 3/4	305	12	660	26	200	7 7/8	212	8 3/8	20	44,1
100	(4")	100 LX 1601	152	6	161	6 3/8	401	15 1/16	305	12	660	26	240	9 1/16	270	10 5/8	29	64,0
		100 LX 1605	152	6	161	6 3/8	407	16 1/32	305	12	660	26	246	9 1/8	270	10 5/8	29	64,0
150	(6")	150 LX 1601	229	9 1/32	238	9 3/8	512	20 1/8	375	14 3/4	810	31 1/8	274	10 13/16	350	13 13/16	53	117,0
		150 LX 1605	229	9 1/32	238	9 3/8	518	20 1/16	375	14 3/4	810	31 1/8	280	11 1/32	350	10 13/16	53	117,0

NOTE 1: The bend shown can be supplied but this is not always the case (model 'LD' denotes inclusion of bend. Refer to ordering guide on page 13.)

NOTE 2: The weights given exclude the bend.

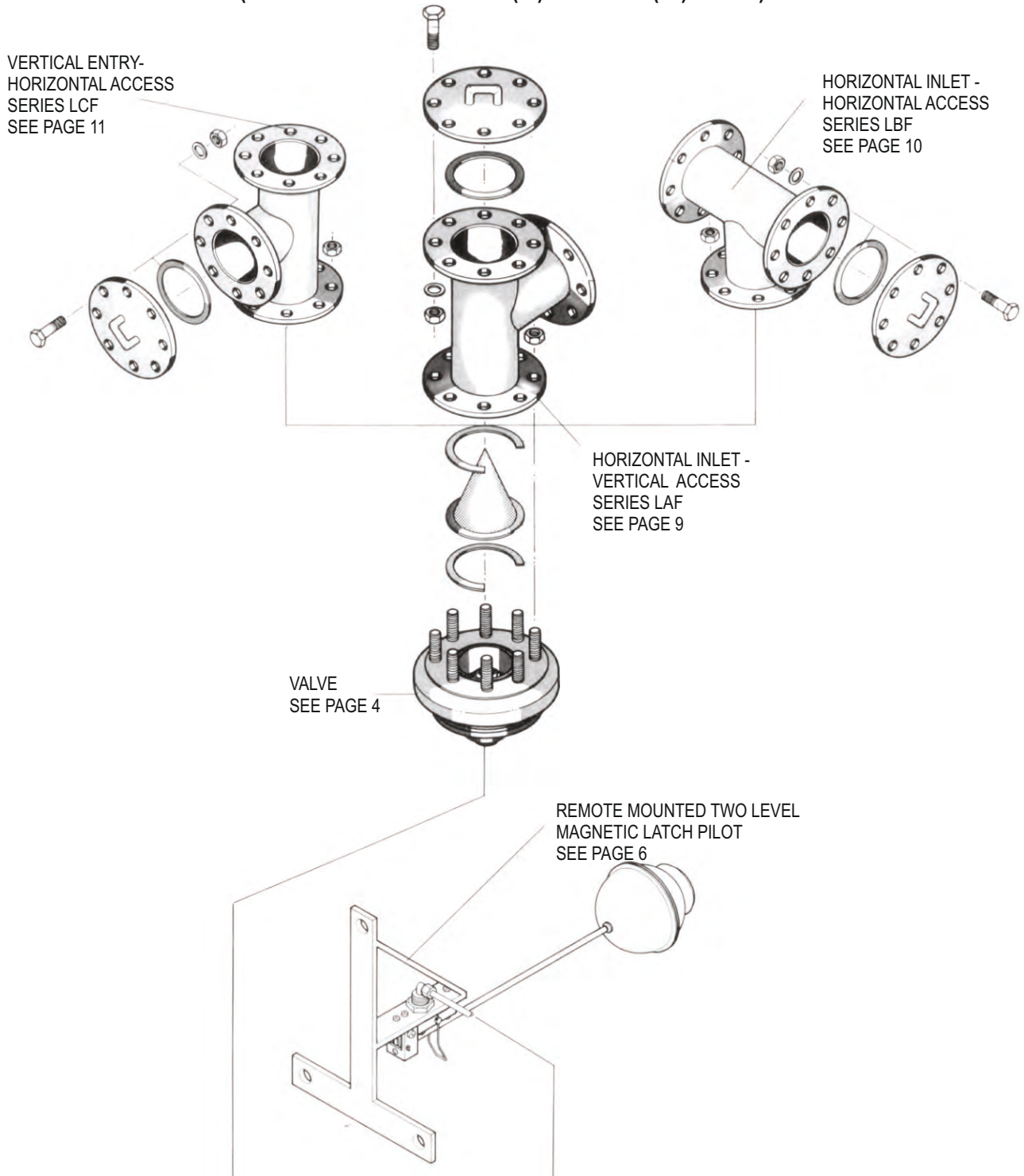
LEVEL CONTROL VALVES

LevelDex[®] - TECHNICAL DATA

LevelDex[®] - PRE FILTRATION OPTIONS

All control valves are susceptible to malfunction or damage caused by debris in the pipeline. An optional strainer protects the **LevelDex[®]** from malfunction or damage. The strainer is easily accessible for the purpose of cleaning. (*Note: Pre filtration may reduce valve performance*)

**Filter Box / Remote Pilot Arrangements
(Recommended for DN 150 (6") to DN 200 (8") Valves)**

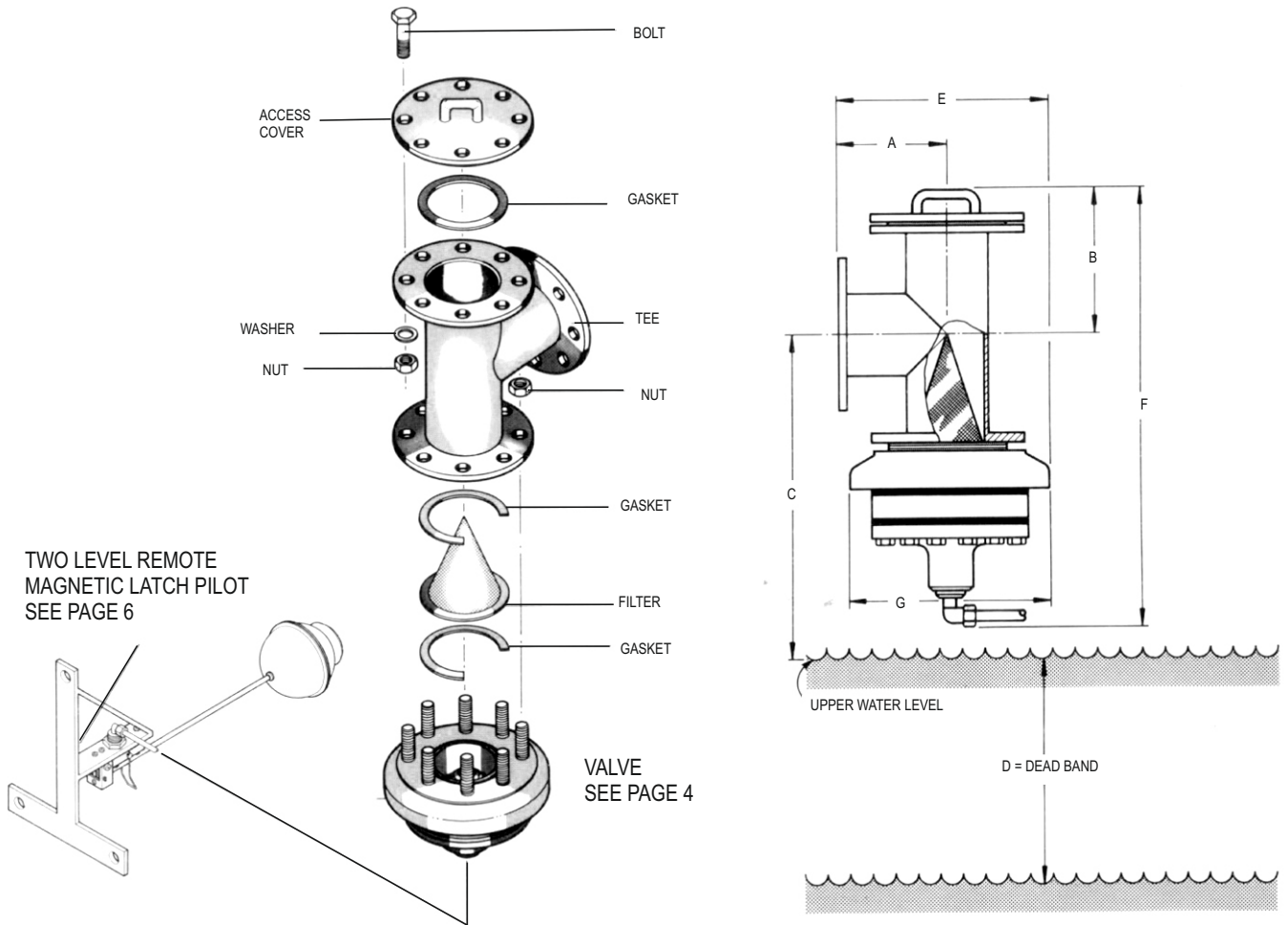


LEVEL CONTROL VALVES

LevelDex[®] - TECHNICAL DATA

LevelDex[®] - OVERALL DIMENSIONS AND PRE-FILTRATION OPTION

Horizontal Inlet - Vertical Filter Access Series LAFR (Recommended for DN 150 (6") to DN 200 (8") Valves)



Valve Size		Valve Model No.	A		B		C		D		E		F		G		Weight	
mm	in		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
150	6"	150 LAFR 1601	229	9 1/2	315	12 5/8	492	19 3/8	375	14 3/4	404	15 7/32	807	31 1/8	350	13 1/8	70	154,3
		150 LAFR 1605	229	9 1/2	315	12 5/8	498	19 5/8	375	14 3/4	404	15 7/32	813	32	350	13 1/8	70	154,3
200	8"	200 LAFR 1601	305	12	397	15 5/8	620	24 1/8	375	14 3/4	529	20 7/32	1017	40 1/8	448	17 3/32	150	331,0
		200 LAFR 1605	305	12	397	15 5/8	626	24 3/32	375	14 3/4	529	20 7/32	1023	40 3/8	448	17 3/32	150	331,0

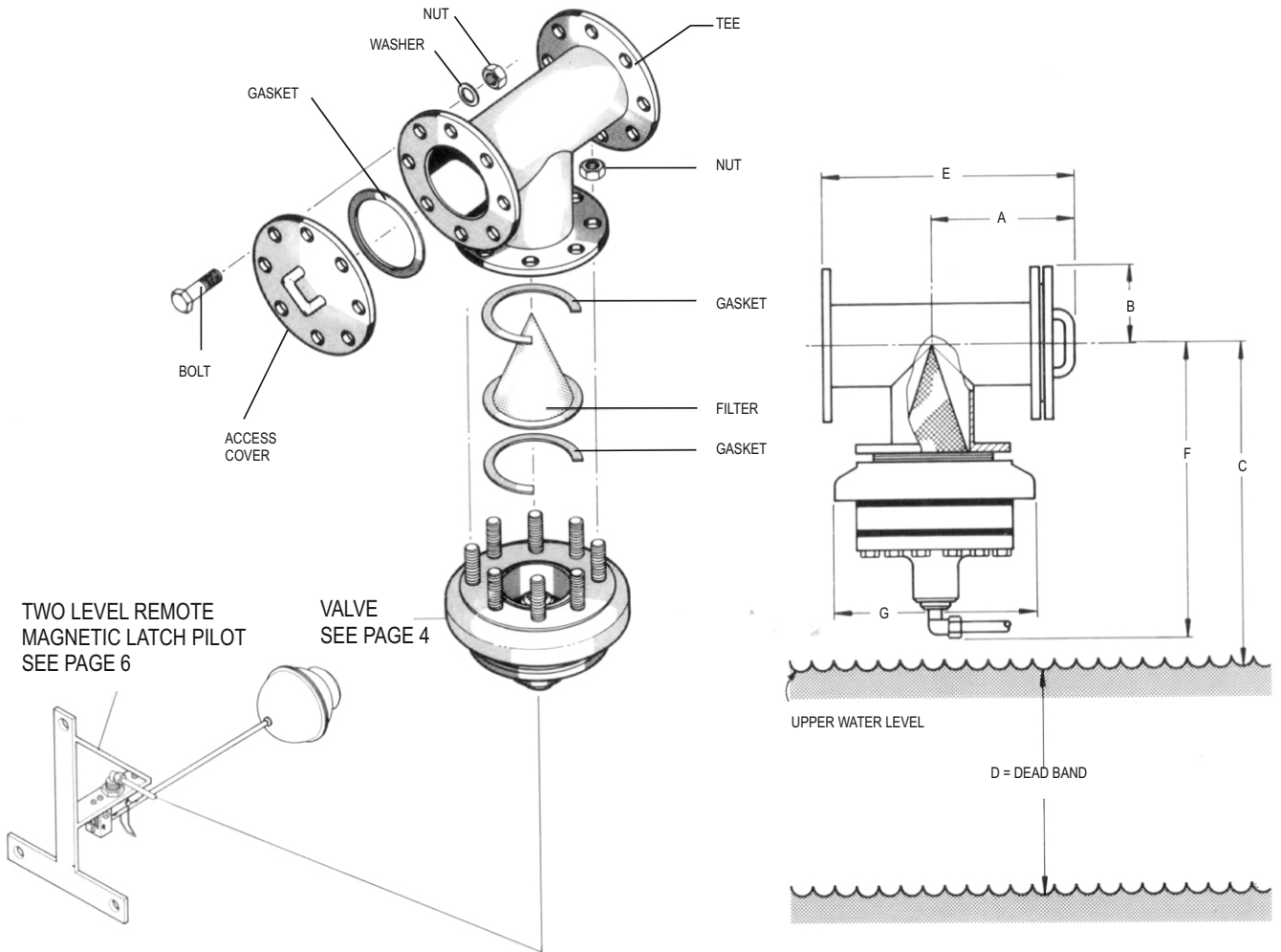
NOTE 1: Valve comes complete with remote pilot, model LR 2500 unless an alternative is specified

LEVEL CONTROL VALVES

LevelDex[®] - TECHNICAL DATA

LevelDex[®] - OVERALL DIMENSIONS AND PRE-FILTRATION OPTION

Horizontal Inlet - Vertical Filter Access Series LBFR (Recommended for DN 150 (6") to DN 200 (8") Valves)



TWO LEVEL REMOTE
MAGNETIC LATCH PILOT
SEE PAGE 6

Valve Size	Valve Model No.	A		B		C		D		E		F		G		Weight		
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
150	6"	150 LBFR 1601	315	12 5/8	143	5 7/8	492	19 5/8	375	14 3/4	544	21 1/2	492	19 5/8	350	13 1/8	70	154,3
			150 LBFR 1605	315	12 5/8	143	5 7/8	498	19 5/8	375	14 3/4	544	21 1/2	498	19 5/8	350	13 1/8	70
200	8"	200 LBFR 1601	398	15 1/8	170	6 1/8	620	24 3/8	375	14 3/4	703	27 1/8	620	24 3/8	448	17 1/2	150	331,0
			200 LBFR 1605	398	15 1/8	170	6 1/8	626	24 3/8	375	14 3/4	703	27 1/8	626	24 3/8	448	17 1/2	150

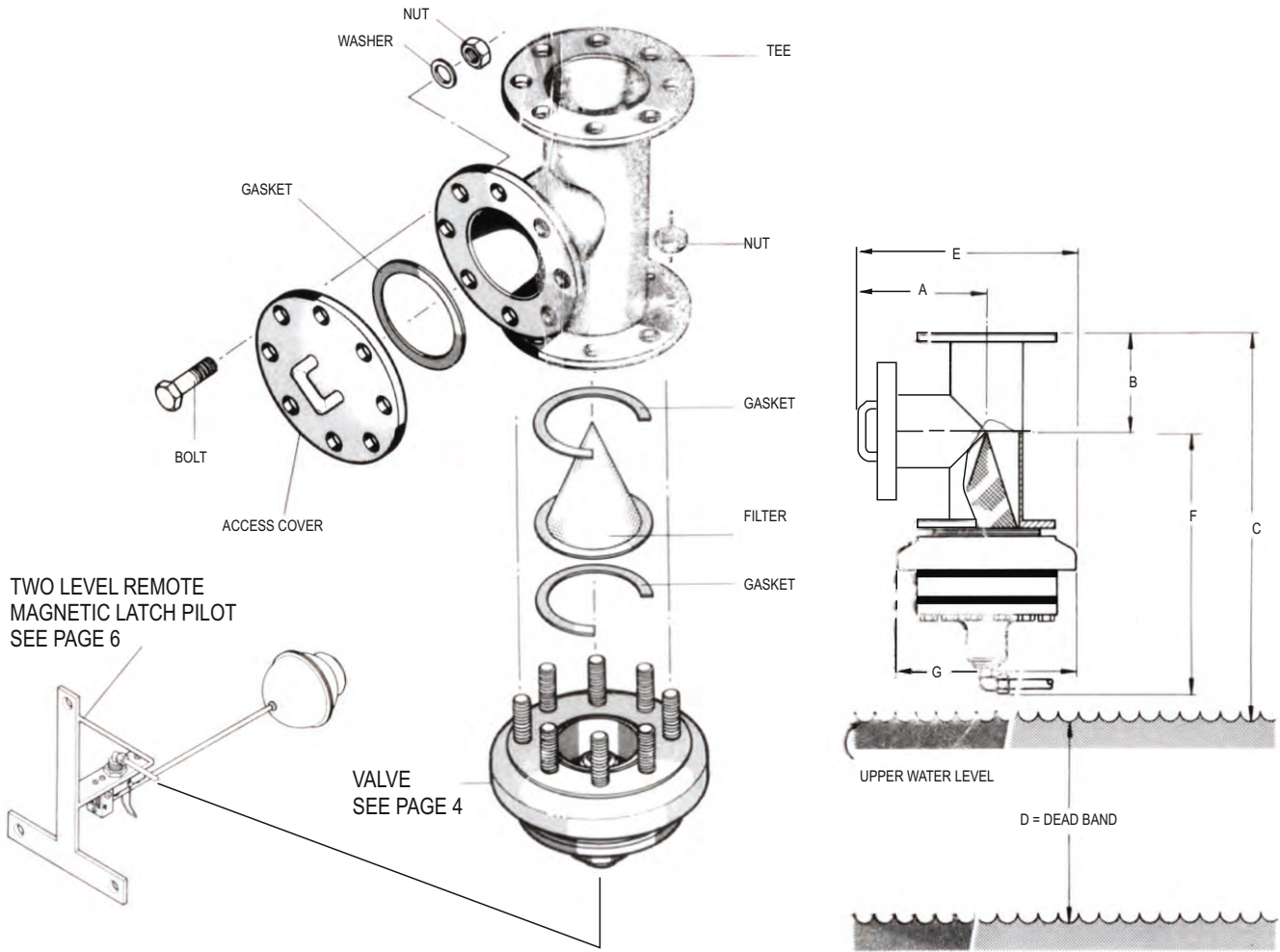
NOTE 1: Valve comes complete with remote pilot, model LR 2500 unless an alternative is specified

LEVEL CONTROL VALVES

LevelDex® - TECHNICAL DATA

LevelDex® - OVERALL DIMENSIONS AND PRE-FILTRATION OPTION

Vertical Inlet - Horizontal Filter Access Series LCFR (Recommended for DN 150 (6") to DN 200 (8") Valves)



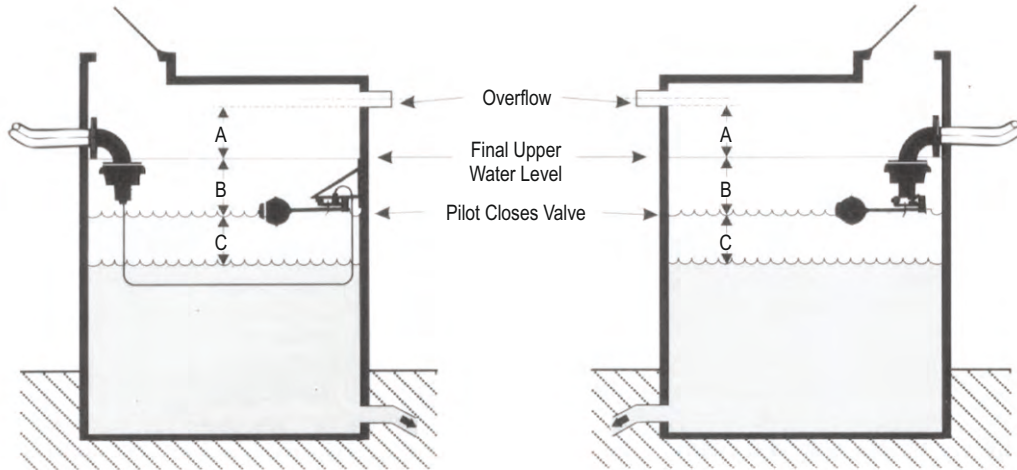
Valve Size		Valve Model No.	A		B		C		D		E		F		G		Weight	
mm	in		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
150	6"	150 LCFR 1601	315	12 1/32	229	9 1/2	721	28 3/8	375	14 3/4	490	19 5/16	492	19 3/8	350	13 1/8	70	154,3
		150 LCFR 1605	315	12 1/32	229	9 1/2	727	28 3/8	375	14 3/4	490	19 5/16	498	19 3/8	350	13 1/8	70	154,3
200	8"	200 LCFR 1601	398	15 1/16	305	12 1/32	925	36 1/16	375	14 3/4	622	24 1/2	620	24 1/32	448	17 3/32	150	331,0
		200 LCFR 1605	398	15 1/16	305	12 1/32	931	36 3/32	375	14 3/4	622	24 1/2	626	24 3/32	448	17 3/32	150	331,0

NOTE 1: Valve comes complete with remote pilot, model LR 2500 unless an alternative is specified

LEVEL CONTROL VALVES

LevelDex® - TECHNICAL DATA

LevelDex® - Closing discharge.
 (The amount of water discharged after the pilot closes).



LevelDex® - DIMENSIONS AND WEIGHTS

NOTE: Valve is indicated with an attached bend (Series LD) but the discharge is true for all **LevelDex®** valve types. The discharge value is according to the flow rate through the valve. The calculations are given at an estimated closing time of 300 seconds (5 minutes). The placement of the remote pilot in a remote pilot application will decide the final water level.

- DIMENSION A:** Allow a space between the bottom of the overflow and the final water level for surface turbulence
- DIMENSION B:** Decide on the final system flow in L/s (U.S. Gallons / min) and insert into the calculation below.
- DIMENSION C:** (Pilot Deadband)
 Attached Pilot: DN50 (2") to DN50 (2") to DN100 (4") = 305mm (12") Attached Pilot: DN150 (6") = 375mm (14 3/4")
 Remote Pilot: All Valve Sizes = 375mm (14 3/4").

HOW TO CALCULATE DIMENSION B:

1. Square or Rectangular Tank:

$$\text{Discharge: } \left(\frac{L/s}{6,6} \right) \div \text{Area of Tank (metres)} = \text{Dimension B Discharge}$$

1. Square or Rectangular Tank:

$$\text{Discharge: } \left(\frac{\text{U.S. Gallons/min.}}{2,968} \right) \div \text{Area of Tank (feet)} = \text{Dimension B}$$

EXAMPLE: A Valve Discharges at 120 L/s (1902 U.S. Gallon/min.) Into a Tank 15 metres (49,2 feet) in length by 5 metres (16,4 feet) in breadth, calculate dimension B.

Discharge: $\left(\frac{120L/s}{6,6} \right) \div \text{Area of Tank (15m x 15m)} = 0,242m$

2. Round Tank:
 Discharge: $\left(\frac{L/s}{6,6} \right) \div \left(\text{Diameter of Tank}^2 \times \frac{\pi}{4} \right) = \text{Dimension B}$

3. Any Other Shape Tank:
 Discharge: $\left(\frac{L/s}{6,6} \right) \div \text{Surface Area of Tank in m} = \text{Dimension B in m.}$

Discharge: $\left(\frac{1902 \text{ U.S. Gallons/min.}}{2,968} \right) \div \text{Area of Tank (49,2" x 16,4")} = 0,794 \text{ ft}$

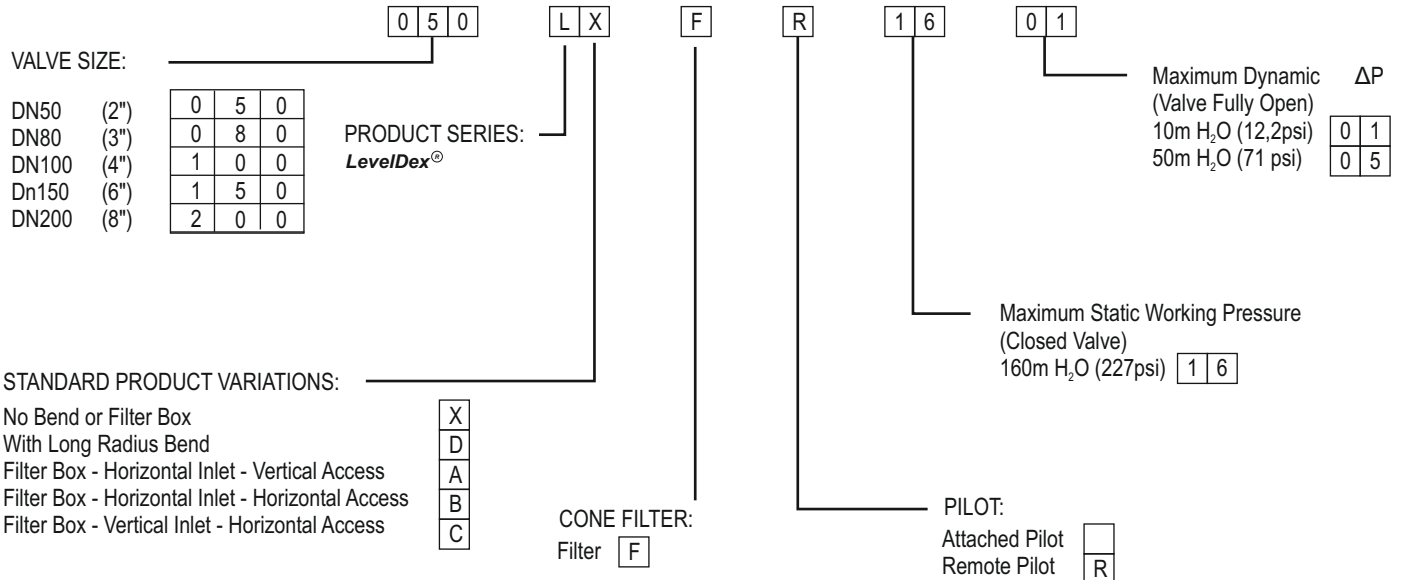
2. Round Tank:
 Discharge: $\left(\frac{\text{U.S. Gallons/min.}}{2,968} \right) \div \left(\text{Diameter of Tank}^2 \times \frac{\pi}{4} \right) = \text{Dimension B}$

3. Any Other Shape Tank:
 Discharge: $\left(\frac{\text{U.S. Gallons/min.}}{2,968} \right) \div \text{Surface Area of Tank in ft} = \text{Dimension B in ft}$

LEVEL CONTROL VALVES

LevelDex[®] - ORDERING GUIDE

Model No. Key



ADD ON FEATURES TO BASIC LevelDex[®] VALVES

	VALVE SIZE	50(2")	80(3")	100(4")	150(6")	200(8")
ADD ON FEATURES	LONG RADIUS BEND					
	FILTER BOX - HORIZONTAL INLET - VERTICAL ACCESS					
	FILTER BOX - HORIZONTAL INLET - HORIZONTAL ACCESS					
	FILTER BOX - VERTICAL INLET - HORIZONTAL ACCESS					
	FILTER					
	ATTACHED TWO LEVEL MAGNETIC LATCH PILOT					
	REMOTE TWO LEVEL MAGNETIC LATCH PILOT					

NOTE: This key refers to popular valve configurations and is not an indication of the limit of available variations, should there be a requirement which does not appear in the key please enquire.

WHEN ORDERING PLEASE SPECIFY:

- Valve size
- Desired Flange Alignment
- Static (Working) & Dynamic (Valve Fully Open) Pressure
- Desired Flow Rate

LEVEL CONTROL VALVES

APPLICATION PROBLEMS

LevelDex[®] SOLUTION

1. Water surface turbulence influence many valves, sometimes causing unacceptable high pressure surges in a system.
2. Inherent in all end level control valve applications is the problem of cavitation due to the necessary dissipation of excess energy. Generally valves have a limited capacity in this regard and maximum pressure drops quoted are in the region of 4m H₂O (5,7 ps) for mechanical valves and 20m H₂O (28,4 psi) for hydraulic types.
3. Surges caused by the closing characteristic of mechanical valves and hydraulic valves without sophisticated closing speed or relief controls can be damaging to the piping system.
4. On pumping systems modulating or mechanical valves increasingly throttle against the pump as the reservoir level rises and, consequently, the additional pumping energy required can be significant in terms of electricity and maintenance costs.
5. All control valves including the *LevelDex*[®] are susceptible to malfunction or damage caused by debris in the pipeline.
6. End line level control valves are generally large, weighty and difficult to service.

A unique magnetic latch differential pilot ensures that the *LevelDex*[®] will close/open positively even when operating in severely turbulent applications.

The *LevelDex*[®] design prevents internal cavitation and the consequent damage to sealing components by discharging through the specially dimensioned ports relative to the annular flow area between seat and disc. This causes cavitation to occur outside the valve at comparatively high dynamic differential pressures of up to 50m H₂O (71 psi) for standard valves.

A characteristic whereby deceleration of the closing rate occurs in the critical period just before the valve closure, and an operating feature whereby the valve will hesitate during the closing cycle if the rate of dynamic differential pressure increase is too steep, causes the *LevelDex*[®] to dampen out severe surges.

The *LevelDex*[®] does not throttle due to the rising or lowering of a reservoir level and, apart from the relatively short closing or opening cycles, is always either open or closed

An optional cone strainer protects the *LevelDex*[®] from malfunction or damage. The strainer is easily accessible for the purpose of cleaning.

LevelDex[®] valves are comparatively light, compact and extremely simple to service without any special tools or lifting equipment

LEVEL CONTROL VALVES

Complete the form below for any additional information and fax/post to:

**DFC Water (Pty) Ltd
P. O. Box 5064
Benoni South
1502
South Africa**

Tel: (+27 11) 748 0200

Fax: (+27 11) 421 2749

E Mail: ventomat@dfc.co.za

www.ventomat.com

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 stainless steel single chamber design with integral "Anti-Shock" surge dampening mechanism.

VENT-O-MAT[®] Series RGX Air Release & Vacuum Break Valves

compact Stainless Steel single chamber design with integral "Anti-Shock" surge dampening mechanism.

VENT-O-MAT[®] Series RC Air Release & Vacuum Break Valves

cast air valve for irrigation and small reticulation systems.

VENT-O-MAT[®] Series RPS Air Release & Vacuum Break Valves

glass reinforced polypropylene CATT air valve for industrial, irrigation and small reticulation systems.

LEVEL CONTROL VALVES

GENERAL CONDITIONS OF TENDER AND SALE

1. DEFINITIONS

1.1 Seller:

Dynamic Fluid Control (Ply) Ltd

1.2 Purchaser:

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 in writing and the Acceptance of Order, together with only such other terms and conditions as may be specifically agreed in writing between the parties.

2. ACCEPTANCE OF ORDER

2.1 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

2.2 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.

3. 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 by or on behalf of the Purchaser.

4. LIABILITY

4.1 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 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

4.2 Liability for Delay

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 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 sole remedy for such delay.

4.3 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.

4.3.1 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;

4.3.2 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.

4.3.3 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 production, loss of custom or goodwill, or for any special, indirect or consequential damages howsoever arising.

5. DELIVERY

5.1 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.

5.2 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 in 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.

6. Contract Price

Unless otherwise specifically agreed in writing in each particular instance:

6.1 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 occurring between 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.

6.2 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.

6.3 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, 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 at 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 any land or building, vehicle or vessel or other place upon which the Goods are reasonably thought to be situated.

6.4 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.

6.5 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.

7. RENUNCIATION OF BENEFITS

The Purchaser hereby renounces the benefits of 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.

8. VARIATIONS

The Seller 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 omission 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 per centum) to the Contract Price or to the quantities set out in the Contract.

9. 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 per centum) 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 premises.

10. FORCE MAJEURE

10.1 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").

10.2 For the purposes of this clause a Force Majeure event shall, without limitation to the generality of (the foregoing, 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.

11. PATENTS COPYRIGHT AND CONFIDENTIALITY

11.1 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.

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

11.3 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.

12. BREACH

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.

13. GOVERNING LAW AND DISPUTES

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

13.2 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.

14. 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 contract.

15. LANGUAGE

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

