

REFRIGERATION COMPONENTS  
Modulating Water Valves

## Pressure Actuated Water Valves

## V46

2-way Pressure Actuated Water Valves -  
Commercial Applications

These pressure actuated modulating valves control the quantity of water to a condenser by directly sensing pressure changes in a refrigerant circuit.

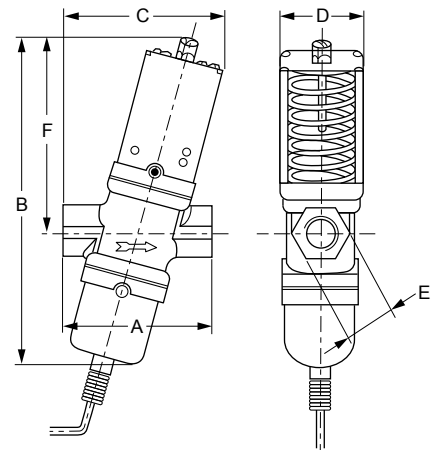
The valves can be used in non-corrosive refrigerant systems. Ammonia power elements and valves designed for salt-water applications are available.

The valves have a quick opening characteristic and open on pressure increase (direct acting).

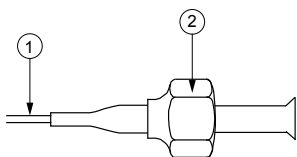
Reverse acting (close on pressure increase) is possible.

## Features

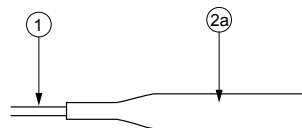
- Pressure balanced valve design
- Pressure actuated
- 3/8, 1/2, 3/4" are angled body type valves with high Kv value
- 3/8" up to 2" pressure valves "all range" types
- Quick opening valve characteristics
- No close fitting or sliding parts in water passages
- Easy to disassemble. All parts can be replaced
- Special bronze bodies and monel parts
- Power elements with stainless steel bellows available
- Wide range of pressure connection styles
- Nickel plated seats available for 3/8, 1/2, and 3/4" valves
- Direct/reverse action



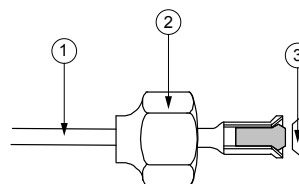
Valve Size	Dimensions in mm					
	A	B	C	D	E	F
3/8"	70	150	75	41	24	92
1/2"	80	166	86	51	27	98
3/4"	90	181	97	55	36	110



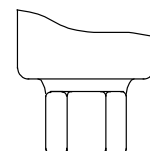
**Style 13**  
(excl. valve depressor)  
1: 75 cm capillary  
2: 7/16-20 UNF flare nut



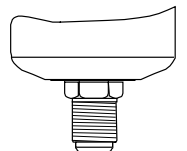
**Style 34**  
1: 75 cm capillary  
2: 1/4" tube for braze connection



**Style 50**  
(incl. valve depressor mounted into machined flare)  
1: 75 cm capillary  
2: 1/4" tube for braze connection  
3: copper searing



**Style 15**  
1/4-18NPT (female)



**Style 5**  
7/16-20 UNF

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#### Pressure Actuated Water Valves

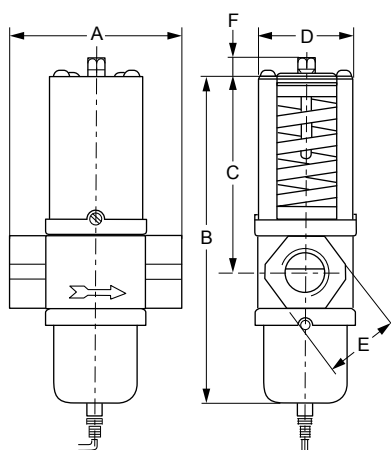
#### V46

Ordering Codes	Range (bar)	Body Style	Size Thread according to ISO 228	Style	Capillary Length (cm)	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
V46AA -9600	5...18	Angled	3/8"	13	75	---
V46AA -9608					100	With special washer to prevent waterhammer at low flow capacity
V46AA -9602				34	Nickel plated seat/longer capillary	
V46AA -9950					Nickel plated seat/solder connection	
V46AA -9951			.040" i.d.cap./solder connection			
V46AB -9600			1/2"	13	75	---
V46AB -9950						Solder connection/"062" id.cap
V46AC -9600						---
V46AC -9951			3/4"	13	34	Solder connection
V46AA -9300						---
V46AA -9301	5...23	Angled	3/8"	5	---	Nickel plated seat, high range. With washer to prevent waterhammer at low flow capacity
V46AA -9606				13	75	Nickel plated seat, high range
V46AA -9609					75	Nickel plated seat, high range. With washer to prevent waterhammer at low flow capacity
V46AA -9510					50	High range
V46AB -9300			1/2"	5	---	---
V46AB -9605				13	75	Nickel plated seat, high range
V46AB -9951					34	Solder connection, high range
V46AB -9510			50	High range		
V46AC -9300			3/4"	5	---	---
V46AC -9605				13	Nickel plated seat, high range	
V46AC -9510				50	High range	

## REFRIGERATION COMPONENTS Modulating Water Valves

### Pressure Actuated Water Valves

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Valve Size	Dimension in mm					
	A	B	C	D	E	F
1"	124	233	138	71	48	13
1 1/4"	126	242	144		57	

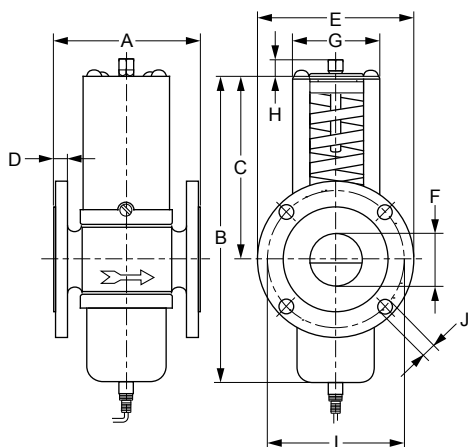
Ordering Codes	Range (bar)	Body Style	Size Thread according to ISO 7-Rc	Style	Capillary Length	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
V46AD -9300	5...18	Straight	1"	5	---	---
V46AD -9510				50	75	
V46AD -9600				13	75	
V46AE -9300			1 1/4"	5	---	
V46AE -9510				50	75	
V46AE -9600				13	75	
V46AD -9511	10...23		1"	50	75	High range
V46AE -9512			1 1/4"			

## REFRIGERATION COMPONENTS

### Modulating Water Valves

#### Pressure Actuated Water Valves

#### V46



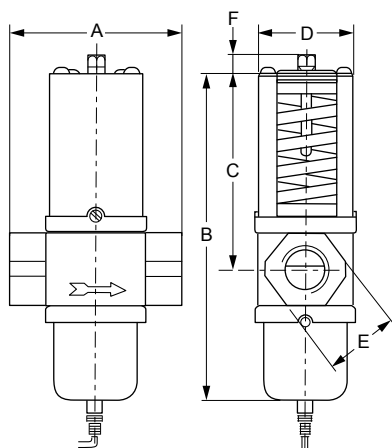
Valve Size	Dimensions in mm									
	A	B	C	D	E	F	G	H	I	J
1½"	137	242	144	18	150	47	67	13	110	18
2"	168	299	164	20	165	57	89	16	125	
2½"	172				185	70			145	

Ordering Codes	Range (bar)	Body Style	Size DIN2533 Flang Connections	Style	Capillary Length	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
V46AR-9300	5...18	Straight	1½"	5	---	---
V46AR-9600				13	75	
V46AS-9300	5...11.5		2"	5	---	---
V46AS-9301	11...18					
V46AT-9300	5...11.5		2½"	5	---	---
V46AT-9301	11...18					

## REFRIGERATION COMPONENTS Modulating Water Valves

### Pressure Actuated Water Valves

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Valve Size	Dimension in mm					
	A	B	C	D	E	F
3/8"	67	136	79	41	24	10
1/2"	80	153	86	51	29	
3/4"	86	163	96	55	35	
1"	124	233	138	71	52	13
1 1/4"		242	144		62	

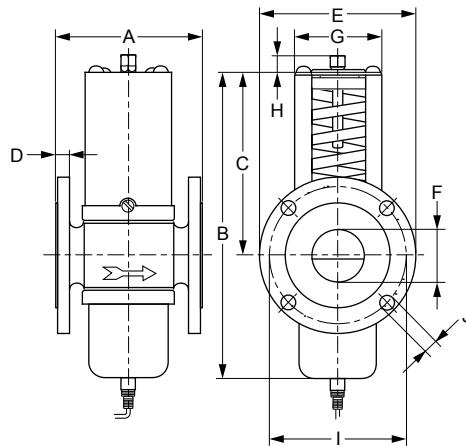
Ordering Codes	Range (bar)	Body Style	Size thread according to ISO 228	Style	Capillary Length	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
V46BA-9600	5...18	Straight	3/8"	13	75	---
V46BB-9600			1/2"			
V46BC-9600			3/4"			
V46BD-9600			1"			
V46BE-9510			1 1/4"	50		
V46BE-9600			1 1/4"	13		
V46BA-9510	5 ...23		3/8"	50	140	Longer capillary
V46BB-9510			1/2"			
V46BC-9510			3/4"			
V46BC-9511			3/4"			
V46BD-9510	10...23		1"	50	75	---
V46BE-9511			1 1/4"			

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### Modulating Water Valves

#### Pressure Actuated Water Valves

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Valve Size	Dimensions in mm									
	A	B	C	D	E	F	G	H	I	J
1½"	135	242	144	14	150	47	67	13	110	18
2"	162	299	164	16	165	57	89	16	125	
2½"	172				185	70			145	

Ordering Codes	Range (bar)	Body Style	Size DIN 86021 flange connections	Style	Capillary Length
V46BR-9510	5...18	Straight	1½"	50	75
V46BR-9600				13	
V46BS-9300	5...11.5		2"	5	---
V46BS-9301	11...18				
V46BT-9300	5...11.5		2½"	5	---
V46BT-9301	11...18				

REFRIGERATION COMPONENTS  
Modulating Water Valves

## Pressure Actuated Water Valves

## V46SA

*Pressure Actuated Water Valves, Low Flow*

The V46SA is a direct acting, "all range", pressure actuated modulating valve, used to control the waterflow to a condenser by directly sensing pressure changes in a non-corrosive refrigerant circuit.

The V46SA is specially designed for use on equipment requiring a low condenser waterflow such as icemakers, small heatpumps and watercoolers. The springhousing and power element are rolled to the valve body.

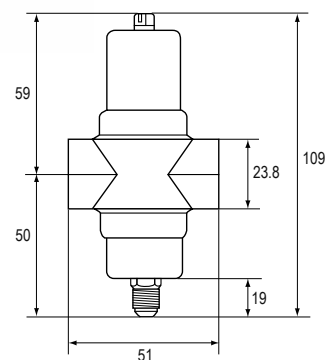
Rubber diaphragms seal the water away from the range spring and bellows part so these are not submerged in water where they would be subject to sedimentation and corrosion.

The valve can be ordered style 5 (without capillary), style 13, style 34 and style 50 (incl. 75 cm capillary).

The capillary part will be delivered separated from the valve.

## Features

- Valve designed for low flow
- "All range" power element and spring housing
- Small dimensions
- Pressure actuated
- Various pressure connection style
- High refrigerant pressure resistant bellows



Dimensions in mm

Ordering Codes	Range (bar)	Body Style	SizeThread according to ISO 228	Style	Capillary Length	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
V46SA-9101	5...23	Straight	3/8"	45A	75	Capillary soldered to power element
V46SA-9110				50		Capillary separate
V46SA-9300				5	---	
V46SA-9600				13	75	Capillary separate
V46SA-9950				34		---
V46SA-9951						

REFRIGERATION COMPONENTS  
Modulating Water Valves

## Pressure Actuated Water Valves

## V48

## 3-way Pressure Actuated Water Valves

These water valves are especially designed for condensing units cooled either by atmospheric or forced draft cooling towers. They may be used on single, or multiple condenser hook-ups to the tower.

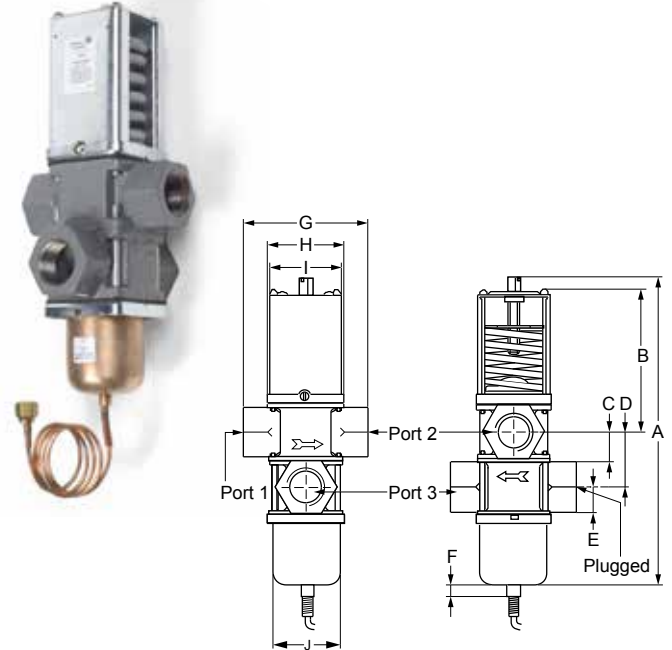
The type V48 valve senses the compressor head pressure and allows cooling water to flow to the condenser, to by-pass the condenser, or to allow waterflow to both condenser and by-pass line in order to maintain correct refrigerant head pressure.

A further advantage of this system is that the 3-way valve permits a continuous water flow to the tower so the tower can operate efficiently with a minimum of maintenance on nozzles and wetting surfaces.

The valves can be used in non-corrosive refrigerant systems. Ammonia power elements and valves designed for salt-water applications are available. The valves have a quick opening characteristic.

## Features

- Pressure balanced design
- Free movement of all parts
- Easy manual flushing
- High Kv values
- Pressure actuated
- Can be used as mixing or diverting valve



Valve Size	Dimensions in mm									
	A	B	C	D	E	F	G	H	I	J
<b>Commercial type</b>										
1/2"	201	86	24	38	29	8	81	51	47	45
3/4"	218	96	27	45	35		86	55	52	48
1"	296	138	29	51	48		124	71	67	59
1 1/4"	315	144	32	60	57		126			59
<b>Maritime type</b>										
3/4"	218	96	27	45	35	8	86	55	52	48

Ordering Codes	Range (bar)	Body Style	Size Thread	Style	Capillary Length	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
<b>Commercial type</b>						
V48AB -9510	4...20	Straight	1/2" according to ISO 7-Rc	50	75	---
V48AB -9600	4...16			13		
V48AC -9510	4...20		3/4" according to ISO 7-Rc	50		
V48AC -9600	4...16			13		
V48AD -9510	6...20	Straight	1" according to ISO 7-Rc	50	75	Bodies in line (port 3 below port 2)
V48AD -9600	4...16			13		
V48AD -9602	4...16		1 1/4" according to ISO 7-Rc	50		
V48AE -9510	6...20			13		
V48AE -9600	4...16					
<b>Maritime types</b>						
V48BC -9600	4...16	Straight	3/4" according to ISO 228	13	75	Seawater resistant

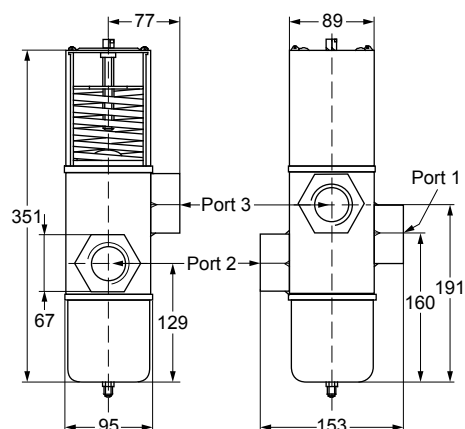


## REFRIGERATION COMPONENTS

### Modulating Water Valves

#### Pressure Actuated Water Valves

#### V48



#### Commercial types

Ordering Codes	Range (bar)	Body Style	Size Thread according to ISO 7-Rc	Style	Additional Features It is possible to change Style 13 into Style 45A by ordering KIT031N600
V48AF-9300	6...14	Straight	1 1/2"	5	---

REFRIGERATION COMPONENTS  
Modulating Water Valves

## Pressure Actuated Water Valves

## V246 and V248

*Water Regulating Valves for High Pressure Refrigerants*

The V246 & V248 Series 2-way and 3-Way Pressure-Actuated Water-Regulating Valves for High-Pressure Refrigerants regulate water flow and control refrigerant head pressure in systems with single or multiple watercooled condensers.

These valves have an adjustable opening point in a refrigerant pressure range of 200 to 400 psig (13.8 to 27.6 bar).

These Series valves are designed specifically for condensing units cooled either by atmospheric or forced draft cooling towers. They are used on single or multiple condenser hook-ups to the tower to provide the most economical and efficient use of the tower. V246 & V248 valves may be used with standard non-corrosive or ammonia refrigerants.

For applications where the coolant may be corrosive to the internal parts, maritime models are available, which have nickel copper (Monel®) internal parts.

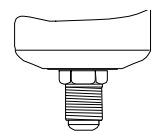
## Features

- No Close Fitting or Sliding Parts in Water Passages
- Accessible Range Spring
- Take-Apart Construction
- Pressure-Balanced Design
- Corrosion-Resistant Material for Internal Parts



## Standard Production Models - Range 13.8 to 27.6 bar

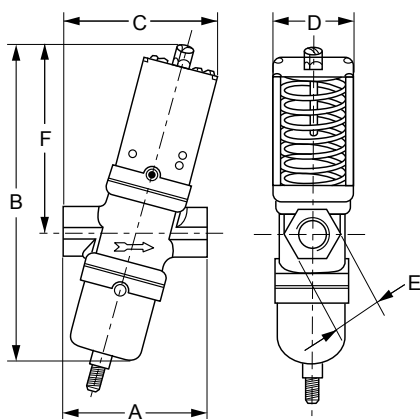
Product Codes	Construction	Valve Size and Connection	Element Style	Shipping Weight (kg)
V246GA1A001C	Direct Acting, Commercial	3/8 in. BSPP Screw, ISO 228	Style 5	1.86
V246GB1A001C		1/2 in. BSPP Screw, ISO 228		1.4
V246GC1A001C		3/4 in. BSPP Screw, ISO 228		1.7
V246GD1B001C		1 in. BSPT Screw, ISO 7		4.2
V246GE1B001C		1-1/4 in. BSPT Screw, ISO 7		4.5
V246GR1B001C		1-1/2 in. Flange, DIN2533		6.2
V246GS1B001C		2 in. Flange, DIN2533		12.3
V246HA1B001C	Direct Acting, Maritime	3/8 in. BSPP Screw, ISO 228		1.86
V246HB1B001C		1/2 in. BSPP Screw, ISO 228		1.4
V246HC1B001C		3/4 in. BSPP Screw, ISO 228		2.0
V246HD1B001C		1 in. BSPT Screw, ISO 228		4.3
V246HE1B001C		1-1/4 in. BSPT Screw, ISO 228		4.7
V246HR1B001C		1-1/2 in. Flange, DIN86021		6.2
V246HS1B001C		2 in. Flange, DIN86021		12.3



Style 5  
7/16-20 UNF

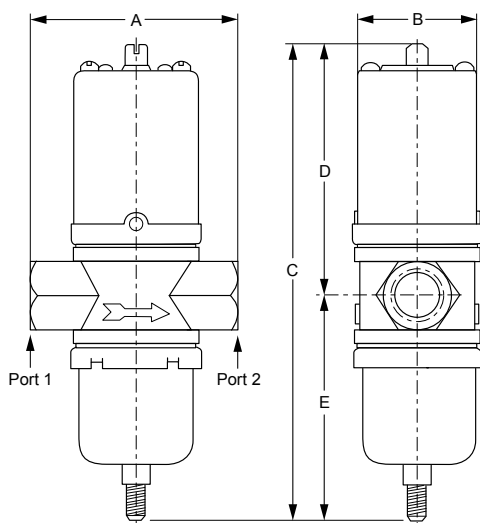
## REFRIGERATION COMPONENTS Modulating Water Valves

### Pressure Actuated Water Valves V246



#### V246 Screw Connection Valves Commercial Service - Dimensions

Valve Size	Dimension in mm					
	A	B	C	D	E	F
3/8"	70	176	75	41	24	92
1/2"	80	191	86	51	27	98
3/4"	90	217	97	55	36	110



#### V246 Screw Connection Valves Commercial Service - Dimensions

Valve Size	Dimension in mm				
	A	B	C	D	E
1"	124	71	267	151	116
1-1/4"	126		276	156	121

#### V246 Screw Connection Valves Maritime Service - Dimensions

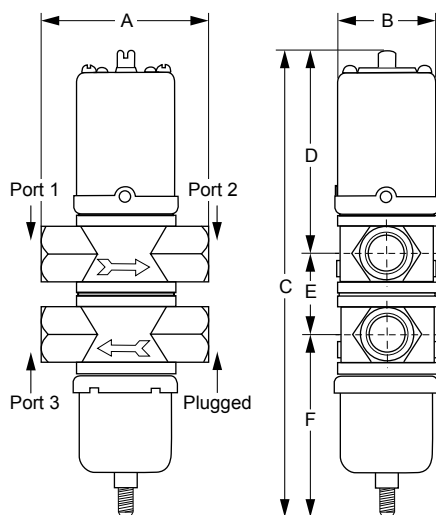
Valve Size	Dimension in mm				
	A	B	C	D	E
3/8"	67	41	166	89	77
1/2"	78	51	182	96	86
3/4"	86	55	203	106	98
1"	124	71	267	151	116
1-1/4"	126		276	156	121

## REFRIGERATION COMPONENTS Modulating Water Valves

### Pressure Actuated Water Valves V248

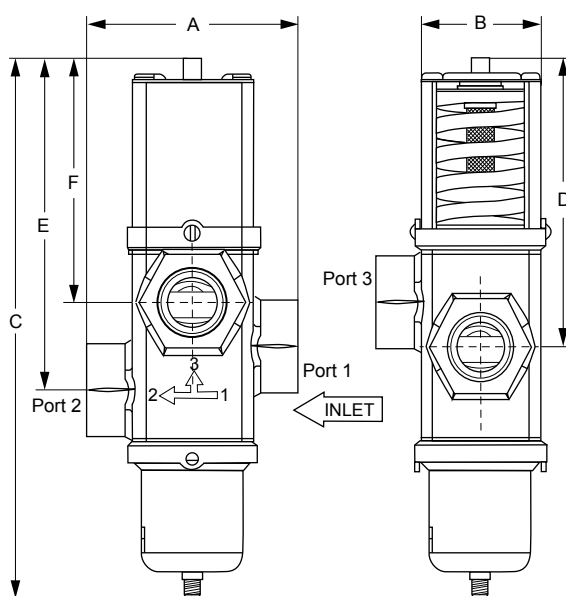
#### Standard Production Models - Range 13.8 to 27.8 bar

Product Codes	Construction	Valve Size and Connection	Element Style	Shipping Weight (kg)
V248GB1B001C	Direct Acting, Commercial	1/2 in. BSPT Screw, ISO 7	Style 5	2.3
V248GC1B001C		3/4 in. BSPT Screw, ISO 7		3.0
V248GD1B001C		1 in. BSPT Screw, ISO 7		5.5
V248GE1B001C		1-1/4 in. BSPT Screw, ISO 7		5.0
V248GF1B001C		1-1/2 in. BSPT Screw, ISO 7		11.3
V248HC1B001C	Direct Acting, Maritime	3/4 in. BSPP Screw, ISO 228		3.0



#### 1/2 in. through 1-1/4 in. - Dimensions

Valve Size	Dimensions in mm					
	A	B	C	D	E	F
1/2 in.	79	51	220	96	38	86
3/4 in.	86	55	248	106	45	98
1 in.	124	71	318	151	52	115
1-1/4 in.	126		336	156	60	121



#### 1 1/2 in. - Dimensions

Valve Size	Dimensions in mm					
	A	B	C	D	E	F
1-1/2 in.	152	89	387	206	237	175