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## Back Check Valves

A2885 & A2883 (LPG)

A2882 (Refined Fuels)

## Installation and Parts



LIQUID CONTROLS™

An IDEX Energy & Fuels Business

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## SAFETY PROCEDURES

### WARNING

#### Be Prepared

- Before using this product, read and understand the instructions.
- All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of equipment and/or systems in accordance with all applicable codes and ordinances.
- When handling electronic components and boards, always use proper Electrostatic Discharge (ESD) equipment and follow the proper procedures
- Make sure that all necessary safety precautions have been taken.
- Provide for proper ventilation, temperature control, fire prevention, evacuation, and fire management.
- Provide easy access to the appropriate fire extinguishers for your product.
- Consult with your local fire department, state, and local codes to ensure adequate preparation.
- Read this manual as well as all the literature provided in your owner's packet.
- Save these instructions for future reference. Failure to follow the instructions set forth in this publication could result in property damage, personal injury, or death from fire and/or explosion, or other hazards that may be associated with this type of equipment.



### WARNING

#### Safely Evacuate Piping System

Before disassembly of any meter or accessory component:

**ALL INTERNAL PRESSURES MUST BE RELIEVED AND ALL LIQUID DRAINED FROM THE SYSTEM IN ACCORDANCE WITH ALL APPLICABLE PROCEDURES.**

- Pressure must be 0 (zero) psi.
- Close all liquid and vapor lines between the meter and liquid source.
- For Safety Rules Regarding LPG, refer to NFPA Pamphlet 58 and local authorities.

Failure to follow this warning could result in property damage, personal injury, or death from fire and/or explosion, or other hazards that may be associated with this type of equipment.



## PUBLICATION UPDATES AND TRANSLATIONS

The most current English versions of all Liquid Controls publications are available on our web site. It is the responsibility of the local distributor to provide the most current version of LC manuals, instructions, and specification sheets in the required language of the country or the language of the end user to which the products are shipping. If there are questions about the language of any LC manuals, instructions, or specification sheets, please contact your local distributor.

The documentation is only complete when used in combination with the relevant documentation for the signal converter.

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## WARNING

### Observe National and Local Codes

Power, input, and output (I/O) wiring must be in accordance with the area classification for which it is used (Class I, Div 2).

For North America, installations must be per the U. S. National Electrical Code, NFPA 70, or the Canadian Electrical Code in order to maintain Class I, Division 2 ratings. This may require using connections or other adaptations in accordance with the requirements of the authority having jurisdiction.

### WARNING Explosion Hazard

Substitution of components may impair suitability for Class I, Division 2 applications

### WARNING Explosion Hazard

When in hazardous locations, turn power OFF before replacing or wiring modules.

### WARNING Explosion Hazard

Do NOT disconnect equipment unless power has been switched OFF or the area is known to be Non-Hazardous.

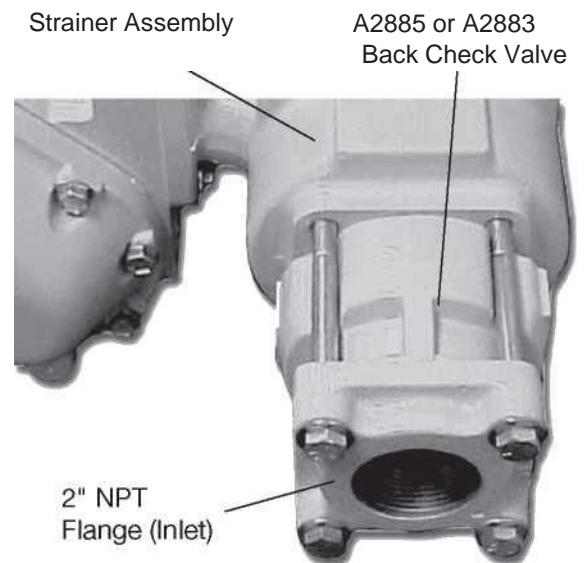
## INTRODUCTION / A2885 & A2883 (LPG)

### General Information A2885 & A2883 Back Check Valves

Liquid Controls soft seat Back Check Valves are designed to prevent reverse flow of product through the meter. This assures that the meter and all components downstream remain full of the liquid being measured. The A2885 and A2883 for LPG are installed on the inlet side of the strainer assembly on the meter. The A2885 and A2883 are applicable for MA-5 and MA-7 meters. The A2882 for Refined Petroleum products is installed on the outlet side of the meter. The A2882 is applicable for M-5, M-7, and M-10 Meters.

### New Installations

When ordered with a new metering system, the A2885 or A2883 Back Check Valve is supplied mounted to the inlet side of the strainer housing as shown to the right. To complete the A2885 or A2883 Back Check Valve portion of the installation, a liquid line must be connected to the flange on the inlet side of the valve. The flange connection is 2" NPT.



# A2885 & A2883 (LPG)

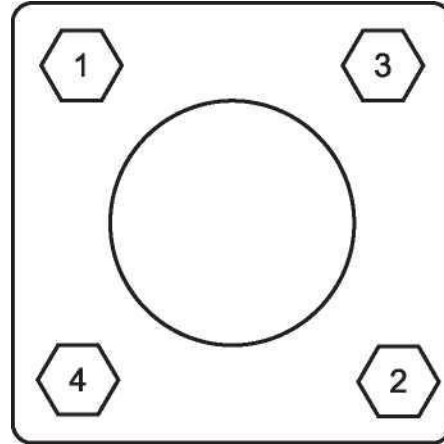
## A2885 & A2883 Back Check Valves

### Retrofit Installations

Depending on the existing configuration, adding an A2885 or A2883 Back Check Valve may require modification of the inlet piping.

After the internal pressure is relieved from the system, the inlet line can be disconnected from the inlet side of the strainer assembly. The valve and flange assembly can then be connected to the inlet side of the strainer.

Use the four bolts and washers provided to fasten the valve/flange assembly to the strainer as shown on Page 3. Tighten the bolts in a crossing pattern as shown to the right. Once the valve/flange assembly is secure, the inlet line may be reconnected to the flange. The flange fitting is 2" NPT.



Bolt Tightening Pattern

### Item Numbers

Refer to the illustrated parts breakdown on Page 6 for Item Numbers referenced in these instructions. Item Numbers appear in circles in the drawing.

### Disassembly

1. Remove the valve from the line by removing the four screws (Item 3) and washers (Item 4) that hold it in place.
2. From the inlet side of the valve, unscrew the valve stem (Item 265) from the valve nut (Item 875).
3. Remove the valve nut (Item 875) by pressing down on the spring holder (Item 382). The spring should be held down with a press. Lift the valve nut out of position. The spring holder and lock washer can now be removed from the housing.
4. Remove the O-Ring retainer (Item 452), O-Ring (Item 470), piston (Item 133), O-Ring (Item 471), and spacer (Item 472), lifting by the threaded end of the valve stem (Item 265).
5. Remove the O-Ring retainer (Item 452) and O-Ring (Item 471) from the stem.
6. Remove the O-Ring (Item 471) and the piston (Item 133) from the stem.
7. Replace components if necessary and reassemble. The bushing (Item 485) is pressed in place and need not be removed.

### Reassembly

1. Place the piston (Item 133) on the valve stem (Item 265), with the raised rim pointing upwards.
2. Place the spacer (Item 472) and O-Ring (Item 471) on the piston (Item 133).
3. Place the O-Ring (Item 470) on the retainer (Item 452) and place it over the piston (Item 133) with the O-Ring downward.
4. Place a self locking nut (Item 875) on the valve stem and tighten. Place a second self locking nut (Item 875) on the valve stem and tighten.
5. Insert this assembly into the housing (Item 110) from the outlet side.
6. Place the compression spring (Item 595) over the valve stem (Item 265).
7. Insert the Teflon bearing (Item 486) into the valve spring holder (Item 382).
8. Place the spring holder (Item 382) on the housing (Item 110) and compress the spring inward. A press should be used to overcome the force of the spring.
9. Secure the spring holder with the spiral retaining ring (Item 393).
10. Place the O-Ring (Item 473) in the groove on the outlet side of the housing assembly (Item 110).

The back check valve is now ready to be reinstalled using the four screws (Item 3) and washers (Item 4).

## A2882 (REFINED FUELS)

### A2882 Back Check Valves

#### New Installations

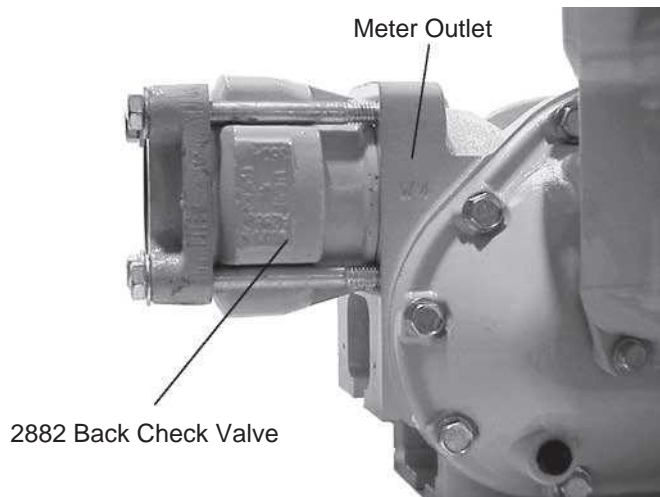
When ordered with a new metering system, the A2882 Back Check Valve is supplied mounted to the outlet side of the meter as shown to the right. To complete the A2882 Back Check Valve portion of the installation, a liquid line must be connected to the flange on the outlet side of the valve. The flange connection is 2" NPT.

#### Retrofit Installations

Depending on the existing configuration, adding an A2882 Back Check Valve may require modification of the outlet piping.

After the internal pressure is relieved from the system (see warning on Page 2), the outlet line can be disconnected from the output side of the meter assembly. The valve and flange assembly can then be connected to the outlet side of the meter.

Use the four bolts and washers provided to fasten the valve/flange assembly to the meter. Tighten the bolts in a crossing pattern (as shown on Page 4). Once the valve/flange assembly is secure, the outlet line may be reconnected to the flange. The flange fitting is 2" NPT.



#### Item Numbers

Refer to the illustrated parts breakdown on Page 7 for Item Numbers referenced in these instructions. Item Numbers appear in circles in the drawing.

#### Disassembly

1. Remove the valve from the line by removing the four screws (Item 3) and washers (Item 4) that hold it in place.
2. From the inlet side of the valve, unscrew the valve stem (Item 265) from the valve nut (Item 875).
3. Remove the valve nut (Item 875) by pressing down on the spring holder (Item 382). The spring should be held down with a press. Lift the valve nut out of position. The spring holder and lock washer can now be removed from the housing.
4. Remove the O-Ring retainer (Item 452), O-Ring (Item 470), piston (Item 133), O-Ring (Item 471) and spacer (Item 472), lifting by the threaded end of the valve stem (Item 265).
5. Remove the O-Ring retainer (Item 452) and O-Ring (Item 470) from the stem.
6. Remove the O-Ring (Item 471) and the piston (Item 133) from the stem.
7. Replace components if necessary and reassemble. The bushing (Item 485) is pressed in place and need not be removed.

#### Reassembly

1. Place the piston (Item 133) on the valve stem (Item 265), with the raised rim pointing upwards.
2. Place the spacer (Item 472) and O-Ring (Item 471) on the piston (Item 133)
3. Place the O-Ring (Item 470) on the retainer (Item 452) and place it over the piston (Item 133) with the O-Ring downward.
4. Place washer (705) over the valve stem and secure it with self locking nut (875)
5. Insert this assembly into the housing (Item 110) from the outlet side.
6. Place the compression spring (Item 595) over the valve stem (Item 265).
7. Insert the Teflon bearing (Item 486) into the valve spring holder (Item 382).
8. Place the spring holder (Item 382) on the housing (Item 110) and compress the spring inward. A press should be used to overcome the force of the spring.
9. Secure the spring holder with the spiral retaining ring (Item 393).

The back check valve is now ready to be reinstalled using the four screws (Item 3) and washers (item 4).

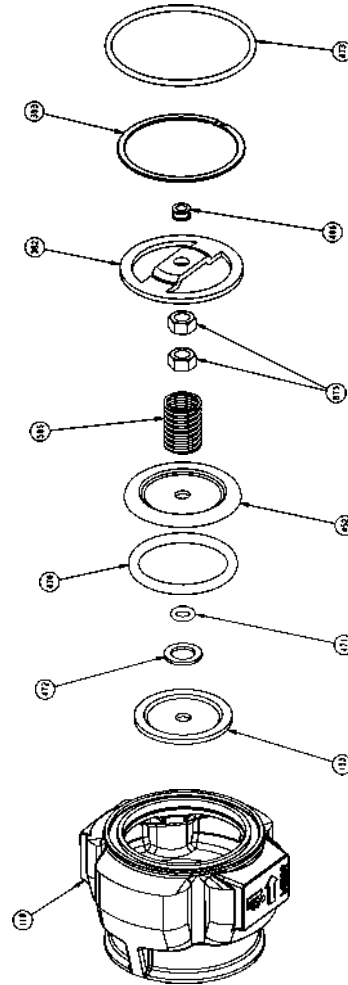
# BILL OF MATERIALS - A2885 & A2883 (LPG)

## Model A2885 (For LPG)

Used on meters sold AFTER December 19, 1991 beginning with Serial No. 225233

501565 2" Check Valve Assembly		
Item	Description	Part Number
486	Bearing	N/S*
473	Buna-N O-Ring	06854
393	Spiral Retaining Spring	09137
382	Valve Spring Holder	48337
595	Compression Spring	09138
875	Self Locking Nut (2)	09143
452	O-Ring Retainer	47974
470	Buna-N O-Ring	09131
471	Buna-N O-Ring	09140
472	Spacer	47295
133	Piston	47975
265	Valve Stem	N/S
485	Bushing	07867
110	Check Valve Housing	47973
920	Valve Core	N/S

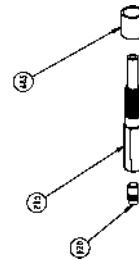
\*N/S = Not for Sale



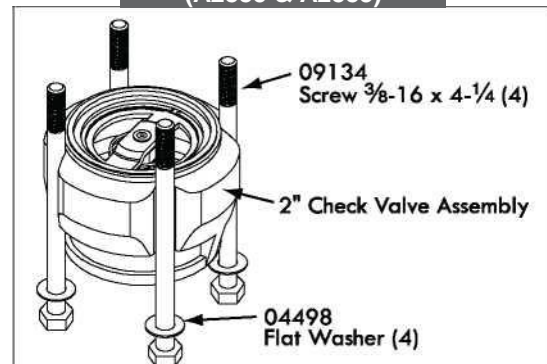
## Model A2883 (For LPG)

Used on meters sold BEFORE December 19, 1991 ending with Serial No. 225232

501566 2" Check Valve Assembly		
Item	Description	Part Number
486	Bearing	N/S
473	Buna-N O-Ring	06854
393	Spiral Retaining Spring	09137
382	Valve Spring Holder	48337
595	Compression Spring	09138
875	Self Locking Nut (2)	09143
452	O-Ring Retainer	47974
470	Buna-N O-Ring	09131
471	Buna-N O-Ring	09140
472	Spacer	47295
133	Piston	47975
265	Valve Stem	N/S
485	Bushing	07867
110	Check Valve Housing	47994
920	Valve Core	N/S



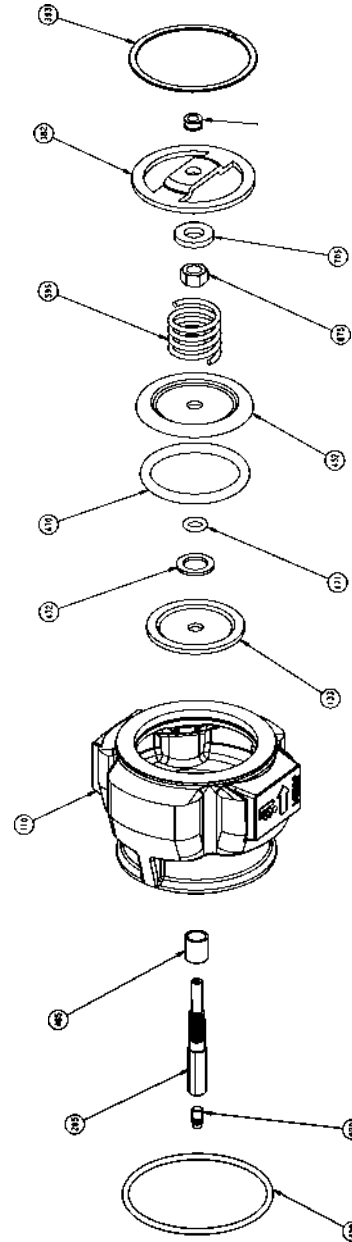
**Mounting Screws & Bolts  
(A2885 & A2883)**



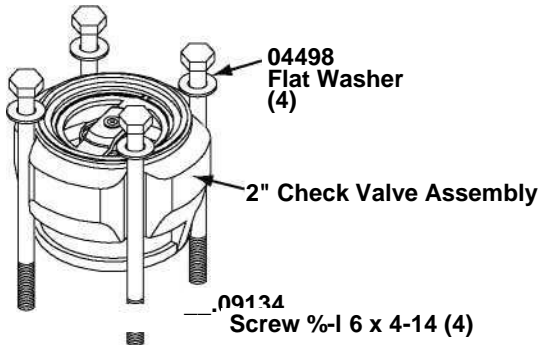
# BILL OF MATERIALS - A2882 (REFINED FUELS)

## Model A2882 (For Refined Fuels)

501568 2" Check Valve Assembly		
Item	Description	Part Number
393	Spiral Retaining Spring	09137
486	Bearing	07801
382	Valve Spring Holder	48337
595	Compression Spring	N/S
875	Self Locking Nut (2)	09143
705	Flat Washer	40241
452	O-Ring Retainer	47974
470	Viton O-Ring	09025
471	Viton O-Ring	09139
472	Spacer	47295
133	Piston	47975
110	Check Valve Housing	N/S
485	Bushing	07867
265	Valve Stem	N/S
920	Valve Core	N/S
420	Buna-N O-Ring	06854



### Mounting Screws & Bolts (A2882)



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