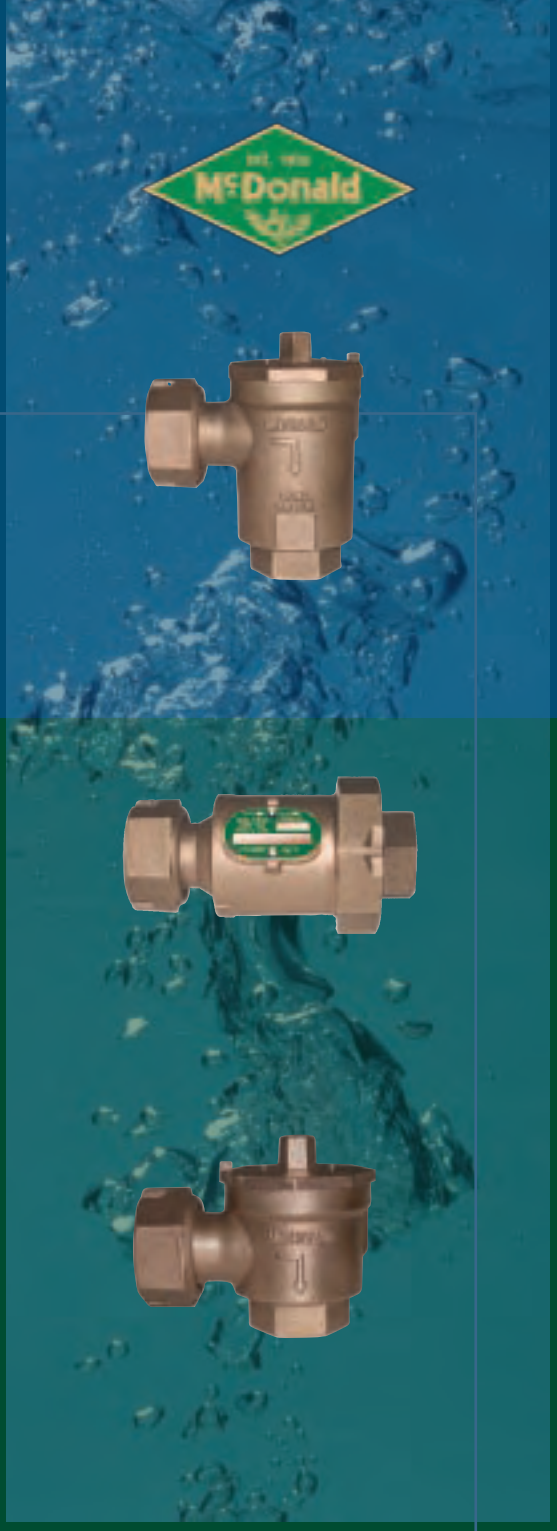


BACKFLOW VALVES SINGLE AND DUAL CHECKS

A.Y. McDONALD MFG. CO.
WATER SERVICE PRODUCTS

■ Series 02 • Angle Single Check Valves — General Information

Features

- Each valve pressure tested prior to shipment.
- Pressure rated at 150 PSIG.
- Temperature range 34°F to 180°F.
- Top cap on angle valve sealed with O-ring and allows easy access to check for inspection, maintenance or replacement.
- Angle check valve cap available with Pentagon Test Plug.
- Cast brass body, meter nut and cap. (ASTM B62 Alloy C83600).
- Check is precision molded of plastic with stainless steel spring.
- Check is designed to hold 1 PSIG in the direction of flow.
- Can be installed in either the horizontal or vertical position.
- Can be field tested.
- Available with a wide variety of threaded or compression outlet connections.
- Check assembly can be removed easily with a pair of pliers.
- Check assembly remains together when removed from body (no loose pieces).

■ HOW TO ORDER

■UNIT REQUIRED (Example):
- Angle style valve
- No test valve
- Valve size 3/4"
- Inlet - Meter swivel integral with saddle (5/8 x 3/4 meter)
- Outlet - FNPT integral 3/4"

SPACE 1 & 2	SPACE 3	SPACE 4	SPACE 5	SPACE 6	SPACE 7	SPACE 8
02	–	3	H	E	3	3

Order Model 02-3HE 33 Refer to page 3 for inlet/outlet combinations

Model Number Explanation

SPACE 1 & 2 **Basic single check valve model number:**
02 = Angle single check valve

SPACE 3
(–) A dash = Standard
W = With Pentagon test plug in cap (angle check valve only)

SPACE 4 **Single check valve size:**
3 = 3/4" **4** = 1"

SPACE 5 **Inlet connection type:**
H = Meter swivel nut with saddle
J = Meter swivel nut
Y = Yoke style thread male

SPACE 6 **Outlet connection type:**
E = Female national pipe thread (FNPT)
Q = Q CTS compression
R = Copper flare
T = T CTS compression
2 = 22 CTS compression

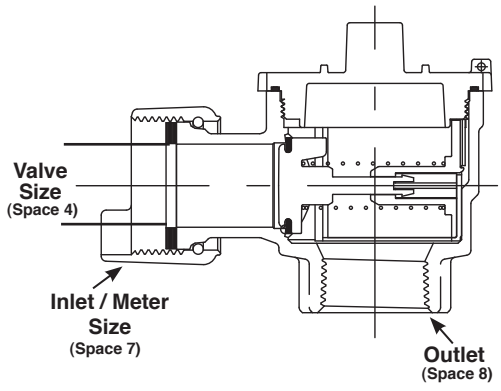
SPACE 7 & 8 **Sizes for inlet (5) and outlet (6) types of connections:**
2 = 5/8" **4** = 1"
3 = 3/4"

Thread size of meter swivel nuts

METER SIZE	FLANGE SIZE	METER DESIGNATION
5/8	3/4"	3
5/8x3/4	1"	4
3/4	1"	4
1	1 1/4"	5

For Iron Yokes see the following designation.

METER SIZE	FLANGE SIZE	METER DESIGNATION
5/8	-	2
5/8x3/4	-	3
3/4	-	3
1	-	4



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■ Series 02 • Angle Single Check Valves General Information

A.Y. McDonald's unique Angle Single Check Backflow Valves have meter swivel nut or iron yoke inlets and a wide variety of outlet configurations. Angle single checks can be ordered on our copper meter setters, resetters, insetters and iron yokes or they can be used independently.

Our top cap and unique perpendicular check module design assures convenient access to check for inspection, maintenance or replacement without removing the valve from the line. It also allows for a lower profile than traditional top entry check. Backflow of water is deterred if thermal expansion occures and will keep water from the house from flowing into a meter pit or on to a basement floor if meter is removed for servicing.

Check assembly can be removed easily with a pair of pliers.
Check assembly remains together when removed from body (no loose pieces).

Angle Single Check Valves with Meter Swivel Nuts

NOTE: change "J" in model number to "H" for meter swivel nut with meter support lip.

(H) **(J)**

02-4JE 54

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
02-3JE 33	3/4	5/8	Meter swivel nut	3/4" FNPT
02-3JE 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" FNPT
02-4JE 54	1	1	Meter swivel nut	1" FNPT
02-3JQ 33	3/4	5/8	Meter swivel nut	3/4" "Q" CTS compression*
02-3JQ 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "Q" CTS compression*
02-4JQ 54	1	1	Meter swivel nut	1" "Q" CTS compression*
02-3JT 33	3/4	5/8	Meter swivel nut	3/4" "T" CTS compression*
02-3JT 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "T" CTS compression*
02-4JT 54	1	1	Meter swivel nut	1" "T" CTS compression*
02-3J2 33	3/4	5/8	Meter swivel nut	3/4" "22" CTS compression*
02-3J2 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "22" CTS compression*
02-4J2 54	1	1	Meter swivel nut	1" "22" CTS compression*
02-4JR 54	1	1	Meter swivel nut	1" Copper Flare

Angle Single Check Valves with Iron Yoke Star Nuts

02-3YE 33

02-3YQ 23

02-3YR 33

02-3YT 33

02-3Y2 33

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
02-3YE 23	3/4	5/8	Iron yoke star nut	3/4" FNPT
02-3YE 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" FNPT
02-4YE 44	1	1	Iron yoke star nut	1" FNPT
02-3YQ 23	3/4	5/8	Iron yoke star nut	3/4" "Q" CTS compression*
02-3YQ 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" "Q" CTS compression*
02-3YR 23	3/4	5/8	Iron yoke star nut	3/4" Copper flare
02-3YR 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" Copper flare
02-3YT 23	3/4	5/8	Iron yoke star nut	3/4" "T" CTS compression*
02-3YT 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" "T" CTS compression*
02-3Y2 23	3/4	5/8	Iron yoke star nut	3/4" "22" CTS compression*
02-3Y2 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" "22" CTS compression*

NOTE: Add "W" in place of "-" for pentagon test plug in cap i.e. 02-3JE33 = 02W3JE33.

THERMAL EXPANSION WARNING - Creating a "closed" condition in a hot water system with the installation of a non-return barrier (such as a Check Valve or Backflow Preventer between the system piping and the public supply) can result in extreme pressure rises caused by thermal expansion and/or water hammer. This thermal expansion can damage piping, valves, and other components in the system. The installation of a pressure relief device or thermal expansion tank can avoid possible damages.

*Insert stiffeners are **required** on all flexible plastic connections.

■ Series 11 • Inline Dual Check Valves — General Information

Features

- Each valve pressure tested prior to shipment.
- Pressure rated at 175 PSIG.
- Temperature range 34°F to 180°F.
- Cast brass body, tailpiece, and union nut. (ASTM B62 Alloy C83600).
- Dual checks precision molded of plastic with stainless steel spring.
- Both checks are designed to hold 1 PSIG in the direction of flow.
- Can be installed in either the horizontal or vertical position.
- Can be field tested.
- Available with a wide variety of threaded or compression connections.
- Dual checks work independently of each other.
- Valve will operate with either check removed.
- O-ring seal between valve body and endpiece, not dependent on cartridge.
- Designed Tested to ANSI/ASSE 1024 and CSA B64.6 requirements.

■ HOW TO ORDER

■UNIT REQUIRED (Example):
- Inline style valve
- Valve size 3/4"
- Inlet - FNPT union 3/4"
- Outlet - Male meter thread integral (5/8x3/4 meter)

SPACE 1 & 2	SPACE 3	SPACE 4	SPACE 5	SPACE 6	SPACE 7	SPACE 8
11	–	3	F	A	3	4

Order Model 11-3FA 34 Refer to page 6-7 for inlet/outlet combinations

Model Number Explanation

SPACE 1 & 2 **Basic dual check valve model number:**
11 = Inline Dual Check valve (Two Inline Checks)

SPACE 3
(–) A dash = Standard

SPACE 4 **Dual check valve size:**
3 = 3/4"
4 = 1 "

SPACE 5 **Inlet connection type:**
A = Male meter thread integral
B = Male meter thread union
C = 22 CTS compression union*
E = Female national pipe thread integral (FNPT)
F = Female national pipe thread union (FNPT)
G = T CTS compression union*
H = Meter swivel integral with meter support
J = Meter swivel integral
K = K Style male thread integral
L = K Style female thread union
M = Male national pipe thread union (MNPT)
N = Meter female thread union
P = Male national pipe thread integral (MNPT)
Q = K Style male thread union
T = T CTS compression integral*
W = Yoke Box Cradle
Y = Yoke style thread male integral
2 = 22 CTS compression integral*

SPACE 6 **Outlet connection type:**
A = Male meter thread integral
B = Male meter thread union
C = 22 CTS compression union*
E = Female national pipe thread integral (FNPT)
F = Female national pipe thread union (FNPT)
G = T CTS compression union*
K = K Style male thread integral
L = K Style female thread union
M = Male national pipe thread union (MNPT)
N = Meter female thread union
P = Male national pipe thread integral (MNPT)
Q = K Style male thread union
T = T CTS compression integral*
V = Q CTS compression integral*
2 = 22 CTS compression integral*

SPACE 7 & 8 **Sizes for inlet (5) and outlet (6) types of connections:**
1 = 1/2" **3** = 3/4"
2 = 5/8" **4** = 1"

Thread size for meter threads

METER SIZE	THREAD SIZE	MODEL NO. DESIGNATION
5/8	3/4	3
5/8x3/4	1	4
3/4	1	4
1	1 1/4	5

For **Iron Yokes** use the following:

METER SIZE	THREAD SIZE	MODEL NO. DESIGNATION
5/8	–	2
5/8x3/4	–	3
3/4	–	3
1	–	4

•Not all sizes or combinations available - see pages 6 through 7.
*** Insert stiffeners required on flexible plastic connections.**

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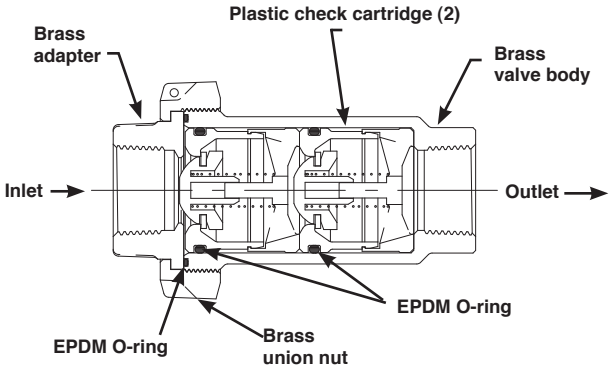
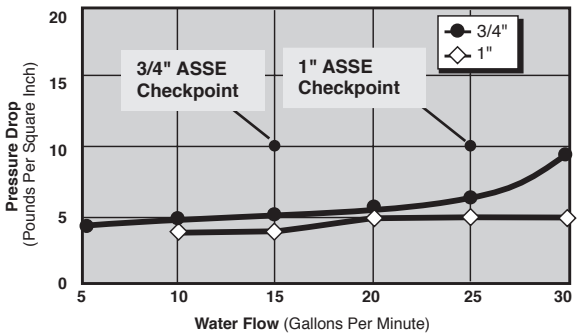
■ Series 11 • Inline Dual Check Valves — General Information

Most check valves are made to order, please allow 2 weeks for delivery.

COMPONENTS AND REPAIR PARTS

Inline



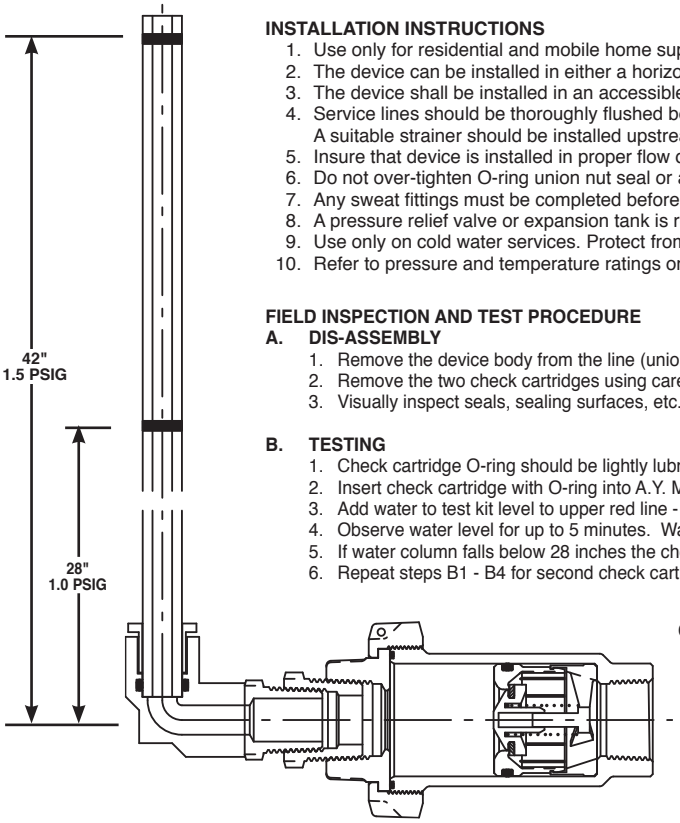


For repair kit, order 11-3RK. Kit includes cap O-ring and two cartridges with O-rings.

ANSI/ASSE 1024

C.S.A. B64.6

Test Kit • Order Number 4135-280



INSTALLATION INSTRUCTIONS

1. Use only for residential and mobile home supply service or individual outlets.
2. The device can be installed in either a horizontal or vertical position.
3. The device shall be installed in an accessible location to facilitate the removal for servicing and testing.
4. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
5. Insure that device is installed in proper flow direction. Refer to flow direction arrow on device tag.
6. Do not over-tighten O-ring union nut seal or across body cylinder to avoid distortion.
7. Any sweat fittings must be completed before installing device.
8. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion is possible.
9. Use only on cold water services. Protect from freezing.
10. Refer to pressure and temperature ratings on device tag.

FIELD INSPECTION AND TEST PROCEDURE

A. DIS-ASSEMBLY

1. Remove the device body from the line (union nut and adapter can remain in the line).
2. Remove the two check cartridges using care not to damage device components.
3. Visually inspect seals, sealing surfaces, etc. for debris or damage.

B. TESTING

1. Check cartridge O-ring should be lightly lubricated with a FDA approved lubricant.
2. Insert check cartridge with O-ring into A.Y. McDONALD test kit as shown in drawing. Cartridge should be pushed against shoulder.
3. Add water to test kit level to upper red line - 42 inches (1.5 psig).
4. Observe water level for up to 5 minutes. Water level should not fall below lower red line - 28 inches (1.0 psig).
5. If water column falls below 28 inches the check cartridge should be cleaned and re-tested or replaced.
6. Repeat steps B1 - B4 for second check cartridge.

C. RE-ASSEMBLY

1. Clean and inspect device components.
2. Check cartridge O-rings should be lightly lubricated with a FDA approved lubricant.
3. Insert check cartridges into body correctly corresponding to flow direction on device tag.
4. Re-assemble device into line. Do not over-tighten.

■ Series 11 • Inline Dual Check Valves

A.Y. McDonald Inline Dual Check Valves protect the public water supply by preventing the reverse flow of water from the building back into the water main. The Series 11 dual check valve is available with a wide variety of end connections to connect directly to water meters or other types of piping.

11-3JF 43

NOTE: change "J" in model number to "H" for meter swivel nut with meter support lip.

(H) **(J)**

11-3N2 33

11-3FE 33

11-3AN 33

11-3BA 44

11-3PF 33

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
11-3JF 33	3/4	5/8	Meter swivel integral	3/4" FNPT union
11-3JF 43	3/4	5/8x3/4 or 3/4	Meter swivel integral	3/4" FNPT union
11-4JF 54	1"	1"	Meter swivel integral	1" FNPT union
11-3JM 33	3/4	5/8	Meter swivel integral	3/4" MNPT union
11-3JM 43	3/4	5/8x3/4 or 3/4	Meter swivel integral	3/4" MNPT union
11-4JM 54	1"	1"	Meter swivel integral	1" MNPT union
11-3JC 33	3/4	5/8	Meter swivel integral	3/4" “22” CTS compression union*
11-3JC 43	3/4	5/8x3/4 or 3/4	Meter swivel integral	3/4" “22” CTS compression union*
11-3JG 33	3/4	5/8	Meter swivel integral	3/4" “T” CTS compression union*
11-3JG 43	3/4	5/8x3/4 or 3/4	Meter swivel integral	3/4" “T” CTS compression union*
11-3JB 44	3/4	5/8x3/4 or 3/4	Meter swivel integral	Male meter thread union
11-4JB 55	1"	1"	Meter swivel integral	Male meter thread union
11-3JQ 33	3/4	5/8	Meter swivel integral	3/4" Male “K” union
11-3JQ 43	3/4	5/8x3/4 or 3/4	Meter swivel integral	3/4" Male “K” union
11-3NA 33	3/4	5/8	Female meter thread union	Male meter thread integral
11-3NA 43	3/4	Cross Size	Female meter thread union	Male meter thread integral
11-3NA 44	3/4	5/8x3/4 or 3/4	Female meter thread union	Male meter thread integral
11-3NE 33	3/4	5/8	Female meter thread union	3/4" FNPT integral
11-3NE 43	3/4	5/8x3/4 or 3/4	Female meter thread union	3/4" FNPT integral
11-3NP 33	3/4	5/8	Female meter thread union	3/4" MNPT integral
11-3NP 43	3/4	5/8x3/4 or 3/4	Female meter thread union	3/4" MNPT integral
11-3NV 33	3/4	5/8	Female meter thread union	3/4" "Q" CTS compression integral*
11-3NV 43	3/4	5/8x3/4 or 3/4	Female meter thread union	3/4" "Q" CTS compression integral*
11-3NT 33	3/4	5/8	Female meter thread union	3/4" “T” CTS compression integral*
11-3NT 43	3/4	5/8x3/4 or 3/4	Female meter thread union	3/4" “T” CTS compression integral*
11-3N2 33	3/4	5/8	Female meter thread union	3/4" “22” CTS compression integral*
11-3N2 43	3/4	5/8x3/4 or 3/4	Female meter thread union	3/4" “22” CTS compression integral*
11-3FE 11Δ	3/4	--	1/2" FNPT union	1/2" FNPT integral
11-3FE 33	3/4	--	3/4" FNPT union	3/4" FNPT integral
11-4FE 44	1"	--	1" FNPT union	1" FNPT integral
11-3FP 33	3/4	--	3/4" FNPT union	3/4" MNPT integral
11-3FV 33	3/4	--	3/4" FNPT union	3/4" “Q” CTS compression integral*
11-3FT 33	3/4	--	3/4" FNPT union	3/4" “T” CTS compression integral*
11-3F2 33	3/4	--	3/4" FNPT union	3/4" “22” CTS compression integral*
11-3AN 33	3/4	5/8	Male meter thread integral	Female meter thread union
11-3AN 34	3/4	Cross Size	Male meter thread integral	Female meter thread union
11-3AN 44	3/4	5/8x3/4 or 3/4	Male meter thread integral	Female meter thread union
11-3BA 44	3/4	5/8x3/4 or 3/4	Male meter thread union	Male meter thread integral
11-3PF 33	3/4	--	3/4" MNPT integral	3/4" FNPT union
11-3PN 34	3/4	5/8x3/4 or 3/4	3/4" MNPT integral	Female meter thread union

11-3RK Repair Kit: includes 2 cartridges with O-rings and cap O-ring

THERMAL EXPANSION WARNING - Creating a “closed” condition in a hot water system with the installation of a non-return barrier (such as a Check Valve or Backflow Preventer between the system piping and the public supply) can result in extreme pressure rises caused by thermal expansion and/or water hammer. This thermal expansion can damage piping, valves, and other components in the system. The installation of a pressure relief device or thermal expansion tank can avoid possible damages.

*Insert stiffeners are **required** on all flexible plastic connections.

Δ*Supplied as a sales combination with two bushings*

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■ Series 11 • Inline Dual Check Valves


11-3M2 33


11-3CE 33


11-3GE 33


11-3L2 33


11-3QK 44


11-3KL 33


11-3YF 33


11-3W2 33

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
11-3MA 33	3/4	5/8	3/4" MNPT union	Male meter thread integral
11-3MA 34	3/4	5/8x3/4 or 3/4	3/4" MNPT union	Male meter thread integral
11-3ME 33	3/4	--	3/4" MNPT union	3/4" FNPT integral
11-4ME 44	1"	--	1" MNPT union	1" FNPT integral
11-4MJ 45	1"	1"	1" MNPT union	Female meter thread union
11-3MK 33	3/4	--	3/4" MNPT union	3/4" Male “K” integral
11-3MP 33	3/4	--	3/4" MNPT union	3/4" MNPT integral
11-3MV 33	3/4	--	3/4" MNPT union	3/4" “Q” CTS compression integral*
11-3MT 33	3/4	--	3/4" MNPT union	3/4" “T” CTS compression integral*
11-3M2 33	3/4	--	3/4" MNPT union	3/4" “22” CTS compression integral*
11-3CE 33	3/4	--	3/4" “22” CTS compression union*	3/4" FNPT integral
11-3CP 33	3/4	--	3/4" “22” CTS compression union*	3/4" MNPT integral
11-3C2 33	3/4	--	3/4" “22” CTS compression union*	3/4" “22” CTS compression integral*
11-3GE 33	3/4	--	3/4" “T” CTS compression union*	3/4" FNPT integral
11-3GP 33	3/4	--	3/4" “T” CTS compression union*	3/4" MNPT integral
11-3GT 33	3/4	--	3/4" “T” CTS compression union*	3/4" “T” CTS compression integral*
11-3LE 33	3/4	--	3/4" Female “K” union	3/4" FNPT integral
11-3LK 33	3/4	--	3/4" Female “K” union	3/4" Male “K” integral
11-3LV 33	3/4	--	3/4" Female “K” union	3/4" “Q” CTS compression integral*
11-3LT 33	3/4	--	3/4" Female “K” union	3/4" “T” CTS compression integral*
11-3L2 33	3/4	--	3/4" Female “K” union	3/4" “22” CTS compression integral*
11-3QK 33	3/4	--	3/4" Male “K” union	3/4" Male “K” integral
11-3KL 33	3/4	--	3/4" Male “K” integral	3/4" Female “K” union
11-3RV 33	3/4	--	3/4" “Q” CTS compression union*	3/4" “Q” CTS compression integral*
11-3YC 23	3/4	5/8	Iron yoke star nut	3/4" “22” CTS compression union*
11-3YC 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “22” CTS compression union*
11-3YF 23	3/4	5/8	Iron yoke star nut	3/4" FNPT union
11-3YF 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" FNPT union
11-4YF 44	1"	1"	Iron yoke star nut	1" FNPT union
11-3YG 23	3/4	5/8	Iron yoke star nut	3/4" “T” CTS compression union*
11-3YG 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “T” CTS compression union*
11-3YM 23	3/4	5/8	Iron yoke star nut	3/4" MNPT union
11-3YM 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" MNPT union
11-3WE 33	3/4	5/8x3/4	Yoke box cradle	3/4" FNPT integral
11-3WT 33	3/4	5/8x3/4	Yoke box cradle	3/4" “T” CTS compression*
11-3WV 33	3/4	5/8x3/4	Yoke box cradle	3/4" “Q” CTS compression*
11-3W2 33	3/4	5/8x3/4	Yoke box cradle	3/4" “22” CTS compression*

*Insert stiffeners are **required** on all flexible plastic connections.

■ Series 12 • Angle Dual Check Valves — General Information

Features

- Each valve pressure tested prior to shipment.
- Pressure rated at 175 PSIG.
- Temperature range 34°F to 180°F.
- Top cap on angle valve sealed with O-ring and allows easy access to checks for inspection, maintenance or replacement.
- Angle check valve available with Pentagon Test Plug in cap.
- Cast brass body, meter nut and cap. (ASTM B62 Alloy C83600).
- Dual checks precision molded of plastic with stainless steel spring.
- Both checks are designed to hold 1 PSIG in the direction of flow.
- Can be installed in either the horizontal or vertical position.
- Can be field tested.
- Available with a wide variety of threaded or compression connections.
- Dual checks work independently of each other.
- Valve will operate with either check removed.
- O-ring seal between valve body and cap, not dependent on cartridge.
- Design Tested to ANSI/ASSE 1024 and CSA B64.6 requirements.

■ HOW TO ORDER

■UNIT REQUIRED (Example):
- Angle style valve
- No test valve
- Valve size 3/4"
- Inlet - Meter swivel nut (5/8x3/4 meter)
- Outlet - 3/4 FNPT

SPACE 1 & 2	SPACE 3	SPACE 4	SPACE 5	SPACE 6	SPACE 7	SPACE 8
12	–	3	J	E	4	3

Order Model 12-3JE 43 Refer to page 10 & 11 for inlet/outlet combinations

Model Number Explanation

SPACE 1 & 2 **Basic dual check valve model number:**
12 = Angle Dual Check valve
(One horizontal check, one vertical check)

SPACE 3
(–) A dash = Standard
W = With Pentagon test plug in cap

SPACE 4 **Dual check valve size:**
3 = 3/4"
4 = 1 "

SPACE 5 **Inlet connection type:**
H = Meter swivel nut with meter support
J = Meter swivel nut
Y = Yoke style thread male

SPACE 6 **Outlet connection type:**
E = Female national pipe thread (FNPT)
Q = Q CTS compression
R = Copper flare
T = T CTS compression
Z = 3Q PEP compression
2 = 22 CTS compression
3 = 33 PEP compression
4 = 44 PVC compression
5 = 55 IP compression

SPACE 7 & 8 **Sizes for inlet (5) and outlet (6) types of connections:**
2 = 5/8" **4** = 1"
3 = 3/4"

Thread size for meter threads

METER SIZE	THREAD SIZE	MODEL NO. DESIGNATION
5/8	3/4	3
5/8x3/4	1	4
3/4	1	4
1	1 1/4	5

For **Iron Yokes** use the following:

METER SIZE	THREAD SIZE	MODEL NO. DESIGNATION
5/8	–	2
5/8x3/4	–	3
3/4	–	3
1	–	4

•Not all sizes or combinations available - see pages 4 through 7.
*** Insert stiffeners required on flexible plastic connections.**

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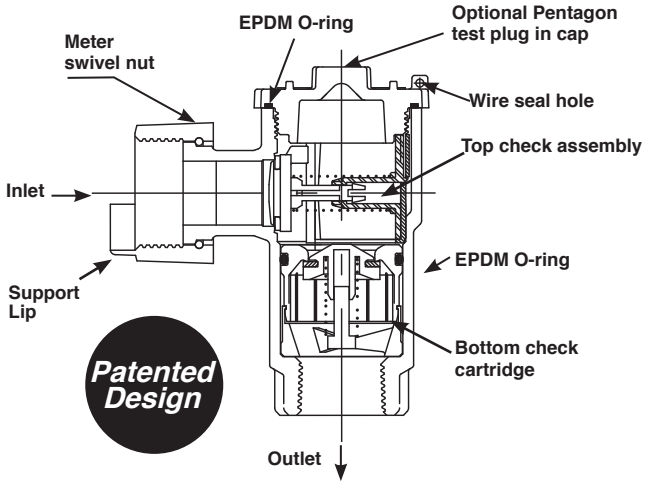
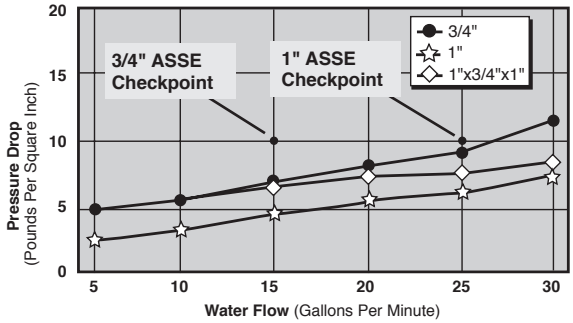
Series 12 • Angle Dual Check Valves — General Information

Most check valves are made to order, please allow 2 weeks for delivery.

COMPONENTS AND REPAIR PARTS

Angle





For repair kit, order 12-3RK. Kit includes top check, bottom check with O-ring and cap O-ring.

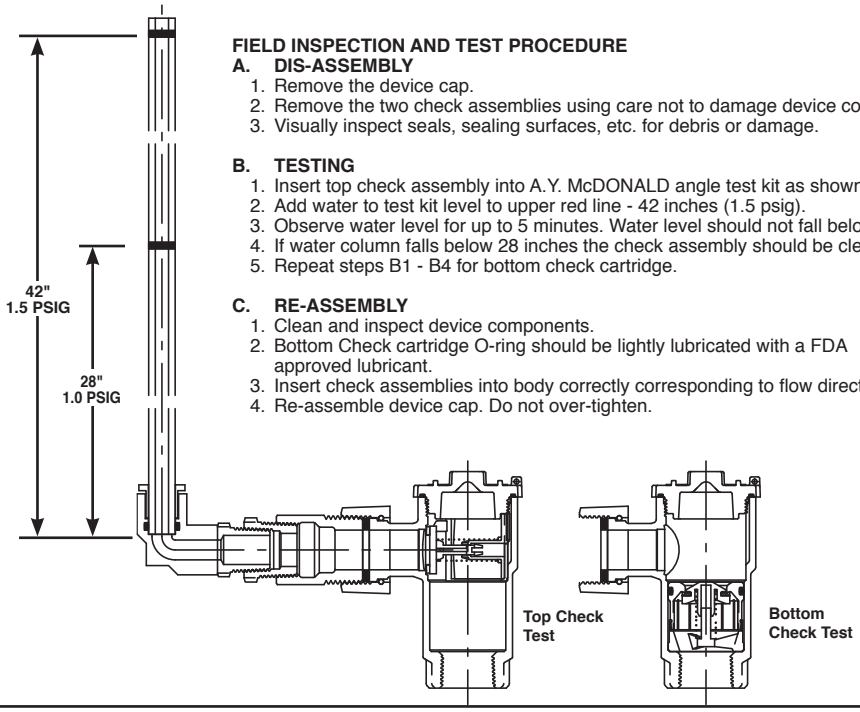
ANSI/ASSE 1024

C.S.A. B64.6

Test Kit • Order Number 4135-303

INSTALLATION INSTRUCTIONS

1. Use only for residential and mobile home supply service or individual outlets.
2. The device can be installed in any position.
3. The device shall be installed in an accessible location to facilitate the removal for servicing and testing.
4. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
5. Insure that device is installed in proper flow direction. Refer to flow direction arrow on body.
6. Do not over-tighten O-ring cap seal or across body cylinder to avoid distortion.
7. Any sweat fittings must be completed before installing device.
8. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion conditions are possible.
9. Use only on cold water services. Protect from freezing.
10. Refer to pressure and temperature ratings on device tag.



FIELD INSPECTION AND TEST PROCEDURE

A. DIS-ASSEMBLY

1. Remove the device cap.
2. Remove the two check assemblies using care not to damage device components.
3. Visually inspect seals, sealing surfaces, etc. for debris or damage.

B. TESTING

1. Insert top check assembly into A.Y. McDONALD angle test kit as shown in drawing.
2. Add water to test kit level to upper red line - 42 inches (1.5 psig).
3. Observe water level for up to 5 minutes. Water level should not fall below lower red line - 28 inches (1.0 psig).
4. If water column falls below 28 inches the check assembly should be cleaned and re-tested or replaced.
5. Repeat steps B1 - B4 for bottom check cartridge.

C. RE-ASSEMBLY

1. Clean and inspect device components.
2. Bottom Check cartridge O-ring should be lightly lubricated with a FDA approved lubricant.
3. Insert check assemblies into body correctly corresponding to flow direction on the device body.
4. Re-assemble device cap. Do not over-tighten.

Series 12 • Angle Dual Check Valves

A.Y. McDonald's unique Angle Dual Check Backflow Valves have meter swivel nut or iron yoke inlets and a wide variety of outlet configurations. Angle dual checks can be ordered on our copper meter setters, resetters, insetters and iron yokes or they can be used independently.

Our top cap and unique perpendicular check module design assures convenient access to both checks for inspection, maintenance or replacement without removing the valve from the line. It also allows for a lower profile than traditional top entry dual checks. Backflow of water is still deterred if either of the checks are removed or inoperable.

Check assembly can be removed easily with a pair of pliers.
Check assembly remains together when removed from body (no loose pieces).

12-3JE 43

12-4JQ 54

12-3JR 43

12-3JT 43

12-3J2 43

Angle Dual Check Valves with Meter Swivel Nuts

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
12-3JE 33	3/4	5/8	Meter swivel nut	3/4" FNPT
12-3JE 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" FNPT
12-3JE 54	3/4	1	Meter swivel nut	1" FNPT
12-4JE 54	1	1	Meter swivel nut	1" FNPT
12-3JQ 33	3/4	5/8	Meter swivel nut	3/4" "Q" CTS compression*
12-3JQ 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "Q" CTS compression*
12-3JQ 54	3/4	1	Meter swivel nut	1" "Q" CTS compression*
12-4JQ 54	1	1	Meter swivel nut	1" "Q" CTS compression*
12-3JR 33	3/4	5/8	Meter swivel nut	3/4" copper flare
12-3JR 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" copper flare
12-3JR 54	3/4	1	Meter swivel nut	1" copper flare
12-4JR 54	1	1	Meter swivel nut	1" copper flare
12-3JT 33	3/4	5/8	Meter swivel nut	3/4" "T" CTS compression*
12-3JT 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "T" CTS compression*
12-3JT 54	3/4	1	Meter swivel nut	1" "T" CTS compression*
12-4JT 54	1	1	Meter swivel nut	1" "T" CTS compression*
12-3J2 33	3/4	5/8	Meter swivel nut	3/4" "22" CTS compression*
12-3J2 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "22" CTS compression*
12-3J2 54	3/4	1	Meter swivel nut	1" "22" CTS compression*
12-4J2 54	1	1	Meter swivel nut	1" "22" CTS compression*

12-3RK Repair Kit: includes top check, bottom check w/ O-ring, cap O-ring
12-4RK Repair Kit: includes top check, bottom check w/ O-ring, cap O-ring

NOTE: Add "W" in place of "-" for pentagon test plug in cap i.e. 12-3JE33 = 12W3JE33.
*Insert stiffeners are **required** on all flexible plastic connections.

NOTE: change "J" in model number to "H" for meter swivel nut with meter support lip.

12-3HE 43

12-3JE 43

THERMAL EXPANSION WARNING - Creating a "closed" condition in a hot water system with the installation of a non-return barrier (such as a Check Valve or Backflow Preventer between the system piping and the public supply) can result in extreme pressure rises caused by thermal expansion and/or water hammer. This thermal expansion can damage piping, valves, and other components in the system. The installation of a pressure relief device or thermal expansion tank can avoid possible damages.

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■ Series 12 • Angle Dual Check Valves


12-3YE 33


12-3YR 33


12-3Y2 33


12-3YQ 33


12-3YT 33


12-3YZ 33


12-3Y3 33


12-3Y4 33


12-3Y5 33

Angle Dual Check Valves with Iron Yoke Star Nuts

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
12-3YE 23	3/4	5/8	Iron yoke star nut	3/4" FNPT
12-3YE 24	3/4	5/8	Iron yoke star nut	1" FNPT
12-3YE 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" FNPT
12-3YE 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" FNPT
12-3YE 44	3/4	1	Iron yoke star nut	1" FNPT
12-4YE 44	1	1	Iron yoke star nut	1" FNPT
12-3YR 23	3/4	5/8	Iron yoke star nut	3/4" copper flare
12-4YR 24	1	5/8	Iron yoke star nut	1" copper flare
12-3YR 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" copper flare
12-4YR 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" copper flare
12-3YR 44	3/4	1	Iron yoke star nut	1" copper flare
12-4YR 44	1	1	Iron yoke star nut	1" copper flare
12-3Y2 23	3/4	5/8	Iron yoke star nut	3/4" “22” CTS compression*
12-3Y2 24	3/4	5/8	Iron yoke star nut	1" “22” CTS compression*
12-4Y2 24	1	5/8	Iron yoke star nut	1" “22” CTS compression*
12-3Y2 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “22” CTS compression*
12-3Y2 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" “22” CTS compression*
12-4Y2 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" “22” CTS compression*
12-3Y2 44	3/4	1	Iron yoke star nut	1" “22” CTS compression*
12-4Y2 44	1	1	Iron yoke star nut	1" “22” CTS compression*
12-3YQ 24	3/4	5/8	Iron yoke star nut	1" “Q” CTS compression*
12-4YQ 24	1	5/8	Iron yoke star nut	1" “Q” CTS compression*
12-3YQ 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “Q” CTS compression*
12-3YQ 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" “Q” CTS compression*
12-4YQ 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" “Q” CTS compression*
12-3YQ 44	3/4	1	Iron yoke star nut	1" “Q” CTS compression*
12-4YQ 44	1	1	Iron yoke star nut	1" “Q” CTS compression*
12-3YT 23	3/4	5/8	Iron yoke star nut	3/4" “T” CTS compression*
12-3YT 24	3/4	5/8	Iron yoke star nut	1" “T” CTS compression*
12-4YT 24	1	5/8	Iron yoke star nut	1" “T” CTS compression*
12-3YT 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “T” CTS compression*
12-3YT 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" “T” CTS compression*
12-4YT 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" “T” CTS compression*
12-3YT 44	3/4	1	Iron yoke star nut	1" “T” CTS compression*
12-4YT 44	1	1	Iron yoke star nut	1" “T” CTS compression*
12-3YZ 23	3/4	5/8	Iron yoke star nut	3/4" “3Q” PEP compression*
12-3YZ 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “3Q” PEP compression*
12-3Y3 23	3/4	5/8	Iron yoke star nut	3/4" “33” PEP compression*
12-3Y3 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “33” PEP compression*
12-3Y4 23	3/4	5/8	Iron yoke star nut	3/4" “44” PVC compression
12-3Y4 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “44” PVC compression
12-3Y5 23	3/4	5/8	Iron yoke star nut	3/4" “55” IP compression
12-3Y5 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" “55” IP compression

NOTE: Add “W” in place of “-” for pentagon test plug in cap i.e. 12-3YE33 = 12W3YE33.
*Insert stiffeners are **required** on all flexible plastic connections.

■ Series 12 • Flanged Angle Dual Check Valves General Information

Features

- Each valve pressure tested prior to shipment.
- Pressure rated at 175 PSIG.
- Temperature range 34°F to 180°F.
- Top cap on angle valve sealed with O-ring and allows easy access to checks for inspection, maintenance or replacement.
- Angle check valve available with FNPT tap.
- Cast brass body, flange and cap. (ASTM B62 Alloy C83600).
- Dual checks precision molded of plastic with stainless steel spring.
- Both checks are designed to hold 1 PSIG in the direction of flow.
- Can be installed in either the horizontal or vertical position.
- Can be field tested.
- Available with a wide variety of threaded or compression connections.
- Dual checks work independently of each other.
- Valve will operate with either check removed.
- O-ring seal between valve body and cap, not dependent on cartridge.
- Design Tested to ANSI/ASSE 1024 and CSA B64.6 requirements.

■ HOW TO ORDER

■UNIT REQUIRED (Example):
- Angle style valve
- No test valve
- Valve size 2"
- Inlet - Meter flange 2"
- Outlet - FNPT integral 2"

ANSI/ASSE 1024

SPACE 1 & 2	SPACE 3	SPACE 4	SPACE 5	SPACE 6	SPACE 7	SPACE 8
12	–	7	D	E	7	7

Order Model 12-7DE 77 Refer to this page for inlet/outlet combinations

Model Number Explanation

SPACE 1 & 2 Basic dual check valve model number:
12 = Flanged Angle Dual Check valve

SPACE 3
(–) A dash = Standard
C = With 1" FNPT tap in cap
F = With 1 1/2" FNPT tap in cap
G = With 2" FNPT tap in cap

SPACE 4 Dual check valve size:
7 = 2"

SPACE 5 Inlet connection type:
D = Meter Flange with meter support brackets (2" Flange provided with bolt holes for 1 1/2 & 2 meter)

SPACE 6 Outlet connection type:
E = Female national pipe thread integral (FNPT)

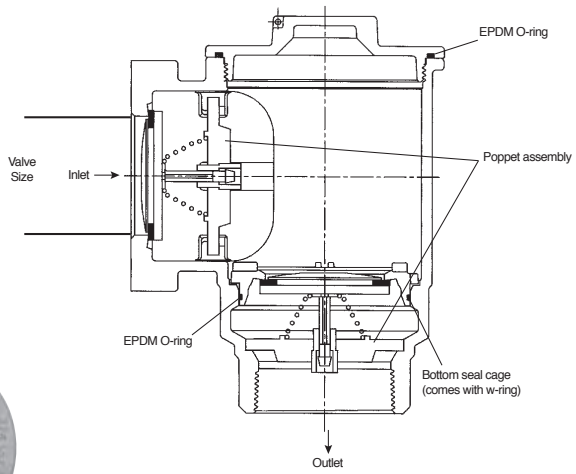
SPACE 7 Thread size of meter swivel nuts

METER SIZE	FLANGE SIZE	METER DESIGNATION
1 1/2	1 1/2"	6
2	2"	7

SPACE 8 Sizes for outlet connections
6 = 1 1/2"
7 = 2"

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
12-7DE 66	2	1 1/2	Meter Flange	1 1/2" FNPT
12-7DE 77	2	1 1/2 or 2	Meter Flange	2" FNPT

12-7RK Repair Kit - includes 2 poppet assemblies, bottom seal cage with o-ring and cap o-ring



Provided with support bracket

Optional cap with 1", 1 1/2" or 2" FNPT tap

***Order MNPT plug separately**

•Not all sizes or combinations available.

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Test Kit • Order Number 4135-419

INSTALLATION INSTRUCTIONS

1. The device can be installed in any position.
2. The device shall be installed in an accessible location to facilitate the removal for servicing and testing.
3. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
4. DO NOT use Vaseline®, plumber's grease, or any other petroleum based product on any seals or o-rings.
5. Insure that device is installed in proper flow direction. Refer to flow direction arrow on body.
6. Do not over-tighten O-ring cap seal or across body cylinder to avoid distortion.
7. Any sweat fittings must be completed before installing device.
8. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion conditions are possible.
9. Use only on cold water services. Protect from freezing.
10. Refer to pressure and temperature ratings on device.

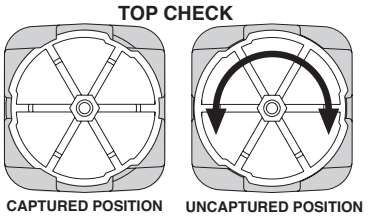

DIAGRAM A

FIELD INSPECTION AND TEST PROCEDURE

A. DIS-ASSEMBLY

1. Remove the device cap.
2. Remove the top poppet assembly by rotating either direction until the tabs disengage, using care not to damage device or components. **See Diagram A**.
3. Remove the bottom seal cage by rotating the cage using two straight blade screwdrivers in the opposing blade slots. Rotating the cage in the opposite direction from the stop until tabs and slots line up. **See Diagram B**. Once tabs and slots line up, remove bottom seal cage being careful not to damage the sealing surface. Then lift out poppet assembly.
4. Visually inspect seals, sealing surfaces, etc. for debris or damage.

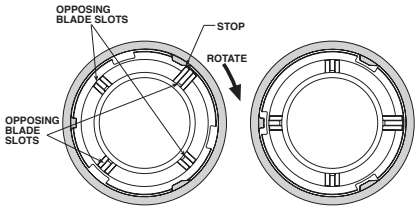

DIAGRAM B

B. TESTING

1. Place poppet assembly into body lining up tabs and slots. Press in the poppet bracket until it has uniform contact all the way around. Rotate the poppet bracket about 1/6 of a turn - **See Diagram E** - until cross bracket lines up with body interlocks.
2. Add water to test kit level to upper red line - 42 inches (1.5 psig).
3. Observe water level for up to 5 minutes. Water level should not fall below lower red line - 28 inches (1.0 psig).
4. If water column falls below 28 inches the poppet assembly should be cleaned and re-tested or replaced.
5. Remove the top poppet assembly by rotating either direction until the tabs disengage, using care not to damage device or components. **See Diagram A**.
6. Repeat steps B1 - B5 for the other poppet assembly as both poppet assemblies are identical.

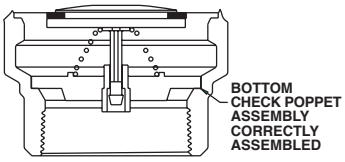

DIAGRAM C

C. RE-ASSEMBLY

1. Clean and inspect device components.
2. Place the bottom check poppet assembly into the body making sure that it is laying flat/square in the seating location pocket. **See Diagram C**.
3. Place bottom check seal cage into body lining up the tabs and slots. Next take two screwdrivers and put them into the opposing blade slots. Then push down with equal pressure on both screwdrivers until the seal cage hits the positive stop being careful not to cut or clip o-ring. Then rotate the cage in either direction until the stop tab hits a body tab. **See Diagram D**.
4. Place top check poppet assembly into body lining up tabs and slots. Press in the poppet bracket until it has uniform contact all the way around. Rotate the poppet bracket about 1/6 of a turn - **See Diagram E** - until cross bracket lines up with body interlocks.
5. Re-assemble device cap. Do not over-tighten.

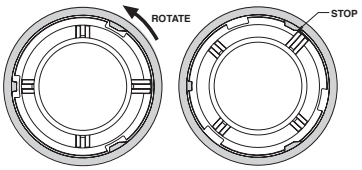

DIAGRAM D

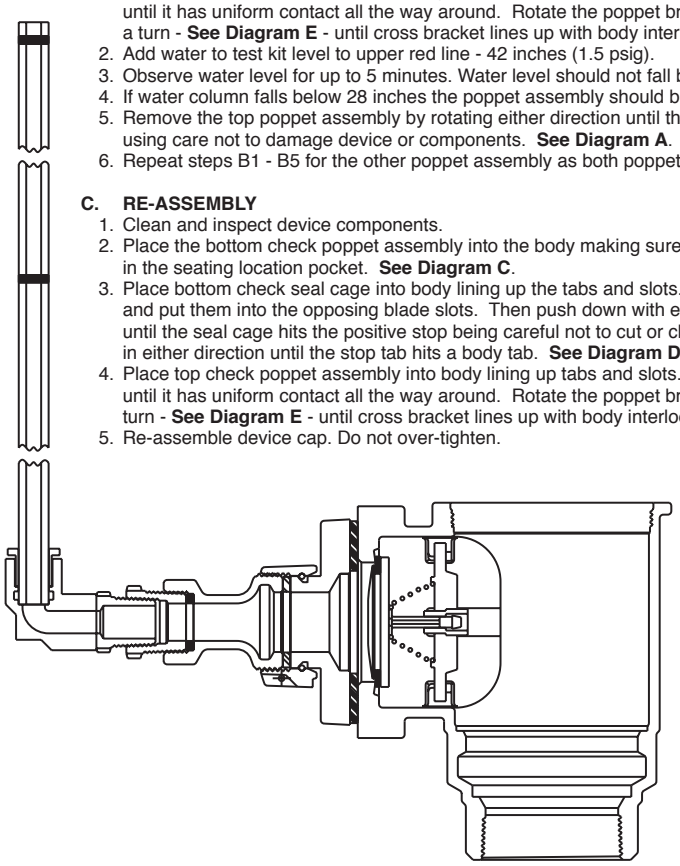

DIAGRAM E

■ Series 111 • Angle Dual Check Valves — General Information

Features

- Each valve pressure tested prior to shipment.
- Pressure rated at 175 PSIG.
- Temperature range 34°F to 180°F.
- Angle check valve available with Pentagon Test Plug in cap.
- Cast brass body, meter nut and cap. (ASTM B62 Alloy C83600).
- Dual checks precision molded of plastic with stainless steel spring.
- Both checks are designed to hold 1 PSIG in the direction of flow.
- Can be installed in either the horizontal or vertical position.
- Can be field tested.
- Available with a wide variety of threaded or compression connections.
- Dual checks work independently of each other.
- Valve will operate with either check removed.
- O-ring seal between valve body and cap, not dependent on cartridge.
- Design Tested to ANSI/ASSE 1024 and CSA B64.6 requirements.

■ HOW TO ORDER

■UNIT REQUIRED (Example):
- Angle style valve
- No test valve
- Valve size 3/4"
- Inlet - Meter swivel with meter support saddle (5/8 x 3/4 meter)
- Outlet - FNPT integral 3/4"

SPACE 1 & 2	SPACE 3	SPACE 4	SPACE 5	SPACE 6	SPACE 7	SPACE 8
111	–	3	J	E	4	3

Order Model 111-3JE 43 Refer to page 15 for inlet/outlet combinations

Model Number Explanation

SPACE 1 & 2 **Basic dual check valve model number:**
111 = Angle dual check valve with two Inline checks

SPACE 3
(–) A dash = Standard
R = Reverse direction of flow
W = With Pentagon test plug in cap

SPACE 4 **Dual check valve size:**
3 = 3/4"

SPACE 5 **Inlet connection type:**
H = Meter swivel nut with meter support
J = Meter swivel nut
K = K-Style male thread integral
L = K-Stlye female thread union
Y = Yoke style thread male

SPACE 6 **Outlet connection type:**
E = Female iron pipe thread (FNPT)
K = K-Style male thread integral
P = Male iron pipe thread integral

SPACE 7 & 8 **Sizes for inlet (5) and outlet (6) types of connections:**
3 = 3/4"

Thread size of meter swivel nuts

METER SIZE	FLANGE SIZE	METER DESIGNATION
5/8	3/4"	3
5/8x3/4	1"	4
3/4	1"	4
1	1 1/4"	5

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■ Series 111 • Angle Dual Check Valves General Information

A.Y. McDonald's unique Angle Dual Check Backflow Valves have meter swivel nut or iron yoke inlets and a wide variety of outlet configurations. Angle dual checks can be ordered on our copper meter setters, resetters, insetters and iron yokes or they can be used independently.

Our top cap and unique check module design assures convenient access to both checks for inspection, maintenance or replacement without removing the valve from the line. Backflow of water is still deterred if either of the checks are removed or inoperable.

111-3JE

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
111-3JE 33	3/4	5/8	Meter swivel nut	3/4" FNPT
111-3JE 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" FNPT
111-3JK 33	3/4	5/8	Meter swivel nut	3/4" FNPT
111-3JP 33	3/4	5/8	Meter swivel nut	3/4" MNPT Integral
111-3JP 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" MNPT Integral
111-3KK 33	3/4	5/8	K Style Male Thread Integral	K Style Male Thread Integral
111-3LK 33	3/4	5/8	K Style Female Thread Union	K Style Male Thread Integral
111-3YE 23	3/4	5/8	Iron Yoke Star Nut	3/4" FNPT
111-3YE 33	3/4	5/8x3/4 or 3/4	Iron Yoke Star Nut	3/4" FNPT

NOTE: Add "W" in place of "-" for pentagon test plug in cap i.e. 12-3JE33 = 12W3JE33.
*Insert stiffeners are **required** on all flexible plastic connections.

NOTE: change "J" in model number to "H" for meter swivel nut with meter support lip.

12-3HE 43

12-3JE 43

THERMAL EXPANSION WARNING - Creating a "closed" condition in a hot water system with the installation of a non-return barrier (such as a Check Valve or Backflow Preventer between the system piping and the public supply) can result in extreme pressure rises caused by thermal expansion and/or water hammer. This thermal expansion can damage piping, valves, and other components in the system. The installation of a pressure relief device or thermal expansion tank can avoid possible damages.

*** Insert stiffeners required on flexible plastic connections.**

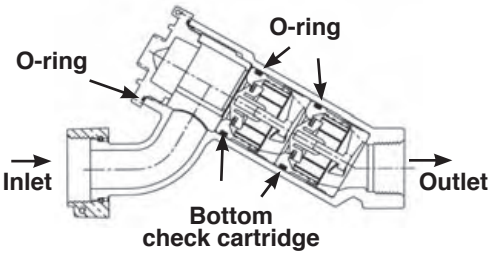
INSTALLATION INSTRUCTIONS for 111 and 112 SERIES

1. Use only for residential and mobile home supply service or individual outlets.
2. The device can be installed in any position.
3. The device shall be installed in an accessible location to facilitate the removal for servicing and testing.
4. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
5. DO NOT use Vaseline ®, plumber's grease, or any other petroleum based product on seals or o-rings.
6. Insure that device is installed in proper flow direction. Refer to flow direction arrow on body.
7. Do not over-tighten O-ring cap seal or across body cylinder to avoid distortion.
8. Any sweat fittings must be completed before installing device.
9. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion conditions are possible.
10. Use only on cold water services. Protect from freezing.
11. Refer to pressure and temperature ratings on device tag.

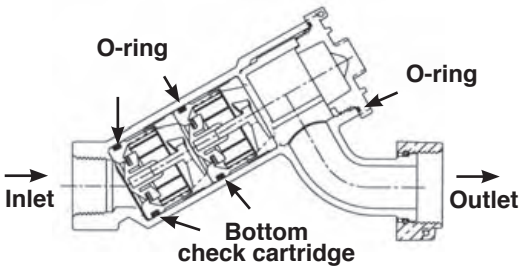
111 Series • Angle Dual Check Valve

Components / Repair Parts

Standard Flow Direction



Reverse Flow Direction



FIELD INSPECTION AND TEST PROCEDURE

A. DIS-ASSEMBLY

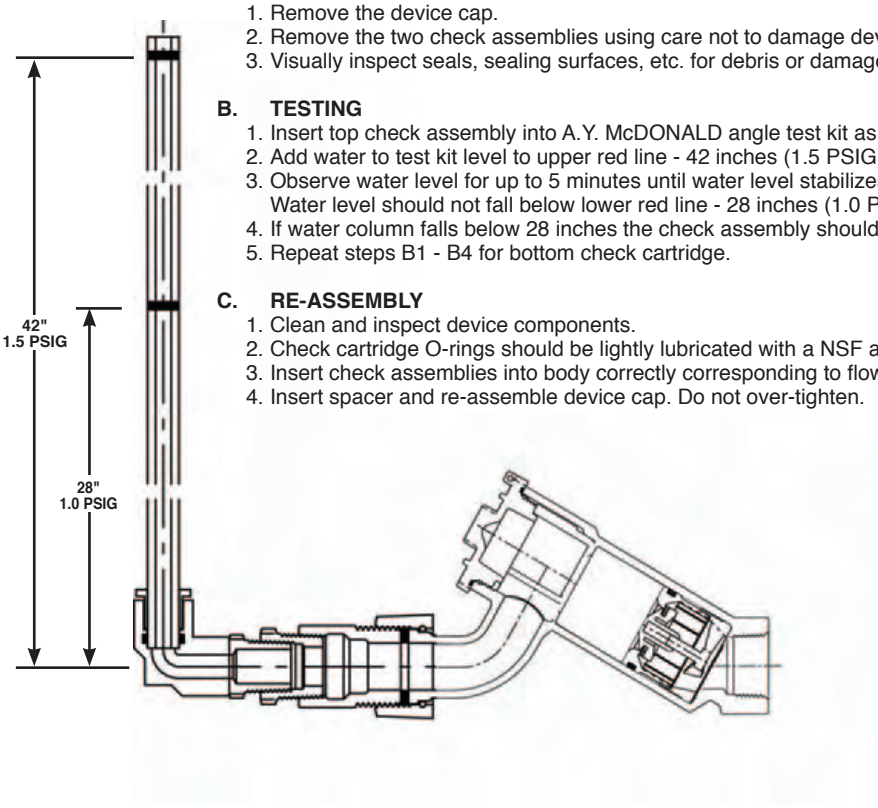
1. Remove the device cap.
2. Remove the two check assemblies using care not to damage device components.
3. Visually inspect seals, sealing surfaces, etc. for debris or damage.

B. TESTING

1. Insert top check assembly into A.Y. McDONALD angle test kit as shown in drawing.
2. Add water to test kit level to upper red line - 42 inches (1.5 PSIG).
3. Observe water level for up to 5 minutes until water level stabilizes. Water level should not fall below lower red line - 28 inches (1.0 PSIG).
4. If water column falls below 28 inches the check assembly should be cleaned and re-tested or replaced.
5. Repeat steps B1 - B4 for bottom check cartridge.

C. RE-ASSEMBLY

1. Clean and inspect device components.
2. Check cartridge O-rings should be lightly lubricated with a NSF approved silicone lubricant.
3. Insert check assemblies into body correctly corresponding to flow direction on the device body.
4. Insert spacer and re-assemble device cap. Do not over-tighten.



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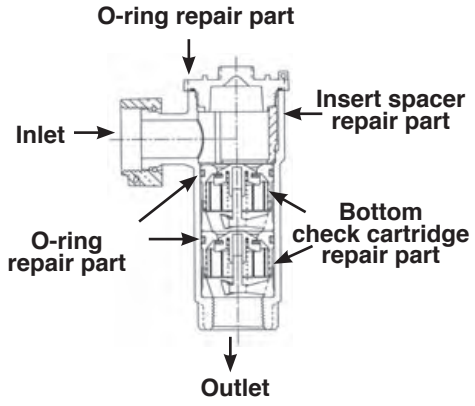
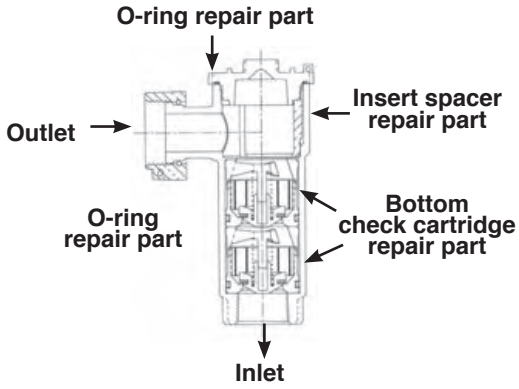
112 Series • Angle Dual Check Valve

Components / Repair Parts

Standard Flow Direction

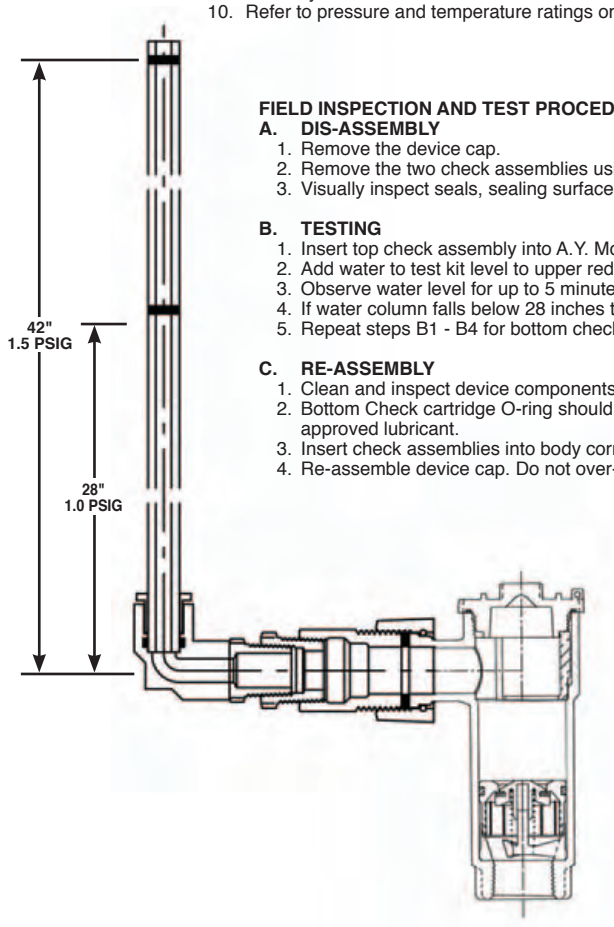


Reverse Flow Direction



INSTALLATION INSTRUCTIONS

1. Use only for residential and mobile home supply service or individual outlets.
2. The device can be installed in any position.
3. The device shall be installed in an accessible location to facilitate the removal for servicing and testing.
4. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
5. Insure that device is installed in proper flow direction. Refer to flow direction arrow on body.
6. Do not over-tighten O-ring cap seal or across body cylinder to avoid distortion.
7. Any sweat fittings must be completed before installing device.
8. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion conditions are possible.
9. Use only on cold water services. Protect from freezing.
10. Refer to pressure and temperature ratings on device tag.



FIELD INSPECTION AND TEST PROCEDURE

A. DIS-ASSEMBLY

1. Remove the device cap.
2. Remove the two check assemblies using care not to damage device components.
3. Visually inspect seals, sealing surfaces, etc. for debris or damage.

B. TESTING

1. Insert top check assembly into A.Y. McDONALD angle test kit as shown in drawing.
2. Add water to test kit level to upper red line - 42 inches (1.5 psig).
3. Observe water level for up to 5 minutes. Water level should not fall below lower red line - 28 inches (1.0 psig).
4. If water column falls below 28 inches the check assembly should be cleaned and re-tested or replaced.
5. Repeat steps B1 - B4 for bottom check cartridge.

C. RE-ASSEMBLY

1. Clean and inspect device components.
2. Bottom Check cartridge O-ring should be lightly lubricated with a FDA approved lubricant.
3. Insert check assemblies into body correctly corresponding to flow direction on the device body.
4. Re-assemble device cap. Do not over-tighten.

■ Series 112 • Angle Dual Check Valves — General Information

Features

- •Each valve pressure tested prior to shipment.
- •Pressure rated at 175 PSIG.
- •Temperature range 34°F to 180°F.
- •Angle check valve available with Pentagon Test Plug in cap.
- •Cast brass body, meter nut and cap. (ASTM B62 Alloy C83600).
- •Dual checks precision molded of plastic with stainless steel spring.
- •Both checks are designed to hold 1 PSIG in the direction of flow.
- •Can be installed in either the horizontal or vertical position.
- •Can be field tested.
- •Available with a wide variety of threaded or compression connections.
- •Dual checks work independently of each other.
- •Valve will operate with either check removed.
- •O-ring seal between valve body and cap, not dependent on cartridge.
- •Design Tested to ANSI/ASSE 1024 and CSA B64.6 requirements.

■ HOW TO ORDER

■UNIT REQUIRED (Example):
- •Angle style valve
- •No test valve
- •Valve size 3/4"
- •Inlet - Meter swivel with meter support saddle (5/8 x 3/4 meter)
- •Outlet - FNPT integral 3/4"

SPACE 1 & 2	SPACE 3	SPACE 4	SPACE 5	SPACE 6	SPACE 7	SPACE 8
112	–	3	H	E	4	3

Order Model 112-3HE 43 Refer to page 19 for inlet/outlet combinations

Model Number Explanation

SPACE 1 & 2 **Basic dual check valve model number:**
112 = Angle dual check valve with two Inline checks

SPACE 3
(–) A dash = Standard
W = With Pentagon test plug in cap

SPACE 4 **Dual check valve size:**
3 = 3/4" **4** = 1"

SPACE 5 **Inlet connection type:**
H = Meter swivel nut with meter support
J = Meter swivel nut
Y = Yoke style thread male

SPACE 6 **Outlet connection type:**
E = Female iron pipe thread (FNPT)
Q = Q CTS compression
R = Copper flare
T = T CTS compression
2 = 22 CTS Mac-Pak compression

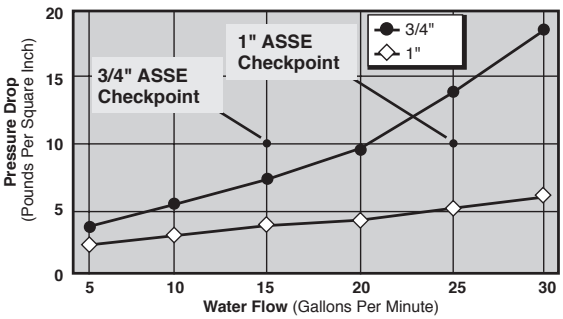
SPACE 7 & 8 **Sizes for inlet (5) and outlet (6) types of connections:**
2 = 5/8" **4** = 1"
3 = 3/4" **5** = 1 1/4"

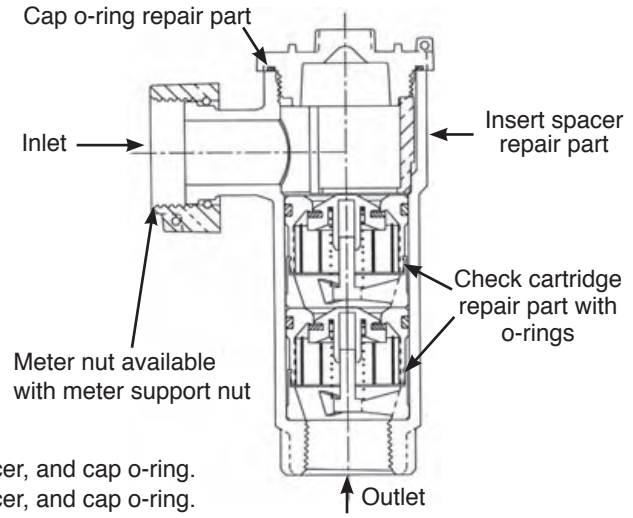
Thread size of meter swivel nuts

METER SIZE	FLANGE SIZE	METER DESIGNATION
5/8	3/4"	3
5/8x3/4	1"	4
3/4	1"	4
1	1 1/4"	5

For Iron Yokes see the following designation.

METER SIZE	FLANGE SIZE	METER DESIGNATION
5/8	-	2
5/8x3/4	-	3
3/4	-	3
1	-	4





112-3RK Repair Kit - Includes 2 checks with o-rings, spacer, and cap o-ring.
112-4RK Repair Kit - Includes 2 checks with o-rings, spacer, and cap o-ring.

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■ Series 112 • Angle Dual Check Valves — General Information

A.Y. McDonald's unique Angle Dual Check Backflow Valves have meter swivel nut or iron yoke inlets and a wide variety of outlet configurations. Angle dual checks can be ordered on our copper meter setters, resetters, insetters and iron yokes or they can be used independently.

Our top cap and unique check module design assures convenient access to both checks for inspection, maintenance or replacement without removing the valve from the line. Backflow of water is still deterred if either of the checks are removed or inoperable.


112-3JE 33


112-3JR 33


112-3J2 33


112-3JQ 33


112-3JT 33


112-3YE 33


112-3YR 33


112-3Y2 33


112-3YQ 33


112-3YT 33

Angle Dual Check Valves with Meter Swivel Nuts

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
112-3JE 33	3/4	5/8	Meter swivel nut	3/4" FNPT
112-3JE 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" FNPT
112-3JE 54	3/4	1	Meter swivel nut	1" FNPT
112-4JE 54	1	1	Meter swivel nut	1" FNPT
112-3JR 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" Copper flare
112-4JR 54	1	1	Meter swivel nut	1" Copper flare
112-3J2 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "22" CTS compression*
112-4J2 54	1	1	Meter swivel nut	1" "22" CTS compression*
112-3JQ 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "Q" CTS compression*
112-4JQ 54	1	1	Meter swivel nut	1" "Q" CTS compression*
112-3JT 43	3/4	5/8x3/4 or 3/4	Meter swivel nut	3/4" "T" CTS compression*
112-4JT 54	1	1	Meter swivel nut	1" "T" CTS compression*

Angle Dual Check Valves with Iron Yoke Star Nuts

MODEL NO.	VALVE SIZE	METER SIZE	INLET	OUTLET
112-3YE 23	3/4	5/8	Iron yoke star nut	3/4" FNPT
112-3YE 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" FNPT
112-3YE 44	3/4	1	Iron yoke star nut	1" FNPT
112-4YE 44	1	1	Iron yoke star nut	1" FNPT
112-3YR 23	3/4	5/8	Iron yoke star nut	3/4" Copper flare
112-3YR 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" Copper flare
112-4YR 24	1	5/8	Iron yoke star nut	1" Copper flare
112-4YR 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" Copper flare
112-4YR 44	1	1	Iron yoke star nut	1" Copper flare
112-3Y2 23	3/4	5/8	Iron yoke star nut	3/4" "22" CTS compression*
112-3Y2 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" "22" CTS compression*
112-3Y2 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" "22" CTS compression*
112-4Y2 24	1	5/8	Iron yoke star nut	1" "22" CTS compression*
112-4Y2 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" "22" CTS compression*
112-4Y2 44	1	1	Iron yoke star nut	1" "22" CTS compression*
112-3YQ 23	3/4	5/8	Iron yoke star nut	3/4" "Q" CTS compression*
112-3YQ 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" "Q" CTS compression*
112-3YQ 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" "Q" CTS compression*
112-4YQ 24	1	5/8	Iron yoke star nut	1" "Q" CTS compression*
112-4YQ 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" "Q" CTS compression*
112-4YQ 44	1	1	Iron yoke star nut	1" "Q" CTS compression*
112-3YT 23	3/4	5/8	Iron yoke star nut	3/4" "T" CTS compression*
112-3YT 33	3/4	5/8x3/4 or 3/4	Iron yoke star nut	3/4" "T" CTS compression*
112-3YT 34	3/4	5/8x3/4 or 3/4	Iron yoke star nut	1" "T" CTS compression*
112-4YT 24	1	5/8	Iron yoke star nut	1" "T" CTS compression*
112-4YT 34	1	5/8x3/4 or 3/4	Iron yoke star nut	1" "T" CTS compression*
112-4YT 44	1	1	Iron yoke star nut	1" "T" CTS compression*

NOTE: change "J" in model number to "H" for meter swivel nut with meter support lip.


(H)


(J)

NOTE: Add "W" in place of "-" for pentagon test plug in cap i.e. 112-3YE33 = 112W3YE33.

*Insert stiffeners are **required** on all flexible plastic connections.

THERMAL EXPANSION WARNING - Creating a "closed" condition in a hot water system with the installation of a non-return barrier (such as a Check Valve or Backflow Preventer between the system piping and the public supply) can result in extreme pressure rises caused by thermal expansion and/or water hammer. This thermal expansion can damage piping, valves, and other components in the system. The installation of a pressure relief device or thermal expansion tank can avoid possible damages.