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THE FORD METER BOX COMPANY, INC.  
CERTIFIED TO ISO 9001:2015  
10002505

# Section B

# Ford® Inside Meter Settings



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Ford Meter Box no-lead brass products manufactured from UNS/CDA No. 89833 alloy shall contain no more than 0.25% total lead content by weight. United States federal and state laws allow the use of products manufactured from UNS C83600 85-5-5-5 brass alloy for only non-potable water systems within the United States. The same UNS C83600 85-5-5-5 brass alloy, also referenced as gunmetal or LG2, is specified and used in potable water systems in most other countries.

Remove “-NL” from catalog number to have products manufactured from UNS C83600 85-5-5-5 brass alloy.

Parties responsible for monitoring and maintaining proper water system design must exercise full responsibility in understanding and upholding the full intent and scope of applicable lead laws.

## FORD INSIDE SETTERS MEET ALL WATER METER INSTALLATION REQUIREMENTS WITH THREE BASIC DESIGN APPLICATIONS.



1. Inside Settings for **new installations**



2. Inside Settings for use with **existing service line installations**



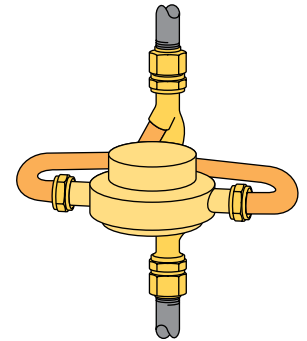
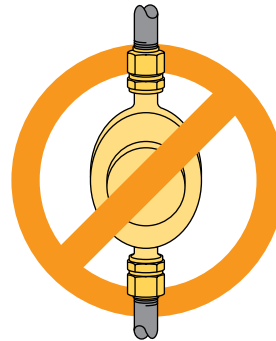
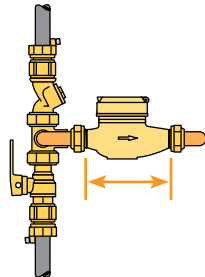
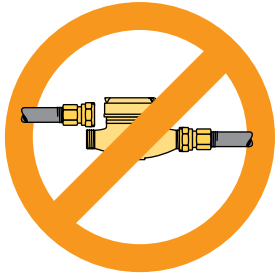
3. Settings for **special applications**. Please contact factory.

All Ford 5/8", 5/8"x3/4" and 3/4" inside meter setters are manufactured with 13/16" O.D. copper; 1" setters are manufactured with 1-1/8" O.D. copper.

# Information

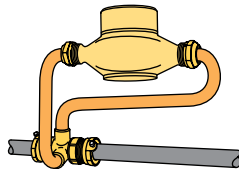
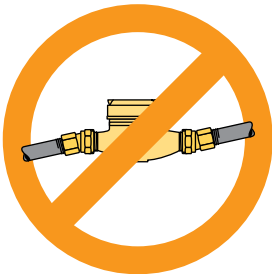
## FORD INSIDE METER SETTINGS SAVE MONEY IN THE LONG RUN

All Ford Inside Meter Setting Devices, while adding a small initial cost to meter installation, provide the following long-term cost saving advantages.

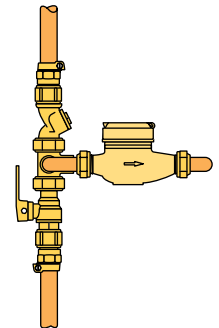
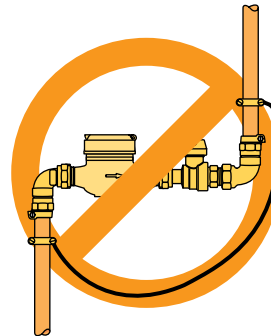


1. **Ford Inside Setters automatically ensure proper spacing for the meter** – simplifying meter changeouts.

2. **Ford Inside Setters position the meter in the correct (upright and horizontal) plane** – reducing meter wear and loss of accuracy.



3. **Ford Inside Setters protect the meter from pipe strain** – essential when using meters with non-metallic cases.



4. **Ford Inside Meter Settings provide permanent electrical bonding** – no need for a separate bonding strap. See the Kornerhorn installation and application information on page 9.

In addition, Ford Inside Meter Setters cut the amount of time necessary to install the meter, thus saving a considerable amount of labor cost.

## GUIDELINES TO FOLLOW WHEN INSTALLING INSIDE METER SETTINGS

1. The meter should be located as near as possible to the point of entry of the supply line to discourage hidden connections ahead of the meter.
2. The meter should be located so that it is safe from freezing and accessible for reading, inspection and changing. Even remote reading meters must be inspected and maintained.
3. The meter should be from two to four feet above the floor, with the dial pointing up. Some meters are considered more accurate in this position.
4. Valves should be located just ahead of the meter, and just after the meter, to prevent backflow and pipe drainage during meter changeouts. A quality Ford Check Valve or Dual Check Valve may be substituted for the outlet valve. The type and quality of valve or valves is important. Points to consider are low pressure loss, freedom from leakage and ease of operation. Ford Ball Valves provide all of these advantages and may be used with any Ford inside setting device.
5. A well-designed meter holding device, such as a Ford Inside Setter, is a great advantage in physically connecting and supporting the customer's piping, making meter changes easier and more trouble-free and providing an electrical bond around the meter (see Kornerhorn installation information on page 9). Ford Setters are well worth the slight additional initial cost.

All solder joints on Ford Inside Setters are made with **lead-free solder**.

# Copperhorns - *For metering new services*

Designed for use with new installations, the Copperhorn is our most popular inside setter for these very good reasons.

1. **The Copperhorn is easy to install**, eliminates meter couplings and reduces pipe fittings and joints.
2. **Pressure loss is negligible** due to smooth, full diameter bends in the copper tubing.
3. **Meters can be changed easily** without disturbing the customer's plumbing.
4. **The Copperhorn makes for an attractive, professional-looking installation** which does not detract from the appearance of finished basements or utility rooms.
5. **The Copperhorn fits into any metering program** and can be fitted with a ball valve inlet and/or check valve outlet connection.



The Copperhorn can be adapted to most inside meter setting situations. Pipe ends or swivels are available for many types of connections and in a wide range of sizes as listed below.

## Copperhorn for 5/8" meter



CH11-133-NL  
shown above

CATALOG NUMBER	DESCRIPTION		APPROX. Wt. LBS.	STD. PKG. QTY.
	ONE END	OTHER END		
CH11-111-NL	1/2" Female Iron Pipe	1/2" Female Iron Pipe	3.1	10
CH11-133-NL	3/4" Double Purpose Δ	3/4" Double Purpose Δ	3.1	10
CH11-133-LS-NL	Less Swivel w/Union Nut	Less Swivel w/Union Nut	2.7	10
CH11-144-NL	1" Female Iron Pipe	1" Female Iron Pipe	4.1	10
CH18-111-NL	1/2" Female Iron Pipe	1/2" Male Iron Pipe	3.2	10
CH18-133-NL	3/4" Double Purpose Δ	3/4" Male Iron Pipe	3.3	10
CH18-134-NL	3/4" Double Purpose Δ	1" Male Iron Pipe	3.3	-
CH18-143-NL	1" Female Iron Pipe	3/4" Male Iron Pipe	3.1	10
CH18-144-NL	1" Female Iron Pipe	1" Male Iron Pipe	3.8	-
CH22-133-NL	3/4" Flared Copper	3/4" Flared Copper	3.1	-
* CH84-133-NL	3/4" Male Iron Pipe	3/4" Pack Joint CTS	3.7	10
CH88-133-NL	3/4" Male Iron Pipe	3/4" Male Iron Pipe	3.4	10
CH88-143-NL	1" Male Iron Pipe	3/4" Male Iron Pipe	3.4	10
CH88-144-NL	1" Male Iron Pipe	1" Male Iron Pipe	3.5	10
o CH8S-133-NL	3/4" Male Iron Pipe	3/4" Solder	3.1	-
o CHSS-133-NL	3/4" Solder	3/4" Solder	3.2	-
o CHSS-144-NL	1" Solder	1" Solder	3.2	10

**Note:** Convex Double Purpose ends are standard. For Concave Double Purpose ends, use prefix CHFSWxx-xxx-NL.

## Copperhorn for 5/8"x3/4" meter



CH18-233-NL  
shown above

CATALOG NUMBER	DESCRIPTION		APPROX. Wt. LBS.	STD. PKG. QTY.
	ONE END	OTHER END		
CH11-211-NL	1/2" Female Iron Pipe	1/2" Female Iron Pipe	3.3	3
CH11-233-NL	3/4" Double Purpose Δ	3/4" Double Purpose Δ	3.4	10
CH11-233-LS-NL	Less Swivel w/Union Nut	Less Swivel w/Union Nut	3.0	10
CH11-243-NL	1" Female Iron Pipe	3/4" Double Purpose Δ	3.9	10
CH11-244-NL	1" Female Iron Pipe	1" Female Iron Pipe	4.4	10
CH18-211-NL	1/2" Female Iron Pipe	1/2" Male Iron Pipe	3.1	10
CH18-233-NL	3/4" Double Purpose Δ	3/4" Male Iron Pipe	3.5	10
CH18-234-NL	3/4" Double Purpose Δ	1" Male Iron Pipe	4.3	10
CH18-243-NL	1" Female Iron Pipe	3/4" Male Iron Pipe	3.1	-
CH18-244-NL	1" Female Iron Pipe	1" Male Iron Pipe	4.1	6
CH22-233-NL	3/4" Flared Copper	3/4" Flared Copper	3.1	10
* CH44-233-NL	3/4" Pack Joint CTS	3/4" Pack Joint CTS	4.3	10
CH88-233-NL	3/4" Male Iron Pipe	3/4" Male Iron Pipe	3.6	10
CH88-243-NL	1" Male Iron Pipe	3/4" Male Iron Pipe	3.1	-
CH88-244-NL	1" Male Iron Pipe	1" Male Iron Pipe	3.8	10
o CH8S-233-NL	3/4" Male Iron Pipe	3/4" Solder	3.1	-
o CH8S-243-NL	1" Male Iron Pipe	3/4" Solder	3.6	10
o CHSS-211-NL	1/2" Solder	1/2" Solder	3.4	-
o CHSS-233-NL	3/4" Solder	3/4" Solder	3.4	10
o CHSS-244-NL	1" Solder	1" Solder	3.4	10

\* **Grip Joint** for CTS can be ordered by adding "-G" to the catalog number.

Δ Double Purpose Union Swivels will accommodate male iron pipe threads or flare copper.

o **Attention:** Special solder and procedures are required for best results. Contact factory or see website for installation instructions.

**Note:** Convex Double Purpose ends are standard. For Concave Double Purpose ends, use prefix CHFSWxx-xxx-NL.

# Copperhorns - *For metering new services*



CH11-333-NL  
shown above

## Copperhorn for 3/4" meter

CATALOG NUMBER	DESCRIPTION		APPROX. Wt. LBS.	STD. PKG. QTY.
	ONE END	OTHER END		
CH11-311-NL	1/2" Female Iron Pipe	1/2" Female Iron Pipe	3.3	6
CH11-333-NL	3/4" Double Purpose Δ	3/4" Double Purpose Δ	3.4	10
CH11-333-LS-NL	Less Swivel w/Union Nut	Less Swivel w/Union Nut	3.0	10
CH11-343-NL	1" Female Iron Pipe	3/4" Double Purpose Δ	3.3	-
CH11-344-NL	1" Female Iron Pipe	1" Female Iron Pipe	4.4	6
CH18-333-NL	3/4" Double Purpose Δ	3/4" Male Iron Pipe	3.5	6
CH18-334-NL	3/4" Double Purpose Δ	1" Male Iron Pipe	3.3	-
CH18-344-NL	1" Female Iron Pipe	1" Male Iron Pipe	3.3	6
○ CH1S-344-NL	1" Female Iron Pipe	1" Solder	3.3	-
CH22-333-NL	3/4" Flared Copper	3/4" Flared Copper	3.3	-
* CH44-333-NL	3/4" Pack Joint CTS	3/4" Pack Joint CTS	4.4	10
CH82-333-NL	3/4" Male Iron Pipe	3/4" Flared Copper	3.3	-
CH88-333-NL	3/4" Male Iron Pipe	3/4" Male Iron Pipe	3.7	10
CH88-343-NL	1" Male Iron Pipe	3/4" Male Iron Pipe	3.7	-
CH88-344-NL	1" Male Iron Pipe	1" Male Iron Pipe	3.8	10
○ CH8S-333-NL	3/4" Male Iron Pipe	3/4" Solder	3.8	-
○ CHSS-333-NL	3/4" Solder	3/4" Solder	3.5	-
○ CHSS-343-NL	1" Solder	3/4" Solder	3.3	-
○ CHSS-344-NL	1" Solder	1" Solder	3.5	10

**Note:** Convex Double Purpose ends are standard. For Concave Double Purpose ends, use prefix CHFSWxx-xxx-NL.



CH11-444-NL  
shown above

## Copperhorn for 1" meter

CATALOG NUMBER	DESCRIPTION		APPROX. Wt. LBS.	STD. PKG. QTY.
	ONE END	OTHER END		
CH11-444-NL	1" Double Purpose Δ	1" Double Purpose Δ	5.9	5
CH11-444-LS-NL	Less Swivel w/Union Nut	Less Swivel w/Union Nut	5.3	5
CH11-455-NL	1-1/4" Double Purpose Δ	1-1/4" Double Purpose Δ	7.4	5
CH18-444-NL	1" Double Purpose Δ	1" Male Iron Pipe	6.1	5
○ CH1S-444-NL	1" Double Purpose Δ	1" Solder	5.9	5
CH88-444-NL	1" Male Iron Pipe	1" Male Iron Pipe	6.3	5
CH88-454-NL	1-1/4" Male Iron Pipe	1" Male Iron Pipe	6.5	5
CH88-455-NL	1-1/4" Male Iron Pipe	1-1/4" Male Iron Pipe	6.7	5
○ CH8S-444-NL	1" Male Iron Pipe	1" Solder	6.1	5
○ CHSS-444-NL	1" Solder	1" Solder	5.9	5

\* **Grip Joint** for CTS can be ordered by adding "-G" to the catalog number.

Δ Double Purpose Union Swivels will accommodate male iron pipe threads or flare copper.

○ **Attention:** Special solder and procedures are required for best results. Contact factory or see website for installation instructions.

# Copperhorns Parts - *For metering new services*

## Parts for Copperhorn with Convex Ends for 5/8", 5/8"x3/4" and 3/4" meters (Style CHxx-xxx-NL)



Convex body end(s)  
(for style CHxx-xxx-NL and  
VCHxx-xxx-NL) shown above

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.
CSS1-31-NL	1/2" Female Iron Pipe Thread Swivel only	0.2
CSS8-31-NL	1/2" Male Iron Pipe Thread Swivel only	0.2
o CSSS-31-CR-NL	1/2" Solder Swivel only	0.2
CSS1-33-NL	3/4" Female Iron Pipe Thread Swivel only	0.3
CSS8-33-NL	3/4" Male Iron Pipe Thread Swivel only	0.2
o CSSS-33-CR-NL	3/4" Solder Swivel only	0.7
CSS4-33-NL	3/4" CTS Pack Joint Swivel only (w/ PJ nut)	0.7
CSS4-33-G-NL	3/4" CTS Grip Joint Swivel only (w/ GJ nut)	0.4
CSS8-34-NL	1" Male Iron Pipe Thread Swivel only	0.2
o CSSS-34-CR-NL	1" Solder Swivel only	0.2
CSUN-3	Union Nut only	0.2
CSSUN1-34-NL	1" Female Iron Pipe Thread Swivel & Union Nut assembly	0.9
CSSUN4-33-NL	3/4" CTS Pack Joint Swivel & Union Nut assembly	0.9
CSSUN4-33-Q-NL	3/4" CTS Quick Joint Swivel & Union Nut assembly	1.1
CSSUN4-34-Q-NL	1" CTS Quick Joint Swivel & Union Nut assembly	1.4
CSA4-33-Q-NL	3/4" CTS Quick Joint Adapter for 3/4" Double Purpose Nose	1.0
CSA7-33-NL	3/4" Pack Joint for PVC for 3/4" Double Purpose	1.1
HHSCS8-333-NL	3/4" Dual Check Valve with Valve Copperhorn Union Swivel Inlet and 3/4" MIP Outlet (Unit attaches directly to Copperhorn body)	2.0
GT-205	3/4" Composition Gasket for Double Purpose Connection	-

## Parts for Copperhorn with Concave Ends for 5/8", 5/8"x3/4" and 3/4" meters (Style CHFSWxx-xxx-NL)



Concave body end(s)  
(for style CHFSWxx-xxx-NL)  
shown above

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.
CSUN-3	Union Nut only	0.2
CHS8-31-NL	1/2" Male Swivel only	0.3
CHS1-31-NL	1/2" Female Swivel only	0.2
o CHSS-31-NL	1/2" Solder Swivel only	0.2
CHS8-33-NL	3/4" Male Swivel only	0.3
CHS1-33-NL	3/4" Female Swivel only	0.2
o CHSS-33-NL	3/4" Solder Swivel only	0.2
CHS8-34-NL	1" Male Swivel only	0.4
o CHSS-34-NL	1" Solder Swivel only	0.2
CHSUN1-34-NL	1" Female Swivel with Union Nut (assembly)	0.7
* CHS4-33-NL	3/4" CTS Pack Joint Swivel (less Union Nut)	0.7
WR-3-NL	3/4" Wedding Ring only	0.1
HHSCH8-333-NL	3/4" Dual Check Valve with Copperhorn Union Swivel Inlet and 3/4" MIP Outlet (unit attaches directly to Copperhorn body)	1.8

## Parts for Copperhorn for 1" meter

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.
CSUN-4	Union Nut only	0.4
CSS8-44-NL	1" Male Swivel only	0.3
CSS1-44-NL	1" Female Swivel only	0.3
o CSSS-44-CR-NL	1" Solder Swivel only	0.3
CSS8-45-NL	1-1/4" Male Swivel only	0.7
CSSUN1-45-AWT-NL	1-1/4" Female Swivel with Union Nut (assembly)	1.5
WR-4-NL	1" Wedding Ring only	0.1
CSA4-44-Q-NL	1" Quick Joint (CTS) Adapter (non swivel)	1.5
GT-206	1" Composition Gasket for Double Purpose Connection	-

\* Grip Joint for CTS can be ordered by adding "-G" to the catalog number.

- o **Attention:** Special solder and procedures are required for best results. Contact factory or see website for installation instructions.

# Valve Copperhorns - *For metering new services*

The Valve Copperhorn is a desirable meter setting when it is advantageous to have a convenient and easily operated valve for customer use. The Valve Copperhorn incorporates a high-quality compression valve as an integral part of the setter body and can be used as an inlet valve or an outlet valve, depending on how the setter is installed.

Valve Copperhorns are made in three meter sizes, as listed below.



VCH11-233-NL  
shown above

## Valve Copperhorn for 5/8" meter

CATALOG NUMBER	DESCRIPTION		APPROX. WT. LBS.	STD. PKG. QTY.
	ONE END	VALVE END		
VCH11-133-NL	3/4" Double Purpose Δ	3/4" Double Purpose Δ	3.9	-
VCH18-133-NL	3/4" Double Purpose Δ	3/4" Male Iron Pipe	4.1	10
VCH81-133-NL	3/4" Male Iron Pipe	3/4" Double Purpose Δ	4.3	-
○ VCHSS-133-NL	3/4" Solder	3/4" Solder	4.0	10

## Valve Copperhorn for 5/8"x3/4" meter

CATALOG NUMBER	DESCRIPTION		APPROX. WT. LBS.	STD. PKG. QTY.
	ONE END	VALVE END		
VCH11-211-NL	1/2" Female Iron Pipe	1/2" Female Iron Pipe	4.3	10
VCH11-233-NL	3/4" Double Purpose Δ	3/4" Double Purpose Δ	4.2	-
VCH11-233-LS-NL	Less Swivel w/Nut	Less Swivel w/Nut	3.8	-
VCH18-233-NL	3/4" Double Purpose Δ	3/4" Male Iron Pipe	4.3	-
VCH18-234-NL	3/4" Double Purpose Δ	1" Male Iron Pipe	4.3	-
VCH88-233-NL	3/4" Male Iron Pipe	3/4" Male Iron Pipe	4.4	-
VCH88-243-NL	1" Male Iron Pipe	3/4" Male Iron Pipe	4.3	-
VCH88-244-NL	1" Male Iron Pipe	1" Male Iron Pipe	4.5	-
○ VCHSS-233-NL	3/4" Solder	3/4" Solder	4.2	-

## Valve Copperhorn for 3/4" meter

CATALOG NUMBER	DESCRIPTION		APPROX. WT. LBS.	STD. PKG. QTY.
	ONE END	VALVE END		
VCH11-333-NL	3/4" Double Purpose Δ	3/4" Double Purpose Δ	4.2	-
○ VCHSS-333-NL	3/4" Solder	3/4" Solder	4.3	-

Note: Valve Copperhorns have convex body ends. (See photo at top of page 6.)

## Parts for Valve Copperhorns

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.
CSUN-3	Union Nut only	0.2
CSS8-31-NL	1/2" Male Swivel only	0.3
CSS1-31-NL	1/2" Female Swivel only	0.2
CSS8-33-NL	3/4" Male Swivel only	0.3
CSS1-33-NL	3/4" Female Swivel only	0.2
○ CSSS-33-CR-NL	3/4" Solder Swivel only	0.2
* CSS4-33-NL	3/4" CTS Pack Joint Swivel (less Union Nut)	0.7
CSSUN4-33-Q-NL	3/4" CTS Quick Joint Swivel and Union Nut Assembly with Quick Joint Nut	1.1
CSSUN4-34-Q-NL	1" CTS Quick Joint Swivel and Union Nut Assembly with Quick Joint Nut	1.5
CSS8-34-NL	1" Male Swivel only	0.4
○ CSSS-34-CR-NL	1" Solder Swivel only	0.2
CSSUN1-34-NL	1" Female Swivel and Union Nut Assembly	0.9
CSA4-33-Q-NL	3/4" CTS Quick Joint Adapter for 3/4" Double Purpose Nose (non swivel)	1.1
HHSCS8-333-NL	3/4" Dual Check Valve with Valve Copperhorn Union Swivel Inlet and 3/4" MIP Outlet (unit attaches directly to Copperhorn body)	1.8
GT-205	3/4" Composition Gasket for Double Purpose Connection	-

\* Grip Joint for CTS can be ordered by adding "-G" to the catalog number.

Δ Double Purpose Union Swivels will accommodate male iron pipe threads or flare copper.

○ Attention: Special solder and procedures are required for best results. Contact factory or see website for installation instructions.

# Plumbhorns - *For metering new services*

The Ford Plumbhorn is a simple, inexpensive meter setting device which can save the cost of ordinary meter couplings, ells, nipples and pipe joints. As with all Ford setters, the Plumbhorn provides correct meter spacing, alignment, and becomes a permanent part of the plumbing when installed in a vertical pipe.

Each end of the Plumbhorn body has 3/4" male pipe threads for a variety of couplings, valves and check valves. The overall body height is 3-1/16".



PB-2-NL shown above

CATALOG NUMBER	METER SIZE	APPROX. WT. LBS.	STD. PKG. QTY.
PB-1-NL	5/8"	1.8	-
PB-2-NL	5/8"x3/4"	2.1	10
PB-3-NL	3/4"	2.1	-

# Handyhorns - *For metering new or existing services* *(Setters with integral inlet - outlet compression connections)*

The Ford Handyhorn is an inside meter setting device with integral compression connections. It is designed to be installed in vertical basement or utility room piping and can be used in new plumbing installations or in existing service lines. Compression connections eliminate the need to thread, flare or solder pipe, but do require that the pipe be shifted out of alignment slightly when installed in existing lines.

**Before ordering Handyhorns for meter installations in existing lines, it is essential that a careful survey be made of the types and sizes of piping to be encountered.** This is of importance because the compression connection on each fitting is for the size and type of pipe specified on the order and cannot be adapted to anything else. This is different from the compression connection assemblies on Ford Kornerhorns (see pages 9 - 12) which are interchangeable and allow the Kornerhorn to be used with a wide variety of pipe and tubing.



HH1-34-NL shown above

CATALOG NUMBER	METER SIZE	SIZE AND TYPE OF EXISTING PIPE	APPROX. WT. LBS.	STD. PKG. QTY.
HH1-15-NL	5/8"	1/2" Iron Pipe	2.1	10
HH1-35-NL	5/8"	3/4" Iron Pipe	2.2	-
♦ HH1-14-NL	5/8"	1/2" Copper Tubing	2.2	10
*♦ HH1-34-NL	5/8"	3/4" Copper Tubing	2.3	10
HH2-15-NL	5/8"x3/4"	1/2" Iron Pipe	2.3	10
HH2-35-NL	5/8"x3/4"	3/4" Iron Pipe	2.4	10
♦ HH2-14-NL	5/8"x3/4"	1/2" Copper Tubing	2.5	10
*♦ HH2-34-NL	5/8"x3/4"	3/4" Copper Tubing	2.5	10
* HH2-44-NL	5/8"x3/4"	1" Copper Tubing	2.7	10
HH3-35-NL	3/4"	3/4" Iron Pipe	2.5	10
*♦ HH3-34-NL	3/4"	3/4" Copper Tubing	2.6	10

\* Grip Joint for CTS can be ordered by adding "-G" to the catalog number.

♦ Quick Joint can be ordered by adding "-Q" to this catalog number.



# Kornerhorns - *For metering existing services*

## The heart of the Kornerhorn system is the removable Compression Assembly.

Using these removable Compression Assemblies, any Kornerhorn, Pretzelhorn or Drophorn can be adapted to connect to iron pipe, copper tubing or plastic pipe, with no threading, flaring or soldering. Little or no changes need to be made in customer's plumbing. Meter couplings, pipe fittings, and electrical bonding devices are not required when using properly installed Pack Joint and Grip Joint service line connections. Electrical bonding is achieved through the clamping/set screw mechanism of the Pack Joint nut or the gripper ring of the Grip Joint Nut.



## The Kornerhorn is adaptable.

The Kornerhorn can position the water meter properly (horizontally) in a vertical pipe and, if necessary, in close quarters, such as in the corner of a basement or utility room. It can also position the meter properly in horizontal or sloping pipe. **The interchangeable Compression Assembly System eliminates the usual pipe survey prior to the meter installation.** Kornerhorn Inside Setters can be ordered in a quantity sufficient to complete the job along with a small representative number of Compression Assemblies. As the job progresses, experience will dictate the approximate quantity of each type of Compression necessary to complete the job and they can be ordered at a later date. The available types of Compression Assemblies for almost all types of water piping material are shown in the tables on page 11. A variety of detachable and integral valves are available as listed on page 10.

PJA4-13-NL removable Pack Joint Assembly for Copper or Plastic Tubing



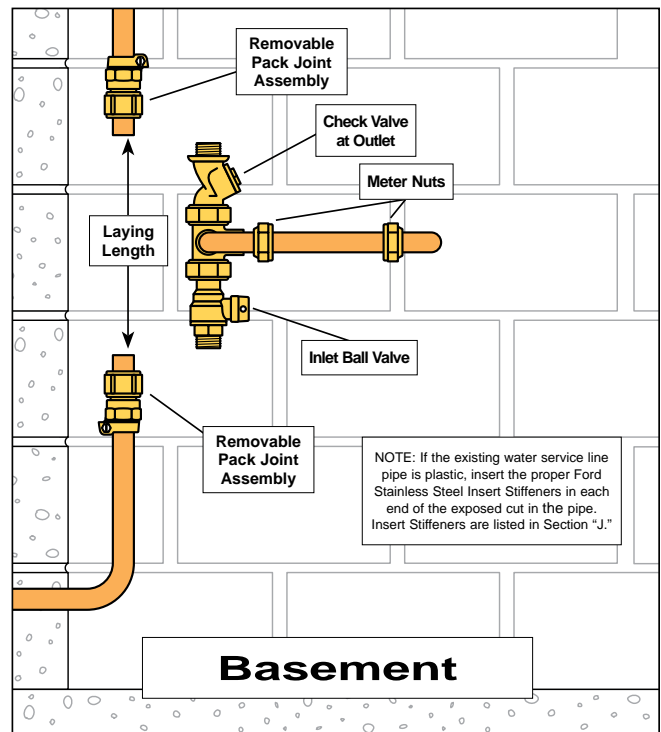
PJA5-13-NL removable Pack Joint Assembly for Iron Pipe

## With a Kornerhorn, meters can be installed in most locations in a matter of minutes.

This information also applies to Pretzelhorns and Drophorns.

If conditions permit, the meter should be set from two to four feet above the floor. The pipe should be cleaned using a file or coarse emery cloth on iron pipe, or steel wool on copper tubing.

1. Cut out a section of the pipe equal to the total laying length of the Kornerhorn body plus assembled accessory valves or check valves. The exposed pipe/tubing ends should be scraped and filed to remove burrs and rough surfaces.
2. The removable Compression Assemblies are slipped onto the pipe ends as shown in the drawing.
3. If the water service line is plastic pipe or tubing, insert the required Insert Stiffeners.
4. The Kornerhorn body, with optional valves attached, is now inserted in the space between the pipes. The Compression Assemblies are slipped along the pipes and screwed tightly onto the body. The compression nuts are then tightened and locked onto the pipes. The Kornerhorn is now a part of the basement piping structure, and when metal pipe and Pack Joint or Grip Joint connections are used, electrical bonding is provided for grounding typical household currents.



5. After installation is made, the pipe should be flushed to wash out pipe scale and chips. The meter is then connected to the Kornerhorn in a horizontal position, with the dial facing upward.

# Kornerhorns - *For metering existing services*



KH-2-NL Kornerhorn

## Kornerhorns Only for Metering Existing Services

CATALOG NUMBER	METER SIZE	APPROX. WT. LBS.	STD. PKG. QTY.
KH-1-NL	5/8"	1.9	25
KH-2-NL	5/8"x3/4"	2.1	25
KH-3-NL	3/4"	2.2	20
KH-4-NL	1"	4.0	8

## Detachable Valves for KH-1-NL, KH-2-NL and KH-3-NL Kornerhorns

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.	STD. PKG. QTY.
KH-VALVE-1-NL	Compression Kornerhorn Valve	1.3	6
KH-VALVE-1D-NL	Compression Kornerhorn Valve with drain	1.4	-
KHBV-1-NL	5/8" Kornerhorn Ball Valve	1.4	12
KHBV-1D-NL	5/8" Kornerhorn Ball Valve with drain	1.5	-
KHBV-1-HB-2-NL	5/8" Kornerhorn Ball Valve with HB-2 handle	1.6	8
KHCV-1-NL	Kornerhorn Check Valve	1.2	10
KHHCV-1-NL	Kornerhorn Dual Check Valve	1.7	8
KHHCV-1D-NL	Kornerhorn Dual Check Valve with drain	1.9	-
KH-HHCH-1-NL	In-Line Accessible Cartridge Style Kornerhorn Dual Check Valve	1.9	4
KH-HHCH-1D-NL	In-Line Accessible Cartridge Style Kornerhorn Dual Check Valve with drain	1.9	4



KH-2-NL Kornerhorn shown with Detachable Ball Valve, Dual Check Valve and Pack Joint Assemblies

## Detachable Valves for KH-4-NL Kornerhorn

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.	STD. PKG. QTY.
KH-VALVE-4-NL	1" Kornerhorn Compression Valve	2.1	5
KH-VALVE-4D-NL	1" Kornerhorn Compression Valve with drain	2.2	-
B81-455-NL	1" Kornerhorn Ball Valve	2.9	4
B81-455-HB-34-NL	1" Kornerhorn Ball Valve with HB-34 Handle	3.1	-

Note: Detachable items will be packaged separately.



KHVBHH-2-NL Kornerhorn with Integral Angle Ball Valve and Angle Dual Check Valve

## Kornerhorns with Integral Valves

CATALOG NUMBER				DESCRIPTION		APPROX. WT. LBS.
METER SIZE & VALVE TYPE				INLET VALVE	OUTLET VALVE	
5/8"	5/8"x3/4"	3/4"	1"			
KHVB-1-NL	KHVB-2-NL	KHVB-3-NL	KHVB-4-NL	Ball	None	3.1
KHVBH-1-NL	KHVBH-2-NL	KHVBH-3-NL	KHVBH-4-NL	Ball	Single Check	4.2
KHVBHH-1-NL	KHVBHH-2-NL	KHVBHH-3-NL	KHVBHH-4-NL	Ball	Dual Check	4.3
KHVBHC-1-NL	KHVBHC-2-NL	KHVBHC-3-NL	KHVBHC-4-NL	Ball	Dual Cartridge Check	-
KHH-1-NL	KHH-2-NL	-	-	None	Single Check	-
KHHH-1-NL	KHHH-2-NL	-	▼ KHHH-4-NL	None	Dual Check	-
KHHC-1-NL	KHHC-2-NL	-	KHHC-4-NL	None	Dual Cartridge Check	3.6

▼ 1" Angle Cascading Dual Check Valve contains 3/4" internal components

Setters with integral angle ball valve will be reduced port unless otherwise requested. Reduced port valves usually provide suitable water flow. (Add "-FP" to the catalog number for full port.)

**Note:** The inlet operating valve, on single valve units, is assembled on the short tube unless otherwise specified. This configuration will place the meter to the left of the plumbing as water flows up into the Kornerhorn. Units with a check valve are assembled with the check valve on the short tube unless otherwise specified. This configuration will place the meter to the right of the plumbing as water flows up into the Kornerhorn.

**Catalog Section I describes the use and precautions for Single, Dual and Cartridge Style Dual Check Valves.**

# Kornerhorns - *For metering existing services*

## Pack Joint or Other Compression Assemblies for KH-1-NL, KH-2-NL and KH-3-NL Kornerhorns (two required per Kornerhorn)



CATALOG NUMBER	DESCRIPTION		APPROX. WT. LBS.	STD. PKG. QTY.
	SIZE AND TYPE OF EXISTING PIPE	PACK JOINT ASSEMBLY REQUIRED		
◆ PJA4-11-NL	1/2" Copper or Plastic Tube	1/2" P. J. for Pack Joint (CTS)	0.6	25
*◆ PJA4-13-NL	3/4" Copper or Plastic Tube	3/4" P. J. for (CTS)	0.6	25
* PJA4-14-NL	1" Copper or Plastic Tube	1" P. J. for (CTS)	0.8	20
• PJA4-15-PJA6-14-NL	1-1/4" Copper or Plastic Tube	1-1/4" P. J. for (CTS)	1.2	10
† PJA4-16-AWT-NL	1-1/2" Copper or Plastic Tube	1-1/2" P. J. for (CTS)	2.2	-
PJA5-11-NL	1/2" Iron Pipe	1/2" P. J. for Iron Pipe	0.5	30
PJA5-13-NL	3/4" Iron Pipe	3/4" P. J. for Iron Pipe	0.5	25
PJA5-14-NL	1" Iron Pipe	1" P. J. for Iron Pipe	0.9	10
PJA5-15-NL	1-1/4" Iron Pipe	1-1/4" P. J. for Iron Pipe	1.7	-
† PJA5-16-AWT-NL	1-1/2" Iron Pipe	1-1/2" P. J. for Iron Pipe	2.3	-
* PJA6-13-NL	3/4" Polyethylene Pipe	3/4" P. J. for P.E. Pipe	0.7	20
* PJA4-15-PJA6-14-NL	1" Polyethylene Pipe	1" P. J. for P.E. Pipe	1.2	10
† PJA6-15-AWT-NL	1-1/4" Polyethylene Pipe	1-1/4" P. J. for P.E. Pipe	1.3	-
† PJA6-16-IDR7-AWT-NL	1-1/2" Polyethylene Pipe	1-1/2" P. J. for P.E. Pipe	3.2	-
PJA7-11-NL	1/2" PVC Pipe	1/2" PVC Pipe	0.6	-
PJA7-13-NL	3/4" PVC Pipe	3/4" P. J. for PVC Pipe	0.8	22
PJA7-14-NL	1" PVC Pipe	1" P. J. for PVC Pipe	1.2	10
PJA7-15-NL	1-1/4" PVC Pipe	1-1/4" P. J. for PVC Pipe	1.7	8
† PJA7-16-AWT-NL	1-1/2" PVC Pipe	1-1/2" P. J. for PVC Pipe	2.3	-

\* Grip Joint for CTS (3/4" - 2") and PEP (3/4" & 1") can be ordered by adding "-G" to the catalog number.

◆ Quick Joint can be ordered by adding "-Q" to this catalog number.

† Note: These items are not one piece but are two adapter pieces assembled water tight.

• This pack joint assembly is for use on 1-1/4" copper or plastic tubing (CTS) or 1" PE Pipe.

## Pack Joint or Other Compression Assemblies for KH-4-NL Kornerhorn (two required per Kornerhorn)



CATALOG NUMBER	DESCRIPTION		APPROX. WT. LBS.	STD. PKG. QTY.
	SIZE AND TYPE OF EXISTING PIPE	P.J. ASSEMBLY REQUIRED		
▼*◆ PJA4-44-C14-54-NL	1" Copper or Plastic Tube	1" P. J. for (CTS)	0.9	12
▼◆ PJA4-45-C14-55-NL	1-1/4" Copper or Plastic Tube	1-1/4" P. J. (CTS)	1.7	10
▼ PJA4-46-C14-56-NL	1-1/2" Copper or Plastic Tube	1-1/2" P. J. (CTS)	1.6	10
▼ PJA5-44-C15-54-NL	1" Iron Pipe	1" P. J. for Iron Pipe	1.1	10
▼ PJA5-45-C15-55-NL	1-1/4" Iron Pipe	1-1/4" P. J. for Iron Pipe	1.2	8
▼ PJA5-46-C15-56-NL	1-1/2" Iron Pipe	1-1/2" P. J. for Iron Pipe	1.9	6
▼* PJA6-44-C16-54-NL	1" Polyethylene Pipe	1" P. J. for P.E. Pipe	1.7	10
▼ PJA6-45-C16-55-NL	1-1/4" Polyethylene Pipe	1-1/4" P. J. for P.E. Pipe	1.6	8
▼ PJA6-46-C16-56-IDR7-NL	1-1/2" Polyethylene Pipe	1-1/2" P. J. for P.E. Pipe	2.8	-
▼ PJA7-44-C17-54-NL	1" PVC Pipe	1" P. J. for PVC Pipe	1.4	-
▼ PJA7-45-C17-55-NL	1-1/4" PVC Pipe	1-1/4" P. J. for PVC Pipe	1.6	8
▼ PJA7-46-C17-56-NL	1-1/2" PVC Pipe	1-1/2" P. J. for PVC Pipe	2.4	4

\* Grip Joint for CTS (3/4" - 2") and PEP (3/4" & 1") can be ordered by adding "-G" to the catalog number.

◆ Quick Joint can be ordered by adding "-Q" to this catalog number.

▼ The Pack Joint assemblies can be used with 274 series coppersetters.

Note: Ford recommends using Insert Stiffeners when using plastic pipe or tubing. Insert Stiffeners are listed in Catalog Section J.

## Pack Joint or Grip Joint Ell Assemblies for KH-1-NL, KH-2-NL and KH-3-NL Kornerhorns (two required per Kornerhorn)



CATALOG NUMBER	DESCRIPTION		APPROX. WT. LBS.	STD. PKG. QTY.
	SIZE AND TYPE OF EXISTING PIPE	P.J. ASSEMBLY REQUIRED		
* PJAL4-13-NL	3/4" Copper or Plastic Tube	3/4" P. J. for (CTS)	0.9	-
* PJAL6-13-NL	3/4" Polyethylene Pipe	3/4" P. J. for P.E. Pipe	-	-

\* Grip Joint for CTS (3/4" - 2") and PEP (3/4" & 1") can be ordered by adding "-G" to the catalog number.

## Special Items for Kornerhorns

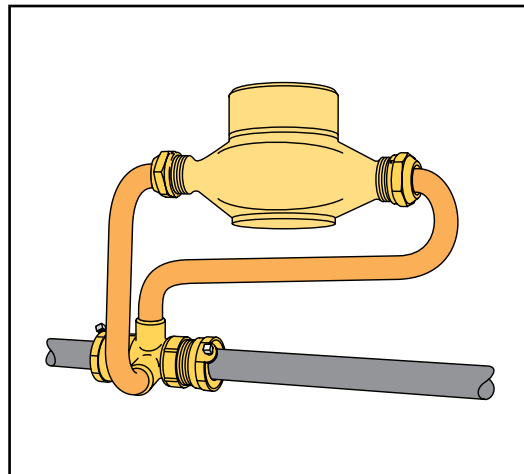
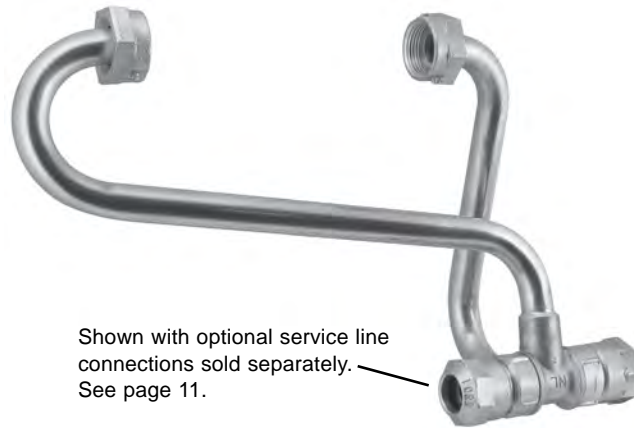
(Available for KH-1-NL, KH-2-NL and KH-3-NL Kornerhorns only) (two required per Kornerhorn)

CATALOG NUMBER	DESCRIPTION	APPROX. WT. LBS.	STD. PKG. QTY.
PJAS-11-NL	1/2" Solder Sleeve (includes KHSCW, solid copper washer)	0.3	56
PJAS-13-NL	3/4" Solder Sleeve (includes KHSCW, solid copper washer)	0.3	50
PJA8-13-NL	3/4" Male Iron Pipe Thread	0.3	56
PJA8-15-NL	1-1/4" Male Iron Pipe Thread	0.5	-
KHSCW	Solid Copper Washer (for positioning KH-VALVE-1-NL)	-	-
ORING-650024-EP	Kornerhorn Body O-ring only (Formerly KH-O-Ring)	-	-
ORING-65021X2-EP	O-ring for Kornerhorn Valve Swivel Connection	-	-

# Pretzelhorns - *For metering existing services*

The Ford Pretzelhorn provides easy installation of a meter in a short run of horizontal pipe or where space is crowded by gas or drain pipes, water heaters, or other equipment.

The Pretzelhorn can be installed in 7-1/2" of pipe and can be turned to place the meter either to the right or left of the cut-out section. Pretzelhorns are connected to the piping with removable Compression Assemblies, the same as Kornerhorns and Drophorns. The picture below shows a typical Pretzelhorn installation. See the Kornerhorn installation information on page 9 and service line connection options (sold separately) on page 11.



The above illustration shows a PH-2-R-NL Pretzelhorn for a 5/8"x3/4" meter with two PJA5-13-NL Pack Joint Assemblies for installation in an existing 3/4" iron pipe service.

CATALOG NUMBER	METER SIZE	METER POSITIONED LEFT OR RIGHT FROM PH BODY	APPROX. WT. LBS.	STD. PKG. QTY.
PH-1-L-NL	5/8"	Left	2.4	1
PH-1-R-NL	5/8"	Right	2.4	10
PH-2-L-NL	5/8"x3/4"	Left	2.6	10
PH-2-R-NL	5/8"x3/4"	Right	2.6	10
PH-3-L-NL	3/4"	Left	2.6	1
PH-3-R-NL	3/4"	Right	2.6	1
PH-4-L-NL	1"	Left	5.1	1
PH-4-R-NL	1"	Right	5.1	1

**Note:** All solder joints on Ford Inside Setters are made with *lead-free solder*.

Ford Pretzelhorns can be manufactured to position the meter to the right or left of the body, depending on space constraints.

Compression Assembly pipe connections or solder connections available for Pretzelhorns are identical to those offered for Kornerhorns and are listed on page 11.

# Drophorns - *For metering existing services*

The Drophorn simplifies the installation of a meter in buildings where the water line is near the basement or utility room ceiling. It eliminates major piping changes and saves time and money.

Because of the wide variation in the distance from the pipe to the desired meter location, Drophorns are made to order in lengths of 18", 24", 30", 36", 42" or longer. Two types are available: Type A, which places the meter in line with pipe, and Type B, which places the meter at a right angle. Drophorns are connected to the pipe with removable Pack Joint or other compression or solder connections (sold separately on page 11), the same as Kornerhorns and Pretzelhorns. See the Kornerhorn installation information on page 9.

Two types are available:

Type A places the meter in line with the pipe.

Type B places the meter at a right angle to the pipe.

Shown with optional service line connections sold separately. See page 11.



Shown with optional service line connections sold separately. See page 11.



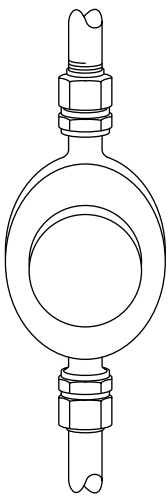
CATALOG NUMBER	METER SIZE	TYPE OF DROPHORN ALIGNMENT	LENGTH (DISTANCE OF DROP)	APPROX. WT. LBS.	STD. PKG. QTY.
DH-1A-18-NL	5/8"	A	18"	-	-
DH-1A-24-NL	5/8"	A	24"	-	-
DH-1A-30-NL	5/8"	A	30"	-	-
DH-1A-36-NL	5/8"	A	36"	-	-
DH-2A-18-NL	5/8"x3/4"	A	18"	3.6	-
DH-2A-24-NL	5/8"x3/4"	A	24"	4.3	-
DH-2A-30-NL	5/8"x3/4"	A	30"	-	-
DH-2A-36-NL	5/8"x3/4"	A	36"	-	-
DH-3A-18-NL	3/4"	A	18"	3.5	-
DH-3A-24-NL	3/4"	A	24"	-	-
DH-3A-30-NL	3/4"	A	30"	-	-
DH-3A-36-NL	3/4"	A	36"	-	-
DH-4A-18-NL	1"	A	18"	-	-
DH-4A-24-NL	1"	A	24"	-	-
DH-4A-30-NL	1"	A	30"	-	-
DH-4A-36-NL	1"	A	36"	-	-
DH-1B-18-NL	5/8"	B	18"	-	-
DH-1B-24-NL	5/8"	B	24"	-	-
DH-1B-30-NL	5/8"	B	30"	-	-
DH-1B-36-NL	5/8"	B	36"	-	-
DH-2B-18-NL	5/8"x3/4"	B	18"	-	-
DH-2B-24-NL	5/8"x3/4"	B	24"	-	-
DH-2B-30-NL	5/8"x3/4"	B	30"	4.4	-
DH-2B-36-NL	5/8"x3/4"	B	36"	-	-
DH-3B-18-NL	3/4"	B	18"	-	-
DH-3B-24-NL	3/4"	B	24"	-	-
DH-3B-30-NL	3/4"	B	30"	4.5	-
DH-3B-36-NL	3/4"	B	36"	-	-
DH-4B-18-NL	1"	B	18"	-	-
DH-4B-24-NL	1"	B	24"	-	-
DH-4B-30-NL	1"	B	30"	7.8	-
DH-4B-36-NL	1"	B	36"	8.6	-

Pack Joint or other compression assembly connections or solder connections available for Drophorns are identical to those offered for Kornerhorns and are listed on page 11.

# Basement Resetters - *For metering existing services*

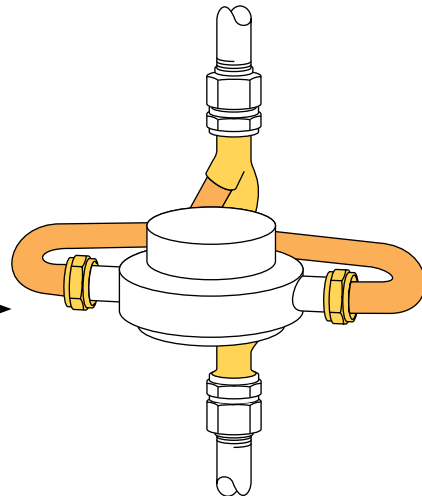
Many older services have the meter installed in an incorrect position. The dial is set in the vertical plane, causing rapid wear of the piston or disc and thus an under-registration of water usage. The Basement Resetter corrects this problem, since its inlet and outlet threads are spaced and sized the same as those of a standard meter and are attached to the existing meter couplings. The meter is then placed into the setter in the correct horizontal position. The entire installation takes only a few minutes.

After the Basement Resetter is installed, it gives you the same benefits of any other Ford Inside Setter. It holds the piping permanently in place and provides electrical bonding when the meter is removed. Meter changes are easy and trouble-free.



← Meter set in wrong position – dial in the vertical plane.

Meter set in the correct position using the Ford Basement Resetter. →



RESETTER-52-NL  
shown above



RESETTER-54-NL  
shown above

CATALOG NUMBER	METER SIZE	APPROX. WT. LBS.	STD. PKG. QTY.
RESETTER-51-NL	5/8"	2.3	10
RESETTER-52-NL	5/8"x3/4"	2.5	10
RESETTER-53-NL	3/4"	2.9	10
RESETTER-54-NL	1"	7.0	5

# Style A and B Wall Setters

*Tandem Inside Settings for special metering applications*

Ford Wall Setters are designed to allow a utility to install a meter and a pressure regulator in a single setting. Please specify the length of the regulators when ordering.

**Style "A" Description:** Setter including integral check valve, meter nuts and adapters for pressure regulator.

**Style "B" Description:** Setter including meter nuts and adapters for pressure regulator.

Each end of the Wall Setter body has 3/4" male iron pipe threads for a variety of couplings, valves and check valves.



Style A Wall Setter with  
Optional Valves

## Style "A" Integral Check Wall Setter for 5/8" and 5/8"x3/4" Meters

CATALOG NUMBER	DESCRIPTION	METER NUT SPACING	COUPLINGS AND ADAPTERS INCLUDED
WSB	Bracket for wall mounting	-	-
CLAMP-32	Stainless Steel Clamp for above	-	-
WS88-133A-NL	Setter for 5/8" meter including meter nuts, adapter, etc.	15-5/8"	One RA-1-NL, one C38-13-2-188-NL
WS88-233A-NL	Setter for 5/8"x3/4" meter including meter nuts, adapter, etc.	15-1/4"	One RA-2-NL, one C38-23-1-625-NL

**Note:** Couplings, adapters and optional items will be packaged separately from Wall Setters.

**All Wall Setters have a spacing to include a 4-1/2" long PRV with 3/4" FIP thread connections.**



Style B Wall Setter with  
Optional Valves

## Style "B" Wall Setter for 5/8", 5/8"x3/4" and 3/4" Meters

CATALOG NUMBER	DESCRIPTION	METER NUT SPACING	COUPLINGS AND ADAPTERS INCLUDED
WSB	Bracket for wall mounting	-	-
CLAMP-32	Stainless Steel Clamp for above	-	-
WS88-133B-NL	Setter for 5/8" meter including meter nuts, adapter, etc.	15-5/8"	One RA-1-NL, one C38-13-2-188-NL
WS88-233B-NL	Setter for 5/8"x3/4" meter including meter nuts, adapter, etc.	15-1/4"	One RA-2-NL, one C38-23-1-625-NL
WS88-333B-NL	Setter for 3/4" meter including meter nuts, adapter, etc.	16-3/4"	One RA-2-NL, one C38-23-1-625-NL

**Note:** Couplings, adapters and optional items will be packaged separately from Wall Setters.

**All Wall Setters have a spacing to include a 4-1/2" long PRV with 3/4" FIP thread connections.**

# Section B

## Ford<sup>®</sup> Inside Meter Settings

### Warranty

All merchandise is warranted to be free from defects in material and factory workmanship for one year from date of shipment from our factory. We will provide, free of charge, new products in equal quantities for any that prove defective within one year from date of shipment from our factory. Manufacturer shall not be liable for any loss, damage, or injury, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for user's intended use and user assumes all risk and liability whatever in connection therewith. No claims for labor or consequential damage will be allowed. The foregoing may not be changed except by agreement signed by an officer of the manufacturer.

No other warranties are applicable or may be implied, including the implied warranty of merchantability and the implied warranty of fitness for particular purpose and any warranty relating to infringement or the like, all of which are disclaimed.

#### **Please Note:**

Consult the Ford Meter Box Company, Inc. website ([www.fordmeterbox.com](http://www.fordmeterbox.com)) for the most recent catalog information. The Ford Meter Box Company considers the information in this catalog to be correct at the time of publication. Items and option availability, including specifications, are subject to change without notice. Please verify that your product information is current.



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