

MIFAB Hydrant Selection Guide

MIFAB HYDRANT SELECTION GUIDE

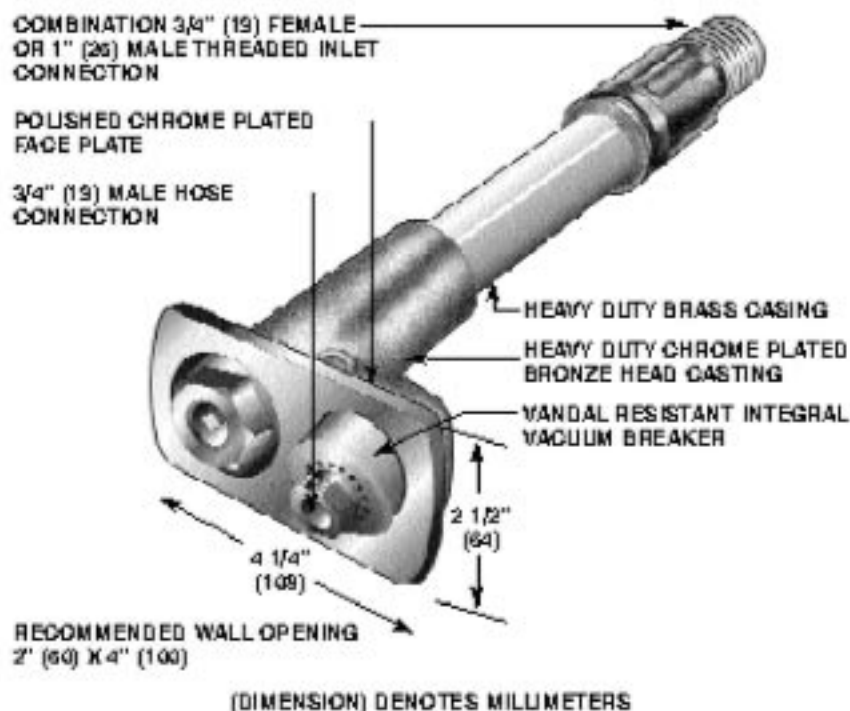
MIFAB hydrants are engineered to control the supply of water in various types of applications. Due to a wide range of uses, careful consideration should be taken when selecting and specifying the hydrants. The information provided below will aid the specifier in selecting the correct hydrant for the application considering such issues as temperature, recessed boxes, vacuum breaker / backflow preventer and optional variations.

WALL HYDRANTS

The most common installation area for hydrants is in the wall. They may be installed either inside or outside of commercial buildings and serve numerous purposes including watering plants and shrubs and washing floors or parking areas. Non-freeze wall hydrants are available in various lengths to accommodate different wall thicknesses to ensure that the inlet connection is inside the heated building to prevent freezing. Sometimes, non-freeze wall hydrants must be concealed entirely within the wall. In these instances, an overall dimension can be specified. This dimension measures from the back of the face of the hydrant to the end of the inlet connection. Extra precautions must be taken to properly insulate the valve body to protect against freezing. See MIFAB MHY-10 on Page H1. In addition to the standard wall hydrant, MIFAB offers a combination hot and cold water hydrant that allows connection to both hot and cold supplies. It is used to supply tempered water. See MIFAB MHY-45.

NARROW WALL HYDRANTS

Narrow wall hydrants are installed in areas where the entire product must fit within a 4" thick wall. A unique feature on the inlet supply of the MIFAB hydrant permits the installer to rotate the connection to any position to connect to the water supply line. The narrow wall hydrant may also be encased to gain all of the advantages of installing the hydrant in a recessed box. MIFAB's MHY-55 encased narrow wall hydrant has an overall length of 3 5/8" to ensure that it will still fit within a 4" thick wall.



MHY-10 ILLUSTRATED

MIFAB Hydrant Selection Guide Cont'd.

RECESSED BOXES

MIFAB's recessed hydrant boxes are made with a flange that covers the rough opening and is installed flush against the exterior wall surface. The hinged locking cover conceals the hose nozzle and all of the operating parts. The advantages of the flush recessed box:

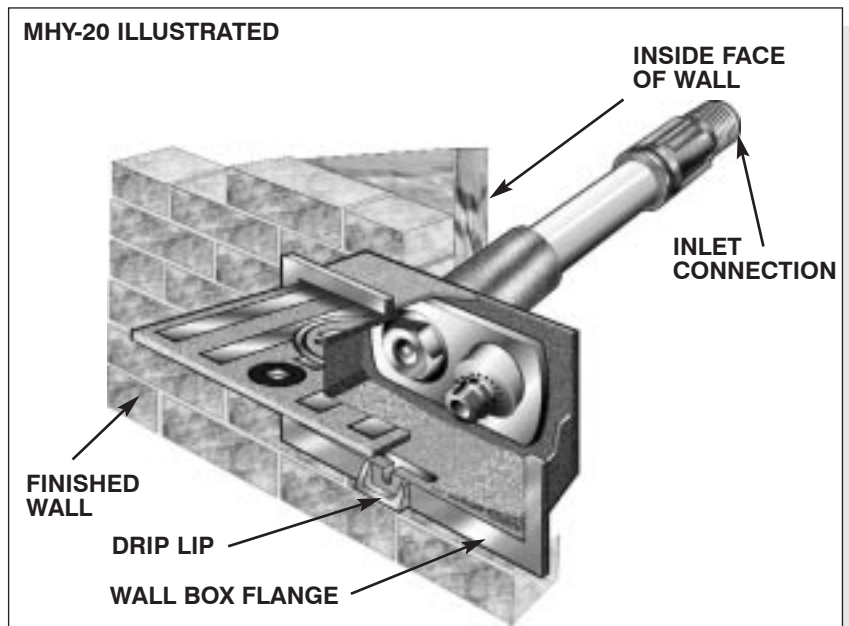
- A recessed box provides roughing in the box flush with the exterior wall for a pleasing appearance.
- The hose connection and operating mechanism are concealed within the box instead of protruding from the wall surface.
- The box has a locking hinged cover that will prevent unauthorized access and vandalism of the operating mechanism and hose nozzle. The same key that operates the hydrant also unlocks the box. This key is a special 3-3/4" long to ensure that the operator's fingers are outside of the hydrant box while operating the hydrant. Typically, short keys are provided by others that result in the operator's fingers being scraped or cut by the inside of the hydrant box.

MIFAB hydrant boxes are standard in a satin finished nickel bronze material. Polished chrome plated, cast stainless steel, polished bronze and statuary bronze boxes are also available. The open face hydrant should be specified when the operating mechanism and hose nozzle is preferred to be exposed and may extend beyond the finished wall. This hydrant should be installed in a concealed location or where security is provided.

MIFAB's MHY-10 and MHY-30 hydrants can be easily attached to the hydrant box. The hydrant is inserted through the front of the box until the back of the faceplate rests flush against the inside of the box. Two set screws on the top and bottom of the back of the box are used to tighten the hydrant securely into the box.

MIFAB has engineered several unique features into its' wall hydrant boxes.

- A "drip lip" on the exterior of the hydrant box accumulates water that results from the closing of the hydrant. This residual water drips from the lip onto the ground clear of the wall. Standard competitive designs cause unsightly oxide stains on the wall.
- The bottom of MIFAB's hydrant boxes are solid. There are no slots or grooves for water to drain back into the wall and cause damage.
- The boxes are also available with four 1/4" x 1" slots (suffix -S) (one at each side and two on the top of the box) and three mounting brackets (suffix -BR) for easy installation by the contractor into the frame or ladder system. Too often, contractors have difficulty installing hydrant boxes into walls because nothing is provided to secure the box to the wall. Many contractors go to considerable expense to fabricate their own hydrant box mounting devices. MIFAB's hydrant boxes eliminate these extra costs and ensure that the installation and operation of the hydrant box is simple.



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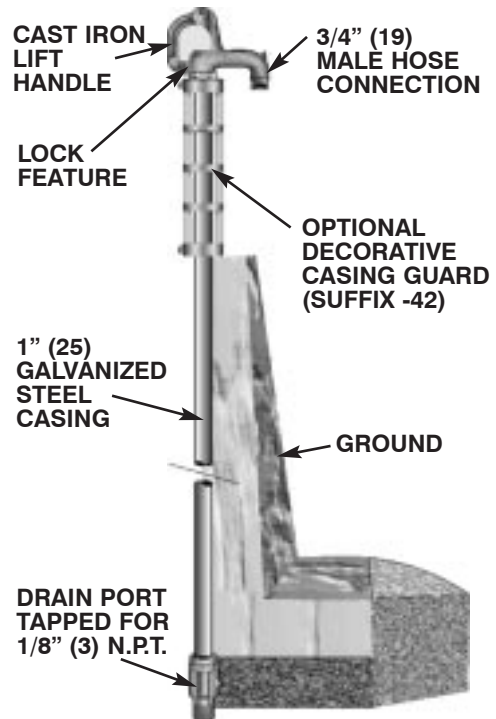
GROUND, POST and YARD HYDRANTS

Ground hydrants are available for buried applications. The hydrant control and hose connection are housed in a box which is installed flush with the ground or floor. These hydrants are standard with a 1/8" tapped hole in the valve body to drain water from the casing after operation. The valve body should be set in a bed of gravel so that water drained from the casing can leach into the ground. Some locations that require non-freeze ground hydrants cannot permit water draining from the 1/8" tapped hole. Parking garages, plazas, and roof decks used for recreational purposes are obvious examples. In these types of applications, the valve body will protrude into a finished area that is not subject to freezing. A drain line can be connected to the 1/8" tapped hole to carry away water. The depth of bury should be specified to match the hydrant to the water supply piping which must be below the frost line. See MIFAB MHY-60 on Page H5. Post hydrants are similar in application except that the ground hydrant outlet is recessed below ground and the post hydrant series as an above ground outlet. See MIFAB MHY-65 on Page H6. Yard hydrants are typically used in parks, recreational areas and other places that require both clean, uncontaminated water and the assurance that the water system will not be polluted through the hydrant installation. The yard hydrant drains residual standpipe water while protecting against cross connection with groundwater. See MIFAB MHY-68 on page H7. MIFAB's post hydrants are regularly furnished with a decorative casing guard for aesthetic appeal and protection of the hydrant casing.

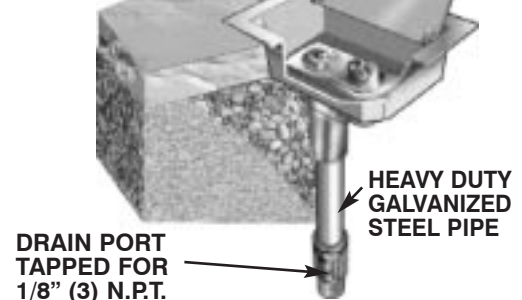
WALL FAUCETS

Wall faucets are required in restrooms, mechanical rooms, and storage areas to prevent the evaporation of water from floor drain traps. Floor drains in these areas often do not receive enough water from the cleaning of the floors to maintain the water seal in their traps. A reliable supply of water is supplied by the MIFAB wall faucet, when operated by maintenance personnel. Typically, they are installed underneath lavatories or counters in restrooms. Wall faucets are also commonly used in moderate climate residential applications and are available with or without an enclosed box. Three different finishes are available: cast brass, rough chrome plated and polished chrome plated. Four different handle options are available: clear plastic wheel handle, brown plastic wheel handle, cast iron wheel handle and loose operating key. Also, 1/2" and 3/4" F.P.T. inlet supply connections are available. See MHY-90 and MHY-95 on pages H8, H9 and H10.

MHY-68 ILLUSTRATED



MHY-60 ILLUSTRATED



MHY-90 ILLUSTRATED



MIFAB Hydrant Selection Guide Cont'd.

SUGGESTED APPLICATIONS FOR MIFAB HYDRANTS

<u>Wall hydrants</u>	<u>Non-freeze</u>	<u>Moderate climate</u>
Apartments	MHY-10	MHY-30, MHY-35
Cleaning Areas Slop sinks	MHY-10	
Commercial / Multi Family, Narrow wall construction		MHY-30
Hospitals, Institutions, Schools	MHY-20	MHY-35
Office Buildings	MHY-20	MHY-35
Retail Stores	MHY-20 MHY-10	MHY-35
<u>Ground hydrants</u>	<u>Non-freeze</u>	<u>Moderate climate</u>
Agricultural, Farms	MHY-65, MHY-68	
Gardens	MHY-60, MHY-60-HSB, MHY-65, MHY-68	MHY-35
Industrial	MHY-60-HSB	
Malls, Supermarkets	MHY-60	MHY-35
Recreational Areas, Parks	MHY-60, MHY-60-HSB, MHY-68	
Stables, Livestock Areas	MHY-65, MHY-68	

Note: Any of the non-freeze hydrants may be used in moderate climates

MIFAB Hydrant Selection Guide Cont'd.

TEMPERATURE CONSIDERATIONS

One of the most critical factors in determining the correct hydrant to specify is how ambient temperature will affect its' operation. Moderate climate hydrants are not self draining and should only be specified in heated areas or "mild climates" where freezing temperatures are not a possibility. See MIFAB MHY-30 and MHY-35 (encased) on Pages H3 and H4. Non freeze wall hydrants may be installed outside or on outside walls where freezing temperatures may occur. To prevent these hydrants from freezing, the actual valve mechanism susceptible to freezing is positioned away from outside temperatures. Also, standing water is drained from the hydrant after each use via a built-in drainage system. Misapplication of a hydrant regarding surrounding temperature could result in water damage or costly repairs to the hydrant or water piping.

VACUUM BREAKER / BACKFLOW PREVENTER

A vacuum breaker or backflow preventer is an important consideration in preventing fluids from siphoning back from the hose connection into the hydrant or water supply. All MIFAB hydrants are available with vacuum breakers that are A.S.S.E. certified.

When the hydrant valve is open, the supply of water flows through the hydrant and the vacuum breaker automatically opens to allow the water to flow through the hose connection. Water from upstream can siphon back into the hydrant if the hydrant valve is left open and there is no vacuum breaker.

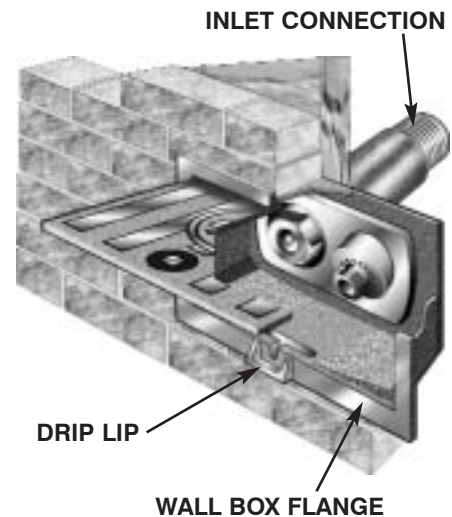
A vacuum breaker will automatically close to allow water to drain through it's air vents and not back through the hydrant.

When the hydrant valve is closed, the water left in the hydrant is allowed to drain out of the water relief ports surrounding the operating mechanism while the vacuum breaker automatically closes to prevent backflow from the hose.

The preceding paragraph is very important because it describes the draining of the water left in the hydrant body after the hydrant valve is closed. The draining function is critical because water could freeze if it is left inside of the hydrant body. The hydrant must be installed in the correct position to correctly drain and eliminate the possibility of freezing.

All wall hydrants must be installed in a horizontal position. If the hydrant were to be installed with the face plate in the vertical position with the vacuum breaker on the bottom, the vacuum breaker will not permit water to drain from the hydrant and eventually cause the excess water in the hydrant to freeze.

MHY-35 ILLUSTRATED



HYDRANT FACEPLATE
IN CORRECT HORIZONTAL
POSITION



HYDRANT FACEPLATE
IN INCORRECT
VERTICAL POSITION



MIFAB Hydrant Information Guide

FLOW RATES, OPERATING PRESSURES AND TEMPERATURE RANGE

MIFAB's 3/4" hose connection wall and ground hydrants provide a flow of approximately 10 GPM under average water line pressures. The flow rates are in excess of 100 GPM for the 1-1/4", 1-1/2", and 2" hose connection hydrants.

The maximum static operating pressure is 125 psi and the minimum running pressure is 8 psi for MIFAB's wall and ground hydrants.

The maximum temperature range is 130 degrees Fahrenheit and the minimum temperature range is 33 degrees Fahrenheit for MIFAB's wall and ground hydrants.

OPTIONAL VARIATIONS

1" hose connection - MIFAB hydrants are standard with 3/4" hose connections.

1" hose adaptors are available for 1" hose connections. Specify suffix -0.

Inlet elbow assembly - This assembly includes a union for easy installation of the hydrant supply line. Specify suffix -5 for a 3/4" female solder adapter or suffix -6 for a 3/4" I.P.S. 90 degree elbow and union nut.

Adjustable wall clamp - This clamp is required to secure the hydrant to the interior side of the wall. MIFAB's hydrants are standard with a smooth, round brass casing tube connecting the head to the inlet connection. This permits a solid grip of the hydrant with the wall clamp compared to others that provide different diameter copper tubes that are difficult to grip securely with the wall clamp. Specify suffix -WC.

Cylinder key lock - A cylinder key lock is a logical specification when the boxed hydrant is installed in an area prone to vandalism or tampering. Specify suffix -K.

MIFAB HYDRANT INSTALLATION INSTRUCTIONS

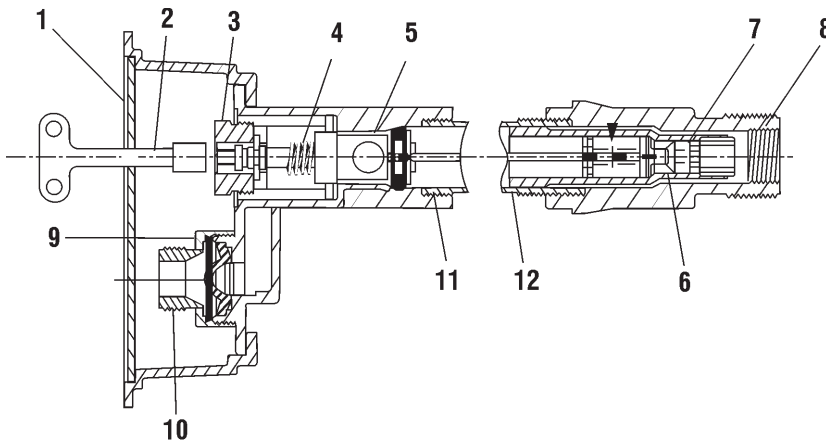
1. Remove the carton and accessory parts from the box.
2. Insert the hydrant into the wall and secure the adjustable wall clamp. Install the hydrants with the vacuum breaker face plate in a horizontal position to allow for proper drainage.
3. Install the tailpiece connection (if one is used) to the water supply piping first before connecting it to the hydrant. Do not solder the tailpiece to the water supply piping because it will cause damage to the internal components. Do not use a torch directly on the hydrant, piping or adapters connected to or near the hydrant. The piping, if connected, is capable of conducting enough heat to damage the hydrant valve components.
4. Make the final connections and test for leaks. Operate the hydrant in the full open position for at least one minute to allow solder flux and other small debris to be washed completely out of the hydrant.
5. When the hydrant is closed it will drain the water from its internal chambers through the face. The water will drain from the hexagonal face nut through two slots. This drainage is normal with each open/close cycle and must occur to prevent freezing during cold weather periods.

MIFAB Hydrant Installation and Repair Guide

MIFAB HYDRANT REPAIR INSTRUCTIONS

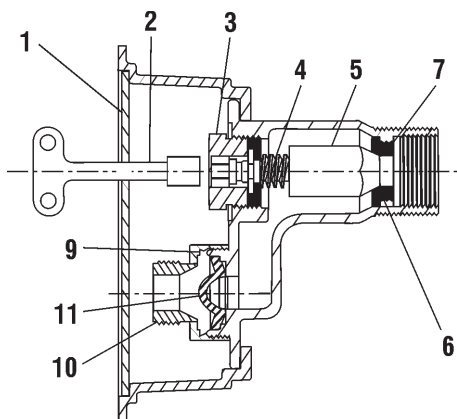
1. Turn the water supply off and open the hydrant to the full open position.
2. Remove the face nut-stem bushing
3. Turn worm screw three to four turns clockwise to expose the thrust washer to slightly above the face of the hydrant.
4. Using two screwdrivers, pry between the thrust washer and the face of the hydrant until the mechanism inside releases. This does not require a large force. The mechanism inside will release with only a 1/8" to 1/4" of movement.
5. Grasp the worm screw and pull outward. The drive sleeve, rod and plunger will slide out easily.
6. Unscrew the old plunger from the operating rod and discard it. It cannot be re-used.
7. Screw the new plunger onto the rod.
8. Reinstall the worm screw, operating rod, plunger, retainer seal and face nut into the hydrant. Use the key to turn the hydrant to a fully closed position to seat the new plunger in place.
9. Turn on the water supply to the hydrant and operate the hydrant to ensure that the new plunger is properly seated.

MHY-20 ILLUSTRATED



(MHY-10 WITHOUT BOX)

MHY-35 ILLUSTRATED



(MHY-30 WITHOUT BOX)

COMPONENTS LIST

- ☐ 1: HY-1500 BOX, HY-1500-NS (BOX WITH NO SLOTS) FOR MHY-10, MHY-30 OR MHY-60 SERIES
- ☐ 2: OPERATING KEY
- ☐ 3: MHY-2 HEAD NUT
- ☐ 4: MHY-3 WORM STEM ASSEMBLY
- ☐ 5: MHY-5 WORM SLEEVE ASSEMBLY
- ☐ 6: MHY-10 PLUNGER (MHY-30 WORM SLEEVE & PLUNGER 1 PART)
- ☐ 7: PLUNGER SEAT (SAME ON MHY-60 SERIES)
- ☐ 8: TAIL ASSEMBLY (FOR MHY-10, 20) (NOT ON MHY-30, 35)
- ☐ 8a: TAIL ASSEMBLY FOR MHY-60, MHY-65, MHY-68 HAS A 1/8" (3) NPT DRAINAGE PORT
- ☐ 9: HY-9005-PC VACUUM BREAKER (ASSE 1019-B CERTIFIED FOR MHY-10, 20 AND ASSE 1011 CERTIFIED FOR MHY-30, 35)
- ☐ 10: 3/4" (19) MALE HOSE CONNECTION
- ☐ 11: 3/8" (9) BRASS CONNECTING ROD (SPECIFY LENGTH)
- ☐ 12: PIPE BODY, BRASS MHY-10, 20 SERIES, GALVANIZED STEEL MHY-60 SERIES
- ☐ MHY-CIA - COMPLETE INTERNAL ASSEMBLY (REPAIR KIT)