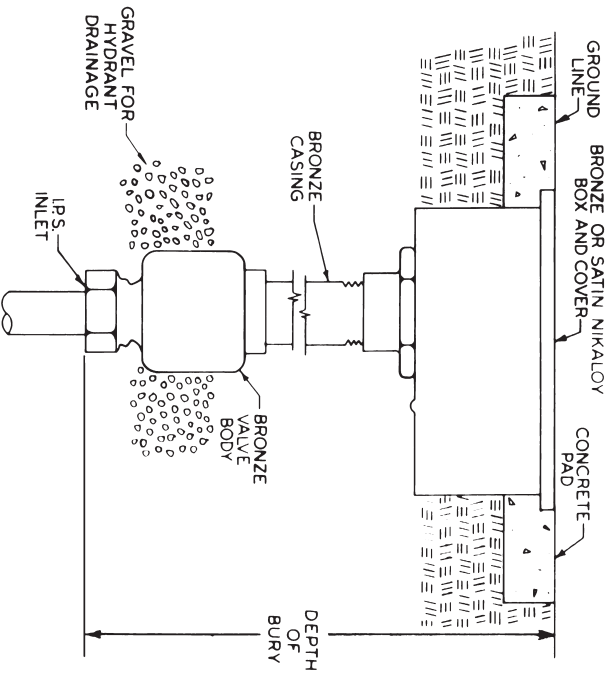


Drawing showing how to determine wall thickness



Drawing showing how to determine depth of bury

HYDRASAN® I HYDRANT

with Vacuum Breaker-Backflow Preventer and Pressure Relief Valve

Installation Instructions refer to 71000 and 71050 Series Frost-Free Hydrants. Procedures for the 71020 and 71070 Mild Climate Hydrants are the same.

INSTALLATION

A. Model 71000 Assembly

If your hydrant is the box type (Model 71000), it will be necessary to assemble the wall box to the hydrant before proceeding with the installation. Open box cover using Control Key (1). Insert hydrant, inlet end first, through opening in box bottom. *Be sure outlet (hose connection) is at right as you face box with cover hinged at top.* With hydrant head flange seated in recess surrounding hole in box, secure hydrant in place by tightening the two set screws, in tabs on box bottom, against hydrant head.

B. Model 71000 and 71050 Installation

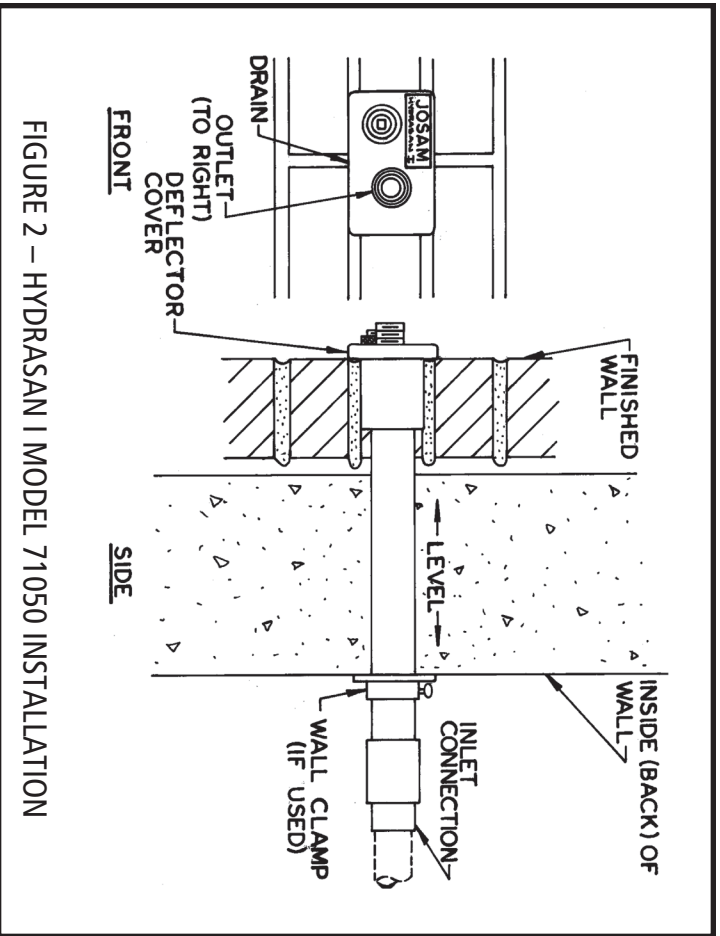
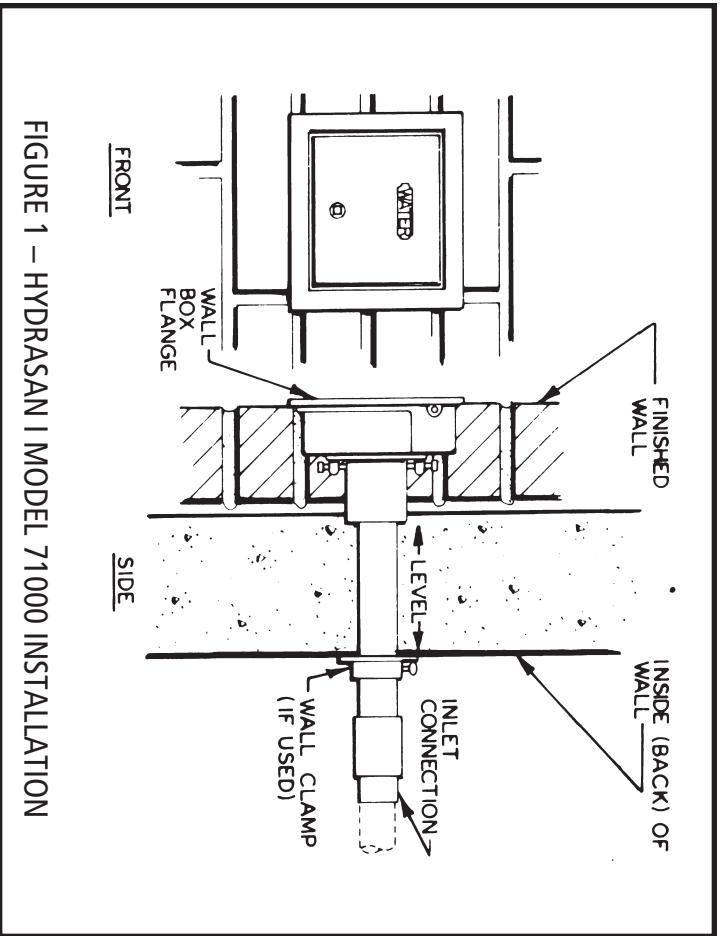
HYDRASAN I is installed, with head horizontal, outlet to right, in the manner typical to all frost-free hydrants. The face (front) of hydrant or hydrant wall box (with cover hinged at top) must be set with flange against finished wall overlapping wall opening provided for the hydrant. The casing or tubular portion of the hydrant must be level (plumb) and extend through the wall with valve body (inlet portion) on inside of wall (to prevent freezing). Grout the hydrant (and box) securely in place with mortar. Follow normal plumbing practice to make inlet connection. NOTE: This sequence may vary depending on job conditions. Refer to Figures 1 and 2.

BE SURE TO LEAVE CONTROL KEY AND HEX. KEY ($\frac{3}{32}$ ") WITH OWNER.

CAUTION

If solder (sweat) connections are used, heat must be controlled to avoid damage to non-metallic hydrant components. For best results, remove pressure assist seal assembly (parts 4, 5, and 16) prior to soldering joint. Allow to cool before re-inserting pressure assist seal.

Before hydrant is put into service, water supply system must be flushed thoroughly to remove dirt and chips that could cause hydrant malfunction. Remove pressure assist seal assembly prior to flushing.



HYDRASAN I® HYDRANT MAINTENANCE

HYDRASAN® I will seldom require service. However, continuous drainage from the outlet is a signal that inspection and possible replacement of certain parts are in order. A self-contained tool, Actuator Rod (3), when reversed, makes the job easy. The procedure for removal and replacement of hydrant sealing parts is as follows:

- A.** Shut off water in supply line to hydrant, and turn hydrant on to relieve pressure.
- B.** Use pliers. Firmly grip Cap Retainer (8) and turn counterclockwise to remove it, then remove Deflector Cap (7). Shut off hydrant as tight as possible with Control Key (1) and use an adjustable open end wrench or channel-lock type pliers to "break" Draw Nut (11) loose, then remove it with Control Key (1), turning counterclockwise until threads are free from Hydrant Head (12). Grasp Draw Nut (11) firmly and pull toward you to remove Actuator (2) and Actuator Rod (3).
- C.** Loosen Set Screw (13) with a $\frac{3}{16}$ " hex. key and separate Actuator (2) from Actuator Plug (21) on end of Actuator Rod (3).
- D.** Reverse Actuator Rod (3) and insert into hydrant as far as possible, using Control Key (1) secured to Actuator Rod (3) with Set Screw (14). With Actuator Plug (21) (hex.) on end of Actuator Rod (3) inserted in Hex. Hole (22) in Seat (15), which places Rod Extension (20) in Hole (23) in Shuttle (4), firmly rotate Control key (1) counterclockwise to unscrew Seat (15) and pull out entire Valve (15, 5 and 4).
- E.** Replace worn parts with new parts as required. Reassemble hydrant, reversing the procedure in Steps A through D to place it back in service. Be sure to make Cap Retainer (8) tight to prevent tampering.

NOTE: If pressure relief Valve "O" Ring (6) appears worn, it should be replaced when hydrant is apart. This part can be checked and, if necessary, replaced without turning off water supply to hydrant because the Pressure Assist Seal (Parts 4, 5, and 15) prevents any water from entering. This feature makes possible removal of all parts downstream (in front) of the Seal (or Valve) with water supply on.

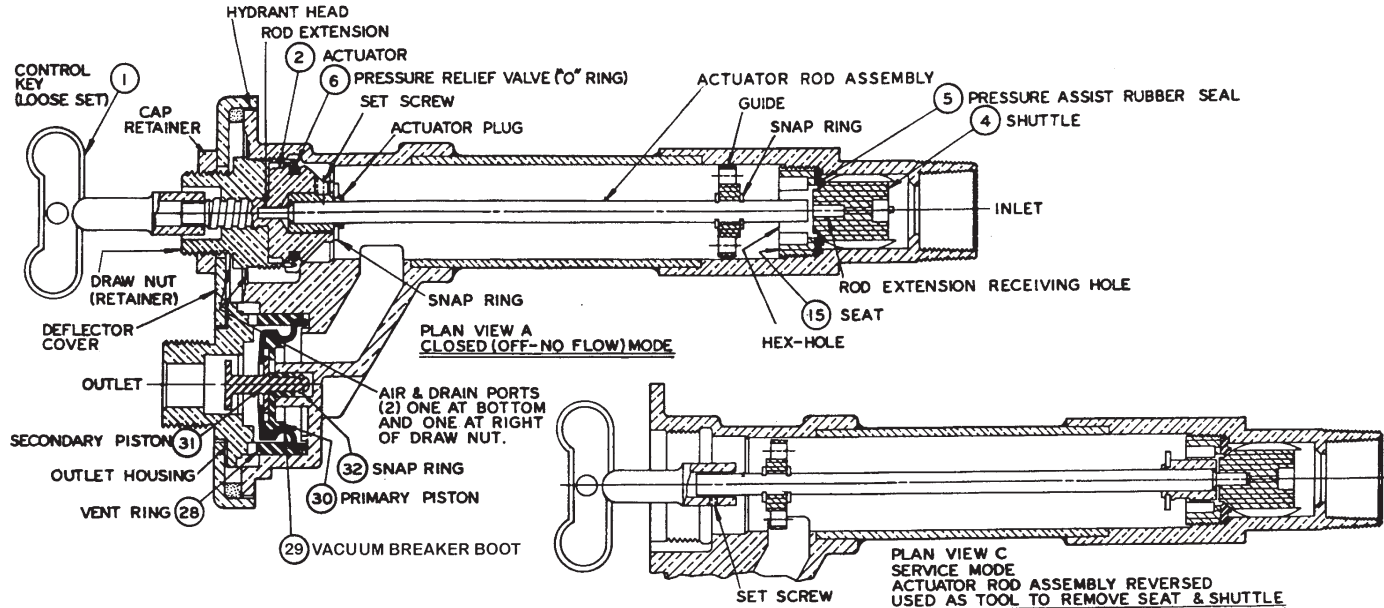
Should it ever be necessary to service the Vacuum Breaker-Backflow Preventer in the outlet of HYDRASAN I, the procedure for removal and replacement of operating parts is as follows:

- F.** After Deflector Cover (7) has been removed (see Maintenance Step B), remove the four housing retaining screws with a $\frac{5}{16}$ " hex. key and take off Outlet Housing (27). Lift out Vent Ring (28) and operating parts, Seal (29) Primary and Secondary Pistons (30 and 31). Inspect for wear.
- G.** Replace worn parts with new parts as required. Reassemble Vacuum Breaker-Backflow Preventer, reversing the procedure in Step F to place it back in service.

Service kits containing all parts necessary for this maintenance can be obtained through your plumbing supply dealer.

Parts Drawings

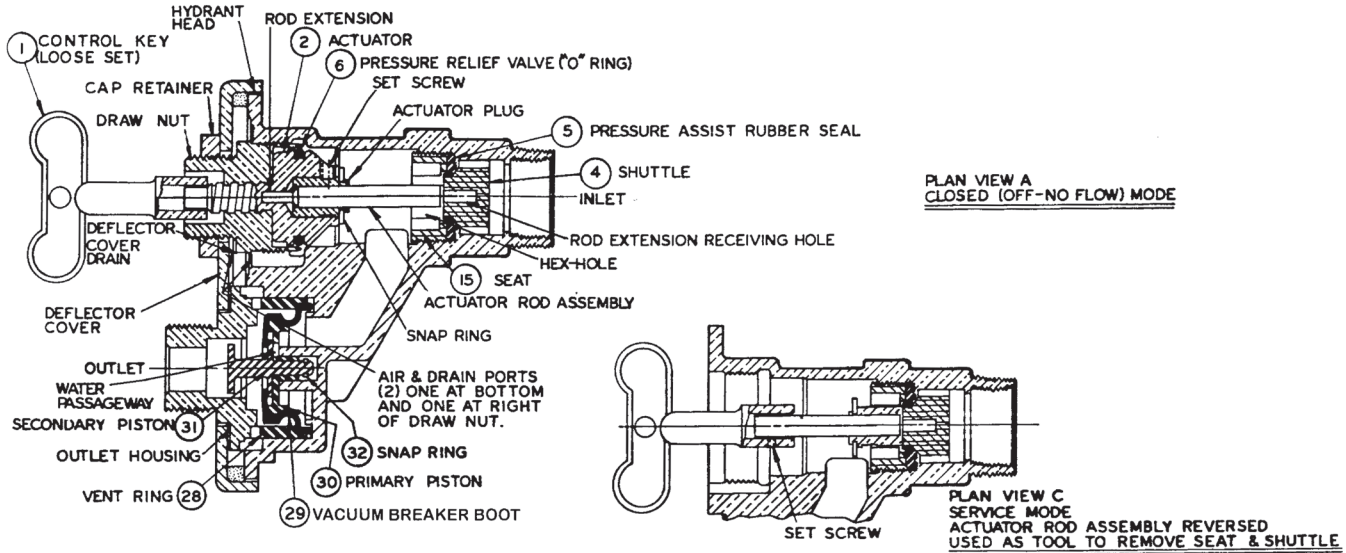
Hydrant replacement parts are available in Repair Kits only. Kits #6, #7, #8 and #23 apply to the Non-Freeze HYDRASAN® Hydrants depicted below. See page 257 for parts included in kits. For replacement rod assemblies, contact your local representative.



HYDRASAN® I 71000 & 71050 Series
NON-FREEZE

Parts Drawings

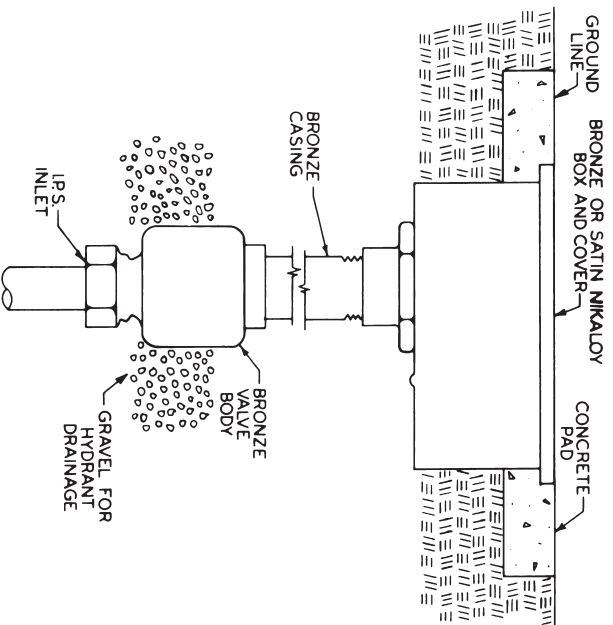
Hydrant replacement parts are available in Repair Kits only. Kits #6, #9, #10 and #23 apply to the Mild-Climate HYDRASAN® Hydrants depicted below. See page 257 for parts included in kits. For replacement rod assemblies, contact your local representative.



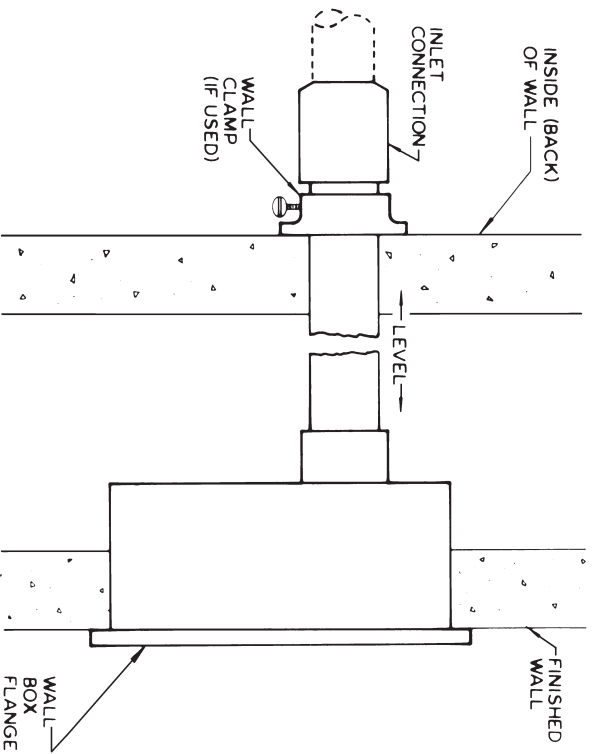
HYDRASAN® I 71020 & 71070 Series
MILD-CLIMATE

Repair Kits • We recommend that a complete HYDRANT REPAIR KIT be installed when it becomes necessary to repair a hydrant.

PART NO.	ITEM	QTY.	PART NO.	ITEM	QTY.	PART NO.	ITEM	QTY.
71550P02U	KIT #2		71950P12U	KIT #12		71550P21U	KIT #21	
#1	5/16" Key	12		For 1420N - 71950			For 1400N – 1410N Old Style	
71050P06U	KIT #6		#1	5/16" Key	1		71550 – 71650 – Previous Design	
#4	Shuttle	2	#2	Worm Stem	1	#1	5/16" Key	1
#5/15	Seal/Seat	2	#3	Brass Washer	1	#2	Worm Stem	1
71050P07U	KIT #7		#5	Packing	1	#3	Brass Washer	1
#1	1/4" Key with set screw	12	#12	Nylon Seat	1	#4	Packing Nut	1
	Allen Wrench	12	#15	Plunger	1	#5	Packing	1
71050P08U	KIT #8		71600P14U	KIT #14		#12	Nylon Seat	1
	For HYDRASAN® I or II -- Non-Freeze			For 1430N Old Style 3/4" or 1"		#15	Plunger	1
#1	1/4" Key with set screw	1		1440N or 71700 3/4"		71550P22U	KIT #22	
#2	Actuator	1		71600 3/4" O.S.			For 71500 – 71550 – 71650	
#4	Shuttle	1	#1	5/16" Key	1		New Style	
#5	Pressure Assist Rubber Seal	1	#2	Worm Stem	1	#1	5/16" Key	1
#6	Pressure Relief Valve (O-Ring)	1	#3	Brass Washer	1	#2	Worm Stem	1
#15	Seat	1	#5	Packing	1	#3	Brass Washer	1
	Allen Wrench	1	#15	Plunger	1	#6	Worm Assy. Nut	1
71070P09U	KIT #9		71600P15U	KIT #15		#12	Nylon Seat	1
#4	Shuttle	2		For 71600 3/4" or 1"		#15	Plunger	1
#5/15	Seal/Seat	2		New Style		#37	Retainer Seal	1
71070P10U	KIT #10		#1	5/16" Key	1	#38	Worm Stem Seal	1
	For HYDRASAN® I or II – Mild Climate		#2	Worm Stem	1	71050P23U	KIT #23	
#1	1/4" Key with set screw	1	#3	Brass Washer	1		For HYDRASAN® I	
#2	Actuator	1	#15	Plunger	1	#28	Vent Ring	2
#4	Shuttle	1	#37	Nylon Seal	1	#29	Boot for Vacuum Breaker	2
#5	Pressure Assist Rubber Seal	1	#38	Worm Stem Seal	1	#30	Primary Piston	2
#6	Pressure Relief Valve (O-Ring)	1				#31	Secondary Piston	2
#15	Seat	1				#32	Snap Ring	2
	Allen Wrench	1						



71600 Series Hydrant shown installed in a yard



71650 Series TRI-TEMP Hydrant shown installed in a block wall

SPECIFICATION:

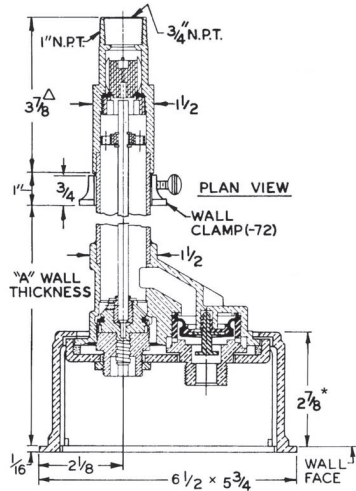
JOSAM 71000 SERIES CAST BRONZE NON-FREEZE WALL HYDRANT WITH SATIN FINISH STAINLESS STEEL HINGED LATCHING COVER, 3/4" HPT. OUTLET, INTEGRAL VACUUM BREAKER-BACK FLOW PREVENTER, PRESSURE RELIEF VALVE, BRONZE CASING, BRONZE OPERATING PARTS CONVERTIBLE INTO SERVICE TOOL, AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTIONS.

HYDRANTS

HYDRASAN® I NON-FREEZE W/ BOX

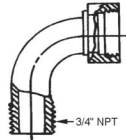
SERIES

71000

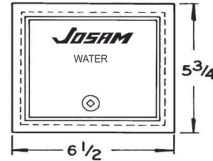


Δ WHEN UNION ELBOW IS USED, THIS DIM IS 6-3/8" OVERALL.

UNION ELBOW (-74)

CONTROL KEY
(1/4" SQ.)

CONTROL KEY USED TO OPEN COVER AND OPERATE HYDRANT.

WALL OPENING
4-3/4 x 6-1/4

- * -52 SATIN FINISH FACE, CAST BRONZE BOX
- * -54 SATIN FINISH FACE, CAST NIKALOY BOX
- 72 WALL CLAMP
- 73 SOLDER INLET ADAPTER
- 74 UNION ELBOW ASSEMBLY
- 91 1" HOSE PIPE THREADED OUTLET
- 95 CYLINDER VANDAL-PROOF LOCK

* BOX DEPTH IS 1-5/8" ON NIKALOY AND BRONZE BOX

	TYPE	A
<input type="checkbox"/>	71000-4	4-3/4
<input type="checkbox"/>	71000-6	6-3/4
<input type="checkbox"/>	71000-8	8-3/4
<input type="checkbox"/>	71000-10	10-3/4
<input type="checkbox"/>	71000-12	12-3/4
<input type="checkbox"/>	71000-14	14-3/4

	TYPE	A
<input type="checkbox"/>	71000-16	16-3/4
<input type="checkbox"/>	71000-18	18-3/4
<input type="checkbox"/>	71000-20	20-3/4
<input type="checkbox"/>	71000-22	22-3/4
<input type="checkbox"/>	71000-24	24-3/4

DRAWING No. 07/01/08

A-12901-K

JOSAM COMPANY
MICHIGAN CITY, INDIANA

NOTES:

SPECIFICATION:

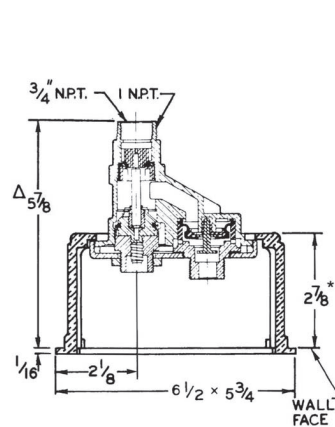
JOSAM 71020 SERIES CAST BRONZE MILD-CLIMATE WALL HYDRANT WITH SATIN FINISH STAINLESS STEEL HINGED LATCHING COVER, 3/4" HPT. OUTLET, INTEGRAL VACUUM BREAKER-BACK FLOW PREVENTER, PRESSURE RELIEF VALVE, BRONZE OPERATING PARTS CONVERTIBLE INTO SERVICE TOOL, AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTIONS.

HYDRANTS

HYDRASAN® I MILD-CLIMATE W/ BOX

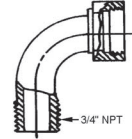
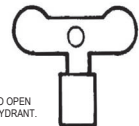
SERIES

71020

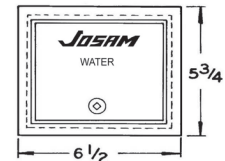


Δ WHEN UNION ELBOW IS USED, THIS DIM IS 7-5/8" OVERALL.

UNION ELBOW (-74)

CONTROL KEY
(1/4" SQ.)

CONTROL KEY USED TO OPEN COVER AND OPERATE HYDRANT.

WALL OPENING
4-3/4 x 6-1/4

- * -52 SATIN FINISH FACE, CAST BRONZE BOX
- * -54 SATIN FINISH FACE, CAST NIKALOY BOX
- 72 WALL CLAMP
- 73 SOLDER INLET ADAPTER
- 74 UNION ELBOW ASSEMBLY
- 91 1" HOSE PIPE THREADED OUTLET
- 95 CYLINDER VANDAL-PROOF LOCK

* BOX DEPTH IS 1-5/8" ON NIKALOY AND BRONZE BOX

DRAWING No. 07/01/08

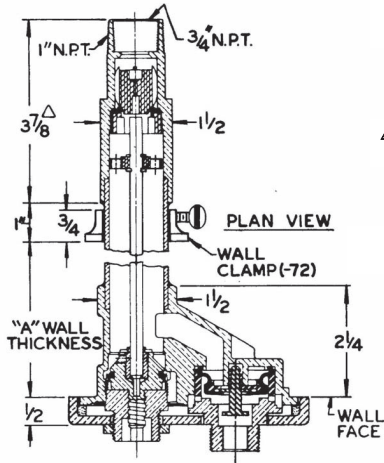
A-13401-K

JOSAM COMPANY
MICHIGAN CITY, INDIANA

NOTES:

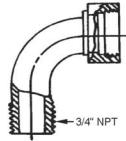
SPECIFICATION:

JOSAM 71050 SERIES CAST BRONZE NON-FREEZE WALL HYDRANT WITH SATIN NIKALOY FACE, 3/4" NPT, OUTLET, INTEGRAL VACUUM BREAKER-BACK FLOW PREVENTER, PRESSURE RELIEF VALVE, BRONZE CASING, BRONZE OPERATING PARTS CONVERTIBLE INTO SERVICE TOOL, AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTION.

HYDRANTS**HYDRASAN® I NON-FREEZE****71050****SERIES**

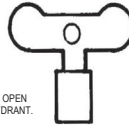
UNION ELBOW (-74)

△ WHEN UNION ELBOW IS USED, THIS DIM IS 6-3/8" OVERALL.

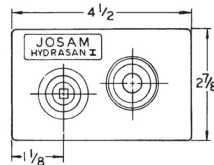


CONTROL KEY
(1/4" SQ.)

CONTROL KEY USED TO OPEN COVER AND OPERATE HYDRANT.



WALL OPENING
2-3/8 x 4



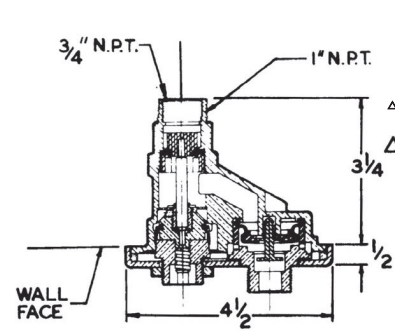
- -50 SATIN FINISH BRONZE FACE
- -72 WALL CLAMP
- -73 SOLDER INLET ADAPTER
- -74 UNION ELBOW ASSEMBLY
- -91 1" HOSE PIPE THREADED OUTLET

TYPE	A
71050-3	2-3/4
71050-4	4
71050-6	6
71050-8	8
71050-10	10
71050-12	12

TYPE	A
71050-14	14
71050-16	16
71050-18	18
71050-20	20
71050-22	22
71050-24	24

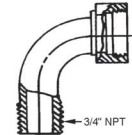
SPECIFICATION:

JOSAM 71070 SERIES CAST BRONZE MILD-CLIMATE WALL HYDRANT WITH SATIN NIKALOY FACE, 3/4" NPT, OUTLET, INTEGRAL VACUUM BREAKER-BACK FLOW PREVENTER, PRESSURE RELIEF VALVE, BRONZE OPERATING PARTS CONVERTIBLE INTO SERVICE TOOL, AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTION.

HYDRANTS**HYDRASAN® I MILD-CLIMATE****71070****SERIES**

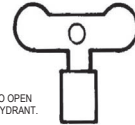
UNION ELBOW (-74)

△ WHEN UNION ELBOW IS USED, THIS DIM IS 5-3/4" OVERALL.

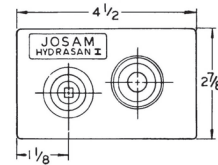


CONTROL KEY
(1/4" SQ.)

CONTROL KEY USED TO OPEN COVER AND OPERATE HYDRANT.



WALL OPENING
2-3/8 x 4



- -50 SATIN FINISH BRONZE FACE
- -72 WALL CLAMP
- -73 SOLDER INLET ADAPTER
- -74 UNION ELBOW ASSEMBLY
- -91 1" HOSE PIPE THREADED OUTLET

DRAWING No. 07/01/08

A-13398-K

JOSAM COMPANY

MICHIGAN CITY, INDIANA

NOTES:

DRAWING No. 07/01/08

A-12902-K

JOSAM COMPANY

MICHIGAN CITY, INDIANA

NOTES:

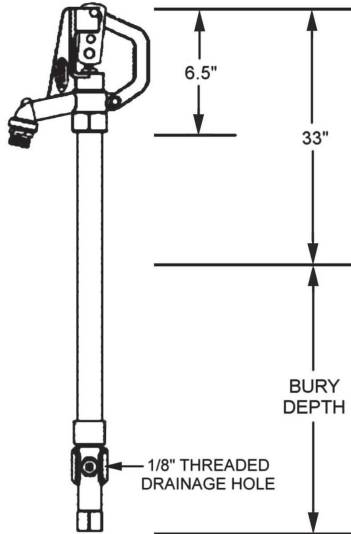
SPECIFICATION:

JOSAM SERIES 71400 FREEZELESS GROUND HYDRANT WITH CAST IRON HEAD, 3/4" FPT BRASS INLET AND BRASS HOSE ADAPTOR OUTLET. CAM-TYPE OPERATING CONTROL LEVER FOR FULL OR VARIABLE FLOW. STAINLESS STEEL OPERATING ROD AND ONE PIECE PLUNGER AND GALVANIZED STEEL PIPE.

SERIES

HYDRANTS**FREEZELESS GROUND HYDRANT**

71400



TYPE	SIZE	OVERALL LENGTH
71400-1	1' BURY	45"
71400-2	2' BURY	57"
71400-3	3' BURY	69"
71400-4	4' BURY	81"
71400-5	5' BURY	93"
71400-6	6' BURY	105"

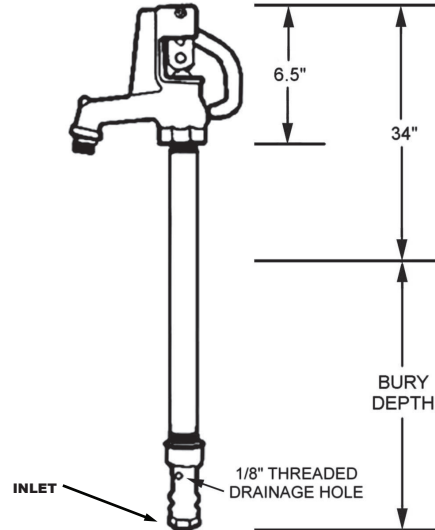
SPECIFICATION:

JOSAM SERIES 71450 FREEZELESS GROUND HYDRANT WITH HEAVY-DUTY CAST IRON HEAD, BRASS 3/4" or 1" FPT INLET AND BRASS HOSE ADAPTOR OUTLET. CAM-TYPE OPERATING CONTROL LEVER FOR FULL OR VARIABLE FLOW. STAINLESS STEEL OPERATING ROD, ONE PIECE PLUNGER AND GALVANIZED STEEL PIPE

SERIES

HYDRANTS**FREEZELESS GROUND HYDRANT**

71450



TYPE	INLET SIZE	BURY SIZE	OVERALL LENGTH
71450-1	3/4"	1ft BURY	46"
71450-2	3/4"	2ft BURY	58"
71450-3	3/4"	3ft BURY	70"
71450-4	3/4"	4ft BURY	82"
71450-5	3/4"	5ft BURY	94"
71450-6	3/4"	6ft BURY	106"

DRAWING No. 07/01/08

A-15591-K

JOSAM COMPANY
MICHIGAN CITY, INDIANA

NOTES:

DRAWING No. 07/01/08

A-15592-K

JOSAM COMPANY
MICHIGAN CITY, INDIANA

NOTES:

SPECIFICATION:

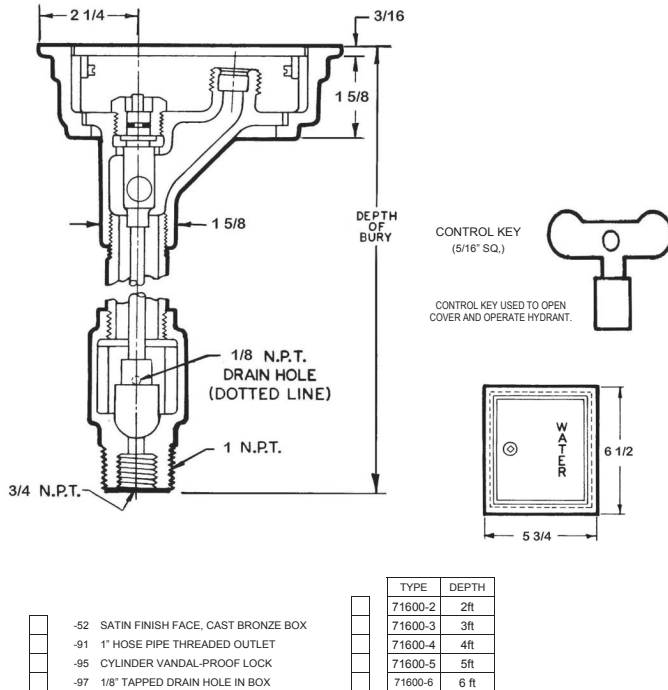
JOSAM 71600 SERIES CAST BRONZE NON-FREEZE YARD HYDRANT WITH SATIN NIKALOY HINGED LATCHING COVER, INTEGRAL 3/4" OR 1" HPT OUTLET, BRONZE CASING, NEOPRENE PLUNGER, BRONZE OPERATING PARTS AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTION.

HYDRANTS

YARD TYPE, NON-FREEZE W/ BOX

SERIES

71600

**SPECIFICATION:**

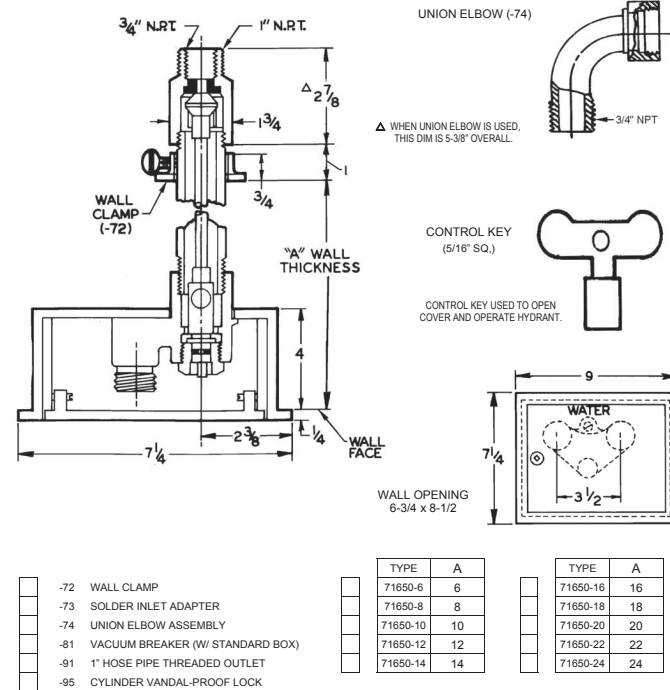
JOSAM 71650 SERIES TRI-TEMP CAST BRONZE NON-FREEZE WALL HYDRANT WITH SATIN NIKALOY HINGED LATCHING COVER, BRONZE CASINGS, NEOPRENE PLUNGERS, REMOVABLE NYLON SEATS, BRONZE OPERATING PARTS AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTIONS FOR HOT AND COLD WATER AND MIXING CHAMBER WITH 3/4" HPT OUTLET.

HYDRANTS

TRI-TEMP, NON-FREEZE W/BOX

SERIES

71650



DRAWING No. 07/01/08

JOSAM COMPANY

MICHIGAN CITY, INDIANA

NOTES:

DRAWING No. 07/01/08

JOSAM COMPANY

MICHIGAN CITY, INDIANA

NOTES:

A-12273-K

A-11784-K