



**Your solution**  
**to surface inflow**



THE  
**MANPAN**  
MANHOLE INSERTS  
*Advanced Inflow Protection*



# THE MANPAN

## MANHOLE INSERTS



Wet weather inflow and infiltration create sanitary system capacity problems and result in unnecessary treatment costs that end up being passed on to the user. Sanitary systems all over have been charged with reducing I&I. However, it is expensive, time consuming and difficult to fix broken pipes and reroute improper residential and commercial tie-ins.

Of all the sources of I&I, controlling surface inflow can be the "low hanging fruit." Manhole inserts are the simplest way to prevent surface inflow and provide the shortest payback. In addition, inserts prevent everything from grit, sand, salt, chemical spills, foreign objects and road oils from entering the collection system lines.

Surface inflow through manholes can be significant. Just 1/8 inch of standing water on a manhole with concealed pick holes allows 637 gph of inflow, and

1.0 inch of standing water can allow over 1008 gph of inflow. The tables below show the potential treatment costs and the potential wet weather event capacity effects of such uncontrolled surface inflow, virtually all of which is controllable by installing manhole inserts.

Not all manhole inserts are equal, however. Some are flimsy, and most are not designed with the field staff in mind.

The Man Pan is different. The Classic model has a patented shape for exceptional rigidity and patented lifting lugs to make it easy to install and remove. The Strata model uses a concentric ring design to make it stronger than the typical bowl shape. Both models are made from thick-gauge plastic for strength and corrosion resistance. See the difference for yourself.

## Take control of surface inflow

## The Costs of Surface Inflow

### Treatment Costs Per Hour of Manhole Inflow at \$1.00 Per 1000 Gallons

Standing Water on Average 24" Manhole (Concealed Pick Holes)	Inflow (GPH)	Treatment Costs for 1 Hour of Manhole Inflow at \$1.00/1000 Gallons			
		Number of Affected Manholes in System			
		1	100	1000	10,000
1/8"	637	\$0.64	\$64	\$637	\$6,370
1"	1008	\$1.01	\$101	\$1,008	\$10,080

### Calculate Annual System Manhole Inflow Treatment Costs

\$0.64 or \$1.01 (1/8" or 1") \_\_\_\_\_  
 x Actual treatment costs per 1000 gallons \_\_\_\_\_  
 x Number of affected manholes \_\_\_\_\_  
 x Annual hours of inflow \_\_\_\_\_  
**Total Costs** \_\_\_\_\_

*Example: \$1.01 x \$2.50 actual treatment costs per 1000 gallons x 1000 affected manholes x 100 annual hours of inflow = \$100,252 annual system manhole inflow*

### Annual System Treatment Costs Based on 100 Hours of Inflow and Varying Number of Manholes

Standing Water on Average 24" Manhole (Concealed Pick Holes)	Inflow (GPH)	Treatment Costs Per 1000 Gallons	Treatment Costs Per Hour Per Manhole	Assume 100 Hours Inflow Annually					
				Number of Affected Manholes in System					
				100	250	500	1000	5000	10,000
1/8"	637	\$1.00	\$0.64	\$ 6,400	\$16,000	\$ 32,000	\$ 64,000	\$ 320,000	\$ 640,000
		\$1.50	\$0.96	\$ 9,600	\$24,000	\$ 48,000	\$ 96,000	\$ 480,000	\$ 960,000
		\$2.00	\$1.28	\$12,800	\$32,000	\$ 64,000	\$128,000	\$ 640,000	\$1,280,000
		\$2.50	\$1.60	\$16,000	\$40,000	\$ 80,000	\$160,000	\$ 800,000	\$1,600,000
		\$3.00	\$1.92	\$19,200	\$48,000	\$ 96,000	\$192,000	\$ 960,000	\$1,920,000
1"	1008	\$1.00	\$1.01	\$10,100	\$25,250	\$ 50,500	\$101,000	\$ 505,000	\$1,010,000
		\$1.50	\$1.52	\$15,200	\$38,000	\$ 76,000	\$152,000	\$ 760,000	\$1,520,000
		\$2.00	\$2.02	\$20,200	\$50,500	\$101,000	\$202,000	\$1,010,000	\$2,020,000
		\$2.50	\$2.53	\$25,300	\$63,250	\$126,500	\$253,000	\$1,265,000	\$2,530,000
		\$3.00	\$3.03	\$30,300	\$75,750	\$151,500	\$303,000	\$1,515,000	\$3,030,000

## The Man Pan *Classic* : The Ultimate Design

### Design

**Patented**



The Man Pan *Classic* is structurally designed to prevent bending or buckling under load. The patented convex positive arch center provides unusually rigid construction and less volume for collected water, which helps to prevent The Man Pan *Classic* from falling into a sanitary manhole system and causing maintenance problems.

### Lifting Lugs

**Patented**



Patented lifting lugs are embedded into The Man Pan *Classic*. Field staff can remove The Man Pan *Classic* with the same J-hook or pick that they use to remove the manhole cover without broken straps or strained backs.

Or — because it is not necessary to reach into the collected muck to find the strap — without the temptation to drain the water and debris by punching a hole in the insert!

## The Man Pan *Strata* : Strength & Economy

### Design



The Man Pan *Strata* is named for its unique concentrically layered design, which gives it unusual strength, especially compared to traditional bowl designs. The Man Pan *Strata* holds less water than traditional designs. Less water means less weight, which means fewer broken lifting straps and fewer strained backs. It also reduces the chances of the insert collapsing into the collection system.

### Heavy Duty Lifting Strap



The Man Pan *Strata* has a heavy duty lifting strap double-riveted to the side wall to make it easier to find in the field and less likely to break under the weight of the water and debris in the insert.

## All Models: Standard and Optional Features

### Material

Man Pan inserts standard construction is ABS or High Density Polyethylene (HDPE) plastic, for strength and corrosion resistance.

### Every Order Custom Trimmed

Each Man Pan order is custom-trimmed to meet end users' dimensions.

### Odor Control & Instrument Fittings (Optional)

Man Pan models can be custom-fitted to meet customers' requirements. Baskets for odor control media or to hold metering instrumentation are examples.

### Elastomeric Seal

All Man Pan models come standard with a high-quality elastomeric seal. This gasket attached under the flange is what ultimately prevents unwanted inflow.

### Venting (Optional)



If a venting valve is needed, Man Pan models are available with the patented Red Valve Man Pan Tideflex® Check Valve. The one-way Tideflex valve provides a 20 CFM relief rate, and the flexible elastomer construction will not clog and can take extraordinary abuse without damage.

Man Pan models are also available with drilled vent holes.

# The Man Pan installs in minutes



1 Remove the Cover



2 Scrape the Rim



3 Wire Brush the Rim



4 Insert Man Pan



5 Replace the Cover



6 With MP Installed

# The Man Pan is easily removed



1 Pick to Remove Cover

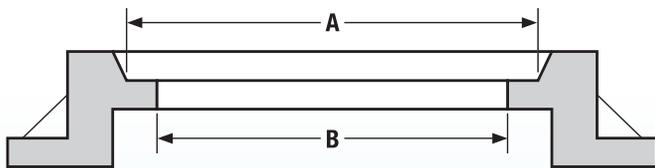


2 Pick to Remove Man Pan

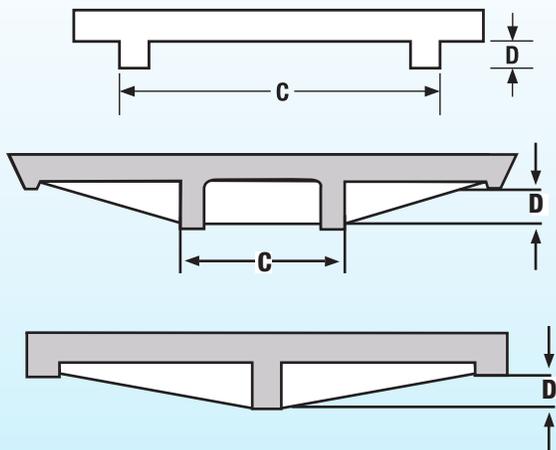
## Sizing and Ordering Information

The Man Pan is custom-manufactured to meet the dimensions that you need. Just provide the frame and cover dimensions shown below. For technical assistance and ordering information, please go to [themanpan.com](http://themanpan.com) or call us at 724-942-7590.

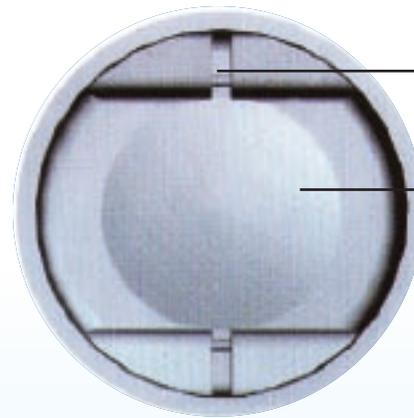
Frame Dimensions (Account for any taper)



Cover Dimensions

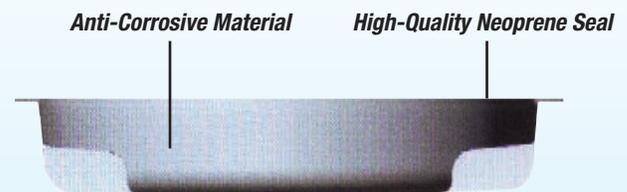


## Patented Features of The Man Pan Classic



Patented Lifting Lug Feature  
(use same standard J-hook  
used to remove cover)

Patented Rigid Structure  
(positive arch "bubble top")



Anti-Corrosive Material

High-Quality Neoprene Seal



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