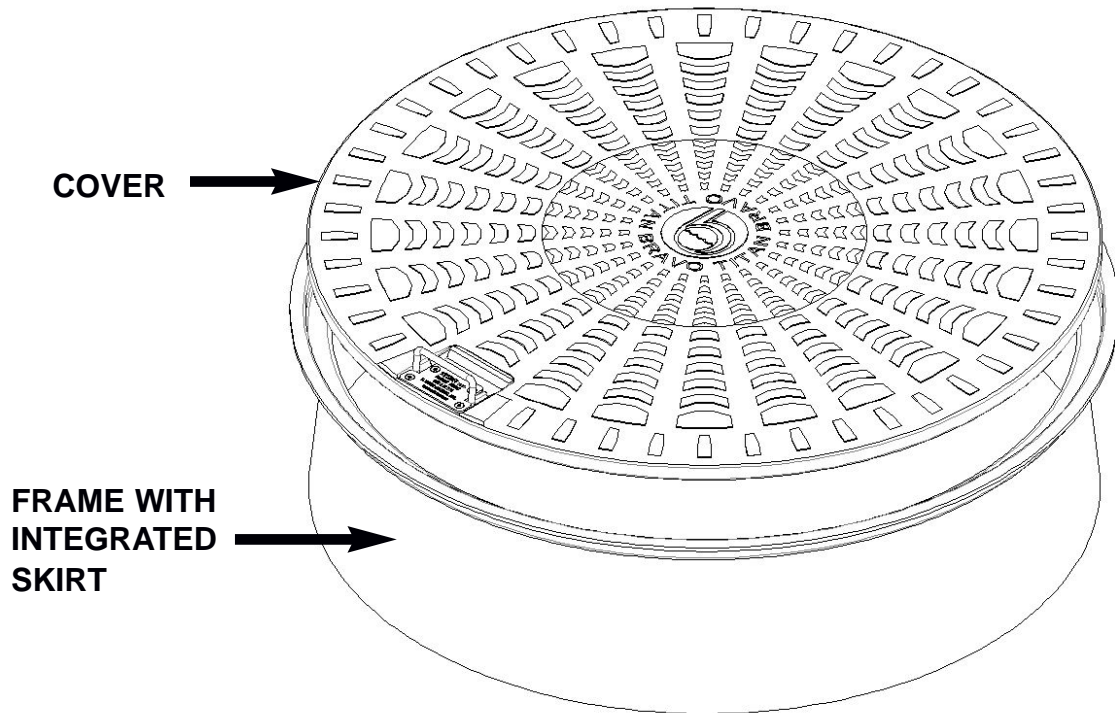


# INSTALLATION INSTRUCTIONS

## MW-SERIES **TITAN** MANWAY



### **EN-124 C250 & H-25 RATED 42"Ø ALL-FIBERGLASS WATER-TIGHT MANWAY COVER & FRAME WITH INTEGRATED SKIRT**

#### **INCLUDED**

**1X COMPOSITE (FIBERGLASS) TITAN COVER**

**1X COMPOSITE (FIBERGLASS) TITAN FRAME W/INTEGRATED FLARED SKIRT**

#### **LIMITED WARRANTY**

All containment systems sold by S. Bravo Systems, Inc. are warranted to be free from defects in material and workmanship for a period of one year from date of purchase. This warranty will be limited to the repair and replacement of Bravo parts only and will exclude all claims for labor or consequential damage. No other express warranties given and no affirmation of S. Bravo Systems, Inc., or its agents and/or representatives, by words or action, will constitute a warranty. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

This warranty is void if there is any evidence of modification, abuse, negligence, or improper installation. If any fittings or components, other than S. Bravo Systems approved fittings or components, are used in conjunction with any S. Bravo Systems product, the warranty pertaining to these products is immediately void.

ii-TITAN-MANWAY-14A

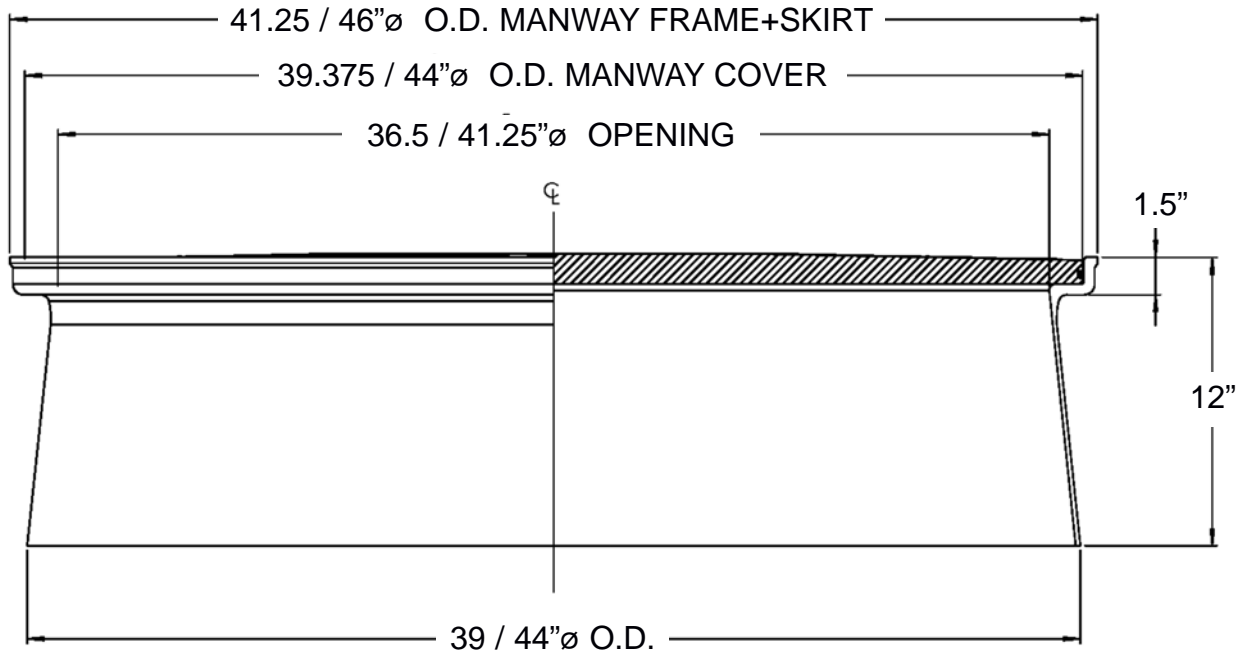


WWW.SBRAVO.COM  
800-AT-BRAVO



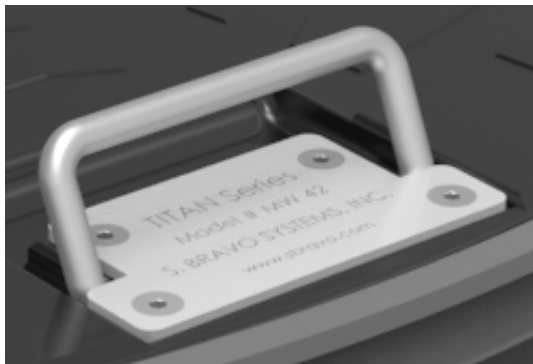
# THE TITAN SPEC

ALL DIMENSIONS ARE THE SAME WITH OR WITHOUT THE O-RING SEAL



## TITAN MANWAY COVERS

PART NUMBER:	DESCRIPTION:
MWO36	39"Ø FRP water-tight cover & skirt/frame with o-ring seal w/ 36"Ø opening
MW36	39"Ø FRP standard skirt/frame and cover
MWO42	44"Ø FRP water-tight cover & skirt/frame with o-ring seal w/ 36"Ø opening
MW42	42"Ø FRP standard skirt/frame and cover



Model # is found on the I.D. plate

<b>Cover Weight</b>	73 lbs / 95 lbs
<b>Load Rating</b>	EN-124 C250 / H-25
<b>Cover Material</b>	Composite FRP
<b>Cover Colors</b>	Black, Grey
<b>Skirt Weight</b>	15 / 20 lbs
<b>Skirt Material</b>	Composite FRP
<b>O-Ring Material</b>	Buna-N
<b>Handle Material</b>	Stainless steel

# INSTALLATION REQUIREMENTS:

## IMPORTANT:

- > TITAN cover should ship and arrive installed to the skirt and sealed into place. DO NOT remove the sealing material or separate the cover from the skirt until after concrete has been poured and has dried.
- > Take extra care to not trowel or slop concrete over the FRP lip of the skirt, or down between the cover and skirt.

## REINFORCEMENT:

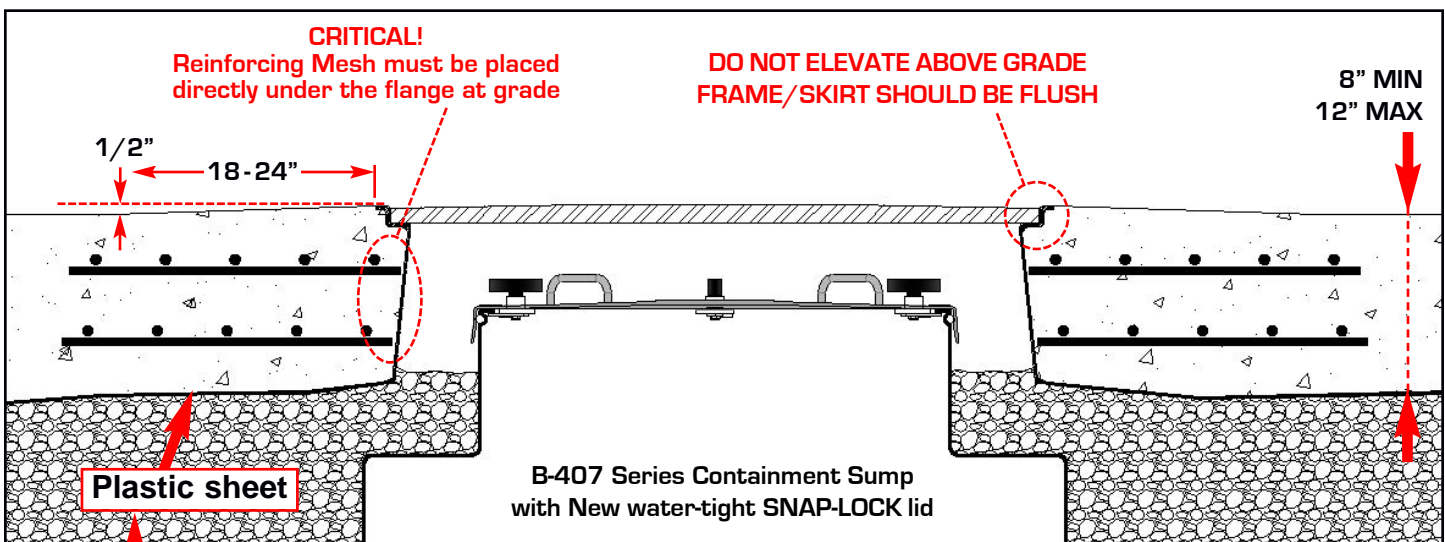
- > Minimum 2 layers of rebar mesh or rebar reinforcement per engineering specs or regulatory codes, 360° around the manway, placed directly under the structural flange (top of frame) at grade.

## CONCRETE & BLACKTOP:

- > Minimum 8" of concrete depth around skirt, from grade
- > Maximum 12" of concrete depth around skirt, from grade
- > Approximately 1/4" per foot of concrete sloped down and away from edge of manway.
- > **DO NOT** shape the concrete in any way shown on Page 4.

## TYPICAL INSTALLATION WITH BRAVO B-407 SERIES TANK SUMP

INSTALLATION IS THE SAME WITH OR WITHOUT THE O-RING SEAL



Plastic sheeting should be affixed (duct taped) to the exterior **ONLY** - of the skirt 360° around approximately 24" away from skirt so concrete mixture will not seep into backfill and dry too close to the tank sump wall. **DO NOT** tape plastic to sump reducer.

LEGEND:		
		CONCRETE / BLACKTOP AREA
		CONCRETE SLAB
		SITE BACKFILL / PEA GRAVEL

**REMOVE WRAPPER FROM O-RING SEAL BEFORE FINAL INSTALLATION.** Ensure the o-ring is free of dirt / debris. Re-grease as necessary with non-petroleum based grease.

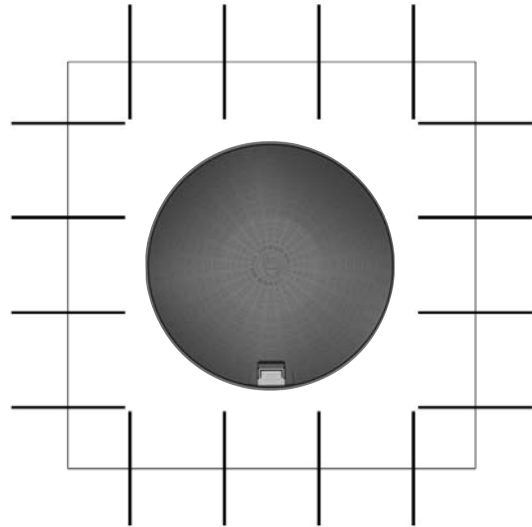
## RETROFITTING:

Cut an 86" x 86" hole around the existing cover. Secure manway skirt centered on the tank sump centerline at the target elevation, ensuring adequate clearance between the manway cover and existing tank sump cover (typical 1-1/2").

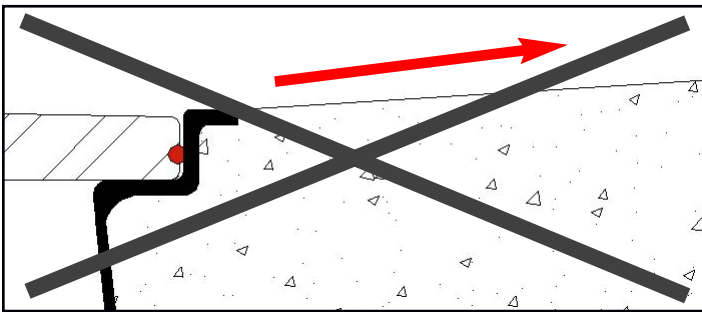
Install approximately Sixteen (16) 24" long, 1/2"Ø steel dowels 12" deep into the outer concrete at 20" on-center from one another, spaced equally.

Steel mesh reinforcement applies. See Page 3.

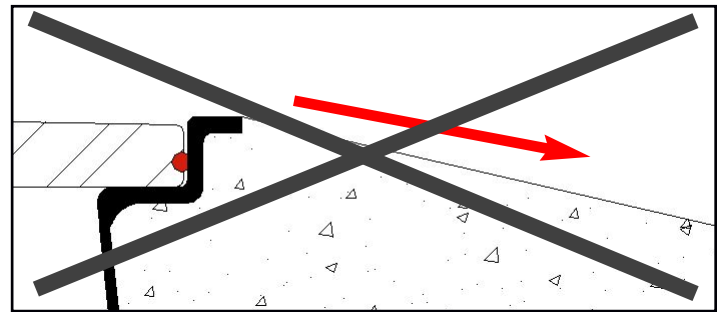
Pour concrete with 1/4 - 1/2" expansion joint and gap-fill with fuel-rated expansion joint sealant.



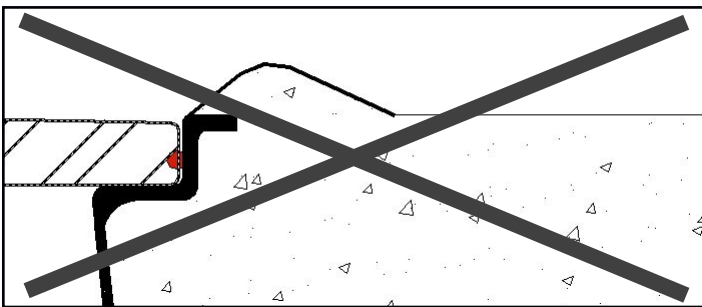
## CONCRETE WHAT-NOT-TO-DO'S



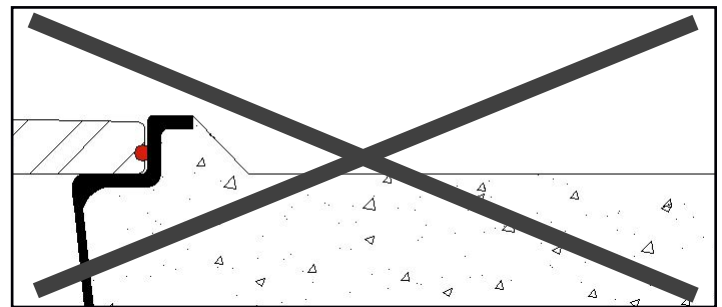
**GRADING UPWARDS FROM MANWAY FRAME**



**GRADING DOWNWARDS TOO STEEP.**



**FORMING A "RAISED" LOOK, OR ADDING A CROWNED RING.**



**SETTING SKIRT FLANGE OVER GRADE AND CHAMFERING**

## MAINTENANCE:

Keep top of cover, outside edges of the cover and interior structural ledge of the skirt/frame clean and clear of all debris. The o-ring should be cleaned of debris as necessary and re-greased periodically or every time it is opened and re-sealed. Non-petroleum grade grease should be used.