



## VAREC SERIES 42 SAMPLING AND GAUGING HATCH COVERS INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

Before installation these instructions must be read fully and understood.

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### SAFETY PRECAUTIONS

*Read and understand this instruction manual before installing, operating or performing maintenance on Varec Series 42 sampling and gauging hatch covers. Follow all precautions and warnings noted herein when installing, operating or performing maintenance on this equipment.*

#### WARNING

- *Wear appropriate gloves and/or breathing apparatus if hazardous vapors are present.*
- *Allow any pressure to vent slowly when opening the cover by backing off the handwheel carefully.*

### SAFETY PRECAUTION DEFINITIONS

#### CAUTION

*Damage to equipment may result if this precaution is disregarded.*

#### WARNING

*Direct injury to personnel or damage to equipment which can cause injury to personnel may result if this precaution is not followed.*

### GENERAL

Varec Series 42 sampling and gauging hatch covers are designed for use on low pressure storage tank roofs or digester covers. Covers are non-sparking in standard aluminum construction and incorporate a handwheel with padlocking capability for positive hold down. This model is gas-tight to 3 psig (20.7 kPa) in aluminum or stainless steel construction with NBR, PTFE or FKM inserts.

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## INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

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### CONSTRUCTION

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The standard unit is constructed of a heavy cast cover and base with a non-metallic insert. See Figure 1 and material table for material selection.

### OPERATION

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Gauge hatch covers are used to permit access to a tank.

For operating the Series 42 hatch, use the following instructions:

1. To open, remove locking device. Loosen handwheel until eyebolt can be disengaged from pedal arm.

#### WARNING

- Allow any pressure to vent slowly when opening cover by backing off the handwheel carefully.
- Wear appropriate gloves and/or breathing apparatus if hazardous vapors are present.

2. Step on pedal to raise cover off base. Take samples or measurements as required.

#### NOTE

A slight pressure must be maintained on the pedal to prevent the cover from closing automatically.

3. To close, slowly remove pressure from pedal. Cover lowers automatically to base.

#### CAUTION

*Abrupt removal of pressure from pedal may allow cover to fall hard against base. This action could damage insert or seating surfaces.*

4. Swing eyebolt and handwheel into slot at end of pedal arm. Tighten handwheel until cover is seated on base. To lock, turn handwheel until holes on handwheel and pedal arm line up. Place locking device (by others) through holes, if required.

### INSTALLATION

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1. The roof or cover must have the appropriate flat face flange installed for mating with the sampling hatch. All drilled hatches should be mated with flanges having either the standard ANSI Class 125 drilling or the optional DIN PN16 drilling as applicable.
2. Remove hatch cover from shipping container. Inspect cover, insert and seating surface. Verify that surface is smooth and cover will seat and seal properly. Verify that all components of the unit are operable, such as handwheel, pedal etc.

#### NOTE

On sloping roofs, install the hatch cover with the pedal facing the tank center to ensure self-closing. On flat roofs, orient the pedal for best position when sampling or gauging through the hatch.

- a. For hatches with drilled flanges, place the appropriate full face flange gasket (by others) on the mounting flange.

#### CAUTION

*If it is necessary to mate a flat face flange, use the proper spacer to convert the raised face to a flat face.*

3. Place the hatch cover assembly on the mounting flange.
4. Install mounting hardware and tighten uniformly.
  - a. For hatches with weld-type carbon steel bases: weld base to tank roof or adapter (by others) using compatible welding rod. Weld all around with a leak tight joint.

#### WARNING

*Ensure that there are no combustible vapors in the tank or atmosphere before welding.*

### MAINTENANCE

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Periodically inspect for freeness of operation, ensuring that all pivots function properly. Check handwheel, eyebolt threads, insert and seating surface for wear or damage. Clean, repair or replace as required. Check flange bolts and nuts for tightness.

#### NOTE

The NBR or FKM insert is replaceable as a component. PTFE inserts are factory installed into the cover.

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### REPLACEMENT PARTS

When ordering replacement parts, specify sampling hatch by model number and flange size. Identify replacement parts by item number, description and material as shown on reference drawings. Include part number wherever possible.

Series 42 - all sizes	Aluminum	Stainless steel
Eye bolt	A1758-001	A1758-006
Hand wheel	A1757-011	A1757-006
Spring pin (eye bolt)	05.1070.319	05.1070.319

Size code	4	6	8	0
Nominal	4 inch	6 inch	8 inch	10 inch
Pipe size	100 mm	150 mm	200 mm	250 mm
Insert, NBR	B6017-075	B6018-075	B6029-075	B6030-075
Insert, FKM	B6017-086	B6018-086	B6029-086	B6030-086
Insert (cover assy), PTFE	Alum: DL4158 SST: DF4158	Alum: DL4685 SST: DF4685	Alum: DL4153 SST: DF4153	Alum: BL14601 SST: BF14601
Spring pin (pedal arm pivot)	05.1070.328	05.1070.328	05.1070.320	05.1070.329
Spring pin (pedal arm hinge)	05.1070.320	05.1070.320	05.1070.320	05.1070.329

### DIMENSIONS IN INCH\*

Size	A	B	C	D	E
4	4	5 $\frac{3}{4}$	9	$\frac{1}{2}$	8 $\frac{1}{8}$
6	6	6 $\frac{3}{4}$	11	$\frac{9}{16}$	9 $\frac{3}{4}$
8	8	6 $\frac{3}{4}$	13 $\frac{1}{2}$	$\frac{9}{16}$	10 $\frac{7}{8}$
10	10	7	16	$\frac{9}{8}$	12

### DIMENSIONS IN MM\*

Size	A	B	C	D	E
100	102	146	229	13	206
150	152	171	279	14	248
200	203	171	343	14	276
250	254	178	406	16	305

\* Standard flat face base with drillings per ANSI Class 125/150 or DIN PN 16. Optional undrilled weld type base is available only in carbon steel.

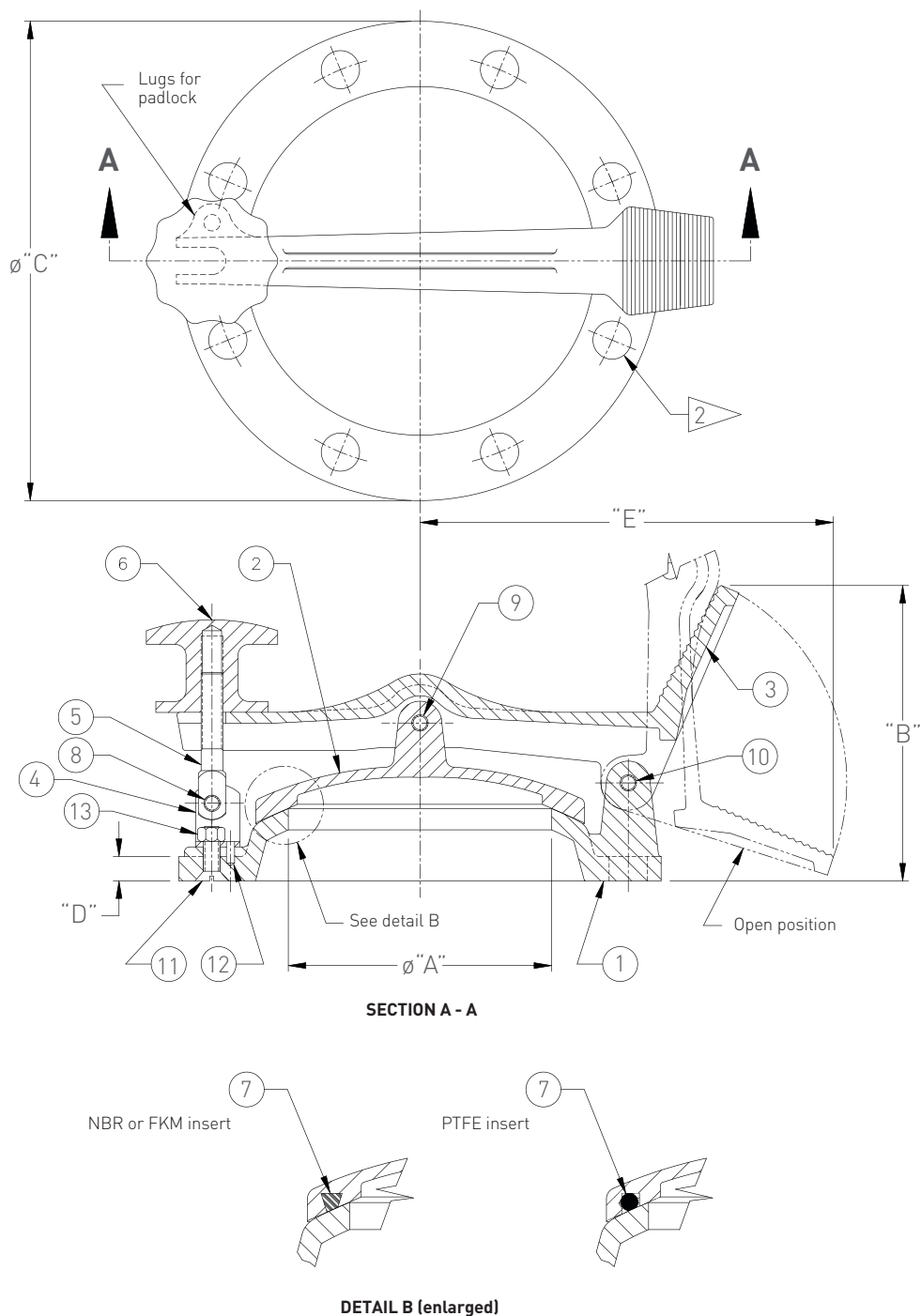
### MATERIAL TABLE

Item	Description	Series 42X11X	Series 42X31X	Series 42X66X
1	Base	Aluminum	Carbon steel	316 SST
2	Cover	Aluminum	Aluminum	316 SST
3	Pedal	Aluminum	Aluminum	316 SST
4	Yoke	304 SST	304 SST	304 SST
5	Eye bolt	Aluminum	Aluminum	316 SST
6	Handwheel	Aluminum	Aluminum	316 SST
7	Insert	NBR, FKM or PTFE	NBR, FKM or PTFE	NBR, FKM or PTFE
8	Spring pin	302 SST	302 SST	302 SST
9	Spring pin	302 SST	302 SST	302 SST
10	Spring pin	302 SST	302 SST	302 SST
11	Flat head mach screw	304 SST	304 SST	304 SST
12	Spring pin	420 SST	420 SST	420 SST
13	Hex nut	304 SST	304 SST	304 SST

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FIGURE 1



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