



FRICATIVE HINGE PORTLIGHTS

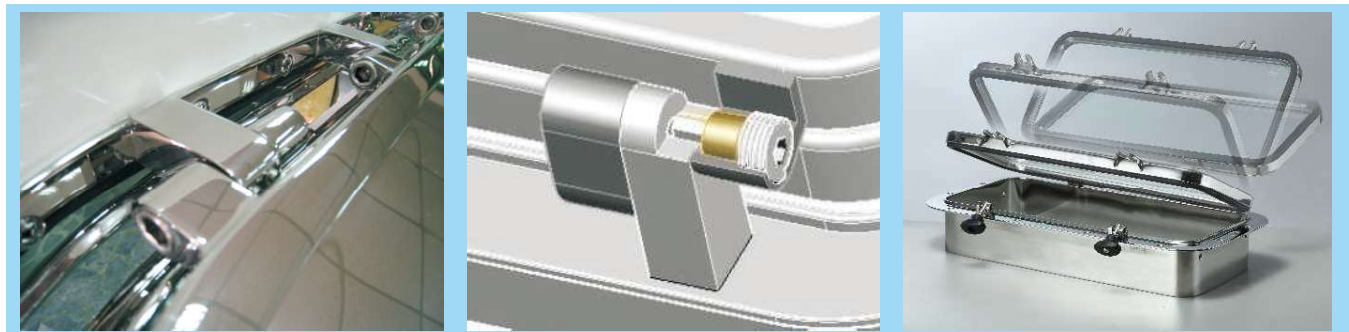
please note hinge in the order

FRICATIVE HINGE PATENT IN MANY COUNTRIES



If you order the portlight with fricative hinge,
No need to install a stay or port hook to keep your portlight open

- New patented design: unique SS 316 fricative hinge.
- New portlight can be opened at any degree, including an impressive 180 degree, without a hatch arm or port hook for a clean and elegant look.
- Storm cover easily installed and removed. It also can be adjusted for gasket water tightness.



**Fricative hinges can be applied to the following model and dimensions
Modern portlighty can be applied in the following model and dimension.**

- **Opening ports:** LS,LSO,LSR,CLS,CLSO,CLSR
TLS,TLSO,TLSR,CTLS,CTLSO,CTLSR
LS-H,LSO-H,LSR-H,CLS-H,CLSO-H
CLSR-H,LO,CLO
- **Dimension:** Small portlight Model Number 0512-0818
Big portlight Model Number 1020-1228
Special dimension: If there is no portlight models size in the catalogue,
Please inform the Model No, the dimension and spigot.

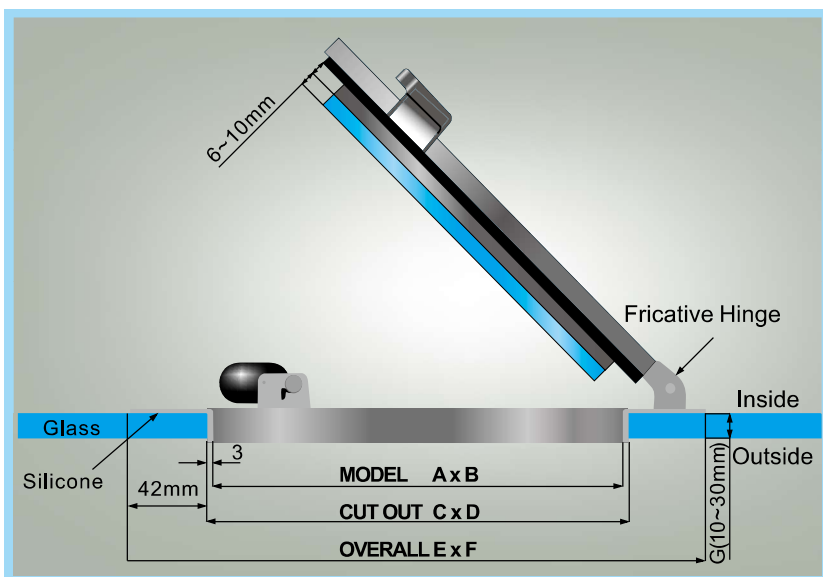
GLASS IN GLASS PORTLIGHT (CUSTOM MADE)



Man Ship has developed a new flush portlight which can be installed inset and flush within a glass window. Designed to give an elegant touch without any visible screws.

Features

- All Stainless steel 316 material with high quality mirror polish.
- With certificate of grant of Patent-Man ship Fricative Hinge.
- Glass portlight flush design which can be installed directly inset within a glass window.
- Wild range of size and shape available.
- Watertight function which passed the watertight test for 6 meter level.



RECTANGULAR OPENING PORTS



Rectangular opening ports



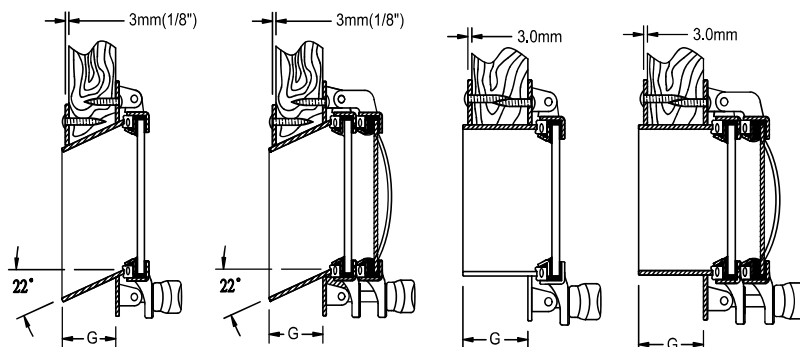
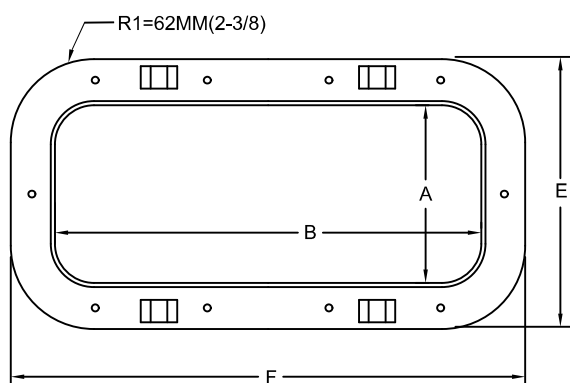
LS Rect. Portholes / boat outside view



Rect port with storm cover.

RECTANGULAR OPENING PORTS - ANGLED SPIGOT

MODEL No.	A x B		C x D		E x F		R	R1	GLASS THICKNESS	
	W/O COVER	W/COVER	MODEL	CUT OUT SIZE	OVERALL	OVERALL				
LS-0512A	5X12	127X305	5 1/4 X 12 1/8	133x307	7 5/8 X 14 1/2	193x368	1 1/4 32	2 3/8 62	1/4 6	
LS-0714A	7X14	178X356	7 1/4 X 14 1/4	184x362	9 5/8 X 16 5/8	244x422	1 1/4 32	2 3/8 62	1/4 6	
LS-0716A	CLS-0716A	7X16	178X406	7 1/4 X 16 1/4	184x413	9 5/8 X 18 5/8	244x473	1 1/4 32	2 3/8 62	1/4 6
LS-0718A	CLS-0718A	7X18	178X457	7 1/4 X 18 1/4	184x464	9 5/8 X 20 5/8	244x524	1 1/4 32	2 3/8 62	1/4 6
LS-0816A	CLS-0816A	8X16	203X406	8 1/4 X 16 1/4	210x413	10 5/8 X 18 5/8	269x473	1 1/4 32	2 3/8 62	1/4 6
LS-0818A	CLS-0818A	8X18	203X457	8 1/4 X 18 1/4	210x464	10 5/8 X 20 5/8	269x524	1 1/4 32	2 3/8 62	1/4 6
LS-1020A	CLS-1020A	10X20	254X508	10 3/8 X 20 3/8	262x516	12 7/8 X 22 7/8	327x581	1 1/4 32	2 1/2 65	3/8 10
LS-1024A	CLS-1024A	10X24	254X609	10 3/8 X 24 3/8	262x617	12 7/8 X 26 7/8	327x682	1 1/4 32	2 1/2 65	3/8 10
LS-1224A	CLS-1224A	12X24	305X609	12 3/8 X 24 3/8	313x617	14 7/8 X 26 7/8	378x682	1 1/4 32	2 1/2 65	3/8 10
LS-1228A	CLS-1228A	12X28	305X710	12 3/8 X 28 3/8	313x718	14 7/8 X 30 7/8	378x784	1 1/4 32	2 1/2 65	3/8 10



RECTANGULAR OPENING PORTS - STRAIGHT SPIGOT

MODEL No.	A x B		C x D		E x F		R	R1	GLASS THICKNESS	
	W/O COVER	W/COVER	MODEL	CUT OUT SIZE	OVERALL	OVERALL				
LS-0512S	5X12	127X305	5 1/4 X 12 1/8	133x307	7 5/8 X 14 1/2	193x368	1 1/4 32	2 3/8 62	1/4 6	
LS-0714S	7X14	178X356	7 1/4 X 14 1/4	184x362	9 5/8 X 16 5/8	244x422	1 1/4 32	2 3/8 62	1/4 6	
LS-0716S	CLS-0716S	7X16	178X406	7 1/4 X 16 1/4	184x413	9 5/8 X 18 5/8	244x473	1 1/4 32	2 3/8 62	1/4 6
LS-0718S	CLS-0718S	7X18	178X457	7 1/4 X 18 1/4	184x464	9 5/8 X 20 5/8	244x524	1 1/4 32	2 3/8 62	1/4 6
LS-0816S	CLS-0816S	8X16	203X406	8 1/4 X 16 1/4	210x413	10 5/8 X 18 5/8	269x473	1 1/4 32	2 3/8 62	1/4 6
LS-0818S	CLS-0818S	8X18	203X457	8 1/4 X 18 1/4	210x464	10 5/8 X 20 5/8	269x524	1 1/4 32	2 3/8 62	1/4 6
LS-1020S	CLS-1020S	10X20	254X508	10 3/8 X 20 3/8	262x516	12 7/8 X 22 7/8	327x581	1 1/4 32	2 1/2 65	3/8 10
LS-1024S	CLS-1024S	10X24	254X609	10 3/8 X 24 3/8	262x617	12 7/8 X 26 7/8	327x682	1 1/4 32	2 1/2 65	3/8 10
LS-1224S	CLS-1224S	12X24	305X609	12 3/8 X 24 3/8	313x617	14 7/8 X 26 7/8	378x682	1 1/4 32	2 1/2 65	3/8 10
LS-1228S	CLS-1228S	12X28	305X710	12 3/8 X 28 3/8	313x718	14 7/8 X 30 7/8	378x784	1 1/4 32	2 1/2 65	3/8 10

- Standard angled spigot size "G" available 1 1/4" 32mm · 1 1/2" 38mm · 2" 51mm · 2 1/2" 63mm · 3" 76mm · 3 1/2" 89mm
- Special spigot size "G" available from 1" 25.4mm ~ 5" 127mm
- Custom sizes available if Radius (R & R1) are kept unchanged.
- The spigot height are needed, while ordering.
- CLS-0716~CLS-1228 are with elegant arc storm cover.

IN/MM

OVAL OPENING PORTHOLES



Oval opening portholes.



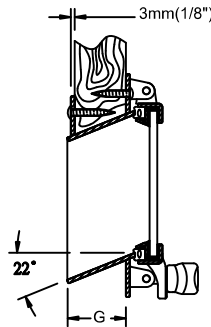
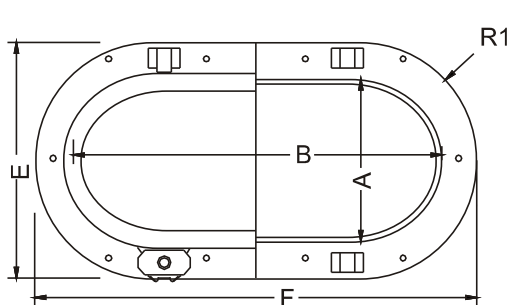
LSO Oval portholes / boat outside view



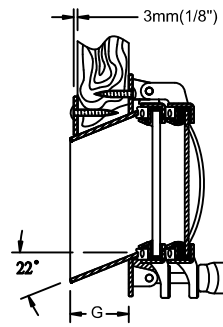
Oval opening portlight with storm cover.

OVAL OPENING PORTS - ANGLED SPIGOT

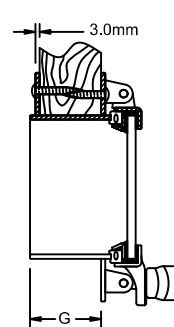
MODEL No.		A x B		C x D		E x F		R	R1	GLASS THICKNESS
W/O COVER	W/COVER	MODEL		CUT OUT SIZE		OVERALL				
LSO-0512A		5X12	127X305	5 1/4 X 12 1/8	133x307	7 5/8 X 14 1/2	193x368	2 5/8 67	3 7/8 98	5/16 8
LSO-0714A		7X14	178X356	7 1/4 X 14 1/4	184x362	9 5/8 X 16 5/8	244x422	3 5/8 92	4 7/8 124	5/16 8
LSO-0716A	CLSO-0716A	7X16	178X406	7 1/4 X 16 1/4	184x413	9 5/8 X 18 5/8	244x473	3 5/8 92	4 7/8 124	5/16 8
LSO-0718A	CLSO-0718A	7X18	178X457	7 1/4 X 18 1/4	184x464	9 5/8 X 20 5/8	244x524	3 5/8 92	4 7/8 124	5/16 8
LSO-0816A	CLSO-0816A	8X16	203X406	8 1/4 X 16 1/4	210x413	10 5/8 X 18 5/8	269x473	4 1/8 104	5 3/8 137	5/16 8
LSO-0818A	CLSO-0818A	8X18	203X457	8 1/4 X 18 1/4	210x464	10 5/8 X 20 5/8	269x524	4 1/8 104	5 3/8 137	5/16 8
LSO-1020A	CLSO-1020A	10X20	254X508	10 3/8 X 20 3/8	262x516	12 7/8 X 22 7/8	327x581	5 1/8 131	6 3/8 164	3/8 10
LSO-1024A	CLSO-1024A	10X24	254X609	10 3/8 X 24 3/8	262x617	12 7/8 X 26 7/8	327x682	5 1/8 131	6 3/8 164	3/8 10
LSO-1224A	CLSO-1224A	12X24	305X609	12 3/8 X 24 3/8	313x617	14 7/8 X 26 7/8	378x682	6 1/8 157	7 3/8 190	3/8 10
LSO-1228A	CLSO-1228A	12X28	305X710	12 3/8 X 28 3/8	313x718	14 7/8 X 30 7/8	378x784	6 1/8 157	7 3/8 190	3/8 10



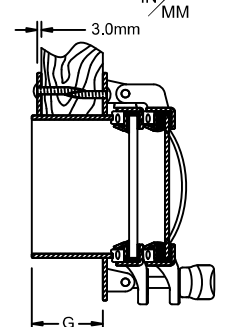
LSO-XXXXA



CLSO-XXXXA



LSO-XXXXS



CLSO-XXXXS

OVAL OPENING PORTS - STRAIGHT SPIGOT

MODEL No.		A x B		C x D		E x F		R	R1	GLASS THICKNESS
W/O COVER	W/COVER	MODEL		CUT OUT SIZE		OVERALL				
LSO-0512S		5X12	127X305	5 1/4 X 12 1/8	133x307	7 5/8 X 14 1/2	193x368	2 5/8 67	3 7/8 98	5/16 8
LSO-0714S		7X14	178X356	7 1/4 X 14 1/4	184x362	9 5/8 X 16 5/8	244x422	3 5/8 92	4 7/8 124	5/16 8
LSO-0716S	CLSO-0716S	7X16	178X406	7 1/4 X 16 1/4	184x413	9 5/8 X 18 5/8	244x473	3 5/8 92	4 7/8 124	5/16 8
LSO-0718S	CLSO-0718S	7X18	178X457	7 1/4 X 18 1/4	184x464	9 5/8 X 20 5/8	244x524	3 5/8 92	4 7/8 124	5/16 8
LSO-0816S	CLSO-0816S	8X16	203X406	8 1/4 X 16 1/4	210x413	10 5/8 X 18 5/8	269x473	4 1/8 104	5 3/8 137	5/16 8
LSO-0818S	CLSO-0818S	8X18	203X457	8 1/4 X 18 1/4	210x464	10 5/8 X 20 5/8	269x524	4 1/8 104	5 3/8 137	5/16 8
LSO-1020S	CLSO-1020S	10X20	254X508	10 3/8 X 20 3/8	262x516	12 7/8 X 22 7/8	327x581	5 1/8 131	6 3/8 164	3/8 10
LSO-1024S	CLSO-1024S	10X24	254X609	10 3/8 X 24 3/8	262x617	12 7/8 X 26 7/8	327x682	5 1/8 131	6 3/8 164	3/8 10
LSO-1224S	CLSO-1224S	12X24	305X609	12 3/8 X 24 3/8	313x617	14 7/8 X 26 7/8	378x682	6 1/8 157	7 3/8 190	3/8 10
LSO-1228S	CLSO-1228S	12X28	305X710	12 3/8 X 28 3/8	313x718	14 7/8 X 30 7/8	378x784	6 1/8 157	7 3/8 190	3/8 10

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ROUND OPENING PORTHOLES



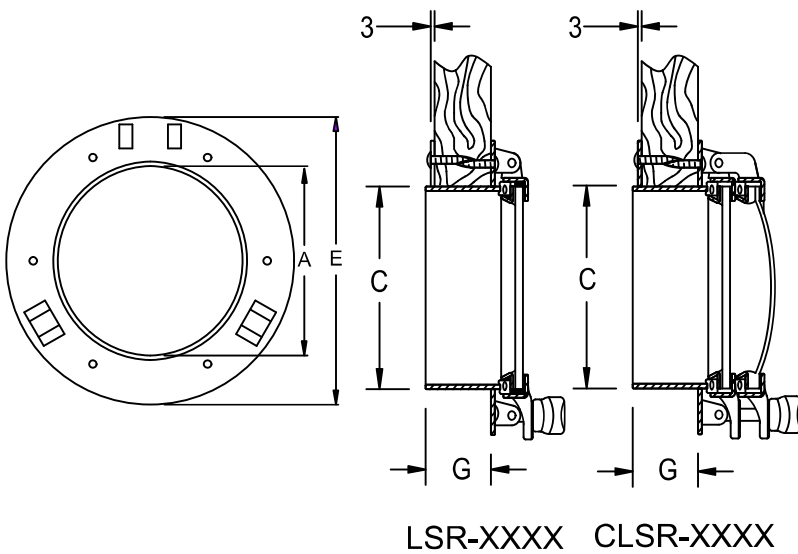
Round opening ports



LSR Round Portholes / boat outside view



Round ports with storm cover



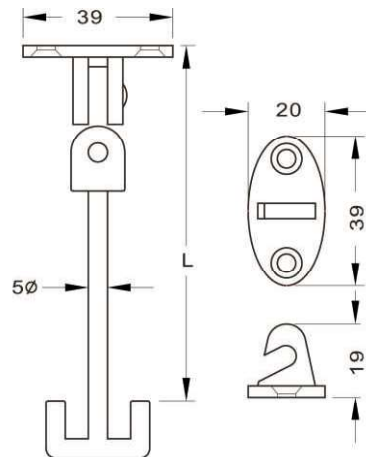
ROUND OPENING PORTHOLES

MODEL No.	A		C		E		GLASS THICKNESS		
	W/O COVER	W/COVER	MODEL	CUT OUT SIZE	OVERALL				
LSR-0700	7	178	7 1/4	184	9 5/8	244	5/16	8	
LSR-0800	8	203	8 1/4	210	10 5/8	269	5/16	8	
LSR-1000	CLSR-1000	10	254	10 3/8	262	12 7/8	327	3/8	10
LSR-1200	CLSR-1200	12	305	12 3/8	311	14 7/8	378	3/8	10
LSR-1400	CLSR-1400	14	356	14 3/8	365	16 7/8	431	3/8	10

IN/MM

1. Standard spigot size
"G" available 1 1/4" · 1 1/2" · 2" · 2 1/2" · 3" · 3 1/2"
2. Special spigot size "G" available from 1" ~ 5"
3. The spigot height are needed, while ordering.
4. CLSR-0700~CLSR-1400 are with elegant arc storm cover.

PORT HOOK



Standard size (L): 3", 4", 5", 6" & custom size available.