

### Protective solutions

#### Applications

The SO-1 blast doors are designed to stop the advance of blast waves through the passage ways into the protected area of blast hardened Civil Defence and military shelters. The SO-1 blast doors are possible to open and close manually from both sides. The latching device tightens the door plate against the frame so that the maximum clearance between the load bearing surfaces of the door plate and the frame is 2.0 mm. Design of the door enables opening by disassembly even if the door plate has undergone permanent deformations. The door plate can be dismantled from either side without any special emergency opening devices.

#### Specification

Manufacturer of SO-1 blast doors is Temet, Helsinki Finland.

The SO-1 blast doors are fabricated from structural steel with a door plate of solid homogenous steel plate. The door frame is of flush design for easy installation in the reinforced concrete wall, and the door plate / frame assembly has an optimized pattern for transfer of the blast forces into the surrounding wall.

#### Design Criteria

The SO-1 blast door is made in accordance with specific provisions issued by the Finnish Ministry of Interior. The SO-1 blast doors are approved for use on the basis of structural calculations approved by the Technical Research Centre of Finland / VTT Building Technology, an Independent Testing Authority mandated to perform type inspection for shelter equipment and systems by the Ministry of Interior.

#### SO-1 Door Protection Capability

The SO-1 doors are designed and tested to withstand multiple long duration blast loads having peak reflected overpressure of 2.0 bar in the elastic range of the materials used. In rebound direction the doors resist negative blast forces equivalent to 0.25 bar static pressure. The door frame design enables uniform distribution of the positive blast load into the surrounding wall. Rebound load is received by latching system and hinges.

The SO-1 doors also resist a mechanical shock transmitting through the installation wall with a rapid change in velocity of 1.5 m/s corresponding to acceleration force of 30 g.

The doors are designed to function within the operating temperature range of -20 ... +80 °C.

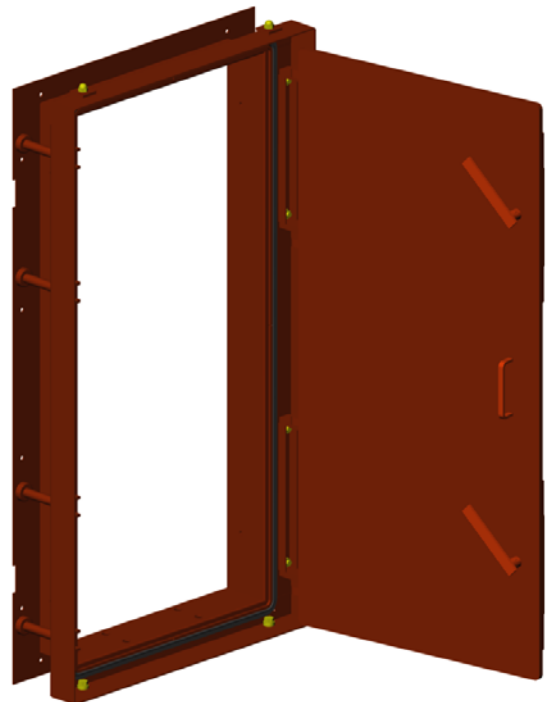
Other documents related to SO-1 blast door:

Installation Instructions

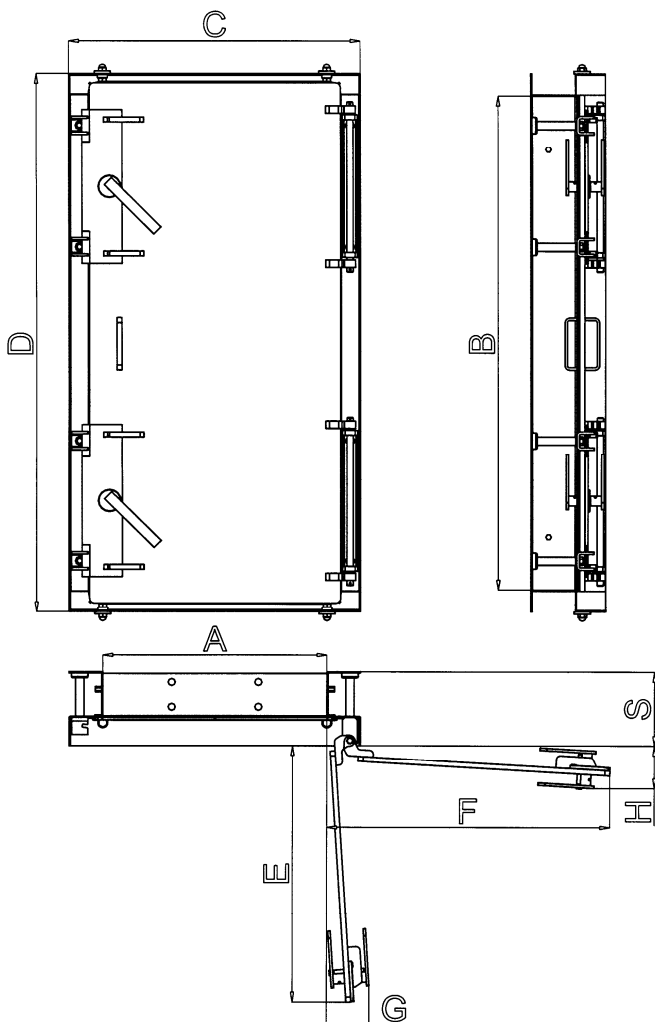
Operation & Maintenance Instructions



Temet SO-1 Blast Door



### Standard SO-1 Blast Resistant Door



### Door hinges

Hinges are provided with maintenance free slide bearings.

### SO-1 Blast Door gas tightness

Temet SO-1 blast doors are provided with chloroprene gasket for tightness against entry of gases in such a way that the allowable leakage through the door does not exceed 0.3 dm<sup>3</sup>/s (1.08 m<sup>3</sup>/h) per 1000 mm of door free opening width at a positive pressure difference of 150 Pa acting from the outside.

### Surface treatment

Temet SO-1 doors are normally surface treated with durable shop primer resisting corrosion during transportation and storage. The door can be also surface treated according to the customer's specification.

### Optional accessories for SO-1 Doors

Wide range of accessories such as position indicator switches, mechanical or electrical locks and power assist device are available.

### SO-1 Door sizes available

Single wing door sizes with main dimensions in mm:

A	B	C	D	E	F	G	H	Min. S	Weight (kg)
900	2000	1200	2200	1100	1200	180	180	300	675
1200	2000	1500	2200	1400	1500	180	180	300	900
1500	2000	1800	2200	1700	1800	180	180	300	1,125
1800	2000	2100	2200	2000	2100	180	180	300	1,350
1200	2100	1500	2300	1400	1500	180	180	300	945
1500	2100	1800	2300	1700	1800	180	180	300	1,200

Design - Production – Installation – Maintenance - Consultation