

Protective solutions

Applications

The SO-1 double wing 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 double wing blast doors is Temet, Helsinki Finland.

The SO-1 double wing blast doors are fabricated from structural steel with a door plate of solid homogenous steel plate stiffened by a structural steel center beam. The door frame is designed for easy installation into 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.

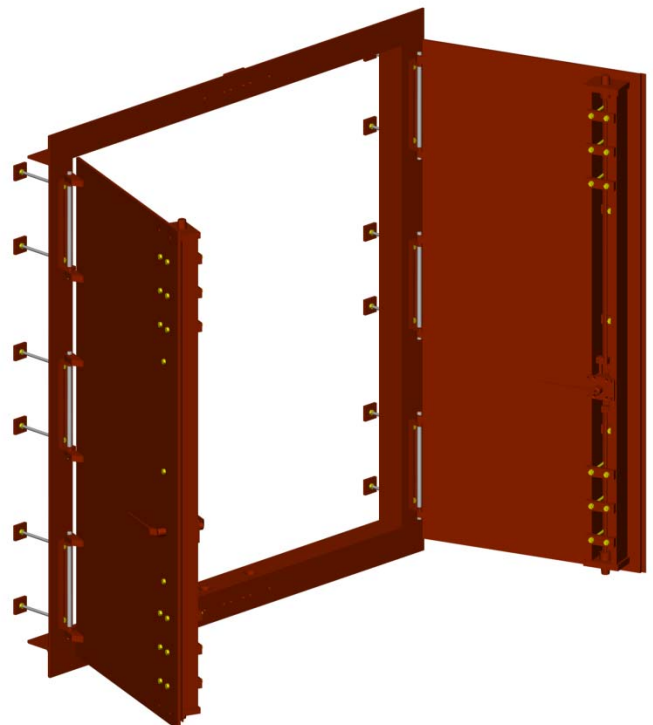
The doors are designed to function within the operating temperature range of -20 ... +80 °C.

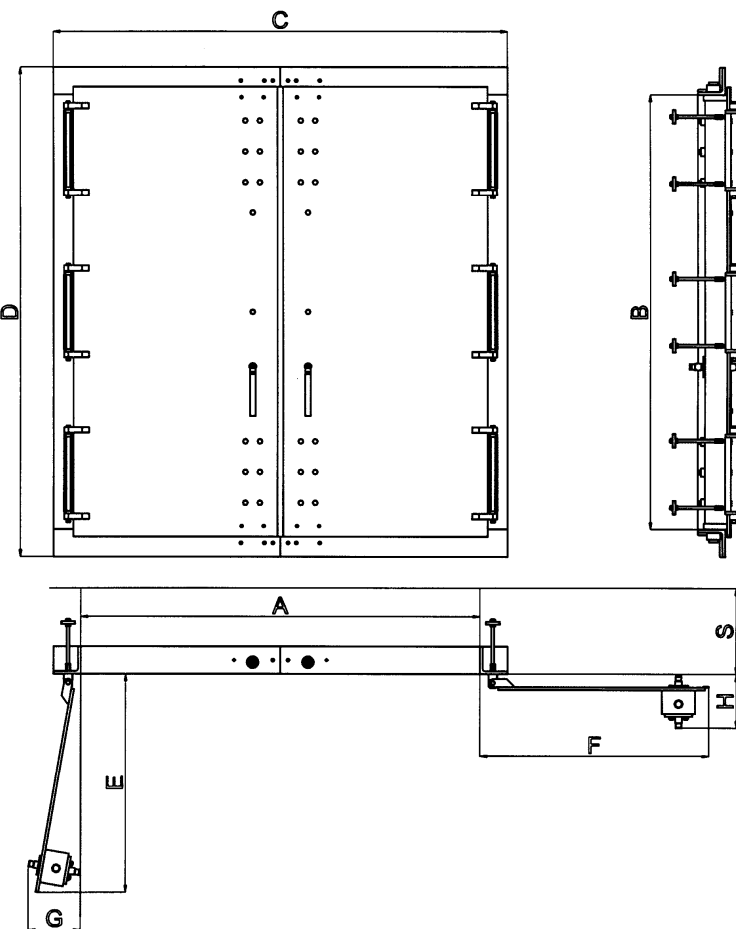
Other documents related to SO-1 double wing blast door:

Installation Instructions
Operation & Maintenance Instructions



Temet SO-1 Double Wing Blast 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 dm³/s (1.08 m³/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 Doors sizes available

Double wing door sizes with main dimensions in mm:

A	B	C	D	E	F	G	H	Min. S	Weight (kg)
2400	3000	2900	3500	1550	1650	450	450	400	3,500
2600	3000	3100	3500	1650	1750	450	450	400	3,800
2800	3000	3300	3500	1750	1850	450	450	400	4,200
3000	3000	3500	3500	1850	1950	450	450	400	4,400
3200	3000	3700	3500	1950	2050	450	450	400	4,700
3000	3500	3500	4000	1850	1950	450	450	500	5,200
3400	3500	3900	4000	2050	2150	450	450	500	5,800
3600	3500	4100	4000	2150	2250	450	450	500	6,200
3900	3500	4400	4000	2300	2400	450	450	500	6,700
3500	4200	4000	4700	2100	2200	450	450	500	7,200
3900	4200	4400	4700	2300	2400	450	450	500	8,100

Design - Production – Installation – Maintenance - Consultation