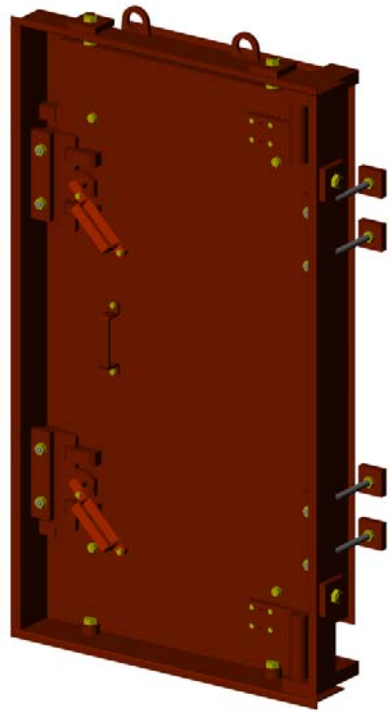
Protective solutions

Applications

The SO-3 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-3 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 doors enables opening by disassembly even if the door plate has undergone permanent deformations. The door plate can be dismounted from either side without any special emergency opening devices.



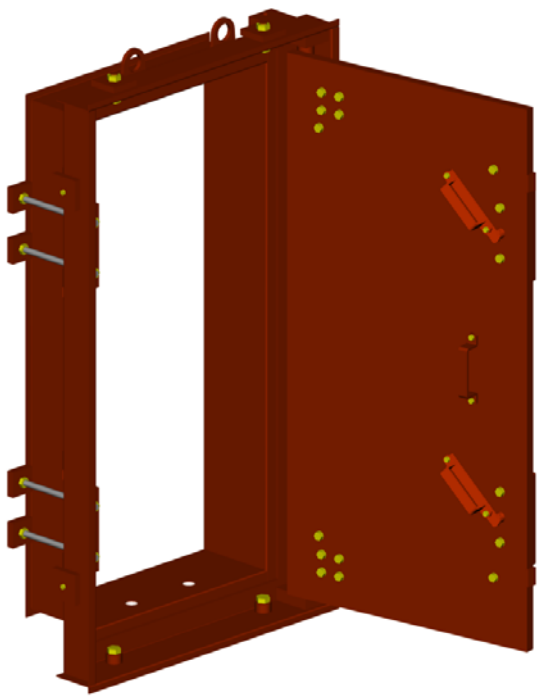
Specification

Manufacturer of SO-3 blast doors is Temet, Helsinki Finland.

The SO-3 doors are fabricated from structural steel with a door plate of solid homogenous steel plate. The door frame is of flush design for easy installations in the reinforced concrete wall, and the door plate / frame assembly has an optimized pattern for transfer of the blast forces into surrounding wall.

Design Criteria

The SO-3 blast doors are made in accordance with specific provisions issued by the Finnish Ministry of Interior. The SO-3 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-3 Door Protection Capability

The SO-3 doors are designed to withstand multiple long duration blast loads having peak reflected overpressure of 8.0 bar within the elastic range of the materials used. The resistance of the doors for rebound load is dependent on the basic natural period of the door plate and varies between 0.8 bar and 4.0 bar equivalent static pressure. The door frame design enables uniform distribution of the positive blast load into the surrounding wall. Rebound load is received by the latching system.

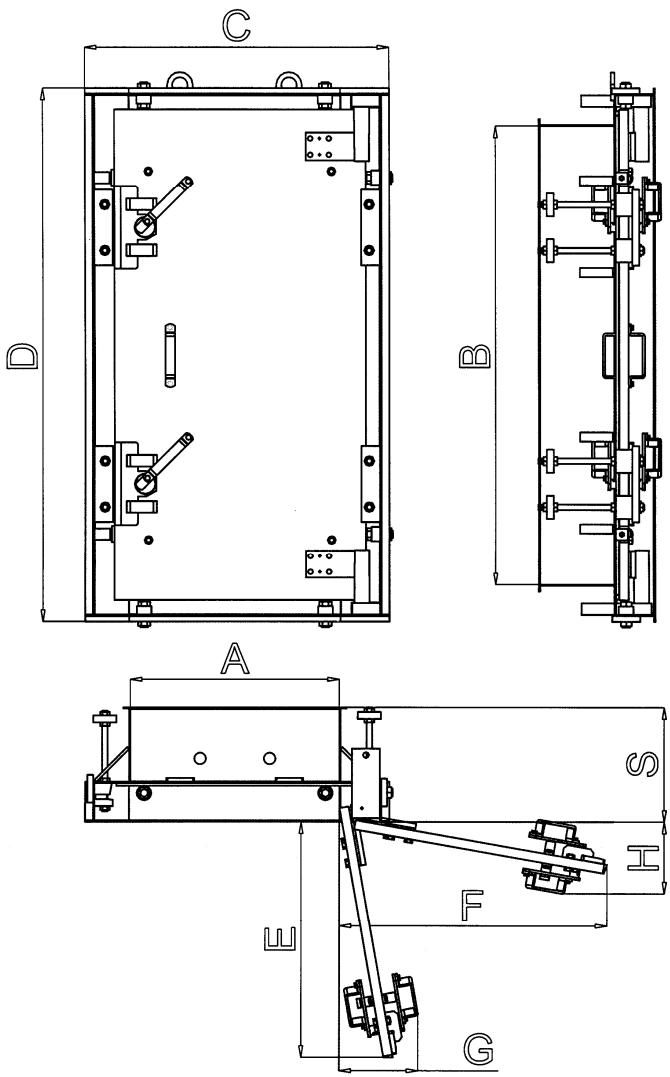
The SO-3 doors also resist a mechanical shock transmitting through the installation wall with a rapid change in velocity of 1.5 m/s corresponding to acceleration force of 30 g.

The SO-3 doors are designed to function within the operating temperature range of -20 … +80 ºC.

Other documents related to SO-3 blast door:

Installation Instructions
Operation & Maintenance Instructions

Standard SO-3 Blast Resistant Door



Door hinges

Hinges are provided with maintenance free slide bearings or optionally with roller bearings.

SO-3 Blast Door gas tightness

Temet SO-3 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^3/s (1.08 m^3/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-3 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-3 Doors

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

SO-3 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**	1300	2350	1100	1200	300	320	450	1,250
1200	**2000**	1600	2350	1400	1500	300	320	450	1,650
1500	**2000**	1900	2350	1700	1800	300	320	450	2,050
1800	**2000**	2200	2350	2000	2100	300	320	450	2,450
1200	**2100**	1600	2450	1400	1500	300	320	450	1,750
1500	**2100**	1900	2450	1700	1800	300	320	450	2,150
1800	**2100**	2200	2450	2000	2100	300	320	450	2,600

Design - Production – Installation – Maintenance - Consultation

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