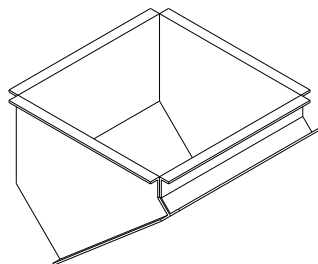
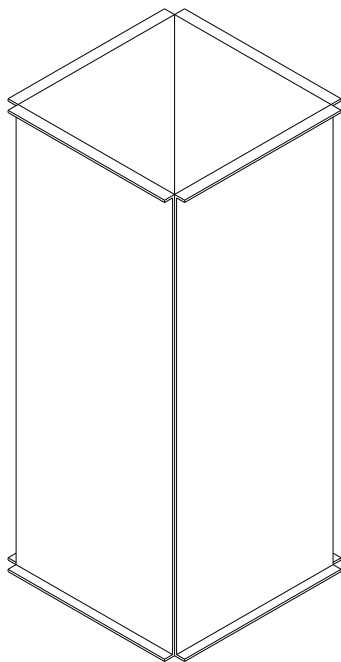


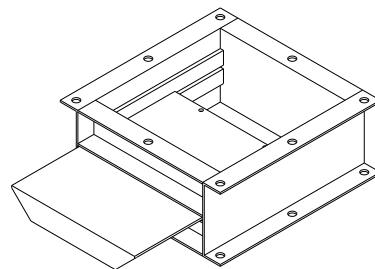
Square pipe system

Datasheet no. 08 – 1

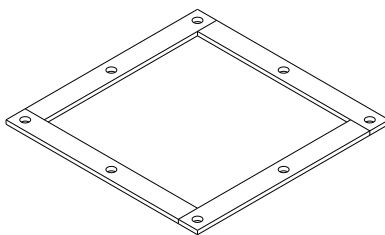
FM Square pipe systems are used for connecting machinery and connections to and from silos etc.



Vertical bends are available in different angles.

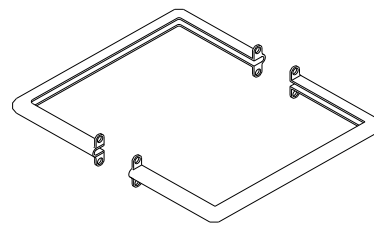


Shutters are available in many executions.



The FM Square pipe system are all built after the same principle, and are available in 160 – 200 – 240 – 300 and 400 mm square sizes.

Assembly for 300 and 400 mm are always done with bolted flanges – which also are available for 160 – 200 and 240 mm sizes.



The assembly of 160 – 200 and 240 mm sizes are usually done with assembly clamps.

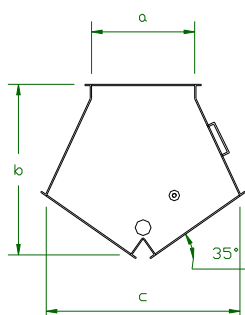
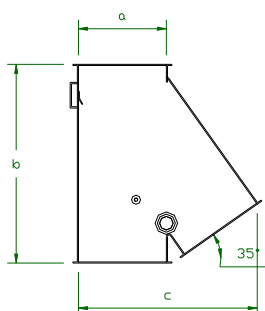
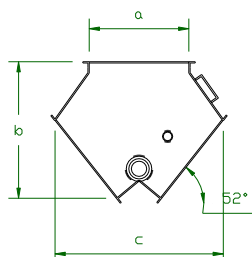
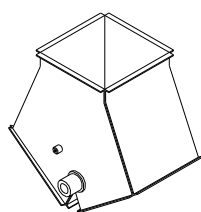
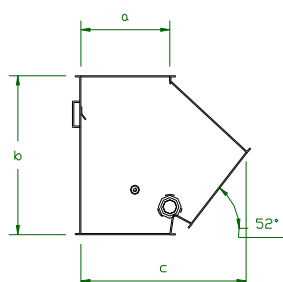
Conveying capacity up to 650 ton/hour.

We supply our Square grain pipes in the following executions;

- » Manufactured in St. 37 and painted in RAL 1013 (other colours on request)
- » Manufactured in St. 37 and hot dip galvanised – especially for erecting outside.
- » Manufactured in stainless steel type AISI 304.
- » Manufactured in stainless steel type AISI 316.

TWO-WAY VALVES

FM Square grain pipe systems are also including two-way valves to insert in the pipe systems, enabling to choose delivery point for the goods conveyed.



FN 38°

Type	a	b	c
160	156	295	299
200	195	345	362
240	234	394	424
300	294	700	591
400	390	700	732

FM 38°

Type	a	b	c
160	156	265	276
200	195	270	329
240	234	310	382
300	294	400	469

FN 55°

Type	a	b	c
160	156	350	327
200	195	440	396
240	234	466	468
300	294	700	627
400	390	866	800

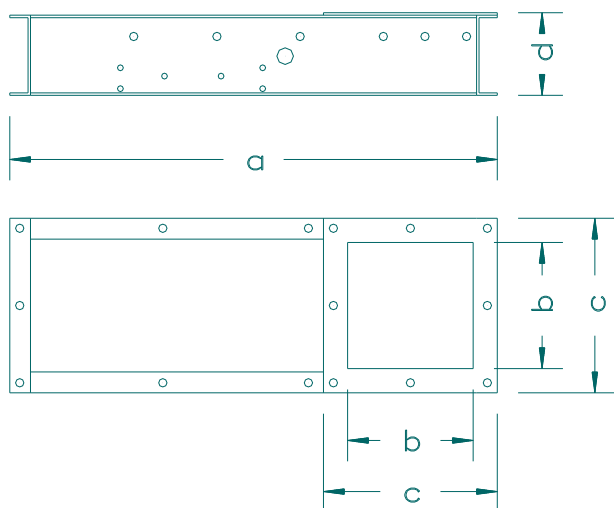
FM 55°

Type	a	b	c
160	156	262	298
200	195	322	366
240	234	342	458
300	294	529	580
400	390	531	746

SHUTTERS TYPE SK

FM Square pipe system also contains shutters, that is available in hand-operated versions, pneumatic controlled and motor-operated executions.

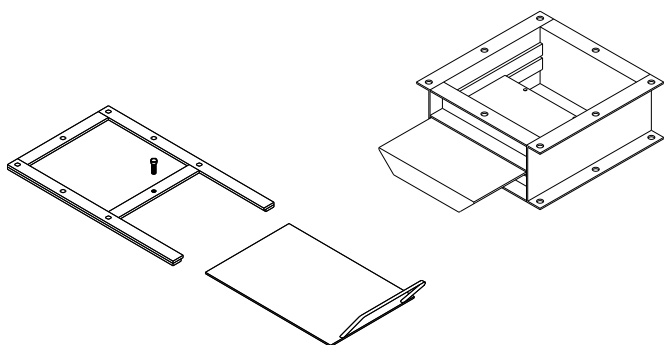
Pneumatic shutters are available in sizes from 160 to 400 mm square. The design is similar for all sizes. The shutter plate is travelling on cylindrical pins. Available is also a solution with ball bearings carrying the shutter plate. Pneumatic systems are supplied on request.



Measurements for the shutters.

Type	a	b	c	d
160 (Q16)	586	151	209	100
200 (Q20)	682	191	249	100
240 (Q24)	720	231	289	100
300 (Q30)	850	290	348	100
400 (Q40)	1211	386	480	124

This simple hand-operated shutter is mainly used for security- / repair- shutters, and can also be used for silo outlets.



Note: When the shutter is either pneumatic or motor-operated there will be space needed for the solenoid or the motor.

Pneumatic shutters are supplied with solenoids for 24 volt or 220 volt AC or DC.

The shutters are supplied either as "on/off", also known as spring return, or "impulse" execution, which basically are two coils on the solenoid.

ACCESSORIES

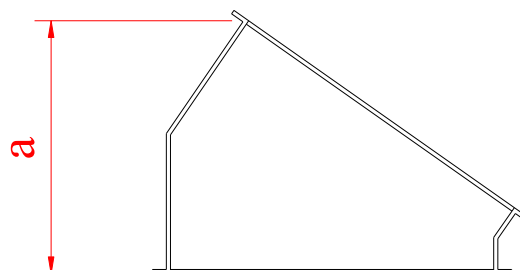
FM Square pipe systems are supplied alongside with a lot of accessories that are described here:

Kapacitetsoversigt

Type	Q16	Q20	Q24	Q30	Q40
Normal T/H	40	70	115	200	425
Maximum T/H	60	105	175	300	650

Vertical bends are supplied for the FM square grain pipe system according to the measurement diagrams below.

Supplied either for assembly with clamps, or executed with flat iron flanges, depending on customer request.



160 x 160 mm		
Degrees	a	t
7°	68	2
17°	93	2
32°	127	2
45°	151	2
52°	162	2

200 x 200 mm		
Degrees	a	t
7°	75	2,5
17°	106	2,5
32°	159	2,5
45°	189	2,5
52°	202	2,5

240 x 240 mm		
Degrees	a	t
7°	80	3
17°	119	3
32°	170	3
45°	208	3
52°	226	3

300 x 300 mm		
Degrees	a	t
7°	116	3
17°	169	3
32°	229	3
45°	276	3
52°	296	3



FM Square pipes are supplied from 160 x 160 mm to 400 x 400 mm in the following lengths: 470 mm, 970 mm and 1470 mm.

For completion of the pipe systems, assembly clamps, flat iron flanges, welding flanges, clamps for hanging up pipes are available.

When building plants special executions are made – please ask us for solutions.

TWO-WAY VALVES

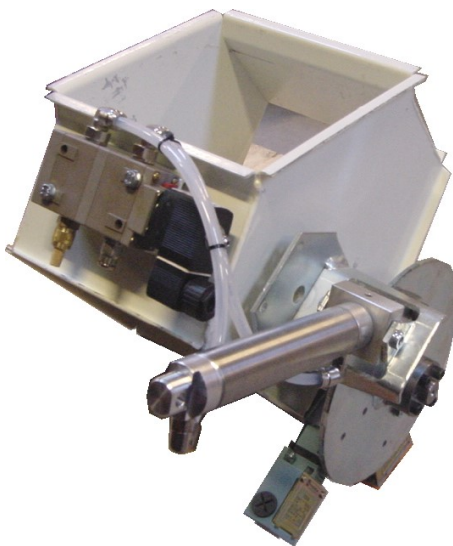
The simplest type of two-way valves is the hand-operated type, shown here.

The control is done either as shown with handles, or with “remote” control via steel wires.



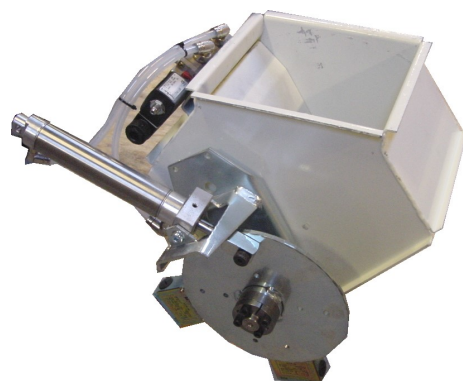
The pneumatic two-way valve is supplied with pneumatic cylinder, solenoid valve and indicator switches. The type of pneumatic equipment is supplied according to customer request.

The solenoid is supplied either in **on-off** *) type or **impulse** *) type. Power supply to be either 24 or 220 volt AC or DC.



Indicator switches are placed on the same side of the two-way valve as the pneumatic cylinder. Suitable for up to 230 volt AC or DC.

Indicator switches will be supplied according to your specification, and can be supplied as capacitive type if requested.



Our two-way valves can also be supplied as motor-operated.

For further information please look at our datasheet no. 08 – 06.

***) On-off** type, also known as “spring return” type, means that the solenoid coil will be powered in the one position, and without power in the other position.

Returns to powerless position, in the event of loosing power.

***) Impulse** type means that the solenoid holds two coils, and that they each need a short moment of power to shift from one to another position.

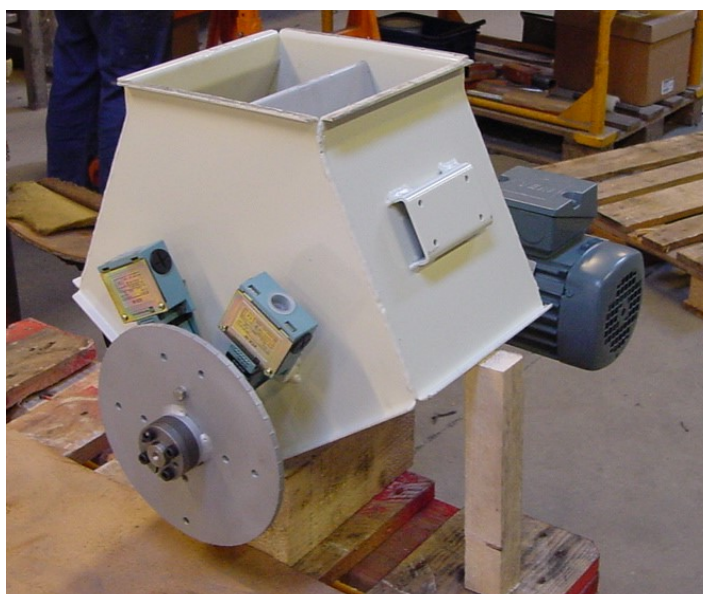
Remains in same position, in the event of loosing power.

TWO-WAY VALVES

Motor-operated two-way valves:

The motor-operated two-way valve is designed with a worm gear to operate the shutter plate inside the valve.

Note the compact design and the solid construction, with the torque arm alongside that two-way valve.



Indication switches:

Indication switches are placed on opposite side as the worm gear, enabling easy access for electrical connections.



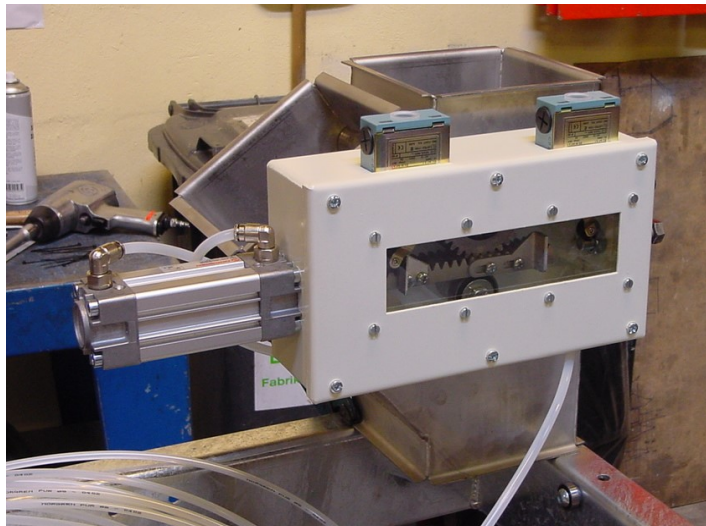
Our motor-operated two-way valves are supplied as well in type FN as in type FM, and they are both supplied in 38°, or in 55° execution.

All measurements are basically the same as the other types of two-way valves – for further measurement information please look at our datasheet no. 08 – 02.

Supplied in sizes from 160 x 160 mm up to 400 x 400 mm.

Two-way valve in type FN is supplied with the worm gear mounted right-hand or left-hand side of the valve.

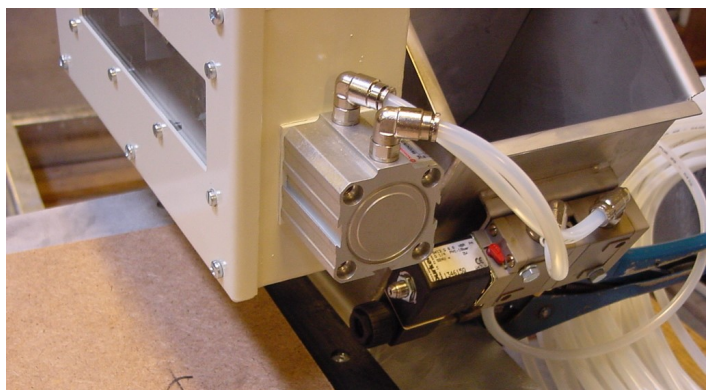
TWO-WAY VALVES



Pneumatic two-way valves:

The totally enclosed drive for controlling the shutter blade is sitting in a totally enclosed box, together with the indication switches.

The pneumatic cylinder is operating the shutter plate via a short rack revolving the pinion sitting on the shaft from the shutter blade, thus shifting position.



Solenoid valve:

Is placed on the one side of the two-way valve, connected to the cylinder with plastic hoses.

Solenoid is supplied in type on request.

Our pneumatic operated two-way valves are supplied as well in type FN as in type FM, and they are both supplied in 38°, or in 55° execution.

All measurements are basically the same as the other types of two-way valves – for further measurement information please look at our datasheet no. 08 – 02.

Supplied in sizes from 160 x 160 mm up to 400 x 400 mm.

Two-way valve type FN can be supplied with the cylinder placed either on right-hand or left-hand side of the valve.