Shakti Hormann
Doors for Home and Industry

Rolling Shutter

Installation & Operation Manual

HÖRMANN

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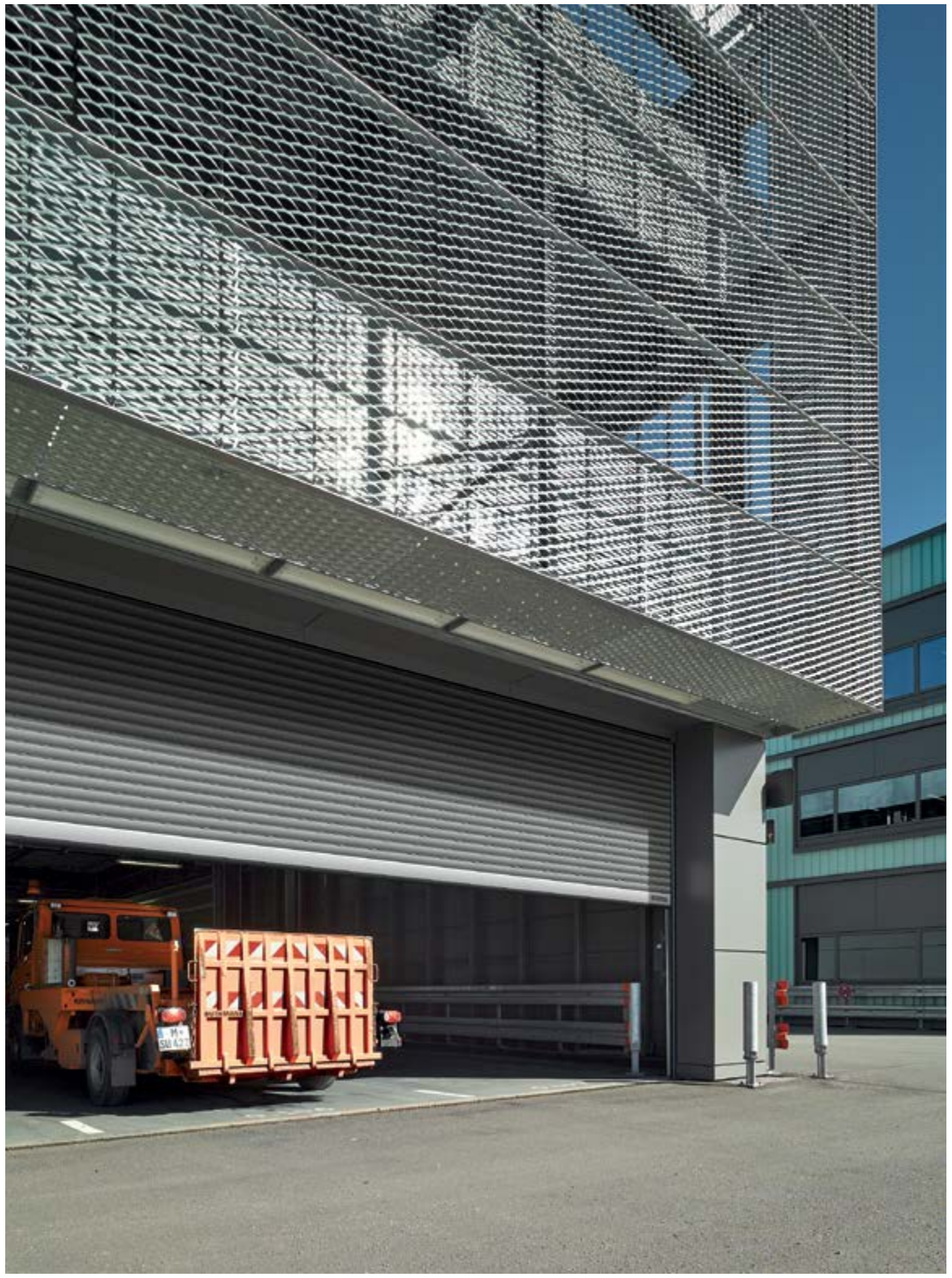
Rolling Shutter



Rolling Shutter Applications:

Food Industry
Pharma Industry
Automobile Industry
Warehouses
Logistics Park/ Ports

Salient Features

- Compact space requirement, only 165 mm on both sides vertical for all door versions & up to 236 mm less required headroom than for a basic rolling shutter
- Soft start & stop ensure especially quiet door travel and extend the service life of the door system.
- Environmentally friendly, inexpensive operation, energy consumption in standby mode approx. 1 watt
- Integrated coupling so the door can be switched to manual operation at any time.
- No loose door components are transported
- Shoot bolts can be fitted to interior section for locking as accessory
- Any obstruction / material in between the door closing area – force limit touch and go back automatically 600 mm
- Designed for 10 cycles/hour
- Acoustic rating: R= 25 dB
- Excellent thermal insulation infilling foam 22 mm PU

Spring Balance Rolling Shutter I Direct Drive Rolling Shutter I Single Skin Rolling Shutter I Fire Rated Rolling Shutter

Operation Procedure

For doors operation, follow the below procedure

- To open the door - press up button (one press impulse mode)
- To close the door - press down button (one press impulse mode)
- To stop the door at mid interval - Only if optional feature of mid stop controller / push button is provided. - press the red button or ½ button on the controller

In case controller is not operational or faulty

- If the door is in fully open position - release the hand chain from the lock and operate the door using chain in clock wise direction to close the door
- If the door is in the closed position - release the hand chain from the lock and operate the door using chain in anti-clock wise direction to open the door

Troubleshooting And Remedies

Product: Rolling Shutter	Model: Spring Balance	Controller: WA300RS4	
Display Description Possible cause Troubleshooting			
Of	No display when a button is pushed or a radio impulse for operation is activated / no operating voltage	—	Operating notification
Steady illumination	The operator has been taught in and is ready for operation/ taught in for press-and-hold operation	—	Operating notification
Slow flashing	• Operator has not been taught in / learning run • Fast close learning run	The operator has not been taught in ye	Teaching in the operator
Fast flashing	• During the hold-open phase • During the pre-warning phase • During programming of the SKS stop position • DIL switches 2/6 continue to be set to ON for a desired reset	—	Operating notification
Very fast flashing (flashes)	• During the reset process • Maintenance cycle counter • Press-and-hold operation when not taught in	—	• Operating notification • Perform maintenance
1x / 2x / 3x / 4x flashes within 10 seconds	During programming of the automatic timer / during programming of the start warning	—	Operating notification
2x flashing	LS safety equipment has been activated	Photocell was interrupted or is not connected.	Check photocell, replace or connect as necessary
3x flashing	• Safety device SKS/power limit in the Close direction has been activated / is defective • Blocking protection in the Close direction has been activated	• There is an obstruction in the door area • Sluggish door trave	• Remove the obstruction • Check counterbalance
4x flashing	• Maintenance release open • Hold circuit open • Wicket door contact with testing negativ	• Maintenance release for operator mechanism open • Hold circuit plug X30/ST1 open • Magnet of contact wrong way round/wicket door contact defective	• Lock the operator’s maintenance release • Close contacts/electric circuits, check electric circuits • Check magnet/contact
5x flashing	• Power-limit for door-open travel direction responded • Lintel trap guard EZS responded	• There is an obstruction in the door area • Sluggish door trave	• Remove the obstruction • Check counterbalance • Delete any door data, teach in again. • Test the lintel trap guard area
6x flashing	General system error		Contact the service department if this error re-appears after switching the control back on
7x flashing	Gear drive temperature sensor	• Over temperature > +80°C/ short circuit • Under temperature < -25°C/ interruption	•Operator overheated (≥ 80°C) or under temperature (≤ -25°C) •Check ambient temperature •Short circuit/interruption in the connection with the temperature sensor
8x flashing	Poor counterbalance	Insuffi cient counterbalance	Check spring tension
9x flashing	• After 10x errors 5 = power limit, without the door reaching the Open end-of-travel position	• Carrying cable torn • Door mechanically locked	• Exchange the carrying cable • Unlock the door •Briefl y disconnect the control from the mains voltage. NOTE: If power is restored to the system after the work has been completed, a reference run in the Open direction takes place after pressing the Open/impulse button, all other buttons are without

Product: Rolling Shutter	Model: Direct Drive	Controller: 445R
Error Code	**Cause Of Error Code**	**Trouble Shooting / Remidies**
1	RSK generally open • Maintenance release on the operator actuated	Control housing •Check jumpers in the connecting plugs X1, X3 •Lock the maintenance release on the operator
2	RSK of closing edge safety device (SKS) open	SKS connection housing Yellow LED on: •Check colour sequence of coiled cable in X30 Yellow LED off: •All the sockets X31 must be assigned. •Check wicket door contact, shootbolt. •If a resistance contact strip 8k2 is connected at X33, a bridge plug must be inserted in X34
3	RSK operator • Gear drive temperature sensor a. Overtemperature b. Undertemperature	RSK operator •Inspect X30 and ST1 bridge Gearbox motor •Operator overheated (≥ 80°C) or temperature too low (≤ -25°C) •Check ambient temperature •Short circuit/interruption in the connection with the temperature sensor An error displayed due to incorrect measurements is deleted at the press of a button, otherwise the operator will remain at a standstill
4	RSK at socket X50 open	Control housing Miniature lock, connected at X4, at position 0
5	RSK at plug X1 (Pin 1-2) open •No travel command can be executed in the Open direction	Control housing •Check bridge pin 1-2 on plug X1 82

11	Self-testing of safety device at socket X30 was unsuccessful or safety device was triggered.	General – Obstacle recognised – Optics of the safety devices is dirty – Transmitter and receiver are not aligned to each other SKS connection housing Red LED on: •Check optosensors. •Check connection cable X34. •X33 must not be assigned. Red LED off: •Check colour sequence of coiled cable. The door only closes in press-and-hold operation: •Press the button -> press-and-release attempt -> error message •Pressing the button again closes the door in press-and-hold operation
12	Self-testing of safety device at socket X20 was unsuccessful or safety device was triggered.	With photocells, check alignment. •With photocells, the connection between transmitter and receiver must consist of a version P Y-piece
13	Self-testing of safety device at socket X21 was unsuccessful or safety device was triggered.	With photocells, check alignment. •With photocells, the connection between transmitter and receiver must consist of a version P Y-piece
14	Self-testing of safety device at socket X23 was unsuccessful or safety device was triggered.	•With photocells, check alignment
15	Self-testing of resistance contact strip 8k2 at socket X30 unsuccessful or 8k2 triggered.	SKS connection housing Red LED on: •Check connection of resistance contact strip. Red LED off: •Check colour sequence of coiled cable. •X32 must not be assigned. The door only closes in press-and-hold operation: •Press the button -> press-and-release attempt -> error message •Pressing the button again closes the door in press-and-hold operation
16	Wicket door contact defective. Self-testing is negative. Door cannot be moved.	Wicket door • Twisted magnet contact • Wicket door contact defective
17	The Open power limit has been activated	Door • Springs have lost their tension • Door movement is sluggish
18	The Close power limit has been activated	Door Door movement is sluggish
21	Operator blocked: Motor does not start	Door • Door movement is sluggish • Poor counterbalance • Cable break • Spring break
22	RPM too slow: Motor does not start or is too slow	Door • Door movement is sluggish • Poor counterbalance
31	General system error	Control housing •Circuit board must be replaced
35	24 V undervoltage	Control housing Short-circuit or overload of the 24 V supply to the control: •Disconnect any connected devices and supply them with power separately
44	Data from the integrated control do not correspond to the data of the external control	1. Set all DIL switches in the operator (internal control) to OFF
47	RAM test failed.	Control program Temporarily stored data is deleted. After switching the mains back on, this data will be restored

Product: Rolling Shutter	**Model: Classic, Direct Drive**	**Controller- 460R**
Error Code	**Cause Of Error Code**	**Trouble Shooting / Remidies**
1	RSK generally open	•Control housing • Check jumpers in the connecting plugs X1, X3 • Check jumper plug X10
2	RSK of closing edge safety device (SKS) open	•SKS connection housing Yellow LED on: • Check colour sequence of coiled cable in X30 Yellow LED off: • All the sockets X31 must be assigned • Check wicket door contact, shootbolt • If a resistance contact strip 8k2 is connected at X33, a jumper plug must be inserted in X34 • Check where the malfunction is using the closing edge safety device tester (SKS T1)
3	RSK at socket X40 open	•Operator • Operator overheated • The operator’s emergency operation device is in use
4	RSK at socket X50 open	•Control housing Miniature lock, connected at X4, at position 0
11	•Self-testing of SKS at socket X30 unsuccessful or SKS triggered	•SKS connection housing Red LED on: • Check optosensors. • Check connection cable X34. • X33 must not be assigned. Red LED off: • Check colour sequence of coiled cable The door only closes in press-and-hold operation: • Press the button -> press-and-release attempt -> error message • Pressing the button again closes the door in press-and-hold operation VL • Photocell optics possibly dirty
12	•Self-testing of safety device at socket X20 was unsuccessful or safety device was triggered	•With photocells, check alignment. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece

13	•Self-testing of safety device at socket X21 was unsuccessful or safety device was triggered	•• With photocells, check alignment. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece
15	•Self-testing of resistance contact strip 8k2 at socket X30 unsuccessful or 8k2 triggered	•SKS connection housing Red LED on: • Check connection of resistance contact strip. Red LED off: • Check colour sequence of coiled cable. • X32 must not be assigned. The door only closes in press-and-hold operation: • Press the button -> press-and-release attempt -> error message • Pressing the button again closes the door in press-and-hold operation
16	•Wicket door contact defective. Self-testing is negative. Door cannot be moved	•Wicket door • Magnet of contact wrong way round • Wicket door contact defective
21	•Operator blocked: Motor does not start	•Door Door movement is sluggish Control Fuse defective
22	•Rotational direction: Rotational direction of motor is inverted	•Function number Programming of the fi tting type does not correspond to the actual fi tting type used. Electric socket: Check the direction of the phase rotation of the mains lead
23	•RPM too slow: Motor does not start or is too slow	•Door Door movement is sluggish.
24	•Door type: Operator is not designed for the door type	•Door Door height and door transmission ratio do not match the operator. Electric socket: Check the direction of the phase rotation of the mains lead
28	•Overshooting the Open/Close end-of-travel positions	•Door • Check the door • Move the door in the correct direction using the SMA adapter/emergency hand chain/ crank handle.
31	General malfunction of the power circuit board	•Control • Power circuit board must be replaced
32	•Running time: Door travel takes longer than permitted	•Door Door height and door transmission ratio do not match the operator.
35	24 V undervoltage	•Control Short-circuit or overload of the 24 V supply to the control • Disconnect any connected devices and supply separately.
41	Interface COM X40	•Control Cable (Absolute encoder AWG/door position sensor TPG) at socket X40 is not connected or not properly plugged in
42	Interface COM X50	•not properly plugged in. 42 Interface COM X50 Control Cable (cover keypad) at socket X50 is not connected or not properly plugged in
43	Interface COM X51	•Control Cable (extension PCBs) at socket X51 is not connected or not properly plugged in
46	EEPROM test failed	•Functions Permanently stored data is deleted. After switching back on at the mains, all functions must be reprogrammed
47	RAM test failed	•Control program Temporarily stored data is deleted. After switching back on at the mains, this data will be restored
48	ROM test failed	•Control program If this error re-appears after switching the control back on, the control is defective
;		•Control Cable (Absolute encoder AWG/door position sensor TPG) at socket X40 is not connected or not properly plugged in
U		•Functions • The control has not been taught in. • Permanently stored data is deleted. After switching back on at the mains, all program menu values must be reprogrammed

Product: Rolling Shutter	Model: Direct Drive	Controller: 445R
Error Code	**Cause Of Error Code**	**Trouble Shooting / Remidies**
1	RSK generally open	Control housing • Check jumpers in the connecting plugs X1, X3 • Check jumper plug X10
2	RSK of closing edge safety device (SKS) open	SKS connection housing Yellow LED on: • Check colour sequence of coiled cable in X30. Yellow LED off: • All the sockets X31 must be assigned • Check wicket door contact, shootbolt • If a resistance contact strip 8k2 is connected at X33, a jumper plug must be inserted in X34 • Check where the malfunction is using the closing edge safety device tester (SKS T1)
3	RSK at socket X40 open	Operator • Operator overheated • The operator's emergency operation device is in use
4	RSK at socket X50 open	Control housing Miniature lock, connected at X4, at position 0

11	Self-testing of SKS at socket X30 unsuccess-ful or SKS triggered.	SKS connection housing Red LED on: • Check optosensors. • Check connection cable X34 • X33 must not be assigned. Red LED off: • Check colour sequence of coiled cable The door only closes in press-and-hold operation: • Press the button -> press-and-release attempt -> error message • Pressing the button again closes the door in press-and-hold operation
12	Self-testing of safety device at socket X20 was unsuccessful or safety device was triggered	• With photocells, check alignment • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece.
13	Self-testing of safety device at socket X21 was unsuccessful or safety device was triggered.	• With photocells, check alignment. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece. • With photocells, the connection between transmitter and receiver must consist of a version P Y-piece.
15	Self-testing of resis-tance contact strip 8k2 at socket X30 unsuccess-ful or 8k2 triggered	SKS connection housing Red LED on: • Check connection of resistance contact strip Red LED off: • Check colour sequence of coiled cable • X32 must not be assigned The door only closes in press-and-hold operation: • Press the button -> press-and-release attempt -> error message • Pressing the button again closes the door in press-and-hold operation
16	Wicket door contact defective. Self-testing is negative. Door cannot be moved	Wicket door • Magnet of contact wrong way round • Wicket door contact defective
21	Operator blocked: Motor does not start	Door Door movement is sluggish. Control Fuse defective
22	Rotational direction: Rotational direction of motor is inverted	Function number Programming of the fitting type does not correspond to the actual fitting type used. Electric socket: Check the direction of the phase rotation of the mains lead
23	RPM too slow: Motor does not start or is too slow	Door Door movement is sluggish
24	Door type: Operator is not de-signed for the door type	Door Door height and door transmission ratio do not match the operator Electric socket: Check the direction
28	Overshooting the Open/ Close end-of-travel positions	Door • Check the door. • Move the door in the correct direction using the SMA adapter / emergency hand chain / crank handle.
31	General malfunction of the power circuit board	Control • Power circuit board must be replaced.
32	Running time: Door travel takes longer than permitted	Door Door height and door transmission ratio do not match the operator
35	24 V undervoltage	Control Short-circuit or overload of the 24 V supply to the control • Disconnect any connected devices and supply separately
41	Interface COM X40	Control Cable (Absolute encoder AWG/door position sensor TPG) at socket X40 is not connected or not properly plugged in
42	Interface COM X50	Control Cable (cover keypad) at socket X50 is not connected or not properly plugged in
43	Interface COM X51	Control Cable (extension PCBs) at socket X51 is not connected or not properly plugged in
46	EEPROM test failed	Permanently stored data is deleted. After switching back on at the mains, all functions must be reprogrammed
47	RAM test failed	Control program Temporarily stored data is deleted. After switching back on at the mains, this data will be restored
48	ROM test failed	Control program If this error re-appears after switching the control back on, the control is defective

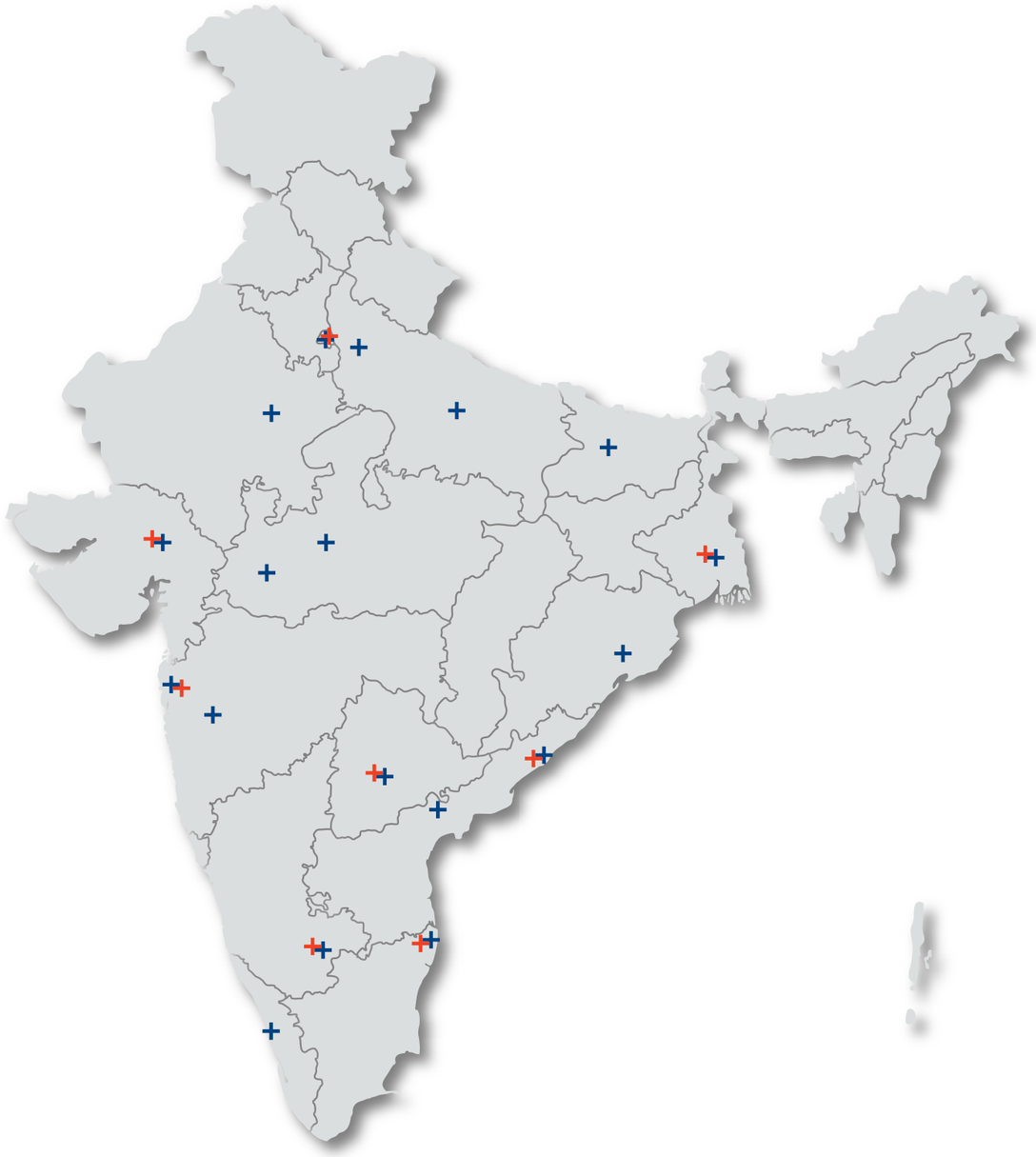
Spare Parts

S.No	German Article No.	SAP Item Code	UOM	Technical Spare Description
ROLLING SHUTTER - SB				
1	9800801	311621	EA	Decotherm Lath for SB and DD without end piece
2	9701692 9701215 9700440 9700112 9701693	311142	EA	End locking set - SB (Per Latch)
3	9800597	311144	EA	Bottom part assembly- SB (Per door)
4	9700311	312050	EA	“Lock pack for lockable bottom profile 24 mm”
5	9700046	311143	EA	Fixing for End locking set - SB (door)
6	NA	311145	EA	Tube assembly - SB
7	9700227 9700290 9700291	311147	EA	Cable set for SB- size
8	9800897	311148	EA	Lintel seal set - SB
9	9800870	311261	EA	Frame assembly complete left- SB
10	9800869	311150	EA	Frame assembly complete right- SB
11	9700909	310285	EA	FS160 Funnel left/right with screws (One Side)
12	NA	311146	EA	Spring assy SB- door size
13	9700287 9700288 9700289	312051	EA	Complete chain hoist - As per door size
14	9700294 9700295	312052	EA	Control chain WA 300 As per door size
15	636770	311151	EA	Operator WA 300 complete set assy
16	638913 638914	311154	EA	Secured release SE3 Set - SB
17	636767	311599	EA	Controller 360 with connecting cables and cable lock controller
18	637713	311152	EA	Push button DTH- R set
19	637714	311153	EA	Push button DTH- RM set
20	637939	310213	EA	Telephone cable (6 Core) with bothside Connectors (15Mtrs)
21	NA	311190	EA	Barrel cover painted (Door Size)- SB
22	NA	312053	EA	Anchors Kit (SB / DD) - Wall/ Steel/Puff
23	638079	310329	EA	Accessory Bag
24	639008	310324	EA	Adapter sheet with thread bolt WA 250 R S4/WA 300 R S4
25	9700042	310438	EA	HOLDER WA 300 RS4
26	637715	311191	EA	DTH-I Push button Impulse-Stop-1/2 Open/Open
27	637716	311192	EA	DTH-IM Push button Impulse-Stop-1/2/Open, miniature lock
28	“638069 637751”	311718	EA	DISPLAYCIRCUITBOARD 445 S / T, 460 S / T, A / B 445, A / B 460, B 460 FU, 445 R, 460 R and 360
29	9701353	310283	EA	Chain Sprocket Set SB
30	9700438	311034	EA	CABLE RETURN PULLY SB (Per Door 2 sets) (Min order 2x)
31	9701567	311031	EA	SET INTERIOR HANDLE S SB (Stoppers)
32	9701223	311035	EA	FIXING MATERIAL FS160
33	9700368	310277	EA	“Shoot bolt SB Retrofit Pack (2 units)”
34	9700129	310256	EA	Cable Cone Left
35	9700130	310257	EA	Cable Cone Right
36	9700078	310258	EA	Shaft Support 40.2 Shaft Bearing Plate Assy
37	9701221	310282	EA	Cover caps FS80 / FS160 (Per Full Door)
38	9700365	310281	EA	Slide element springs (slider)
39	9801246	311160	EA	AFA aluminium spring chamber cover -left
40	9801245	311161	EA	AFA aluminium spring chamber cover -Right
41	9700217	310251	EA	Spring hook FS160 left
42	9700062	310252	EA	Spring hook FS160 right
43	9700064	300052	Mtrs	Bottom profile ruber 24mmv
44	9700133	310440	EA	Retaining ring for shaft FS 80
45	9701222	311033	EA	SET SUPPORT BRACKET SB/TGT
46	63772	312063	EA	“637728 Universal Adapter UAP1-300”

S.No	German Article No.	SAP Item Code	UOM	Technical Spare Description
ROLLING SHUTTER - DD				
1	NA	311622	EA	Shaft Assembly
2	9800801	311621	EA	Decotherm Lath for SB and DD without end piece
3	9701694	311615	EA	End piece assembly
4	9800597	311614	EA	Bottom part complete set
5	9700047	311611	EA	Fixing bracket Screw on for classic & DD- (9 sets per door)
6	9800899	311616	EA	Lintel seal set - DD
7	9701427	311617	EA	Funnel set -FS 80 left
8	9701427	311618	EA	Funnel set -FS 80 Right
9	9801248	311619	EA	Side Guide Assembly- FS 80 Left
10	9801247	311620	EA	Side Guide Assembly- FS 80 Right
11	9700073 9700074	311612	EA	Support Bracket set Operator DD - 40-1 (small)
12	9701421 9701422	311613	EA	Support Bracket set DD - 40-2 (big)
13	“59001 59011 59131 59051 “	311607	EA	Operator set assembly- DD With Chain
14	637713	311152	EA	Push button DTH- R set
15	637714	311153	EA	Push button DTH- RM set
16	“638294 638183 637964 638256 638189 “	311610	EA	SKS Set assembly DD / Classic
17	637939	310213	EA	Telephone cable (6 Core) with bothside Connectors (15Mtrs)
18	NA	312053	EA	Anchors Kit (SB / DD) - Wall/ Steel/Puff
19	9805130	312054	EA	Barrel Cover Painted (Door Size) - DD
20	9805140	312055	EA	Operator Cover Left/ Right - DD
21	9701467	311055	EA	Spacer 40 Outside
22	9701468	311056	EA	Feather Key DIN 6885 A12x8x120
23	9700191	311054	EA	Adjusting Ring DIN705 40 mm vz
24	635495	310323	EA	635495 CONNECTION CABLE 10000
25	636790	311079	EA	CONTROL UNIT 445R
26	638094	311072	EA	MAIN CABLE 400V L 1MET
27	9701223	311035	EA	FIXING MATERIAL FS160
28	57434	311260	EA	Handchain (L=10000)
29	57453	311522	EA	Emergency chain drive DD40, DD50, DD65
30	57428	310454	EA	57428 EMERGENCY HAND CHAIN DRIVE DD17, DD25, DD30
31	638226	310612	EA	SCREWBAG CONTROL UNIT 445R

32	9701221	310282	EA	Cover caps FS80 / FS160 28 caps
33	638294	311254	EA	SKS-Connection Unit Activating kit
34	638183	311258	EA	COILED CABLE 5-WIRE 6000mm
35	638183	311258	EA	COILED CABLE 5-WIRE 6000mm
36	638256	311256	EA	Optosensor / transmitter SKS Cable length 8500 mm
37	638189	311183	EA	Optosensor / receiver SKS Cable length 750 mm
38	9700812	311062	EA	FITTING TEMPLATE DD
39	9700064	300052	Mtrs	Bottom profile ruber 24mm
40	638069	311718	EA	DISPLAYCIRCUITBOARD 445 S / T, 460 S / T, A / B 445, A / B 460, B 460 FU, 445 R, 460 R and 360
41	639213	310626	EA	639213 BASIC CIRCUIT BOARD 435R
42	636960	310602	EA	CONTROL 435 R
43	59061	311829	EA	Operator DD100 AWG KNH IP65 400D S3 KPL

S.No	German Article No.	SAP Item Code	UOM	Technical Spare Description
SHUTTER DOOR - SSRS AND FRS				
1	NA	311963	EA	Guide Complete (SS / FRS) Left
2	NA	311964	EA	Guide Complete (SS / FRS) Right
3	NA	311965	EA	Barrel Complete (SS / FRS)
4	NA	311966	EA	Barrel Hood Cover Complete (SS)
5	NA	312115	EA	Barrel Hood Cover Complete (FRS)
6	NA	311967	EA	Curtain in slots / Latches (SS / FRS) (in Each)
7	NA	311968	EA	Top Slot / Latch Screw-on fixing bracket Set (SS / FRS)
8	NA	311969	EA	Bottom part Complete (SS)
9	NA	311970	EA	Bottom Part Complete (FRS)
10	NA	311971	EA	Barrel End Plates Complete (SS/ FRS) - Left
11	NA	311972	EA	Barrel End Plates Complete (SS/ FRS) - Right
12	NA	311973	EA	Anchor Kits Complete (SS / FRS) (Brick / Steel)
13	NA	311974	EA	Guide Seal (SS) Complete per door
14	NA	311975	EA	16mm hole plugs Complete (Pack - Door Size)
15	NA	311976	EA	Bottom Rubber Seal Complete (SS)
16	NA	311977	EA	Sprocket As per door size
17	NA	311979	EA	Motor chain as per door
18	NA	311981	EA	Motor 1000 Kgs with lever Complete
19	NA	311982	EA	Motor 800 kgs with lever Complete
20	NA	311983	EA	Motor 500 kgs with lever Complete
21	NA	311984	EA	Surface mounted push button Complete (with Screws & Cable)
22	NA	311985	EA	Self Descend system Complete (Only FRS)
23	NA	311760	EA	Limit switch 300 Kg. Complete
24	NA	311761	EA	Limit switch 500 Kg. Complete
25	NA	311329	EA	Fusible Link (Only FRS)
26	NA	311330	EA	Fire Alarm panel battery (Only For FRS)
27	NA	312116	EA	PCB Board for SSRS / FRS Operator (Low V PC board gate 220V)
28	NA	311480	EA	PCB Board Three Phase



Service and Installation Network

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RESIDENTIAL DOORS I COMMERCIAL DOORS I INDUSTRIAL DOORS LOADING BAY TECHNOLOGY I PERIMETER CONTROL SYSTEMS

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