



Outward Opening

WIDE RANGE OF OUTWARD HARDWARE SOLUTIONS



Outward Opening

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- + Arms and hardware for arms
- + Fastening and mechanism components
- + Limitation arms
- + Locking points

Pioneers:

Quality, Innovation and Design

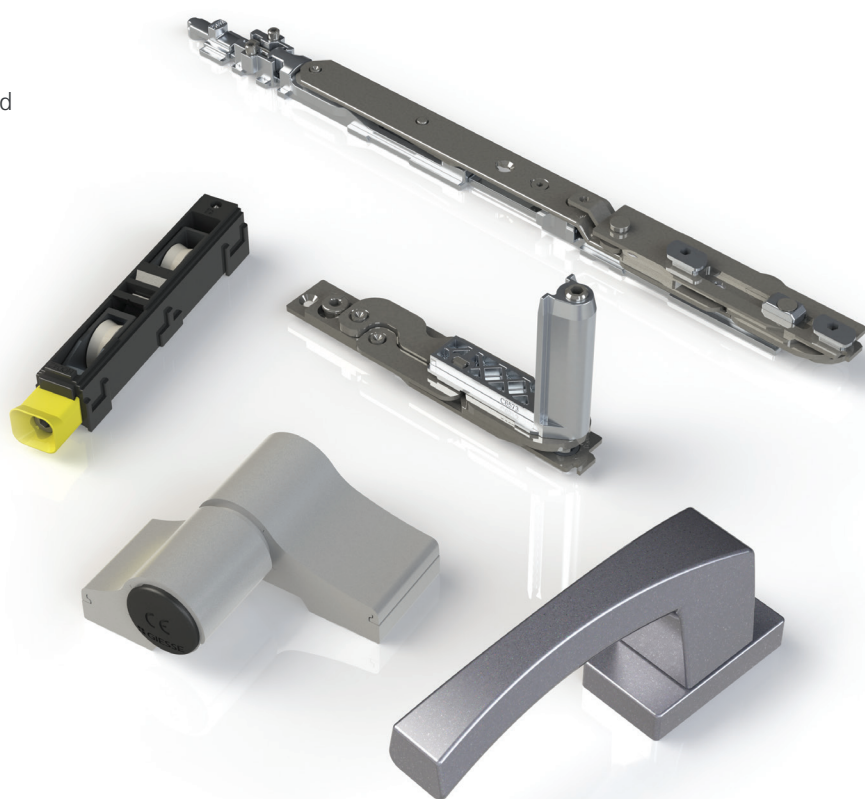
We are pioneers

For more than 50 years, we have opened new frontiers and changed the way of conceiving and producing hardware for aluminium windows and doors.

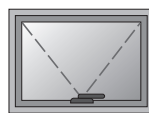
We are part of Schlegel International, the international division of Tyman plc, a global group with several manufacturing plants and a sales network able to serve almost every country in the world.

Our mission is to be a global partner for engineered components for the fenestration industry thanks to our full range of sealing systems and hardware solutions for doors and windows, with more than 100 registered patents.

Our goal is to work professionally in accordance with our core values of Quality, Innovation and Design. Our focus is the complete customer satisfaction through the design, manufacture and marketing of cutting-edge solutions in line with market demands, all over the world.



Outward Opening: Top-Hung Windows



Top-Hung arms +

GS HD type P (10 products)	For sashes from 50 to 180 kg
GS HD type M (8 products)	For sashes from 12 to 35 kg
GS HD type A (8 products)	For sashes from 16 to 32 kg
GS HD Euro Groove (4 products)	For sashes from 50 to 100 kg
GS HD type TS (4 products)	For sashes from 50 to 100 kg

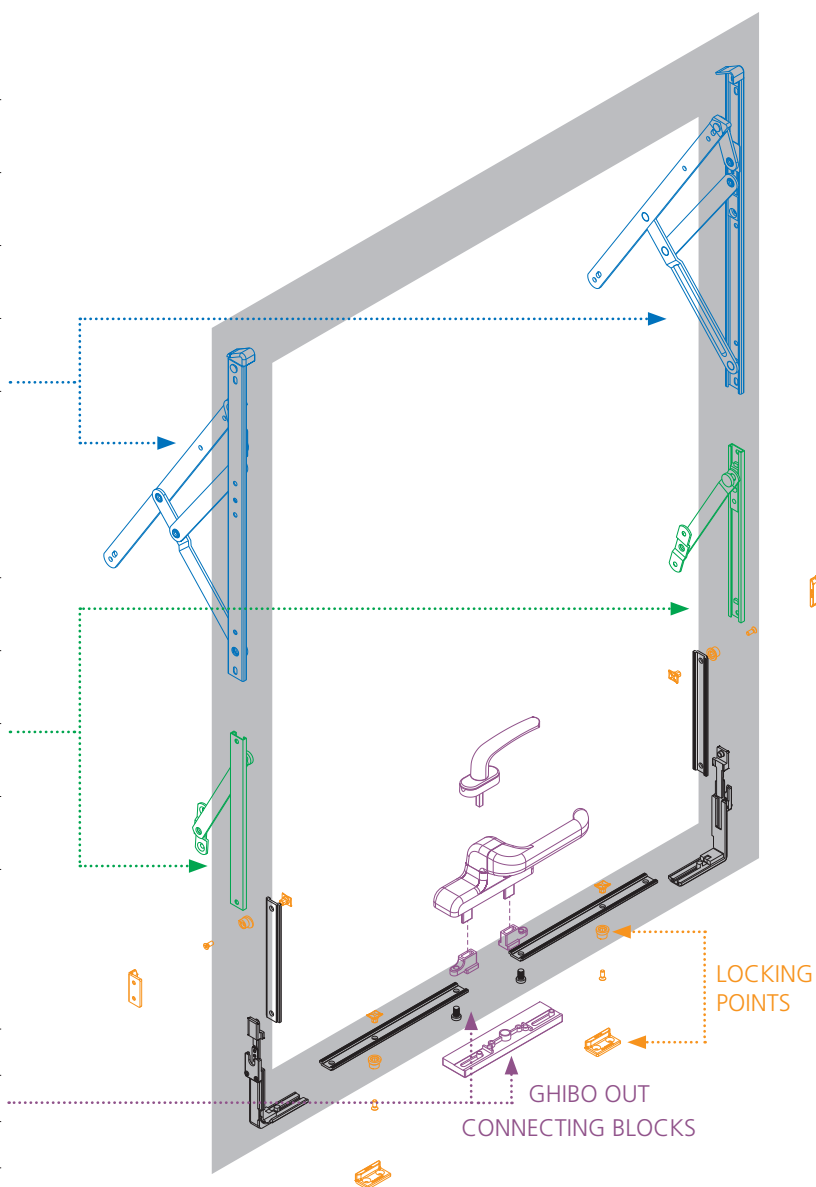
Limitation arms +

Limitation arms type L	Can be combined with GS HD arms type P and A
Limitation arms type LASER (*)	Can be combined with GS HD arms type P and A
Limitation arms type I	Can be combined with GS HD arms type P and A
Limitation arms type N	Can be combined with GS HD arms type M
Limitation arms type FRIZ	Can be combined with GS HD arms type P and A

Mechanisms +

Cremone Euro CW2	Two way	+ blocks
Cremone Unica CW2	Two way	+ blocks
Cremone Euro CW1	One way	Connection
Window handle Prima	One way	+ Ghibo

(*) certain products only



Outward Opening: Side-Hung Windows



Side-Hung arms +

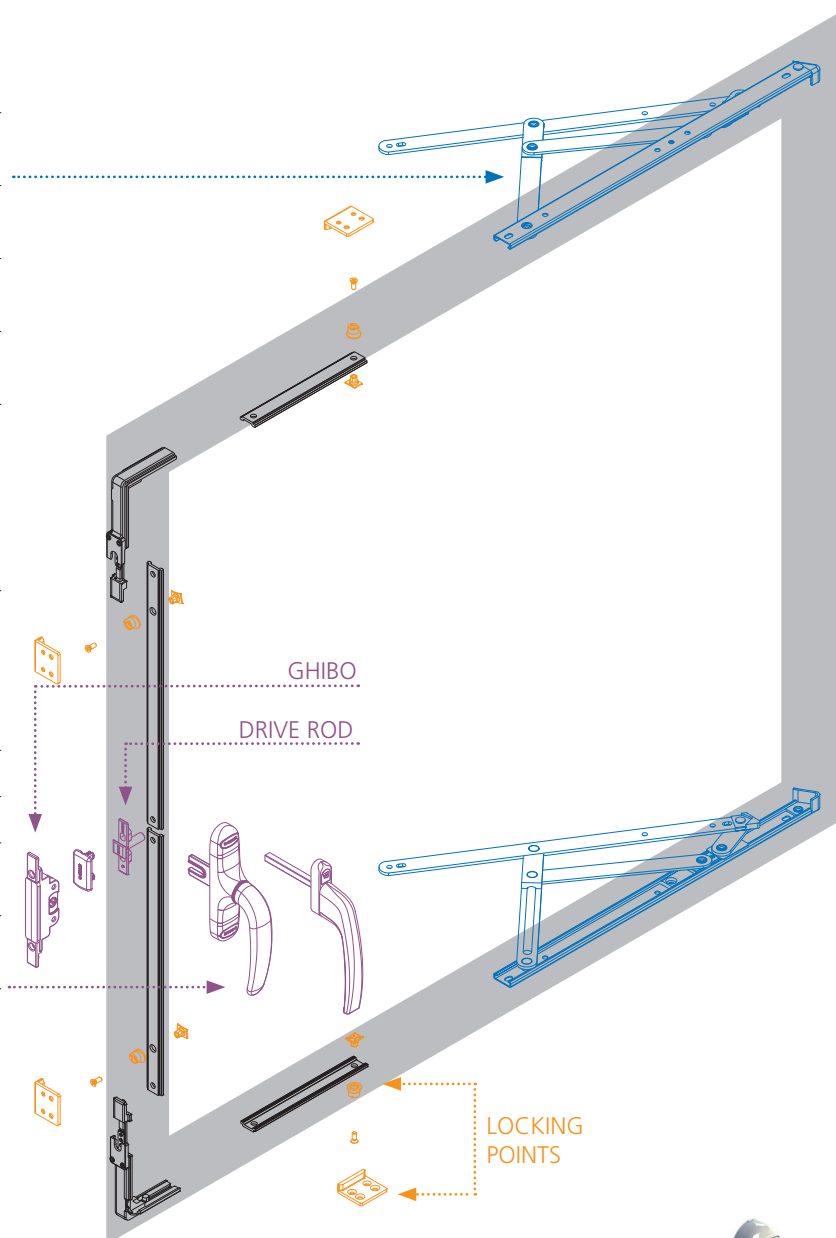
GS HD type C (5 products)	For sashes from 36 to 45 kg
GS HD type M (5 products)	For sashes from 15 to 21 kg
GS HD type A (5 products)	For sashes from 14 to 22 kg
GS HD Euro groove (2 products)	For sashes from 35 to 60 kg
GS HD type TS (4 products)	For sashes from 35 to 60 kg

Limitation arms +

Limitation arms type FRIZ	Can be combined with GS HD arms Type C
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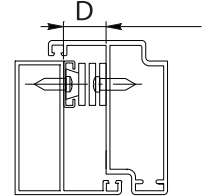
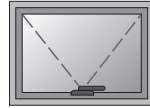
Mechanisms +

Unica Apex cremone	Two way	+ pins
Unica cremone	One way	+ drive rod
ASIA 0-90 cremone	One way	+ drive rod
Prima / bas window handle	Two way	+ ghibo out
Prima / bas window handle	One way	+ ghibo out



Outward Opening: Arms

GS HD type P +



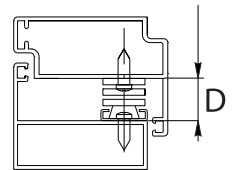
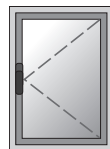
Tested according to standard BS 6375

Compatible with limitation arms:
GS HD type I / GS HD type L / GS HD type LASER / Friz
Friction adjustable using the grub screw on the slider.
Can be combined with the height adjustment device prod. 02006K (see page 14).

Description	Item code	Type of opening	Arm base width (mm)	Sash frame distance (mm)	Arm length (mm)	Max opening angle	Sash dimensions Top-Hung		
							Max height achievable (mm)	Max width achievable (mm)	Max weight achievable (kg)
GS HD – 10" type P	08534N	Top	23	16,5 +0,5	261	35°	700	1200	50
GS HD – 12" type P	08535N	Top	23	16,5 +0,5	317	30°/35°	800	1200	60
GS HD – 14" type P	08536N	Top	23	16,5 +0,5	353	30°/35°	1000	1300	69
GS HD – 16" type P	08537N	Top	23	16,5 +0,5	414	30°/35°	1200	1400	88
GS HD – 18" type P	08538N	Top	23	16,5 +0,5	458	25°/30°	1400	1400	102
GS HD – 20" type P	08539N	Top	23	16,5 +0,5	511	25°/30°	1600	1500	135
GS HD – 22" type P	08540N	Top	23	16,5 +0,5	556	20°/25°	1700	1500	137
GS HD – 24" type P	08541N	Top	23	16,5 +0,5	602	20°/25°	1800	1500	139
GS HD – 28" type P	08542N	Top	23	16,5 +0,5	707	10°/15°/20°	2000	1500	155
GS HD – 26" 180 type P	08348	Top	23	16,5 +0,5	690	20°	2000	1500	155
						7° (*)	2500 (*)	1700 (*)	180 (*)

(*) with limited opening to 7°

GS HD type C +

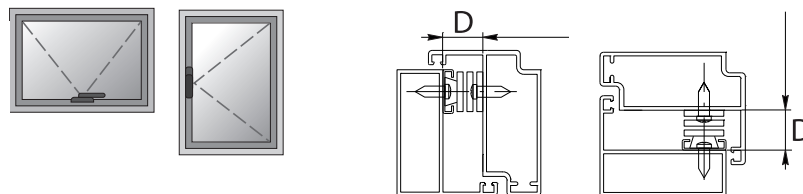


Tested cyclically according to European technical standard EN13126-6

Compatible with limitation arms: Friz
Friction adjustable using the grub screw on the slider.

Description	Item code	Type of opening	Arm base width (mm)	Sash frame distance (mm)	Arm length (mm)	Max opening angle	Sash dimensions Side-Hung		
							Max height (mm)	Max width (mm)	Max weight (kg)
GS HD – 10" type C	08147N	Side	23	15,5 +0,5	263	82°	1200	550	36
GS HD – 12" type C	08148N	Side	23	16,5 +0,5	313	85°	1200	600	38
GS HD – 14" type C	08149N	Side	23	16,5 +0,5	365	87°	1200	650	40
GS HD – 16" type C	08151N	Side	23	16,5 +0,5	414	87°	1200	700	42
GS HD – 18" type C	08152N	Side	23	16,5 +0,5	463	87°	1200	750	45
GS HD – 16" type C	08344	Side	23	16,5 +0,5	412	30°/50°/90°	1600	760	42
GS HD – 16" type C	08345	Side	23	16,5 +0,5	412	30°/50°/90°	1600	760	42
GS HD – 16" type C	08346	Side	23	16,5 +0,5	412	30°/50°/90°	1600	760	42

GS HD type M +

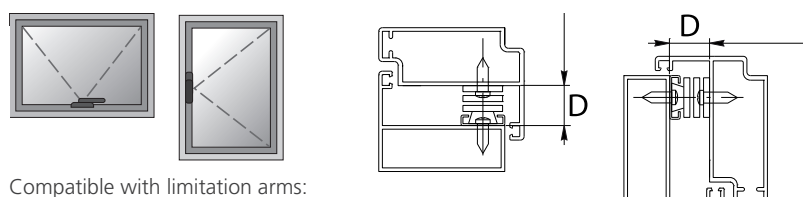


Tested cyclically according to European technical standard EN13126-6

Compatible with limitation arms: GS HD type N
Friction adjustable using the grub screw on the slider.

Description	Item code	Type of opening	Arm base width (mm)	Sash frame distance D (mm)	Arm length (mm)	Max opening angle	Sash dimensions Top-Hung			Sash dimensions Side-Hung		
							Max height (mm)	Max width (mm)	Max weight (kg)	Max height (mm)	Max width (mm)	Max weight (kg)
GS HD – 8" type M	08201	Top	18	13,5 +0,5	214	70°	350	1200	12	–	–	–
GS HD – 10" type M	08202	Top – Side	18	13,5 +0,5	270	87°	400	1200	16	1200	550	15
GS HD – 12" type M	08195	Top – Side	18	13,5 +0,5	310	87°	550	1200	20	1200	600	16
GS HD – 14" type M	08196	Top – Side	18	13,5 +0,5	358	87°	650	1200	22	1200	600	17
GS HD – 16" type M	08197	Top – Side	18	13,5 +0,5	412	87°	750	1200	24	1200	650	20
GS HD – 18" type M	08198	Top – Side	18	13,5 +0,5	459	87°	850	1200	26	1200	650	21
GS HD – 20" type M	08193	Top	18	13,5 +0,5	512	40°	1000	1200	28	–	–	–
GS HD – 24" type M	08194	Top	18	13,5 +0,5	615	40°	1100	1200	35	–	–	–

GS HD type A +



Tested cyclically according to European technical standard EN13126-6

Compatible with limitation arms: GS HD type I / GS HD type L / GS HD type LASER / Friz
Friction adjustable using the grub screw on the slider. On Top-Hung they can be combined with the height adjustment device prod. 02007 (see page 14).

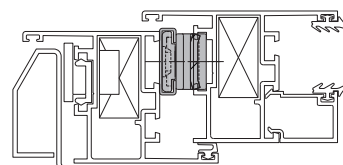
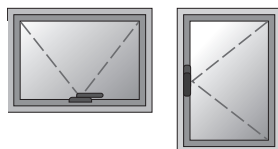
Description	Item code	Type of opening	Arm base width (mm)	Sash frame distance D (mm)	Arm length (mm)	Max opening angle	Sash dimensions Top-Hung			Sash dimensions Side-Hung		
							Max height (mm)	Max width (mm)	Max weight (kg)	Max height (mm)	Max width (mm)	Max weight (kg)
GS HD – 10" type A	08127N	Top – Side	18	15,5 +0,5	261	84°	400	1200	16	1200	550	14
GS HD – 12" type A	08128N	Top – Side	18	15,5 +0,5	305	85°	550	1200	18	1200	600	16
GS HD – 14" type A	08129N	Top – Side	18	15,5 +0,5	351	87°	650	1200	20	1200	600	18
GS HD – 16" type A	08130N	Top – Side	18	15,5 +0,5	407	87°	750	1200	21	1200	600	20
GS HD – 18" type A	08131N	Top – Side	18	15,5 +0,5	457	87°	850	1200	24	1200	650	22
GS HD – 20" type A	08132N	Top	18	15,5 +0,5	513	42°	1000	1200	27	–	–	–
GS HD – 22" type A	08133N	Top	18	15,5 +0,5	563	40°	1100	1200	30	–	–	–
GS HD – 24" type A	08134N	Top	18	15,5 +0,5	614	40°	1200	1200	32	–	–	–

Outward Opening: Arms

GS HD type Euro groove +



Tested cyclically according to European technical standard EN13126-6

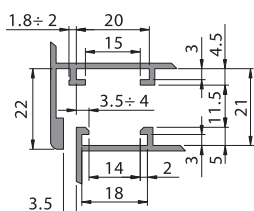


GS HD Euro groove arms are ideal for standard Euro groove systems with a sash frame distance of 11,5 mm and channel 15-20 mm on the sash.

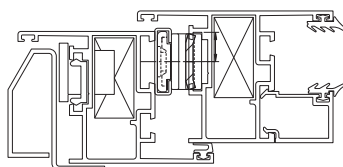
GS HD arms position themselves in the 15-20 channel of the sash while ensuring fast and accurate positioning for the window maker. They are compatible with the Friz limitation arms for Euro Groove prod. 02030 (Side-Hung) and with the laser arms prod. 01954/55 (Top-Hung).

Description	Item code (**)	Arm length (mm)	Sash dimensions Top-Hung				Sash dimensions Side-Hung			
			Max opening angle	Max height (mm)	Max width (mm)	Max weight (kg)	Max opening angle	Max height (mm)	Max width (mm)	Max weight (kg)
GS HD – Top / Side-Hung 10" Euro Groove	08349	259	50°	650	1500	50	50° 84° (*)	1500	650	35
GS HD – Top / Side-Hung 16" Euro Groove	08350	412	30° 50°	800	1500	100 55	30° 50°/90° (*)	1600	700	60 42
GS HD – Top / Side-Hung 2" Euro Groove	08351	567	20° 45°	1500	1700	100 80		–		
GS HD – Top / Side-Hung 28" Euro Groove	08352	711	15°	2000	1700	100		–		

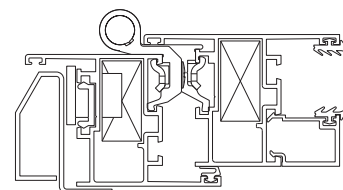
(*) for window cleaning only. (**) only for US market the codes of the Euro groove arms in the table must be replaced by codes 08359 / 08360 / 08361 / 08362.



Specific dimensions Euro groove system



Euro groove profile with arm installed

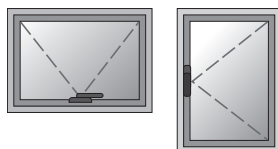


Euro groove profile with flash base hinge installed

GS HD type TS +



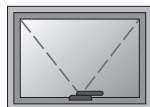
Tested cyclically according to standard AAMA 904-09



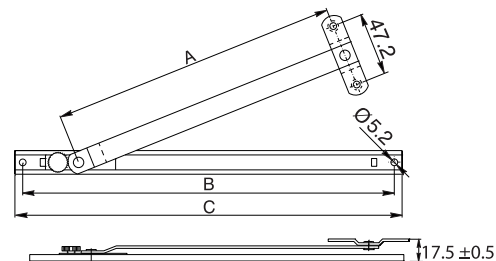
Description	Item code	Arm length (mm)	Sash frame distance (mm)	Loose rivet	Sash dimensions Top-Hung				Sash dimensions Side-Hung			
					Max opening angle	Max height (mm)	Max width (mm)	Max weight (kg)	Max opening angle	Max height (mm)	Max width (mm)	Max weight (kg)
GS HD – 10" type TS	08340	259	16,5	No	50°	660	1500	50	50°/84°	1500	660	35
GS HD – 10" type TS – L/R	08341	259	16,5	Yes	50°	660	1500	50	50°/84°	1500	660	35
GS HD – 16" type TS	08342	412	16,5	No	30° 50°	800	1500	100 55	50°/90° 30°	1600	760 700	42 60
GS HD – 16" type TS – L/R	08343	412	16,5	Yes	30° 50°	800	1500	100 55	30°/50°/90° 30°	1600	760 700	42 60

Outward Opening: Limitation Arms

GS HD type I +

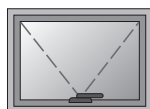
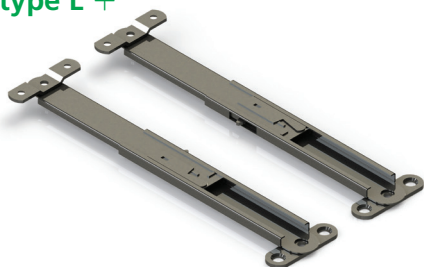


Compatible with arms:
GS HD type A
GS HD type P

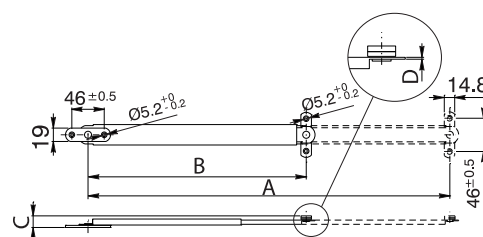


Description	Item code	Type of opening	A (mm)	B (mm)	C (mm)
Limitation arm – 8,5" type I	08123	Top	140	205	217
Limitation arm – 10,5" type I	08124	Top	191	256	268
Limitation arm – 12" type I	08177	Top	221	286	298
Limitation arm – 14" type I	08178	Top	267	332	244
Limitation arm – 16" type I	08179	Top	318	388	400
Limitation arm – 18" type I	08183	Top	365	435	447

GS HD type L +

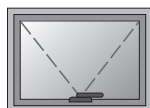


Compatible with arms:
GS HD type A
GS HD type P

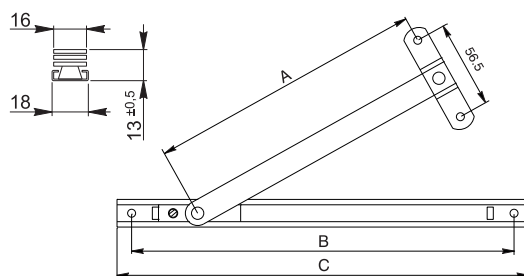


Description	Item code	Type of opening	A (mm)	B (mm)	C (mm)	D (mm)
Limitation arm – 8" type L	08184	Top	205	155	16,5	1,2
Limitation arm – 10" type L	08185	Top	255	180	16,5	1,2
Limitation arm – 12" type L	08186	Top	305	205	16,5	1,2
Limitation arm – 14" type L	08187	Top	355	230	16,5	1,2
Limitation arm – 16" type L	08188	Top	406	257	16,5	1,2
Limitation arm – 20" type L	08189	Top	515	310	16,5	1,2

GS HD type N +



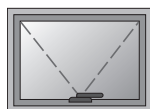
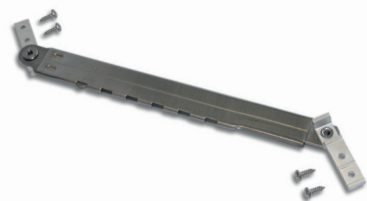
Compatible with arms:
GS HD type M



Description	Item code	Type of opening	A (mm)	B (mm)	C (mm)
Limitation arm – 10,5" type N	08199	Top	180	249	268
Limitation arm – 16" type N	08200	Top	314	381	400

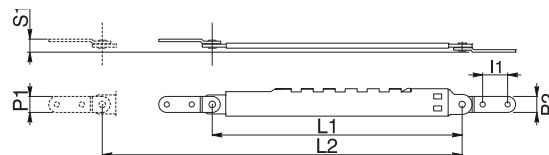
Outward Opening: Limitation Arms

GS HD type laser +



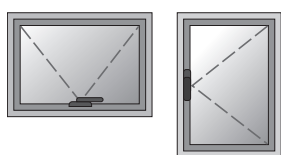
The LASER limitation arm is telescopic and features 5 catches enabling different sash opening positions.

Compatible with arms: Top-Hung according to distance S1

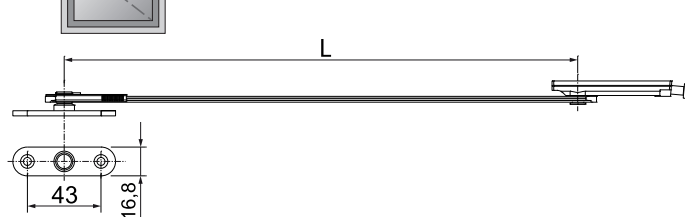


Description	Item code	Type of opening	Applicable in combination with	Material	No. positions	Type of fixing	P1 mm	P2 mm	L1 mm	L2 mm	I1 mm	S1 mm
Laser arm	01950	Top	Hinges	Stainless steel (austenitic) AISI 304	5	Self-threading	14,8	11,8	250	360	15	28
Laser arm	01951	Top	Universal	Stainless steel (austenitic) AISI 304	1	Self-threading	16	16	155	186	20,5	13,5
Laser arm	01952	Top	Hinges	Stainless steel (austenitic) AISI 304	5	Self-threading	15	15	250	360	15	34
Laser arm	01954	Top	Hinges, Euro groove arms	Stainless steel (austenitic) AISI 304	5	Self-threading	13,4	13,4	250	360	15	23
Laser arm	01955	Top	Hinges, Euro groove arms	Galvanised steel	5	Self-threading	13,4	13,4	250	360	15	23
Laser arm	01956	Top	Hinges	Stainless steel (austenitic) AISI 304	5	Contrast grub screw	-	-	250	360	-	24
Laser arm – Q	01959	Top	Universal	Stainless steel (austenitic) AISI 304	5	Self-threading	16	16	250	360	23	13
Laser arm	01960	Top	Universal	Stainless steel (austenitic) AISI 304	5	Self-threading	16	16	250	360	20	16,5
Laser arm	01961	Top	Universal	Galvanised steel	5	Self-threading	16	16	250	360	20	16,5

Detachable limitation arms type Friz +



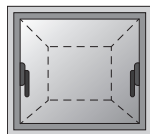
The FRIZ limitation arm is detachable to enable positioning the sash at maximum opening. The arm is also friction adjustable to adjust the force required for opening the sash.



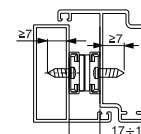
Description	Item code	Type of opening	Applicable in combination with Top-Hung arms	Rod length L (mm)
Friz arm	02036	Top – Side	Type A – Type P – Type C	300
Friz arm	02037	Top – Side	Type A – Type P – Type C	140
Friz arm	02030K	Top – Side	Euro groove arms	300
Friz arm	02031K	Top – Side	Euro groove arms	300

Parallel Opening: Arms and Mechanisms

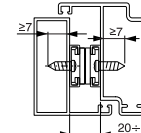
Parallel arms +



It is possible to combine single cross arms with double-cross arms when the arm thickness is the same.
For sashes weighing more than 60 kg or sized greater than 1250 x 1250 mm it is required to use a sash opening and closing system that uses automations (see page 29).



Single and double parallel arm
16,9 mm



Single and double parallel arm
20 mm

Description	Item code	Sash frame distance (mm)	Arm length (mm)	Max opening (mm)	Max height (mm)	Max width (mm)	Max weight (kg)
Parallel arm 16,9	0199001	16,9 +1/-0	470	180	1000	1000	100
Double parallel arm 16,9	0199101		940	180	2000	2000	200
Parallel arm 20	0199201	20 +1/-0	470	180	1000	1000	100
Double parallel arm 20	0199301		940	180	2000	2000	200



Mechanisms for parallel opening: CW bar with cremones +

Item code	Description	Quantity
04100V	Cremones mechanism	2 pcs
04135	Cremones cover	2 pcs
04159	Handles	1 pc (pair)
07843 / 07844 / 07845	Bar (950 / 1150 / 1450 mm)	1 pc



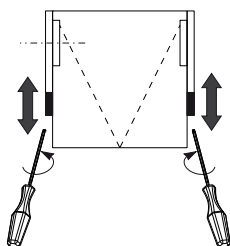
Mechanisms for parallel opening: CW bar with window handles +

Item code	Description	Quantity
04126	Window handle mechanism	2 pcs
04142	Window handle cover	2 pcs
04159	Handles	1 pc (pair)
07843 / 07844 / 07845	Bar (950 / 1150 / 1450 mm)	1 pc

Top-Hung Outward Opening: Hardware for Arms

Top-Hung arms adjustment devices +

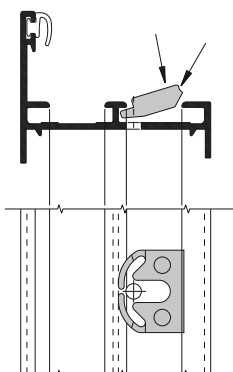
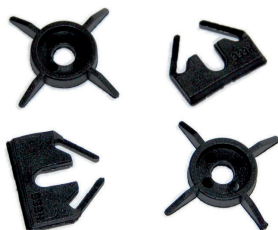
Fitted on GS HD arms (suitably prepared) they enable height adjustment for the Top-Hung sash.



Description	Item code	Applicable on
Height adjustment device for GS HD – CP arms (22/23)	02006K	GS HD arms type P
Height adjustment device for GS HD – CP arms (18)	02007	GS HD arms type A

Shims for Top-Hung arms +

Hardware that allows quick installation and adjustment of the range of Top-Hung arms.

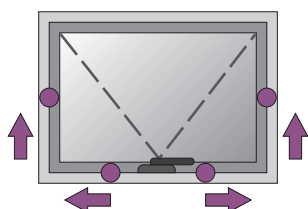


Description	Item code	Notes
Polyamide filling shim	01971	for 14/18 channel (frame)
Polyamide filling shim	01974	for 15/20 channel (sash)



Outward Opening: Top-Hung Fastening Components

Two way



Euro CW2
cremone

B.P. 005
 376
 410
 430
 500
 + other RAL

Also
with
key



Unica CW2
cremone

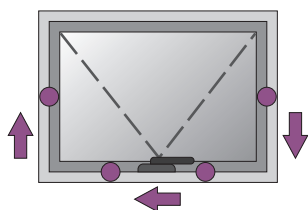
B.P. 005
 376
 410
 430
 500
 + other RAL

Top-Hung two way fasteners with cremone

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
05007...	Euro CW2 reversible cremone			
05007...1	Euro CW2 cremone – right			
05007...2	Euro CW2 cremone – left		104 – 98 – 84	
05008...	Euro CW2 KEY cremone – reversible	Two way 18 mm		Connecting blocks 02236 / 02262 / 02194
05008...1	Euro CW2 KEY cremone – right			
01170...1	Unica CW2 cremone – right		104	
01170...2	Unica CW2 cremone – left			

Item code	Description	Height (mm)	Compatibility
02236		18	
02262	Connecting block	15	Two way cremones 05007 / 05008 / 01170
02194		12	

One way



Euro CW1 cremone

- B.P. 005
- 376
- 410
- 430
- 500
- + other RAL




Prima window handle


- 376
- 410
- 430
- 500
- + other RAL


TREND

Top-Hung one way fasteners with cremone

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility	
	05006...	Euro CW1 Cremone – reversible			
	05006...1	Euro CW1 Cremone – right	One way 18 mm	104 – 98 – 84	Slider directly connected with the rod
	05006...2	Euro CW1 Cremone – left			

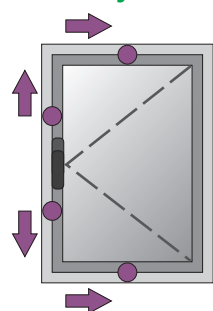
Top-Hung one way fasteners with window handle

Item code	Description	Square spindle length (mm)	C/C distance (mm)	Compatibility	
	02484...	Prima window handle	35	43	Mechanism GHIBO CW1 02013

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility	
	02013	GHIBO CW1 mechanism	One way 26 mm	43	02484 and other window handles Evo design line

Outward Opening: Side-Hung Fastening Components

Two way



Unica Apex cremone

B.P. 005
 376
 410
 430
 500
 + other RAL

TREND



Bas window handle

376
 410
 430
 500
 + other RAL




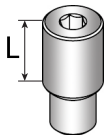
Prima window handle

376
 410
 430
 500
 + other RAL


TREND


Side-Hung two way fasteners with cremone

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
 01154...001	Unica Apex cremone	Two way 18 mm	104	Requires the use of 2 pins: 02251K / 02252K / 02253K / 02254K / 02255K

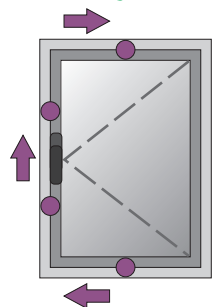
Item code	Description	Pin length (mm)	Adjuster key
	02251K	L = 10	Hexagonal
	02252K	L = 13	
	02253K	L = 16	
	02254K	L = 24	
	02255K	L = 20	

Side-Hung two way fasteners window handle

Item code	Description	Square spindle length (mm)	C/C distance (mm)	Compatibility
	02491...	70	43	Mechanisms with square housing 7 mm
	02484...	35		

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
	04094	Two way 17 mm	43	Window handles with square pin 7 mm
	04093	Two way 18 mm	43	

One way



Unica Apex
cremone

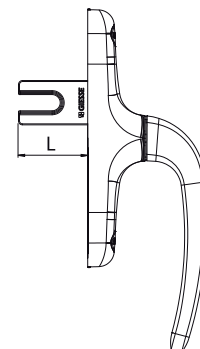
- B.P. 005
- 376
- 410
- 430
- 500
- + other RAL

TREND





Asia Outward
cremone


- B.P. 005
- 376
- 410
- 430
- 500
- + other RAL



Side-Hung one way fasteners with cremone

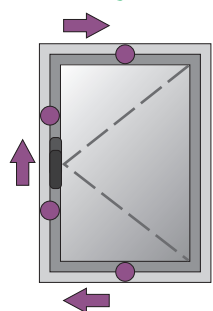
Item code	Description	Drive rod length (mm)	C/C distance (mm)	Compatibility
	01164...N	L = 35	104	To be combined with prod. 04091 / 04097001 / 04098001 / 04099001
	01165...N	L = 20		
	01166...N	L = 45		
	01173...N	L = 55		

Item code	Description	Drive rod length (mm)	C/C distance (mm)	Compatibility
	01077	-	70	To be combined with outward opening kit Asia 0-90 + rod drive rod
	02495	L = 20	-	Cremone 01077
	02496	L = 28		
	02497	L = 35		
	02498	L = 45		
	02499	L = 55		

Item code	Description	Drive rod length (mm)	C/C distance (mm)	Compatibility
	04098001	L = 9,5	-	For 15/20 channel
	04099001	L = 18,5	-	
	04097001	L = 26	-	For R40 channel
	04091	Rod drive (steel)	L = 40	-

Outward Opening: Side-Hung Mechanism Components

One way



Bas window handle

376
 410
 430
 500
 + other RAL



Prima window handle

376
 410
 430
 500
 + other RAL


TREND





Plates



B.P. 005
 376
 410
 430
 500


Side-Hung one way fasteners with window handle and lock

Item code	Description	Pin length (mm)	C/C distance (mm)	Compatibility
	02491... Bas window handle 02484... Prima window handle	70 35	43	Mechanisms with square housing 7 mm

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
	04082 GHIPO OUT mech. Back Set 22	One way 18 mm	43	Window handles with 7 mm square pin and locks
	04083 GHIPO OUT mech. Back Set 27			
	04084 GHIPO OUT mech. Back Set 32			

Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
	04086 GHIPO OUT KEY lock Back Set 22	-	63	Mechanism 04082 compatible with European cylinders
	04087 GHIPO OUT KEY lock Back Set 27			Mechanism 04083 compatible with European cylinders
	04088 GHIPO OUT KEY lock Back Set 32			Mechanism 04084 compatible with European cylinders

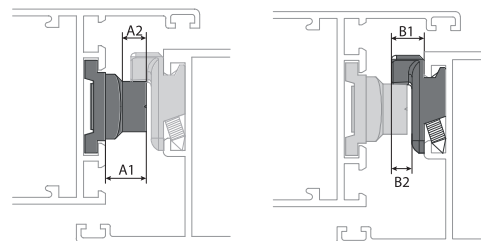
Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
	04095... IN&OUT cylinder cover plate	-	63	Ghibo locks
	04096... IN cylinder cover plate	-	63	Ghibo locks

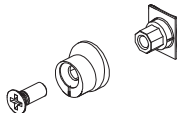
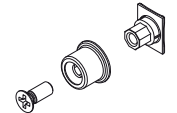
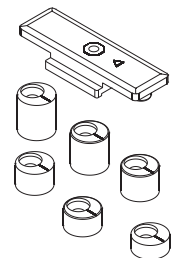
Item code	Description	Type of stroke	C/C distance (mm)	Compatibility
	04089 Gear box M180 with incorrect safety device Back set 30 mm	One way 36 mm	43	Window handles with 7 mm square pin

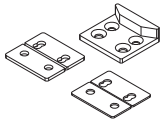
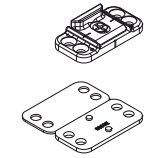
Outward Opening: Standard Locking Points

The locking point consists of a striker on the frame and a pawl on the rod that runs in the sash channel.

Giesse offers different solutions depending on the geometry of the system used.



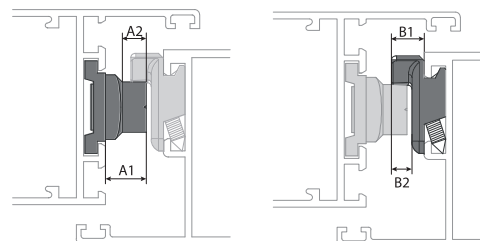
	Description	Item code	Material	Type of sash	Adjustment (mm)	Height from rod face A1 (mm)	Useful pawl height A2 (mm)	
Sash pawl	 Adjustable pawl	04030K	Zamak	R40 and 15/20 channel	-1,2	8,5	5	
	 Fixed pawl	04027K	Zamak	R40 and 15/20 channel	-	8,5	7	
	 Base with 6 pawls		04682K	Zamak	Sash 15/20 channel	±1,5	15,7	12,7
						±1,8	13,3	10,3
						±1,8	12,3	9,3
						±1,5	11,7	8,7
		±1,5				10	7	
		±1,5	7,7	4,7				

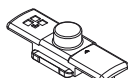
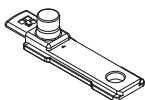
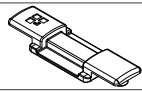
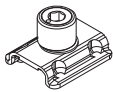
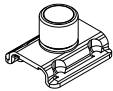
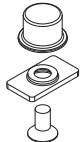
	Description	Item code	Material	Frame type	Adjustment (mm)	Height from frame face B1 (mm)	Useful retainer height B2 (mm)	Note
Frame striker	 Fixed striker	01266K	Zamak	Flat frame	-	9,5	6,5	With shims for height adjustment
		01267K	Zamak	Flat frame	-	10,5	7	
		01268K	Zamak	Frame with step	-	8,3	4,8	
		01343K	Zamak	Frame 14/18	-	6,7	4,2	
	 Adjustable striker	01269K	Zamak	Flat frame	±1,8	10,7	5,2	With shims for height adjustment
		01362K	Zamak	Frame 14/18	±1,8	7,7	5,2	

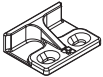
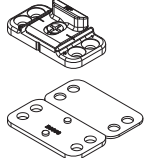
Outward Opening: HP Locking Points



HP locking points feature extraordinary tensile strength. They are ideal for applications that require a particular fastener, for example in extremely tall buildings where the openings need to withstand both positive and negative high wind pressure.

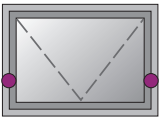
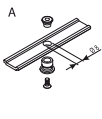
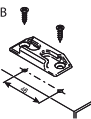


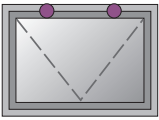


	Description	Item code	Material	Type of channel	Adjustment (mm)	Height from rod face A1 (mm)	Useful pawl height A2 (mm)
Sash pawl		04047K	Zamak	15/20 channel	–	8	4,7
		04662K	Zamak	15/20 channel	–	13	5,5
		04664K	Zamak	15/20 channel	–	8	4,7
		04663K	Zamak	15/20 channel	–	13	5,5
		01399	Zamak	15/20 channel	–	–	–
		01394	Stainless steel	15/20 channel	±0,75	10,5	8
		01395	Stainless steel	15/20 channel	±0,75	8	5,5
		04054	Stainless steel	15/20 channel	–	10,5	8
		04052	Stainless steel	15/20 channel	–	8	5,5
		04050	Stainless steel	R40 and 15/20 channel	–	7,8	6,4
04066		Stainless steel	R40 and 15/20 channel	–	10,5	9,2	

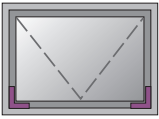

	Description	Item code	Material	Frame type	Adjustment (mm)	Height from frame face B1 (mm)	Useful retainer height B2 (mm)
Frame striker		01393	Zamak	Flat	–	11,5	10
		01213	Zamak	Flat	–	12	8,5
		01214	Zamak	Flat	–	14	10,5
		01396	Zamak	14/18 channel	±1,8	11,7	9,2
		01280	Zamak	Flat	±1,8	12,5	6

Outward Opening: Other Products

Multi lock items

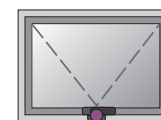
Description	Item code	Note	Sash frame distance (mm)	Adjustment (mm)
   Anti burglar / anti typhoon	04041K	–	Profile cross section 16,5 ±0,5	–


   Fastening element	01374K	–	Profile cross section 16,5 +3	±5
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Description	Item code	Note	Applicable on	Stroke
  Corner drive	04019K	Fixing with clips	15/20 channel	40
	04020K	Fixing with grub screws	15/20 channel	40


Mechanism components with single locking point

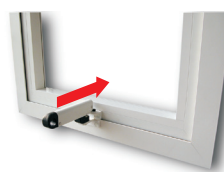
Bravo flat handle



Description	Item code	Design	Step	Finish
 Bravo 1 flat handle	01650N	Euro line	6,5-7-8	410, 430, 500 + other RAL
	01651N	Euro line	4-5	
	01652N	Euro line	0 mm – internal flush	
Bravo 2 flat handle	01640N	Prima line	6,5-7-8	
	01641N	Prima line	4-5	
	01642N	Prima line	0 mm – internal flush	

Ombu arm

Description	Item code	Arm length (mm)	Maximum opening (mm)	Finish
 Short Ombu arm	00889N	160	172	410, 412, 415, 372, 500 + other RAL
Long Ombu arm	00890N	224	300	



Outward Opening: **OS Operator 2.0**

Patented in 2009

OS Operator is the revolutionary outward opening mechanism that combines extreme functionality, renewed styling and high levels of performance.

OS Operator combines all these features with its applicability even to small windows, to meet the needs of different markets.

OS Operator is the only operator that, thanks to the positioning of the cremone on the frame, enables fitting internal and integral mosquito netting panels.

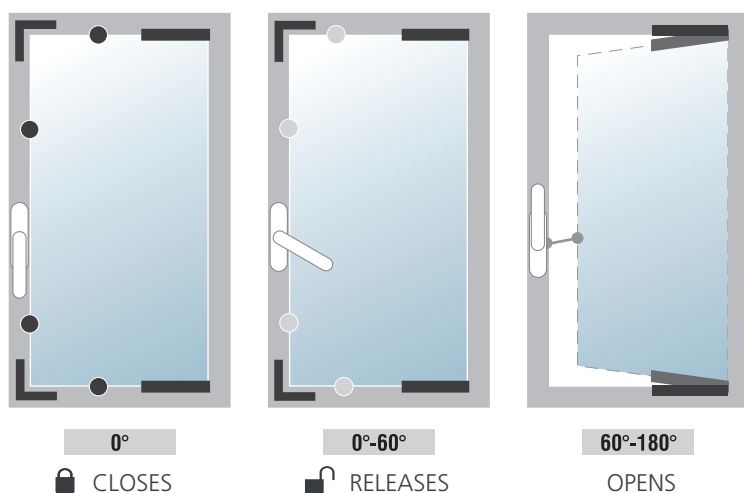
OS Operator 2,0 is the mechanism that features multilocking as standard. With a simple 180° movement of the cremone you can open and close the sash, disengaging multiple locking points simultaneously.

OS Operator is the perfect solution for both Top-Hung and Side-Hung windows.

With OS Operator three functions are combined in a single fastening solution: by simply turning the handle of the cremone you open and close the sash, even with multiple locking points, with opening limited to the length of the arm of the OS mechanism.



At 0° of cremone rotation the window is closed and the locking points are engaged. On turning the cremone to 60°, the locking points are released and during the next 120° of movement the mechanism pushes the sash to maximum opening (according to the length of the OS arm).



System design for the OS Operator

OS Operator was designed simultaneously with the window profile housing it, in order to be able to get the best performance and functionality from the set of the hardware plus profile. OS Operator requires a specific type of profile cross section.

Information and assistance about possible applications at Giesse Technical Assistance.

Dimensions

The size limit of the windows to be able to install OS Operator depends on many factors, such as the type of arms used, the type of glass, the specific wind resistance requirements.

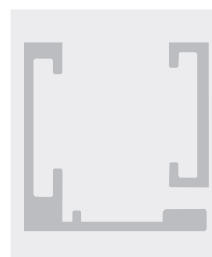
The minimum size is related to the number and location of the locking points.

Mechanisms

OS Operator is combined with a specific cremone, available with different handle lengths, optionally with key and with removable handle.

Test results

OS Operator has successfully passed 15,000 cycles with both the Top-Hung and Side-Hung type, to AAMA test specifications.

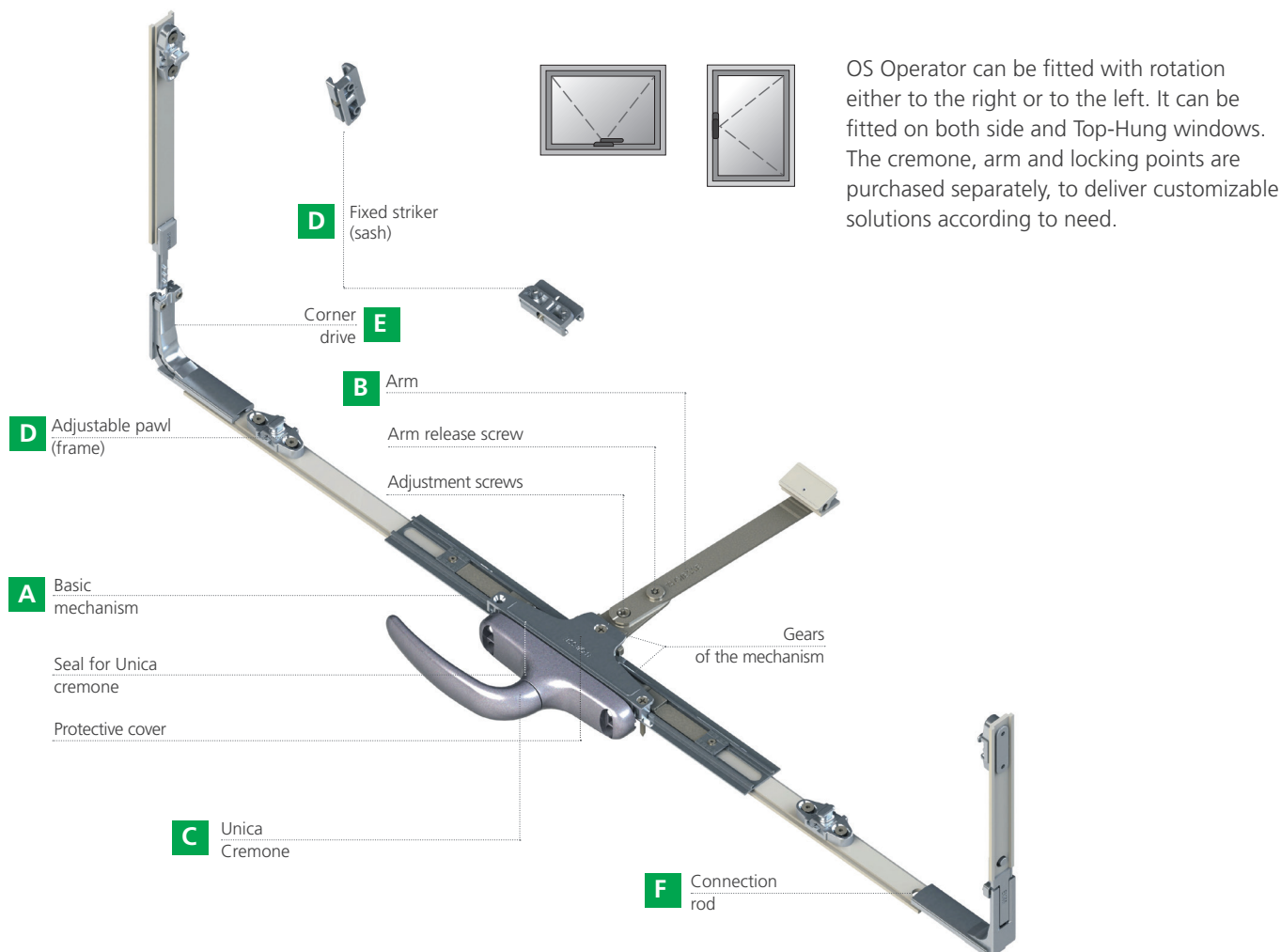


- 372
- 410
- 430
- 500
- + other RAL



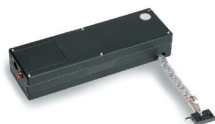
Outward Opening: OS Operator 2.0

	Description	Item code	Mechanism length (mm)	Mechanism length (inches)	
A	Mechanism	OS Operator 2.0 basic mechanism	02009	317	12,480
	Description	Item code	Arm length (mm)	Arm length (inches)	
B	Arm	OS Operator arm – polyamide – 172	02054	172	6 ³ / ₄
		OS Operator arm – polyamide – 152	02055	152	6
		OS Operator arm – aluminium – 172	02064	172	6 ³ / ₄
		OS Operator arm – aluminium – 152	02065	152	6
	Description	Item code	Handle length (mm)	Handle length (inches)	
C	Cremona	Unica cremone	01171...	120	4 ²³ / ₃₂
		Unica key cremone	01172...	120	4 ²³ / ₃₂
		Long handle cremone	01128...	172	6 ²⁵ / ₃₂
		Unica away cremone	01127...	–	–
		Handle for unica away	01129...	172	6 ²⁵ / ₃₂
D	Locking point	Pawl + striker	02067		
E	Corner drive	Corner drive	02066		
F	Connection rod	Roll, for 15/20 channel	03524590N (black)	200 m roll	656,17 ft roll
		Roll, for 15/20 channel	03524542N (grey)	200 m roll	656,17 ft roll
Other products	Seal for unica cremone	06951			
	Tools for fixing OS Operator	02003			



Automations: Chain Actuators

The range of chain actuators Varia is the perfect answer to the needs of automated applications in bottom-hung, Top-Hung, pivoting and skylights windows. The unique design makes it ideal for both residential and industrial applications. Varia Slim Plus RWA is the optimal solution for the smoke and heat evacuation systems. Varia Slim is also available in "Syncro" version, which allows to have 2 or more thrust points in a single window.



Varia
230 V ac
24 V dc



Varia Slim Base
230 V ac
24 V dc



Varia Slim
230 V ac
24 V dc



Varia Slim Plus
230 V ac
24 V dc RWA



Varia Slim Small
24 V dc RWA

Rod operators

The rod operators are particularly suitable for the automation of windows that require high reliability and resistance to high loads. They are ideal to sheds, skylights, Top-Hung and vertical sunblinds. They are characterized by speed, low noise and extreme versatility in applications.



Five
230 V ac



ST 450
230 V ac

Rack operators

LC rack operators are ideal for moving Top-Hung, sheds, skylights, domes, vertical sunblinds and sliding doors (speed version). LC is available with different strokes with thrust force up to 800 N (lengths up to 550 mm) and with the possibility to realize a second thrust point. The LC FIRE version is the optimal solution for smoke and heat evacuation systems.



LC
230 V ac
24 V dc



LC Inox
230 V ac
24 V dc










LC Fire
24 V dc RWA



LC Speed
230 V ac
24 V dc

Outward Opening: Materials, Standards and Finishes

Materials and standards

Arm type	Top-Hung max load capacity	Side-Hung max load capacity	Material	Standard	
GS HD type P	For sashes from 50 to 180 kg	–	Stainless steel AISI 304 (austenitic)	Tested to BS 6375 Tested cyclically according to European Technical Standard EN13126-6	
GS HD type M	For sashes from 12 to 35 kg	For sashes from 15 to 21 kg	Stainless steel AISI 304 (austenitic)	Tested cyclically according to European Technical Standard EN13126-6	
GS HD type A	For sashes from 16 to 32 kg	For sashes from 14 to 22 kg	Stainless steel AISI 304 (austenitic)	Tested cyclically according to European Technical Standard EN13126-6	
GS HD type C	–	For sashes from 36 to 45 kg	Stainless steel AISI 304 (austenitic)	Tested cyclically according to European Technical Standard EN13126-6	
GS HD Euro Groove	For sashes from 50 to 100 kg	For sashes from 35 to 60 kg	Stainless steel AISI 304 (austenitic)	Tested cyclically according to European Technical Standard EN13126-6	
GS HD type TS	For sashes from 50 to 100 kg	For sashes from 35 to 60 kg	Stainless steel AISI 304 (austenitic)	Tested cyclically according to Standard AAMA 904-09	
Parallel arms	For sashes of up to 100 kg (single) For sashes of up to 200 kg (double)		Stainless steel AISI 304 (austenitic)	Tested cyclically according to European Technical Standard EN13126-6	

Arm type	Can be combined with	Material
Limitation arms type L	Can be combined with GS HD arms type P and A	AISI 304 stainless steel (austenitic)
Limitation arms type LASER (*)	Can be combined with GS HD arms type P and A	See table on page 12 for availability details
Limitation arms type I	Can be combined with GS HD arms type P and A	AISI 304 stainless steel (austenitic)
Limitation arms type N	Can be combined with GS HD arms type M	AISI 304 stainless steel (austenitic)
Limitation arms type FRIZ	Can be combined with GS HD arms type P and A	Zamak with GS silver plus finish

(*) certain products only.

Finishes

All Giesse products are treated and painted in the in house plant, which is almost completely robotic, using exclusively thermosetting powder paints that are neither toxic nor harmful, and are therefore non polluting and ecological (TGIC free).

Giesse finishes feature high corrosion resistance. Over 240 hours of resistance to exposure to salt spray in accordance with EN 1670 (Class 4) corrosion testing. Each product is subjected to the best possible surface treatment, thus ensuring maximum protection in accordance with the industry's performance standards. This is with the aim of safeguarding perfect maintenance for the components in view, such as hinges, cremones, window handles and handles.



NickelSat



CromoSat



Bronze



Silver



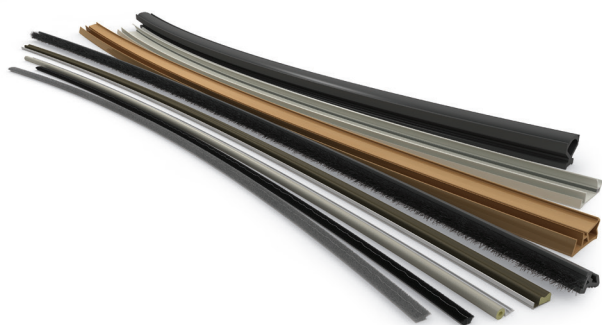
Gold

TREND

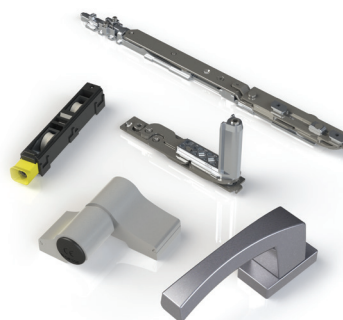


High end finishes for designer windows

ENGINEERED COMPONENTS FOR THE FENESTRATION INDUSTRY



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Giesse Hardware Systems

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