

# flexiforce<sup>FF</sup>

## DRUM SPECS

### FF05NL8

### NORMAL LIFT

Maximum opening height	2,500 mm
Maximum door weight	240 kg
Maximum cable diameter	3.00 mm
Shaft diameter	25.40 mm
No key way	

#### **Length of the cable wraps with 3 mm:**

Number of safety wraps	0.50
Cable capacity of safety wraps	181 mm
High moment (torque) arm	57.70 mm
Number of spiral wraps	1.45
Cable capacity of spiral wraps	501 mm
Rate of rise per wrap	3.72 mm
Number of flat wraps	6.08
Cable capacity of flat wraps	1,999 mm
Flat moment (torque) arm	52.30 mm
Total wraps	8.03
Total cable capacity	2,681 mm
Circumference flat part	329 mm
Maximum outside diameter	120 mm
Maximum width at shaft	42 mm
Locking bolt under angle from the side	3/8"-16x1"

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	240 mm
With end stops, size from floor to shaft center plus:	180 mm
Weight per pair	0.5 kg kg

# flexiforce<sup>FF</sup>

## DRUM SPECS

### FF05NL8E

### NORMAL LIFT

Maximum opening height	2,500 mm
Maximum door weight	240 kg
Maximum cable diameter	3.00 mm
Shaft diameter	25.40 mm
No key way	

#### **Length of the cable wraps with 3 mm:**

Number of safety wraps	0.50
Cable capacity of safety wraps	181 mm
High moment (torque) arm	57.70 mm
Number of spiral wraps	1.45
Cable capacity of spiral wraps	501 mm
Rate of rise per wrap	3.72 mm
Number of flat wraps	6.08
Cable capacity of flat wraps	1,999 mm
Flat moment (torque) arm	52.30 mm
Total wraps	8.03
Total cable capacity	2,681 mm
Circumference flat part	329 mm
Maximum outside diameter	120 mm
Maximum width at shaft	42 mm
Locking bolt radial (acc. DIN 916)	M8x20

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	240 mm
With end stops, size from floor to shaft center plus:	180 mm
Weight per pair	0.4 kg kg

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## FF05NL12

## NORMAL LIFT

Maximum opening height	3,730 mm
Maximum door weight	340 kg
Maximum cable diameter	4.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 4 mm:**

Number of safety wraps	0.50
Cable capacity of safety wraps	183 mm
High moment (torque) arm	58.30 mm
Number of spiral wraps	0.75
Cable capacity of spiral wraps	262 mm
Rate of rise per wrap	7.47 mm
Number of flat wraps	10.50
Cable capacity of flat wraps	3,477 mm
Flat moment (torque) arm	52.70 mm
Total wraps	11.75
Total cable capacity	3,921 mm
Circumference flat part	331 mm
Maximum outside diameter	121 mm
Maximum width at shaft	68 mm
Locking bolt under angle from the side in the shaft	3/8"-16x1"

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	260 mm
With end stops, size from floor to shaft center plus:	180 mm
Weight per pair	0.8 kg

# flexiforce<sup>FF</sup> DRUM SPECS

## FFHL54

## HIGH LIFT

Maximum opening height equals 4,565 mm plus high lift*	
Minimum high lift**	230 mm
Maximum high lift	1,370 mm
Maximum door weight when high lift $\geq 1250$ mm	500 kg
Maximum door weight when high lift $< 1250$ mm	500 kg
Maximum cable diameter	5.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,148 mm
High moment (torque) arm	91.35 mm
Number of spiral wraps	2.74
Cable capacity of spiral wraps	1,380 mm
Rate of rise per wrap	8.09 mm
Number of flat wraps	10.50
Cable capacity of flat wraps	4,565 mm
Flat moment (torque) arm	69.20 mm
Total wraps	15.24
Total cable capacity	7,094 mm
Circumference flat part	435 mm
Maximum outside diameter	188 mm
Maximum width at shaft	99 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center minus HL size plus:	2,650 mm
With end stops, size from floor to shaft center minus HL size plus:	2,530 mm
Weight per pair	2.0 kg

#### \* examples:

- When the high lift equals 230 mm the max OPH equals 4,795 mm
- When the high lift equals 1,000 mm the max OPH equals 5,565 mm
- When the high lift equals the maximum of 1,370 mm the max OPH equals 5,935 mm

\*\* On doors with a high lift less than 500 mm a normal lift drum is advised.

# flexiforce<sup>FF</sup> DRUM SPECS

## FFHL120

## HIGH LIFT

Maximum opening height equals 3,635 mm plus high lift*	
Minimum high lift**	230 mm
Maximum high lift	3,010 mm
Maximum door weight when high lift $\geq$ 2500 mm	450 kg
Maximum door weight when high lift $<$ 2500 mm	500 kg
Maximum cable diameter	5.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	1.99
Cable capacity of safety wraps	1,445 mm
High moment (torque) arm	115.80 mm
Number of spiral wraps	5.01
Cable capacity of spiral wraps	3,006 mm
Rate of rise per wrap	8.11 mm
Number of flat wraps	7.69
Cable capacity of flat wraps	3,635 mm
Flat moment (torque) arm	75.20 mm
Total wraps	14.69
Total cable capacity	8,086 mm
Circumference flat part	472 mm
Maximum outside diameter	238 mm
Maximum width at shaft	101 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20/M8x12

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center minus HL size plus:	4,660 mm
With end stops, size from floor to shaft center minus HL size plus:	4,520 mm
Weight per pair	0.5 kg

\* examples:

- When the high lift equals 230 mm the max OPH equals 3,865 mm
- When the high lift equals 1,500 mm the max OPH equals 5,135 mm
- When the high lift equals the maximum of 3,010 mm the max OPH equals 6,645 mm

\*\* On doors with a high lift less than 500 mm a normal lift drum is advised.

# flexiforce<sup>FF</sup> DRUM SPECS

## FFHL164-125

## HIGH LIFT

Maximum opening height equals 5,779 mm plus high lift*	
Minimum high lift**	230 mm
Maximum high lift	4,100 mm
Maximum door weight when high lift $\geq$ 2500 mm	575 kg
Maximum door weight when high lift $<$ 2500 mm	650 kg
Maximum cable diameter	6.00 mm
Shaft diameter	31.75 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,709 mm
High moment (torque) arm	136.00 mm
Number of spiral wraps	5.95
Cable capacity of spiral wraps	4,102 mm
Rate of rise per wrap	8.84 mm
Number of flat wraps	11.03
Cable capacity of flat wraps	5,779 mm
Flat moment (torque) arm	83.43 mm
Total wraps	18.98
Total cable capacity	11,590 mm
Circumference flat part	524 mm
Maximum outside diameter	280 mm
Maximum width at shaft	152 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20
Locking bolt under angle from the side	3/8"-16x1"

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center minus HL size plus:	6,015 mm
With end stops, size from floor to shaft center minus HL size plus:	5,825 mm
Weight per pair	6.0 kg

#### \* examples:

- When the high lift equals 230 mm the max OPH equals 6,009 mm
- When the high lift equals 1,500 mm the max OPH equals 7,279 mm
- When the high lift equals the maximum of 4,100 mm the max OPH equals 9,879 mm

\*\* On doors with a high lift less than 500 mm a normal lift drum is advised.

# flexiforce<sup>FF</sup> DRUM SPECS

## FFHL164

## HIGH LIFT

Maximum opening height equals 5,779 mm plus high lift*	
Minimum high lift**	230 mm
Maximum high lift	4,100 mm
Maximum door weight when high lift $\geq$ 2500 mm	575 kg
Maximum door weight when high lift $<$ 2500 mm	650 kg
Maximum cable diameter	6.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,709 mm
High moment (torque) arm	136.00 mm
Number of spiral wraps	5.95
Cable capacity of spiral wraps	4,102 mm
Rate of rise per wrap	8.84 mm
Number of flat wraps	11.03
Cable capacity of flat wraps	5,779 mm
Flat moment (torque) arm	83.43 mm
Total wraps	18.98
Total cable capacity	11,590 mm
Circumference flat part	524 mm
Maximum outside diameter	280 mm
Maximum width at shaft	152 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20
Locking bolt under angle from the side	3/8"-16x1"

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center minus HL size plus:	6,015 mm
With end stops, size from floor to shaft center minus HL size plus:	5,825 mm
Weight per pair	6.0 kg

#### \* examples:

- When the high lift equals 230 mm the max OPH equals 6,009 mm
- When the high lift equals 1,500 mm the max OPH equals 7,279 mm
- When the high lift equals the maximum of 4,100 mm the max OPH equals 9,879 mm

\*\* On doors with a high lift less than 500 mm a normal lift drum is advised.

# flexiforce<sup>FF</sup> DRUM SPECS

## FFNL10

## NORMAL LIFT

Maximum opening height	2,975 mm
Maximum door weight	320 kg
Maximum cable diameter	3.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 3 mm:**

Number of safety wraps	0.50
Cable capacity of safety wraps	124 mm
High moment (torque) arm	39.50 mm
Number of spiral wraps	
Cable capacity of spiral wraps	0 mm
Rate of rise per wrap	mm
Number of flat wraps	12.09
Cable capacity of flat wraps	2,975 mm
Flat moment (torque) arm	39.16 mm
Total wraps	12.59
Total cable capacity	3,099 mm
Circumference flat part	246 mm
Maximum outside diameter	84 mm
Maximum width at shaft	52 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20/M8x12

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	180 mm
With end stops, size from floor to shaft center plus:	130 mm
Weight per pair	0.5 kg



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## FFNL13

## NORMAL LIFT

Maximum opening height	4,002 mm
Maximum door weight	341 kg
Maximum cable diameter	4.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 4 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	731 mm
High moment (torque) arm	58.20 mm
Number of spiral wraps	1.25
Cable capacity of spiral wraps	436 mm
Rate of rise per wrap	4.32 mm
Number of flat wraps	10.75
Cable capacity of flat wraps	3,566 mm
Flat moment (torque) arm	52.80 mm
Total wraps	14.00
Total cable capacity	4,734 mm
Circumference flat part	332 mm
Maximum outside diameter	124 mm
Maximum width at shaft	99 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	820 mm
With end stops, size from floor to shaft center plus:	740 mm
Weight per pair	1.0 kg

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## FFNL18

## NORMAL LIFT

Maximum opening height	5,580 mm
Maximum door weight	500 kg
Maximum cable diameter	5.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	935 mm
High moment (torque) arm	74.40 mm
Number of spiral wraps	1.00
Cable capacity of spiral wraps	451 mm
Rate of rise per wrap	5.20 mm
Number of flat wraps	11.80
Cable capacity of flat wraps	5,131 mm
Flat moment (torque) arm	69.20 mm
Total wraps	14.80
Total cable capacity	6,517 mm
Circumference flat part	435 mm
Maximum outside diameter	158 mm
Maximum width at shaft	95 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	1,040 mm
With end stops, size from floor to shaft center plus:	940 mm
Weight per pair	1.5 kg

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## FFNL32-125

## NORMAL LIFT

Maximum opening height	10,330 mm
Maximum door weight	700 kg
Maximum cable diameter	6.00 mm
Shaft diameter	31.75 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,368 mm
High moment (torque) arm	108.90 mm
Number of spiral wraps	1.00
Cable capacity of spiral wraps	669 mm
Rate of rise per wrap	4.80 mm
Number of flat wraps	14.77
Cable capacity of flat wraps	9,661 mm
Flat moment (torque) arm	104.10 mm
Total wraps	17.77
Total cable capacity	11,698 mm
Circumference flat part	654 mm
Maximum outside diameter	226 mm
Maximum width at shaft	134 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20
Locking bolt under angle from the side	3/8"-16x1"

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	1,510 mm
With end stops, size from floor to shaft center plus:	1,370 mm
Weight per pair	5.2 kg

# flexiforce<sup>FF</sup> DRUM SPECS

## FFNL32

## NORMAL LIFT

Maximum opening height	10,330 mm
Maximum door weight	700 kg
Maximum cable diameter	6.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,368 mm
High moment (torque) arm	108.90 mm
Number of spiral wraps	1.00
Cable capacity of spiral wraps	669 mm
Rate of rise per wrap	4.80 mm
Number of flat wraps	14.77
Cable capacity of flat wraps	9,661 mm
Flat moment (torque) arm	104.10 mm
Total wraps	17.77
Total cable capacity	11,698 mm
Circumference flat part	654 mm
Maximum outside diameter	226 mm
Maximum width at shaft	134 mm
Locking bolt radial (acc. DIN 916) on the key	M8x20
Locking bolt under angle from the side	3/8"-16x1"

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
Without end stops, size from floor to shaft center plus:	1,510 mm
With end stops, size from floor to shaft center plus:	1,370 mm
Weight per pair	5.2 kg

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## DRUM SPECS

### FFVL11

### VERTICAL LIFT

Maximum opening height	3,300 mm
Maximum door weight $\geq 3000$ mm	500 kg
Maximum cable diameter	5.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

#### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,330 mm
High moment (torque) arm	105.86 mm
Number of spiral wraps	7.50
Cable capacity of spiral wraps	3,300 mm
Rate of rise per wrap	9.55 mm
Flat moment (torque) arm	34.20 mm
Total wraps	9.50
Total cable capacity	4,630 mm
Maximum outside diameter	218 mm
Maximum width at shaft	80 mm
Locking bolt radial (acc. DIN 916)	M8x16

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	4,785 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	4,625 mm
Weight per pair	1.8 kg

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## FFVL18-125

## VERTICAL LIFT

Maximum opening height	6,000 mm
Maximum door weight $\geq 4000$ mm	600 kg
Maximum cable diameter	5.00 mm
Shaft diameter	31.75 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,750 mm
High moment (torque) arm	139.27 mm
Number of spiral wraps	11.00
Cable capacity of spiral wraps	5,995 mm
Rate of rise per wrap	9.55 mm
Flat moment (torque) arm	34.20 mm
Total wraps	13.00
Total cable capacity	7,745 mm
Maximum outside diameter	284 mm
Maximum width at shaft	105 mm
Locking bolt radial (acc. DIN 916)	M8x20

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	7,955 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	7,745 mm
Weight per pair	3.9 kg

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## DRUM SPECS

### FFVL18

### VERTICAL LIFT

Maximum opening height	6,000 mm
Maximum door weight $\geq 4000$ mm	600 kg
Maximum cable diameter	5.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

#### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,750 mm
High moment (torque) arm	139.27 mm
Number of spiral wraps	11.00
Cable capacity of spiral wraps	5,995 mm
Rate of rise per wrap	9.55 mm
Flat moment (torque) arm	34.20 mm
Total wraps	13.00
Total cable capacity	7,745 mm
Maximum outside diameter	284 mm
Maximum width at shaft	105 mm
Locking bolt radial (acc. DIN 916)	M8x20

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	7,955 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	7,745 mm
Weight per pair	3.9 kg

# flexiforce<sup>FF</sup> DRUM SPECS

## FFVL28-0.5

## VERTICAL LIFT

Maximum opening height	8,500 mm
Maximum door weight $\geq 8500$ mm	750 kg
Maximum cable diameter	6.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

### **Length of the cable wraps with 5 mm:**

Number of safety wraps	0.50
Cable capacity of safety wraps	525 mm
High moment (torque) arm	167.08 mm
Number of spiral wraps	13.50
Cable capacity of spiral wraps	8,541 mm
Rate of rise per wrap	9.84 mm
Flat moment (torque) arm	34.30 mm
Total wraps	14.00
Total cable capacity	9,066 mm
Maximum outside diameter	348 mm
Maximum width at shaft	173 mm
Locking bolt radial (acc. DIN 916)	M8x20
Locking bolt under angle from the side	3/8"-16x1"

### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,280 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,010 mm
Weight per pair	8.6 kg



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## DRUM SPECS

### FFVL28-125-0.5

### VERTICAL LIFT

Maximum opening height	8,500 mm
Maximum door weight $\geq 8500$ mm	750 kg
Maximum cable diameter	6.00 mm
Shaft diameter	31.75 mm
Key way	6.35 mm

#### **Length of the cable wraps with 5 mm:**

Number of safety wraps	0.50
Cable capacity of safety wraps	525 mm
High moment (torque) arm	167.08 mm
Number of spiral wraps	13.50
Cable capacity of spiral wraps	8,541 mm
Rate of rise per wrap	9.84 mm
Flat moment (torque) arm	34.30 mm
Total wraps	14.00
Total cable capacity	9,066 mm
Maximum outside diameter	348 mm
Maximum width at shaft	173 mm
Locking bolt radial (acc. DIN 916)	M8x20
Locking bolt under angle from the side	3/8"-16x1"

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,280 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,010 mm
Weight per pair	8.6 kg

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## DRUM SPECS

### FFVL28-125

### VERTICAL LIFT

Maximum opening height	7,000 mm
Maximum door weight >=8500 mm	750 kg
Maximum cable diameter	6.00 mm
Shaft diameter	31.75 mm
Key way	6.35 mm

#### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,914 mm
High moment (torque) arm	152.33 mm
Number of spiral wraps	11.96
Cable capacity of spiral wraps	7,012 mm
Rate of rise per wrap	9.87 mm
Flat moment (torque) arm	34.30 mm
Total wraps	13.96
Total cable capacity	8,926 mm
Maximum outside diameter	348 mm
Maximum width at shaft	173 mm
Locking bolt radial (acc. DIN 916)	M8x20
Locking bolt under angle from the side	3/8"-16x1"

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,280 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,010 mm
Weight per pair	8.6 kg

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## DRUM SPECS

### FFVL28

### VERTICAL LIFT

Maximum opening height	7,000 mm
Maximum door weight >=8500 mm	750 kg
Maximum cable diameter	6.00 mm
Shaft diameter	25.40 mm
Key way	6.35 mm

#### **Length of the cable wraps with 5 mm:**

Number of safety wraps	2.00
Cable capacity of safety wraps	1,914 mm
High moment (torque) arm	152.33 mm
Number of spiral wraps	11.96
Cable capacity of spiral wraps	7,012 mm
Rate of rise per wrap	9.87 mm
Flat moment (torque) arm	34.30 mm
Total wraps	13.96
Total cable capacity	8,926 mm
Maximum outside diameter	348 mm
Maximum width at shaft	173 mm
Locking bolt radial (acc. DIN 916)	M8x20
Locking bolt under angle from the side	3/8"-16x1"

#### **Calculation of cable length:**

Cable length adjustment (no cable end connection)	Yes
<u>Without end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,280 mm
<u>With end stops:</u>	
Size from floor to shaft center minus opening height plus:	9,010 mm
Weight per pair	8.6 kg