

The innovative design of the pantograph allows lights to be placed closer to the ceiling than ever before. A complete new range of top and bottom attachments have been designed to reduce at minimum the closed length. Entirely produced in Aluminum (P-Al MgSi UNI3569) and according to DIN 15560-46 it is available in two different extension: 2m (79") and 3.8m (150") long. The load is supported by a steel cable of 2mm diameter (safety factor 12). Loads up to 12kg (26.4lbs) can be supported by the patented friction device, while loads up to 18kg (39.7lbs) require the use of optional springs.

By turning the colored notched ring you can adjust the pantograph friction; this will ensure that the load remains stable when set in position, but that it will move smoothly up and down when necessary. In any case, it is always advisable to use the springs to aid raising your pantograph.

One important feature of this pantograph is the possibility to customize it in order to meet your needs. You just need to choose between the two different extension (2m - 79" or 3.8m - 150"), then decide the proper top and bottom attachment and, if necessary, add one or two counterbalance spring depending of the foreseen load.

#### HOW TO BUILD THE PRODUCT CODE:

- 1° Choose the pantograph lenght and write the Ref code in Field 1
- 2° Choose the SPRING type and put the Ref code in Field 2
- 3° Choose the TOP ATTACHMENT and put the Ref code in Field 3
- 4° Choose the BOTTOM ATTACHMENT and put the Ref code in Field 4

		PRODUCT CODE			
		FIELD 1	FIELD 2	FIELD 3	FIELD 4
COMPONENTS	REF	FF3512	A	5	9
<b>PANTOGRAPHS</b>					
PANTOGRAPH 2M - 79"	FF3512	↑			
PANTOGRAPH 3.8M - 150"	FF3514		↑		
<b>SPRINGS</b>					
TYPE 4	A		↑		
TYPE 4+4	B			↑	
TYPE 12	C				↑
TYPE 4+12	D				
NONE	N				
<b>TOP ATTACHMENTS</b>					
FF3540 TYPE 60 CARRIAGE	0				
FF3541 TYPE 80 CARRIAGE	1				
FF3545 28MM - 1-1/8" PIN	5			↑	
FF3546 16MM - 5/8" PIN	6				↑
FF3547 COUPLER	7				
FF3548 16MM - 5/8" BUSHING	8				
<b>BOTTOM ATTACHMENTS</b>					
FF3546 16MM - 5/8" PIN	6				↑
FF3548 16MM - 5/8" BUSHING	8				
FF3549 28MM - 1-1/8" BUSHING	9				
FF3544 M10X30 SCREW AND NUT	4				
FF3543 28F - 16M/F BUSHING	3				

When choosing the additional spring(s) for your pantograph, you will first need to know exactly which model of pantograph you have, in order that you can select the spring of the correct length. If you have one of the new compact pantographs (with grey-painted "scissors"), look at the colour of notched ring the 2m (79") version has a red notched ring, while the 3.8m (150") version has a blue notched ring. After having identified the length of the pantograph, choose the appropriate spring(s) by referring to the table below.

Note: these new springs are not compatible with the old pantographs (black painted scissors)

#### ADDITIONAL SPRINGS

CODE	SPRING TYPE	COLOR	PANTOGRAPH
FF3531	Type 4	Red	Top 2C
FF3532	Type 12	Red	Top 2C
FF3533	Type 4	Blue	Top 4C
FF3534	Type 12	Blue	Top 4C



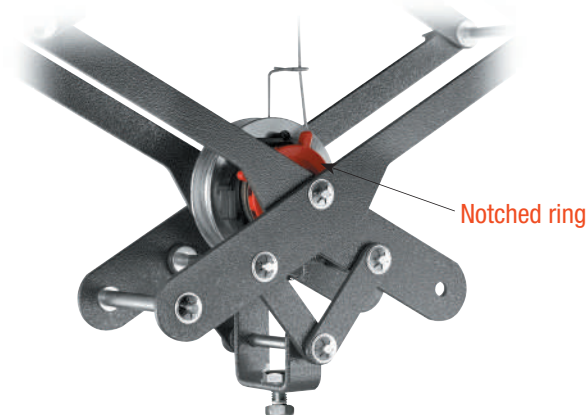
For your convenience we already build the codes for the most common version.

#### Pantograph with top 16mm-5/8" bushing and bottom 16 mm-5/8" pin

CODE	DESCRIPTION
FF3512N86	Pantograph Top 2C
FF3514N86	Pantograph Top 4C

#### Pantograph with top 28mm-1-1/8" pin and bottom 28mm-1-1/8" bushing

CODE	DESCRIPTION
FF3512N59	PANTOGRAPH TOP 2C
FF3512A59	PANTOGRAPH TOP 2C W/Type 4 Spring
FF3512B59	PANTOGRAPH TOP 2C W/2 Type 4 Springs
FF3512C59	PANTOGRAPH TOP 2C W/Type 12 Spring
FF3512D59	PANTOGRAPH TOP 2C W/Type 4&12 Springs
FF3514N59	PANTOGRAPH TOP 4C
FF3514A59	PANTOGRAPH TOP 4C W/Type 4 Spring
FF3514B59	PANTOGRAPH TOP 4C W/2 Type 4 Springs
FF3514C59	PANTOGRAPH TOP 4C W/Type 12 Spring
FF3514D59	PANTOGRAPH TOP 4C W/Type 4&12 Springs








Notched ring

#### SPRING TYPE

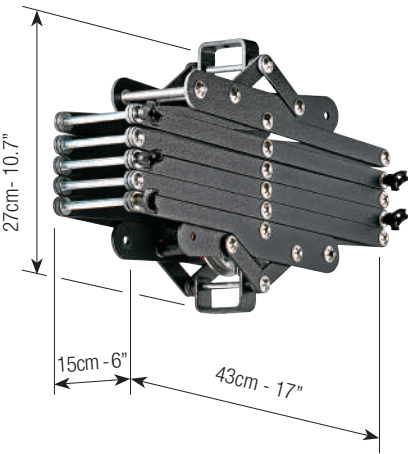
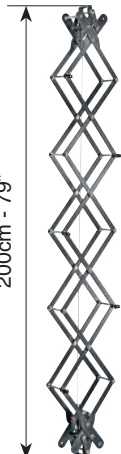
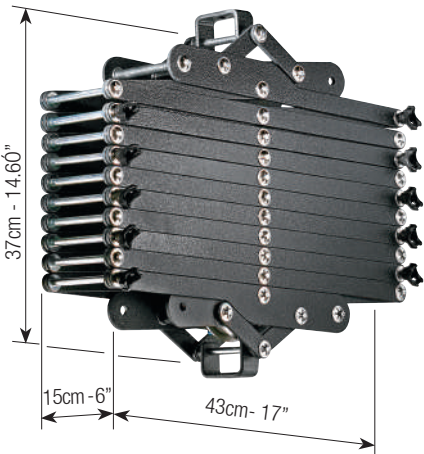

#### COUNTER BALANCED WEIGHT

Without spring	From 0 to 4kg (8.8lbs)
Type 4	From 3kg (6.6lbs) to 8kg (17.6lbs)
Type 4 + Type 4	From 8kg (17.6lbs) to 14kg (30.8lbs)
Type 12	From 9kg (19.8lbs) to 16kg (35.3lbs)
Type 4 + Type 12	From 13kg (28.6lbs) to 18kg 39.7lbs)

## TOP ATTACHMENTS

CODE: FF3545	CODE: FF3540	CODE: FF3541	CODE: FF3548	CODE: FF3547
				
28mm (1-1/8") Male attachment	Spring braked dismantable carriage for IFF rail Type 60	Spring braked dismantable carriage for IFF rail Type 80 and 50	16mm (5/8") female attachment	Aluminum clamp for pipe diam 42÷52mm (1-1/4" ÷ 2")

## PANTOGRAPHS

CODE: FF3512	CODE: FF3514																								
 <p>27cm - 10.7"</p> <p>15cm - 6"</p> <p>43cm - 17"</p>  <p>200cm - 79"</p>	 <p>37cm - 14.60"</p> <p>15cm - 6"</p> <p>43cm - 17"</p>  <p>380cm - 150"</p>																								
<b>TECHNICAL SPECIFICATIONS</b> <table> <tr> <td>Lifting rope</td><td>2mm wire rope</td></tr> <tr> <td>Safety factor rope</td><td>12</td></tr> <tr> <td>Self weight</td><td>4.6kg - 10.1lbs</td></tr> <tr> <td>Max working load</td><td>18kg - 39.7lbs</td></tr> <tr> <td>Closed length</td><td>27cm - 10.7"</td></tr> <tr> <td>Max extension</td><td>200cm - 79"</td></tr> </table>	Lifting rope	2mm wire rope	Safety factor rope	12	Self weight	4.6kg - 10.1lbs	Max working load	18kg - 39.7lbs	Closed length	27cm - 10.7"	Max extension	200cm - 79"	<b>TECHNICAL SPECIFICATIONS</b> <table> <tr> <td>Lifting rope</td><td>2mm wire rope</td></tr> <tr> <td>Safety factor rope</td><td>12</td></tr> <tr> <td>Self weight</td><td>7.2kg - 15.8lbs</td></tr> <tr> <td>Max working load</td><td>18kg - 39.7lbs</td></tr> <tr> <td>Closed length</td><td>37cm - 14.6"</td></tr> <tr> <td>Max extension</td><td>380cm - 150"</td></tr> </table>	Lifting rope	2mm wire rope	Safety factor rope	12	Self weight	7.2kg - 15.8lbs	Max working load	18kg - 39.7lbs	Closed length	37cm - 14.6"	Max extension	380cm - 150"
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## BOTTOM ATTACHMENTS

CODE: FF3543	CODE: FF3549	CODE: FF3548	CODE: FF3546	CODE: FF3544
				
28F -16 M/F Universal head	28mm (1-1/8") Female attachment	16mm (5/8") Female attachment	16mm (5/8") Male attachment	M 10x30mm screw with nut