

# 4.2.1. ROLLER FAIRLEADS

- Our fairleads are designed for mounting free on deck, and welding into the bulwark, and a rope turn of 90°. The rollers and axles are interchangeable.
- The values of the tabulations are only proposals. They are our standard, if desired we can make specials in the same format.
- Our roller-fairleads are approved by "St. Lawrence Seaway Authority".

| roller | Rated towing pull | Rope Ø | Breaking strength of wire |
|--------|-------------------|--------|---------------------------|
| 80 mm  | 20 kN             | -12 mm | 150 kN                    |
| 100 mm | 30 kN             | -16 mm | 220 kN                    |
| 120 mm | 50 kN             | -20 mm | 350 kN                    |
| 140 mm | 80 kN             | -24 mm | 500 kN                    |
| 180 mm | 120 kN            | -32 mm | 800 kN                    |
| 245 mm | 200 kN            | -40 mm | 1150 kN                   |
| 300 mm | 320 kN            | -48 mm | 1750 kN                   |

|                     |   |                                                                                     |
|---------------------|---|-------------------------------------------------------------------------------------|
| Casing              | : | Welded construction                                                                 |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication                   |
| Special bearings    | : | Polyamid / bronze bearing (free of maintenance)<br>Bronze / stainless steel bearing |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zincd                          |

Examples of configurations available types:

|                       |                      |                                         |
|-----------------------|----------------------|-----------------------------------------|
| <b>2.1.1. BW__F</b>   | <b>2.1.2. BDW__F</b> | <b>2.1.3. BW__1LF</b>                   |
| <b>2.1.3. BW__1RF</b> | <b>2.1.3. BW__2F</b> | <b>2.1.4. BW__FL</b>                    |
| <b>2.1.5. PW__F</b>   | <b>2.1.6. BW__Fs</b> | <b>2.1.9. Smitberger rollerfairlead</b> |



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Other configurations are: (among others)

| TYPE                       | Positie van de rollen |              | TYPE                         | Positie van de rollen |              |
|----------------------------|-----------------------|--------------|------------------------------|-----------------------|--------------|
|                            | Bovenaanzicht         | Zij aanzicht |                              | Bovenaanzicht         | Zij aanzicht |
| PW ...F<br>BW ...F         |                       |              | PW ...FL<br>BW ...FL         |                       |              |
| PW .../1 LF<br>BW .../1 LF |                       |              | PW .../1 LFL<br>BW .../1 LFL |                       |              |
| PW .../1 RF<br>BW .../1 RF |                       |              | PW .../1 RFL<br>BW ...1 RFL  |                       |              |
| PW .../2 F<br>BW .../2 F   |                       |              | PW .../2 FL<br>BW .../2 FL   |                       |              |
| PDW...F<br>BDW...F         |                       |              | PDW...FL<br>BDW...FL         |                       |              |
| PDW.../1 LF<br>BDW.../1 LF |                       |              | PDW.../1 LFL<br>BDW.../1 LFL |                       |              |
| PDW.../1 MF<br>BDW.../1 MF |                       |              | PDW.../1 MFL<br>BDW.../1 MFL |                       |              |
| PDW.../1 RF<br>BDW.../1 RF |                       |              | PDW.../1 RFL<br>BDW.../1 RFL |                       |              |
| PDW.../2 F<br>BDW.../2 F   |                       |              | PDW.../2 FL<br>BDW.../2 FL   |                       |              |
| PDW.../2 LF<br>BDW.../2 LF |                       |              | PDW.../2 LFL<br>BDW.../2 LFL |                       |              |
| PDW.../2 RF<br>BDW.../2 RF |                       |              | PDW.../2 RFL<br>BDW.../2 RFL |                       |              |
| PDW.../3 F<br>BDW.../3 F   |                       |              | PDW.../3 FL<br>BDW.../3 FL   |                       |              |

PW ... : Roller-fairlead for 1 cable,

mounting: in the bulwark.

PDW ... : Double Roller-fairlead for 2 cables,

mounting: in the bulwark.

BW ... : Roller-fairlead for 1 cable,

mounting: free on deck.

BDW ... : Double Roller-fairlead for 2 cables,

mounting: free on deck.

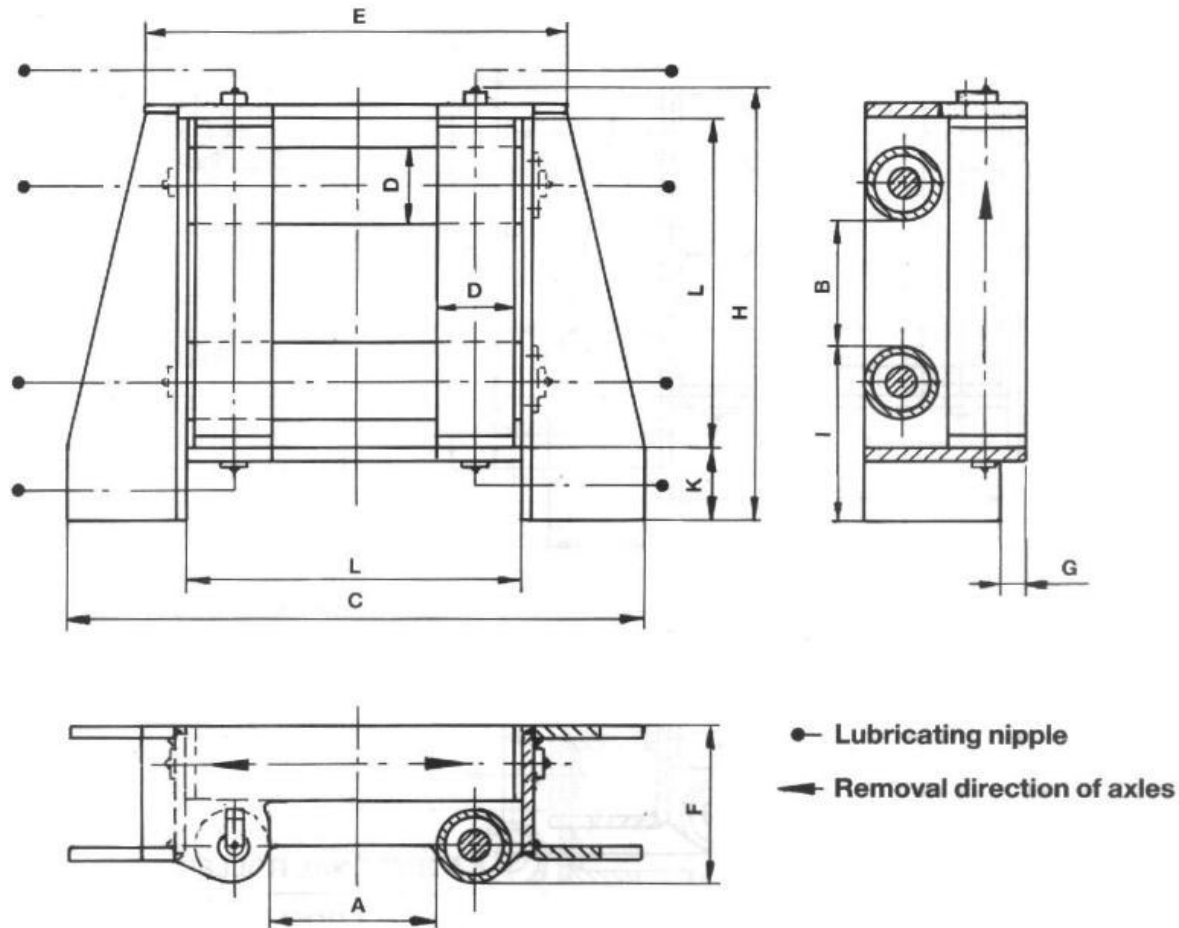
... K : Maintenance-poor artificial bronze / Niro bearing.

... Au : wire stroke between the vertical rollers on the underside

... Ao : wire stroke between the vertical rollers on the upper-side.

## 2.1.1. ROLLER-FAIRLEADS

|                     |   |                                                                   |
|---------------------|---|-------------------------------------------------------------------|
| Casing              | : | Welded construction                                               |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication |
| Special bearings    | : | polyamide / bronze bearing (free of maintenance)                  |
|                     |   | Bronze / stainless steel bearing                                  |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zinc         |



Designed for: 1 rope  
 Mounting: free on deck  
 Approved by: "St. Lawrence Seaway Authority"

| type    | rated<br>towing<br>pull | rope<br>ø | wire<br>size | a   | b   | c     | d          | e     | f   | g  | h     | i   | k   | l     | weight   |
|---------|-------------------------|-----------|--------------|-----|-----|-------|------------|-------|-----|----|-------|-----|-----|-------|----------|
| BW8F    | 20 kN                   | -12 mm    | 12           | 180 | 100 | 650   | <b>80</b>  | 446   | 170 | 10 | 456   | 208 | 80  | 356   | 75 kg    |
| BW10F   | 30 kN                   | -16 mm    | 16           | 230 | 130 | 800   | <b>100</b> | 546   | 210 | 10 | 571   | 258 | 100 | 446   | 130 kg   |
| BW12F   | 50 kN                   | -20 mm    | 20           | 250 | 130 | 900   | <b>120</b> | 626   | 250 | 15 | 656   | 308 | 120 | 506   | 220 kg   |
| BW14F   | 80 kN                   | -24 mm    | 24           | 280 | 160 | 1.000 | <b>140</b> | 716   | 288 | 20 | 726   | 328 | 120 | 576   | 320 kg   |
| BW18F   | 120 kN                  | -32 mm    | 32           | 300 | 160 | 1.200 | <b>180</b> | 836   | 366 | 25 | 852   | 398 | 140 | 676   | 580 kg   |
| BW24,5F | 200 kN                  | -40 mm    | 40           | 320 | 180 | 1.350 | <b>245</b> | 1.030 | 500 | 35 | 1.035 | 505 | 180 | 830   | 1.100 kg |
| BW30F   | 320 kN                  | -48 mm    | 48           | 400 | 250 | 1.700 | <b>300</b> | 1.236 | 610 | 45 | 1.260 | 583 | 200 | 1.016 | 2.210 kg |

Alternations may occur, all dimensions in mm



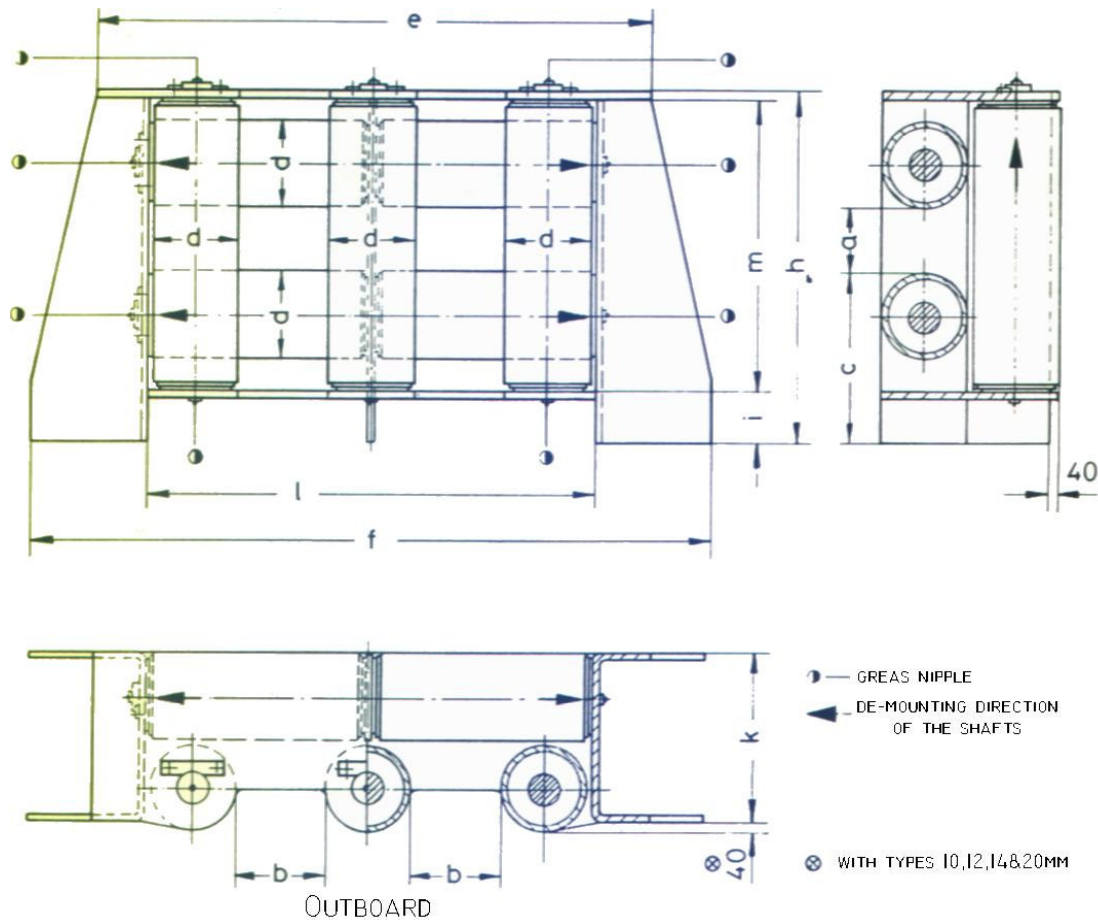
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## 2.1.2. ROLLER-FAIRLEADS

|                     |   |                                                                   |
|---------------------|---|-------------------------------------------------------------------|
| Casing              | : | Welded construction                                               |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication |
| Special bearings    | : | polyamid / bronze bearing (free of maintenance)                   |
|                     |   | Bronze / stainless steel bearing                                  |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zined        |



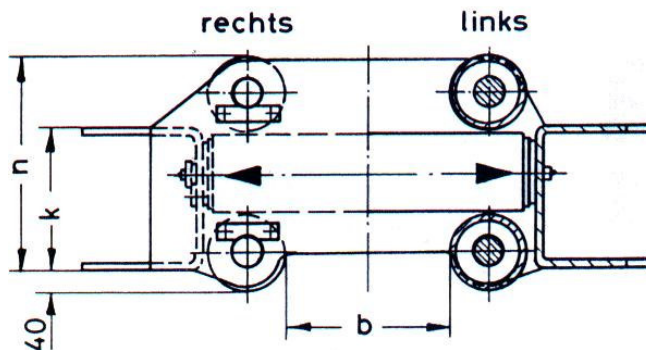
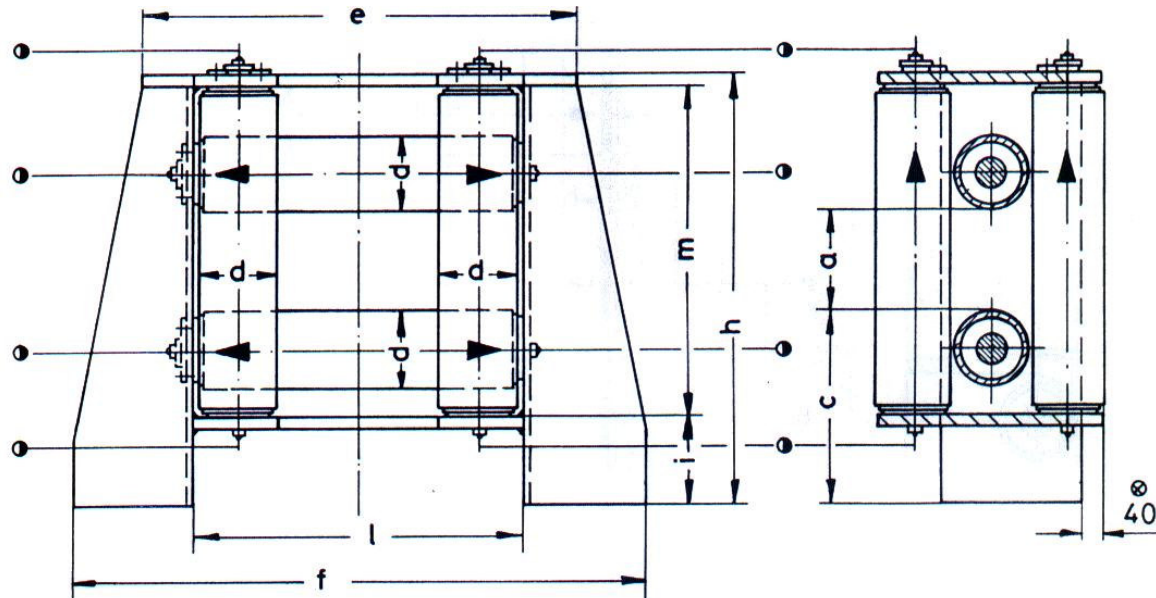
Designed for: 2 rope  
 Mounting: free on deck  
 Approved by: "St. Lawrence Seaway Authority"

| Type                   | Rated towing pull | Rope Ø | Breaking strength of wire | a   | b   | c   | d          | e    | f    | h    | i   | k   | l    | m    | Weight Kg |
|------------------------|-------------------|--------|---------------------------|-----|-----|-----|------------|------|------|------|-----|-----|------|------|-----------|
| BDW 8 F <sub>-</sub>   | 20 kN             | -12 mm | 150 kN                    | 180 | 100 | 208 | <b>80</b>  | 710  | 914  | 465  | 80  | 130 | 620  | 356  | 185       |
| BDW 10 F <sub>-</sub>  | 30 kN             | -16 mm | 220 kN                    | 230 | 130 | 258 | <b>100</b> | 878  | 1132 | 575  | 100 | 170 | 778  | 446  | 245       |
| BDW12 F <sub>-</sub>   | 50 kN             | -20 mm | 350 kN                    | 250 | 130 | 308 | <b>120</b> | 998  | 1272 | 655  | 120 | 210 | 878  | 506  | 370       |
| BDW14 F <sub>-</sub>   | 80 kN             | -24 mm | 500 kN                    | 280 | 160 | 328 | <b>140</b> | 1136 | 1420 | 730  | 120 | 248 | 996  | 576  | 535       |
| BDW 18 F <sub>-</sub>  | 120 kN            | -32 mm | 800 kN                    | 300 | 160 | 398 | <b>180</b> | 1314 | 1678 | 855  | 140 | 326 | 1154 | 676  | 940       |
| BDW24,5 F <sub>-</sub> | 200 kN            | -40 mm | 1150 kN                   | 320 | 180 | 505 | <b>245</b> | 1596 | 1916 | 1045 | 180 | 460 | 1396 | 830  | 1600      |
| BDW 30 F <sub>-</sub>  | 320 kN            | -48mm  | 1750 kN                   | 400 | 250 | 583 | <b>300</b> | 1936 | 2400 | 1260 | 200 | 568 | 1716 | 1016 | 3600      |

Alternations may occur - all dimensions in mm - all weights in kg.

## 2.1.3. ROLLER-FAIRLEADS

|                     |   |                                                                   |
|---------------------|---|-------------------------------------------------------------------|
| Casing              | : | Welded construction                                               |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication |
| Special bearings    | : | polyamid / bronze bearing (free of maintenance)                   |
|                     |   | Bronze / stainless steel bearing                                  |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zined        |



⊗ Typen 10,12,14 : 20mm



Designed for: 1 rope  
 Mounting: free on deck  
 Approved by: "St. Lawrence Seaway Authority"

Type BW \_\_ 1LF 1 additional roller left side ①  
 Type BW \_\_ 1RF 1 additional roller right side ①  
 Type BW \_\_ 2F 2 additional rollers both sides ②

| Type      | Rated towing pull | Rope Ø | Breaking strength of wire | Wire Size | a   | b   | c   | d          | e    | f    | h    | i   | k   | l    | m    | n   | Weight |      |
|-----------|-------------------|--------|---------------------------|-----------|-----|-----|-----|------------|------|------|------|-----|-----|------|------|-----|--------|------|
|           |                   |        |                           |           |     |     |     |            |      |      |      |     |     |      |      |     | Kg①    | Kg②  |
| BW 8 F_   | 20 kN             | -12 mm | 150 kN                    | 12        | 100 | 180 | 208 | <b>80</b>  | 446  | 650  | 465  | 80  | 130 | 356  | 356  | 255 | 100    | 150  |
| BW 10 F_  | 30 kN             | -16 mm | 220 kN                    | 16        | 130 | 230 | 258 | <b>100</b> | 546  | 800  | 575  | 100 | 170 | 446  | 446  | 315 | 170    | 210  |
| BW12 F_   | 50 kN             | -20 mm | 350 kN                    | 20        | 130 | 250 | 308 | <b>120</b> | 626  | 900  | 655  | 120 | 210 | 506  | 506  | 375 | 390    | 460  |
| BW14 F_   | 80 kN             | -24 mm | 500 kN                    | 24        | 160 | 280 | 328 | <b>140</b> | 716  | 1000 | 730  | 120 | 248 | 576  | 576  | 432 | 665    | 800  |
| BW 18 F_  | 120 kN            | -32 mm | 800 kN                    | 32        | 160 | 300 | 398 | <b>180</b> | 836  | 1200 | 855  | 140 | 326 | 676  | 676  | 549 | 700    | 920  |
| BW24,5 F_ | 200 kN            | -40 mm | 1150 kN                   | 40        | 180 | 320 | 505 | <b>245</b> | 1030 | 1350 | 1045 | 180 | 460 | 830  | 830  | 750 | 1300   | 1550 |
| BW 30 F_  | 320 kN            | -48mm  | 1750 kN                   | 48        | 250 | 400 | 583 | <b>300</b> | 1236 | 1700 | 1260 | 200 | 568 | 1016 | 1016 | 912 | 2550   | 3100 |

Alternations may occur - all dimensions in mm - all weights in k



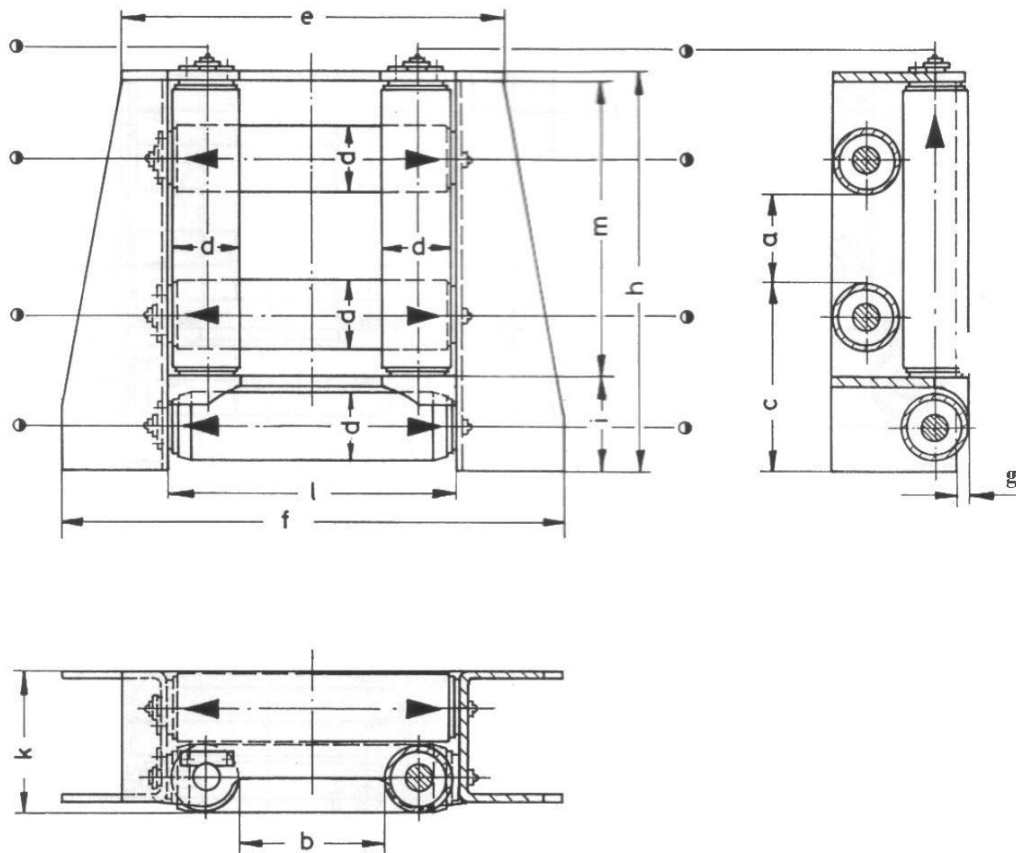
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## 2.1.4. ROLLER-FAIRLEADS

|                     |   |                                                                   |
|---------------------|---|-------------------------------------------------------------------|
| Casing              | : | Welded construction                                               |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication |
| Special bearings    | : | polyamid / bronze bearing (free of maintenance)                   |
|                     | : | Bronze / stainless steel bearing                                  |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zined        |



Designed for: 1 rope  
 Mounting: free on deck  
 Approved by: "St. Lawrence Seaway Authority"

| Type                  | Rated towing pull | Rope Ø | Breaking strength of wire | Wire Size | a   | b   | c   | d   | e    | f    | g  | h    | i   | k   | l    | m    | Weight (kg) |
|-----------------------|-------------------|--------|---------------------------|-----------|-----|-----|-----|-----|------|------|----|------|-----|-----|------|------|-------------|
| BW 8 F <sub>-</sub>   | 20 kN             | -12 mm | 150 kN                    | 12        | 180 | 100 | 253 | 80  | 446  | 700  | 10 | 510  | 125 | 170 | 356  | 356  | 125         |
| BW 10 F <sub>-</sub>  | 30 kN             | -16 mm | 220 kN                    | 16        | 230 | 130 | 308 | 100 | 546  | 900  | 10 | 625  | 150 | 210 | 446  | 446  | 160         |
| BW12 F <sub>-</sub>   | 50 kN             | -20 mm | 350 kN                    | 20        | 250 | 130 | 363 | 120 | 626  | 1000 | 15 | 710  | 175 | 250 | 506  | 506  | 400         |
| BW14 F <sub>-</sub>   | 80 kN             | -24 mm | 500 kN                    | 24        | 280 | 160 | 423 | 140 | 716  | 1100 | 20 | 825  | 215 | 288 | 576  | 576  | 750         |
| BW 18 F <sub>-</sub>  | 120 kN            | -32 mm | 800 kN                    | 32        | 300 | 160 | 518 | 180 | 836  | 1300 | 25 | 975  | 260 | 366 | 676  | 676  | 860         |
| BW24,5 F <sub>-</sub> | 200 kN            | -40 mm | 1150 kN                   | 40        | 320 | 180 | 660 | 245 | 1030 | 1450 | 35 | 1200 | 335 | 500 | 830  | 830  | 1550        |
| BW 30 F <sub>-</sub>  | 320 kN            | -48mm  | 1750 kN                   | 48        | 400 | 250 | 788 | 300 | 1236 | 1800 | 45 | 1465 | 405 | 608 | 1016 | 1016 | 2700        |

Alternations may occur - all dimensions in mm - all weights in kg



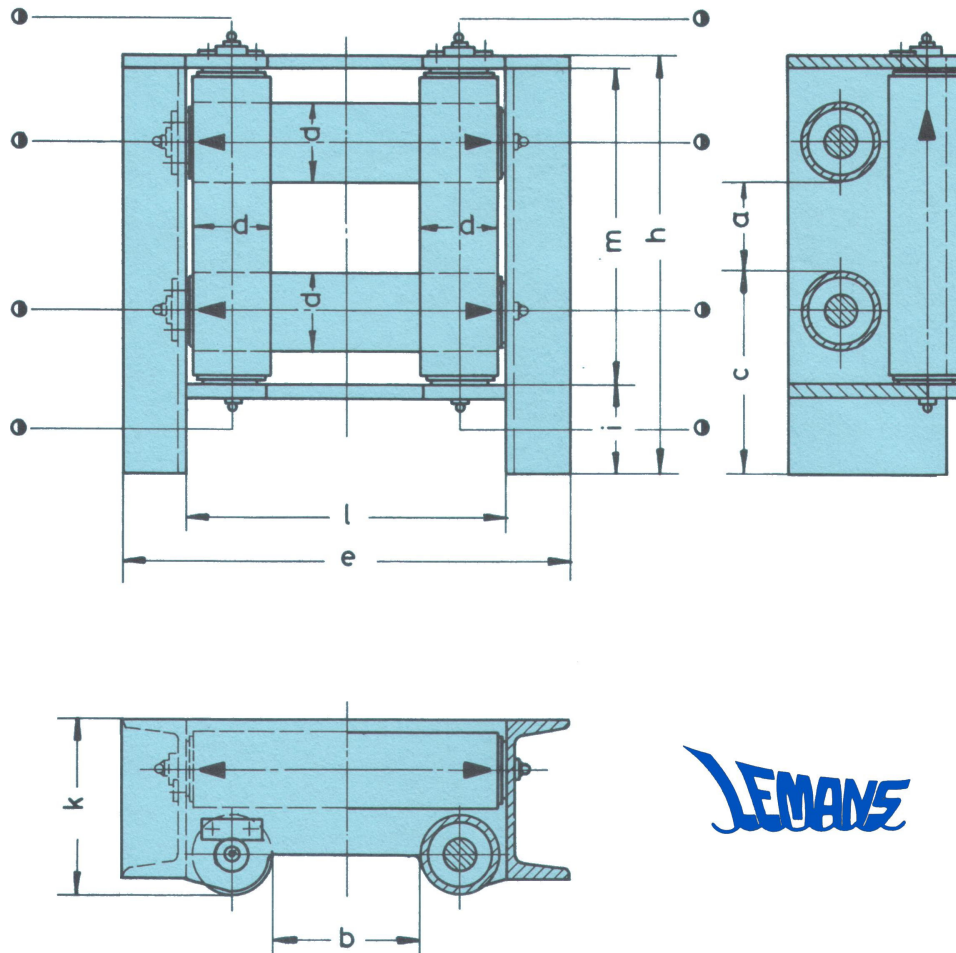
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 Website <http://www.lemans-nederland.nl>

## 2.1.5. ROLLER-FAIRLEADS

|                     |   |                                                                   |
|---------------------|---|-------------------------------------------------------------------|
| Casing              | : | Welded construction                                               |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication |
| Special bearings    | : | polyamide / bronze bearing (free of maintenance)                  |
|                     |   | Bronze / stainless steel bearing                                  |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zined        |



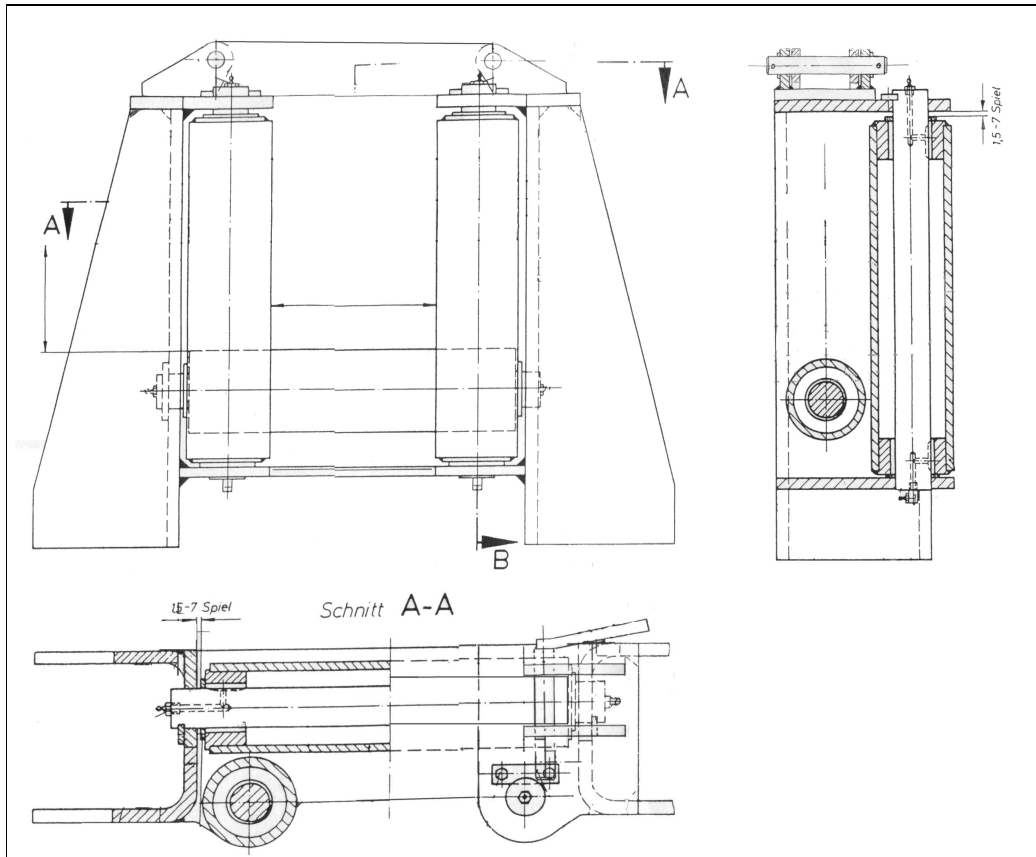
Designed for: 1 rope  
 Mounting: weld able in the bulwark  
 Approved by: "St. Lawrence Seaway Authority"

| Type    | Rated<br>towing<br>pull | Rope<br>Ø | Wire<br>Size | D   | A   | B   | C   | E   | H   | I   | K   | L   | M   | Weight   |
|---------|-------------------------|-----------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|
| PW8F    | 20 kN                   | -12 mm    | 12           |     |     |     |     |     |     |     |     |     |     | 75 kg    |
| PW10F   | 30 kN                   | -16 mm    | 16           | 100 | 130 | 230 | 290 | 590 | 590 | 125 | 180 | 450 | 450 | 120 kg   |
| PW12F   | 50 kN                   | -20 mm    | 20           |     |     |     |     |     |     |     |     |     |     | 210 kg   |
| PW14F   | 80 kN                   | -24 mm    | 24           |     |     |     |     |     |     |     |     |     |     | 550 kg   |
| PW18F   | 120 kN                  | -32 mm    | 32           |     |     |     |     |     |     |     |     |     |     | 680 kg   |
| PW24,5F | 200 kN                  | -40 mm    | 40           |     |     |     |     |     |     |     |     |     |     | 1.020 kg |
| PW30F   | 320 kN                  | -48 mm    | 48           |     |     |     |     |     |     |     |     |     |     | 2.100 kg |

Alternations may occur, all dimensions in mm

## 2.1.6. 3-ROLLER-FAIRLEADS

|                     |   |                                                                   |
|---------------------|---|-------------------------------------------------------------------|
| Casing              | : | Welded construction                                               |
| Standard bearing    | : | bronze slide bearing, seawater resistant, with grease lubrication |
| Special bearings    | : | polyamide / bronze bearing (free of maintenance)                  |
|                     |   | Bronze / stainless steel bearing                                  |
| Lubrication nipples | : | hydraulic type M10 x 14 according to DIN 71412 - 5.8 zined        |



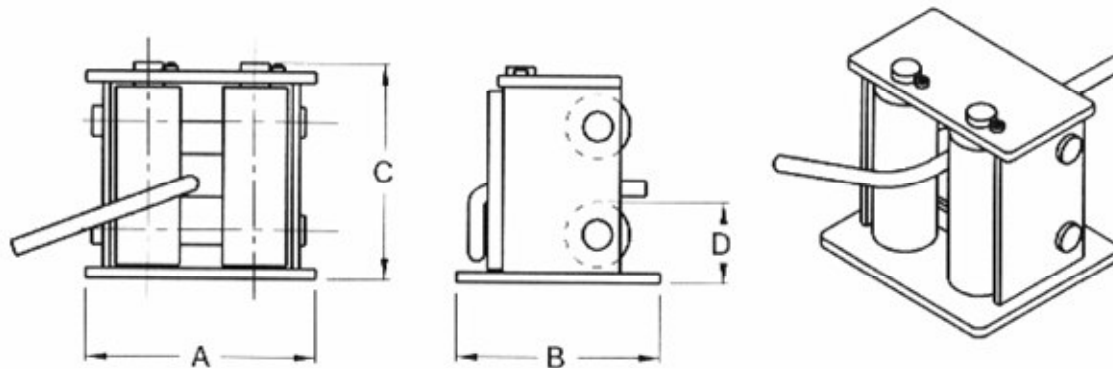
Designed for: 1 rope  
 Mounting: weld able in the bulwark  
 Approved by: "St. Lawrence Seaway Authority"

| Type     | Rated towing pull | Rope Ø | Wire Size | A   | C     | D   | E     | F   | G  | H     | I   | K   | L     | Weight   |
|----------|-------------------|--------|-----------|-----|-------|-----|-------|-----|----|-------|-----|-----|-------|----------|
| BW8Fs    | 20 kN             | -12 mm | 12        | 180 | 650   | 80  | 446   | 170 | 10 | 456   | 208 | 80  | 356   | 75 kg    |
| BW10Fs   | 30 kN             | -16 mm | 16        | 230 | 800   | 100 | 546   | 210 | 10 | 571   | 258 | 100 | 446   | 130 kg   |
| BW12Fs   | 50 kN             | -20 mm | 20        | 250 | 900   | 120 | 626   | 250 | 15 | 656   | 308 | 120 | 506   | 220 kg   |
| BW14Fs   | 80 kN             | -24 mm | 24        | 280 | 1.000 | 140 | 716   | 288 | 20 | 726   | 328 | 120 | 576   | 320 kg   |
| BW18Fs   | 120 kN            | -32 mm | 32        | 300 | 1.200 | 180 | 836   | 366 | 25 | 852   | 398 | 140 | 676   | 580 kg   |
| BW24,5Fs | 200 kN            | -40 mm | 40        | 320 | 1.350 | 245 | 1.030 | 500 | 35 | 1.035 | 505 | 180 | 830   | 1.100 kg |
| BW30Fs   | 320 kN            | -48 mm | 48        | 400 | 1.700 | 300 | 1.236 | 610 | 45 | 1.260 | 583 | 200 | 1.016 | 2.210 kg |

alternations may occur, all dimensions in mm

## 2.1.9. SMITH BERGER ROLLER-FAIRLEADS

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| Model Number | Units of Measure | Maximum Wire Size | Wire Breaking Strength | Roller Diameter | A       | B      | C        | D       | Opening W x H | Weight   |
|--------------|------------------|-------------------|------------------------|-----------------|---------|--------|----------|---------|---------------|----------|
| FR4-2        | Inches           | 1/2               | 26,600 lbs             | 2- 1/2          | 12      | 5- 1/2 | 10       | 3- 1/4  | 3 x 3         | 85 lbs   |
|              | MM               | 13                | 118 kN                 | 64              | 305     | 140    | 254      | 83      | 76 x 76       | 39 Kg    |
| FR4-4        | Inches           | 3/4               | 58,800 lbs             | 4               | 18      | 9      | 15       | 5- 1/8  | 4 x 4         | 310 lbs  |
|              | MM               | 19                | 262 N                  | 102             | 457     | 229    | 381      | 130     | 102 x 102     | 141 Kg   |
| FR4-6        | Inches           | 1- 1/4            | 159,800 lbs            | 6               | 23- 1/2 | 19     | 21- 3/16 | 7- 1/2  | 4 x 4         | 830 lbs  |
|              | MM               | 32                | 711 kN                 | 152             | 597     | 483    | 538      | 191     | 102 x 102     | 376 Kg   |
| FR4-8        | Inches           | 1- 3/4            | 306,000 lbs            | 8               | 32      | 17     | 27       | 9- 3/8  | 8 x 8         | 1800 lbs |
|              | MM               | 44                | 1361 kN                | 203             | 813     | 432    | 686      | 238     | 203 x 203     | 816 Kg   |
| FR4-10       | Inches           | 2- 1/4            | 494,000 lbs            | 10              | 40      | 21     | 35       | 15- 1/2 | 10 x 6        | 3350 lbs |
|              | MM               | 57                | 2198 kN                | 254             | 1016    | 533    | 889      | 394     | 254 x 152     | 1516 Kg  |

### Standard Features

- Designed for breaking strength of wire with 45° wrap on roller
- Grease lubricated bronze bearings
- Hardened rollers for longer life
- Weld down base
- Alloy steel shafts
- Smith Berger Quality



### Optional Features

- Five, six and seven roller designs
- Stainless steel shafts
- Paint to your specification
- OCIMF designs
- Special rollers for high performance synthetic ropes
- Third party certification

*We will custom engineer any of our products to suit **YOUR** requirements!*

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