



MARINE FRAMES



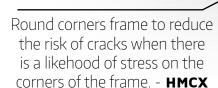
MARINE FRAMES

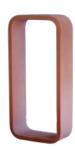


For standard applications, to be welded to a pre-cut metallic bulkhead or deck – **HMX**



Marine frame with a 60mm flange to be welded to a metallic bulkhead or deck. – **HMFX**





For high stressed area applications, end fillet pieces with radius corners are added to the HMX frame. – **HMRX TB**



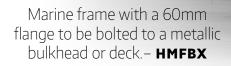




Back to back frame for use when extra pressure and fire resistance are needed. HMBX is a double frame which packed from both sides. – **HMBX**



HMX frame with removable end to be installed around existing cables or pipes. - **HMOX**





A standard HMX frame extended using a welded collar. For use in corrugated bulkheads or to lift the frame above deck level – **HMEX**



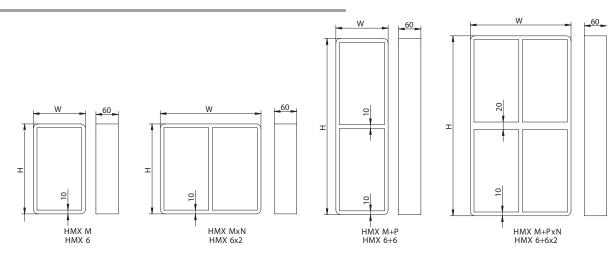


HMX Frame

Rectangular frame for marine applications. Made from 10mm thickness steel.

- Available in four standard sizes with 120mm width (internal), 2,4,6,8 and in four standard sizes 60mm width (Internal), 1,3,5,7.
 Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combined.
- Designed to be welded to a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Aluminium and other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





*Frame designation: M = size row 1; P = size row 2; N = number of columns.

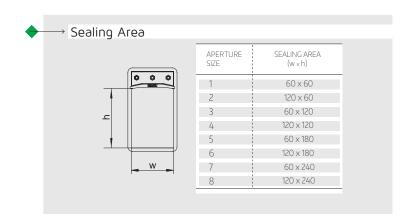
| DESCRIPTION | EXTERNAL I | DIMENSIONS (mm) | WEIC | iHT (Kg) |
|-------------|------------|-----------------|------------|-----------------|
| DESCRIPTION | W | Н | Mild Steel | Stainless Steel |
| HMX 1 | 80 | 121 | 1,6 | 1,6 |
| HMX 2 | 140 | 121 | 2,2 | 2,3 |
| HMX 2x2 | 271 | 121 | 3,9 | 4,0 |
| HMX 2x3 | 401 | 121 | 5,6 | 5,7 |
| HMX 2x4 | 531 | 121 | 7,3 | 7,5 |
| HMX 2x5 | 662 | 121 | 9,0 | 9,2 |
| HMX 2x6 | 792 | 121 | 10,7 | 11,0 |
| HMX 3 | 80 | 179,5 | 2,2 | 2,3 |
| HMX 4 | 140 | 179,5 | 2,7 | 2,8 |
| HMX 4x2 | 271 | 179,5 | 4,7 | 4,8 |
| HMX 4x3 | 401 | 179,5 | 6,7 | 6,9 |
| HMX 4x4 | 531 | 179,5 | 8,7 | 8,9 |
| HMX 4x5 | 662 | 179,5 | 10,6 | 10,9 |
| HMX 4x6 | 792 | 179,5 | 12,6 | 12,9 |

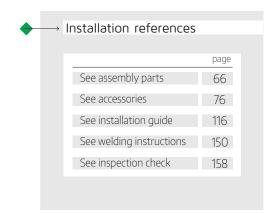


HMX Frame

| DECCRIPTION | EXTERNAL DII | MENSIONS (mm) | WEIG | HT (Kg) |
|-------------|--------------|---------------|------------|-----------------|
| DESCRIPTION | W | Н | Mild Steel | Stainless Steel |
| HMX 4+4 | 140 | 349 | 4,9 | 5,0 |
| HMX 4+4x2 | 271 | 359 | 9,5 | 9,7 |
| HMX 4+4x3 | 401 | 359 | 13,4 | 13,7 |
| HMX 4+4x4 | 531 | 359 | 17,4 | 17,8 |
| HMX 4+4x5 | 662 | 359 | 21,3 | 21,8 |
| HMX 4+4x6 | 792 | 359 | 25,3 | 25,9 |
| HMX 5 | 80 | 238 | 2,7 | 2,8 |
| HMX 6 | 140 | 238 | 3,3 | 3,4 |
| HMX 6x2 | 271 | 238 | 5,5 | 5,6 |
| HMX 6x3 | 401 | 238 | 7,8 | 8,0 |
| HMX 6x4 | 531 | 238 | 10,0 | 10,2 |
| HMX 6x5 | 662 | 238 | 12,3 | 12,6 |
| HMX 6x6 | 792 | 238 | 14,5 | 14,9 |
| HMX 6+6 | 140 | 466 | 6,0 | 6,1 |
| HMX 6+6x2 | 271 | 476 | 11,2 | 11,5 |
| HMX 6+6x3 | 401 | 476 | 15,6 | 16,0 |
| HMX 6+6x4 | 531 | 476 | 20,1 | 20,6 |
| HMX 6+6x5 | 662 | 476 | 24,6 | 25,2 |
| HMX 6+6x6 | 792 | 476 | 29,1 | 29,8 |
| HMX 7 | 80 | 296,5 | 3,3 | 3,4 |
| HMX 8 | 140 | 296,5 | 3,8 | 3,9 |
| HMX 8x2 | 271 | 296,5 | 6,4 | 6,6 |
| HMX 8x3 | 401 | 296,5 | 8,9 | 9,1 |
| HMX 8x4 | 531 | 296,5 | 11,4 | 11,7 |
| HMX 8x5 | 662 | 296,5 | 13,9 | 14,2 |
| HMX 8x6 | 792 | 296,5 | 16,5 | 16,9 |
| HMX 8+8 | 140 | 583 | 7,1 | 7,3 |
| HMX 8+8x2 | 271 | 593 | 12,8 | 13,1 |
| HMX 8+8x3 | 401 | 593 | 17,8 | 18,2 |
| HMX 8+8x4 | 531 | 593 | 22,9 | 23,5 |
| HMX 8+8x5 | 662 | 593 | 27,9 | 28,6 |
| HMX 8+8x6 | 792 | 593 | 33,0 | 33,8 |

*For other sizes or frame combinations not presented here, contact sales department





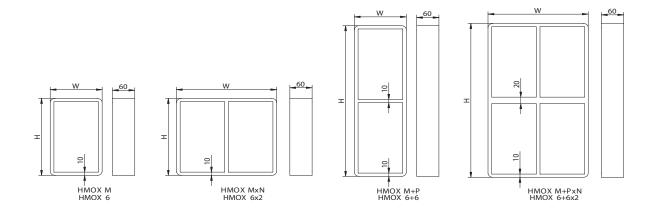


HMOX Frame

Rectangular frame for marine applications with removable end which allows to be installed around existing cables and pipes. Made from 10mm thickness steel.

- Available in four standard sizes with 120mm width (internal), 2,4,6,8. Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combined.
- Designed to be welded to a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





^{*}Frame designation: M = size row 1; P = size row 2; N = number of columns.

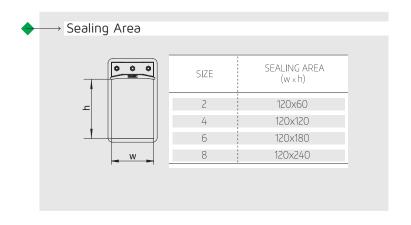
| DESCRIPTION | EXTERNAL [| DIMENSIONS (mm) | WEIG | iHT (Kg) |
|-------------|------------|-----------------|------------|-----------------|
| DESCRIPTION | W | Н | Mild Steel | Stainless Steel |
| HMOX 2 | 140 | 121 | 2,2 | 2,3 |
| HMOX 2x2 | 271 | 121 | 3,9 | 4,0 |
| HMOX 2x3 | 401 | 121 | 5,6 | 5,7 |
| HMOX 2x4 | 531 | 121 | 7,3 | 7,5 |
| HMOX 2x5 | 662 | 121 | 9,0 | 9,2 |
| HMOX 2x6 | 792 | 121 | 10,7 | 11,0 |
| HMOX 4 | 140 | 179,5 | 2,7 | 2,8 |
| HMOX 4x2 | 271 | 179,5 | 4,7 | 4,8 |
| HMOX 4x3 | 401 | 179,5 | 6,7 | 6,9 |
| HMOX 4x4 | 531 | 179,5 | 8,7 | 8,9 |
| HMOX 4x5 | 662 | 179,5 | 10,6 | 10,9 |
| HMOX 4x6 | 792 | 179,5 | 12,6 | 12,9 |

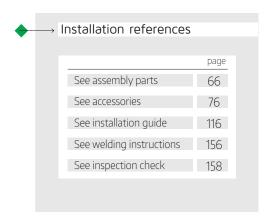


HMOX Frame

| DECEDIDATION | EXTERNAL DI | MENSIONS (mm) | WEIG | HT (Kg) |
|--------------|-------------|---------------|------------|-----------------|
| DESCRIPTION | W | Н | Mild Steel | Stainless Steel |
| HMOX 4+4 | 140 | 349 | 4,9 | 5,0 |
| HMOX 4+4x2 | 271 | 359 | 9,5 | 9,7 |
| HMOX 4+4x3 | 401 | 359 | 13,4 | 13,7 |
| HMOX 4+4x4 | 531 | 359 | 17,4 | 17,8 |
| HMOX 4+4x5 | 662 | 359 | 21,3 | 21,8 |
| HMOX 4+4x6 | 792 | 359 | 25,3 | 25,9 |
| HMOX 6 | 140 | 238 | 3,3 | 3,4 |
| HMOX 6x2 | 271 | 238 | 5,5 | 5,6 |
| HMOX 6x3 | 401 | 238 | 7,8 | 8,0 |
| HMOX 6x4 | 531 | 238 | 10,0 | 10,2 |
| HMOX 6x5 | 662 | 238 | 12,3 | 12,6 |
| HMOX 6x6 | 792 | 238 | 14,5 | 14,9 |
| HMOX 6+6 | 140 | 466 | 6,0 | 6,1 |
| HMOX 6+6x2 | 271 | 476 | 11,2 | 11,5 |
| HMOX 6+6x3 | 401 | 476 | 15,6 | 16,0 |
| HMOX 6+6x4 | 531 | 476 | 20,1 | 20,6 |
| HMOX 6+6x5 | 662 | 476 | 24,6 | 25,2 |
| HMOX 6+6x6 | 792 | 476 | 29,1 | 29,8 |
| HMOX 8 | 140 | 296,5 | 3,8 | 3,9 |
| HMOX 8x2 | 271 | 296,5 | 6,4 | 6,6 |
| HMOX 8x3 | 401 | 296,5 | 8,9 | 9,1 |
| HMOX 8x4 | 531 | 296,5 | 11,4 | 11,7 |
| HMOX 8x5 | 662 | 296,5 | 13,9 | 14,2 |
| HMOX 8x6 | 792 | 296,5 | 16,5 | 16,9 |
| HMOX 8+8 | 140 | 583 | 7,1 | 7,3 |
| HMOX 8+8x2 | 271 | 593 | 12,8 | 13,1 |
| HMOX 8+8x3 | 401 | 593 | 17,8 | 18,2 |
| HMOX 8+8x4 | 531 | 593 | 22,9 | 23,5 |
| HMOX 8+8x5 | 662 | 593 | 27,9 | 28,6 |
| HMOX 8+8x6 | 792 | 593 | 33,0 | 33,8 |

*For other sizes or frame combinations not presented here, contact sales department







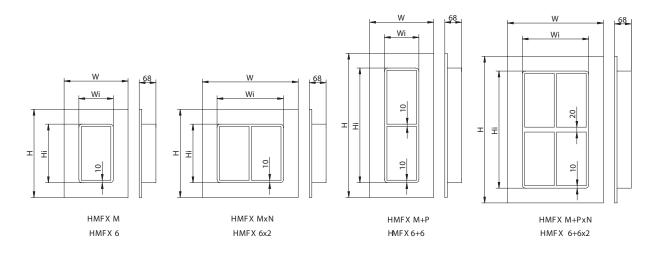
HMFX Frame

Rectangular frame with flange for marine applications. Made from 10mm thickness steel with a 60mm flange.

CHARACTERISTICS

- Available in four standard sizes with 120mm width (internal),
 2, 4, 6, 8. Multiple frames are available as a combination of two or more apertures arranged horizontally, vertically or both combined. (*)
- Designed to be welded to a bulkhead or deck.
- Material: Mild Steel, Stainless Steel, Aluminium and other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





*Frame designation: M = size row 1; P = size row 2; N = number of columns.

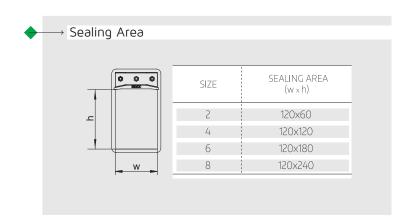
| DESCRIPTION | 1 1 1 1 1 | EXTERNAL D | IMENSIONS (ı | mm) | WEIGHT (Kg) | | |
|-------------|-----------------------|------------|--------------|-------|-------------|-----------------|--|
| DESCRIPTION | W | Н | Wi | Hi | Mild Steel | Stainless Steel | |
| HMFX 2 | 260 | 241 | 140 | 121 | 5,9 | 6,0 | |
| HMFX 2x2 | 391 | 241 | 271 | 121 | 8,7 | 8,9 | |
| HMFX 2x3 | 521 | 241 | 401 | 121 | 11,6 | 11,9 | |
| HMFX 2x4 | 651 | 241 | 531 | 121 | 14,5 | 14,9 | |
| HMFX 2x5 | 782 | 241 | 662 | 121 | 17,5 | 17,9 | |
| HMFX 2x6 | 912 | 241 | 792 | 121 | 20,4 | 20,9 | |
| HMFX 4 | 260 | 299,5 | 140 | 179,5 | 6,9 | 7,1 | |
| HMFX 4x2 | 391 | 299,5 | 271 | 179,5 | 10,1 | 10,3 | |
| HMFX 4x3 | 521 | 299,5 | 401 | 179,5 | 13,3 | 13,6 | |
| HMFX 4x4 | 651 | 299,5 | 531 | 179,5 | 16,5 | 16,9 | |
| HMFX 4x5 | 782 | 299,5 | 662 | 179,5 | 19,7 | 20,2 | |
| HMFX 4x6 | 912 | 299,5 | 792 | 179,5 | 22,9 | 23,4 | |

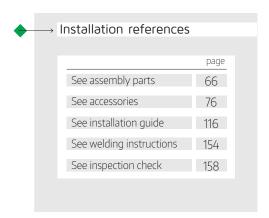


HMFX Frame

| DESCRIPTION | | EXTERNAL DIN | /IENSIONS (m | ım) | WEIGHT (Kg) | | |
|-------------|-----|--------------|--------------|-------|-------------|-----------------|--|
| DESCRIPTION | W | Н | Wi | Hi | Mild Steel | Stainless Steel | |
| HMFX 4+4 | 260 | 469 | 140 | 349 | 10,6 | 10,9 | |
| HMFX 4+4x2 | 391 | 479 | 271 | 359 | 16,6 | 17,0 | |
| HMFX 4+4x3 | 521 | 479 | 401 | 359 | 21,7 | 22,3 | |
| HMFX 4+4x4 | 651 | 479 | 531 | 359 | 26,9 | 27,6 | |
| HMFX 4+4x5 | 782 | 479 | 662 | 359 | 32,1 | 32,8 | |
| HMFX 4+4x6 | 912 | 479 | 792 | 359 | 37,2 | 38,1 | |
| HMFX 6 | 260 | 358 | 140 | 238 | 8,0 | 8,2 | |
| HMFX 6x2 | 391 | 358 | 271 | 238 | 11,5 | 11,7 | |
| HMFX 6x3 | 521 | 358 | 401 | 238 | 14,9 | 15,3 | |
| HMFX 6x4 | 651 | 358 | 531 | 238 | 18,4 | 18,9 | |
| HMFX 6x5 | 782 | 358 | 662 | 238 | 21,9 | 22,4 | |
| HMFX 6x6 | 912 | 358 | 792 | 238 | 25,3 | 26,0 | |
| HMFX 6+6 | 260 | 586 | 140 | 466 | 12,8 | 13,2 | |
| HMFX 6+6x2 | 391 | 596 | 271 | 476 | 19,3 | 19,8 | |
| HMFX 6+6x3 | 521 | 596 | 401 | 476 | 25,0 | 25,6 | |
| HMFX 6+6x4 | 651 | 596 | 531 | 476 | 30,7 | 31,5 | |
| HMFX 6+6x5 | 782 | 596 | 662 | 476 | 36,5 | 37,4 | |
| HMFX 6+6x6 | 912 | 596 | 792 | 476 | 42,2 | 43,2 | |
| HMFX 8 | 260 | 416,5 | 140 | 296,5 | 9,1 | 9,3 | |
| HMFX 8x2 | 391 | 416,5 | 271 | 296,5 | 12,8 | 13,1 | |
| HMFX 8x3 | 521 | 416,5 | 401 | 296,5 | 16,6 | 17,0 | |
| HMFX 8x4 | 651 | 416,5 | 531 | 296,5 | 20,3 | 20,8 | |
| HMFX 8x5 | 782 | 416,5 | 662 | 296,5 | 24,1 | 24,7 | |
| HMFX 8x6 | 912 | 416,5 | 792 | 296,5 | 27,8 | 28,5 | |
| HMFX 8+8 | 260 | 703 | 140 | 583 | 15,0 | 15,4 | |
| HMFX 8+8x2 | 391 | 713 | 271 | 593 | 22,1 | 22,6 | |
| HMFX 8+8x3 | 521 | 713 | 401 | 593 | 28,3 | 29,0 | |
| HMFX 8+8x4 | 651 | 713 | 531 | 593 | 34,6 | 35,4 | |
| HMFX 8+8x5 | 782 | 713 | 662 | 593 | 40,9 | 41,9 | |
| HMFX 8+8x6 | 912 | 713 | 792 | 593 | 47,1 | 48,3 | |

*For other sizes or frame combinations not presented here, contact sales department







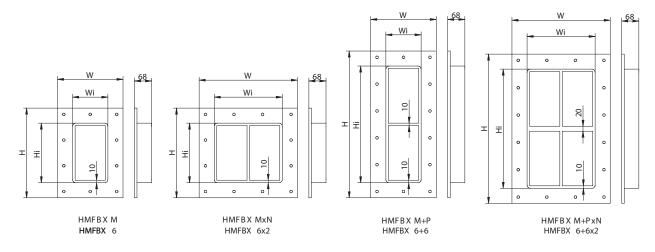
HMFBX Frame

Rectangular frame with drilled flange for marine applications. Made from 10mm thickness steel with a 60mm flange.

CHARACTERISTICS

- Available in four standard sizes with 120mm width (internal), 2,4,6,8. Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combined.
- Designed to be bolted to a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





*Frame designation: M = size row 1; P = size row 2; N = number of columns.

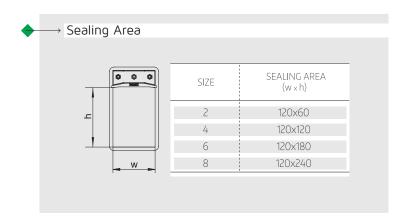
| DESCRIPTION | EXT | ERNAL DIM | IENSIONS | (mm) | HOLE DISTANCE (mm) | | WEIGHT (Kg) | |
|-------------|-----|-----------|----------|-------|--------------------|----|-------------|-----------------|
| DESCRIPTION | W | Н | Wi | Hi | Х | Υ | Mild Steel | Stainless Steel |
| HMFBX 2 | 260 | 241 | 140 | 121 | 105 | 96 | 5,9 | 6,0 |
| HMFBX 2x2 | 391 | 241 | 271 | 121 | 113 | 96 | 8,7 | 8,9 |
| HMFBX 2x3 | 521 | 241 | 401 | 121 | 94 | 96 | 11,6 | 11,9 |
| HMFBX 2x4 | 651 | 241 | 531 | 121 | 100 | 96 | 14,5 | 14,9 |
| HMFBX 2x5 | 782 | 241 | 662 | 121 | 91 | 96 | 17,5 | 17,9 |
| HMFBX 2x6 | 912 | 241 | 792 | 121 | 96 | 96 | 20,4 | 20,9 |
| HMFBX 4 | 260 | 299,5 | 140 | 179,5 | 105 | 83 | 6,9 | 7,1 |
| HMFBX 4x2 | 391 | 299,5 | 271 | 179,5 | 113 | 83 | 10,1 | 10,3 |
| HMFBX 4x3 | 521 | 299,5 | 401 | 179,5 | 94 | 83 | 13,3 | 13,6 |
| HMFBX 4x4 | 651 | 299,5 | 531 | 179,5 | 100 | 83 | 16,5 | 16,9 |
| HMFBX 4x5 | 782 | 299,5 | 662 | 179,5 | 91 | 83 | 19,7 | 20,2 |
| HMFBX 4x6 | 912 | 299,5 | 792 | 179,5 | 96 | 83 | 22,9 | 23,4 |

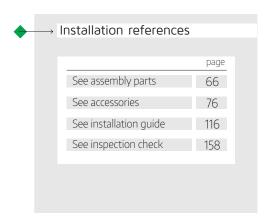


HMFBX Frame

| DECCD:27:2: | EXT | ERNAL DIM | IENSIONS | (mm) | HOLE DIST | 「ANCE (mm) | WEIG | HT (Kg) |
|-------------|-----|-----------|----------|-------|-----------|------------|------------|-----------------|
| DESCRIPTION | W | Н | Wi | Hi | Х | Υ | Mild Steel | Stainless Steel |
| HMFBX 4+4 | 260 | 469 | 140 | 349 | 105 | 105 | 10,6 | 10,9 |
| HMFBX 4+4x2 | 391 | 479 | 271 | 359 | 113 | 107 | 16,6 | 17,0 |
| HMFBX 4+4x3 | 521 | 479 | 401 | 359 | 118 | 107 | 21,7 | 22,3 |
| HMFBX 4+4x4 | 651 | 479 | 531 | 359 | 100 | 107 | 26,9 | 27,6 |
| HMFBX 4+4x5 | 782 | 479 | 662 | 359 | 104 | 107 | 32,1 | 32,8 |
| HMFBX 4+4x6 | 912 | 479 | 792 | 359 | 108 | 107 | 37,2 | 38,1 |
| HMFBX 6 | 260 | 358 | 140 | 238 | 105 | 103 | 8,0 | 8,2 |
| HMFBX 6x2 | 391 | 358 | 271 | 238 | 113 | 103 | 11,5 | 11,7 |
| HMFBX 6x3 | 521 | 358 | 401 | 238 | 94 | 103 | 14,9 | 15,3 |
| HMFBX 6x4 | 651 | 358 | 531 | 238 | 100 | 103 | 18,4 | 18,9 |
| HMFBX 6x5 | 782 | 358 | 662 | 238 | 91 | 103 | 21,9 | 22,4 |
| HMFBX 6x6 | 912 | 358 | 792 | 238 | 96 | 103 | 25,3 | 26,0 |
| HMFBX 6+6 | 260 | 586 | 140 | 466 | 105 | 107 | 12,8 | 13,2 |
| HMFBX 6+6x2 | 391 | 596 | 271 | 476 | 113 | 109 | 19,3 | 19,8 |
| HMFBX 6+6x3 | 521 | 596 | 401 | 476 | 118 | 109 | 25,0 | 25,6 |
| HMFBX 6+6x4 | 651 | 596 | 531 | 476 | 100 | 109 | 30,7 | 31,5 |
| HMFBX 6+6x5 | 782 | 596 | 662 | 476 | 104 | 109 | 36,5 | 37,4 |
| HMFBX 6+6x6 | 912 | 596 | 792 | 476 | 108 | 109 | 42,2 | 43,2 |
| HMFBX 8 | 260 | 416,5 | 140 | 296,5 | 105 | 92 | 9,1 | 9,3 |
| HMFBX 8x2 | 391 | 416,5 | 271 | 296,5 | 113 | 92 | 12,8 | 13,1 |
| HMFBX 8x3 | 521 | 416,5 | 401 | 296,5 | 94 | 92 | 16,6 | 17,0 |
| HMFBX 8x4 | 651 | 416,5 | 531 | 296,5 | 100 | 92 | 20,3 | 20,8 |
| HMFBX 8x5 | 782 | 416,5 | 662 | 296,5 | 91 | 92 | 24,1 | 24,7 |
| HMFBX 8x6 | 912 | 416,5 | 792 | 296,5 | 96 | 92 | 27,8 | 28,5 |
| HMFBX 8+8 | 260 | 703 | 140 | 583 | 105 | 109 | 15,0 | 15,4 |
| HMFBX 8+8x2 | 391 | 713 | 271 | 593 | 113 | 111 | 22,1 | 22,6 |
| HMFBX 8+8x3 | 521 | 713 | 401 | 593 | 118 | 111 | 28,3 | 29,0 |
| HMFBX 8+8x4 | 651 | 713 | 531 | 593 | 100 | 111 | 34,6 | 35,4 |
| HMFBX 8+8x5 | 782 | 713 | 662 | 593 | 104 | 111 | 40,9 | 41,9 |
| HMFBX 8+8x6 | 912 | 713 | 792 | 593 | 108 | 111 | 47,1 | 48,3 |

*For other sizes or frame combinations not presented here, contact sales department





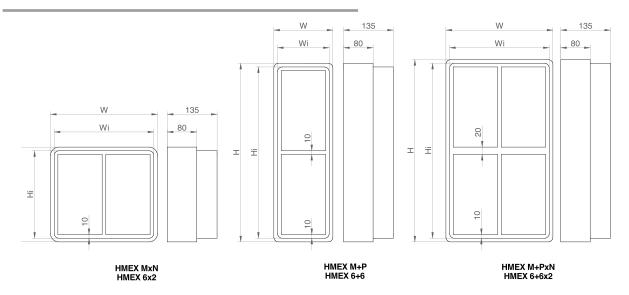


HMEX Frame

Standard HMX frame extended using a 10mm thick welded collar. For use in corrugated bulkhead or to fit the frame above deck level.

- Available in four standard sizes with 120mm width (internal), 2,4,6,8. Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combined.
- Designed to be welded onto a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





*Frame designation: M = size row 1; P = size row 2; N = number of columns.

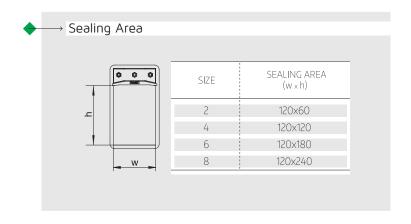
| DESCRIPTION | 1 | EXTERNAL D | IMENSIONS (ı | nm) | WEIGHT (Kg) | | | |
|-------------|------------------------------------|------------|--------------|-------|-------------|-----------------|--|--|
| DESCRIPTION | W | Н | Wi | Hi | Mild Steel | Stainless Steel | | |
| HMEX 2 | 160 | 141 | 140 | 121 | 5,5 | 5,7 | | |
| HMEX 2x2 | 291 | 141 | 271 | 121 | 8,9 | 9,1 | | |
| HMEX 2x3 | 421 | 141 | 401 | 121 | 12,2 | 12,5 | | |
| HMEX 2x4 | 551 | 141 | 531 | 121 | 15,5 | 15,9 | | |
| HMEX 2x5 | 682 | 141 | 662 | 121 | 18,8 | 19,3 | | |
| HMEX 2x6 | 812 | 141 | 792 | 121 | 22,2 | 22,7 | | |
| HMEX 4 | 160 | 199,5 | 140 | 179,5 | 6,8 | 7,0 | | |
| HMEX 4x2 | 291 | 199,5 | 271 | 179,5 | 10,4 | 10,7 | | |
| HMEX 4x3 | 421 | 199,5 | 401 | 179,5 | 14,0 | 14,4 | | |
| HMEX 4x4 | 551 | 199,5 | 531 | 179,5 | 17,6 | 18,0 | | |
| HMEX 4x5 | 682 | 199,5 | 662 | 179,5 | 21,2 | 21,7 | | |
| HMEX 4x6 | 812 | 199,5 | 792 | 179,5 | 24,8 | 25,4 | | |
| | *All dimensions are nominal values | | | | | | | |

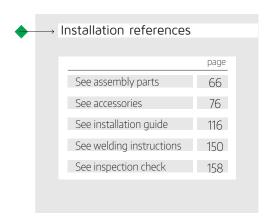


HMEX Frame

| DESCRIPTION | 1 1 1 1 | EXTERNAL [| DIMENSIONS | (mm) | WEIGHT (Kg) | | |
|-------------|------------------|------------|------------|-------|-------------|-----------------|--|
| DESCRIPTION | W | Н | Wi | Hi | Mild Steel | Stainless Steel | |
| HMEX 4+4 | 160 | 369 | 140 | 349 | 11,3 | 11,6 | |
| HMEX 4+4x2 | 291 | 379 | 271 | 359 | 17,6 | 18,1 | |
| HMEX 4+4x3 | 421 | 379 | 401 | 359 | 23,2 | 23,8 | |
| HMEX 4+4x4 | 551 | 379 | 531 | 359 | 28,8 | 29,5 | |
| HMEX 4+4x5 | 682 | 379 | 662 | 359 | 34,4 | 35,2 | |
| HMEX 4+4x6 | 812 | 379 | 792 | 359 | 39,9 | 40,9 | |
| HMEX 6 | 160 | 258 | 140 | 238 | 8,1 | 8,3 | |
| HMEX 6x2 | 291 | 258 | 271 | 238 | 12,0 | 12,3 | |
| HMEX 6x3 | 421 | 258 | 401 | 238 | 15,8 | 16,2 | |
| HMEX 6x4 | 551 | 258 | 531 | 238 | 19,7 | 20,2 | |
| HMEX 6x5 | 682 | 258 | 662 | 238 | 23,6 | 24,2 | |
| HMEX 6x6 | 812 | 258 | 792 | 238 | 27,5 | 28,2 | |
| HMEX 6+6 | 160 | 486 | 140 | 466 | 13,8 | 14,2 | |
| HMEX 6+6x2 | 291 | 496 | 271 | 476 | 20,8 | 21,3 | |
| HMEX 6+6x3 | 421 | 496 | 401 | 476 | 26,9 | 27,5 | |
| HMEX 6+6x4 | 551 | 496 | 531 | 476 | 33,0 | 33,8 | |
| HMEX 6+6x5 | 682 | 496 | 662 | 476 | 39,1 | 40,1 | |
| HMEX 6+6x6 | 812 | 496 | 792 | 476 | 45,2 | 46,4 | |
| HMEX 8 | 160 | 316,5 | 140 | 296,5 | 9,4 | 9,6 | |
| HMEX 8x2 | 291 | 316,5 | 271 | 296,5 | 13,5 | 13,9 | |
| HMEX 8x3 | 421 | 316,5 | 401 | 296,5 | 17,7 | 18,1 | |
| HMEX 8x4 | 551 | 316,5 | 531 | 296,5 | 21,8 | 22,4 | |
| HMEX 8x5 | 682 | 316,5 | 662 | 296,5 | 26,0 | 26,6 | |
| HMEX 8x6 | 812 | 316,5 | 792 | 296,5 | 30,1 | 30,9 | |
| HMEX 8+8 | 160 | 603 | 140 | 583 | 16,4 | 16,8 | |
| HMEX 8+8x2 | 291 | 613 | 271 | 593 | 23,9 | 24,5 | |
| HMEX 8+8x3 | 421 | 613 | 401 | 593 | 30,5 | 31,3 | |
| HMEX 8+8x4 | 551 | 613 | 531 | 593 | 37,2 | 38,1 | |
| HMEX 8+8x5 | 682 | 613 | 662 | 593 | 43,9 | 45,0 | |
| HMEX 8+8x6 | 812 | 613 | 792 | 593 | 50,6 | 51,8 | |

*For other sizes or frame combinations not presented here, contact sales department





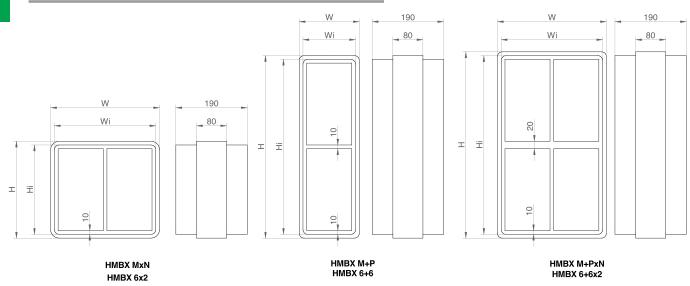


HMBX Frame

Double frame for applications with increased pressure ratings and fire-proofing.

- Available in four standard sizes with 120mm width (internal), 2,4,6,8. Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combiened.
- Designed to be welded onto a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





*Frame designation: M = size row 1; P = size row 2; N = number of columns.

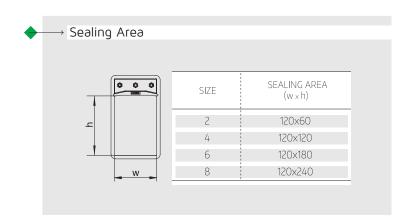
| DESCRIPTION | | EXTERNAL D | IMENSIONS (| mm) | WEIGHT (Kg) | | |
|------------------------------------|-----|------------|-------------|-------|-------------|-----------------|--|
| DESCRIPTION | W | Н | Wi | Hi | Mild Steel | Stainless Steel | |
| HMBX 2 | 160 | 141 | 140 | 121 | 7,7 | 7,9 | |
| HMBX 2x2 | 291 | 141 | 271 | 121 | 12,7 | 13,1 | |
| HMBX 2x3 | 421 | 141 | 401 | 121 | 17,8 | 18,2 | |
| HMBX 2x4 | 551 | 141 | 531 | 121 | 22,8 | 23,4 | |
| HMBX 2x5 | 682 | 141 | 662 | 121 | 27,8 | 28,5 | |
| HMBX 2x6 | 812 | 141 | 792 | 121 | 32,8 | 33,6 | |
| HMBX 4 | 160 | 199,5 | 140 | 179,5 | 9,6 | 9,8 | |
| HMBX 4x2 | 291 | 199,5 | 271 | 179,5 | 15,1 | 15,5 | |
| HMBX 4x3 | 421 | 199,5 | 401 | 179,5 | 20,7 | 21,2 | |
| HMBX 4x4 | 551 | 199,5 | 531 | 179,5 | 26,3 | 26,9 | |
| HMBX 4x5 | 682 | 199,5 | 662 | 179,5 | 31,8 | 32,6 | |
| HMBX 4x6 | 812 | 199,5 | 792 | 179,5 | 37,4 | 38,3 | |
| *All dimensions are nominal values | | | | | | | |

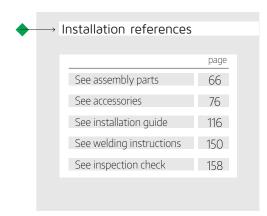


HMBX Frame

| DESCRIPTION | E | XTERNAL DIM | IENSIONS (m | m) | WEIGHT (Kg) | | |
|-------------|-----|-------------|-------------|-------|-------------|-----------------|--|
| DESCRIPTION | W | Н | Wi | Hi | Mild Steel | Stainless Steel | |
| HMBX 4+4 | 160 | 369 | 140 | 349 | 16,2 | 16,6 | |
| HMBX 4+4x2 | 291 | 379 | 271 | 359 | 27,1 | 27,8 | |
| HMBX 4+4x3 | 421 | 379 | 401 | 359 | 36,7 | 37,6 | |
| HMBX 4+4x4 | 551 | 379 | 531 | 359 | 46,2 | 47,3 | |
| HMBX 4+4x5 | 682 | 379 | 662 | 359 | 55,7 | 57,1 | |
| HMBX 4+4x6 | 812 | 379 | 792 | 359 | 65,2 | 66,8 | |
| HMBX 6 | 160 | 258 | 140 | 238 | 11,4 | 11,7 | |
| HMBX 6x2 | 291 | 258 | 271 | 238 | 17,5 | 17,9 | |
| HMBX 6x3 | 421 | 258 | 401 | 238 | 23,6 | 24,2 | |
| HMBX 6x4 | 551 | 258 | 531 | 238 | 29,8 | 30,5 | |
| HMBX 6x5 | 682 | 258 | 662 | 238 | 35,9 | 36,8 | |
| HMBX 6x6 | 812 | 258 | 792 | 238 | 42,0 | 43,0 | |
| HMBX 6+6 | 160 | 486 | 140 | 466 | 19,9 | 20,3 | |
| HMBX 6+6x2 | 291 | 496 | 271 | 476 | 31,9 | 32,7 | |
| HMBX 6+6x3 | 421 | 496 | 401 | 476 | 42,5 | 43,6 | |
| HMBX 6+6x4 | 551 | 496 | 531 | 476 | 53,1 | 54,5 | |
| HMBX 6+6x5 | 682 | 496 | 662 | 476 | 63,8 | 65,3 | |
| HMBX 6+6x6 | 812 | 496 | 792 | 476 | 74,4 | 76,2 | |
| HMBX 8 | 160 | 316,5 | 140 | 296,5 | 13,2 | 13,5 | |
| HMBX 8x2 | 291 | 316,5 | 271 | 296,5 | 19,9 | 20,4 | |
| HMBX 8x3 | 421 | 316,5 | 401 | 296,5 | 26,6 | 27,2 | |
| HMBX 8x4 | 551 | 316,5 | 531 | 296,5 | 33,2 | 34,1 | |
| HMBX 8x5 | 682 | 316,5 | 662 | 296,5 | 39,9 | 40,9 | |
| HMBX 8x6 | 812 | 316,5 | 792 | 296,5 | 46,6 | 47,7 | |
| HMBX 8+8 | 160 | 603 | 140 | 583 | 23,5 | 24,1 | |
| HMBX 8+8x2 | 291 | 613 | 271 | 593 | 36,7 | 37,6 | |
| HMBX 8+8x3 | 421 | 613 | 401 | 593 | 48,4 | 49,6 | |
| HMBX 8+8x4 | 551 | 613 | 531 | 593 | 60,1 | 61,6 | |
| HMBX 8+8x5 | 682 | 613 | 662 | 593 | 71,8 | 73,6 | |
| HMBX 8+8x6 | 812 | 613 | 792 | 593 | 83.5 | 85.6 | |

 $\hbox{*For other sizes or frame combinations not presented here, contact sales department}$







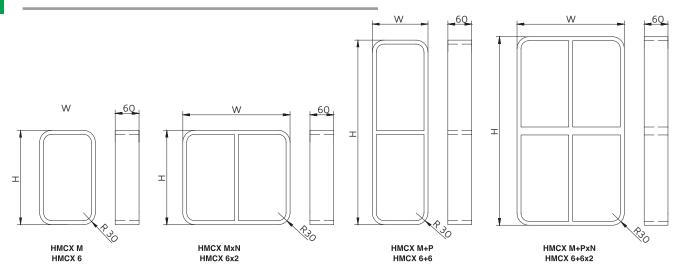
HMCX Frame

Rectangular frame with round corners to reduce the risk of stress fractures within stress applications.

Made from 10mm thickness steel.

- Available in four standard sizes with 120mm width (internal), 2,4,6,8. Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combined.
- Designed to be welded onto a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





*Frame designation: M = size row 1; P = size row 2; N = number of columns.

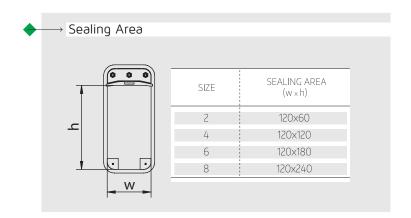
| DESCRIPTION | EXTERNAL DIMI | WEIGHT (Kg) | | | |
|----------------|---------------|-------------|------------|-----------------|--|
| DESCRIPTION | W | Н | Mild Steel | Stainless Steel | |
| HMCX R30 4 | 140 | 179,5 | 2,6 | 2,7 | |
| HMCX R30 4x2 | 271 | 179,5 | 4,6 | 4,7 | |
| HMCX R30 4x3 | 401 | 179,5 | 6,6 | 6,7 | |
| HMCX R30 4x4 | 531 | 179,5 | 8,5 | 8,7 | |
| HMCX R30 4x5 | 662 | 179,5 | 10,5 | 10,8 | |
| HMCX R30 4x6 | 792 | 179,5 | 12,5 | 12,8 | |
| HMCX R30 4+4 | 140 | 349 | 4,8 | 4,9 | |
| HMCX R30 4+4x2 | 271 | 359 | 9,4 | 9,6 | |
| HMCX R30 4+4x3 | 401 | 359 | 13,3 | 13,6 | |
| HMCX R30 4+4x4 | 531 | 359 | 17,3 | 17,7 | |
| HMCX R30 4+4x5 | 662 | 359 | 21,2 | 21,7 | |
| HMCX R30 4+4x6 | 792 | 359 | 25,1 | 25,8 | |

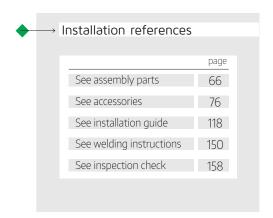


HMCX Frame

| DESCRIPTION | EXTERNAL DI | WEIGHT (Kg) | | | |
|----------------|-------------|-------------|------------|-----------------|--|
| DESCRIPTION | W | Н | Mild Steel | Stainless Steel | |
| HMCX R30 6 | 140 | 238 | 3,2 | 3,2 | |
| HMCX R30 6x2 | 271 | 238 | 5,5 | 5,6 | |
| HMCX R30 6x3 | 401 | 238 | 7,9 | 8,1 | |
| HMCX R30 6x4 | 531 | 238 | 10,2 | 10,5 | |
| HMCX R30 6x5 | 662 | 238 | 12,6 | 12,9 | |
| HMCX R30 6x6 | 792 | 238 | 14,9 | 15,3 | |
| HMCX R30 6+6 | 140 | 466 | 5,9 | 6,0 | |
| HMCX R30 6+6x2 | 271 | 476 | 11,0 | 11,3 | |
| HMCX R30 6+6x3 | 401 | 476 | 15,5 | 15,9 | |
| HMCX R30 6+6x4 | 531 | 476 | 20,0 | 20,5 | |
| HMCX R30 6+6x5 | 662 | 476 | 24,5 | 25,1 | |
| HMCX R30 6+6x6 | 792 | 476 | 29,0 | 29,7 | |
| HMCX R30 8 | 140 | 296,5 | 3,7 | 3,8 | |
| HMCX R30 8x2 | 271 | 296,5 | 6,2 | 6,4 | |
| HMCX R30 8x3 | 401 | 296,5 | 8,8 | 9,0 | |
| HMCX R30 8x4 | 531 | 296,5 | 11,3 | 11,6 | |
| HMCX R30 8x5 | 662 | 296,5 | 13,8 | 14,1 | |
| HMCX R30 8x6 | 792 | 296,5 | 16,3 | 16,7 | |
| HMCX R30 8+8 | 140 | 583 | 7,0 | 7,1 | |
| HMCX R30 8+8x2 | 271 | 593 | 12,7 | 13,0 | |
| HMCX R30 8+8x3 | 401 | 593 | 17,7 | 18,2 | |
| HMCX R30 8+8x4 | 531 | 593 | 22,8 | 23,3 | |
| HMCX R30 8+8x5 | 662 | 593 | 27,8 | 28,5 | |
| HMCX R30 8+8x6 | 792 | 593 | 32,8 | 33,7 | |

*For other sizes or frame combinations not presented here, contact sales department







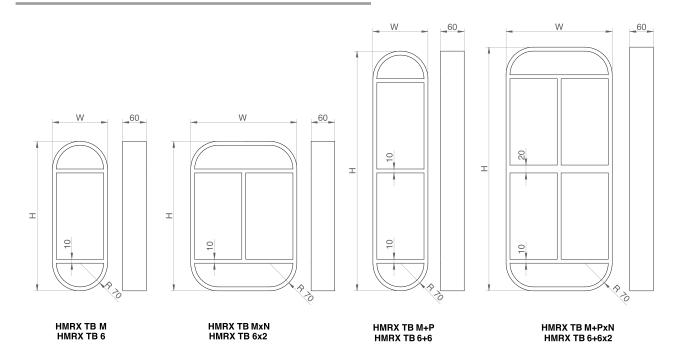
HMRX TB Frame

Standard HMX frame with end fillet pieces with radius corners added to the top and bottom sides of the frame for high stressed area applications.

CHARACTERISTICS

- Available in four standard sizes with 120mm width (internal), 2,4,6,8. Multiple frames are available as combination of two or more apertures arranged horizontally, vertically or both combined.
- Designed to be welded to a bulkhead or deck.
- Materials: Mild Steel, Stainless Steel.
 Other materials under request.
- To be sealed with standard or EMC HF blocks, compression systems and accessories.





^{*}Frame designation: M = size row 1; P = size row 2; N = number of columns.

| TYPE | EXTERNAL DIM | 1ENSIONS (mm) | WEIGHT (Kg) | | | | |
|-----------------|--------------|---------------|-------------|-----------------|--|--|--|
| IYPE | W | Н | Mild Steel | Stainless Steel | | | |
| HMRX R70 TB 2 | 140 | 261 | 5,1 | 5,2 | | | |
| HMRX R70 TB 4 | 140 | 319,5 | 5,6 | 5,8 | | | |
| HMRX R70 TB 6 | 140 | 378 | 6,2 | 6,3 | | | |
| HMRX R70 TB 6x2 | 271 | 378 | 10,9 | 11,1 | | | |
| HMRX R70 TB 6x3 | 401 | 378 | 15,6 | 15,9 | | | |
| HMRX R70 TB 6x4 | 531 | 378 | 20,2 | 20,7 | | | |
| HMRX R70 TB 6x5 | 662 | 378 | 24,9 | 25,5 | | | |
| HMRX R70 TB 6x6 | 792 | 378 | 29,6 | 30,4 | | | |

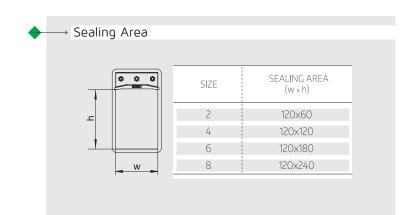
*For other sizes or frame combinations not presented here, contact sales department

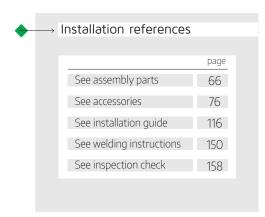


HMRX TB Frame

| TYPE | EXTERNAL DIM | MENSIONS (mm) | WEIGI | HT (Kg) | |
|-------------------|--------------|---------------|------------|-----------------|--|
| TYPE | W | Н | Mild Steel | Stainless Steel | |
| HMRX R70 TB 6+6 | 140 | 606 | 8,9 | 9,1 | |
| HMRX R70 TB 6+6x2 | 271 | 616 | 16,5 | 16,9 | |
| HMRX R70 TB 6+6x3 | 401 | 616 | 23,4 | 24,0 | |
| HMRX R70 TB 6+6x4 | 531 | 616 | 30,3 | 31,1 | |
| HMRX R70 TB 6+6x5 | 662 | 616 | 37,3 | 38,2 | |
| HMRX R70 TB 6+6x6 | 792 | 616 | 44,2 | 45,3 | |
| HMRX R70 TB 8 | 140 | 436,5 | 6,7 | 6,9 | |
| HMRX R70 TB 8x2 | 271 | 436,5 | 11,7 | 12,0 | |
| HMRX R70 TB 8x3 | 401 | 436,5 | 16,7 | 17,1 | |
| HMRX R70 TB 8x4 | 531 | 436,5 | 21,6 | 22,2 | |
| HMRX R70 TB 8x5 | 662 | 436,5 | 26,6 | 27,2 | |
| HMRX R70 TB 8x6 | 792 | 436,5 | 31,5 | 32,3 | |
| HMRX R70 TB 8+8 | 140 | 723 | 10,0 | 10,2 | |
| HMRX R70 TB 8+8x2 | 271 | 733 | 18,1 | 18,6 | |
| HMRX R70 TB 8+8x3 | 401 | 733 | 25,6 | 26,2 | |
| HMRX R70 TB 8+8x4 | 531 | 733 | 33,1 | 33,9 | |
| HMRX R70 TB 8+8x5 | 662 | 733 | 40,6 | 41,6 | |
| HMRX R70 TB 8+8x6 | 792 | 733 | 48,1 | 49,3 | |

 $\hbox{*For other sizes or frame combinations not presented here, contact sales department}\\$

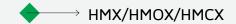


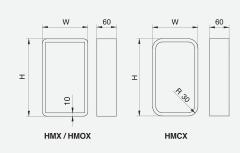




DIMENSIONS

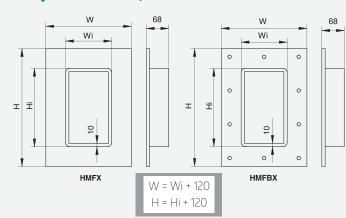
Guidelines • for marine frames.



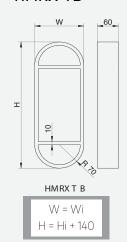


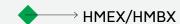


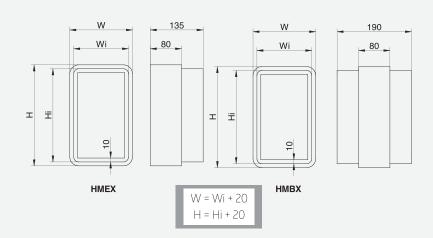
♦ HMFX/HMFBX



→ HMRX TB





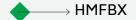


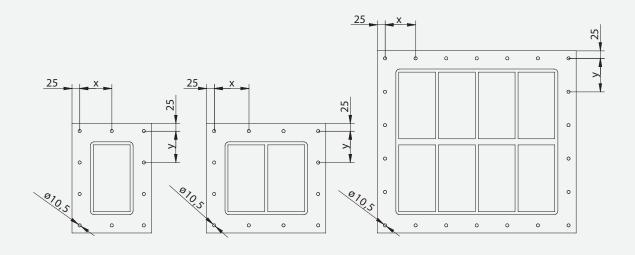
| <i>C</i> ' . | × | :1 | ×Ν | | | | | | | | | |
|--------------|---------------|---|---------------|---------|---------------|-------------|------|--------------|-------------|--------|-------------|-------------|
| Size | Hi (mm) | Wi (mm) | Hi (mm) | Wi (mm) | | | | | | | | |
| | 1 11 (111111) | 1 *** (******************************** | 1 11 (111111) | x 2 | ; ×3 | ×4 | ; ×5 | x 6 | ×7 | ×8 | ; ×9 | ×10 |
| 2 | 121 | 140 | 121 | | 1 1 1 | 1 | | 1 1 1 | 1 1 1 | 1 1 | 1 1 1 | 1 |
| 2+2 | 232 | 140 | 242 | | (01 534 | | | | | | | |
| 4 | 179,5 | 140 | 179,5 | | | ! | | | | | | |
| 4+2 | 290,5 | 140 | 300,5 | | | | | | | | | |
| 4+4 | 349 | 140 | 359 | | | | | | | 1052 | 1183 | 1313 |
| 6 | 238 | 140 | 238 | | | | | | | | | |
| 6+2 | 349 | 140 | 359 | 771 | | | | 700 | | | | |
| 6+4 | 407,5 | 140 | 417,5 | 271 | 401 | 531 | 662 | 792 | 792 922 | | | |
| 6+6 | 466 | 140 | 476 | | : ! | | | | | | | |
| 8 | 296,5 | 140 | 296,5 | | 1 1 1 | 1 1 1 | | - - | | | | |
| 8+2 | 407,5 | 140 | 417,5 | | ! ! | | | | | | | |
| 8+4 | 466 | 140 | 476 | | ! ! ! | | | | | | 1 | |
| 8+6 | 524,5 | 140 | 534,5 | | - - - | : | | | | : | : | i i i |
| 8+8 | 583 | 140 | 593 | | ! ! | ! | ! | ! ! | ! ! | ! | ! ! | ! |



DRILLING

Guidelines \longrightarrow for marine frames.





| | Х | 1 | ×Ν | | | | | | | | | | |
|------|---------|-------------|---------|---------|------------|-------------|---------|-------------|-----------|----------|----------|----------|------|
| SIZE | y (mm) | x (mm) | y (mm) | | | | | | | | | | Ø |
| | & Ny | & Nx | & Ny | ×2 | ; ×3 | ×4 | ; ×5 | x 6 | ×7 | ×8 | ; ×9 | ×10 | (mm) |
| 2 | 96 (2) | | 96 (2) | | | 1 | | 1 | | ! | | | 10,5 |
| 2+2 | 101 (3) | 1 1 1 | 104 (3) | | (4) 94 (6) | 100 (7) | 91 (9) | 96 (10) | 99 (11) | 102 (12) | 104 (13) | ! ! | 10,5 |
| 4 | 83 (2) | 1 | 83 (2) | | | | | | | | | 106 (14) | 10,5 |
| 4+2 | 90 (3) | i | 93 (3) | | | | | | | | | | 10,5 |
| 4+4 | 105 (3) | 1 1 1 | 107 (3) | | | | | | | | | | 10,5 |
| 6 | 103 (3) | 1 ! ! | 103 (3) | | | | | | | | | | 10,5 |
| 6+2 | 105 (4) | 105 (3) | 107 (4) | 113 (4) | | | | | | | | | 10,5 |
| 6+4 | 96 (4) | 103 (3) | 98 (4) |] ", | 1 3 1 (0) | . 100 (7) | 1 31(3) | 1 30 (10) | 1 33 (11) | 102 (12) | 1101(13) | | 10,5 |
| 6+6 | 107 (4) |) | 109 (4) | | | | | | | | | | 10,5 |
| 8 | 92 (3) |] | 92 (3) | | | | | | | | | | 10,5 |
| 8+2 | 96 (4) | ! ! ! | 98 (4) | ! | ! | | - | 1 1 1 | | | 10,5 | | |
| 8+4 | 107 (4) | | 109 (4) | | | | | 1 | - | 1 | | | 10,5 |
| 8+6 | 99 (5) | ; | 101 (5) | | ! ! | ! ! | ! ! | ! ! | ! ! | ! ! | ! ! | ! ! | 10,5 |
| 8+8 | 109 (5) |) ! ! | 111 (5) | | ! | ! ! ! | ! ! | ! | ! ! | ! ! | ! | ! ! | 10,5 |

Nx: Number of horizontal holes; Ny: Number of vertical holes; ϕ : Diameter of holes (mm); N: number of columns