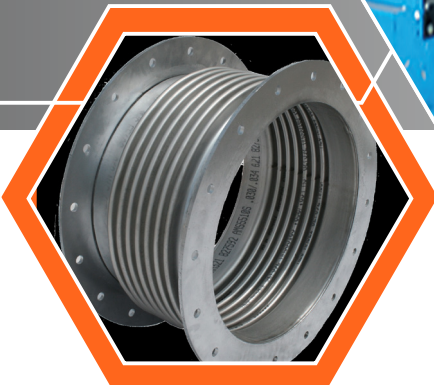
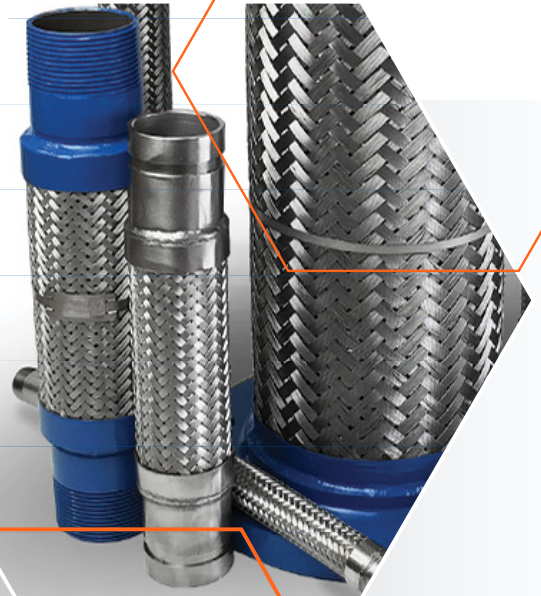




# HEBDRAULIQUE®

**VENTE ■ ASSEMBLAGE ■ INSTALLATION**  
**DE CANALISATIONS HYDRAULIQUES,**  
**PNEUMATIQUES, MÉTALLIQUES ET INDUSTRIELLES**

## FLEXIBLES MÉTALLIQUES ET JOINTS D'EXPANSION



## METALLIC HOSES AND EXPANSION JOINTS

**Edition M25**

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# FLEXIBLES ASSEMBLÉS AU CANADA

## HOSES MADE IN CANADA

Les boyaux flexibles d'Hebdraulique sont conçus pour contrôler la vibration, réduire la transmission du bruit, prévenir les coups de bélier, compenser pour le désalignement et certains mouvements.

Ils peuvent être assemblés avec différents alliages d'acier inoxydable tels que le 304, le 321 et le 316. La couverture de tressage est majoritairement constituée d'acier inoxydable de grade 304.

L'utilisation de boyaux flexibles en acier inoxydable sur des applications de pompes de compresseurs et d'équipements mécaniques améliorera sans doute les opérations de votre système.

Tous les jours nous faisons des assemblés sur demandes et spécifications. Nous travaillons de 1/4" à 12" de diamètre à notre atelier de Montréal et jusqu'à plus de 20" de diamètre sur demande spéciale. Chaque boyau subit un test de vérification d'étanchéité des soudures. Nous rendons aussi disponible sur demande, des tests de pression et d'éclatement jusqu'à 25 000 psi.

Nos procédures de fabrication rencontrent et surpassent les normes "CRN" et "UL" en vigueur, c'est-à-dire conformément à la loi et au règlement sur les chaudières, récipients sous pression et sur le code de la tuyauterie sous pression (CSA-B51/ASME-Section VIII Div. 1 du Code ASME/ASME B31.3 - Process Piping).

Attention : Les boyaux flexibles opèrent fréquemment sur des lignes de tuyauterie véhiculant des fluides ou des gaz à haute pression ou température. Des précautions d'usage doivent être observées quant à l'installation et des inspections régulières doivent être faites. Des précautions doivent aussi être prises pour protéger votre personnel des fuites ou d'éclatements possibles. La tuyauterie rattachée à un boyau flexible en acier inoxydable se doit d'être correctement alignée et ancrée pour éviter des dommages au boyau. Les mouvements ne doivent pas dépasser ceux permis par les spécifications de l'assemblé. Cette information ne constitue pas une garantie. Nous n'assumons aucune responsabilité juridique ou obligation légale à cet égard. Aucune application spécifique ne devrait être entreprise sans étude ou évaluation indépendante.

*Hebdraulique stainless steel hoses are manufactured to control vibration, reduce noise transmission and prevent from hammering. They can also prevent misalignment and compensate for some thermal movements.*

*Hoses can be manufactured in different type of stainless such as 304, 321 and 316. They are also available in exotic alloys such as "Monel" and "Inconel". Most of the time the braid is in 304 stainless steel but is also available in 316.*

*The use of our stainless steel hoses on pumps, compressors and mechanical equipments will surely improve the operation of your system.*

*Every working day, we are making custom assemblies respecting requests and specifications provided by our customer. We are working from 1/4" to 12" diameter at our Montreal fabrication plant. Each and every assembly passes a leak test. We also provide by request pressure and burst testing at the same facility. We can test up to 25 000 psi if needed.*

*Our fabrication procedures meet and exceed the "CRN" and "UL" code CSA-B51/ASME-Section VIII Div. 1 and Code ASME/ASME B31.3 - Process Piping.*

*Important notice: Stainless steel hoses are often operating on high pressure gas or steam systems. Standard precautions should be taken when installing and regular inspections must be done. Other precautions should be taken to protect your staff from possible leak or burst. Piping attached to stainless steel hoses help to properly align and anchor. Movement should not be greater the specification allowed than the assembly. This information does not constitutes a warranty. Hebdraulique will not assume any responsibility or obligations regarding your installation. Any installation or application should be verified by an independant third party.*



# GRAND INVENTAIRE PRÊT POUR L'EXPÉDITION

## LARGE INVENTORY READY TO BE SHIPPED

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Que ce soit pour un boyau flexible en acier inoxydable, des joints de caoutchouc, des compensateurs ou des guides de tuyauterie, nous pouvons sans aucun doute répondre à vos commandes urgentes. / *Whether it's for a flexible stainless steel hose, rubber gaskets, compensators or guides piping, we can undoubtedly meet your urgent orders.*

Renseignez-vous sur les secteurs  
desservis par notre service de livraison.

*Find out about areas served by our free delivery.*

514-327-5966  
[flexible@hebdraulique.ca](mailto:flexible@hebdraulique.ca)



### Heures d'ouverture

#### BUSINESS HOURS

Lundi à vendredi 7h30-17h00

Monday to friday 7h30-17h00



## MFSN

Boyaux flexibles standards avec embouts mâles NPT acier ou acier inox. Boyaux internes à ondulations rapprochées inox 321, tressage et bagues Inox 304. / *Standard assemblies come with NPT male in steel or stainless steel. 321 stainless steel inner convoluted closed pitch hoses, 304 stainless braid and braid bands.*



MFSN

| #           | MNPT          | DIAM X LONG/ LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL/ WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL/ WOR-<br>KING PRESSURE PSI<br>(500°F/260°C) |
|-------------|---------------|----------------------------|-------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|
| MFSN-008    | Acier / Steel | 1/2x12                     | 1.24                    | 1225                                                           | 943                                                                |
| MFSN-008-18 | Acier / Steel | 1/2x18                     | 1.37                    | 1225                                                           | 943                                                                |
| MFSN-008-24 | Acier / Steel | 1/2x24                     | 1.65                    | 1225                                                           | 943                                                                |
| MFSN-008-36 | Acier / Steel | 1/2x36                     | 1.370                   | 1225                                                           | 943                                                                |
| MFSN-008-48 | Acier / Steel | 1/2x48                     | 1.370                   | 1225                                                           | 943                                                                |
| MFSN-008-60 | Acier / Steel | 1/2x60                     | 1.370                   | 1225                                                           | 943                                                                |
| MFSN-008-72 | Acier / Steel | 1/2x72                     | 1.370                   | 1225                                                           | 943                                                                |
| MFSN-012    | Acier / Steel | 3/4x12                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-012-18 | Acier / Steel | 3/4x18                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-012-24 | Acier / Steel | 3/4x24                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-012-36 | Acier / Steel | 3/4x36                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-012-48 | Acier / Steel | 3/4x48                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-012-60 | Acier / Steel | 3/4x60                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-012-72 | Acier / Steel | 3/4x72                     | 1.650                   | 1034                                                           | 796                                                                |
| MFSN-016    | Acier / Steel | 1x12                       | 0.92                    | 796                                                            | 612                                                                |
| MFSN-016-18 | Acier / Steel | 1x18                       | 1.88                    | 796                                                            | 612                                                                |
| MFSN-016-24 | Acier / Steel | 1x24                       | 1.88                    | 796                                                            | 612                                                                |
| MFSN-016-36 | Acier / Steel | 1x36                       | 1.88                    | 796                                                            | 612                                                                |
| MFSN-016-48 | Acier / Steel | 1x48                       | 1.88                    | 796                                                            | 612                                                                |
| MFSN-016-60 | Acier / Steel | 1x60                       | 1.88                    | 796                                                            | 612                                                                |
| MFSN-016-72 | Acier / Steel | 1x72                       | 1.88                    | 796                                                            | 612                                                                |
| MFSN-020    | Acier / Steel | 1 1/4x12                   | 0.49                    | 600                                                            | 462                                                                |
| MFSN-020-18 | Acier / Steel | 1 1/4x18                   | 2.11                    | 600                                                            | 462                                                                |
| MFSN-020-24 | Acier / Steel | 1 1/4x24                   | 2.55                    | 600                                                            | 462                                                                |
| MFSN-020-36 | Acier / Steel | 1 1/4x36                   | 2.55                    | 600                                                            | 462                                                                |
| MFSN-020-48 | Acier / Steel | 1 1/4x48                   | 2.55                    | 600                                                            | 462                                                                |
| MFSN-020-60 | Acier / Steel | 1 1/4x60                   | 2.55                    | 600                                                            | 462                                                                |
| MFSN-020-72 | Acier / Steel | 1 1/4x72                   | 2.55                    | 600                                                            | 462                                                                |
| MFSN-024    | Acier / Steel | 1 1/2x12                   | 0.427                   | 557                                                            | 428                                                                |
| MFSN-024-18 | Acier / Steel | 1 1/2x18                   | 1.83                    | 557                                                            | 428                                                                |
| MFSN-024-24 | Acier / Steel | 1 1/2x24                   | 2.94                    | 557                                                            | 428                                                                |
| MFSN-024-36 | Acier / Steel | 1 1/2x36                   | 2.94                    | 557                                                            | 428                                                                |
| MFSN-024-48 | Acier / Steel | 1 1/2x48                   | 2.94                    | 557                                                            | 428                                                                |
| MFSN-024-60 | Acier / Steel | 1 1/2x60                   | 2.94                    | 557                                                            | 428                                                                |
| MFSN-024-72 | Acier / Steel | 1 1/2x72                   | 2.94                    | 557                                                            | 428                                                                |
| MFSN-032    | Acier / Steel | 2x12                       | 0.399                   | 570                                                            | 438                                                                |
| MFSN-032-18 | Acier / Steel | 2x18                       | 1.72                    | 570                                                            | 438                                                                |
| MFSN-032-24 | Acier / Steel | 2x24                       | 2.14                    | 570                                                            | 438                                                                |
| MFSN-032-36 | Acier / Steel | 2x36                       | 2.14                    | 570                                                            | 438                                                                |
| MFSN-032-48 | Acier / Steel | 2x48                       | 2.14                    | 570                                                            | 438                                                                |
| MFSN-032-60 | Acier / Steel | 2x60                       | 2.14                    | 570                                                            | 438                                                                |
| MFSN-032-72 | Acier / Steel | 2x72                       | 2.14                    | 570                                                            | 438                                                                |

## MFSN

Boyaux flexibles standards avec embouts mâles NPT acier ou acier inox. Boyaux internes à ondulations rapprochées inox 321, tressage et bagues Inox 304. / *Standard assemblies come with NPT males in steel or stainless steel. 321 stainless steel inner convoluted closed pitch hoses, 304 stainless braid and braid bands.*



MFSN



MFSNS

| #            | MNPT             | DIAM X LONG / LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|--------------|------------------|-----------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFSN-040     | Acier / Steel    | 2 1/2"x14                   | 0.135                   | 398                                                             | 306                                                               |
| MFSN-040-36  | Acier / Steel    | 2 1/2"x36                   | 0.135                   | 398                                                             | 306                                                               |
| MFSN-040-48  | Acier / Steel    | 2 1/2"x48                   | 0.135                   | 398                                                             | 306                                                               |
| MFSN-040-60  | Acier / Steel    | 2 1/2"x60                   | 0.135                   | 398                                                             | 306                                                               |
| MFSN-040-72  | Acier / Steel    | 2 1/2"x72                   | 0.135                   | 398                                                             | 306                                                               |
| MFSN-048     | Acier / Steel    | 3"x14                       | 0.125                   | 327                                                             | 251                                                               |
| MFSN-048-36  | Acier / Steel    | 3"x36                       | 0.125                   | 327                                                             | 251                                                               |
| MFSN-048-48  | Acier / Steel    | 3"x48                       | 0.125                   | 327                                                             | 251                                                               |
| MFSN-048-60  | Acier / Steel    | 3"x60                       | 0.125                   | 327                                                             | 251                                                               |
| MFSN-048-72  | Acier / Steel    | 3"x72                       | 0.125                   | 327                                                             | 251                                                               |
| MFSN-064     | Acier / Steel    | 4"x18                       | 0.615                   | 284                                                             | 218                                                               |
| MFSN-064-36  | Acier / Steel    | 4"x36                       | 0.615                   | 284                                                             | 218                                                               |
| MFSN-064-48  | Acier / Steel    | 4"x48                       | 0.615                   | 284                                                             | 218                                                               |
| MFSN-064-60  | Acier / Steel    | 4"x60                       | 0.615                   | 284                                                             | 218                                                               |
| MFSN-064-72  | Acier / Steel    | 4"x72                       | 0.615                   | 284                                                             | 218                                                               |
| MFSNS-008    | Inox / Stainless | 1/2"x12                     | 1.24                    | 1225                                                            | 943                                                               |
| MFSNS-008-18 | Inox / Stainless | 1/2"x18                     | 1.37                    | 1225                                                            | 943                                                               |
| MFSNS-008-24 | Inox / Stainless | 1/2"x24                     | 1.65                    | 1225                                                            | 943                                                               |
| MFSNS-008-36 | Inox / Stainless | 1/2"x36                     | 1.65                    | 1225                                                            | 943                                                               |
| MFSNS-008-48 | Inox / Stainless | 1/2"x48                     | 1.65                    | 1225                                                            | 943                                                               |
| MFSNS-008-60 | Inox / Stainless | 1/2"x60                     | 1.65                    | 1225                                                            | 943                                                               |
| MFSNS-008-72 | Inox / Stainless | 1/2"x72                     | 1.65                    | 1225                                                            | 943                                                               |
| MFSNS-012    | Inox / Stainless | 3/4"x12                     | 1.104                   | 1034                                                            | 796                                                               |
| MFSNS-012-18 | Inox / Stainless | 3/4"x18                     | 1.65                    | 1034                                                            | 796                                                               |
| MFSNS-012-24 | Inox / Stainless | 3/4"x24                     | 1.65                    | 1034                                                            | 796                                                               |
| MFSNS-012-36 | Inox / Stainless | 3/4"x36                     | 1.65                    | 1034                                                            | 796                                                               |
| MFSNS-012-48 | Inox / Stainless | 3/4"x48                     | 1.65                    | 1034                                                            | 796                                                               |
| MFSNS-012-60 | Inox / Stainless | 3/4"x60                     | 1.65                    | 1034                                                            | 796                                                               |
| MFSNS-012-72 | Inox / Stainless | 3/4"x72                     | 1.65                    | 1034                                                            | 796                                                               |
| MFSNS-016    | Inox / Stainless | 1"x12                       | 0.92                    | 796                                                             | 612                                                               |
| MFSNS-016-18 | Inox / Stainless | 1"x18                       | 1.88                    | 796                                                             | 612                                                               |
| MFSNS-016-24 | Inox / Stainless | 1"x24                       | 1.88                    | 796                                                             | 612                                                               |
| MFSNS-016-36 | Inox / Stainless | 1"x36                       | 1.88                    | 796                                                             | 612                                                               |
| MFSNS-016-48 | Inox / Stainless | 1"x48                       | 1.88                    | 796                                                             | 612                                                               |
| MFSNS-016-60 | Inox / Stainless | 1"x60                       | 1.88                    | 796                                                             | 612                                                               |
| MFSNS-016-72 | Inox / Stainless | 1"x72                       | 1.88                    | 796                                                             | 612                                                               |
| MFSNS-020    | Inox / Stainless | 1 1/4"x12                   | 0.49                    | 600                                                             | 462                                                               |
| MFSNS-020-18 | Inox / Stainless | 1 1/4"x18                   | 2.11                    | 600                                                             | 462                                                               |
| MFSNS-020-24 | Inox / Stainless | 1 1/4"x24                   | 2.55                    | 600                                                             | 462                                                               |
| MFSNS-020-36 | Inox / Stainless | 1 1/4"x36                   | 2.55                    | 600                                                             | 462                                                               |
| MFSNS-020-48 | Inox / Stainless | 1 1/4"x48                   | 2.55                    | 600                                                             | 462                                                               |
| MFSNS-020-60 | Inox / Stainless | 1 1/4"x60                   | 2.55                    | 600                                                             | 462                                                               |
| MFSNS-020-72 | Inox / Stainless | 1 1/4"x72                   | 2.55                    | 600                                                             | 462                                                               |

## MFSNS

Boyaux flexibles standards avec embouts mâles NPT acier ou acier inox. Boyaux internes à ondulations rapprochées inox 321, tressage et bagues Inox 304. / *Standard assemblies come with NPT males in steel or stainless steel. 321 stainless steel inner convoluted closed pitch hoses, 304 stainless braid and braid bands.*



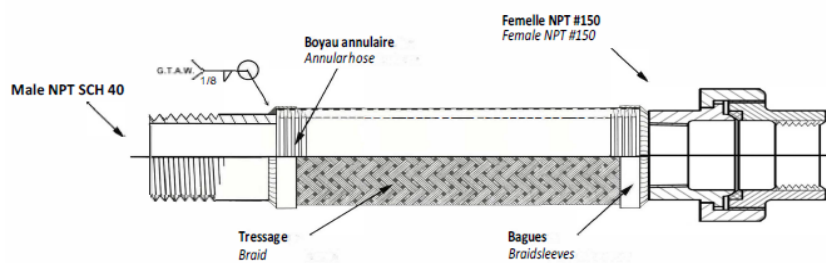
MFSNS

| #            | MNPT             | DIAM X LONG/ LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL/ WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL/ WOR-<br>KING PRESSURE PSI<br>(500°F/260°C) |
|--------------|------------------|----------------------------|-------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|
| MFSNS-024    | Inox / Stainless | 1 <sup>1/2</sup> x12       | 0.427                   | 557                                                            | 428                                                                |
| MFSNS-024-18 | Inox / Stainless | 1 <sup>1/2</sup> x18       | 1.83                    | 557                                                            | 428                                                                |
| MFSNS-024-24 | Inox / Stainless | 1 <sup>1/2</sup> x24       | 2.94                    | 557                                                            | 428                                                                |
| MFSNS-024-36 | Inox / Stainless | 1 <sup>1/2</sup> x36       | 2.94                    | 557                                                            | 428                                                                |
| MFSNS-024-48 | Inox / Stainless | 1 <sup>1/2</sup> x48       | 2.94                    | 557                                                            | 428                                                                |
| MFSNS-024-60 | Inox / Stainless | 1 <sup>1/2</sup> x60       | 2.94                    | 557                                                            | 428                                                                |
| MFSNS-024-72 | Inox / Stainless | 1 <sup>1/2</sup> x72       | 2.94                    | 557                                                            | 428                                                                |
| MFSNS-032    | Inox / Stainless | 2x12                       | 0.399                   | 570                                                            | 438                                                                |
| MFSNS-032-18 | Inox / Stainless | 2x18                       | 1.72                    | 570                                                            | 438                                                                |
| MFSNS-032-24 | Inox / Stainless | 2x24                       | 2.14                    | 570                                                            | 438                                                                |
| MFSNS-032-36 | Inox / Stainless | 2x36                       | 2.14                    | 570                                                            | 438                                                                |
| MFSNS-032-48 | Inox / Stainless | 2x48                       | 2.14                    | 570                                                            | 438                                                                |
| MFSNS-032-60 | Inox / Stainless | 2x60                       | 2.14                    | 570                                                            | 438                                                                |
| MFSNS-032-72 | Inox / Stainless | 2x72                       | 2.14                    | 570                                                            | 438                                                                |
| MFSNS-040    | Inox / Stainless | 2 <sup>1/2</sup> x14       | 0.135                   | 398                                                            | 306                                                                |
| MFSNS-040-36 | Inox / Stainless | 2 <sup>1/2</sup> x36       | 0.135                   | 398                                                            | 306                                                                |
| MFSNS-040-48 | Inox / Stainless | 2 <sup>1/2</sup> x48       | 0.135                   | 398                                                            | 306                                                                |
| MFSNS-040-60 | Inox / Stainless | 2 <sup>1/2</sup> x60       | 0.135                   | 398                                                            | 306                                                                |
| MFSNS-040-72 | Inox / Stainless | 2 <sup>1/2</sup> x72       | 0.135                   | 398                                                            | 306                                                                |
| MFSNS-048    | Inox / Stainless | 3x14                       | 0.125                   | 327                                                            | 251                                                                |
| MFSNS-048-36 | Inox / Stainless | 3x36                       | 0.125                   | 327                                                            | 251                                                                |
| MFSNS-048-48 | Inox / Stainless | 3x48                       | 0.125                   | 327                                                            | 251                                                                |
| MFSNS-048-60 | Inox / Stainless | 3x60                       | 0.125                   | 327                                                            | 251                                                                |
| MFSNS-048-72 | Inox / Stainless | 3x72                       | 0.125                   | 327                                                            | 251                                                                |
| MFSNS-064    | Inox / Stainless | 4x18                       | 0.615                   | 284                                                            | 218                                                                |
| MFSNS-064-36 | Inox / Stainless | 4x36                       | 0.615                   | 284                                                            | 218                                                                |
| MFSNS-064-48 | Inox / Stainless | 4x48                       | 0.615                   | 284                                                            | 218                                                                |
| MFSNS-064-60 | Inox / Stainless | 4x60                       | 0.615                   | 284                                                            | 218                                                                |
| MFSNS-064-72 | Inox / Stainless | 4x72                       | 0.675                   | 284                                                            | 218                                                                |

## MFUNS

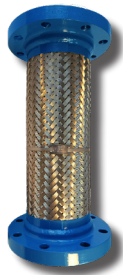
Boyaux flexibles standards avec embouts mâles NPT X fem NPT rotative. Boyaux internes à ondulations rapprochées inox 321, tressage et bagues Inox 304. / *Standard assemblies come with NPT male X swivel NPT fem. 321 stainless steel inner convoluted closed pitch hoses, 304 stainless braid and braid bands.*

| #               | MNPT<br>HEX    | DIAM X LONG / LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|-----------------|----------------|-----------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFUNS-008       | MNPT X FNPT SW | 1/2X1/2                     | 1.240                   | 300                                                             | 258                                                               |
| MFUNS-012       | MNPT X FNPT SW | 3/4X12                      | 1.104                   | 300                                                             | 258                                                               |
| MFUNS-016       | MNPT X FNPT SW | 1X1/2                       | 0.920                   | 300                                                             | 258                                                               |
| MFUNS-020       | MNPT X FNPT SW | 1-1/4X12                    | 0.490                   | 300                                                             | 258                                                               |
| MFUNS-024       | MNPT X FNPT SW | 1-1/2X12                    | 0.427                   | 300                                                             | 258                                                               |
| MFUNS-032       | MNPT X FNPT SW | 2X12                        | 0.990                   | 300                                                             | 258                                                               |
| MFUNS-040       | MNPT X FNPT SW | 2-1/2X14                    | 0.135                   | 300                                                             | 258                                                               |
| MFUNS-048       | MNPT X FNPT SW | 3X14                        | 0.125                   | 300                                                             | 258                                                               |
| MFUNS-064       | MNPT X FNPT SW | 4X18                        | 0.615                   | 284                                                             | 249                                                               |
| MFUNS-008-24    | MNPT X FNPT SW | 1/2X24                      | 1.367                   | 300                                                             | 258                                                               |
| MFUNS-012-24    | MNPT X FNPT SW | 3/4X24                      | 1.645                   | 300                                                             | 258                                                               |
| MFUNS-016-24    | MNPT X FNPT SW | 1X24                        | 1.875                   | 300                                                             | 258                                                               |
| MFUNS-020-24    | MNPT X FNPT SW | 1-1/4X24                    | 2.550                   | 300                                                             | 258                                                               |
| MFUNS-024-24    | MNPT X FNPT SW | 1-1/2X24                    | 2.937                   | 300                                                             | 258                                                               |
| MFUNS-032-24    | MNPT X FNPT SW | 2X24                        | 3.137                   | 300                                                             | 258                                                               |
| MFUNS-040-24    | MNPT X FNPT SW | 2-1/2X24                    | 2.255                   | 300                                                             | 258                                                               |
| MFUNS-032-48-24 | MNPT X FNPT SW | 3X24                        | 1.945                   | 300                                                             | 258                                                               |
| MFUNS-032-64-24 | MNPT X FNPT SW | 4X24                        | 1.485                   | 284                                                             | 249                                                               |



## MFBA

Boyaux flexibles en acier inox avec brides #150 en acier / Standard assemblies come with steel flanges.



MFBA

| #           | EMBOUTS À BRIDES #150 | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|-------------|-----------------------|------------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFBA-032    | Acier/ Steel          | 2x12                         | 0.945                   | 285                                                             | 170                                                               |
| MFBA-032-18 | Acier/ Steel          | 2x18                         | 2.625                   | 285                                                             | 170                                                               |
| MFBA-032-24 | Acier/ Steel          | 2x24                         | 3.14                    | 285                                                             | 170                                                               |
| MFBA-040    | Acier/ Steel          | 2 <sup>1/2</sup> x12         | 0.500                   | 285                                                             | 170                                                               |
| MFBA-040-18 | Acier/ Steel          | 2 <sup>1/2</sup> x18         | 1.500                   | 285                                                             | 170                                                               |
| MFBA-040-24 | Acier/ Steel          | 2 <sup>1/2</sup> x24         | 3.125                   | 285                                                             | 170                                                               |
| MFBA-048    | Acier/ Steel          | 3x12                         | 0.440                   | 285                                                             | 170                                                               |
| MFBA-048-18 | Acier/ Steel          | 3x18                         | 1.38                    | 285                                                             | 170                                                               |
| MFBA-048-24 | Acier/ Steel          | 3x24                         | 2.85                    | 285                                                             | 170                                                               |
| MFBA-064    | Acier/ Steel          | 4x15                         | 0.650                   | 284                                                             | 169                                                               |
| MFBA-064-18 | Acier/ Steel          | 4x18                         | 1.085                   | 284                                                             | 169                                                               |
| MFBA-064-24 | Acier/ Steel          | 4x24                         | 2.259                   | 284                                                             | 170                                                               |
| MFBA-080    | Acier/ Steel          | 5x18                         | 0.915                   | 200                                                             | 154                                                               |
| MFBA-080-24 | Acier/ Steel          | 5x24                         | 1.95                    | 200                                                             | 154                                                               |
| MFBA-096    | Acier/ Steel          | 6x18                         | 0.750                   | 200                                                             | 154                                                               |
| MFBA-096-24 | Acier/ Steel          | 6x24                         | 1.625                   | 200                                                             | 154                                                               |
| MFBA-128    | Acier/ Steel          | 8x18                         | 0.650                   | 234                                                             | 180                                                               |
| MFBA-128-24 | Acier/ Steel          | 8x24                         | 1.4250                  | 234                                                             | 180                                                               |
| MFBA-160    | Acier/ Steel          | 10x18                        | 0.490                   | 230                                                             | 177                                                               |
| MFBA-160-24 | Acier/ Steel          | 10x24                        | 1.109                   | 230                                                             | 177                                                               |
| MFBA-192    | Acier/ Steel          | 12x18                        | 0.375                   | 161                                                             | 124                                                               |
| MFBA-192-24 | Acier/ Steel          | 12x24                        | 0.860                   | 161                                                             | 124                                                               |
| MFBA-224    | Acier/ Steel          | 14X18                        | 0.11                    | 150                                                             | 115                                                               |
| MFBA-254    | Acier/ Steel          | 16X18                        | 0.11                    | 110                                                             | 84                                                                |

## MFBG

Boyaux flexibles en acier inox avec brides acier inoxydable 304. / Standard assemblies come with 304 stainless flanges.



MFBG

| #           | EMBOUTS À BRIDES #150 | DIAM X LONG / LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WOR-<br>KING PRESSURE PSI<br>(500°F/260°C) |
|-------------|-----------------------|-----------------------------|-------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------|
| MFBG-032    | Inox / Stainless 304  | 2x12                        | 0.945                   | 275                                                             | 170                                                                 |
| MFBG-032-18 | Inox / Stainless 304  | 2x18                        | 2.625                   | 275                                                             | 170                                                                 |
| MFBG-032-24 | Inox / Stainless 304  | 2x24                        | 3.14                    | 275                                                             | 170                                                                 |
| MFBG-040    | Inox/ Stainless 304   | 2 <sup>1/2</sup> x12        | 0.500                   | 275                                                             | 170                                                                 |
| MFBG-040-18 | Inox/ Stainless 304   | 2 <sup>1/2</sup> x18        | 1.50                    | 275                                                             | 170                                                                 |
| MFBG-040-24 | Inox/ Stainless 304   | 2 <sup>1/2</sup> x24        | 3.125                   | 275                                                             | 170                                                                 |
| MFBG-048    | Inox/ Stainless 304   | 3x12                        | 0.440                   | 275                                                             | 170                                                                 |
| MFBG-048-18 | Inox/ Stainless 304   | 3x18                        | 1.5                     | 275                                                             | 170                                                                 |
| MFBG-048-24 | Inox/ Stainless 304   | 3x24                        | 3.125                   | 275                                                             | 170                                                                 |
| MFBG-064    | Inox/ Stainless 304   | 4x15                        | 0.650                   | 275                                                             | 170                                                                 |
| MFBG-064-18 | Inox/ Stainless 304   | 4x18                        | 1.085                   | 275                                                             | 170                                                                 |
| MFBG-064-24 | Inox/ Stainless 304   | 4x24                        | 2.259                   | 275                                                             | 170                                                                 |
| MFBG-080    | Inox / Stainless 304  | 5x18                        | 0.915                   | 200                                                             | 154                                                                 |
| MFBG-080-24 | Inox / Stainless 304  | 5x24                        | 1.95                    | 200                                                             | 154                                                                 |
| MFBG-096    | Inox / Stainless 304  | 6x18                        | 0.750                   | 200                                                             | 154                                                                 |
| MFBG-096-24 | Inox / Stainless 304  | 6x24                        | 1.625                   | 200                                                             | 154                                                                 |
| MFBG-128    | Inox / Stainless 304  | 8x18                        | 0.650                   | 234                                                             | 180                                                                 |
| MFBG-128-24 | Inox / Stainless 304  | 8x24                        | 1.425                   | 234                                                             | 180                                                                 |
| MFBG-160    | Inox/ Stainless 304   | 10x18                       | 0.490                   | 230                                                             | 177                                                                 |
| MFBG-160-24 | Inox/ Stainless 304   | 10x24                       | 1.109                   | 230                                                             | 177                                                                 |
| MFBG-192    | Inox / Stainless 304  | 12x18                       | 0.375                   | 161                                                             | 124                                                                 |
| MFBG-192-24 | Inox / Stainless 304  | 12x24                       | 0.86                    | 161                                                             | 124                                                                 |
| MFBG-224    | Inox / Stainless 304  | 14X18                       | 0.11                    | 150                                                             | 115                                                                 |
| MFBG-256    | Inox / Stainless 304  | 16X18                       | 0.11                    | 110                                                             | 84                                                                  |

## MFBN

Boyaux flexibles en acier inox avec brides acier inoxydable 316. /Standard assemblies come with #150 carbon steel, 304 or 316 stainless flanges.



MFBN

| #           | EMBOUTS À BRIDES #150 | DIAM X LONG/ LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WOR-<br>KING PRESSURE PSI<br>(500°F/260°C) |
|-------------|-----------------------|----------------------------|-------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------|
| MFBN-032    | Inox / Stainless 316  | 2x12                       | 0.945                   | 275                                                             | 170                                                                 |
| MFBN-032-18 | Inox / Stainless 316  | 2x                         | 2.265                   | 275                                                             | 170                                                                 |
| MFBN-032-24 | Inox / Stainless 316  | 2x24                       | 3.14                    | 275                                                             | 170                                                                 |
| MFBN-040    | Inox / Stainless 316  | 2 <sup>1/2</sup> x12       | 0.500                   | 275                                                             | 170                                                                 |
| MFBN-040-18 | Inox / Stainless 316  | 2 <sup>1/2</sup> x18       | 1.50                    | 275                                                             | 170                                                                 |
| MFBN-040-24 | Inox / Stainless 316  | 2 <sup>1/2</sup> x24       | 3.125                   | 275                                                             | 170                                                                 |
| MFBN-048    | Inox/ Stainless 316   | 3x12                       | 0.440                   | 275                                                             | 170                                                                 |
| MFBN-048-18 | Inox/ Stainless 316   | 3x18                       | 1.38                    | 275                                                             | 170                                                                 |
| MFBN-048-24 | Inox/ Stainless 316   | 3x24                       | 2.85                    | 275                                                             | 170                                                                 |
| MFBN-064    | Inox/ Stainless 316   | 4x15                       | 0.650                   | 275                                                             | 170                                                                 |
| MFBN-064-18 | Inox/ Stainless 316   | 4x18                       | 1.085                   | 275                                                             | 170                                                                 |
| MFBN-064-24 | Inox/ Stainless 316   | 4x24                       | 2.259                   | 275                                                             | 170                                                                 |
| MFBN-080    | Inox/ Stainless 316   | 5x18                       | 0.915                   | 200                                                             | 154                                                                 |
| MFBN-080-24 | Inox/ Stainless 316   | 5x24                       | 1.95                    | 200                                                             | 154                                                                 |
| MFBN-096    | Inox / Stainless 316  | 6x18                       | 0.750                   | 200                                                             | 154                                                                 |
| MFBN-096-24 | Inox / Stainless 316  | 6x24                       | 1.625                   | 200                                                             | 154                                                                 |
| MFBN-128    | Inox / Stainless 316  | 8x18                       | 0.650                   | 234                                                             | 180                                                                 |
| MFBN-128-24 | Inox / Stainless 316  | 8x24                       | 1.425                   | 234                                                             | 180                                                                 |
| MFBN-160    | Inox/ Stainless 316   | 10x18                      | 0.490                   | 230                                                             | 177                                                                 |
| MFBN-160-24 | Inox/ Stainless 316   | 10x24                      | 01.109                  | 230                                                             | 177                                                                 |
| MFBN-192    | Inox / Stainless 316  | 12x18                      | 0.375                   | 161                                                             | 124                                                                 |
| MFBN-192-24 | Inox / Stainless 316  | 12x24                      | 00.86                   | 161                                                             | 124                                                                 |
| MFBN-224    | Inox / Stainless 316  | 14x18                      | 0.11                    | 150                                                             | 175                                                                 |
| MFBN-256    | Inox / Stainless 316  | 16x18                      | 0.11                    | 110                                                             | 84                                                                  |

Dessins disponibles sur demande / Drawing available on request

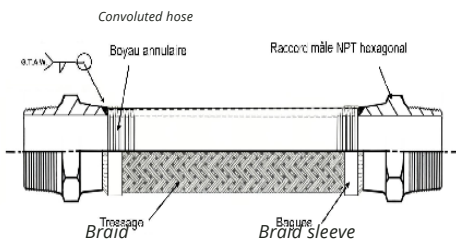
# BOYAUX MÉTALLIQUES EN CUIVRE / COPPER FLEXIBLE METAL HOSES

## MFCH / MFCC

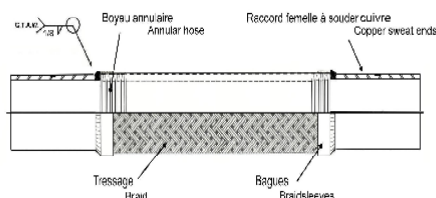
Boyaux flexibles en acier inoxydable avec embouts en cuivre de type "vibra". Pour installation sur des lignes de cuivre ainsi que des systèmes de réfrigération et de climatisation. / *Standard copper weld ends "Vibra type" assemblies. For installation on copper lines and cooling systems.*



MNPT hexagone



| #           | MNPT<br>HEX     | DIAM X LONG/ LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WOR-<br>KING PRESSURE PSI<br>(250°F/121°C) |
|-------------|-----------------|----------------------------|-------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------|
| MFCH-008    | Cuivre / Copper | 1/2x12                     | 1.37                    | 722                                                             | 577                                                                 |
| MFCH-008-24 | Cuivre / Copper | 1/2x24                     | 1.37                    | 722                                                             | 577                                                                 |
| MFCH-012    | Cuivre / Copper | 3/4x12                     | 1.28                    | 582                                                             | 466                                                                 |
| MFCH-012-24 | Cuivre / Copper | 3/4x24                     | 1.65                    | 582                                                             | 466                                                                 |
| MFCH-016    | Cuivre / Copper | 1x12                       | 0.990                   | 494                                                             | 395                                                                 |
| MFCH-016-24 | Cuivre / Copper | 1x24                       | 1.880                   | 494                                                             | 395                                                                 |
| MFCH-020    | Cuivre / Copper | 1 1/4x12                   | 0.510                   | 439                                                             | 351                                                                 |
| MFCH-020-24 | Cuivre / Copper | 1 1/4x24                   | 2.550                   | 439                                                             | 351                                                                 |
| MFCH-024    | Cuivre / Copper | 1 1/2x12                   | 0.445                   | 408                                                             | 327                                                                 |
| MFCH-024-24 | Cuivre / Copper | 1 1/2x24                   | 2.940                   | 408                                                             | 327                                                                 |
| MFCH-032    | Cuivre / Copper | 2x12                       | 0.435                   | 364                                                             | 291                                                                 |
| MFCH-032-24 | Cuivre / Copper | 2x24                       | 3.140                   | 364                                                             | 291                                                                 |



| #           | FEMELLE À SOUDER/<br>SOCKET WELD FEM.<br>CON. | DIAM X LONG/ LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL PSI<br>(250°F/121°C) |
|-------------|-----------------------------------------------|----------------------------|-------------------------|-------------------------------------------|---------------------------------------------|
| MFCC-008    | Cuivre / Copper                               | 1/2x12                     | 1.37                    | 722                                       | 577                                         |
| MFCC-008-18 | Cuivre / Copper                               | 1/2x18                     | 1.37                    | 722                                       | 577                                         |
| MFCC-008-24 | Cuivre / Copper                               | 1/2x24                     | 1.37                    | 722                                       | 577                                         |
| MFCC-012    | Cuivre / Copper                               | 3/4x12                     | 1.28                    | 582                                       | 466                                         |
| MFCC-012-18 | Cuivre / Copper                               | 3/4x18                     | 1.645                   | 582                                       | 466                                         |
| MFCC-012-24 | Cuivre / Copper                               | 3/4x24                     | 1.650                   | 582                                       | 466                                         |
| MFCC-016    | Cuivre / Copper                               | 1x12                       | 0.990                   | 494                                       | 395                                         |
| MFCC-016-18 | Cuivre / Copper                               | 1x12-18                    | 1.875                   | 494                                       | 395                                         |
| MFCC-016-24 | Cuivre / Copper                               | 1x12-24                    | 1.880                   | 494                                       | 395                                         |
| MFCC-020    | Cuivre / Copper                               | 1 1/4x12                   | 0.510                   | 439                                       | 351                                         |
| MFCC-020-18 | Cuivre / Copper                               | 1 1/4x18                   | 2.220                   | 439                                       | 351                                         |
| MFCC-020-24 | Cuivre / Copper                               | 1 1/4x24                   | 2.550                   | 439                                       | 351                                         |
| MFCC-024    | Cuivre / Copper                               | 1 1/2x12                   | 0.445                   | 408                                       | 327                                         |
| MFCC-024-18 | Cuivre / Copper                               | 1 1/2x118                  | 0.190                   | 408                                       | 327                                         |
| MFCC-024-24 | Cuivre / Copper                               | 1 1/2x24                   | 2.940                   | 408                                       | 327                                         |
| MFCC-032    | Cuivre / Copper                               | 2x12                       | 0.435                   | 364                                       | 291                                         |
| MFCC-032-18 | Cuivre / Copper                               | 2x18                       | 1.570                   | 364                                       | 291                                         |
| MFCC-032-24 | Cuivre / Copper                               | 2x24                       | 3.140                   | 364                                       | 291                                         |
| MFCC-040    | Cuivre / Copper                               | 2x14                       | 0.286                   | 364                                       | 291                                         |
| MFCC-040-18 | Cuivre / Copper                               | 2 1/2x18                   | 0.808                   | 364                                       | 291                                         |
| MFCC-040-24 | Cuivre / Copper                               | 2 1/2x24                   | 5.000                   | 364                                       | 291                                         |
| MFCC-048    | Cuivre / Copper                               | 3x12                       | 0.2400                  | 364                                       | 291                                         |
| MFCC-048-18 | Cuivre / Copper                               | 3x18                       | 0.495                   | 364                                       | 291                                         |
| MFCC-048-24 | Cuivre / Copper                               | 3x24                       | 5.50                    | 364                                       | 291                                         |

## MFHA / MFHC

Boyaux flexibles assemblés avec mâles NPT hexagones en acier plaqué zinc et en acier inoxydable 316. /  
Standard assemblies come with Zinc plated steel or 316 stainless steel Hex male NPT.

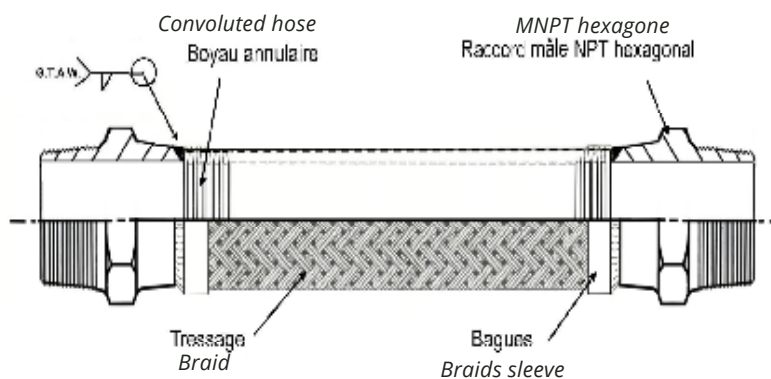


MFHA

| #        | MNPT<br>HEX     | DIAM X LONG/ LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL/ WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WOR-<br>KING PRESSURE PSI<br>(500°F/260°C) |
|----------|-----------------|----------------------------|-------------------------|----------------------------------------------------------------|---------------------------------------------------------------------|
| MFHA-008 | Acier/Steel     | 1/2x12                     | 0.600                   | 1225                                                           | 943                                                                 |
| MFHA-012 | Acier/Steel     | 3/4x12                     | 0.500                   | 1034                                                           | 796                                                                 |
| MFHA-016 | Acier/Steel     | 1x12                       | 0.430                   | 796                                                            | 612                                                                 |
| MFHA-020 | Acier/Steel     | 1 1/4x12                   | 0.250                   | 600                                                            | 462                                                                 |
| MFHA-024 | Acier/Steel     | 1 1/2x12                   | 0.250                   | 557                                                            | 428                                                                 |
| MFHA-032 | Acier/Steel     | 2x12                       | 0.200                   | 570                                                            | 438                                                                 |
| MFHC-008 | Inox/ Stainless | 1/2x12                     | 0.600                   | 1225                                                           | 943                                                                 |
| MFHC-012 | Inox/ Stainless | 3/4x12                     | 1.500                   | 1034                                                           | 796                                                                 |
| MFHC-016 | Inox/ Stainless | 1x12                       | 1.300                   | 796                                                            | 612                                                                 |
| MFHC-020 | Inox/ Stainless | 1 1/4x12                   | 0.960                   | 600                                                            | 462                                                                 |
| MFHC-024 | Inox/ Stainless | 1 1/2x12                   | 0.840                   | 557                                                            | 428                                                                 |
| MFHC-032 | Inox/ Stainless | 2x12                       | 0.670                   | 570                                                            | 438                                                                 |



MFHC

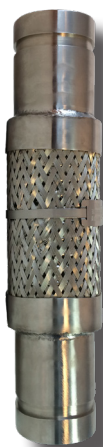


## MFVA / MFVE

Boyaux assemblés avec embouts rainurés compatibles avec la majorité des compagnies manufacturières telles que "Victaulic" et "Gruvlok". *Standard steel grooved end assemblies, fully compatible with "Victaulic" or "Gruvlok" type of connectors.*



MFVA



MFVE

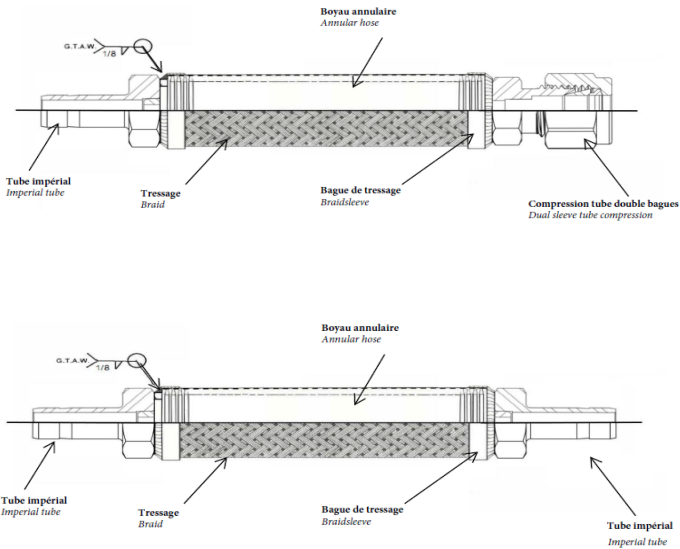
| #           | EMBOUTS RAINURÉS/<br>GROOVED ENDS | DIAM X LONG / LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|-------------|-----------------------------------|-----------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFVA-024    | Acier/Steel                       | 1 <sup>1/2</sup> x12        | 0.375                   | 557                                                             | 428                                                               |
| MFVA-032    | Acier/Steel                       | 2x12                        | 0.275                   | 570                                                             | 438                                                               |
| MFVA-032-24 | Acier/Steel                       | 2x24                        | 3.14                    | 570                                                             | 438                                                               |
| MFVA-040    | Acier/Steel                       | 2 <sup>1/2</sup> x14        | 0.135                   | 398                                                             | 306                                                               |
| MFVA-040-24 | Acier/Steel                       | 2 <sup>1/2</sup> x24        | 210                     | 398                                                             | 306                                                               |
| MFVA-048    | Acier/Steel                       | 3X14                        | 0.125                   | 327                                                             | 251                                                               |
| MFVA-048-24 | Acier/Steel                       | 3X24                        | 1.90                    | 327                                                             | 251                                                               |
| MFVA-064    | Acier/Steel                       | 4X18                        | 0.186                   | 284                                                             | 218                                                               |
| MFVA-064-24 | Acier/Steel                       | 4X24                        | 1.570                   | 284                                                             | 218                                                               |
| MFVA-080    | Acier/Steel                       | 5X18                        | 0.104                   | 200                                                             | 154                                                               |
| MFVA-080-24 | Acier/Steel                       | 5X24                        | 1.055                   | 200                                                             | 154                                                               |
| MFVA-096    | Acier/Steel                       | 6X18                        | 0.089                   | 200                                                             | 154                                                               |
| MFVA-096-24 | Acier/Steel                       | 6X24                        | 0.910                   | 200                                                             | 154                                                               |
| MFVA-128    | Acier/Steel                       | 8X24                        | 0.246                   | 234                                                             | 180                                                               |
| MFVA-160    | Acier/Steel                       | 10X24                       | 0.144                   | 230                                                             | 177                                                               |
| MFVA-192    | Acier/Steel                       | 12X24                       | 0.084                   | 161                                                             | 124                                                               |
| MFVE-024    | Inox/ Stainless                   | 1 <sup>1/2</sup> x12        | 0.375                   | 557                                                             | 428                                                               |
| MFVE-032    | Inox/ Stainless                   | 2x12                        | 0.275                   | 570                                                             | 438                                                               |
| MFVE-032-24 | Inox/ Stainless                   | 2x24                        | 3.140                   | 570                                                             | 438                                                               |
| MFVE-040    | Inox/ Stainless                   | 2 <sup>1/2</sup> -14        | 0.135                   | 398                                                             | 306                                                               |
| MFVE-040-24 | Inox/ Stainless                   | 2 <sup>1/2</sup> x24        | 2.100                   | 398                                                             | 306                                                               |
| MFVE-048    | Inox/ Stainless                   | 3X14                        | 0.125                   | 327                                                             | 251                                                               |
| MFVE-048-24 | Inox/ Stainless                   | 3X24                        | 1.900                   | 327                                                             | 251                                                               |
| MFVE-064    | Inox/ Stainless                   | 4X18                        | 0.186                   | 284                                                             | 218                                                               |
| MFVE-064-24 | Inox/ Stainless                   | 4X24                        | 1.570                   | 284                                                             | 218                                                               |
| MFVE-080    | Inox/ Stainless                   | 5X18                        | 0.104                   | 200                                                             | 154                                                               |
| MFVE-080-24 | Inox/ Stainless                   | 5X24                        | 1.055                   | 200                                                             | 154                                                               |
| MFVE-096    | Inox/ Stainless                   | 6X18                        | 0.089                   | 200                                                             | 154                                                               |
| MFVE-096-24 | Inox/ Stainless                   | 6X24                        | 0.810                   | 200                                                             | 154                                                               |
| MFVE-128    | Inox/ Stainless                   | 8X24                        | 0.246                   | 234                                                             | 180                                                               |
| MFVE-160    | Inox/ Stainless                   | 10X24                       | 0.144                   | 230                                                             | 177                                                               |
| MFVE-192    | Inox/ Stainless                   | 12X24                       | 0.084                   | 161                                                             | 124                                                               |

# BOYAUX MÉTALLIQUES AVEC EMBOUT COMPRESSION HY-LOK / METAL HOSES WITH HY-LOK COMPRESSION ENDS

## MFTC / MFTT

Boyaux flexibles en acier inoxydable avec embouts tubes ou compression pour réduire la vibration et corriger les désaxements latéraux sur les lignes de tube impérial / *Stainless steel metal hoses with compression or tube ends to correct lateral offset, reduce vibration on imperial tubing systems.*

| #        | EMBOUTS<br>À SOUDER / WELD ENDS | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|----------|---------------------------------|------------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFTC-004 | Inox/ Stainless                 | 1/4x12                       | 0.7875                  | 2360                                                            | 2077                                                              |
| MFTC-006 | Inox/ Stainless                 | 3/8X12                       | 1.2700                  | 1967                                                            | 1731                                                              |
| MFTC-008 | Inox/ Stainless                 | 1/2X12                       | 1.3675                  | 1470                                                            | 1921                                                              |
| MFTC-012 | Inox/ Stainless                 | 3/4X12                       | 1.6450                  | 1241                                                            | 1092                                                              |
| MFTC-016 | Inox/ Stainless                 | 1x12                         | 1.4250                  | 955                                                             | 840                                                               |
| MFTC-020 | Inox/ Stainless                 | 1 1/4x12                     | 0.9300                  | 720                                                             | 634                                                               |
| MFTC-024 | Inox/ Stainless                 | 1 1/2x12                     | 0.7100                  | 668                                                             | 588                                                               |
| MFTT-004 | Inox/ Stainless                 | 1/4x12                       | 0.7875                  | 2360                                                            | 2077                                                              |
| MFTT-006 | Inox/ Stainless                 | 3/8x12                       | 1.2700                  | 1967                                                            | 1731                                                              |
| MFTT-008 | Inox/ Stainless                 | 1/2x12                       | 1.3675                  | 1470                                                            | 1921                                                              |
| MFTT-012 | Inox/ Stainless                 | 3/4x12                       | 1.6450                  | 1241                                                            | 1092                                                              |
| MFTT-016 | Inox/ Stainless                 | 1x12                         | 1.4250                  | 955                                                             | 840                                                               |
| MFTT-020 | Inox/ Stainless                 | 1 1/4x12                     | 0.9300                  | 720                                                             | 634                                                               |
| MFTT-024 | Inox/ Stainless                 | 1 1/2x12                     | 0.7100                  | 668                                                             | 588                                                               |



## MFWA / MFWE

Boyaux assemblés avec embouts à souder sur tuyauterie cédule 40. / Standard assemblies with SC40 weld ends.

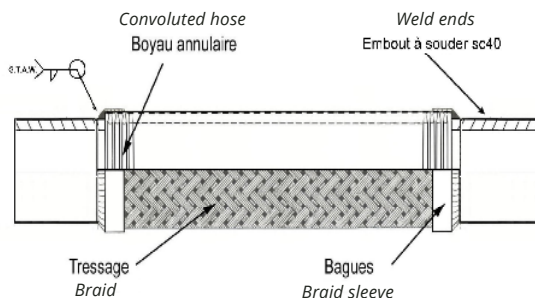


MFWA

| #        | EMBOUTS<br>À SOUDER / WELD ENDS | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|----------|---------------------------------|------------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFWA-024 | Acier/Steel                     | 1 <sup>1/2</sup> x12         | 0.427                   | 557                                                             | 428                                                               |
| MFWA-032 | Acier/Steel                     | 2x12                         | 0.399                   | 570                                                             | 438                                                               |
| MFWA-040 | Acier/Steel                     | 2 <sup>1/2</sup> -14         | 0.135                   | 398                                                             | 306                                                               |
| MFWA-048 | Acier/Steel                     | 3X14                         | 0.125                   | 327                                                             | 251                                                               |
| MFWA-064 | Acier/Steel                     | 4X18                         | 0.186                   | 284                                                             | 218                                                               |
| MFWA-080 | Acier/Steel                     | 5X18                         | 0.104                   | 200                                                             | 154                                                               |
| MFWA-096 | Acier/Steel                     | 6X18                         | 0.089                   | 200                                                             | 154                                                               |
| MFWA-128 | Acier/Steel                     | 8X24                         | 0.246                   | 234                                                             | 180                                                               |
| MFWA-160 | Acier/Steel                     | 10X24                        | 0.144                   | 230                                                             | 177                                                               |
| MFWA-192 | Acier/Steel                     | 12X24                        | 0.084                   | 161                                                             | 124                                                               |
| MFEW-024 | Inox/ Stainless                 | 1 <sup>1/2</sup> x12         | 0.427                   | 557                                                             | 428                                                               |
| MFEW-032 | Inox/ Stainless                 | 2x12                         | 0.399                   | 570                                                             | 438                                                               |
| MFEW-040 | Inox/ Stainless                 | 2 <sup>1/2</sup> -14         | 0.135                   | 398                                                             | 306                                                               |
| MFEW-048 | Inox/ Stainless                 | 3X14                         | 0.125                   | 327                                                             | 251                                                               |
| MFEW-064 | Inox/ Stainless                 | 4X18                         | 0.186                   | 284                                                             | 218                                                               |
| MFEW-080 | Inox/ Stainless                 | 5X18                         | 0.104                   | 200                                                             | 154                                                               |
| MFEW-096 | Inox/ Stainless                 | 6X18                         | 0.089                   | 200                                                             | 154                                                               |
| MFEW-128 | Inox/ Stainless                 | 8X24                         | 0.246                   | 234                                                             | 180                                                               |
| MFEW-160 | Inox/ Stainless                 | 10X24                        | 0.144                   | 230                                                             | 177                                                               |
| MFEW-192 | Inox/ Stainless                 | 12X24                        | 0.084                   | 161                                                             | 124                                                               |



MFWE



## UFCC / UFSN / UFSNS

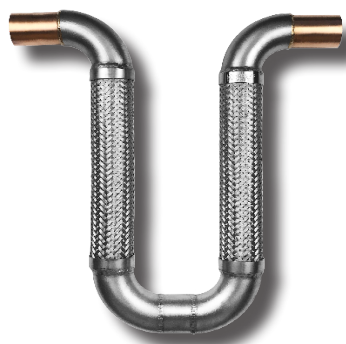
Les flexibles en forme de "U" ou lyre de dilatation / "U" shaped assemblies or flexible loops

### UNE SOLUTION SIMPLE ET ÉCONOMIQUE / AN ECONOMICAL AND SIMPLE SOLUTION

Pour la tuyauterie véhiculant des gaz, de la vapeur, de l'eau ou des produits chimiques, ou pour contrer des mouvements sismiques. / For piping that moves gas, steam, water or chemical product or to counter seismic movements.

Le flexible en "U" demeure une excellente solution pour les mouvements thermiques quand on veut éviter d'exercer des forces de poussée excessives sur des installations. Beaucoup plus facile à bouger, les lyres de dilatation offrent des mouvements dans toutes les directions. / The "U" shape hoses are always an excellent solution for thermal expansion of piping. It creates less stress on anchors and installations. They will effectively follow installation's thermal movements in all directions.

Comme la majorité des produits chez Hebdrastique, il n'y a pas de limite quant aux configurations possibles. Nous pouvons y installer un déflecteur interne pour éviter la turbulence due à la vitesse, doubler le tressage pour aller chercher des pressions de travail plus élevées et même chemiser les assemblés pour véhiculer 2 médias comme pour les produits bitumineux. / There are practically no limits in possible configurations. We can install an inner liner, double the braid or even make a jacketed loop.



UFCC

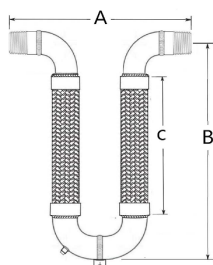
| #           | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISM-<br>QUE TOUTES DIRECTIONS / AXIAL<br>MOV. SEISMIC IN ALL DIRECTIONS<br>(PO) |
|-------------|----------------------------------|-------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------|
| UFCC-2-008  | 1/2                              | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-012  | 3/4                              | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-016  | 1                                | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-020  | 1-1/4                            | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-024  | 1-1/2                            | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-032  | 2                                | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-040  | 2-1/2                            | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-048  | 3                                | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFCC-2-064  | 4                                | Cuivre / Copper                     | À souder / To weld                 | 2                                                                                                   |
| UFSN-2-008  | 1/2                              | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-012  | 3/4                              | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-016  | 1                                | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-020  | 1-1/4                            | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-024  | 1-1/2                            | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-032  | 2                                | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-040  | 2-1/2                            | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-048  | 3                                | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSN-2-064  | 4                                | Acier / Steel                       | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-008 | 1/2                              | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-012 | 3/4                              | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-016 | 1                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-020 | 1-1/4                            | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-024 | 1-1/2                            | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-032 | 2                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-040 | 2-1/2                            | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-048 | 3                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |
| UFSNS-2-064 | 4                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 2                                                                                                   |

## UFCC / UFSN / UFSNS

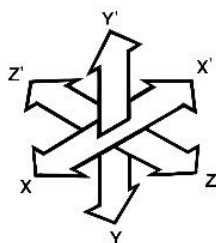
Compensateurs flexibles "lyres de dilatation" / "U" shaped assemblies or flexible loops



UFCC



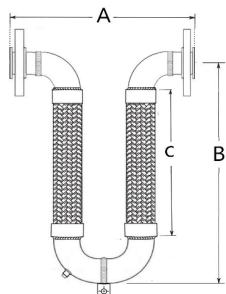
UFSN  
UFSNS



| #           | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISMIQUE<br>TOUTES DIRECTIONS / AXIAL MOV.<br>SEISMIC IN ALL DIRECTIONS<br>(PO) |
|-------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------|
| UFCC-4-008  | 1/2                              | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-012  | 3/4                              | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-016  | 1                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-020  | 1-1/4                            | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-024  | 1-1/2                            | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-032  | 2                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-040  | 2-1/2                            | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-048  | 3                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-4-064  | 4                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| UFCC-6-008  | 1/2                              | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-012  | 3/4                              | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-016  | 1                                | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-020  | 1-1/4                            | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-024  | 1-1/2                            | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-032  | 2                                | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-040  | 2-1/2                            | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-0.48 | 3                                | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFCC-6-064  | 4                                | Cuivre / Copper                     | À souder / To weld                 | 6                                                                                                  |
| UFSN-4-008  | 1/2                              | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-012  | 3/4                              | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-016  | 1                                | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-020  | 1-1/4                            | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-024  | 1-1/2                            | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-032  | 2                                | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-040  | 2-1/2                            | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-048  | 3                                | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSN-4-064  | 4                                | Acier / Steel                       | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-008 | 1/2                              | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-012 | 3/4                              | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-016 | 1                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-020 | 1-1/4                            | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-024 | 1-1/2                            | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-032 | 2                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-040 | 2-1/2                            | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-048 | 3                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |
| UFSNS-4-064 | 4                                | Acier inox / Stain. Steel           | Fileté / Threaded NPT              | 4                                                                                                  |

## UFSF / UFSFS

Compensateurs flexibles "lyres de dilatation" / "U" shaped assemblies or flexible loops

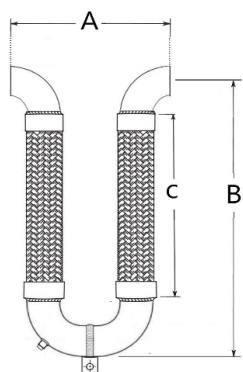


UFSF  
UFSFS

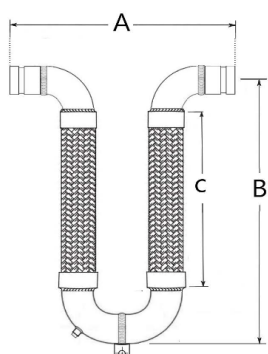
| #            | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISMIQUE<br>TOUTES DIRECTIONS / AXIAL MOV.<br>SEISMIC IN ALL DIRECTIONS<br>(PO) |
|--------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------|
| UFSF-4-032   | 2                                | Acier/ Steel                        | Brides / Flanged #150              | 4                                                                                                  |
| UFSF-4-040   | 2-1/2                            | Acier/ Steel                        | Brides / Flanged #150              | 4                                                                                                  |
| UFSF-4-048   | 3                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-4-064   | 4                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-4-080   | 5                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-4-096   | 6                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-4-128   | 8                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-4-160   | 10                               | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-4-192   | 12                               | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| UFSF-6-032   | 2                                | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-040   | 2-1/2                            | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-048   | 3                                | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-064   | 4                                | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-080   | 5                                | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-096   | 6                                | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-128   | 8                                | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-160   | 10                               | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSF-6-192   | 12                               | Acier/ Steel                        | Brides / Flanged #150              | 6                                                                                                  |
| UFSFS-4-032  | 2                                | Acier inox / Stain. Steel           | Brides / Flanged #150              | 4                                                                                                  |
| UFSFS-4-040  | 2-1/2                            | Acier inox / Stain. Steel           | Brides / Flanged #150              | 4                                                                                                  |
| UFSFS-4-048  | 3                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-4-064  | 4                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-4-080  | 5                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-4-096  | 6                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-4-128  | 8                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-4-160  | 10                               | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-4-1192 | 12                               | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| UFSFS-6-032  | 2                                | Acier inox / Stain. Steel           | Brides / Flanged #150              | 6                                                                                                  |
| UFSFS-6-040  | 2-1/2                            | Acier inox / Stain. Steel           | Brides / Flanged #150              | 6                                                                                                  |
| UFSFS-6-048  | 3                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |
| UFSFS-6-064  | 4                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |
| UFSFS-6-080  | 5                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |
| UFSFS-6-096  | 6                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |
| UFSFS-6-128  | 8                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |
| UFSFS-6-160  | 10                               | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |
| UFSFS-6-192  | 12                               | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 6                                                                                                  |

## UFWA / UFWE / UFVA / UFVE

Compensateurs flexibles "lyres de dilatation" / "U" shaped assemblies or flexible loops



UFWA (E)

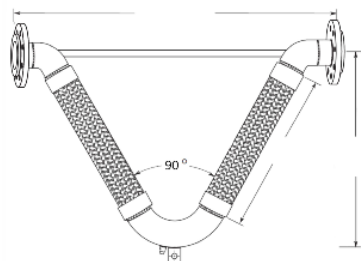


UFVA

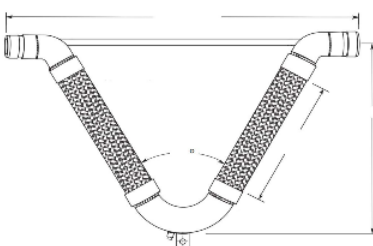
| #          | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISMQUE<br>TOUTES DIRECTIONS / AXIAL MOV.<br>SEISMIC IN ALL DIRECTIONS<br>(PO) |
|------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------|
| UFWA-4-032 | 2                                | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-040 | 2-1/2                            | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-048 | 3                                | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-064 | 4                                | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-080 | 5                                | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-096 | 6                                | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-128 | 8                                | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-160 | 10                               | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-192 | 12                               | Acier/ Steel                        | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-032 | 2                                | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-040 | 2-1/2                            | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-048 | 3                                | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-064 | 4                                | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-080 | 5                                | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-096 | 6                                | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-128 | 8                                | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-160 | 10                               | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFWA-4-192 | 12                               | Acier inox / Stain. Steel           | À souder / To weld                 | 4                                                                                                 |
| UFVA-4-032 | 2                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-040 | 2-1/2                            | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-048 | 3                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-064 | 4                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-080 | 5                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-096 | 6                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-128 | 8                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-160 | 10                               | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVA-4-192 | 12                               | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-032 | 2                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-040 | 2-1/2                            | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-048 | 3                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-064 | 4                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-080 | 5                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-096 | 6                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-128 | 8                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-160 | 10                               | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |
| UFVE-4-192 | 12                               | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                 |

## VFSF / VFSFS / VFVA / VFVE

Compensateurs flexibles "lyres de dilatation" EN V/ "V" shaped assemblies



VFSF



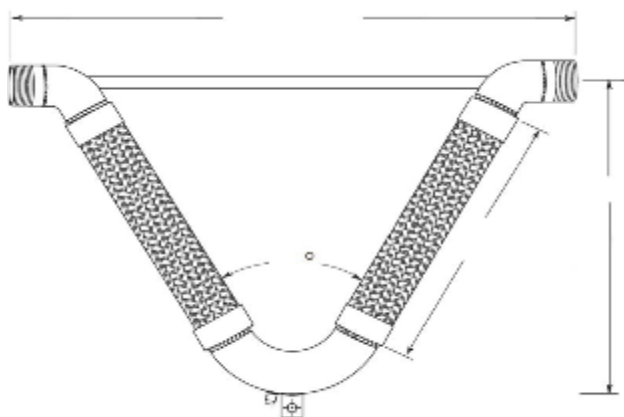
VFVA

| #           | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISMIQUE<br>TOUTES DIRECTIONS / AXIAL MOV.<br>SEISMIC IN ALL DIRECTIONS<br>(PO) |
|-------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------|
| VFSF-4-032  | 2                                | Acier/ Steel                        | Brides / Flanged #150              | 4                                                                                                  |
| VFSF-4-040  | 2-1/2                            | Acier/ Steel                        | Brides / Flanged #150              | 4                                                                                                  |
| VFSF-4-048  | 3                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSF-4-064  | 4                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSF-4-080  | 5                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSF-4-096  | 6                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSF-4-128  | 8                                | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSF-4-160  | 10                               | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSF-4-192  | 12                               | Acier/ Steel                        | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-032 | 2                                | Acier inox / Stain. Steel           | Brides / Flanged #150              | 4                                                                                                  |
| VFSFS-4-040 | 2-1/2                            | Acier inox / Stain. Steel           | Brides / Flanged #150              | 4                                                                                                  |
| VFSFS-4-048 | 3                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-064 | 4                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-080 | 5                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-096 | 6                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-128 | 8                                | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-160 | 10                               | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFSFS-4-192 | 12                               | Acier inox / Stain. Steel           | Brides/ Flanged #150               | 4                                                                                                  |
| VFVA-4-032  | 2                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-040  | 2-1/2                            | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-048  | 3                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-064  | 4                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-080  | 5                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-096  | 6                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-128  | 8                                | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-160  | 10                               | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVA-4-192  | 12                               | Acier/ Steel                        | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-032  | 2                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-040  | 2-1/2                            | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-048  | 3                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-064  | 4                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-080  | 5                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-096  | 6                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-128  | 8                                | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-160  | 10                               | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |
| VFVE-4-192  | 12                               | Acier inox / Stain. Steel           | Rainuré / Grooved                  | 4                                                                                                  |

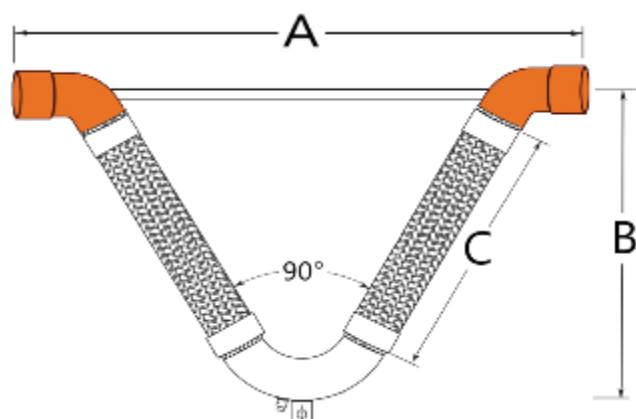
## VFSN / VFSFS / VFCC

Compensateurs flexibles "lyres de dilatation" EN V/ "V" shaped assemblies or flexible loops

| #           | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISMIQUE<br>TOUTES DIRECTIONS / AXIAL MOV.<br>SEISMIC IN ALL DIRECTIONS<br>(PO) |
|-------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------|
| VFSN-4-008  | 1/2                              | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-012  | 3/4                              | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-016  | 1                                | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-020  | 1 1/4                            | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-024  | 1 1/2                            | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-032  | 2                                | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-040  | 2 1/2                            | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-048  | 3                                | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSN-4-064  | 4                                | Acier/ Steel                        | Male NPT                           | 4                                                                                                  |
| VFSNS-4-008 | 1/2                              | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-012 | 3/4                              | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-016 | 1                                | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-020 | 1 1/4                            | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-024 | 1 1/2                            | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-032 | 2                                | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-040 | 2 1/2                            | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-048 | 3                                | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFSNS-4-064 | 4                                | Acier inox / Stain. Steel           | Male NPT                           | 4                                                                                                  |
| VFCC-4-008  | 1/2                              | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-012  | 3/4                              | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-016  | 1                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-020  | 1 1/4                            | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-024  | 1 1/2                            | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-032  | 2                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-040  | 2 1/2                            | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-048  | 3                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |
| VFCC-4-064  | 4                                | Cuivre / Copper                     | À souder / To weld                 | 4                                                                                                  |



VFSN



VFCC



WWW.HEBDRAULIQUE.CA



# FLEXIBLE UL/ULC SYSTÈME INCENDIE

*UL/ULC FLEXIBLE FOR FIRE SPRINKLER SYSTEMS*



UFSF-UL



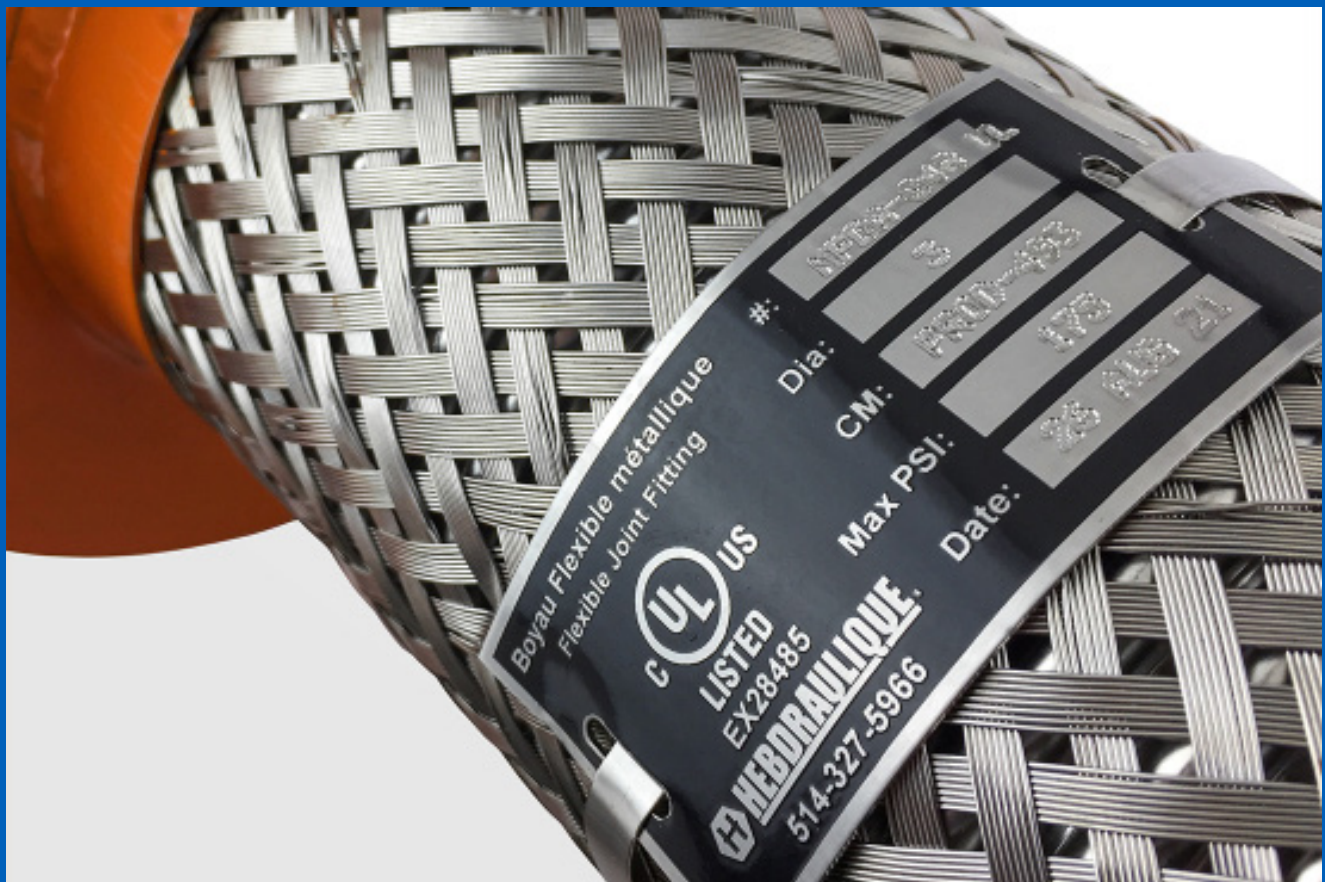
MFBA-UL



MFVA-UL

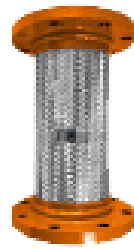


MFSN-UL



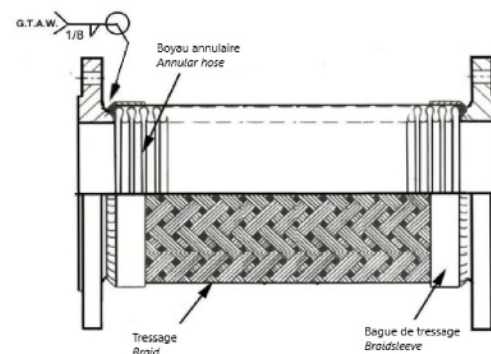
## MFBA-UL/ MFBG-UL

Boyaux assemblés avec brides classe 150 / Standard assemblies with no 150 flanges



MFBA-UL

| #              | EMBOUTS       | MATÉRIEL EMBOUTS | DIAM X LONG / LENGH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WOR-<br>KING PRESSURE PSI<br>(500°F/260°C) |
|----------------|---------------|------------------|-----------------------------|-------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------|
| MFBA-040-UL    | Bride/ Flange | Acier/Steel      | 2 1/2-12                    | 0.500                   | 175                                                             | 154                                                                 |
| MFBA-048-UL    | Bride/ Flange | Acier/Steel      | 3X12                        | 0.440                   | 175                                                             | 154                                                                 |
| MFBA-064-UL    | Bride/ Flange | Acier/Steel      | 4X15                        | 0.650                   | 175                                                             | 154                                                                 |
| MFBA-096-UL    | Bride/ Flange | Acier/Steel      | 6X18                        | 0.750                   | 175                                                             | 154                                                                 |
| MFBA-128-UL    | Bride/ Flange | Acier/Steel      | 8X18                        | 0.650                   | 175                                                             | 154                                                                 |
| MFBA-032-18-UL | Bride/ Flange | Acier/Steel      | 2x18                        | 2.625                   | 175                                                             | 154                                                                 |
| MFBA-040-18-UL | Bride/ Flange | Acier/Steel      | 2 1/2 x18                   | 1.500                   | 175                                                             | 154                                                                 |
| MFBA-048-18-UL | Bride/ Flange | Acier/Steel      | 3x18                        | 1.380                   | 175                                                             | 154                                                                 |
| MFBA-064-18-UL | Bride/ Flange | Acier/Steel      | 4x18                        | 1.085                   | 175                                                             | 154                                                                 |
| MFBA-032-24-UL | Bride/ Flange | Acier/Steel      | 2X24                        | 3.140                   | 175                                                             | 154                                                                 |
| MFBA-040-24-UL | Bride/ Flange | Acier/Steel      | 2 1/2X24                    | 3.125                   | 175                                                             | 154                                                                 |
| MFBA-048-24-UL | Bride/ Flange | Acier/Steel      | 3X24                        | 2.850                   | 175                                                             | 154                                                                 |
| MFBA-064-24-UL | Bride/ Flange | Acier/Steel      | 4X24                        | 2.259                   | 175                                                             | 154                                                                 |
| MFBA-096-24-UL | Bride/ Flange | Acier/Steel      | 6X24                        | 1.625                   | 175                                                             | 154                                                                 |
| MFBA-128-24-UL | Bride/ Flange | Acier/Steel      | 8X24                        | 1.425                   | 175                                                             | 154                                                                 |
| MFBA-032-36-UL | Bride/ Flange | Acier/Steel      | 2X36                        | 3.140                   | 175                                                             | 154                                                                 |
| MFBA-040-36-UL | Bride/ Flange | Acier/Steel      | 2 1/2X36                    | 3.125                   | 175                                                             | 154                                                                 |
| MFBA-048-36-UL | Bride/ Flange | Acier/Steel      | 3X36                        | 2.850                   | 175                                                             | 154                                                                 |
| MFBA-064-36-UL | Bride/ Flange | Acier/Steel      | 4X36                        | 2.259                   | 175                                                             | 154                                                                 |
| MFBA-096-36-UL | Bride/ Flange | Acier/Steel      | 6X36                        | 1.625                   | 175                                                             | 154                                                                 |
| MFBA-128-36-UL | Bride/ Flange | Acier/Steel      | 8X36                        | 1.425                   | 175                                                             | 154                                                                 |
| MFBG-032-UL    | Bride/ Flange | Inox/ Stainless  | 2X12                        | 0.945                   | 175                                                             | 154                                                                 |
| MFBG-040-UL    | Bride/ Flange | Inox/ Stainless  | 2 1/2-12                    | 0.500                   | 175                                                             | 154                                                                 |
| MFBG-048-UL    | Bride/ Flange | Inox/ Stainless  | 3X12                        | 0.440                   | 175                                                             | 154                                                                 |
| MFBG-064-UL    | Bride/ Flange | Inox/ Stainless  | 4X15                        | 0.650                   | 175                                                             | 154                                                                 |
| MFBG-096-UL    | Bride/ Flange | Inox/ Stainless  | 6X18                        | 0.750                   | 175                                                             | 154                                                                 |
| MFBG-128-UL    | Bride/ Flange | Inox/ Stainless  | 8X18                        | 0.650                   | 175                                                             | 154                                                                 |
| MFBG-032-18-UL | Bride/ Flange | Inox/ Stainless  | 2x18                        | 2.625                   | 175                                                             | 154                                                                 |
| MFBG-040-18-UL | Bride/ Flange | Inox/ Stainless  | 2 1/2 x18                   | 1.500                   | 175                                                             | 154                                                                 |
| MFBG-048-18-UL | Bride/ Flange | Inox/ Stainless  | 3x18                        | 1.380                   | 175                                                             | 154                                                                 |
| MFBG-064-18-UL | Bride/ Flange | Inox/ Stainless  | 4x18                        | 1.085                   | 175                                                             | 154                                                                 |



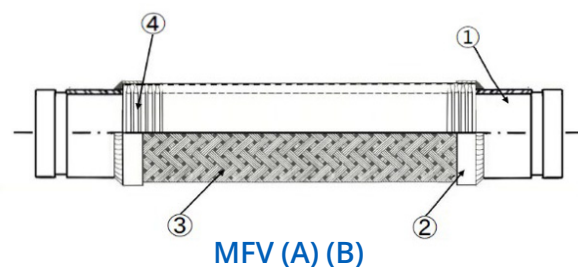
## MFBG-UL/ MFVA-UL

Boyaux assemblés avec brides no 150 en acier inoxydable / Standard assemblies with no 150 304 stainless steel flange

| #                                                                                                       | EMBOUTS           | MATÉRIEL EMBOUTS | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|---------------------------------------------------------------------------------------------------------|-------------------|------------------|------------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFBG-032-24-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 2X24                         | 3.140                   | 175                                                             | 154                                                               |
| MFBG-040-24-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 2 1/2X24                     | 3.125                   | 175                                                             | 154                                                               |
| MFBG-048-24-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 3X24                         | 2.850                   | 175                                                             | 154                                                               |
| MFBG-064-24-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 4X24                         | 2.259                   | 175                                                             | 154                                                               |
| MFBG-096-24-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 6X24                         | 1.625                   | 175                                                             | 154                                                               |
| MFBG-128-24-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 8X24                         | 1.425                   | 175                                                             | 154                                                               |
| MFBG-032-36-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 2X36                         | 3.140                   | 175                                                             | 154                                                               |
| MFBG-040-36-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 2 1/2X36                     | 3.125                   | 175                                                             | 154                                                               |
| MFBG-048-36-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 3X36                         | 2.850                   | 175                                                             | 154                                                               |
| MFBG-064-36-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 4X36                         | 2.259                   | 175                                                             | 154                                                               |
| MFBG-096-36-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 6X36                         | 1.625                   | 175                                                             | 154                                                               |
| MFBG-128-36-UL                                                                                          | Bride/ Flange     | Inox/ Stainless  | 8X36                         | 1.425                   | 175                                                             | 154                                                               |
| Boyaux assemblés avec embouts rainurés en acier cédule 40/<br>Métal hoses with schedule 40 grooved ends |                   |                  |                              |                         |                                                                 |                                                                   |
| MFVA-032-UL                                                                                             | Rainuré / Grooved | Acier/Steel      | 2X12                         | 0.400                   | 175                                                             | 154                                                               |
| MFVA-040-UL                                                                                             | Rainuré / Grooved | Acier/Steel      | 2 1/2-14                     | 0.300                   | 175                                                             | 154                                                               |
| MFVA-048-UL                                                                                             | Rainuré / Grooved | Acier/Steel      | 3X14                         | 0.272                   | 175                                                             | 154                                                               |
| MFVA-064-UL                                                                                             | Rainuré / Grooved | Acier/Steel      | 4X18                         | 0.615                   | 175                                                             | 154                                                               |
| MFVA-096-UL                                                                                             | Rainuré / Grooved | Acier/Steel      | 6X18                         | 0.465                   | 175                                                             | 154                                                               |
| MFVA-128-UL                                                                                             | Rainuré / Grooved | Acier/Steel      | 8X24                         | 0.815                   | 175                                                             | 154                                                               |
| MFVA-032-18-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 2X18                         | 1.720                   | 175                                                             | 154                                                               |
| MFVA-040-18-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 2 1/2 X18                    | 0.835                   | 175                                                             | 154                                                               |
| MFVA-048-18-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 3X18                         | 0.750                   | 175                                                             | 154                                                               |
| MFVA-032-24-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 2X24                         | 3.140                   | 175                                                             | 154                                                               |
| MFVA-040-24-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 2 1/2 X24                    | 2.100                   | 175                                                             | 154                                                               |
| MFVA-048-24-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 3X24                         | 1.900                   | 175                                                             | 154                                                               |
| MFVA-064-24-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 4X24                         | 1.570                   | 175                                                             | 154                                                               |
| MFVA-096-24-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 6X24                         | 0.900                   | 175                                                             | 154                                                               |
| MFVA-128-24-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 8X24                         | 0.815                   | 175                                                             | 154                                                               |
| MFVA-032-36-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 2X36                         | 3.140                   | 175                                                             | 154                                                               |
| MFVA-040-36-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 2 1/2 X36                    | 5.000                   | 175                                                             | 154                                                               |
| MFVA-048-36-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 3X36                         | 5.500                   | 175                                                             | 154                                                               |
| MFVA-064-36-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 4X36                         | 4.780                   | 175                                                             | 154                                                               |
| MFVA-096-36-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 6X36                         | 3.580                   | 175                                                             | 154                                                               |
| MFVA-128-36-UL                                                                                          | Rainuré / Grooved | Acier/Steel      | 8X36                         | 2.780                   | 175                                                             | 154                                                               |



MFVA-UL



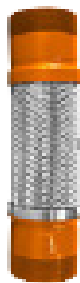
**MFVE-UL/ MFSN-UL**

Boyaux assemblés avec embouts rainurés en acier inoxydable cédule 40 / *Standard assemblies with stainless steel schedule 40 grooved end.*

| #              | EMBOUTS           | MATÉRIEL EMBOUTS | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|----------------|-------------------|------------------|------------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFVE-032-UL    | Rainuré / Grooved | Inox/ Stainless  | 2-12                         | 0.400                   | 175                                                             | 154                                                               |
| MFVE-040-UL    | Rainuré / Grooved | Inox/ Stainless  | 2 <sup>1/2</sup> -14         | 0.300                   | 175                                                             | 154                                                               |
| MFVE-048-UL    | Rainuré / Grooved | Inox/ Stainless  | 3X12                         | 2.272                   | 175                                                             | 154                                                               |
| MFVE-064-UL    | Rainuré / Grooved | Inox/ Stainless  | 4X15                         | 0.615                   | 175                                                             | 154                                                               |
| MFVE-096-UL    | Rainuré / Grooved | Inox/ Stainless  | 6X18                         | 0.465                   | 175                                                             | 154                                                               |
| MFVE-128-UL    | Rainuré / Grooved | Inox/ Stainless  | 8X18                         | 0.815                   | 175                                                             | 154                                                               |
| MFVE-032-18-UL | Rainuré / Grooved | Inox/ Stainless  | 2x18                         | 1.720                   | 175                                                             | 154                                                               |
| MFVE-040-18-UL | Rainuré / Grooved | Inox/ Stainless  | 2 1/2 x18                    | 0.385                   | 175                                                             | 154                                                               |
| MFVE-048-18-UL | Rainuré / Grooved | Inox/ Stainless  | 3x18                         | 0.750                   | 175                                                             | 154                                                               |
| MFVE-032-24-UL | Rainuré / Grooved | Inox/ Stainless  | 2X24                         | 3.140                   | 175                                                             | 154                                                               |
| MFVE-040-24-UL | Rainuré / Grooved | Inox/ Stainless  | 2 1/2X24                     | 2.100                   | 175                                                             | 154                                                               |
| MFVE-048-24-UL | Rainuré / Grooved | Inox/ Stainless  | 3X24                         | 1.900                   | 175                                                             | 154                                                               |
| MFVE-064-24-UL | Rainuré / Grooved | Inox/ Stainless  | 4X24                         | 1.570                   | 175                                                             | 154                                                               |
| MFVE-096-24-UL | Rainuré / Grooved | Inox/ Stainless  | 6X24                         | 0.900                   | 175                                                             | 154                                                               |
| MFVE-128-24-UL | Rainuré / Grooved | Inox/ Stainless  | 8X24                         | 0.815                   | 175                                                             | 154                                                               |
| MFVE-032-36-UL | Rainuré / Grooved | Inox/ Stainless  | 2X36                         | 3.140                   | 175                                                             | 154                                                               |
| MFVE-040-36-UL | Rainuré / Grooved | Inox/ Stainless  | 2 1/2X36                     | 5.000                   | 175                                                             | 154                                                               |
| MFVE-048-36-UL | Rainuré / Grooved | Inox/ Stainless  | 3X36                         | 5.500                   | 175                                                             | 154                                                               |
| MFVE-064-36-UL | Rainuré / Grooved | Inox/ Stainless  | 4X36                         | 4.780                   | 175                                                             | 154                                                               |
| MFVE-096-36-UL | Rainuré / Grooved | Inox/ Stainless  | 6X36                         | 3.580                   | 175                                                             | 154                                                               |
| MFVE-128-36-UL | Rainuré / Grooved | Inox/ Stainless  | 8X36                         | 2.780                   | 175                                                             | 154                                                               |
| MFSN-008-UL    | Male NPT          | Acier/ Steel     | 1/2X12                       | 1.75                    | 175                                                             | 154                                                               |
| MFSN-012-UL    | Male NPT          | Acier/ Steel     | 3/4X12                       | 2.65                    | 175                                                             | 154                                                               |
| MFSN-016-UL    | Male NPT          | Acier/ Steel     | 1X12                         | 3.33                    | 175                                                             | 154                                                               |
| MFSN-020-UL    | Male NPT          | Acier/ Steel     | 1 1/4 X 12                   | 4.10                    | 175                                                             | 154                                                               |
| MFSN-024-UL    | Male NPT          | Acier/ Steel     | 1 1/2 X 12                   | 5.08                    | 175                                                             | 154                                                               |
| MFSN-032-UL    | Male NPT          | Acier/ Steel     | 2 X 12                       | 6.27                    | 175                                                             | 154                                                               |
| MFSN-040-UL    | Male NPT          | Acier/ Steel     | 2 1/2 X12                    | 8.00                    | 175                                                             | 154                                                               |
| MFSN-048-UL    | Male NPT          | Acier/ Steel     | 3X12                         | 9.00                    | 175                                                             | 154                                                               |
| MFSN-064-UL    | Male NPT          | Acier/ Steel     | 4X12                         | 13.00                   | 175                                                             | 154                                                               |
| MFSN-008-18-UL | Male NPT          | Acier/ Steel     | 1/2X18                       | 1.370                   | 175                                                             | 154                                                               |
| MFSN-012-18-UL | Male NPT          | Acier/ Steel     | 3/4X18                       | 1.650                   | 175                                                             | 154                                                               |
| MFSN-016-18-UL | Male NPT          | Acier/ Steel     | 1X18                         | 1.880                   | 175                                                             | 154                                                               |
| MFSN-020-18-UL | Male NPT          | Acier/ Steel     | 1 1/4 X 18                   | 2.10                    | 175                                                             | 154                                                               |
| MFSN-024-18-UL | Male NPT          | Acier/ Steel     | 1 1/2 X 18                   | 1.830                   | 175                                                             | 154                                                               |
| MFSN-032-18-UL | Male NPT          | Acier/ Steel     | 2 X 18                       | 1.720                   | 175                                                             | 154                                                               |
| MFSN-040-18-UL | Male NPT          | Acier/ Steel     | 2 1/2 X18                    | 0.835                   | 175                                                             | 154                                                               |
| MFSN-048-18-UL | Male NPT          | Acier/ Steel     | 3X18                         | 0.750                   | 175                                                             | 154                                                               |

**MFSN-UL/MFSNS-UL**

Boyaux assemblés avec embouts mâle NPT cédule 40. / Standard assemblies with SC40 male NPT ends.

**MFSN-UL**

| #               | EMBOUTS  | MATÉRIEL EMBOUTS | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORK-<br>ING PRESSURE PSI<br>(500°F/260°C) |
|-----------------|----------|------------------|------------------------------|-------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------|
| MFSN-008-24-UL  | Male NPT | Acier/ Steel     | 1/2X24                       | 1.370                   | 175                                                             | 154                                                                 |
| MFSN-012-24-UL  | Male NPT | Acier/ Steel     | 3/4X24                       | 1.650                   | 175                                                             | 154                                                                 |
| MFSN-016-24-UL  | Male NPT | Acier/ Steel     | 1X24                         | 1.880                   | 175                                                             | 154                                                                 |
| MFSN-020-24-UL  | Male NPT | Acier/ Steel     | 1 1/4 X 24                   | 2.550                   | 175                                                             | 154                                                                 |
| MFSN-024-24-UL  | Male NPT | Acier/ Steel     | 1 1/2 X 24                   | 2.940                   | 175                                                             | 154                                                                 |
| MFSN-032-24-UL  | Male NPT | Acier/ Steel     | 2 X 24                       | 3.140                   | 175                                                             | 154                                                                 |
| MFSN-040-24-UL  | Male NPT | Acier/ Steel     | 2 1/2 X24                    | 2.210                   | 175                                                             | 154                                                                 |
| MFSN-048-24-UL  | Male NPT | Acier/ Steel     | 3X24                         | 1.985                   | 175                                                             | 154                                                                 |
| MFSN-064-24-UL  | Male NPT | Acier/ Steel     | 4X24                         | 1.570                   | 175                                                             | 154                                                                 |
| MFSN-008-36-UL  | Male NPT | Acier/ Steel     | 1/2X36                       | 1.370                   | 175                                                             | 154                                                                 |
| MFSN-012-36-UL  | Male NPT | Acier/ Steel     | 3/4X36                       | 1.650                   | 175                                                             | 154                                                                 |
| MFSN-016-36-UL  | Male NPT | Acier/ Steel     | 1X236                        | 1.880                   | 175                                                             | 154                                                                 |
| MFSN-020-36-UL  | Male NPT | Acier/ Steel     | 1 1/4 X 36                   | 2.550                   | 175                                                             | 154                                                                 |
| MFSN-024-36-UL  | Male NPT | Acier/ Steel     | 1 1/2 X 36                   | 2.940                   | 175                                                             | 154                                                                 |
| MFSN-032-36-UL  | Male NPT | Acier/ Steel     | 2 X 36                       | 3.140                   | 175                                                             | 154                                                                 |
| MFSN-040-36-UL  | Male NPT | Acier/ Steel     | 2 1/2 X36                    | 5.000                   | 175                                                             | 154                                                                 |
| MFSN-048-36-UL  | Male NPT | Acier/ Steel     | 3X36                         | 5.500                   | 175                                                             | 154                                                                 |
| MFSN-064-36-UL  | Male NPT | Acier/ Steel     | 4X36                         | 4.690                   | 175                                                             | 154                                                                 |
| MFSNS-008-UL    | Male NPT | Inox/ Stainless  | 1/2X12                       | 1.240                   | 175                                                             | 154                                                                 |
| MFSNS-012-UL    | Male NPT | Inox/ Stainless  | 3/4X12                       | 1.104                   | 175                                                             | 154                                                                 |
| MFSNS-016-UL    | Male NPT | Inox/ Stainless  | 1X12                         | 0.920                   | 175                                                             | 154                                                                 |
| MFSNS-020-UL    | Male NPT | Inox/ Stainless  | 1 1/4 X 12                   | 0.490                   | 175                                                             | 154                                                                 |
| MFSNS-024-UL    | Male NPT | Inox/ Stainless  | 1 1/2 X 12                   | 0.270                   | 175                                                             | 154                                                                 |
| MFSNS-032-UL    | Male NPT | Inox/ Stainless  | 2 X 12                       | 0.399                   | 175                                                             | 154                                                                 |
| MFSNS-040-UL    | Male NPT | Inox/ Stainless  | 2 1/2 X12                    | 0.135                   | 175                                                             | 154                                                                 |
| MFSNS-048-UL    | Male NPT | Inox/ Stainless  | 3X12                         | 0.125                   | 175                                                             | 154                                                                 |
| MFSNS-064-UL    | Male NPT | Inox/ Stainless  | 4X12                         | 0.615                   | 175                                                             | 154                                                                 |
| MFSNS-008-18-UL | Male NPT | Inox/ Stainless  | 1/2X18                       | 1.370                   | 175                                                             | 154                                                                 |
| MFSNS-012-18-UL | Male NPT | Inox/ Stainless  | 3/4X18                       | 1.650                   | 175                                                             | 154                                                                 |
| MFSNS-016-18-UL | Male NPT | Inox/ Stainless  | 1X18                         | 1.880                   | 175                                                             | 154                                                                 |
| MFSNS-020-18-UL | Male NPT | Inox/ Stainless  | 1 1/4 X 18                   | 2.100                   | 175                                                             | 154                                                                 |
| MFSNS-024-18-UL | Male NPT | Inox/ Stainless  | 1 1/2 X 18                   | 1.830                   | 175                                                             | 154                                                                 |
| MFSNS-032-18-UL | Male NPT | Inox/ Stainless  | 2 X 18                       | 1.720                   | 175                                                             | 154                                                                 |
| MFSNS-040-18-UL | Male NPT | Inox/ Stainless  | 2 1/2 X18                    | 0.835                   | 175                                                             | 154                                                                 |
| MFSNS-048-18-UL | Male NPT | Inox/ Stainless  | 3X18                         | 0.750                   | 175                                                             | 154                                                                 |
| MFSNS-064-18-UL | Male NPT | Inox/ Stainless  | 4X18                         | -                       | 175                                                             | 154                                                                 |

# BOYAUX MÉTALLIQUES POUR SYSTÈME DE PROTECTION INCENDIE / METAL HOSES FOR FIRE SUPPRESSION SYSTEMS

## MFSNS-UL

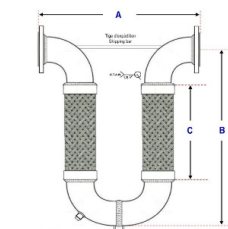
Boyaux assemblés avec embouts mâle NPT cédule 40. / Standard assemblies with SC40 male NPT ends.

| #               | EMBOUTS  | MATÉRIEL EMBOUTS | DIAM X LONG / LENGTH<br>(PO) | DEC.<br>LATERAL<br>(PO) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(70°F/21°C) | PRESSION DE<br>TRAVAIL / WORKING<br>PRESSURE PSI<br>(500°F/260°C) |
|-----------------|----------|------------------|------------------------------|-------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|
| MFSNS-008-24-UL | Male NPT | Inox/ Stainless  | 1/2X24                       | 1.370                   | 175                                                             | 154                                                               |
| MFSNS-012-24-UL | Male NPT | Inox/ Stainless  | 3/4X24                       | 1.650                   | 175                                                             | 154                                                               |
| MFSNS-016-24-UL | Male NPT | Inox/ Stainless  | 1X24                         | 1.880                   | 175                                                             | 154                                                               |
| MFSNS-020-24-UL | Male NPT | Inox/ Stainless  | 1 1/4 X 24                   | 2.550                   | 175                                                             | 154                                                               |
| MFSNS-024-24-UL | Male NPT | Inox/ Stainless  | 1 1/2 X 24                   | 2.940                   | 175                                                             | 154                                                               |
| MFSNS-032-24-UL | Male NPT | Inox/ Stainless  | 2 X 24                       | 3.140                   | 175                                                             | 154                                                               |
| MFSNS-040-24-UL | Male NPT | Inox/ Stainless  | 2 1/2 X24                    | 2.210                   | 175                                                             | 154                                                               |
| MFSNS-048-24-UL | Male NPT | Inox/ Stainless  | 3X24                         | 1.985                   | 175                                                             | 154                                                               |
| MFSNS-064-24-UL | Male NPT | Inox/ Stainless  | 4X24                         | 1.570                   | 175                                                             | 154                                                               |
| MFSNS-008-36-UL | Male NPT | Inox/ Stainless  | 1/2X36                       | 1.370                   | 175                                                             | 154                                                               |
| MFSNS-012-36-UL | Male NPT | Inox/ Stainless  | 3/4X36                       | 1.650                   | 175                                                             | 154                                                               |
| MFSNS-016-36-UL | Male NPT | Inox/ Stainless  | 1X236                        | 1.880                   | 175                                                             | 154                                                               |
| MFSNS-020-36-UL | Male NPT | Inox/ Stainless  | 1 1/4 X 36                   | 2.550                   | 175                                                             | 154                                                               |
| MFSNS-024-36-UL | Male NPT | Inox/ Stainless  | 1 1/2 X 36                   | 2.940                   | 175                                                             | 154                                                               |
| MFSNS-032-36-UL | Male NPT | Inox/ Stainless  | 2 X 36                       | 3.140                   | 175                                                             | 154                                                               |
| MFSNS-040-36-UL | Male NPT | Inox/ Stainless  | 2 1/2 X36                    | 5.000                   | 175                                                             | 154                                                               |
| MFSNS-048-36-UL | Male NPT | Inox/ Stainless  | 3X36                         | 5.500                   | 175                                                             | 154                                                               |
| MFSNS-064-36-UL | Male NPT | Inox/ Stainless  | 4X36                         | 4.690                   | 175                                                             | 154                                                               |

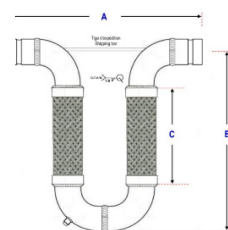
# FLEXIBLES EN U POUR SYSTÈME PROTECTION INCENDIE / FLEXIBLE LOOPS FOR FIRE SUPPRESSION SYSTEM

## UFSFS-UL / UFSF-UL / UFVA-UL / UFVE-UL/ UFSN -UL/ UFSNS-UL

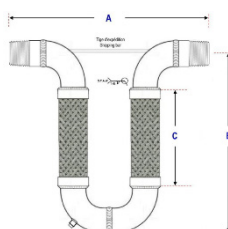
Compensateurs flexibles "lyres de dilatation" / "U" shaped assemblies or flexible loops



UFSF



UFVA



UFSN (S)

| #              | DIAM.<br>DU TUYAU / HOSE<br>(PO) | ALLIAGE DES<br>EMBOUTS / ALLOY ENDS | TYPES D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX SÉISMIQUE<br>TOUTES DIRECTIONS / AXIAL MOV.<br>SEISMIC IN ALL DIRECTIONS<br>(PO) |
|----------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------|
| UFSFS-4-032-UL | 2                                | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSFS-4-040-UL | 2 1/2                            | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSFS-4-048-UL | 3                                | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSFS-4-064-UL | 4                                | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSFS-4-080-UL | 5                                | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSFS-4-096-UL | 6                                | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSFS-4-196-UL | 8                                | Acier inox / <i>Stain. Steel</i>    | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-032-UL  | 2                                | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-040-UL  | 2 1/2                            | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-048-UL  | 3                                | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-064-UL  | 4                                | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-080-UL  | 5                                | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-096-UL  | 6                                | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFSF-4-196-UL  | 8                                | Acier/ <i>Steel</i>                 | Bride/ Flange                      | 4                                                                                                  |
| UFVA-4-032-UL  | 2                                | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVA-4-040-UL  | 2 1/2                            | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVA-4-048-UL  | 3                                | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVA-4-064-UL  | 4                                | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVA-4-080-UL  | 5                                | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVA-4-096-UL  | 6                                | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVA-4-128-UL  | 8                                | Acier/ <i>Steel</i>                 | Rainuré / Grooved                  | 4                                                                                                  |
| UFVE -4-040-UL | 2 1/2                            | Acier inox / <i>Stain. Steel</i>    | Rainuré / Grooved                  | 4                                                                                                  |
| UFVE -4-048-UL | 3                                | Acier inox / <i>Stain. Steel</i>    | Rainuré / Grooved                  | 4                                                                                                  |
| UFVE -4-064-UL | 4                                | Acier inox / <i>Stain. Steel</i>    | Rainuré / Grooved                  | 4                                                                                                  |
| UFVE -4-080-UL | 5                                | Acier inox / <i>Stain. Steel</i>    | Rainuré / Grooved                  | 4                                                                                                  |
| UFVE -4-096-UL | 6                                | Acier inox / <i>Stain. Steel</i>    | Rainuré / Grooved                  | 4                                                                                                  |
| UFSN-4-008-UL  | 1/2                              | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-012-UL  | 3/4                              | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSN-4-016-UL  | 1                                | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-020-UL  | 1 1/4                            | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-024-UL  | 1 1/2                            | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-032-UL  | 2                                | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-040-UL  | 2 1/2                            | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-048-UL  | 3                                | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSN-4-064-UL  | 4                                | Acier/ <i>Steel</i>                 | Male NPT                           | 4                                                                                                  |
| UFSNS-4-008-UL | 1/2                              | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-012-UL | 3/4                              | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-016-UL | 1                                | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-020-UL | 1 1/4                            | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-024-UL | 1 1/2                            | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-032-UL | 2                                | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-040-UL | 2 1/2                            | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-048-UL | 3                                | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |
| UFSNS-4-064-UL | 4                                | Acier inox / <i>Stain. Steel</i>    | Male NPT                           | 4                                                                                                  |

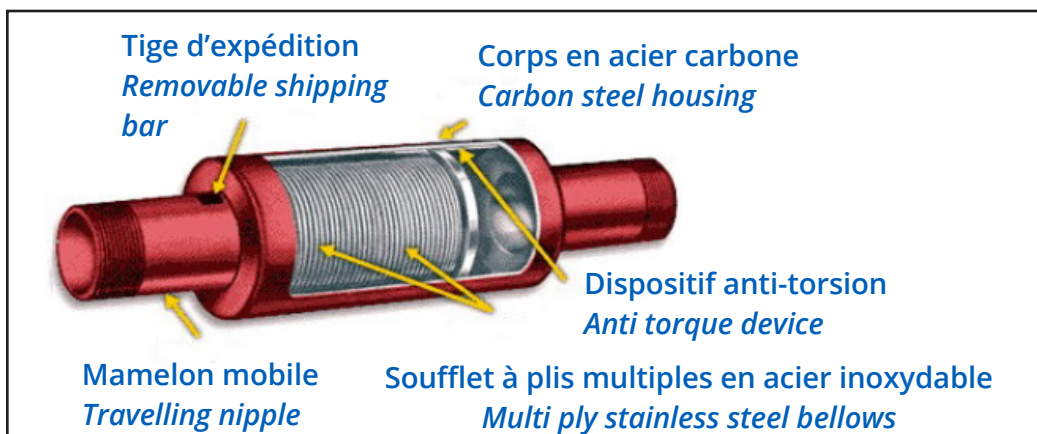
### XPSN / XPSW / XPSV / XPSF

Les compensateurs sont majoritairement utilisés pour contrer l'expansion thermique de la tuyauterie de chauffage et d'eau chaude dans les bâtiments institutionnels, commerciaux et industriels. Ils peuvent être installés tant à l'horizontale qu'à la verticale. / *Expansion joints are used to compensate for thermal expansion of rigid heating piping in institutional, commercial and industrial buildings. They can be installed vertically as well as horizontally.*

Les compensateurs ou "joints d'expansion à pression externe" sont aussi avantageusement utilisés pour faire le remplacement de joints d'expansion à flexion contrôlée et de joints coulissants devant être entretenus de façon régulière. / *Compensators or externally pressurized expansion joints can easily replace controlled flexing and slip type expansion joints that are expensive and need high maintenance.*

**Configuration disponibles / Available configurations:** embouts filetés NPT / NPT, embouts rainurés / *grooved ends*, embouts à souder / *weld ends* et/ or embouts à brides / *flanged ends*

Il est important de bien guider votre tuyauterie. Pour en savoir plus sur l'installation de nos compensateurs et les procédures de guidage de la tuyauterie, n'hésitez pas à contacter notre département technique: 1-800-461-5966 / *It is very important to properly guide the piping. To get some more information on installation procedures please contact our technical service at 1-800-461-5966*



| SPECIFICATIONS                                                     |         |
|--------------------------------------------------------------------|---------|
| Pression maximale d'opération / <i>Maximum operating pressure</i>  | 200 PSI |
| Pression maximale d'essai / <i>Maximim test pressure</i>           | 300 PSI |
| Température d'opération maximale / <i>Maximim test temperature</i> | 750 °F  |

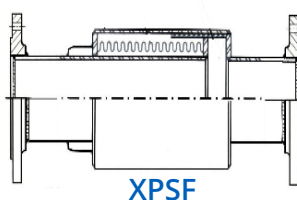
Conforme à la spécification militaire MIL-E-17813D /  
*Conform to military specification MIL-E-17813D*

Ce compensateur est conçu pour des mouvements axiaux seulement. L'installation requiert l'alignement, le guidage et l'ancrage approprié de la tuyauterie selon les standards EJMA. / *This compensator is designed for axial movement only. Installation requires alignment, guidance and proper anchorage of the pipe according to standards EJMA.*

## XPSF

Compensateurs de dilatation thermique/ *Thermal expansion compensator*

| #           | DIAM . (PO) | TYPE D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX /<br>AXIAL MOVEMENTS (PO) |           |
|-------------|-------------|-----------------------------------|---------------------------------------------|-----------|
|             |             |                                   | COMPRESSION                                 | EXTENSION |
| XPSF-2-200  | 2           | Bride/ Flanged # 150              | 2                                           | 1/2       |
| XPSF-2-250  | 2-1/2       | Bride/ Flanged # 150              | 2                                           | 1/2       |
| XPSF-2-300  | 3           | Bride/ Flanged # 150              | 2                                           | 1/2       |
| XPSF-2-400  | 4           | Bride/ Flanged # 150              | 2                                           | 1/2       |
| XPSF-3-200  | 2           | Bride/ Flanged # 150              | 3                                           | 1/2       |
| XPSF-3-250  | 2-1/2       | Bride/ Flanged # 150              | 3                                           | 1/2       |
| XPSF-3-300  | 3           | Bride/ Flanged # 150              | 3                                           | 1/2       |
| XPSF-3-400  | 4           | Bride/ Flanged # 150              | 3                                           | 1/2       |
| XPSF-4-100  | 1           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-125  | 1-1/4       | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-150  | 1-1/2       | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-200  | 2           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-250  | 2-1/2       | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-300  | 3           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-400  | 4           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-500  | 5           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-600  | 6           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-800  | 8           | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-1000 | 10          | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-4-1200 | 12          | Bride/ Flanged # 150              | 4                                           | 1/2       |
| XPSF-6-100  | 1           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-125  | 1 1/4       | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-150  | 1 1/2       | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-200  | 2           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-250  | 2 1/2       | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-300  | 3           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-400  | 4           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-500  | 5           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-600  | 6           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-800  | 8           | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-1000 | 10          | Bride/ Flanged # 150              | 6                                           | 1/2       |
| XPSF-6-1200 | 12          | Bride/ Flanged # 150              | 6                                           | 1/2       |



## XPSF

Compensateurs de dilatation thermique/ *Thermal expansion compensator*



XPSF

| #            | DIAM . (PO) | TYPE D'EMBOUITS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX /<br>AXIAL MOVEMENTS (PO) |           |
|--------------|-------------|------------------------------------|---------------------------------------------|-----------|
|              |             |                                    | COMPRESSION                                 | EXTENSION |
| XPSF-8-100   | 1           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-125   | 1 1/4       | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-150   | 1 1/2       | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-200   | 2           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-250   | 2 1/2       | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-300   | 3           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-400   | 4           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-500   | 5           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-600   | 6           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-800   | 8           | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-1000  | 10          | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-8-1200  | 12          | Bride/ Flanged # 150               | 8                                           | 1/2       |
| XPSF-12-100  | 1           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-125  | 1 1/4       | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-150  | 1 1/2       | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-200  | 2           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-250  | 2 1/2       | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-300  | 3           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-400  | 4           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-500  | 5           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-600  | 6           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-800  | 8           | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-1000 | 10          | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-12-1200 | 12          | Bride/ Flanged # 150               | 12                                          | 1/2       |
| XPSF-16-100  | 1           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-125  | 1 1/4       | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-150  | 1 1/2       | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-200  | 2           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-250  | 2 1/2       | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-300  | 3           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-400  | 4           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-500  | 5           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-600  | 6           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-800  | 8           | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-1000 | 10          | Bride/ Flanged # 150               | 16                                          | 1/2       |
| XPSF-16-1200 | 12          | Bride/ Flanged # 150               | 16                                          | 1/2       |

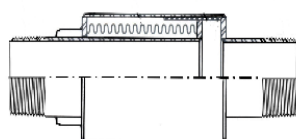
## XPSN / XPSV

Compensateurs de dilatation thermique/ Thermal expansion compensator

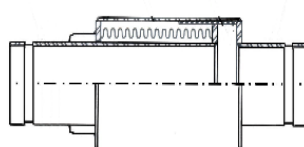


XPSN

| #           | DIAM . (PO) | TYPE D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX /<br>AXIAL MOVEMENTS (PO) |           |
|-------------|-------------|-----------------------------------|---------------------------------------------|-----------|
|             |             |                                   | COMPRESSION                                 | EXTENSION |
| XPSN-2-075  | 3/4         | Male NPT                          | 2                                           | 1/2       |
| XPSN-2-100  | 1           | Male NPT                          | 2                                           | 1/2       |
| XPSN-2-125  | 1-1/4       | Male NPT                          | 2                                           | 1/2       |
| XPSN-2-150  | 1-1/2       | Male NPT                          | 2                                           | 1/2       |
| XPSN-2-250  | 2-1/2       | Male NPT                          | 2                                           | 1/2       |
| XPSN-3-200  | 2           | Male NPT                          | 2                                           | 1/2       |
| XPSN-3-300  | 3           | Male NPT                          | 2                                           | 1/2       |
| XPSN-3-075  | 3/4         | Male NPT                          | 3                                           | 1/2       |
| XPSN-3-100  | 1           | Male NPT                          | 3                                           | 1/2       |
| XPSN-3-125  | 1-1/4       | Male NPT                          | 3                                           | 1/2       |
| XPSN-2-200  | 2           | Male NPT                          | 3                                           | 1/2       |
| XPSN-2-300  | 3           | Male NPT                          | 3                                           | 1/2       |
| XPSN-3-150  | 1-1/2       | Male NPT                          | 3                                           | 1/2       |
| XPSN-3-250  | 2-1/2       | Male NPT                          | 3                                           | 1/2       |
| XPSV-2-300  | 3           | Rainuré /Grooved                  | 2                                           | 1/2       |
| XPSV-2-400  | 4           | Rainuré /Grooved                  | 2                                           | 1/2       |
| XPSV-3-200  | 2           | Rainuré /Grooved                  | 3                                           | 1/2       |
| XPSV-3-250  | 2-1/2       | Rainuré /Grooved                  | 3                                           | 1/2       |
| XPSV-3-300  | 3           | Rainuré /Grooved                  | 3                                           | 1/2       |
| XPSV-3-400  | 4           | Rainuré /Grooved                  | 3                                           | 1/2       |
| XPSV-4-100  | 1           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-125  | 1-1/4       | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-150  | 1-1/2       | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-200  | 2           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-250  | 2-1/2       | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-300  | 3           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-400  | 4           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-500  | 5           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-600  | 6           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-800  | 8           | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-1000 | 10          | Rainuré /Grooved                  | 4                                           | 1/2       |
| XPSV-4-1200 | 12          | Rainuré /Grooved                  | 4                                           | 1/2       |



XPSN



XPSV

## XPSW

De fabrication semblable à nos modèles de 2" et 3" de mouvement, ceux-ci peuvent prendre des mouvements axiaux de 4", 6" et 8". Ils peuvent aussi être doublés avec une base d'ancrage afin d'offrir des mouvements de 8", 12" et 16" de compression. Ils sont fabriqués avec des drains de vidange et des anneaux de levage pour en faciliter l'installation. / *With a similar construction of our 2" and 3" compression models, those can take 4", 6" and 8" of axial compression. They can also be doubled with an anchor base to take as much as 8", 12" and even 16" of axial compression. Fabricated with flushing drains and leverage brackets to facilitate installation. They are available in 150# and 300# design pressure.*

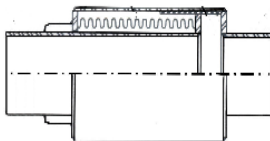


XPSW

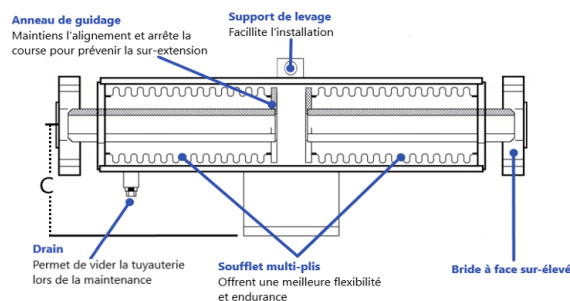
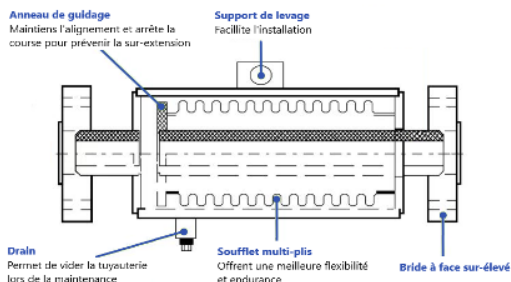
| #           | DIAM.<br>(PO) | TYPE D'EMBOUTS / FITTINGS<br>TYPE | MOUVEMENTS AXIAUX /<br>AXIAL MOVEMENTS (PO) |           |
|-------------|---------------|-----------------------------------|---------------------------------------------|-----------|
|             |               |                                   | COMPRESSION                                 | EXTENSION |
| XPSW-2-200  | 2             | À souder / To weld                | 2                                           | 1/2       |
| XPSW-2-250  | 2-1/2         | À souder / To weld                | 2                                           | 1/2       |
| XPSW-2-300  | 3             | À souder / To weld                | 2                                           | 1/2       |
| XPSW-2-400  | 4             | À souder / To weld                | 2                                           | 1/2       |
| XPSW-3-200  | 2             | À souder / To weld                | 3                                           | 1/2       |
| XPSW-3-250  | 2-1/2         | À souder / To weld                | 3                                           | 1/2       |
| XPSW-3-300  | 3             | À souder / To weld                | 3                                           | 1/2       |
| XPSW-3-400  | 4             | À souder / To weld                | 3                                           | 1/2       |
| XPSW-4-100  | 1             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-125  | 1-1/4         | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-150  | 1-1/2         | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-200  | 2             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-250  | 2-1/2         | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-300  | 3             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-400  | 4             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-500  | 5             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-600  | 6             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-800  | 8             | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-1000 | 10            | À souder / Weld end               | 4                                           | 1/2       |
| XPSW-4-1200 | 12            | À souder / Weld end               | 4                                           | 1/2       |

Conforme à la spécification militaire MIL-E-17813D / *Conform to military specification MIL-E-17813D*

Ce compensateur est conçu pour des mouvements axiaux seulement. L'installation requiert l'alignement, le guidage et l'ancrage approprié de la tuyauterie selon les standards EJMA. / *This compensator is designed for axial movement only. Installation requires alignment, guidance and proper anchorage of the pipe according to standards EJMA.*



XPSW



# COMPENSATEURS EN CUIVRE EMBOUTS À SOUDER / COOPER SWEAT ENDS COMPENSATORS

## HPC-2 / HPC-3

Ces compensateurs sont conçus seulement pour les mouvements axiaux. L'installation nécessite un alignement approprié avec guides de tuyauterie et ancrages selon les standards EJMA / *Those compensators are designed for axial movements only. The installation requires proper alignment, guiding and anchoring of the pipe lines as EJMA standards*



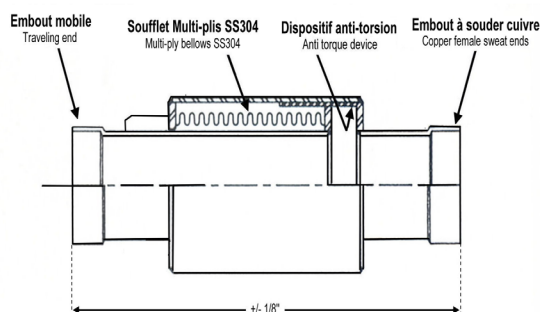
| #         | DIAM.(PO)         |                 | MESURE HORS-TOUT /<br>OVERAL LENGHT | COMPRESSION |
|-----------|-------------------|-----------------|-------------------------------------|-------------|
|           | TUYAUTERIE / PIPE | CORPS / OUTSIDE | PO                                  | PO          |
| HPC-2-075 | 3/4               | 2               | 11-1/4                              | 2           |
| HPC-2-100 | 1                 | 2               | 12-1/2                              | 2           |
| HPC-2-125 | 1-1/4             | 2-1/2           | 12-7/8                              | 2           |
| HPC-2-150 | 1-1/2             | 2-3/4           | 13                                  | 2           |
| HPC-2-200 | 2                 | 3-1/4           | 13-1/4                              | 2           |
| HPC-2-250 | 2-1/2             | 4               | 14                                  | 2           |
| HPC-2-300 | 3                 | 4-1/2           | 14                                  | 2           |
| HPC-2-400 | 4                 | 5-3/4           | 15-1/4                              | 2           |
| HPC-3-075 | 3/4               | 1 5/8           | 11-7/8                              | 3           |
| HPC-3-100 | 1                 | 2               | 15 1/8                              | 3           |
| HPC-3-125 | 1-1/4             | 2 1/4           | 16 3/8                              | 3           |
| HPC-3-150 | 1-1/2             | 2 1/2           | 16 3/4                              | 3           |
| HPC-3-200 | 2                 | 3               | 17                                  | 3           |
| HPC-3-250 | 2-1/2             | 4               | 17                                  | 3           |
| HPC-3-300 | 3                 | 4 1/2           | 18                                  | 3           |
| HPC-3-400 | 4                 | 5 7/8           | 19                                  | 3           |

### MATÉRIELS / MATERIAL

| Soufflet / Bellow                                 | Corps / Shroud                     | Embout / Ends   |
|---------------------------------------------------|------------------------------------|-----------------|
| Multi-plis acier inox / Multi-ply stainless steel | Acier inoxydable / Stainless steel | Cuivre / Copper |

### SPÉCIFICATIONS / OPERATING

|                                                                  |         |
|------------------------------------------------------------------|---------|
| Pression maximale d'opération / Maximum operating pressure       | 150 PSI |
| Pression de test / Test pressure                                 | 225 PSI |
| Température d'opération maximale / Maximum operation temperature | 500 °F  |
| Compression axiale maximale / Maximal axial compression          | 2"      |
| Extension axiale maximale / Maximum axial extension              | 1/4"    |



## XSEE / XDEE / HUEE

Compensateurs de caoutchouc monosphériques et bisphériques. Les joints de caoutchouc sont idéals pour l'isolation contre les bruits et les vibrations. Ils préviennent les bris de composantes grâce à leur capacité d'absorption des contractions et d'élongation des conduites. / *Rubber joints are ideal for insulation and noise reduction. They prevent component breakdown with their great adsorption capacity in compression, extension and angular movements.*



| MATÉRIAUX / MATERIALS |                                              |                                            |
|-----------------------|----------------------------------------------|--------------------------------------------|
| #                     | DESCRIPTION / PART DESCRIPTION               | MATÉRIAUX / MATERIAL                       |
| 1                     | Brides / Flanges                             | Acier carbon plaqué / Carbon steel- plated |
| 2                     | Corde de renforcement / Reinforcement fabric | Nylon                                      |
| 3                     | Fil de renforcement / Reinforcing wire       | Acier doux / Mild steel                    |
| 4                     | Tube intérieur / Tube                        | Caoutchouc synthétique / Synthetic rubber  |
| 5                     | Recouvrement / Cover                         | Caoutchouc synthétique / Synthetic rubber  |
| 6                     | Bague de renforcement / Root ring            | Acier carbon / Carbon steel                |



**HSEE** : Compensateur de caoutchouc monosphérique bridé  
*Single sphere rubber flanged expansion joints*

**XDEE** : Compensateur de caoutchouc bisphérique bridé  
*Double sphere rubber flanged expansion joints*



**HUEE** : Compensateur de caoutchouc bisphérique avec filets Fem NPT  
*Double sphere rubber expansion joints with Fem NPT threads*

### Fonctions :

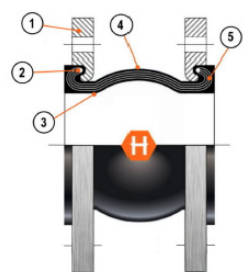
**pompes et compresseurs d'air, système de réfrigération et soufflantes, système d'alimentation d'eau de drainage, installation de tuyauterie marine et autres, centrales d'énergie et usines de produits chimiques / Pumps and air compressors, cooling and blowers, warer supply and drainage, marine piping installation, power and chemical plants.**

Aussi disponible joints en "chlorobutyl", le néoprène, le PTFE (Téflon tm), le buna, le nitrile et plusieurs autres. Il est important de suivre les instructions d'installation du manufacturier (voir le site web [Hebdraulique.ca](http://Hebdraulique.ca)). *We also have access on request to many other synthetic rubbers like "Butyl", "Neoprene", "PTFE", "Nitril" and many others. EPDM is the most commonly used on the market. It's important to follow the manufacturer's instructions.*

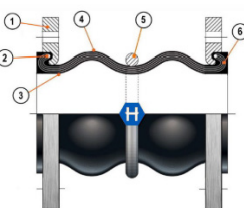
## HSEE / XDEE / HUEE

Compensateurs de caoutchouc monosphériques et bisphériques. Les joints de caoutchouc sont idéals pour l'isolation contre les bruits et les vibrations. Ils préviennent les bris de composantes grâce à leur capacité d'absorption des contractions et d'élongation des conduites. / Rubber joints are ideal for insulation and noise reduction. They prevent component breakdown with their great adsorption capacity in compression, extension and angular movements.

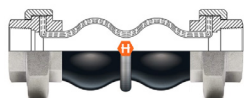
| #              | DIAM.<br>(PO) | DIMENSION<br>HORS-TOUT /<br>FACE TO FACE<br>DIM. (PO) | CAPACITÉ DES DÉPLACEMENTS PERMIS / ALLOWABLE<br>MOTION RATING |                |              |            | CONDITIONS D'OPÉRATION/ OPERATING CONDITIONS |                     |            |                   |
|----------------|---------------|-------------------------------------------------------|---------------------------------------------------------------|----------------|--------------|------------|----------------------------------------------|---------------------|------------|-------------------|
|                |               |                                                       | COMPRESSION (PO)                                              | EXTENSION (PO) | LATERAL (PO) | ANGUL. (°) | PRESS. (PSI) 170°F                           | ÉCLAT. (BURST)(PSI) | TEMP. (°F) | SUCCION (VAC)(HG) |
| HSEE-024       | 1-1/2         | 6                                                     | 1/2                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-032       | 2             | 6                                                     | 1/2                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-040       | 2-1/2         | 6                                                     | 1/2                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-048       | 3             | 6                                                     | 5/8                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-064       | 4             | 6                                                     | 5/8                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-080       | 5             | 6                                                     | 5/8                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-096       | 6             | 6                                                     | 5/8                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-128       | 8             | 6                                                     | 5/8                                                           | 3/8            | 1/2          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-160       | 10            | 8                                                     | 3/4                                                           | 1/2            | 3/4          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-192       | 12            | 8                                                     | 3/4                                                           | 1/2            | 3/4          | 15         | 225                                          | 900                 | 225        | 26                |
| HSEE-224       | 14            | 8                                                     | 3/4                                                           | 1/2            | 3/4          | 15         | 125                                          | 340                 | 225        | 26                |
| HSEE-256       | 16            | 8                                                     | 3/4                                                           | 1/2            | 3/4          | 15         | 125                                          | 340                 | 225        | 26                |
| HSEE-288       | 18            | 8                                                     | 3/4                                                           | 1/2            | 3/4          | 15         | 125                                          | 340                 | 225        | 26                |
| HSEE-320       | 20            | 8                                                     | 3/4                                                           | 1/2            | 3/4          | 15         | 125                                          | 340                 | 225        | 26                |
| HSEE-384       | 24            | 10                                                    | 3/4                                                           | 1/2            | 3/4          | 15         | 125                                          | 340                 | 225        | 26                |
| XDEE-024       | 1-1/2         | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-032       | 2             | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-040       | 2-1/2         | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-048       | 3             | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-064       | 4             | 9                                                     | 2 1/4                                                         | 1 3/8          | 1 5/8        | 35         | 225                                          | 900                 | 220        | 26                |
| XDEE-080       | 5             | 9                                                     | 2 1/4                                                         | 1 3/8          | 1 3/4        | 35         | 225                                          | 900                 | 220        | 26                |
| XDEE-096       | 6             | 9                                                     | 2 1/4                                                         | 1 3/8          | 1 3/4        | 35         | 225                                          | 900                 | 220        | 26                |
| XDEE-128       | 8             | 13                                                    | 2 1/2                                                         | 1 3/8          | 1 3/4        | 30         | 225                                          | 900                 | 220        | 26                |
| XDEE-160       | 10            | 13                                                    | 2 1/2                                                         | 1 3/8          | 1 3/4        | 30         | 225                                          | 900                 | 220        | 26                |
| XDEE-192       | 12            | 13                                                    | 1 1/2                                                         | 1 3/8          | 1 3/4        | 30         | 225                                          | 900                 | 220        | 26                |
| XDEE-032-SS304 | 2             | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-040-SS304 | 2-1/2         | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-048-SS304 | 3             | 7                                                     | 2                                                             | 1 1/8          | 1 3/8        | 40         | 225                                          | 900                 | 220        | 26                |
| XDEE-064-SS304 | 4             | 9                                                     | 2 1/4                                                         | 1 3/8          | 1 5/8        | 35         | 225                                          | 900                 | 220        | 26                |
| XDEE-096-SS304 | 6             | 9                                                     | 2 1/4                                                         | 1 3/8          | 1 3/4        | 35         | 225                                          | 900                 | 220        | 26                |
| XDEE-128-SS304 | 8             | 13                                                    | 2 1/2                                                         | 1 3/8          | 1 3/4        | 30         | 225                                          | 900                 | 220        | 26                |
| HUEE-008       | 1/2           | 8                                                     | 0.875                                                         | 0.250          | 0.875        | 45         | 150                                          | 900                 | 220        | 26                |
| HUEE-012       | 3/4           | 8                                                     | 0.875                                                         | 0.250          | 0.875        | 45         | 150                                          | 900                 | 220        | 26                |
| HUEE-016       | 1             | 8                                                     | 0.875                                                         | 0.250          | 0.875        | 45         | 150                                          | 900                 | 220        | 26                |
| HUEE-020       | 1-1/4         | 8                                                     | 0.875                                                         | 0.250          | 0.875        | 45         | 150                                          | 900                 | 220        | 26                |
| HUEE-024       | 1-1/2         | 8                                                     | 0.875                                                         | 0.250          | 0.875        | 45         | 150                                          | 900                 | 220        | 26                |
| HUEE-032       | 2             | 8                                                     | 0.875                                                         | 0.250          | 0.875        | 45         | 150                                          | 900                 | 220        | 26                |



HSEE



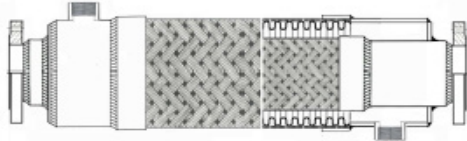
XDEE



HUEE

Grâce à son atelier de fabrication, Hebdraulique peut offrir à sa clientèle des assemblés spécifiques sur mesure pour applications spécialisées. / *Through its workshop, Hebdraulique offers customized assemblies for specialized applications.*

### BOYAUX CHEMISÉS "JACKETED" / JACKETED ASSEMBLIES



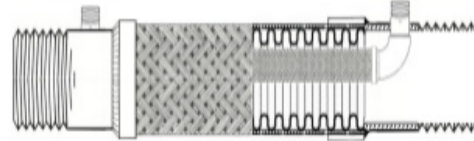
Sur des lignes de transfert chauffées pour les produits comme le soufre, qui doivent être maintenues à une température élevée afin de s'écouler facilement. / *On heated transfer lines for products like sulfur that as to be maintained at a high temperature to keep flow going.*

De la vapeur ou de l'huile chaude circule dans la double enveloppe qui, à son tour, chauffe le produit qui est transporté dans le tuyau de base. / *Steam or thermal oil flows in a double envelope that heats the product in the main hose.*

Le même principe est fréquemment utilisé pour le bitume sur les plans d'asphalte. Le bitume circule dans le boyau interne et est réchauffé par l'huile thermique qui emplit le tuyau externe. De cette façon, on évite de faire durcir le bitume. / *The same principle is frequently used in asphalt production industry. Butimen product flow in the inner hose and is heated by the thermal oil in the outside hose. This way the product stays hot and flows better.*

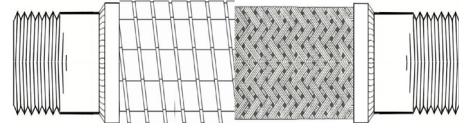
Sur une ligne de transfert cryogénique, le maintien d'un vide poussé (vacuum) dans l'enveloppe isole efficacement les liquides cryogéniques étant véhiculés dans le tuyau principal. / *On cryogenic transfer lines, maintaining a vacuum in the envelope effectively insulates cryogenic liquids being carried in the main pipe.*

### ASSEMBLAGE TRACÉ/ TRACED ASSEMBLIES



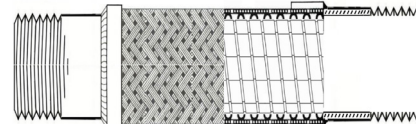
Les assemblages tracés sont utilisés lorsque le produit véhiculé doit être chauffé afin de s'écouler librement. De la vapeur ou de l'huile thermique circule dans le boyau traceur intérieur et chauffe le produit pour maintenir des débits élevés. / *The traced assembly will be used when the product inside the hose has to be heated to flow easily. Steam or thermal oil heats the inner traced hose that heats the product going through the bigger hose so it maintains a high flow.*

### PROTECTEUR EXTERNE/ EXTERNAL PROTECTOR



Pour des applications où le tressage pourrait facilement être endommagé par une manipulation brutale, fréquente, par un environnement abrasif ou simplement pour réduire le rayon de courbure permis. / *For applications where the braid could easily be damaged by frequent movement or an abrasive environment or simply to reduce the bend.*

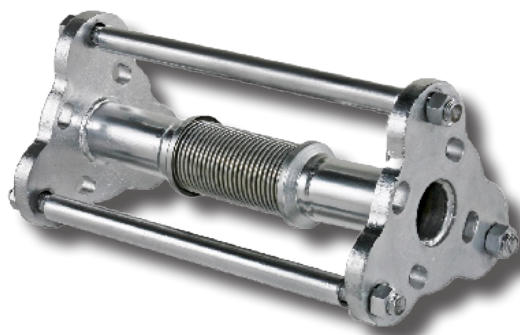
### AVEC DÉFLECTEUR INTERNE/ WITH INTERNAL BAFFLE



Les boyaux avec déflecteur interne sont utilisés lorsque la vitesse du produit transporté est élevée. En ajoutant un déflecteur interne, les vibrations et les résonnances sont grandement réduites. / *Hoses with inner liners are often used when the velocity is high. The liner will reduce vibration and noise by creating a smooth wall inside the hose.*

# JOINTS D'EXPANSION À SOUFFLETS / BELLOWS

| SPÉCIFICATIONS/ SPECIFICATIONS                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CARACTÉRISTIQUES/ SPECIFICATIONS                                        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Construction à plis multiples /<br><i>Multi-ply construction</i>        | <ul style="list-style-type: none"> <li>* Protection Multicouche/ <i>Safer-layered protection</i></li> <li>* Charge réduite / <i>Less end load</i></li> <li>* Plus solide/ <i>Stronger</i></li> <li>* Durée de vie accrue / <i>Longer cycle life</i></li> <li>* Meilleur déplacement / <i>Easier movement</i></li> </ul>                                                                                                                                                                                                                                                                                                                          |
| Embouts /<br><i>End fittings</i>                                        | <ul style="list-style-type: none"> <li>* Brides à face plate perçage #150 / #300 / <i>Plate flanges (150# or 300#)</i></li> <li>* Brides à tiges de contrôle / <i>Tie rod flange</i></li> <li>* Brides forgées ANSI B16.5 / <i>Forge flanges</i></li> <li>* Brides flottantes / <i>Van stone flanges</i></li> <li>* À souder sch40 ou 80 / <i>Weld ends</i></li> <li>* Autres embouts spéciaux sur demande / <i>Specials upon request</i></li> </ul>                                                                                                                                                                                             |
| Épaulement /<br><i>Shoulders</i>                                        | <ul style="list-style-type: none"> <li>* Empêche l'inversion du soufflet lors de la compression / <i>Prevents bellows from inverting backwards during compression</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Déflexeur interne en acier inoxydable /<br><i>Stainless steel liner</i> | <ul style="list-style-type: none"> <li>* Offre un effet d'isolation de température au niveau du soufflet et augmente la durée de vie / <i>Provides insulating effect to reduce the temperature on the bellows and increase service life</i></li> <li>* Assure un meilleur écoulement / <i>Insures smooth channel flow</i></li> <li>* Réduit l'action des particules abrasives sur le soufflet / <i>Reduces the action of abrasive particles on the bellows</i></li> <li>* Ajoute de la stabilité/ <i>Adds stability</i></li> <li>* Élimine les effets de turbulence / <i>Reduces the detrimental effect of fow, induced vibration</i></li> </ul> |
| Tiges de contrôle (option)/<br><i>Tie rods with spacers (optional)</i>  | <ul style="list-style-type: none"> <li>* Sécurise les mouvements spécifiés/ <i>Prevents over-elongation and over-compression</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Protecteur externe (option)/<br><i>Shroud (optional)</i>                | <ul style="list-style-type: none"> <li>* Protège des agressions externes / <i>Protects from external damage</i></li> <li>* Préviend le pincement de l'isolant extérieur / <i>Precludes pinching of external insulation</i></li> <li>* Fournit une marge de sécurité supplémentaire / <i>Provides extra margin of safety</i></li> </ul>                                                                                                                                                                                                                                                                                                           |



### CONNECTEURS DE POMPES À SOUFFLET AVEC TIGES DE CONTRÔLE / CONNECTORS BELLOWS PUMPS WITH TIE RODS AND SPACERS

Ils sont fabriqués afin de compenser pour les mouvements axiaux, latéraux et angulaires. Ils sont installés sur des lignes de succion ou de pression, ils se retrouvent régulièrement sur des installations de pompes, de compresseurs ou tout autre système connecté à de la tuyauterie rigide. Le soufflet est en acier inoxydable, il n'est donc pas sujet à une détérioration due à la température élevée ou à l'exposition aux rayons UV, comme les joints de caoutchouc. / *Fabricated to compensate for axial, lateral and angular motions. They are installed on suction pressure lines. Also often installed pumps, compressors or any other systems connected to rigid piping. Because the bellow is made of stainless steel it is not subject to high temperature or UV rays deterioration like rubber joints.*



Construction à 2, 3 ou jusqu'à 5 épaisseurs  
Certification ABS/  
Construction 2,3 or up to 5-ply  
Certification ABS



### APPLICATIONS

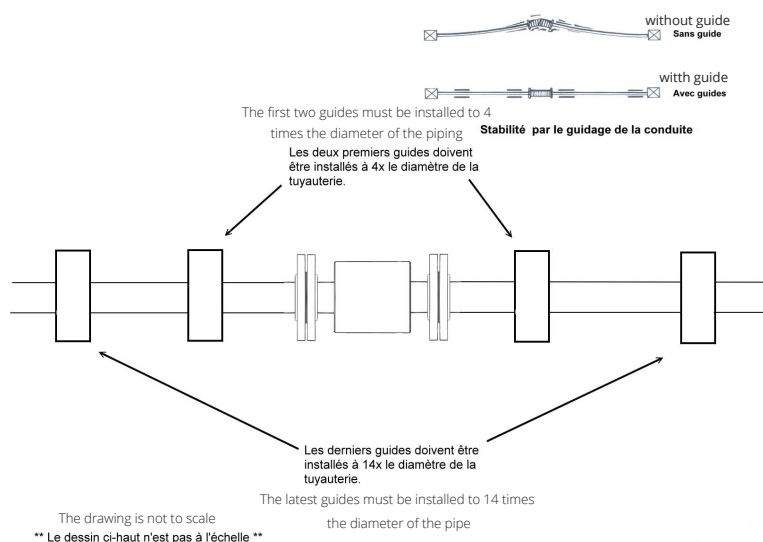
- Groupe électrogène/ *Generators*
- Propulsion marine/ *Marine propulsion*
- Unité de puissance/ *Power units*
- Échappement sur mesure/ *Bellow type pump*
- OEM

PLUSIEURS AUTRES TYPES ET CONFIGURATIONS SONT DISPONIBLES, CONTACTEZ NOUS !  
*OTHER TYPES AND CONFIGURATIONS ARE AVAILAIBLE, CONTACT US !*



Les guides de tuyauterie sont aussi disponibles pour de plus grands diamètres à différents mouvements et épaisseurs d'isolation./ Pipe guides available for large diameters to different movement and insulation thickness.

| DIAMÈTRE<br>TUYAUTERIE/<br>HOSE DIA.<br>(PO) | DIST. MAX DU JOINT<br>AU 1ER GUIDE OU<br>À L'ANCRAGE (PO)/<br>MAX. DISTANCE<br>FROM THE JOINT TO<br>THE FIRST GUIDE OR<br>ANCHOR | DIST. MAX ENTRE<br>LE 1ER ET LE 2IÈME<br>GUIDE (PO) / MAX.<br>DISTANCE BETWEEN<br>THE FIRST AND<br>SECOND GUIDE | DIST. APPROX. ENTRE LES<br>PROCHAINS GUIDES (PI) /<br>APPROX. DISTANCE BETWEEN THE<br>NEXT GUIDE |         |         |         |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------|---------|---------|
|                                              |                                                                                                                                  |                                                                                                                 | 50 PSI                                                                                           | 100 PSI | 150 PSI | 300 PSI |
| 1                                            | 4                                                                                                                                | 14                                                                                                              | 21                                                                                               | 15      | 12      | 10      |
| 1-1/4                                        | 5                                                                                                                                | 17                                                                                                              | 23                                                                                               | 17      | 13      | 12      |
| 1-1/2                                        | 6                                                                                                                                | 21                                                                                                              | 28                                                                                               | 20      | 17      | 13      |
| 2                                            | 8                                                                                                                                | 28                                                                                                              | 32                                                                                               | 23      | 18      | 15      |
| 2-1/2                                        | 10                                                                                                                               | 35                                                                                                              | 35                                                                                               | 28      | 22      | 20      |
| 3                                            | 12                                                                                                                               | 42                                                                                                              | 38                                                                                               | 28      | 23      | 17      |
| 3-1/2                                        | 14                                                                                                                               | 49                                                                                                              | 45                                                                                               | 35      | 27      | 19      |
| 4                                            | 16                                                                                                                               | 56                                                                                                              | 52                                                                                               | 38      | 31      | 22      |
| 5                                            | 20                                                                                                                               | 68                                                                                                              | 63                                                                                               | 45      | 38      | 25      |
| 6                                            | 24                                                                                                                               | 84                                                                                                              | 68                                                                                               | 48      | 40      | 28      |
| 8                                            | 32                                                                                                                               | 112                                                                                                             | 87                                                                                               | 62      | 45      | 38      |
| 10                                           | 40                                                                                                                               | 140                                                                                                             | 107                                                                                              | 75      | 60      | 48      |
| 12                                           | 48                                                                                                                               | 168                                                                                                             | 118                                                                                              | 85      | 70      | 50      |
| 14                                           | 56                                                                                                                               | 196                                                                                                             | 122                                                                                              | 88      | 72      | 55      |
| 16                                           | 64                                                                                                                               | 224                                                                                                             | 137                                                                                              | 96      | 80      | 60      |
| 18                                           | 72                                                                                                                               | 252                                                                                                             | 145                                                                                              | 125     | 85      | 65      |
| 20                                           | 80                                                                                                                               | 280                                                                                                             | 160                                                                                              | 118     | 90      | 70      |
| 24                                           | 96                                                                                                                               | 336                                                                                                             | 181                                                                                              | 125     | 105     | 75      |



GA = GUIDE D'ACIER/  
STEEL GUIDE



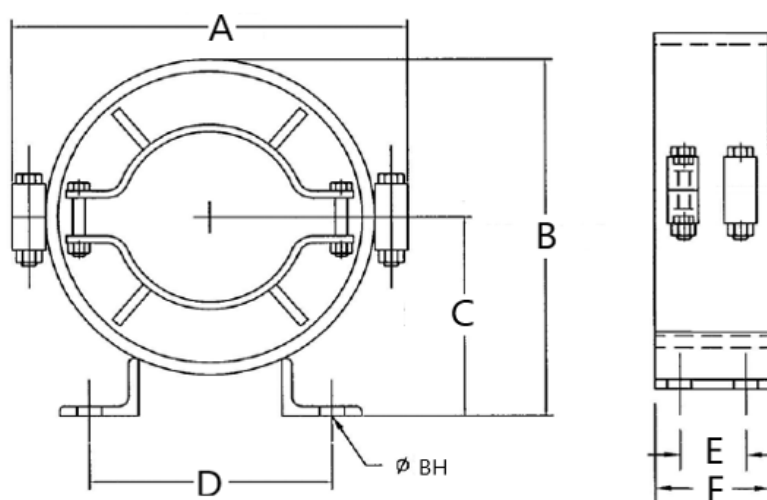
| SPÉCIFICATIONS / SPECIFICATIONS |                      |                       |                         |         |         |         |         |        |    |      |                 |
|---------------------------------|----------------------|-----------------------|-------------------------|---------|---------|---------|---------|--------|----|------|-----------------|
| # Modèle<br>Part #              | Diamètre<br>Diameter | Mouvement<br>Movement | Isolation<br>Insulation | A       | B       | C       | D       | E      | F  | Ø BH | Poids<br>Weight |
| HGA-008-4100/150                | ½"                   | 4"                    | 0" - 1-1/2"             | 6-1/8"  | 5-7/8"  | 3-1/2"  | 4-1/8"  | 1-3/4" | 3" | 5/8" | 7 Lbs           |
| HGA-012-4100                    | 3/4"                 | 4"                    | 0" - 1"                 | 6-1/8"  | 5-7/8"  | 3-1/2"  | 4-3/8"  | 1-3/4" | 3" | 5/8" | 7 Lbs           |
| HGA-016-4100                    | 1"                   | 4"                    | 0" - 1"                 | 6-1/8"  | 5-7/8"  | 3-1/2"  | 4-3/8"  | 1-3/4" | 3" | 5/8" | 7 Lbs           |
| HGA-020-4100                    | 1-1/4"               | 4"                    | 0" - 1"                 | 6-1/8"  | 5-7/8"  | 3-½"    | 4-3/8"  | 1-¾"   | 3" | 5/8" | 7 Lbs           |
| HGA-024-4100/150                | 1-1/2"               | 4"                    | 0" - 1-1/2"             | 7-1/8"  | 6-3/4"  | 4"      | 4-3/4"  | 1-3/4" | 3" | 5/8" | 8 Lbs           |
| HGA-032-4100                    | 2"                   | 4"                    | 0" - 1"                 | 7-1/8"  | 6-3/4"  | 4"      | 4-3/4"  | 1-3/4" | 3" | 5/8" | 8 Lbs           |
| HGA-040-4100/150                | 2-1/2"               | 4"                    | 0" - 1-1/2"             | 8-1/8"  | 7-5/8"  | 4-3/8"  | 5-3/8"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-048-4100                    | 3"                   | 4"                    | 0" - 1"                 | 8-1/8"  | 7-5/8"  | 4-3/8"  | 5-3/8"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-064-4100/150                | 4"                   | 4"                    | 0" - 1-1/2"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-080-4100/200                | 5"                   | 4"                    | 0" - 2"                 | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-096-4100/150                | 6"                   | 4"                    | 0" - 1-1/2"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-128-4100/150                | 8"                   | 4"                    | 0" - 1-1/2"             | 14-1/8" | 13-3/8" | 7"      | 8-3/8"  | 2-3/4" | 4" | 5/8" | 20 Lbs          |
| HGA-160-6100/200                | 10"                  | 6"                    | 0" - 2"                 | 18-1/8" | 17"     | 8-7/8"  | 10-7/8" | 4"     | 6" | 3/4" | 48 Lbs          |
| HGA-192-6100/200                | 12"                  | 6"                    | 0" - 2"                 | 20-1/8" | 19-1/8" | 10-1/8" | 11-7/8" | 4"     | 6" | 3/4" | 54 Lbs          |

| SPÉCIFICATIONS / SPECIFICATIONS |                      |                       |                         |         |         |        |         |        |    |      |                 |
|---------------------------------|----------------------|-----------------------|-------------------------|---------|---------|--------|---------|--------|----|------|-----------------|
| # Modèle<br>Part #              | Diamètre<br>Diameter | Mouvement<br>Movement | Isolation<br>Insulation | A       | B       | C      | D       | E      | F  | Ø BH | Poids<br>Weight |
| HGA-008-4100/150                | ½"                   | 4"                    | 0" - 1-1/2"             | 6-1/8"  | 5-7/8"  | 3-1/2" | 4-1/8"  | 1-3/4" | 3" | 5/8" | 7 Lbs           |
| HGA-012-4150                    | 3/4"                 | 4"                    | 1-1/2"                  | 6-1/8"  | 5-7/8"  | 3-1/2" | 4-1/8"  | 1-3/4" | 3" | 5/8" | 7 Lbs           |
| HGA-016-4150                    | 1"                   | 4"                    | 1-1/2"                  | 7-1/8"  | 6-3/4"  | 4"     | 4-3/4"  | 1-3/4" | 3" | 5/8" | 8 Lbs           |
| HGA-020-4150                    | 1-1/4"               | 4"                    | 1-1/2"                  | 7-1/8"  | 6-3/4"  | 4"     | 4-3/4"  | 1-3/4" | 3" | 5/8" | 8 LBS           |
| HGA-024-4100/150                | 1-1/2"               | 4"                    | 0" - 1-1/2"             | 7-1/8"  | 6-3/4"  | 4"     | 4-3/4"  | 1-3/4" | 3" | 5/8" | 8 Lbs           |
| HGA-032-4150                    | 2"                   | 4"                    | 1-1/2"                  | 8-1/8"  | 7-5/8"  | 4-3/8" | 5-1/8"  | 1-3/4" | 3" | 5/8" | 8 Lbs           |
| HGA-040-4100/150                | 2-1/2"               | 4"                    | 0" - 1-1/2"             | 8-1/8"  | 7-5/8"  | 4-3/8" | 5-3/8"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-048-4150/200                | 3"                   | 4"                    | 1-1/2" - 2"             | 10-1/8" | 9-1/4"  | 5-1/4" | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-064-4100/150                | 4"                   | 4"                    | 0" - 1-1/2"             | 10-1/8" | 9-1/4"  | 5-1/4" | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-080-4100/200                | 5"                   | 4"                    | 0" - 2"                 | 12-1/8" | 11-5/8" | 6-1/4" | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-096-4100/150                | 6"                   | 4"                    | 0" - 1-1/2"             | 12-1/8" | 11-5/8" | 6-1/4" | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-128-4100/150                | 8"                   | 4"                    | 0" - 1-1/2"             | 14-1/8" | 13-3/8" | 7"     | 8-3/8"  | 2-3/4" | 4" | 5/8" | 20 Lbs          |
| HGA-160-6100/200                | 10"                  | 6"                    | 0" - 2"                 | 18-1/8" | 17"     | 8-7/8" | 10-7/8" | 4"     | 6" | 3/4" | 48 Lbs          |

| SPÉCIFICATIONS / SPECIFICATIONS |                      |                       |                         |         |         |         |         |        |    |      |                 |
|---------------------------------|----------------------|-----------------------|-------------------------|---------|---------|---------|---------|--------|----|------|-----------------|
| # Modèle<br>Part #              | Diamètre<br>Diameter | Mouvement<br>Movement | Isolation<br>insulation | A       | B       | C       | D       | E      | F  | Ø BH | Poids<br>Weight |
| HGA-008-4200                    | 1/2"                 | 4"                    | 2"                      | 7-1/8"  | 6-3/4"  | 4"      | 4-3/8"  | 1-3/4" | 3" | 5/8" | 8 Lbs           |
| HGA-012-4200                    | 3/4"                 | 4"                    | 2"                      | 8-1/8"  | 7-5/8"  | 4-3/8"  | 4-3/4"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-016-4200                    | 1"                   | 4"                    | 2"                      | 8-1/8"  | 7-5/8"  | 4-3/8"  | 4-3/4"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-020-4200                    | 1-1/4"               | 4"                    | 2"                      | 8-1/8"  | 7-5/8"  | 4-3/8"  | 4-3/4"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-024-4200                    | 1-1/2"               | 4"                    | 2"                      | 8-1/8"  | 7-5/8"  | 4-3/8"  | 4-3/4"  | 1-3/4" | 3" | 5/8" | 9 Lbs           |
| HGA-032-4200/250                | 2"                   | 4"                    | 2" - 2-1/2"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-040-4200/250                | 2-1/2"               | 4"                    | 2" - 2-1/2"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-048-4100/200                | 3"                   | 4"                    | 1-1/2" - 2"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-064-4200/250                | 4"                   | 4"                    | 2" - 2-1/2"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-080-4100/200                | 5"                   | 4"                    | 0" - 2"                 | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-096-4200/250                | 6"                   | 4"                    | 2" - 2-1/2"             | 14-1/8" | 13-3/8" | 7"      | 8-3/8"  | 2-3/4" | 4" | 5/8" | 20 Lbs          |
| HGA-128-6200                    | 8"                   | 6"                    | 0" - 2"                 | 16-1/8" | 15-1/8" | 7-7/8"  | 9-7/8"  | 4"     | 6" | 3/4" | 40 Lbs          |
| HGA-160-6100/200                | 10"                  | 6"                    | 0" - 2"                 | 18-1/8" | 17"     | 8-7/8"  | 10-7/8" | 4"     | 6" | 3/4" | 48 Lbs          |
| HGA-192-6100/200                | 12"                  | 6"                    | 0" - 2"                 | 20-1/8" | 19-1/8" | 10-1/8" | 11-7/8" | 4"     | 6" | 3/4" | 54 Lbs          |

| SPÉCIFICATIONS / SPECIFICATIONS |                      |                       |                         |         |         |         |         |        |    |      |                 |
|---------------------------------|----------------------|-----------------------|-------------------------|---------|---------|---------|---------|--------|----|------|-----------------|
| # Modèle<br>Part #              | Diamètre<br>Diameter | Mouvement<br>Movement | Isolation<br>insulation | A       | B       | C       | D       | E      | F  | Ø BH | Poids<br>Weight |
| HGA-008-4250/350                | ½"                   | 4"                    | 2-1/2" - 3-1/2"         | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-1/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-012-4250/300                | 3/4"                 | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-016-4250/300                | 1"                   | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-020-4250/300                | 1-1/4"               | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-024-4250/300                | 1-1/2"               | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-032-4200/250                | 2"                   | 4"                    | 2" - 2-1/2"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-040-4200/250                | 2-1/2"               | 4"                    | 2" - 2-1/2"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-048-4250/300                | 3"                   | 4"                    | 2-1/2" - 3"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-064-4200/250                | 4"                   | 4"                    | 2" - 2-1/2"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-080-4250/300                | 5"                   | 4"                    | 2-1/2" - 3"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-096-4200/250                | 6"                   | 4"                    | 2" - 2-1/2"             | 14-1/8" | 13-3/8" | 7"      | 8-3/8"  | 2-3/4" | 4" | 5/8" | 20 Lbs          |
| HGA-128-6250/300                | 8"                   | 6"                    | 2-1/2" - 3"             | 18-1/8" | 17"     | 8-7/8"  | 10-7/8" | 4"     | 6" | 3/4" | 48 Lbs          |
| HGA-160-6250/300                | 10"                  | 6"                    | 2-1/2" - 3"             | 20-1/8" | 18-3/4" | 9-3/4"  | 11-7/8" | 4"     | 6" | 3/4" | 54 Lbs          |
| HGA-192-6250/300                | 12"                  | 6"                    | 2-1/2" - 3"             | 22-1/8" | 21"     | 10-7/8" | 11-3/4" | 4"     | 6" | ¾"   | 61 Lbs          |

| SPÉCIFICATIONS / SPECIFICATIONS |                      |                       |                         |         |         |         |         |        |    |      |                 |
|---------------------------------|----------------------|-----------------------|-------------------------|---------|---------|---------|---------|--------|----|------|-----------------|
| # Modèle<br>Part #              | Diamètre<br>Diameter | Mouvement<br>Movement | Isolation<br>insulation | A       | B       | C       | D       | E      | F  | Ø BH | Poids<br>Weight |
| HGA-008-4250/350                | ½"                   | 4"                    | 2-1/2" - 3-1/2"         | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-1/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-012-4250/300                | ¾"                   | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-016-4250/300                | 1"                   | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-020-4250/300                | 1-1/4"               | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-024-4250/300                | 1-1/2"               | 4"                    | 2-1/2" - 3"             | 10-1/8" | 9-1/4"  | 5-1/4"  | 6-3/8"  | 1-3/4" | 3" | 5/8" | 11 Lbs          |
| HGA-032-4300/350                | 2"                   | 4"                    | 3" - 3-1/2"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-040-4200/250                | 2-1/2"               | 4"                    | 3" - 3-1/2"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-048-4250/300                | 3"                   | 4"                    | 2-1/2" - 3"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-064-4200/250                | 4"                   | 4"                    | 2" - 2-1/2"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-080-4250/300                | 5"                   | 4"                    | 2-1/2" - 3"             | 12-1/8" | 11-5/8" | 6-1/4"  | 7-1/8"  | 2-3/4" | 4" | 5/8" | 17 Lbs          |
| HGA-096-6300                    | 6"                   | 6"                    | 3"                      | 16-1/8" | 15-1/8" | 7-7/8"  | 9-7/8"  | 4"     | 6" | 3/4" | 40 Lbs          |
| HGA-128-6250/300                | 8"                   | 6"                    | 2-1/2" - 3"             | 18-1/8" | 17"     | 8-7/8"  | 10-7/8" | 4"     | 6" | 3/4" | 48 Lbs          |
| HGA-160-6250/300                | 10"                  | 6"                    | 2-1/2" - 3"             | 20-1/8" | 18-3/4" | 9-3/4"  | 11-7/8" | 4"     | 6" | 3/4" | 54 Lbs          |
| HGA-192-6250/300                | 12"                  | 6"                    | 2-1/2" - 3"             | 22-1/8" | 21"     | 10-7/8" | 11-3/4" | 4"     | 6" | 3/4" | 61 Lbs          |



# BOYAUX "HEAT PUMP" HOSES

|                                         | SPECIFICATIONS                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BOYAUX ASSEMBLÉS / HOSES                | Reconnus par Underwriters laboratories (UL) sous UL 207. Testés selon ASTM E84/UL 723 spécifiés "classe A" pour le feu (le plus haut classement disponible dans cette catégorie)/UL approved (UL 207), tested according to ASTM E84/UL 723 for fire prevention (the highest rating available), "class A" |
| LONGUEURS DISPONIBLES/ LENGTH           | Standard: 12", 18", 24", 36" ET 48"<br>Longueur sur mesure également disponible sur demande / Custom length on request                                                                                                                                                                                   |
| TUBE                                    | EPTF-santoprene blanc avec approbation UL 94 V-0 / santoprene white with approbation                                                                                                                                                                                                                     |
| TRESSAGE/ BRAID                         | 302/304 acier inoxydable/ stainless steel                                                                                                                                                                                                                                                                |
| ALLIAGE DES EMBOUTS / ENDS              | Acier plaqué zinc/ zinc plated steel                                                                                                                                                                                                                                                                     |
| CONNEXION                               | Mâle JIC métal sur métal (sans joint d'étanchéité) / Male JIC metal (without gasket)                                                                                                                                                                                                                     |
| EMBOUTS/ ENDS                           | Mâle NPT, fem NPT, raccord raide pour tube en cuivre/ Stiff fitting for copper tube                                                                                                                                                                                                                      |
| OPTIONS EMBOUT PIVOTANT / OPTION SWIVEL | MNPT, FNPT (acier plaqué zinc), femelle à souder (laiton) / zinc plated steel, Fem to weld                                                                                                                                                                                                               |
| APPLICATIONS                            | Eau et glycol, pas applicable pour l'eau potable/ water and glycol, not applicable for drinking water                                                                                                                                                                                                    |

| #             | DIAMÈTRE / DIA.<br>(PO) | LONGUEUR DU RAYON<br>RADIUS LENGTH | PRESSION<br>MAXIMALE / WORKING<br>PRESSURE (PSI) | PRESSION<br>D'ÉCLATEMENT / BURST<br>PRESSURE (PSI) | RAYON<br>DE COURBURE / RADIUS<br>(PO) | TEMPÉRATURE/ TEMP.<br>(F) |
|---------------|-------------------------|------------------------------------|--------------------------------------------------|----------------------------------------------------|---------------------------------------|---------------------------|
| CHPH08-12-MMS | 1/2                     | 12                                 | 400                                              | 1600                                               | 2.5                                   | -40 à 212                 |
| CHPH08-18-MMS | 1/2                     | 18                                 | 400                                              | 1600                                               | 2.5                                   | -40 à 212                 |
| CHPH08-24-MMS | 1/2                     | 24                                 | 400                                              | 1600                                               | 2.5                                   | -40 à 212                 |
| CHPH08-36-MMS | 1/2                     | 36                                 | 400                                              | 1600                                               | 2.5                                   | -40 à 212                 |
| CHPH08-48-MMS | 1/2                     | 48                                 | 400                                              | 1600                                               | 2.5                                   | -40 à 212                 |
| CHPH08-60-MMS | 1/2                     | 60                                 | 400                                              | 1600                                               | 2.5                                   | -40 à 212                 |
| CHPH12-12-MMS | 3/4                     | 12                                 | 400                                              | 1600                                               | 4                                     | -40 à 212                 |
| CHPH12-18-MMS | 3/4                     | 18                                 | 400                                              | 1600                                               | 4                                     | -40 à 212                 |
| CHPH12-24-MMS | 3/4                     | 24                                 | 400                                              | 1600                                               | 4                                     | -40 à 212                 |
| CHPH12-36-MMS | 3/4                     | 36                                 | 400                                              | 1600                                               | 4                                     | -40 à 212                 |
| CHPH12-48-MMS | 3/4                     | 48                                 | 400                                              | 1600                                               | 4                                     | -40 à 212                 |
| CHPH16-12-MMS | 1                       | 12                                 | 500                                              | 2000                                               | 5.5                                   | -40 à 212                 |
| CHPH16-24-MMS | 1                       | 24                                 | 500                                              | 2000                                               | 5.5                                   | -40 à 212                 |
| CHPH16-36-MMS | 1                       | 36                                 | 500                                              | 2000                                               | 5.5                                   | -40 à 212                 |

MMS : boyau assemblé/ hose male à/to male swivel NPT



Autres longueurs disponibles sur demande / Other lengths available on request

Sert à guider l'expansion thermique de la tuyauterie. Les guides ASG de Mason industries peuvent être installés dans toutes les configurations possibles et chaque guide accomode tous les équipements d'isolation de tuyauterie / The Mason industries ASG pipe guide is used to guide piping thermal expansion. They can be installed in any configuration and allow for all comon insulation thickness.ides available for large diameters to different movement and insulation thickness.

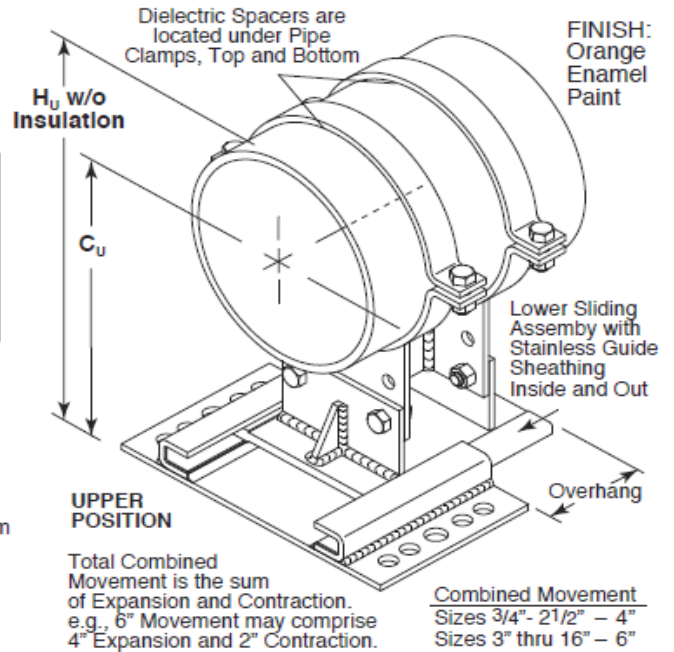
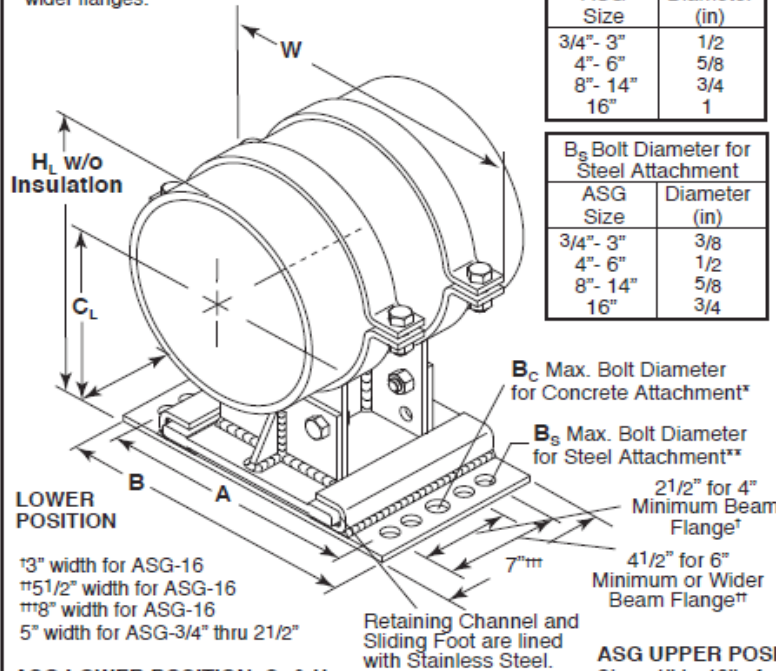
\*Use two bolts for concrete attachment.

\*\*Use four bolts for steel attachment. Use inner holes for narrow steel flange widths or outer holes for wider flanges.

| B <sub>C</sub> Bolt Diameter for Concrete Attachment |               |
|------------------------------------------------------|---------------|
| ASG Size                                             | Diameter (in) |
| 3/4" - 3"                                            | 1/2           |
| 4" - 6"                                              | 5/8           |
| 8" - 14"                                             | 3/4           |
| 16"                                                  | 1             |

| B <sub>S</sub> Bolt Diameter for Steel Attachment |               |
|---------------------------------------------------|---------------|
| ASG Size                                          | Diameter (in) |
| 3/4" - 3"                                         | 3/8           |
| 4" - 6"                                           | 1/2           |
| 8" - 14"                                          | 5/8           |
| 16"                                               | 3/4           |

All Material is Carbon Steel except where noted.



ASG LOWER POSITION C<sub>L</sub> & H<sub>L</sub>  
 Sizes 3/4" to 16" 2 1/2" Insulation Max.

| Pipe Size (in) | Q Pipe Height C <sub>L</sub> (in) | Overall Height without Insulation H <sub>L</sub> (in) | Maximum Insulation Thickness Lower Position (in) |
|----------------|-----------------------------------|-------------------------------------------------------|--------------------------------------------------|
| 3/4            | 33/4                              | 41/2                                                  | 2                                                |
| 1              | 41/8                              | 5                                                     | 2                                                |
| 1 1/4          | 43/8                              | 53/8                                                  | 2                                                |
| 1 1/2          | 41/2                              | 55/8                                                  | 2                                                |
| 2              | 43/4                              | 61/8                                                  | 2                                                |
| 2 1/2          | 5                                 | 65/8                                                  | 2                                                |
| 3              | 53/8                              | 71/4                                                  | 2 1/2                                            |
| 4              | 65/8                              | 9                                                     | 2 1/2                                            |
| 5              | 71/8                              | 10 1/16                                               | 2 1/2                                            |
| 6              | 75/8                              | 11 1/8                                                | 2 1/2                                            |
| 8              | 9                                 | 13 1/2                                                | 2 1/2                                            |
| 10             | 10 3/4                            | 16 1/4                                                | 2 1/2                                            |
| 12             | 11 7/8                            | 18 3/4                                                | 2 1/2                                            |
| 14             | 12 5/8                            | 20                                                    | 2 1/2                                            |
| 16             | 13 7/8                            | 22 1/4                                                | 2 1/2                                            |

| A (in) | B (in) | W (in) |
|--------|--------|--------|
| 5 1/2  | 6 3/4  | 3 1/4  |
| 6      | 7 1/4  | 3 5/8  |
| 6      | 7 1/4  | 4      |
| 6      | 7 1/4  | 4 1/4  |
| 6      | 7 1/4  | 4 3/4  |
| 6      | 7 1/4  | 5 1/4  |
| 6 1/2  | 7 3/4  | 6      |
| 7 1/4  | 8 1/2  | 7 1/4  |
| 8      | 9 1/4  | 8 1/2  |
| 8 3/4  | 10     | 9 1/2  |
| 10 1/2 | 12 1/4 | 11 3/4 |
| 11 1/2 | 13 1/4 | 14 5/8 |
| 13     | 14 3/4 | 16 3/4 |
| 16     | 17 3/4 | 18 1/8 |
| 18 1/2 | 20 1/2 | 20 1/2 |

ASG UPPER POSITION C<sub>U</sub> & H<sub>U</sub>  
 Sizes 1" to 16" for 3" to 4" Insulation  
 Note: 3/4" size cannot be raised

| Pipe Size (in) | Q Pipe Height C <sub>U</sub> (in) | Overall Height without Insulation H <sub>U</sub> (in) | Maximum Insulation Thickness Upper Position (in) |
|----------------|-----------------------------------|-------------------------------------------------------|--------------------------------------------------|
| 3/4            | 33/4                              | 41/2                                                  | 2                                                |
| 1              | 51/8                              | 6                                                     | 3                                                |
| 1 1/4          | 53/8                              | 6 3/8                                                 | 3                                                |
| 1 1/2          | 51/2                              | 6 5/8                                                 | 3                                                |
| 2              | 53/4                              | 7 1/8                                                 | 3                                                |
| 2 1/2          | 6                                 | 7 5/8                                                 | 3                                                |
| 3              | 63/8                              | 8 1/4                                                 | 3                                                |
| 4              | 81/8                              | 10 1/2                                                | 4                                                |
| 5              | 85/8                              | 11 9/16                                               | 4                                                |
| 6              | 91/8                              | 12 5/8                                                | 4                                                |
| 8              | 10 1/2                            | 15                                                    | 4                                                |
| 10             | 12 1/4                            | 17 3/4                                                | 4                                                |
| 12             | 13 3/8                            | 20 1/4                                                | 4                                                |
| 14             | 14 1/8                            | 21 1/2                                                | 4                                                |
| 16             | 15 3/8                            | 23 3/4                                                | 4                                                |

ASG LOAD RATINGS

| ASG Pipe Size (in) | Rated Base Mounted Pipe Load (lbs) | Rated Hanging Pipe Load (lbs) | Rated Transverse Pipe Load (lbs) |
|--------------------|------------------------------------|-------------------------------|----------------------------------|
| 3/4                | 1200                               | 1200                          | 750                              |
| 1                  | 1200                               | 1200                          | 750                              |
| 1 1/4              | 1200                               | 1200                          | 750                              |
| 1 1/2              | 1200                               | 1200                          | 750                              |
| 2                  | 1200                               | 1200                          | 750                              |
| 2 1/2              | 1200                               | 1200                          | 750                              |
| 3                  | 1850                               | 1700                          | 1000                             |
| 4                  | 1900                               | 1800                          | 1050                             |
| 5                  | 1925                               | 1830                          | 1100                             |
| 6                  | 1950                               | 1950                          | 1300                             |
| 8                  | 3050                               | 2775                          | 1850                             |
| 10                 | 5550                               | 4350                          | 2750                             |
| 12                 | 5600                               | 5600                          | 3950                             |
| 14                 | 7000                               | 7000                          | 5500                             |
| 16                 | 8800                               | 8800                          | 7300                             |

Copper tubing will require Dielectric Spacers supplied by Mason through 4" size only. Safety Factor of 5.

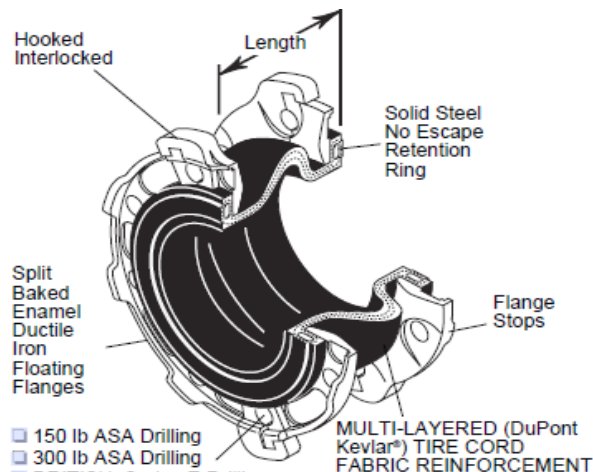


# JOINTS DE CAOUTCHOUC MASON/ RUBBER JOINTS MASON

## SFEJ / SFDEJ

Joint d'expansion en EPDM vulcanisé avec renforcement en Kevlar (R) et brides facile d'installation / *Expansion joints made of Vulcanised EPDM reinforced with Kevlar and easy to install flanges*

| #         | DIAM.<br>(PO) | DIMENSION<br>HORS-TOUT /<br>FACE TO FACE<br>DIM. (PO) | CAPACITÉ DES DÉPLACEMENTS PERMIS / ALLOWABLE<br>MOTION RATING |                |              |            | CONDITIONS D'OPÉRATION/ OPERATING CON-<br>DITIONS |                     |                   |
|-----------|---------------|-------------------------------------------------------|---------------------------------------------------------------|----------------|--------------|------------|---------------------------------------------------|---------------------|-------------------|
|           |               |                                                       | COMPRESSION (PO)                                              | EXTENSION (PO) | LATERAL (PO) | ANGUL. (°) | PRESS. (PSI) 170°F                                | ÉCLAT. (BURST)(PSI) | SUCCION (VAC)(HG) |
| SFEJ-024  | 1-1           | 4                                                     | 5/8                                                           | 3/8            | 3/8          | 21         | 250                                               | 215                 | 18                |
| SFEJ-032  | 2             | 4                                                     | 5/8                                                           | 3/8            | 3/8          | 20         | 250                                               | 215                 | 18                |
| SFEJ-040  | 2-1/2         | 4                                                     | 5/8                                                           | 3/8            | 3/8          | 19         | 250                                               | 215                 | 18                |
| SFEJ-048  | 3             | 4                                                     | 5/8                                                           | 3/8            | 3/8          | 18         | 250                                               | 215                 | 18                |
| SFEJ-064  | 4             | 4                                                     | 5/8                                                           | 3/8            | 3/8          | 17         | 250                                               | 215                 | 18                |
| SFEJ-080  | 5             | 4                                                     | 5/8                                                           | 3/8            | 3/8          | 16         | 250                                               | 215                 | 18                |
| SFEJ-096  | 6             | 6                                                     | 1                                                             | 5/8            | 5/8          | 15         | 250                                               | 215                 | 18                |
| SFEJ-128  | 8             | 6                                                     | 1                                                             | 5/8            | 5/8          | 14         | 250                                               | 215                 | 18                |
| SFEJ-160  | 10            | 6                                                     | 1                                                             | 5/8            | 5/8          | 16         | 250                                               | 215                 | 18                |
| SFEJ-192  | 12            | 6                                                     | 1                                                             | 5/8            | 5/8          | 15         | 250                                               | 215                 | 18                |
| SFEJ-224  | 14            | 9                                                     | 1 1/8                                                         | 7/8            | 7/8          | 10         | 250                                               | 215                 | 18                |
| SFEJ-256  | 16            | 9                                                     | 1 1/5                                                         | 7/8            | 7/8          | 9          | 250                                               | 215                 | 18                |
| SFEJ-288  | 18            | 9                                                     | 1 1/8                                                         | 7/8            | 7/8          | 8          | 180                                               | 215                 | 18                |
| SFEJ-320  | 20            | 9                                                     | 1 1/8                                                         | 7/8            | 7/8          | 7          | 180                                               | 215                 | 18                |
| SFDEJ-024 | 1-1           | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-032 | 2             | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-040 | 2-1/2         | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-048 | 3             | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-064 | 4             | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-080 | 5             | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-096 | 6             | 7                                                     | 1 1/4                                                         | 3/4            | 3/4          | -          | 250                                               | 215                 | 18                |
| SFDEJ-128 | 8             | 8                                                     | 1 1/2                                                         | 7/8            | 7/8          | -          | 250                                               | 215                 | 18                |
| SFDEJ-160 | 10            | 8                                                     | 1 1/2                                                         | 7/8            | 7/8          | -          | 250                                               | 215                 | 18                |
| SFDEJ-192 | 12            | 8                                                     | 1 1/2                                                         | 7/8            | 7/8          | -          | 250                                               | 215                 | 18                |
| SFDEJ-224 | 14            | 10                                                    | 1 5/8                                                         | 1              | 1            | -          | 250                                               | 215                 | 18                |
| SFDEJ-256 | 16            | 11                                                    | 1 3/4                                                         | 1              | 1            | -          | 250                                               | 215                 | 18                |
| SFDEJ-288 | 18            | 11                                                    | 1 3/4                                                         | 1              | 1            | -          | 180                                               | 215                 | 18                |
| SFDEJ-320 | 20            | 12                                                    | 1 7/8                                                         | 1 1/8          | 1 1/8        | -          | 180                                               | 215                 | 18                |



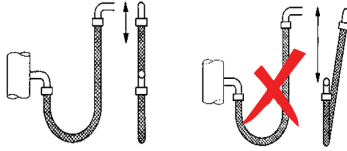
# INSTALLATION ET DÉPLOIEMENT DES BOYAUX / INSTALLATION OF HOSE IN STAINLESS STEEL

1

## ALIGNER LES EXTRÉMITÉS ALIGNMENT

Toujours installer le boyau pour que les deux extrémités et le mouvement de flexion se situent sur le même plan, puis serrez les deux extrémités à l'aide de deux clés, une pour tenir l'embout et une autre pour serrer.

*Always install the hose so that both ends, and the bending movement are on the same plane, then tighten with two wrenches, one to hold and another to tighten.*

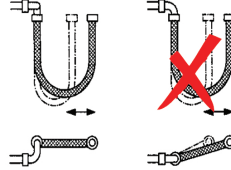


2

## NE PAS TORDRE DO NOT APPLY TORSION

Pour minimiser les dommages éventuels et assurer une durée d'utilisation optimale, le boyau métallique ne doit en aucun cas être exposé à des torsions nuisibles résultant de l'installation ou de mouvements ultérieurs.

*To minimize potential damage and ensure maximum service life, the metal hose must not be exposed to harmful twisting resulting from installation or subsequent movements.*

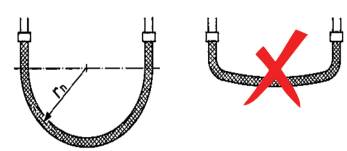


3

## DÉTERMINER LE RAYON DE COURBURE DETERMINE THE MINIMUM BEND RADIUS

Montez les boyaux flexibles en arc de cercle de 180° (en forme de U). Le rayon de courbure est déterminé en divisant par deux la distance entre les deux extrémités du boyau.

*Install the flexible hoses in a 180° arc of a circle (U-shaped). The bend radius is determined by dividing by two the distance between the two ends of the hose.*

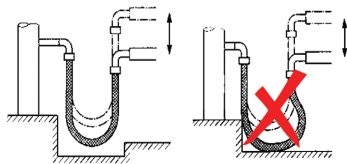


4

## ÉVITER LE BALLONNEMENT AVOID WAVING

Il est important de s'assurer que le rayon de courbure minimal ne soit pas dépassé. Si le rayon de courbure est inférieur au minimum, le boyau risque de se tordre et de se rompre.

*It is important to ensure that the minimum bend radius is not exceeded. If the radius is less than the allowed minimum, the hose may bend and break.*

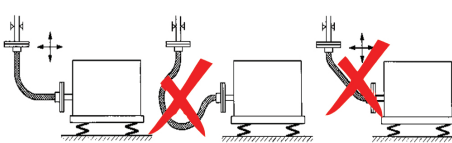


5

## CHOISIR LA LONGUEUR APPROPRIÉE CHOOSE THE APPROPRIATE LENGTH

Il est nécessaire de prévoir une longueur totale suffisante pour le flexible et tenir compte de sa dilatation thermique lorsqu'il est sous pression. Les raccords ne doivent être soumis à aucun mouvement ni aucune contrainte de flexion.

*It is necessary to provide a sufficient total length for the space to be filled. Take into account its thermal expansion when under pressure. Fittings shall not be subject to any movement or bending stress.*

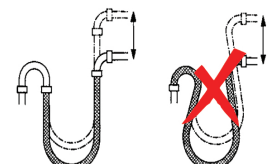


6

## ÉVITER LES COURBURES PRONONCÉES DO NOT OVERBEND

Ne courbez jamais le flexible en dessous du rayon de courbure minimal spécifié, cela pourrait ralentir le débit, provoquer une torsion du boyau et éventuellement conduire à une défaillance.

*Never bend the hose under the specified minimum bend radius, as this may slow the flow, cause the hose to twist and eventually lead to failure.*

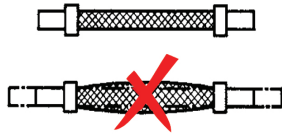


7

## NE PAS COMPRESSER DO NOT COMPRESS

Comme la longueur d'un flexible sous pression peut varier de +2% à -4%, un montage latéral peut être appliqué seulement pour l'absorption de faibles dilatations. Il ne doit être ni étiré ni comprimé.

*As the length of a pressurized hose can vary from +2% to -4%, lateral mounting can be applied for the absorption of small expansions. It should not be stretched or compressed.*

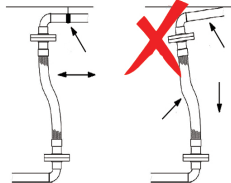


8

## ANCRAGE ANCHORING

Par souci de sécurité et pour empêcher une défaillance prématurée, assurez-vous d'ancrer la tuyauterie environnante. De cette façon, le flexible sera maintenu dans la position appropriée et vous éviterez les mouvements de compression ou extension sur l'axe.

*For safety and to prevent premature failure, make sure to anchor the surrounding piping. This way the hose will be held in the proper position and you will avoid compression or extension movements on the axis.*

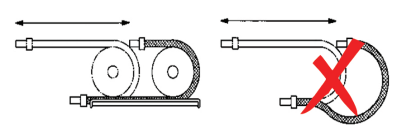


9

## SUPPORTER ADÉQUATEMENT SUPPORT

Lors de l'installation, assurez-vous de bien protéger le flexible par un dispositif de soutènement. En aucun cas le flexible ne doit supporter son propre poids. Il ne doit pas non plus entrer en contact avec d'autres objets environnants, ni avec le sol.

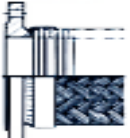
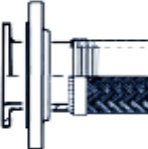
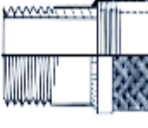
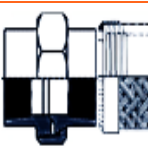
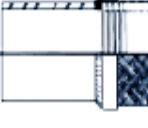
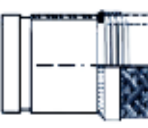
*When installing, be sure to properly protect the hose with a retaining device. Under no circumstances should the hose bear its own weight. It must not come in contact with other surrounding objects or with the ground.*



Voir spécifications sur notre site web / Other specifications on website

# TYPES D'EMBOUTS DISPONIBLES/ IDENTIFYING FITTINGS

Hebdraulique possède son propre atelier de fabrication incluant Tour et CNC numérique pour toutes demandes spécifiques  
*/ Hebdraulique has its own fabrication shop including CNC and milling for all specific requests.*

| EMBOUTS                                                                             | DESCRIPTION                                                                                                                           | DESCRIPTION                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Bride à collets</b><br>#150/300 et autres<br>Acier carbone et acier inox 304 et 316<br>Pression de travail à partir de 275 psi     | <b>Neck Flanges</b><br>#150/300 and others<br>Carbon steel and s.s. 304 and 316<br>Working pressure from 275 psi                      | <b>AUSI DISPONIBLES:</b><br>ORFS de 1/4" à 1-1/2 "<br>ERMETO de 1/8" à 2"<br>ORB de 1/8" à 2 "<br>45 DEG FLARE de 1/8" à 3/4"<br>INVERTED FLARE de 1/8" à 1"<br>BSP de 1/8" à 2"                                                                                                                                                                |
|    | <b>Brides coulissantes</b><br>#150/300 et autres<br>Acier carbone et acier inox 304 et 316<br>Pression de travail à partir de 275 psi | <b>Slip on flanges</b><br>#150/300 and others<br>Carbon steel and stainless steel 304 and 316<br>Working pressure from 275 psi        |                                                                                                                                                                                                                                                                                                                                                 |
|    | <b>Brides tournantes</b><br>#150/300 et autres<br>Acier carbone et acier inox 304 et 316<br>Pression de travail à partir de 275 psi   | <b>Swivel flanges</b><br>#150/300 and others<br>Carbon steel and stainless steel 304 and 316<br>Working pressure from 275 psi         |                                                                                                                                                                                                                                                                                                                                                 |
|    | <b>Mâle NPT</b><br>Disponible en acier ou en acier inox 304 et 316<br>Cédule 40 et 80<br>Pression de travail de 2 400 psi et plus     | <b>NPT males</b><br>Available in carbon steel and stainless steel 304 and 316, Schedule 40 et 80<br>Working pressure 2 400 psi and up |                                                                                                                                                                                                                                                                                                                                                 |
|   | <b>Mâle NPT hexagone</b><br>Disponible en acier, acier inox et cuivre<br>Pression de travail allant jusqu'à 3 000 psi                 | <b>NPT hex males</b><br>Available in steel, stainless steel and copper<br>Working pressure up to 3 000 psi                            | <b>ALSO AVAILABLE:</b><br>ORFS from 1/4 to 1 1/2 "<br>ERMETO from 1/8 to 2"<br>ORB from 1/8 to 2 "<br>45 DEG FLARE from 1/8 to 3/4"<br>INVERTED FLARE from 1/8 to 1"<br>BSP from 1/8 to 2"<br>MÉTRIQUE from 4 to 38 mm<br>JAPONAIS "JIS" from 1/8 to 2"<br>KOMATSU from 3/8 to 1 1/2"<br>BRIDES C61 from 1/2 to 3"<br>BRIDES C62 from 1/2 to 2" |
|  | <b>Union FNPT</b><br>Disponible en acier, acier inox et cuivre<br>De 150 psi à 3 000 psi                                              | <b>NPT female unions</b><br>Available in steel, stainless steel and copper<br>From 150 psi to 3 000 psi                               |                                                                                                                                                                                                                                                                                                                                                 |
|  | <b>Femelle NPT tournante</b><br>Avec siège de 30 deg.<br>Disponible en acier plaqué, zinc et acier inox 316<br>Jusqu'à 6 000 psi      | <b>Swivel NPT females</b><br>With 30 ° seat<br>Available in zinc, plated steel and 316 s.s.<br>Working pressure up to 6 000 psi       |                                                                                                                                                                                                                                                                                                                                                 |
|  | <b>Femelle JIC 37°</b><br>Disponible en acier plaqué, zinc et acier inox 316<br>Pression de travail jusqu'à 5 000 psi                 | <b>37° JIC Females</b><br>Available in zinc, plated steel and 316 stainless steel<br>Working pressure up to 5 000 psi                 |                                                                                                                                                                                                                                                                                                                                                 |
|  | <b>Mâle JIC 37°</b><br>Disponible en acier plaqué, zinc et acier inox 316<br>Pression de travail jusqu'à 5 000 psi                    | <b>37° JIC males</b><br>Available in zinc, plated steel and 316 stainless steel<br>Working pressure up to 5 000 psi                   |                                                                                                                                                                                                                                                                                                                                                 |
|  | <b>Embout à souder</b><br>Disponible en acier et acier inox 304 et 316<br>Cédule 40 et 80<br>Aussi disponible en cuivre               | <b>Weld ends</b><br>Available in steel and s.s. 304 et 316<br>Schedule 40 and 80<br>Copper available                                  |                                                                                                                                                                                                                                                                                                                                                 |
|  | <b>Embout rainuré</b><br>Disponible en acier et en acier inox                                                                         | <b>Grooved ends</b><br>Available in steel and stainless steel                                                                         |                                                                                                                                                                                                                                                                                                                                                 |

## Facteur d'ajustement de la température basé sur les alliages du tressage

Temperature adjustment factor based on braid alloy

| TEMPERATURE<br>(F) | ACIER INOX<br>STAINLESS STEEL<br>304/304L | ACIER INOX<br>STAINLESS STEEL<br>316L | ACIER INOX<br>STAINLESS STEEL<br>321 | ACIER CARBONE<br>CARBON STEEL | -MONEL | BRONZE |
|--------------------|-------------------------------------------|---------------------------------------|--------------------------------------|-------------------------------|--------|--------|
| 70                 | 1.00                                      | 1.00                                  | 1.00                                 | 1.00                          | 1.00   | 1.00   |
| 150                | 0.95                                      | 0.93                                  | 0.97                                 | 0.99                          | 0.93   | 0.92   |
| 200                | 0.91                                      | 0.89                                  | 0.94                                 | 0.97                          | 0.90   | 0.89   |
| 250                | 0.88                                      | 0.86                                  | 0.92                                 | 0.96                          | 0.87   | 0.86   |
| 300                | 0.85                                      | 0.83                                  | 0.88                                 | 0.93                          | 0.83   | 0.83   |
| 350                | 0.81                                      | 0.81                                  | 0.86                                 | 0.91                          | 0.82   | 0.81   |
| 400                | 0.78                                      | 0.78                                  | 0.83                                 | 0.87                          | 0.79   | 0.78   |
| 450                | 0.77                                      | 0.78                                  | 0.81                                 | 0.86                          | 0.77   | 0.75   |
| 500                | 0.77                                      | 0.77                                  | 0.78                                 | 0.81                          | 0.73   | -      |
| 600                | 0.76                                      | 0.76                                  | 0.77                                 | 0.74                          | 0.72   | -      |
| 700                | 0.74                                      | 0.76                                  | 0.76                                 | 0.66                          | 0.71   | -      |
| 800                | 0.73                                      | 0.75                                  | 0.68                                 | 0.52                          | 0.70   | -      |
| 900                | 0.68                                      | 0.74                                  | 0.62                                 | -                             | -      | -      |
| 100                | 0.60                                      | 0.73                                  | 0.60                                 | -                             | -      | -      |
| 1100               | 0.58                                      | 0.67                                  | 0.58                                 | -                             | -      | -      |
| 1200               | 0.53                                      | 0.61                                  | 0.53                                 | -                             | -      | -      |
| 1300               | 0.44                                      | 0.55                                  | 0.46                                 | -                             | -      | -      |
| 1400               | 0.35                                      | 0.48                                  | 0.42                                 | -                             | -      | -      |
| 1500               | 0.26                                      | 0.39                                  | 0.37                                 | -                             | -      | -      |

En général, la force et donc la pression nominale du boyau métallique diminue à mesure que la température augmente. Ainsi, lorsque la température d'un boyau métallique augmente, la pression de service maximale admissible de l'ensemble diminue. Les pressions indiquées dans les tableaux sont valables à 70 °F pour tous nos boyaux. La température élevée occasionnera une perte de pression qui peut être calculée à l'aide de ces tableaux. Il faut toujours considérer l'alliage du tressage, qui est majoritairement en 304 L (pour le calcul). Le type de raccord et l'alliage doivent aussi être pris en considération pour calculer la pression de l'assemblé. Par exemple: pour calculer la pression de travail maximale pour -1" ID, 321 (Ex: MFSNS-016), avec une seule tresse en acier inoxydable 304L à 800 °F, on doit prendre la pression de service 70°F de 711 PSI de l'assemblé et multiplier par 0,73. La pression de travail maximale admissible à 800°F est donc de 519 PSI.

In general, the strength and therefore the pressure rating of metal hose decreases as the temperature increases. Thus, as the operating temperature of a metal hose assembly increase, the maximum allowable working pressure of the assembly decreases. The pressure ratings shown in the specifications charts for corrugated and interlocked hose are valid at 70°F. Elevated service temperatures will decrease these pressure ratings by the factors shown in the following chart for the alloy used in the braid wire. What also must be considered is the maximum working temperature of the end fittings, of the hose and their method of attachment. For example: to calculate the maximum working pressure for: -1" ID, 321 (Ex: MFSNS-016), with single-braided, 304L stainless steel, at 800 °F, We must use the working pressure 70°F, 711 PSI of the assembly and multiply by 0,73. The maximum working pressure at 800°F is 519 PSI.

| PSI | TEMPERATURE<br>(F) | PSI | TEMPERATURE<br>(F) | PSI  | TEMPERATURE<br>(F) |
|-----|--------------------|-----|--------------------|------|--------------------|
| 0   | 212                | 150 | 366                | 450  | 460                |
| 10  | 238                | 175 | 377                | 475  | 465                |
| 20  | 259                | 200 | 388                | 500  | 470                |
| 30  | 274                | 225 | 397                | 550  | 480                |
| 40  | 287                | 250 | 406                | 600  | 489                |
| 50  | 298                | 275 | 414                | 700  | 505                |
| 60  | 307                | 300 | 422                | 800  | 520                |
| 75  | 320                | 325 | 429                | 900  | 534                |
| 80  | 324                | 350 | 436                | 1000 | 546                |
| 90  | 331                | 375 | 442                | 1250 | 574                |
| 100 | 338                | 400 | 448                | 1500 | 606                |
| 125 | 353                | 425 | 454                | 2500 | 669                |

| HG    | TEMPERATURE<br>(F) |
|-------|--------------------|
| -     | 212                |
| 29.84 | 238                |
| 29.74 | 259                |
| 29.67 | 274                |
| 29.39 | 287                |
| 28.89 | 298                |
| 27.99 | 307                |
| 26.48 | 320                |
| 24.04 | 324                |
| 20.27 | 331                |
| 15.20 | 338                |
| 6.46  | 353                |



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