

RACCORDS A SOUDER

WELDING FITTINGS



raccords / fittings

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pressions intérieures maxima d'utilisation des raccords

maximum internal working pressures for fittings

Les pressions d'utilisation des raccords fabriqués suivant la norme ASME B 16.9-1993 peuvent être calculées comme celles des tuyaux droits sans soudure, en utilisant les règles des codes ASME B 31 pour les tuyauteries sous pression.

The allowable pressure ratings for fittings designed in accordance with the standard ASME B 16.9-1993 may be calculated as for straight seamless pipe in accordance with the rules established in the applicable section of the ASME B 31 codes for pressure piping.

| | | |
|--------------------|---|--|
| ASME B 31.4 | Tuyauterie de transport de liquides pour hydrocarbures, gaz liquéfiés, ammoniacque et alcools | Liquid transportation systems for hydrocarbons, liquid petroleum gas, anhydrous ammonia and alcohols |
| ASME B 31.5 | Tuyauterie pour l'industrie du froid | Refrigeration piping |
| ASME B 31.1 | Tuyauterie de transport d'énergie | Power piping |
| ASME B 31.3 | Tuyauterie dans les raffineries de pétrole et les industries chimiques | Chemical plant and petroleum refinery piping |
| ASME B 31.8 | Tuyauterie pour le transport et la distribution du gaz | Gas transmission and distribution piping systems |

essais hydrauliques des raccords

hydrostatic testing for fittings

Les essais hydrauliques ne sont pas exigés pour les raccords à souder. Ils doivent toutefois être garantis contre la rupture et pouvoir supporter sans déformation une pression d'essai hydraulique égale à celle d'un tube de caractéristiques et de dimensions équivalentes.

Hydrostatic testing of wrought fittings is not required by this Standard. All fittings shall be capable of withstanding, without leakage or impairment of serviceability, a hydrostatic test pressure required by the applicable piping code for seamless pipe of material equivalent to the fitting material and of the NPS and wall thickness the fitting marking identifies.



coudes court rayon

ASME B 16.28 – 1994

tolérances dimensionnelles

| Diamètre nominal du tube NPS | Tous raccords | | | Coudes 90° | | Coudes 180° | |
|------------------------------|---|--|---|---------------------------------|------------------------------|---------------------|-----------------------------|
| | Diamètre extérieur au chanfrein (1) (2) | Diamètre intérieur à l'extrémité (1) (3) (4) | Épaisseur (3) | Dimensions centre-à-extrémité A | Dimensions centre-à-centre O | Hauteur hors tout K | Alignement des extrémités U |
| 1/2 à 2 1/2 | + 1,6 - 0,8 | ± 0,8 | Pas plus petite que 87,5 % de l'épaisseur nominale marquée sur le raccord | ± 1,6 | ± 6,35 | ± 6,35 | ± 0,8 |
| 3 à 4 | ± 1,6 | ± 1,6 | | ± 1,6 | ± 6,35 | ± 6,35 | ± 0,8 |
| 5 à 8 | + 2,3 - 1,6 | ± 1,6 | | ± 1,6 | ± 6,35 | ± 6,35 | ± 0,8 |
| 10 à 18 | + 4,0 - 3,0 | ± 3,0 | | ± 2,3 | ± 9,65 | ± 6,35 | ± 1,6 |
| 20 à 24 | + 6,35 - 4,8 | ± 4,8 | | ± 2,3 | ± 9,65 | ± 6,35 | ± 1,6 |

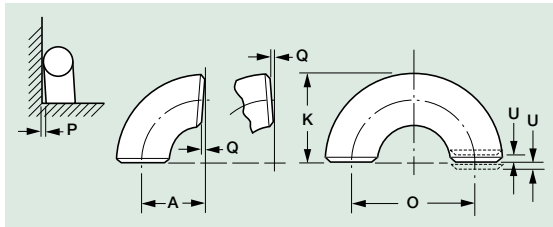
Dimensions en mm (sauf diamètre nominal du tube).

- (1) L'ovalisation est la somme des valeurs absolues des tolérances plus et moins.
- (2) Cette tolérance peut être dépassée localement compte tenu des variations possibles de l'épaisseur suivant la technique de construction du raccord.
- (3) Le diamètre intérieur et l'épaisseur nominale aux extré-

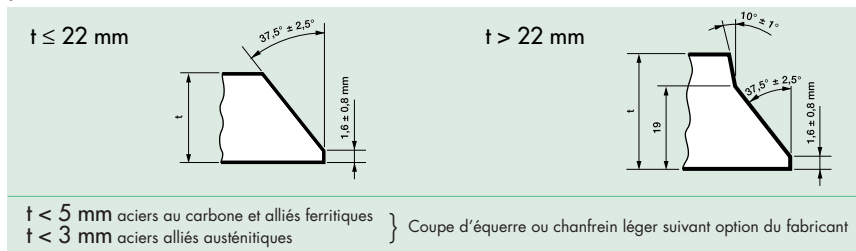
mités doivent être indiqués par le client. La tolérance d'épaisseur s'applique à l'ensemble du raccord.

- (4) Sauf spécification contraire de l'acheteur, ces tolérances s'appliquent au diamètre intérieur nominal qui est égal à la différence entre le diamètre extérieur nominal et deux fois l'épaisseur nominale.

| Diamètre nominal du tube NPS | Tolérance angulaire | |
|------------------------------|---------------------|-----------|
| | Perpendicularité Q | Travers P |
| 1/2 à 4 | ± 0,8 | ± 1,6 |
| 5 à 8 | ± 1,6 | ± 3,0 |
| 10 à 12 | ± 2,3 | ± 4,8 |
| 14 à 16 | ± 2,3 | ± 6,35 |
| 18 à 24 | ± 3,0 | ± 9,65 |



parachèvement des extrémités



short radius elbows and returns

ASME B 16.28 – 1994

size tolerances

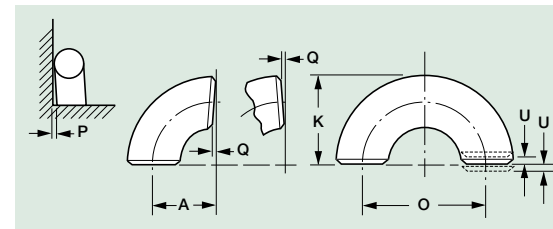
| Nominal pipe size NPS | All fittings | | | 90-Deg elbows | 180-Deg returns | | |
|-----------------------|-----------------------------------|------------------------------------|---|---------------------------|------------------------------|--------------------------|----------------------|
| | Outside diameter at bevel (1) (2) | Inside diameter at end (1) (3) (4) | Wall thickness (3) | Center-to-end dimension A | Center-to-center dimension O | Back-to-face dimension K | Alignement of ends U |
| 1/2 to 2 1/2 | + 0.06 - 0.03 | ± 0.03 | Not less than 87.5 % of nominal thickness marked on fitting | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.03 |
| 3 to 4 | ± 0.06 | ± 0.06 | | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.03 |
| 5 to 8 | + 0.09 - 0.06 | ± 0.06 | | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.03 |
| 10 to 18 | + 0.16 - 0.12 | ± 0.12 | | ± 0.09 | ± 0.38 | ± 0.25 | ± 0.06 |
| 20 to 24 | + 0.25 - 0.19 | ± 0.19 | | ± 0.09 | ± 0.38 | ± 0.25 | ± 0.06 |

Dimensions in inches

- (1) Out-of-round is the sum of absolute values of plus and minus tolerances.
- (2) This tolerance may be exceeded in localized areas of formed fittings where increased wall thickness is required to meet design requirements in the ASME B 16.28.
- (3) The inside diameter and the nominal wall thicknesses at

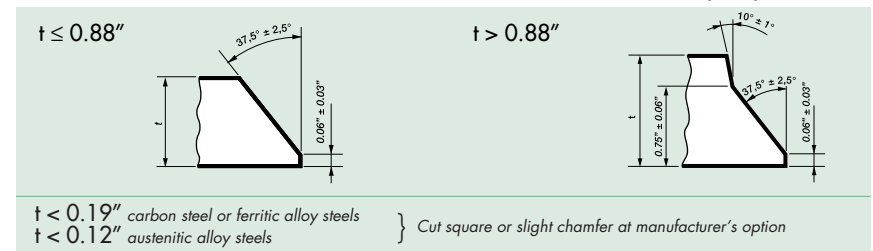
ends are to be specified by the purchaser. Wall thickness tolerance applies throughout the fitting.

- (4) Unless otherwise specified by the purchaser, these tolerances apply to the nominal inside diameter, which equals the difference between the nominal outside diameter and twice the nominal wall thickness.



| Nominal pipe size NPS | Angularity tolerance | |
|-----------------------|----------------------|-------------|
| | Off angle Q | Off plane P |
| 1/2 to 4 | ± 0.03 | ± 0.06 |
| 5 to 8 | ± 0.06 | ± 0.12 |
| 10 to 12 | ± 0.09 | ± 0.19 |
| 14 to 16 | ± 0.09 | ± 0.25 |
| 18 to 24 | ± 0.12 | ± 0.38 |

ends preparation



coudes LR – tés – réductions – caps – collets

ASME B 16.9 – 1993

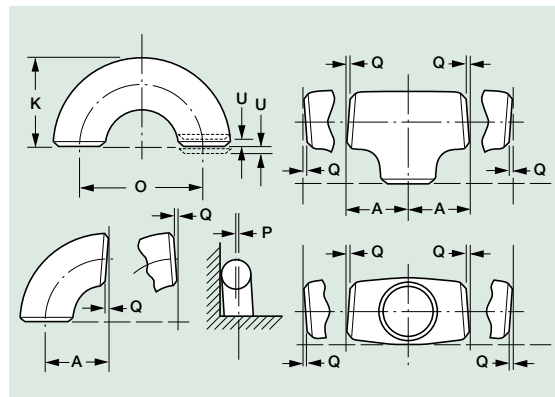
tolérances dimensionnelles

| Diamètre nominal du tube NPS | Tous raccords | | | Coudes LR 90° et 45° et tés | Réductions et collets pour brides tournantes | Caps | Coudes LR 180° | | |
|------------------------------|---|--|--|---|--|----------------------|------------------------------|---------------------|-----------------------------|
| | Diamètre (1) (2) extérieur au chanfrein D | Diamètre intérieur à l'extrémité (1) (3) (4) | Épaisseur (3) t | Dimensions centre-à-extrémité A - B - C - M | Longueur hors tout F - H | Longueur hors tout E | Dimensions centre-à-centre O | Hauteur hors tout K | Alignement des extrémités U |
| 1/2 à 2 1/2 | + 1,6 - 0,8 | ± 0,8 | Pas plus petite que 87,5 % de l'épaisseur nominale | ± 1,6 | ± 1,6 | ± 4 | ± 6,35 | ± 6,35 | ± 0,8 |
| 3 à 4 | ± 1,6 | ± 1,6 | | ± 1,6 | ± 1,6 | ± 4 | ± 6,35 | ± 6,35 | ± 0,8 |
| 5 à 8 | + 2,3 - 1,6 | ± 1,6 | | ± 1,6 | ± 1,6 | ± 6,35 | ± 6,35 | ± 6,35 | ± 0,8 |
| 10 à 18 | + 4,0 - 3,0 | ± 3,0 | | ± 2,3 | ± 2,3 | ± 6,35 | ± 9,65 | ± 6,35 | ± 1,6 |
| 20 à 24 | + 6,35 - 4,8 | ± 4,8 | | ± 2,3 | ± 2,3 | ± 6,35 | ± 9,65 | ± 6,35 | ± 1,6 |
| 26 à 30 | + 6,35 - 4,8 | ± 4,8 | | ± 3,0 | ± 4,8 | ± 9,65 | | | |
| 32 à 48 | + 6,35 - 4,8 | ± 4,8 | | ± 4,8 | ± 4,8 | ± 9,65 | | | |

Dimensions en mm (sauf diamètre nominal du tube).

- (1) L'ovalisation est la somme des valeurs absolues des tolérances plus et moins.
- (2) Cette tolérance peut être dépassée localement compte tenu des variations possibles de l'épaisseur suivant la technique de construction du raccord.
- (3) Le diamètre intérieur et l'épaisseur nominale aux extrémités doivent être indiqués par le client.
- (4) Sauf spécification contraire de l'acheteur, ces tolérances s'appliquent au diamètre intérieur nominal qui est égal à la différence entre le diamètre extérieur nominal et deux fois l'épaisseur nominale.

| Diamètre nominal du tube NPS | Tolérance angulaire | |
|------------------------------|---------------------|-----------|
| | Perpendicularité Q | Travers P |
| 1/2 à 4 | ± 0,8 | ± 1,6 |
| 5 à 8 | ± 1,6 | ± 3,0 |
| 10 à 12 | ± 2,3 | ± 4,8 |
| 14 à 16 | ± 2,3 | ± 6,35 |
| 18 à 24 | ± 3,0 | ± 9,65 |
| 26 à 30 | ± 4,8 | ± 9,65 |
| 32 à 42 | ± 4,8 | ± 12,70 |
| 44 à 48 | ± 4,8 | ± 19,05 |



LR elbows – tees – reducers – caps – stub ends

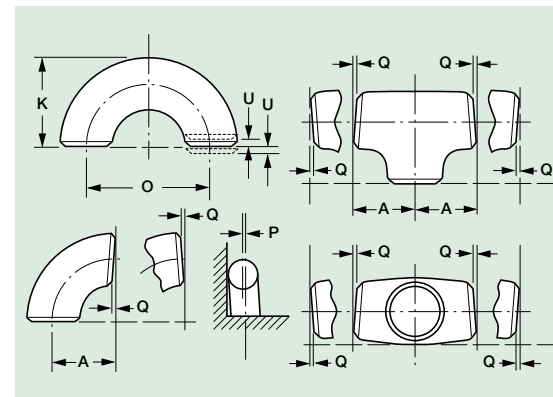
ASME B 16.9 – 1993

size tolerances

| Nominal pipe size NPS | All fittings | | | 90-Deg and 45-Deg LR elbows and tees | Reducers and lap-joint stub ends | Caps | 180-Deg LR returns | | |
|-----------------------|-------------------------------------|------------------------------------|---|---------------------------------------|----------------------------------|------------------|------------------------------|--------------------------|---------------------|
| | Outside (1) (2) diameter at bevel D | Inside diameter at end (1) (3) (4) | Wall thickness (3) t | Center-to-end dimension A - B - C - M | Overall length F - H | Overall length E | Center-to-center dimension O | Back-to-face dimension K | Alignment of ends U |
| 1/2 to 2 1/2 | + 0.06 - 0.03 | ± 0.03 | Not less than 87.5 % of nominal thickness | ± 0.06 | ± 0.06 | ± 0.12 | ± 0.25 | ± 0.25 | ± 0.03 |
| 3 to 4 | ± 0.06 | ± 0.06 | | ± 0.06 | ± 0.06 | ± 0.12 | ± 0.25 | ± 0.25 | ± 0.03 |
| 5 to 8 | + 0.09 - 0.06 | ± 0.06 | | ± 0.06 | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.25 | ± 0.03 |
| 10 to 18 | + 0.16 - 0.12 | ± 0.12 | | ± 0.09 | ± 0.09 | ± 0.25 | ± 0.38 | ± 0.25 | ± 0.06 |
| 20 to 24 | + 0.25 - 0.19 | ± 0.19 | | ± 0.09 | ± 0.09 | ± 0.25 | ± 0.38 | ± 0.25 | ± 0.06 |
| 26 to 30 | + 0.25 - 0.19 | ± 0.19 | | ± 0.12 | ± 0.19 | ± 0.38 | | | |
| 32 to 48 | + 0.25 - 0.19 | ± 0.19 | | ± 0.19 | ± 0.19 | ± 0.38 | | | |

Dimensions in inches.

- (1) Out-of-round is the sum of absolute values of plus and minus tolerance.
- (2) This tolerance may be exceeded in localized areas of formed fittings where increased wall thickness is required to meet design requirements of § 2.2 to ASME B 16.9
- (3) The inside diameter and the nominal wall thicknesses at ends are to be specified by the purchaser.
- (4) Unless otherwise specified by the purchaser, these tolerances apply to the nominal inside diameter, which equals the difference between the nominal outside diameter and twice the nominal wall thickness.



| Nominal pipe size NPS | Angularity tolerance | |
|-----------------------|----------------------|-------------|
| | Off angle Q | Off plane P |
| 1/2 to 4 | ± 0.03 | ± 0.06 |
| 5 to 8 | ± 0.06 | ± 0.12 |
| 10 to 12 | ± 0.09 | ± 0.19 |
| 14 to 16 | ± 0.09 | ± 0.25 |
| 18 to 24 | ± 0.12 | ± 0.38 |
| 26 to 30 | ± 0.19 | ± 0.38 |
| 32 to 42 | ± 0.19 | ± 0.50 |
| 44 to 48 | ± 0.19 | ± 0.75 |

coudes LR – tés réductions – caps

LR elbows – tees reducers – caps

ASME B 16.9 – 1993

parachèvement des extrémités

ends preparation

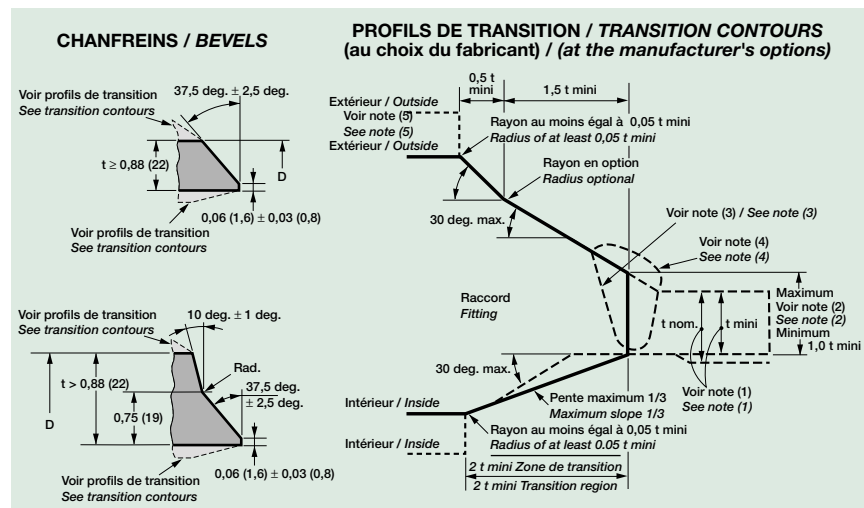
PRÉPARATION DES EXTRÉMITÉS

Coupe d'équerre ou chanfrein léger à l'option du fabricant pour :

- $t \leq 5$ mm aciers au carbone ou alliés ferritiques
- $t \leq 3$ mm aciers austénitiques

ENDS PREPARATION

Cut square or slight chamfer, at manufacturer's option for :
 $t \leq 0.19$ " carbon steel or ferritic alloy steels
 $t \leq 0.12$ " austenitic alloy steels



- Notes :**
- (1) La valeur de t mini applicable est l'une ou l'autre des suivantes :
 - l'épaisseur minimum du tube commandé,
 - 0,875 fois l'épaisseur nominal d'un tube suivant schéma et qui a une tolérance d'épaisseur de - 12,5 %.
 - (2) L'épaisseur maximum à l'extrémité du raccord est :
 - la plus grande de (t mini + 0,16") ou 1,15 t mini en cas de commande basée sur une épaisseur minimum,
 - la plus grande de (t mini + 0,16") ou 1,10 t nom. en cas de commande basée sur une épaisseur nominale.
 - (3) Le chanfrein n'est donné qu'à titre d'exemple.
 - (4) La soudure de renforcement permise par l'application des codes peut s'étendre au-delà de l'enveloppe maximale.
 - (5) Quand les profils de transition utilisant la pente maximale sans intersection avec la surface extérieure, comme montré par la ligne en pointillé, les pentes maximale indiquées avec leurs chanfreins respectifs seront utilisés.

- Notes :**
- (1) The value of t mini is whichever of the following is applicable :
 - the minimum ordered wall thickness of the pipe,
 - 0.875 times the nominal wall thickness of pipe ordered to a pipe schedule wall thickness that has an under tolerance of 12.5 %.
 - (2) The maximum thickness at the end of the component is :
 - the greater of (t mini + 0.16") or 1.15 t mini when ordered on a minimum wall basis,
 - the greater of (t mini + 0.16") or 1.10 t nom. when ordered on a nominal wall basis.
 - (3) Weld bevel is shown for illustration only.
 - (4) The weld reinforcement permitted by applicable code may lie outside the maximum envelope.
 - (5) Where transitions using maximum slope do not intersect outside surface within the transition region, as shown by phantom outline, maximum slopes shown shall be used. Alternately, radii lying within the envelope may be used.

RACCORDS

- aciers au carbone
- aciers alliés
- aciers basse température

FITTINGS

- carbon steels
- alloy steels
- steels for low temperature service



Les raccords répondent / Fittings are in strict accordance :

– POUR LES DIMENSIONS / FOR DIMENSIONS :

aux exigences des ASME B 16.9 – 1993 et B 16.28 – 1994 / with ASME B 16.9 – 1993 and B 16.28 – 1994

– POUR L'ACIER / FOR STEEL :

aux exigences de l'ASTM / with ASTM

ACIER AU CARBONE / CARBON STEEL

| ASTM A 234 / A 234 M – 96 a | | | Nuance WPB / Grade WPB (1) | |
|---|--|------------|-----------------------------------|--|
| Composition chimique % Chemical requirements % | C maxi | | 0,30 (a) (b) (c) | |
| | Mn | | 0,29 – 1,06 | |
| | P maxi | | 0,050 | |
| | S maxi | | 0,058 | |
| | Si | | 0,10 mini (b) | |
| | Cr maxi | | 0,40 (f) (g) | |
| | Mo maxi | | 0,15 (f) (g) | |
| | Ni maxi | | 0,40 (f) | |
| | Cu maxi | | 0,40 (f) | |
| | V maxi | | 0,08 | |
| Caractéristiques mécaniques | Résistance rupture – plage Tensile strength – range | MPa ksi | 415 – 585 60 – 85 | |
| | Limite élastique minimum Minimum yield strength | MPa ksi | 240 35 | |
| Mécaniques requirements | Allongement minimum % (sur 2") Elongation (in 2") mini per cent | | Long. 30 (2) – Transv. 20 (2) (3) | |
| | Dureté maximum Maximum hardness | | 197 HB | |

ACIERS ALLIÉS / ALLOY STEELS

| ASTM A 234 / A 234 M – 96 a | | | Nuance / Grade (1) | | | |
|---|---|------------|-------------------------------|----------------------|-------------|-------------|
| | | | WP 1 | WP 11 c l 1 | WP 22 c l 1 | WP 5 |
| Composition chimique % Chemical requirements % | C | | 0,28 maxi | 0,05 – 0,15 | 0,05 – 0,15 | 0,15 maxi |
| | Mn | | 0,30 – 0,90 | 0,30 – 0,60 | 0,30 – 0,60 | 0,30 – 0,60 |
| | P maxi | | 0,045 | 0,030 | 0,040 | 0,040 |
| | S maxi | | 0,045 | 0,030 | 0,040 | 0,030 |
| | Si | | 0,10 – 0,50 | 0,50 – 1,00 | 0,50 maxi | 0,50 maxi |
| | Cr | | — | 1,00 – 1,50 | 1,90 – 2,60 | 4,00 – 6,00 |
| | Mo | | 0,44 – 0,65 | 0,44 – 0,65 | 0,87 – 1,13 | 0,44 – 0,65 |
| Caractéristiques mécaniques | Résistance rupture – plage Tensile strength – range | MPa ksi | 380 – 555 55 – 80 | 415 – 585 60 – 85 | | |
| | Limite élastique minimum Minimum yield strength | MPa ksi | 205 30 | 205 30 | | |
| Mécaniques requirements | Allongement mini % (sur 2") Elongation (in 2") mini per cent | | Long. 30 (2) – Transv. 20 (2) | | | |
| | Dureté maximum Maximum hardness | | 197 HB | | 217 HB | |

ACIERS BASSE TEMPÉRATURE / LOW TEMPERATURE STEELS

Les raccords en acier basse température répondent, pour l'acier, aux exigences de l'ASTM.

For steel, low temperature fittings are in strict accordance with ASTM requirements.

| A 420 / A 420 M – 96 | | Nuance / Grade (1) | |
|---|---|--------------------|-----------------------------|
| | | WPL 6 (c) | WPL 3 |
| Composition chimique % Chemical requirements % | C maxi | 0,30 | |
| | Mn | 0,60 – 1,35 (d) | |
| | P maxi | 0,035 | |
| | S maxi | 0,040 | |
| | Si | 0,15 – 0,30 | |
| | Ni | 0,40 maxi | |
| | Cr | 0,30 maxi | |
| | Cu | 0,40 maxi | |
| | Cb | 0,02 maxi | |
| | V | 0,05 maxi | |
| Caractéristiques mécaniques | Limite élastique minimum Minimum yield strength | MPa ksi | 240 35 |
| | Résistance rupture Tensile strength | MPa ksi | 415 – 585 60 – 85 |
| Mécaniques requirements | Allong. mini % (sur 2") Elong. (in 2") mini per cent | | Long. 30 – Transv. 16,5 (2) |
| | Essais de flexion par choc Impact test | | – 50° F – 45° C |
| | | | – 150° F – 100° C |

- (a) 0,35 maxi pour les raccords fabriqués à partir de barre ou de tôle.
 (b) 0,35 maxi de carbone et 0,35 maxi silicium, sans minimum pour les raccords forgés.
 (c) Pour chaque réduction de 0,01 % de la teneur en carbone spécifiée, la teneur en manganèse peut être augmentée de 0,06 % au dessus de 1,06 % sans pouvoir dépasser 1,35 %.
 (d) 1,35 maxi pour les raccords forgés.
 (e) 0,90 maxi pour les raccords fabriqués à partir de tôle ou les raccords forgés.
 (f) la somme de Cu + Ni + Cr + Mo ≤ 1,00 %
 (g) la somme de Cr + Mo ≤ 0,32 %

- (a) 0.35 maxi for fittings made from bar or plate.
 (b) 0.35 maxi carbon and 0.35 maxi silicon with no minimum for fittings made from forgings.
 (c) For each reduction of 0.01 % below the specified carbon maxi, an increase of 0.06 % manganese above 1.06 % will be permitted to a maximum of 1.35 % manganese.
 (d) 1.35 maxi for fittings made from forgings.
 (e) 0.90 maxi for fittings made from plate or forgings.
 (f) The sum of Cu + Ni + Cr + Mo ≤ 1.00 %
 (g) The sum of Cr + Mo ≤ 0.32 %

- (1) Pour les raccords de fabrication soudée, la désignation et le marquage de la nuance seront suivis de la lettre «W».
 (2) Pour épaisseur ≥ 7,94 mm (5/16").
 (3) 17 % pour les raccords en acier au carbone fabriqués à partir de tôles.

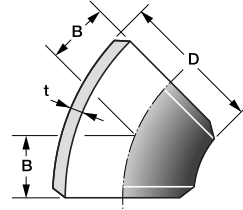
- (1) When fittings are of welded construction, the grade and marking symbol shall be supplemented by letter «W».
 (2) For wall 5/16" (7.94 mm) and over in thickness.
 (3) 17 % for carbon steel fittings manufactured from plate.

Tous les raccords suivant ASTM A 234 ou A 420 – de fabrication soudée – seront radiographiés à 100 %.
 Au lieu d'être radiographiés, les soudures pourront être contrôlées aux ultrasons.

All fusion welded butt welding fittings according to ASTM A 234 or A 420 will be 100 % X-rayed.
 Instead of radiographic examination, welds may be ultrasonically examined.

coudes long rayon à 45°

ASME B 16.9-1993



45° long radius elbows

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------------|----------------------------------|----------------|------------------|--------|---------------|
| | | | † ép./W.T. mm masse/weight kg | | | | |
| Pouces/Inches | D – mm | B – mm | | | | | |
| 1/2 | 21 | 16 | 2,77 0,04 | 3,73 0,08 | 7,47 | | |
| 3/4 | 27 | 19 (1) | 2,87 0,04 | 3,91 0,08 | 7,82 | | |
| 1 | 33 | 22 | 3,38 0,08 | 4,55 0,10 | 9,09 0,19 | | |
| 1 1/4 | 42 | 25 | 3,56 0,12 | 4,85 0,18 | 9,70 0,30 | | |
| 1 1/2 | 48 | 29 | 3,68 0,18 | 5,08 0,25 | 10,16 0,45 | | |
| 2 | 60 | 35 | 3,91 0,32 | 5,54 0,47 | 11,07 0,84 | | |
| 2 1/2 | 73 | 44 | 5,16 0,64 | 7,01 0,85 | 14,02 1,60 | | |
| 3 | 89 | 51 | 5,49 1,02 | 7,62 1,37 | 15,24 2,60 | | |
| 3 1/2 | 102 | 57 | 5,74 1,43 | 8,08 1,97 | | | |
| 4 | 114 | 64 | 6,02 1,95 | 8,56 2,70 | 17,12 5,20 | | |
| 5 | 141 | 79 | 6,55 3,25 | 9,52 4,42 | 19,05 9,08 | | |
| 6 | 168 | 95 | 7,11 5,10 | 10,97 7,67 | 21,95 15,00 | | |
| 8 | 219 | 127 | 8,18 11,15 | 12,70 14,95 | 22,23 27,00 | 6,35 | 9,00 |
| 10 | 273 | 159 | 9,27 20,50 | 12,70 24,30 | 25,40 48,50 | 6,35 | 18,50 |
| 12 | 324 | 190 | 9,52 27,00 | 12,70 35,00 | 25,40 70,80 | 6,35 | 24,75 |
| 14 | 356 | 222 | 9,52 34,00 | 12,70 47,17 | | 6,35 | 7,92 32,00 |
| 16 | 406 | 254 | 9,52 48,00 | 12,70 62,37 | | 6,35 | 7,92 46,50 |

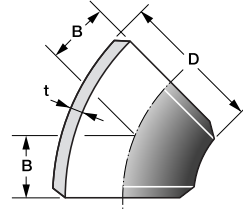
(1) La dimension peut être de 11 mm suivant option du fabricant. Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|---------------|---------------|---------------|---------|---------|---------|---------|---|
| † ép./W.T. mm masse/weight kg | | | | | | | | |
| Pouces/Inches | | | | | | | | |
| 2,41 | | | | | | | 4,78 | 1/2 |
| | | | | | | | 0,12 | |
| 2,41 | | | | | | | 5,56 | 3/4 |
| | | | | | | | 0,12 | |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,14 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,22 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 0,33 | |
| 3,18 | Voir STD | | Voir E.F. | | | | 8,74 | 2 |
| | | | | | | | 0,70 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 |
| | | | | | | | 1,20 | |
| 4,78 | Refer to STD | | Refer to X.S. | | | | 11,13 | 3 |
| | | | | | | | 2,00 | |
| 4,78 | | | | | | | | 3 1/2 |
| | | | | | | | | |
| 4,78 | | | | | | 11,13 | 13,50 | 4 |
| | | | | | | 3,47 | 4,00 | |
| | | | | | | 12,70 | 15,87 | 5 |
| | | | | | | 6,31 | 7,50 | |
| | | | | | | 14,27 | 18,26 | 6 |
| | | | | | | 9,81 | 14,00 | |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | 8 |
| 10,35 | | 13,34 | | 19,07 | 21,59 | 26,00 | 29,00 | |
| 7,80 | | Voir E.F. | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | 10 |
| 19,65 | | Refer to X.S. | 30,00 | 37,55 | 41,77 | 48,50 | 61,00 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 |
| 26,03 | 29,57 | 41,31 | 49,94 | 61,50 | 70,82 | 79,00 | 90,34 | |
| Voir STD | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 |
| | 39,98 | 55,84 | 69,92 | 94,00 | 95,00 | 112,00 | 123,94 | |
| Refer to STD | Voir E.F. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| | Refer to X.S. | 80,81 | 102,15 | 130,00 | 137,00 | 161,50 | 183,00 | |

(1) The dimension may be 11 mm at the manufacturer's option. Weights are approximate.

coudes long rayon à 45°

ASME B 16.9-1993



45° long radius elbows

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Di. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|---|-------------------------------------|----------------------------------|--------------|------------------|--------|--------|
| Pouces/Inches | D – mm | B – mm | † ép./W.T. mm masse/weight kg | | | | |
| 18 | 457 | 286 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | 60,00 | 79,00 | | 41,00 | 56,00 |
| 20 | 508 | 318 | 9,52 | 12,70 | | 6,35 | |
| | | | 71,20 | 97,16 | | 50,00 | |
| 22 | 559 | 343 | 9,52 | 12,70 | | 6,35 | |
| | | | 89,00 | 118,00 | | 60,00 | |
| 24 | 610 | 381 | 9,52 | 12,70 | | 6,35 | |
| | | | 102,95 | 141,20 | | 73,00 | |
| 26 | 660 | 406 | 9,52 | 12,70 | | 7,92 | |
| | | | 124,90 | 165,71 | | 104,00 | |
| 28 | 711 | 438 | 9,52 | 12,70 | | 7,92 | |
| | | | 150,00 | 202,00 | | 121,00 | |
| 30 | 762 | 470 | 9,52 | 12,70 | | 7,92 | |
| | | | 167,00 | 220,00 | | 139,00 | |
| 32 | 813 | 502 | 9,52 | 12,70 | | 7,92 | |
| | | | 193,00 | 255,00 | | 158,00 | |
| 34 | 864 | 533 | 9,52 | 12,70 | | 7,92 | |
| | | | 215,00 | 280,00 | | 178,00 | |
| 36 | 914 | 565 | 9,52 | 12,70 | | 7,92 | |
| | | | 241,00 | 312,00 | | 200,00 | |
| 38 | 965 | 600 | 9,52 | 12,70 | | | |
| | | | 272,00 | 354,00 | | | |
| 40 | 1016 | 632 | 9,52 | 12,70 | | | |
| | | | 290,00 | 372,00 | | | |
| 42 | 1067 | 660 | 9,52 | 12,70 | | | |
| | | | 327,00 | 420,00 | | | |
| 44 | 1118 | 695 | 9,52 | 12,70 | | | |
| | | | 363,00 | 488,00 | | | |
| 46 | 1168 | 727 | 9,52 | 12,70 | | | |
| | | | 408,00 | 530,00 | | | |
| 48 | 1219 | 759 | 9,52 | 12,70 | | | |
| | | | 443,00 | 567,00 | | | |

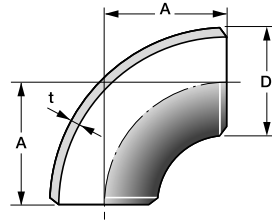
Les masses indiquées sont approximatives

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| † ép./W.T. mm masse/weight kg | | | | | | | | Pouces/Inches |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 |
| 69,91 | 88,53 | 115,77 | 143,92 | 195,00 | 202,50 | 211,00 | 272,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 97,16 | 114,00 | 155,72 | 195,67 | 238,00 | 254,00 | 303,50 | 385,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 128,10 | | 205,35 | 256,70 | 329,00 | 365,00 | 425,00 | 510,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 159,35 | 192,04 | 266,95 | 333,70 | 410,00 | 477,00 | 545,00 | 635,00 | |
| | | | | | | | | 26 |
| | | | | | | | | |
| 15,88 | | | | | | | | 28 |
| 239,00 | | | | | | | | |
| 15,88 | | | | | | | | 30 |
| 275,00 | | | | | | | | |
| 15,88 | 17,48 | | | | | | | 32 |
| 313,00 | 344,00 | | | | | | | |
| 15,88 | 17,48 | | | | | | | 34 |
| 354,00 | 389,00 | | | | | | | |
| 15,88 | 19,05 | | | | | | | 36 |
| 398,00 | 476,00 | | | | | | | |
| | | | | | | | | 38 |
| | | | | | | | | |
| | | | | | | | | 40 |
| | | | | | | | | |
| | | | | | | | | 42 |
| | | | | | | | | |
| | | | | | | | | 44 |
| | | | | | | | | |
| | | | | | | | | 46 |
| | | | | | | | | |
| | | | | | | | | 48 |
| | | | | | | | | |

Weights are approximate

coudes long rayon à 90°

ASME B 16.9-1993



90° long radius elbows

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------------|----------------------------------|-----------------|------------------|---------------|---------------|
| | | | t ép./W.T. mm masse/weight kg | | | | |
| Pouces/Inches | D – mm | A – mm | | | | | |
| 1/2 | 21 | 38 | 2,77 0,08 | 3,73 0,18 | 7,47 | | |
| 3/4 | 27 | 38 (1) | 2,87 0,08 | 3,91 0,20 | 7,82 | | |
| 1 | 33 | 38 | 3,38 0,15 | 4,55 0,20 | 9,09 0,40 | | |
| 1 1/4 | 42 | 48 | 3,56 0,25 | 4,85 0,35 | 9,70 0,61 | | |
| 1 1/2 | 48 | 57 | 3,68 0,36 | 5,08 0,60 | 10,16 0,90 | | |
| 2 | 60 | 76 | 3,91 0,65 | 5,54 0,94 | 11,07 1,80 | | |
| 2 1/2 | 73 | 95 | 5,16 1,28 | 7,01 1,70 | 14,02 3,21 | | |
| 3 | 89 | 114 | 5,49 2,03 | 7,62 2,75 | 15,24 5,20 | | |
| 3 1/2 | 102 | 133 | 5,74 2,87 | 8,08 3,95 | | | |
| 4 | 114 | 152 | 6,02 3,90 | 8,56 5,40 | 17,12 10,30 | | |
| 5 | 141 | 190 | 6,55 6,50 | 9,52 8,85 | 19,05 18,11 | | |
| 6 | 168 | 229 | 7,11 10,20 | 10,97 15,35 | 21,95 30,00 | | |
| 8 | 219 | 305 | 8,18 20,30 | 12,70 29,90 | 22,23 54,50 | 6,35 16,57 | |
| 10 | 273 | 381 | 9,27 37,00 | 12,70 48,60 | 25,40 97,00 | 6,35 25,79 | |
| 12 | 324 | 457 | 9,52 54,00 | 12,70 70,00 | 25,40 140,00 | 6,35 37,23 | |
| 14 | 356 | 533 | 9,52 68,00 | 12,70 94,35 | | 6,35 57,47 | 7,92 59,93 |
| 16 | 406 | 610 | 9,52 89,20 | 12,70 124,75 | | 6,35 63,20 | 7,92 78,09 |

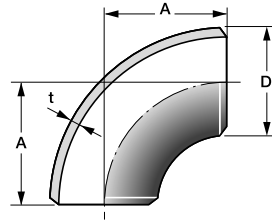
(1) La dimension peut être de 29 mm suivant option du fabricant. Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|---------------|---------------|---------------|---------|---------|---------|---------|---|
| t ép./W.T. mm masse/weight kg | | | | | | | | Pouces/Inches |
| 2,41 | | | | | | | 4,78 | 1/2 |
| | | | | | | | 0,22 | |
| 2,41 | | | | | | | 5,56 | 3/4 |
| | | | | | | | 0,25 | |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,30 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,44 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 0,80 | |
| 3,18 | Voir STD | | Voir E.F. | | | | 8,74 | 2 |
| | | | | | | | 1,50 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 |
| | | | | | | | 2,35 | |
| 4,78 | Refer to STD | | Refer to X.S. | | | | 11,13 | 3 |
| | | | | | | | 4,00 | |
| 4,78 | | | | | | | | 3 1/2 |
| | | | | | | | | |
| | | | | | | | 11,13 | 4 |
| | | | | | | | 6,95 | |
| | | | | | | | 12,70 | 5 |
| | | | | | | | 12,62 | |
| | | | | | | | 14,27 | 6 |
| | | | | | | | 23,00 | |
| | | | | | | | 27,00 | |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | 8 |
| 17,50 | | 26,30 | | 38,00 | 40,50 | 52,00 | 58,00 | |
| 7,80 | | Voir E.F. | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | 10 |
| 31,30 | | Refer to X.S. | 57,11 | 75,00 | 85,00 | 97,00 | 123,00 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 |
| 46,06 | 58,15 | 82,62 | 94,82 | 123,00 | 140,00 | 157,00 | 180,00 | |
| Voir STD | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 |
| | 79,96 | 111,26 | 132,16 | 188,00 | 190,00 | 224,00 | 247,50 | |
| Refer to STD | Voir E.F. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| | Refer to X.S. | 161,17 | 204,30 | 260,00 | 274,00 | 323,00 | 367,00 | |

(1) The dimension may be 29 mm at the manufacturer's option. Weights are approximate

coudes long rayon à 90°

ASME B 16.9-1993



90° long radius elbows

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|-------------------------------------|----------------------------------|--------------|------------------|--------|--------|--|
| | | | † ép./W.T. mm masse/weight kg | | | | | |
| Pouces/Inches | D – mm | A – mm | | | | | | |
| 18 | 457 | 686 | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 112,90 | 157,50 | | 82,00 | 99,43 | |
| 20 | 508 | 762 | 9,52 | 12,70 | | 6,35 | | |
| | | | 142,40 | 194,30 | | 100,00 | | |
| 22 | 559 | 838 | 9,52 | 12,70 | | 6,35 | | |
| | | | 178,00 | 236,00 | | 120,00 | | |
| 24 | 610 | 914 | 9,52 | 12,70 | | 6,35 | | |
| | | | 202,00 | 268,50 | | 146,00 | | |
| 26 | 660 | 991 | 9,52 | 12,70 | | 7,92 | | |
| | | | 270,00 | 348,00 | | 208,00 | | |
| 28 | 711 | 1067 | 9,52 | 12,70 | | 7,92 | | |
| | | | 300,00 | 404,00 | | 242,00 | | |
| 30 | 762 | 1143 | 9,52 | 12,70 | | 7,92 | | |
| | | | 333,00 | 441,00 | | 278,00 | | |
| 32 | 813 | 1219 | 9,52 | 12,70 | | 7,92 | | |
| | | | 390,00 | 510,00 | | 316,00 | | |
| 34 | 864 | 1295 | 9,52 | 12,70 | | 7,92 | | |
| | | | 430,00 | 560,00 | | 357,00 | | |
| 36 | 914 | 1372 | 9,52 | 12,70 | | 7,92 | | |
| | | | 482,00 | 625,00 | | 400,00 | | |
| 38 | 965 | 1448 | 9,53 | 12,70 | | | | |
| | | | 540,00 | 710,00 | | | | |
| 40 | 1016 | 1524 | 9,52 | 12,70 | | | | |
| | | | 580,00 | 745,00 | | | | |
| 42 | 1067 | 1600 | 9,52 | 12,70 | | | | |
| | | | 655,00 | 840,00 | | | | |
| 44 | 1118 | 1676 | 9,53 | 12,70 | | | | |
| | | | 726,00 | 970,00 | | | | |
| 46 | 1168 | 1753 | 9,53 | 12,70 | | | | |
| | | | 816,00 | 1055,00 | | | | |
| 48 | 1219 | 1829 | 9,52 | 12,70 | | | | |
| | | | 885,00 | 1134,00 | | | | |

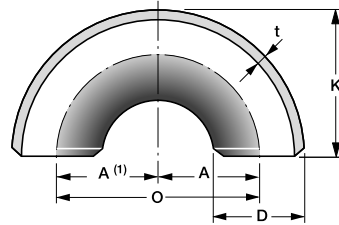
Les masses indiquées sont approximatives

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| † ép./W.T. mm masse/weight kg | | | | | | | | |
| | | | | | | | | Pouces/Inches |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 |
| 139,83 | 177,06 | 231,54 | 287,84 | 390,00 | 405,00 | 422,00 | 545,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 194,30 | 230,00 | 311,44 | 390,90 | 476,00 | 508,00 | 607,00 | 770,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 250,20 | | 412,70 | 523,40 | 638,00 | 700,00 | 850,00 | 1020,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 318,70 | 384,00 | 533,90 | 667,40 | 820,00 | 954,00 | 1100,00 | 1270,00 | |
| | | | | | | | | 26 |
| 15,88 | | | | | | | | |
| 478,00 | | | | | | | | 28 |
| 15,88 | | | | | | | | |
| 550,00 | | | | | | | | 30 |
| 15,88 | 17,48 | | | | | | | |
| 627,00 | 689,00 | | | | | | | 32 |
| 15,88 | 17,48 | | | | | | | |
| 708,00 | 778,00 | | | | | | | 34 |
| 15,88 | 19,05 | | | | | | | |
| 795,00 | 951,00 | | | | | | | 36 |
| | | | | | | | | |
| | | | | | | | | 38 |
| | | | | | | | | |
| | | | | | | | | 40 |
| | | | | | | | | |
| | | | | | | | | 42 |
| | | | | | | | | |
| | | | | | | | | 44 |
| | | | | | | | | |
| | | | | | | | | 46 |
| | | | | | | | | |
| | | | | | | | | 48 |
| | | | | | | | | |

Weights are approximate

coudes long rayon à 180°

ASME B 16.9-1993



180° long radius returns

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to-center | Hauteur Back-to-face | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|--------------------------|----------------------|----------------------------------|-----------------|------------------|----------------|----------------|
| | | | | t ép./W.T. mm masse/weight kg | | | | |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | | |
| 1/2 | 21 | 76 | 48 | 2,77 0,16 | 3,73 0,35 | 7,47 | | |
| 3/4 | 27 | 76 (2) | 51 (2) | 2,87 0,16 | 3,91 0,35 | 7,82 | | |
| 1 | 33 | 76 | 56 | 3,38 0,31 | 4,55 0,40 | 9,09 0,69 | | |
| 1 1/4 | 42 | 95 | 70 | 3,56 0,50 | 4,85 0,70 | 9,70 1,22 | | |
| 1 1/2 | 48 | 114 | 83 | 3,68 0,73 | 5,08 1,20 | 10,16 1,80 | | |
| 2 | 60 | 152 | 106 | 3,91 1,30 | 5,54 1,88 | 11,07 3,40 | | |
| 2 1/2 | 73 | 191 | 132 | 5,16 2,57 | 7,01 3,40 | 14,02 6,40 | | |
| 3 | 89 | 229 | 159 | 5,49 4,07 | 7,62 5,50 | 15,24 10,35 | | |
| 3 1/2 | 102 | 267 | 184 | 5,74 5,74 | 8,08 7,90 | | | |
| 4 | 114 | 305 | 210 | 6,02 7,80 | 8,56 10,80 | 17,12 20,60 | | |
| 5 | 141 | 381 | 262 | 6,55 13,00 | 9,52 17,70 | 19,05 36,23 | | |
| 6 | 168 | 457 | 313 | 7,11 20,40 | 10,97 30,70 | 21,95 59,50 | | |
| 8 | 219 | 610 | 414 | 8,18 40,60 | 12,70 59,80 | 22,23 109,00 | 6,35 33,14 | |
| 10 | 273 | 762 | 518 | 9,27 74,00 | 12,70 97,20 | 25,40 194,00 | 6,35 51,58 | |
| 12 | 324 | 914 | 619 | 9,52 108,00 | 12,70 140,00 | 25,40 280,00 | 6,35 74,46 | |
| 14 | 356 | 1067 | 711 | 9,52 136,00 | 12,70 188,70 | | 6,35 114,94 | 7,92 119,86 |

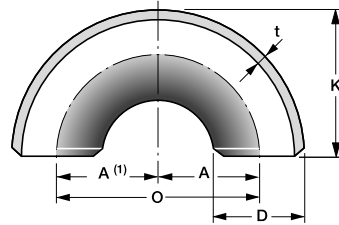
(1) A est égal à la moitié de O.
 (2) Les dimensions O et K pour NPS 3/4" peuvent être respectivement 57 et 43 mm à l'option du fabricant.
 Les masses indiquées sont approximatives

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|--------------|---------------|---------------|---------|---------|---------|---------------|---|
| t ép./W.T. mm masse/weight kg | | | | | | | Pouces/Inches | |
| 2,41 | | | | | | | 4,78 | 1/2 |
| | | | | | | | 0,43 | |
| 2,41 | | | | | | | 5,56 | 3/4 |
| | | | | | | | 0,43 | |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,53 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,88 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 1,36 | |
| 3,18 | Voir STD | | Voir E.F. | | | | 8,74 | 2 |
| | | | | | | | 3,00 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 |
| | | | | | | | 4,67 | |
| 4,78 | Refer to STD | | Refer to X.S. | | | | 11,13 | 3 |
| | | | | | | | 8,03 | |
| 4,78 | | | | | | | | 3 1/2 |
| | | | | | | | | |
| 4,78 | | | | | | | 11,13 | 4 |
| | | | | | | | 13,90 | |
| | | | | | | | 12,70 | 5 |
| | | | | | | | 25,24 | |
| | | | | | | | 30,87 | 6 |
| | | | | | | | 14,27 | |
| | | | | | | | 18,26 | |
| | | | | | | | 39,26 | 8 |
| | | | | | | | 54,00 | |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | |
| 34,98 | | 53,12 | | 76,00 | 81,00 | 104,00 | 110,00 | 10 |
| 7,80 | | Voir E.F. | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 62,62 | | Refer to X.S. | 119,86 | 150,00 | 190,00 | 194,00 | 218,00 | 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 92,12 | 116,30 | 165,25 | 198,85 | 246,00 | 280,00 | 314,00 | 360,00 | 14 |
| Voir STD | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| Refer to STD | 159,93 | 222,46 | 270,00 | 376,00 | 380,00 | 448,00 | 495,00 | |

(1) Dimension «A» is equal to 1/2 of dimension «O».
 (2) O and K dimensions for size NPS 3/4" may be O = 57 mm and K = 43 mm at the manufacturer's option.
 Weights are approximate

coudes long rayon à 180°

ASME B 16.9-1993



180° long radius returns

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to-center | Hauteur Back-to-face | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|--------------------------|----------------------|----------------------------------|--------------|------------------|--------|--------------------------|
| | | | | t ép./W.T. mm masse/weight kg | | | | Voir STD Refer to STD |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | | |
| 16 | 406 | 1219 | 813 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 178,40 | 249,50 | | 165,24 | 156,18 |
| 18 | 457 | 1372 | 914 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 225,80 | 315,08 | | 164,00 | 198,86 |
| 20 | 508 | 1524 | 1016 | 9,52 | 12,70 | | 6,35 | |
| | | | | 284,80 | 388,62 | | 200,00 | |
| 22 | 559 | 1676 | 1118 | 9,52 | 12,70 | | 6,35 | |
| | | | | 346,00 | 466,00 | | 240,00 | |
| 24 | 610 | 1829 | 1219 | 9,52 | 12,70 | | 6,35 | |
| | | | | 411,80 | 564,78 | | 292,00 | |

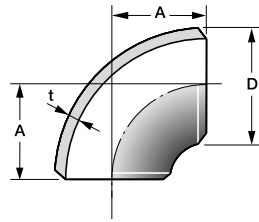
(1) A est égal à la moitié de O.
Les masses indiquées sont approximatives

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|----------------------------|---------|---------|---------|---------|---------|---------------|---|
| t ép./W.T. mm masse/weight kg | | | | | | | Pouces/Inches | |
| Voir STD Refer to STD | Voir E.F. Refer to X.S. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| | | 322,34 | 404,00 | 520,00 | 548,00 | 646,00 | 734,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 |
| 279,66 | 354,12 | 463,08 | 581,00 | 780,00 | 810,00 | 844,00 | 1090,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 388,62 | 460,00 | 622,89 | 781,00 | 952,00 | 1016,00 | 1214,00 | 1540,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 510,40 | | 825,40 | 1046,00 | 1316,00 | 1400,00 | 1700,00 | 2040,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 637,42 | 768,17 | 1067,80 | 1335,00 | 1640,00 | 1908,00 | 2170,00 | 2540,00 | |

(1) Dimension «A» is equal to 1/2 of dimension «O».
Weights are approximate

coudes court rayon à 90°

ASME B 16.28-1994



90° short radius elbows

ASME B 16.28-1994

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------------|----------------------------------|--------------|------------------|--------|--------|
| | | | † ép./W.T. mm masse/weight kg | | | | |
| Pouces/Inches | D – mm | A – mm | | | | | |
| 1 | 33 | 25 | 3,38 | 4,55 | 9,09 | | |
| | | | 0,10 | 0,13 | 0,23 | | |
| 1 1/4 | 42 | 32 | 3,56 | 4,85 | 9,70 | | |
| | | | 0,16 | 0,23 | 0,41 | | |
| 1 1/2 | 48 | 38 | 3,68 | 5,08 | 10,16 | | |
| | | | 0,24 | 0,30 | 0,60 | | |
| 2 | 60 | 51 | 3,91 | 5,54 | 11,07 | | |
| | | | 0,43 | 0,60 | 1,13 | | |
| 2 1/2 | 73 | 64 | 5,16 | 7,01 | 14,02 | | |
| | | | 0,82 | 1,15 | 2,03 | | |
| 3 | 89 | 76 | 5,49 | 7,62 | 15,24 | | |
| | | | 1,35 | 1,85 | 3,47 | | |
| 3 1/2 | 102 | 89 | 5,74 | 8,08 | | | |
| | | | 1,90 | 2,60 | | | |
| 4 | 114 | 102 | 6,02 | 8,56 | 17,12 | | |
| | | | 2,60 | 3,55 | 6,86 | | |
| 5 | 141 | 127 | 6,55 | 9,52 | 19,05 | | |
| | | | 4,35 | 6,20 | 12,02 | | |
| 6 | 168 | 152 | 7,11 | 10,97 | 21,95 | | |
| | | | 6,45 | 10,20 | 19,90 | | |
| 8 | 219 | 203 | 8,18 | 12,70 | 22,23 | | 6,35 |
| | | | 16,50 | 22,50 | 36,12 | | 11,10 |
| 10 | 273 | 254 | 9,27 | 12,70 | 25,40 | | 6,35 |
| | | | 31,15 | 31,15 | 64,94 | | 17,35 |
| 12 | 324 | 305 | 9,52 | 12,70 | 25,40 | | 6,35 |
| | | | 45,00 | 49,03 | 93,91 | | 25,00 |
| 14 | 356 | 356 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | 52,50 | 63,11 | | 30,50 | 39,50 |
| 16 | 406 | 406 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | 71,25 | 82,63 | | 39,00 | 52,20 |
| 18 | 457 | 457 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | 90,00 | 104,87 | | 48,50 | 65,35 |
| 20 | 508 | 508 | 9,52 | 12,70 | | 6,35 | |
| | | | 110,00 | 129,54 | | 67,50 | |
| 22 | 559 | 559 | 9,52 | 12,70 | | 6,35 | |
| | | | 132,00 | 157,00 | | 84,50 | |
| 24 | 610 | 610 | 9,52 | 12,70 | | 6,35 | |
| | | | 165,00 | 188,41 | | 96,50 | |

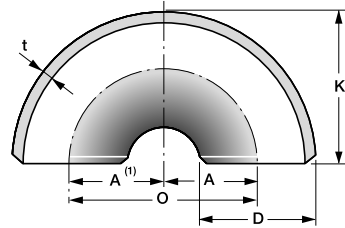
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|---------------|--------|---------------|---------|---------|---------|---------|---|
| † ép./W.T. mm masse/weight kg | | | | | | | | |
| | | | | | | | | Pouces/Inches |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,18 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,29 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 0,45 | |
| 3,18 | | | | | | | 8,74 | 2 |
| | | | | | | | 0,93 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 |
| | | | | | | | 1,56 | |
| 4,78 | Voir STD | | Voir E.F. | | | | 11,13 | 3 |
| | | | | | | | 2,68 | |
| 4,78 | | | | | | | | 3 1/2 |
| | | | | | | | | |
| 4,78 | Refer to STD | | Refer to X.S. | | | 11,13 | 13,50 | 4 |
| | | | | | | 4,72 | 5,62 | |
| | | | | | | 12,70 | 15,87 | 5 |
| | | | | | | 8,44 | 10,28 | |
| | | | | | | 14,27 | 18,26 | 6 |
| | | | | | | 13,62 | 16,97 | |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | 8 |
| 12,26 | | 17,75 | | 26,40 | 30,00 | 32,00 | 37,00 | |
| 7,80 | | | Voir E.F. | 15,09 | 18,26 | 21,44 | 25,40 | 10 |
| 21,25 | | | Refer to X.S. | 40,00 | 50,00 | 59,00 | 62,00 | |
| 8,38 | 10,31 | 14,22 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 |
| 32,78 | 40,00 | 54,93 | 66,28 | 81,00 | 92,00 | 99,00 | 120,00 | |
| Voir STD | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 |
| | 55,39 | 74,00 | 93,07 | 120,00 | 124,00 | 139,00 | 165,00 | |
| Refer to STD | Voir E.F. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| | Refer to X.S. | 107,14 | 136,20 | 166,00 | 171,50 | 198,00 | 245,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,92 | 39,67 | 45,24 | 18 |
| 93,07 | 117,59 | 154,36 | 191,60 | 257,00 | 283,00 | 387,00 | 346,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 129,84 | 153,45 | 207,48 | 260,14 | 332,00 | 376,00 | 430,00 | 478,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 171,50 | | 281,50 | 350,50 | 430,00 | 497,00 | 555,00 | 627,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 213,38 | 256,00 | 355,48 | 443,55 | 530,00 | 621,00 | 680,00 | 835,00 | |

Weights are approximate.

coudes court rayon à 180°

ASME B 16.28-1994



180° short radius returns

ASME B 16.28-1994

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to-center | Hauteur Back-to-face | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|--------------------------|----------------------|----------------------------------|--------------|------------------|--------|--------|
| | | | | t ép./W.T. mm masse/weight kg | | | | |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | | |
| 1 | 33 | 51 | 41 | 3,38 | 4,55 | 9,09 | | |
| | | | | 0,20 | 0,27 | 0,46 | | |
| 1 1/4 | 42 | 64 | 52 | 3,56 | 4,85 | 9,70 | | |
| | | | | 0,33 | 0,50 | 0,82 | | |
| 1 1/2 | 48 | 76 | 62 | 3,68 | 5,08 | 10,16 | | |
| | | | | 0,48 | 0,60 | 1,20 | | |
| 2 | 60 | 102 | 81 | 3,91 | 5,54 | 11,07 | | |
| | | | | 0,86 | 1,20 | 2,26 | | |
| 2 1/2 | 73 | 127 | 100 | 5,16 | 7,01 | 14,02 | | |
| | | | | 1,64 | 2,30 | 4,06 | | |
| 3 | 89 | 152 | 121 | 5,49 | 7,62 | 15,24 | | |
| | | | | 2,70 | 3,70 | 6,94 | | |
| 3 1/2 | 102 | 178 | 140 | 5,74 | 8,08 | | | |
| | | | | 3,80 | 5,20 | | | |
| 4 | 114 | 203 | 159 | 6,02 | 8,56 | 17,12 | | |
| | | | | 5,20 | 7,10 | 13,72 | | |
| 5 | 141 | 254 | 197 | 6,55 | 9,52 | 19,05 | | |
| | | | | 8,70 | 12,40 | 24,00 | | |
| 6 | 168 | 305 | 237 | 7,11 | 10,97 | 21,95 | | |
| | | | | 12,90 | 20,40 | 40,00 | | |
| 8 | 219 | 406 | 313 | 8,18 | 12,70 | 22,23 | | 6,35 |
| | | | | 33,00 | 45,00 | 72,00 | | 22,25 |
| 10 | 273 | 508 | 391 | 9,27 | 12,70 | 25,40 | | 6,35 |
| | | | | 62,30 | 62,30 | 130,00 | | 34,70 |
| 12 | 324 | 610 | 467 | 9,52 | 12,70 | 25,40 | | 6,35 |
| | | | | 90,00 | 98,06 | 188,00 | | 50,00 |
| 14 | 356 | 711 | 533 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 106,00 | 126,21 | | 60,00 | 79,00 |
| 16 | 406 | 813 | 610 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 142,50 | 165,26 | | 79,35 | 104,45 |
| 18 | 457 | 914 | 686 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 180,00 | 209,75 | | 97,50 | 130,75 |
| 20 | 508 | 1016 | 762 | 9,52 | 12,70 | | 6,35 | |
| | | | | 219,00 | 259,70 | | 130,00 | |
| 22 | 559 | 1118 | 838 | 9,52 | 12,70 | | 6,35 | |
| | | | | 264,00 | 314,00 | | 160,00 | |
| 24 | 610 | 1219 | 914 | 9,52 | 12,70 | | 6,35 | |
| | | | | 330,00 | 376,82 | | 192,00 | |

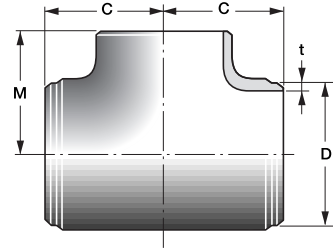
(1) A est égal à la moitié de O.
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|---------------|---------------|---------------|---------|---------|---------|---------|---|
| t ép./W.T. mm masse/weight kg | | | | | | | | Pouces/Inches |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,36 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,58 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 0,90 | |
| 3,18 | | | | | | | 8,74 | 2 |
| | | | | | | | 1,86 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 |
| | | | | | | | 3,12 | |
| 4,78 | Voir STD | | Voir E.F. | | | | 11,13 | 3 |
| | | | | | | | | |
| 4,78 | | | | | | | | 3 1/2 |
| | | | | | | | | |
| 4,78 | Refer to STD | | Refer to X.S. | | | 11,13 | 13,50 | 4 |
| | | | | | | 9,45 | 11,24 | |
| | | | | | | 12,70 | 15,87 | 5 |
| | | | | | | 18,00 | 20,56 | |
| | | | | | | 14,27 | 18,26 | 6 |
| | | | | | | 27,00 | 33,94 | |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | 8 |
| 24,51 | | 35,10 | | 52,65 | 58,00 | 64,00 | 75,00 | |
| 7,80 | | Voir E.F. | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | 10 |
| 42,38 | | Refer to X.S. | 81,00 | 100,00 | 106,00 | 124,00 | 144,00 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 |
| 65,83 | 79,20 | 108,90 | 136,00 | 162,00 | 184,00 | 198,00 | 240,00 | |
| Voir STD | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 |
| 109,80 | 146,70 | 187,00 | 240,00 | 248,00 | 276,00 | 330,00 | | |
| Refer to STD | Voir E.F. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| | Refer to X.S. | 212,40 | 276,00 | 332,00 | 343,00 | 396,00 | 490,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,92 | 39,67 | 45,24 | 18 |
| 186,14 | 233,10 | 306,00 | 386,00 | 515,00 | 566,00 | 774,00 | 693,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 259,68 | 304,20 | 411,30 | 522,00 | 664,00 | 752,00 | 860,00 | 957,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 348,00 | | 563,00 | 676,00 | 840,00 | 984,00 | 1110,00 | 12,55 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 426,76 | 507,60 | 704,70 | 887,00 | 1060,00 | 1242,00 | 1360,00 | 1669,00 | |

(1) Dimension «A» is equal to 1/2 of dimension «O».
Weights are approximate.

tés égaux

ASME B 16.9-1993



straight tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|----------------|----------------------------------|------------------|---------------|----------------|
| | | D – mm | C – mm | M – mm | t ép./W.T. mm masse/weight kg | | | |
| 1/2 | 21 | 25 | 25 | 2,77 0,16 | 3,73 0,25 | 7,47 | | |
| 3/4 | 27 | 29 | 29 | 2,87 0,20 | 3,91 0,27 | 7,82 0,38 | | |
| 1 | 33 | 38 | 38 | 3,38 0,29 | 4,55 0,35 | 9,09 0,58 | | |
| 1 1/4 | 42 | 48 | 48 | 3,56 0,53 | 4,85 0,65 | 9,70 1,05 | | |
| 1 1/2 | 48 | 57 | 57 | 3,68 0,77 | 5,08 0,96 | 10,16 1,56 | | |
| 2 | 60 | 64 | 64 | 3,91 1,88 | 5,54 1,90 | 11,07 2,69 | | |
| 2 1/2 | 73 | 76 | 76 | 5,16 2,69 | 7,01 3,07 | 14,02 4,54 | | |
| 3 | 89 | 86 | 86 | 5,49 3,82 | 7,62 4,50 | 15,24 7,63 | | |
| 3 1/2 | 102 | 95 | 95 | 5,74 5,18 | 8,08 6,17 | | | |
| 4 | 114 | 105 | 105 | 6,02 6,00 | 8,56 8,44 | 17,12 17,00 | | |
| 5 | 141 | 124 | 124 | 6,55 9,94 | 9,52 12,94 | 19,05 25,00 | | |
| 6 | 168 | 143 | 143 | 7,11 16,48 | 10,97 19,30 | 21,95 39,00 | | |
| 8 | 219 | 178 | 178 | 8,18 33,00 | 12,70 34,50 | 22,23 69,00 | 6,35 29,00 | |
| 10 | 273 | 216 | 216 | 9,27 49,35 | 12,70 58,57 | 25,40 98,00 | 6,35 34,70 | |
| 12 | 324 | 254 | 254 | 9,52 65,00 | 12,70 84,90 | 25,40 150,00 | 6,35 59,00 | |
| 14 | 356 | 279 | 279 | 9,52 93,00 | 12,70 127,12 | | 6,35 87,16 | 7,92 90,00 |
| 16 | 406 | 305 | 305 | 9,52 115,00 | 12,70 167,52 | | 6,35 90,80 | 7,92 100,00 |

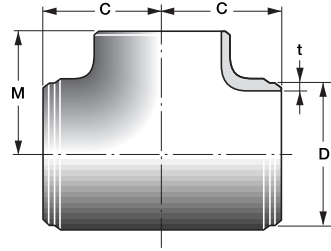
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|---------------|--------|---------------|---------|---------|---------|---------|---|
| t ép./W.T. mm masse/weight kg | | | | | | | | Pouces/Inches |
| 2,41 | | | | | | | 4,78 | 1/2 |
| | | | | | | | 0,28 | |
| 2,41 | | | | | | | 5,56 | 3/4 |
| | | | | | | | 0,29 | |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,45 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,77 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 1,21 | |
| 3,18 | Voir STD | | Voir E.F. | | | | 8,74 | 2 |
| | | | | | | | 2,25 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 |
| | | | | | | | 3,42 | |
| 4,78 | Refer to STD | | Refer to X.S. | | | | 11,13 | 3 |
| | | | | | | | 6,21 | |
| 4,78 | | | | | | | | 3 1/2 |
| | | | | | | | | |
| 4,78 | | | | | | | 11,13 | 4 |
| | | | | | | | 9,00 | |
| | | | | | | | 12,70 | 5 |
| | | | | | | | 18,00 | |
| | | | | | | | 18,00 | 5 |
| | | | | | | | 23,93 | |
| | | | | | | | 14,27 | 6 |
| | | | | | | | 18,26 | |
| | | | | | | | 24,00 | 6 |
| | | | | | | | 38,59 | |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | 8 |
| 31,00 | | 34,50 | | 43,65 | 50,00 | 54,00 | 71,00 | |
| 7,80 | | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | 10 |
| 36,77 | | 58,57 | 68,00 | 74,00 | 93,00 | 99,00 | 120,00 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 |
| 61,74 | 70,50 | 102,60 | 115,00 | 136,00 | 150,00 | 177,00 | 184,00 | |
| Voir STD | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 |
| Voir STD | 114,41 | 141,20 | 165,00 | 206,00 | 240,00 | 275,00 | 300,00 | |
| Refer to STD | Voir E.F. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| Refer to STD | Refer to X.S. | 207,93 | 249,00 | 305,00 | 330,00 | 385,00 | 425,00 | |

Weights are approximate.

tés égaux

ASME B 16.9-1993



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|---------|----------------------------------|--------------|------------------|--------|--------|
| | | C – mm | M* – mm | † ép./W.T. mm masse/weight kg | | | | |
| 18 | 457 | 343 | 343 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 135,00 | 190,00 | | 94,50 | 127,12 |
| 20 | 508 | 381 | 381 | 9,52 | 12,70 | | 6,35 | |
| | | | | 168,00 | 245,00 | | 120,00 | |
| 22 | 559 | 419 | 419 | 9,52 | 12,70 | | 6,35 | |
| | | | | 200,00 | 280,00 | | 143,00 | |
| 24 | 610 | 432 | 432 | 9,52 | 12,70 | | 6,35 | |
| | | | | 240,00 | 350,00 | | 170,00 | |
| 26 | 660 | 495 | 495 | 9,52 | 12,70 | | 7,92 | |
| | | | | 288,00 | 360,50 | | 240,00 | |
| 28 | 711 | 521 | 521 | 9,52 | 12,70 | | 7,92 | |
| | | | | 337,00 | 421,00 | | 280,00 | |
| 30 | 762 | 559 | 559 | 9,52 | 12,70 | | 7,92 | |
| | | | | 388,50 | 483,50 | | 322,00 | |
| 32 | 813 | 597 | 597 | 9,52 | 12,70 | | 7,92 | |
| | | | | 451,00 | 559,00 | | 375,00 | |
| 34 | 864 | 635 | 635 | 9,52 | 12,70 | | 7,92 | |
| | | | | 516,00 | 645,00 | | 429,00 | |
| 36 | 914 | 673 | 673 | 9,52 | 12,70 | | 7,92 | |
| | | | | 587,50 | 731,00 | | 488,00 | |
| 38 | 965 | 711 | 711 | 9,52 | 12,70 | | | |
| | | | | 638,00 | 812,00 | | | |
| 40 | 1016 | 749 | 749 | 9,52 | 12,70 | | | |
| | | | | 690,00 | 894,50 | | | |
| 42 | 1067 | 762 | 711 | 9,52 | 12,70 | | | |
| | | | | 831,00 | 1045,00 | | | |
| 44 | 1118 | 813 | 762 | 9,52 | 12,70 | | | |
| | | | | 899,00 | 1194,00 | | | |
| 46 | 1168 | 851 | 795 | 9,52 | 12,70 | | | |
| | | | | 1007,00 | 1346,00 | | | |
| 48 | 1219 | 889 | 838 | 9,52 | 12,70 | | | |
| | | | | 1112,50 | 1498,50 | | | |

* L'encombrement M pour NPS ≥ 26" est recommandé mais non imposé
Les masses indiquées sont approximatives.

straight tees

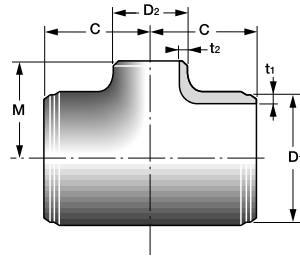
ASME B 16.9-1993

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|---------|--------|--------|---------|---------|---------|---------------|---|
| † ép./W.T. mm masse/weight kg | | | | | | | Pouces/Inches | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 |
| 181,14 | 238,35 | 277,85 | 322,00 | 380,00 | 450,00 | 500,00 | 590,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 265,00 | 320,52 | 378,64 | 459,05 | 540,00 | 590,00 | 720,00 | 790,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 355,00 | | 510,00 | 600,00 | 725,00 | 840,00 | 950,00 | 1100,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 443,55 | 570,68 | 656,48 | 748,00 | 910,00 | 1100,00 | 1180,00 | 1310,00 | |
| | | | | | | | | 26 |
| 15,88 | | | | | | | | |
| 526,00 | | | | | | | | 28 |
| 15,88 | | | | | | | | |
| 604,00 | | | | | | | | 30 |
| 15,88 | 17,48 | | | | | | | |
| 699,00 | 769,00 | | | | | | | 32 |
| 15,88 | 17,48 | | | | | | | |
| 805,00 | 886,00 | | | | | | | 34 |
| 15,88 | 19,05 | | | | | | | |
| 913,00 | 1004,00 | | | | | | | 36 |
| | | | | | | | | |
| | | | | | | | | 38 |
| | | | | | | | | |
| | | | | | | | | 40 |
| | | | | | | | | |
| | | | | | | | | 42 |
| | | | | | | | | |
| | | | | | | | | 44 |
| | | | | | | | | |
| | | | | | | | | 46 |
| | | | | | | | | |
| | | | | | | | | 48 |
| | | | | | | | | |

* Outlet dimension M for NPS ≥ 26" is recommended but not required
Weights are approximate.

tés réduits

ASME B 16.9-1993



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|----------------------------|--------------|------------------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | |
| | | | | masse/weight kg | | | | |
| 1/2 x 3/8 | 21 | 25 | 25 | 2,77 | 3,73 | | | |
| | 17 | | | 2,31 | 3,20 | | | |
| | | | | 0,16 | 0,25 | | | |
| 1/2 x 1/4 | 21 | 25 | 25 | 2,77 | 3,73 | | | |
| | 14 | | | 2,24 | 3,03 | | | |
| | | | | 0,16 | 0,25 | | | |
| 3/4 x 1/2 | 27 | 29 | 29 | 2,87 | 3,91 | 7,82 | | |
| | 21 | | | 2,77 | 3,73 | 7,47 | | |
| | | | | 0,25 | 0,34 | 0,40 | | |
| 3/4 x 3/8 | 27 | 29 | 29 | 2,87 | 3,91 | | | |
| | 17 | | | 2,31 | 3,20 | | | |
| | | | | 0,25 | 0,34 | | | |
| 1 x 3/4 | 33 | 38 | 38 | 3,38 | 4,55 | 9,09 | | |
| | 27 | | | 2,87 | 3,91 | 7,82 | | |
| | | | | 0,35 | 0,40 | 0,57 | | |
| 1 x 1/2 | 33 | 38 | 38 | 3,38 | 4,55 | 9,09 | | |
| | 21 | | | 2,77 | 3,73 | 7,47 | | |
| | | | | 0,34 | 0,40 | 0,55 | | |
| 1 1/4 x 1 | 42 | 48 | 48 | 3,56 | 4,85 | 9,70 | | |
| | 33 | | | 3,38 | 4,55 | 9,09 | | |
| | | | | 0,60 | 0,60 | 1,09 | | |
| 1 1/4 x 3/4 | 42 | 48 | 48 | 3,56 | 4,85 | 9,70 | | |
| | 27 | | | 2,87 | 3,91 | 7,82 | | |
| | | | | 0,60 | 0,59 | 1,02 | | |
| 1 1/4 x 1/2 | 42 | 48 | 48 | 3,56 | 4,85 | 9,70 | | |
| | 21 | | | 2,77 | 3,73 | 7,47 | | |
| | | | | 0,60 | 0,58 | 1,00 | | |
| 1 1/2 x 1 1/4 | 48 | 57 | 57 | 3,68 | 5,08 | 10,16 | | |
| | 42 | | | 3,56 | 4,85 | 9,70 | | |
| | | | | 0,80 | 0,99 | 1,62 | | |
| 1 1/2 x 1 | 48 | 57 | 57 | 3,68 | 5,08 | 10,16 | | |
| | 33 | | | 3,38 | 4,55 | 9,09 | | |
| | | | | 0,73 | 0,96 | 1,55 | | |

Les masses indiquées sont approximatives.

reducing outlet tees

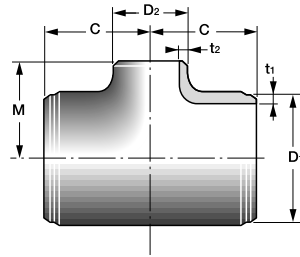
ASME B 16.9-1993

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------------|--------|---------------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | | | | | | Pouces/Inches |
| t ₂ ép./W.T. mm | | | | | | | | |
| masse/weight kg | | | | | | | | |
| 2,41 | | | | | | | | 1/2 x 3/8 |
| 1,85 | | | | | | | | |
| 2,41 | | | | | | | | |
| 2,41 | | | | | | | | 1/2 x 1/4 |
| 1,85 | | | | | | | | |
| 2,41 | | | | | | | 5,56 | |
| 2,41 | | | | | | | 4,78 | 3/4 x 1/2 |
| | | | | | | | 0,27 | |
| 2,41 | | | | | | | | |
| 1,85 | | | | | | | | 3/4 x 3/8 |
| 2,90 | | | | | | | 6,35 | |
| 2,41 | | | | | | | 5,56 | |
| | Voir STD | | Voir E.F. | | | | 0,46 | 1 x 3/4 |
| 2,90 | | | | | | | 6,35 | |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | 0,44 | 1 x 1/2 |
| 2,97 | Refer to STD | | Refer to X.S. | | | | 6,35 | |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 0,80 | 1 1/4 x 1 |
| 2,97 | | | | | | | 6,35 | |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | 0,78 | 1 1/4 x 3/4 |
| 2,97 | | | | | | | 6,35 | |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | 0,76 | 1 1/4 x 1/2 |
| 3,18 | | | | | | | 7,13 | |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 1,25 | 1 1/2 x 1 1/4 |
| 3,18 | | | | | | | 7,13 | |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 1,25 | 1 1/2 x 1 |

Weights are approximate.

tés réduits

ASME B 16.9-1993



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|--------|----------------------------|----------------------------|-----------------|--------|
| | | D – mm | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg | |
| 1 1/2 x 3/4 | 48 | 57 | 57 | 3,68 | 5,08 | 10,16 | | |
| | 27 | | | 2,87 | 3,91 | 7,82 | | |
| | | | | 0,73 | 0,94 | 1,50 | | |
| 1 1/2 x 1/2 | 48 | 57 | 57 | 3,68 | 5,08 | 10,16 | | |
| | 21 | | | 2,77 | 3,73 | 7,47 | | |
| | | | | 1,35 | 1,50 | 2,54 | | |
| 2 x 1 1/2 | 60 | 64 | 60 | 3,91 | 5,54 | 11,07 | | |
| | 48 | | | 3,68 | 5,08 | 10,16 | | |
| | | | | 1,50 | 2,05 | 2,73 | | |
| 2 x 1 1/4 | 60 | 64 | 57 | 3,91 | 5,54 | 11,07 | | |
| | 42 | | | 3,56 | 4,85 | 9,70 | | |
| | | | | 1,46 | 2,05 | 2,71 | | |
| 2 x 1 | 60 | 64 | 51 | 3,91 | 5,54 | 11,07 | | |
| | 33 | | | 3,38 | 4,55 | 9,09 | | |
| | | | | 1,31 | 2,05 | 2,65 | | |
| 2 x 3/4 | 60 | 64 | 44 | 3,91 | 5,54 | 11,07 | | |
| | 27 | | | 2,87 | 3,91 | 7,82 | | |
| | | | | 1,29 | 2,05 | 2,52 | | |
| 2 1/2 x 2 | 73 | 76 | 70 | 5,16 | 7,01 | 14,02 | | |
| | 60 | | | 3,91 | 5,54 | 11,07 | | |
| | | | | 2,08 | 3,37 | 4,58 | | |
| 2 1/2 x 1 1/2 | 73 | 76 | 67 | 5,16 | 7,01 | 14,02 | | |
| | 48 | | | 3,68 | 5,08 | 10,16 | | |
| | | | | 2,04 | 3,37 | 4,49 | | |
| 2 1/2 x 1 1/4 | 73 | 76 | 64 | 5,16 | 7,01 | 14,02 | | |
| | 42 | | | 3,56 | 4,85 | 9,70 | | |
| | | | | 1,99 | 3,37 | 4,46 | | |
| 2 1/2 x 1 | 73 | 76 | 57 | 5,16 | 7,01 | 14,02 | | |
| | 33 | | | 3,38 | 4,55 | 9,09 | | |
| | | | | 1,96 | 3,37 | 4,27 | | |

Les masses indiquées sont approximatives.

reducing outlet tees

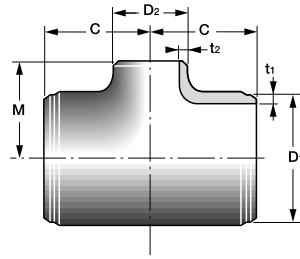
ASME B 16.9-1993

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|--------|--------------|--------|---------------|---------|---------|---------|----------------------------|---|
| | | | | | | | t ₁ ép./W.T. mm | Pouces/Inches |
| | | | | | | | t ₂ ép./W.T. mm | |
| | | | | | | | | masse/weight kg |
| 3,18 | | | | | | | 7,13 | 1 1/2 x 3/4 |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | 1,19 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 x 1/2 |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | 1,25 | |
| 3,18 | | | | | | | 8,74 | 2 x 1 1/2 |
| 3,18 | | | | | | | 7,13 | |
| | | | | | | | 2,27 | |
| 3,18 | | | | | | | 8,74 | 2 x 1 1/4 |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 2,23 | |
| 3,18 | Voir STD | | Voir E.F. | | | | 8,74 | 2 x 1 |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 2,19 | |
| 3,18 | Refer to STD | | Refer to X.S. | | | | 8,74 | 2 x 3/4 |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | 2,16 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 x 2 |
| 3,18 | | | | | | | 8,74 | |
| | | | | | | | 3,45 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 x 1 1/2 |
| 3,18 | | | | | | | 7,13 | |
| | | | | | | | 3,35 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 x 1 1/4 |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 3,30 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 x 1 |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 3,27 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|----------------------------|--------------|------------------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | |
| | | | | masse/weight kg | | | | |
| 3 x 2 1/2 | 89 | 86 | 83 | 5,49 | 7,62 | 15,24 | | |
| | 73 | | | 5,16 | 7,01 | 14,02 | | |
| | | | | 3,00 | 4,25 | 7,70 | | |
| 3 x 2 | 89 | 86 | 76 | 5,49 | 7,62 | 15,24 | | |
| | 60 | | | 3,91 | 5,54 | 11,07 | | |
| | | | | 2,90 | 4,25 | 7,50 | | |
| 3 x 1 1/2 | 89 | 86 | 73 | 5,49 | 7,62 | 15,24 | | |
| | 48 | | | 3,68 | 5,08 | 10,16 | | |
| | | | | 2,88 | 4,25 | 7,50 | | |
| 3 x 1 1/4 | 89 | 86 | 70 | 5,49 | 7,62 | 15,24 | | |
| | 42 | | | 3,56 | 4,85 | 9,70 | | |
| | | | | 2,88 | 4,25 | 7,40 | | |
| 3 1/2 x 3 | 102 | 95 | 92 | 5,74 | 8,08 | | | |
| | 89 | | | 5,49 | 7,62 | | | |
| | | | | 4,09 | 6,52 | | | |
| 3 1/2 x 2 1/2 | 102 | 95 | 89 | 5,74 | 8,08 | | | |
| | 73 | | | 5,16 | 7,01 | | | |
| | | | | 3,99 | 6,52 | | | |
| 3 1/2 x 2 | 102 | 95 | 83 | 5,74 | 8,08 | | | |
| | 60 | | | 3,91 | 5,54 | | | |
| | | | | 3,85 | 6,52 | | | |
| 3 1/2 x 1 1/2 | 102 | 95 | 79 | 5,74 | 8,08 | | | |
| | 48 | | | 3,68 | 5,08 | | | |
| | | | | 3,85 | 6,52 | | | |
| 4 x 3 1/2 | 114 | 105 | 102 | 6,02 | 8,56 | | | |
| | 102 | | | 5,74 | 8,08 | | | |
| | | | | 5,27 | 7,50 | | | |
| 4 x 3 | 114 | 105 | 98 | 6,02 | 8,56 | 17,12 | | |
| | 89 | | | 5,49 | 7,62 | 15,24 | | |
| | | | | 5,18 | 7,50 | 17,00 | | |

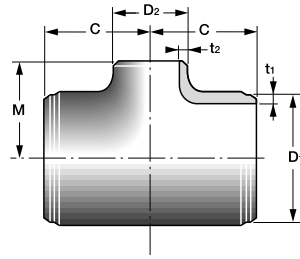
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|--------|--------------|--------|---------------|---------|---------|---------|----------------------------|---|
| | | | | | | | | |
| | | | | | | | t ₁ ép./W.T. mm | |
| | | | | | | | t ₂ ép./W.T. mm | |
| | | | | | | | masse/weight kg | |
| | | | | | | | 11,13 | 3 x 2 1/2 |
| | | | | | | | 9,52 | |
| | | | | | | | 5,60 | |
| | | | | | | | 11,13 | 3 x 2 |
| | | | | | | | 8,74 | |
| | | | | | | | 5,50 | |
| | | | | | | | 11,13 | 3 x 1 1/2 |
| | | | | | | | 7,13 | |
| | | | | | | | 5,50 | |
| | | | | | | | 11,13 | 3 x 1 1/4 |
| | | | | | | | 6,35 | |
| | | | | | | | 5,40 | |
| | Voir STD | | Voir E.F. | | | | | 3 1/2 x 3 |
| | | | | | | | | |
| | | | | | | | | |
| | Refer to STD | | Refer to X.S. | | | | | 3 1/2 x 2 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 3 1/2 x 2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 3 1/2 x 1 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 4 x 3 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | 13,50 | 4 x 3 |
| | | | | | | | 11,13 | |
| | | | | | | | 15,90 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|----------------------------|--------------|------------------|--------|--------|
| | | C - mm | M - mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D - mm | C - mm | M - mm | t ₂ ép./W.T. mm | | | | |
| masse/weight kg | | | | | | | | |
| 4 x 2 1/2 | 114 | 105 | 95 | 6,02 | 8,56 | 17,12 | | |
| | 73 | | | 5,16 | 7,01 | 14,02 | | |
| | | | | 5,13 | 7,50 | 17,00 | | |
| 4 x 2 | 114 | 105 | 89 | 6,02 | 8,56 | 17,12 | | |
| | 60 | | | 3,91 | 5,54 | 11,07 | | |
| | | | | 4,99 | 7,50 | 17,00 | | |
| 4 x 1 1/2 | 114 | 105 | 86 | 6,02 | 8,56 | 17,12 | | |
| | 48 | | | 3,68 | 5,08 | 10,16 | | |
| | | | | 4,95 | 7,50 | 17,00 | | |
| 5 x 4 | 141 | 124 | 117 | 6,55 | 9,52 | 19,05 | | |
| | 114 | | | 6,02 | 8,56 | 17,12 | | |
| | | | | 8,22 | 12,10 | 26,20 | | |
| 5 x 3 1/2 | 141 | 124 | 114 | 6,55 | 9,52 | | | |
| | 102 | | | 5,74 | 8,08 | | | |
| | | | | 8,08 | 12,10 | | | |
| 5 x 3 | 141 | 124 | 111 | 6,55 | 9,52 | 19,05 | | |
| | 89 | | | 5,49 | 7,62 | 15,24 | | |
| | | | | 7,99 | 12,10 | 26,20 | | |
| 5 x 2 1/2 | 141 | 124 | 108 | 6,55 | 9,52 | 19,05 | | |
| | 73 | | | 5,16 | 7,01 | 14,02 | | |
| | | | | 7,90 | 12,10 | 22,20 | | |
| 5 x 2 | 141 | 124 | 105 | 6,55 | 9,52 | 19,05 | | |
| | 60 | | | 3,91 | 5,54 | 11,07 | | |
| | | | | 7,81 | 12,10 | 22,20 | | |
| 6 x 5 | 168 | 143 | 137 | 7,11 | 10,97 | 21,95 | | |
| | 141 | | | 6,55 | 9,52 | 19,05 | | |
| | | | | 16,00 | 18,00 | 38,00 | | |
| 6 x 4 | 168 | 143 | 130 | 7,11 | 10,97 | 21,95 | | |
| | 114 | | | 6,02 | 8,56 | 17,12 | | |
| | | | | 16,00 | 18,00 | 29,00 | | |

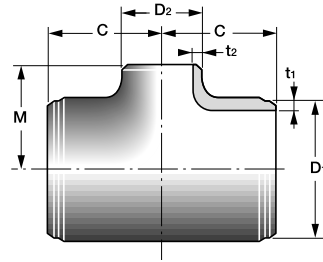
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | | | | | | Pouces/Inches |
| t ₂ ép./W.T. mm | | | | | | | | |
| masse/weight kg | | | | | | | | |
| | | | | | | | 13,50 | 4 x 2 1/2 |
| | | | | | | | 9,52 | |
| | | | | | | | 15,50 | |
| | | | | | | | 13,50 | 4 x 2 |
| | | | | | | | 8,74 | |
| | | | | | | | 15,50 | 4 x 1 1/2 |
| | | | | | | | 13,50 | |
| | | | | | | | 7,13 | |
| | | | | | | | 15,50 | 5 x 4 |
| | | | | | 12,70 | | 15,87 | |
| | | | | | 11,13 | | 13,50 | |
| | | | | | 18,10 | | 23,00 | 5 x 3 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | 15,87 | 5 x 3 |
| | | | | | | | 11,13 | |
| | | | | | | | 23,00 | |
| | | | | | | | 15,87 | 5 x 2 1/2 |
| | | | | | | | 9,52 | |
| | | | | | | | 23,00 | |
| | | | | | | | 15,87 | 5 x 2 |
| | | | | | | | 8,74 | |
| | | | | | | | 23,00 | |
| | | | | | | | 14,27 | 6 x 5 |
| | | | | | 14,27 | | 18,26 | |
| | | | | | 12,70 | | 15,87 | |
| | | | | | 29,00 | | 30,00 | 6 x 4 |
| | | | | | 14,27 | | 18,26 | |
| | | | | | 11,13 | | 13,50 | |
| | | | | | 29,00 | | 30,00 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|----------------------------|--------------|------------------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | |
| masse/weight kg | | | | | | | | |
| 6 x 3 1/2 | 168 | 143 | 127 | 7,11 | 10,97 | 21,95 | | |
| | 102 | | | 5,74 | 8,08 | 16,15 | | |
| 6 x 3 | 168 | 143 | 124 | 7,11 | 10,97 | 21,95 | | |
| | 89 | | | 5,49 | 7,62 | 15,24 | | |
| 6 x 2 1/2 | 168 | 143 | 121 | 7,11 | 10,97 | 21,95 | | |
| | 73 | | | 5,16 | 7,01 | 14,02 | | |
| 8 x 6 | 219 | 178 | 168 | 8,18 | 12,70 | 22,23 | | |
| | 168 | | | 7,11 | 10,97 | 21,95 | | |
| 8 x 5 | 219 | 178 | 162 | 8,18 | 12,70 | 22,23 | | |
| | 141 | | | 6,55 | 9,52 | 19,05 | | |
| 8 x 4 | 219 | 178 | 156 | 8,18 | 12,70 | 22,23 | | |
| | 114 | | | 6,02 | 8,56 | 17,12 | | |
| 8 x 3 1/2 | 219 | 178 | 152 | 8,18 | 12,70 | | | |
| | 102 | | | 5,74 | 8,08 | | | |
| 10 x 8 | 273 | 216 | 203 | 9,27 | 12,70 | 25,40 | | 6,35 |
| | 219 | | | 8,18 | 12,70 | 22,23 | | 6,35 |
| 10 x 6 | 273 | 216 | 194 | 9,27 | 12,70 | 25,40 | | |
| | 168 | | | 7,11 | 10,97 | 21,95 | | |
| 10 x 5 | 273 | 216 | 191 | 9,27 | 12,70 | 25,40 | | |
| | 141 | | | 6,55 | 9,52 | 19,05 | | |
| 10 x 4 | 273 | 216 | 184 | 9,27 | 12,70 | 25,40 | | |
| | 114 | | | 6,02 | 8,56 | 17,12 | | |
| | | | | 41,00 | 52,00 | 80,00 | | |

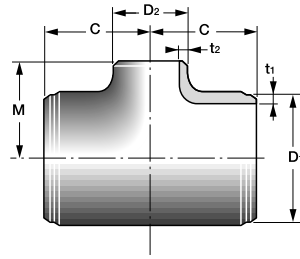
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | | | | | | Pouces/Inches |
| t ₂ ép./W.T. mm | | | | | | | | |
| masse/weight kg | | | | | | | | |
| | | | | | | | | 6 x 3 1/2 |
| | | | | | | | | 6 x 3 |
| | | | | | | | | 6 x 2 1/2 |
| | | | | | | | | 8 x 6 |
| | | | | | | | | 8 x 5 |
| | | | | | | | | 8 x 4 |
| | | | | | | | | 8 x 3 1/2 |
| | | | | | | | | 10 x 8 |
| | | | | | | | | 10 x 6 |
| | | | | | | | | 10 x 5 |
| | | | | | | | | 10 x 4 |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|---------|----------------------------|----------------------------|-----------------|--------|
| | | D – mm | C – mm | M* – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg | |
| 12 x 10 | 324 | 254 | 241 | 9,52 | 12,70 | 25,40 | | 6,35 |
| | 273 | | | 9,27 | 12,70 | 25,40 | 6,35 | |
| | | | | 63,00 | 85,00 | 150,00 | 43,00 | |
| 12 x 8 | 324 | 254 | 229 | 9,52 | 12,70 | 25,40 | | 6,35 |
| | 219 | | | 8,18 | 12,70 | 22,23 | 6,35 | |
| | | | | 63,00 | 82,00 | 129,00 | 41,00 | |
| 12 x 6 | 324 | 254 | 219 | 9,52 | 12,70 | 25,40 | | |
| | 168 | | | 7,11 | 10,97 | 21,95 | | |
| | | | | 63,00 | 82,00 | 120,00 | | |
| 12 x 5 | 324 | 254 | 216 | 9,52 | 12,70 | 25,40 | | |
| | 141 | | | 6,55 | 9,52 | 19,05 | | |
| | | | | 63,00 | 82,00 | 120,00 | | |
| 14 x 12 | 356 | 279 | 270 | 9,52 | 12,70 | | | 7,92 |
| | 324 | | | 9,52 | 12,70 | | 6,35 | |
| | | | | 111,00 | 127,00 | | 95,00 | |
| 14 x 10 | 356 | 279 | 257 | 9,52 | 12,70 | | | 7,92 |
| | 273 | | | 9,27 | 12,70 | | 6,35 | |
| | | | | 107,00 | 127,00 | | 90,00 | |
| 14 x 8 | 356 | 279 | 248 | 9,52 | 12,70 | | | 7,92 |
| | 219 | | | 8,18 | 12,70 | | 6,35 | |
| | | | | 107,00 | 122,00 | | 90,00 | |
| 14 x 6 | 356 | 279 | 238 | 9,52 | 12,70 | | | |
| | 168 | | | 7,11 | 10,97 | | | |
| | | | | 107,00 | 122,00 | | | |
| 16 x 14 | 406 | 305 | 305 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | 356 | | | 9,52 | 12,70 | | 6,35 | |
| | | | | 119,00 | 167,00 | | 84,00 | 100,00 |
| 16 x 12 | 406 | 305 | 295 | 9,52 | 12,70 | | | 7,92 |
| | 324 | | | 9,52 | 12,70 | | 6,35 | |
| | | | | 119,00 | 167,00 | | 100,00 | |

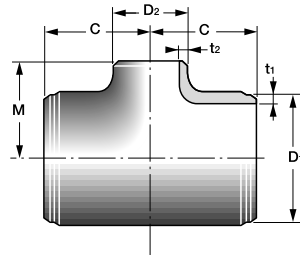
* L'encombrement M pour NPS ≥ 14" est recommandé mais non imposé
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------------|---|
| t ₁ ép./W.T. mm | | | | | | | Pouces/Inches | |
| t ₂ ép./W.T. mm | | | | | | | | |
| masse/weight kg | | | | | | | | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 62,00 | 67,00 | 103,00 | 103,00 | 126,00 | 149,00 | 160,00 | 171,00 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 60,00 | 64,00 | 82,00 | 82,00 | 122,00 | 133,00 | 144,00 | 155,00 | |
| | 10,31 | | 17,48 | | 25,40 | | 33,32 | 12 x 6 |
| | 7,11 | | 10,97 | | 14,27 | | 18,26 | |
| | 64,00 | | 82,00 | | 111,00 | | 144,00 | |
| | 10,31 | | 17,48 | | 25,40 | | 33,32 | 12 x 5 |
| | 6,55 | | 9,52 | | 12,70 | | 15,87 | |
| | 64,00 | | 82,00 | | 103,00 | | 144,00 | |
| 9,52 | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 103,00 | 114,00 | 141,00 | 143,00 | 206,00 | 235,00 | 275,00 | 300,00 | |
| 9,52 | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 99,00 | 109,00 | 136,00 | 141,00 | 195,00 | 230,00 | 265,00 | 285,00 | |
| 9,52 | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 99,00 | 109,00 | 136,00 | 122,00 | 195,00 | 220,00 | 250,00 | 270,00 | |
| | 11,12 | | 19,05 | | 27,79 | | 35,71 | 14 x 6 |
| | 7,11 | | 10,97 | | 14,27 | | 18,26 | |
| | 109,00 | | 122,00 | | 205,00 | | 270,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 14 |
| 9,52 | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 119,00 | 167,00 | 208,00 | 200,00 | 260,00 | 320,00 | 360,00 | 410,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 110,00 | 161,00 | 181,00 | 181,00 | 250,00 | 310,00 | 340,00 | 385,00 | |

* Outlet dimension M for NPS ≥ 14" is recommended but not required
Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------------------|--------|----------------------------|--------------|------------------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | |
| masse/weight kg | | | | | | | | |
| 16 x 10 | 406 | 305 | 283 | 9,52 | 12,70 | | | 7,92 |
| | 273 | | | 9,27 | 12,70 | | | 6,35 |
| | | | | 116,00 | 160,00 | | | 98,00 |
| 16 x 8 | 406 | 305 | 273 | 9,52 | 12,70 | | | 7,92 |
| | 219 | | | 8,18 | 12,70 | | | 6,35 |
| | | | | 116,00 | 160 | | | 98,00 |
| 16 x 6 | 406 | 305 | 264 | 9,52 | 12,70 | | | |
| | 168 | | | 7,11 | 10,97 | | | |
| | | | | 116,00 | 160 | | | |
| 18 x 16 | 457 | 343 | 330 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | 406 | | | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 135,00 | 190,00 | | 105,00 | 127,00 |
| 18 x 14 | 457 | 343 | 330 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | 356 | | | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 135,00 | 190,00 | | 105,00 | 127,00 |
| 18 x 12 | 457 | 343 | 321 | 9,52 | 12,70 | | | 7,92 |
| | 324 | | | 9,52 | 12,70 | | | 6,35 |
| | | | | 135,00 | 164,00 | | | 127,00 |
| 18 x 10 | 457 | 343 | 308 | 9,52 | 12,70 | | | 7,92 |
| | 273 | | | 9,27 | 12,70 | | | 6,35 |
| | | | | 129,00 | 164,00 | | | 123,00 |
| 18 x 8 | 457 | 343 | 298 | 9,52 | 12,70 | | | 7,92 |
| | 219 | | | 8,18 | 12,70 | | | 6,35 |
| | | | | 129,00 | 154,00 | | | 123,00 |
| 20 x 18 | 508 | 381 | 368 | 9,52 | 12,70 | | 6,35 | 9,52 |
| | 457 | | | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 168,00 | 218,00 | | 112,00 | 168,00 |
| 20 x 16 | 508 | 381 | 356 | 9,52 | 12,70 | | 6,35 | 9,52 |
| | 406 | | | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | 168,00 | 218,00 | | 112,00 | 168,00 |

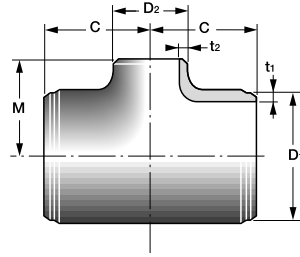
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | | | | | | |
| t ₂ ép./W.T. mm | | | | | | | | Pouces/Inches |
| masse/weight kg | | | | | | | | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 107,00 | 160,00 | 163,00 | 163,00 | 210,00 | 295,00 | 310,00 | 360,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 107,00 | 160,00 | 161,00 | 163,00 | 210,00 | 280,00 | 295,00 | 295,00 | |
| | 12,70 | | 21,44 | | 30,96 | | 40,49 | 16 x 6 |
| | 7,11 | | 10,97 | | 14,27 | | 18,26 | |
| | 160,00 | | 163,00 | | 250,00 | | 295,00 | |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 16 |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 164,00 | 238,00 | 257,00 | 279,00 | 380,00 | 440,00 | 475,00 | 550,00 | |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 14 |
| 9,52 | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 164,00 | 194,00 | 212,00 | 258,00 | 370,00 | 420,00 | 455,00 | 520,00 | |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 154,00 | 194,00 | 212,00 | 234,00 | 325,00 | 410,00 | 410,00 | 500,00 | |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 140,00 | 150,00 | 188,00 | 225,00 | 325,00 | 385,00 | 385,00 | 475,00 | |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 140,00 | 150,00 | 188,00 | 205,00 | 310,00 | 360,00 | 360,00 | 455,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 18 |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 218,00 | 265,00 | 351,00 | 410,00 | 540,00 | 570,00 | 680,00 | 770,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 16 |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 218,00 | 230,00 | 324,00 | 355,00 | 470,00 | 550,00 | 630,00 | 750,00 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|-------------------------------|--------|----------------------------|--------------|----------------------------|--------|-----------------|--|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D – mm | C – mm | M – mm | | | | | | |
| 20 x 14 | 508 | 381 | 356 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 356 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 163,00 | 214,00 | | 110,00 | 164,00 | |
| 20 x 12 | 508 | 381 | 346 | 9,52 | 12,70 | | | 9,52 | |
| | 324 | | | 9,52 | 12,70 | | 6,35 | | |
| | | | | 163,00 | 214,00 | | 164,00 | | |
| 20 x 10 | 508 | 381 | 333 | 9,52 | 12,70 | | | 9,52 | |
| | 273 | | | 9,27 | 12,70 | | 6,35 | | |
| | | | | 163,00 | 214,00 | | 164,00 | | |
| 20 x 8 | 508 | 381 | 324 | 9,52 | 12,70 | | | 9,52 | |
| | 219 | | | 8,18 | 12,70 | | 6,35 | | |
| | | | | 163,00 | 214,00 | | 164,00 | | |
| 22 x 20 | 559 | 419 | 406 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 508 | | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | | 220,00 | 280,00 | | 210,00 | 220,00 | |
| 22 x 18 | 559 | 419 | 394 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 457 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 209,00 | 260,00 | | 190,00 | 209,00 | |
| 22 x 16 | 559 | 419 | 381 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 400 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 209,00 | 260,00 | | 190,00 | 209,00 | |
| 22 x 14 | 559 | 419 | 381 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 356 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 172,00 | 245,00 | | 160,00 | 173,00 | |
| 22 x 12 | 559 | 419 | 371 | 9,52 | 12,70 | | | 9,52 | |
| | 324 | | | 9,52 | 12,70 | | 6,35 | | |
| | | | | 172,00 | 245,00 | | 173,00 | | |
| 22 x 10 | 559 | 419 | 359 | 9,52 | 12,70 | | | 9,52 | |
| | 273 | | | 9,27 | 12,70 | | 6,35 | | |
| | | | | 172,00 | 245,00 | | 173,00 | | |

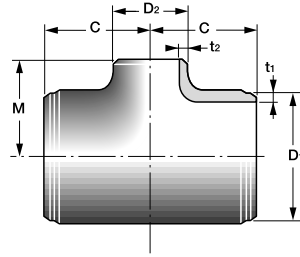
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------------|---|
| t ₁ ép./W.T. mm | | | | | | | Pouces/Inches | |
| t ₂ ép./W.T. mm | | | | | | | | |
| masse/weight kg | | | | | | | | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 14 |
| 9,52 | 11,12 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 214,00 | 224,00 | 293,00 | 324,00 | 470,00 | 530,00 | 590,00 | 725,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 214,00 | 224,00 | 293,00 | 324,00 | 450,00 | 500,00 | 540,00 | 700,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 214,00 | 220,00 | 286,00 | 293,00 | 420,00 | 475,00 | 500,00 | 680,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 214,00 | 220,00 | 224,00 | 228,00 | 390,00 | 430,00 | 450,00 | 660,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 20 |
| 12,70 | | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | |
| 280,00 | | 445,00 | 513,00 | 725,00 | 820,00 | 910,00 | 1020,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 18 |
| 11,12 | | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 260,00 | | 390,00 | 415,00 | 642,00 | 780,00 | 840,00 | 965,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 16 |
| 9,52 | | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 260,00 | | 390,00 | 415,00 | 642,00 | 780,00 | 840,00 | 965,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 14 |
| 9,52 | | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 245,00 | | 337,00 | 374,00 | 525,00 | 695,00 | 725,00 | 860,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 12 |
| 8,38 | | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 245,00 | | 337,00 | 374,00 | 525,00 | 695,00 | 725,00 | 860,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 10 |
| 7,80 | | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 245,00 | | 337,00 | 374,00 | 525,00 | 695,00 | 725,00 | 860,00 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|-------------------------------|--------|----------------------------|--------------|------------------|--------|--------|-----------------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | | |
| masse/weight kg | | | | | | | | | |
| 24 x 22 | 610 | 432 | 432 | 9,52 | 12,70 | | 6,35 | | Voir STD |
| | 559 | | | 9,52 | 12,70 | | 6,35 | | |
| | | | | 227,00 | 350,00 | | 151,00 | | |
| 24 x 20 | 610 | 432 | 432 | 9,52 | 12,70 | | 6,35 | | Refer to STD |
| | 508 | | | 9,52 | 12,70 | | 6,35 | | |
| | | | | 227,00 | 350,00 | | 151,00 | | |
| 24 x 18 | 610 | 432 | 419 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 457 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 227,00 | 320,00 | | 151,00 | 227,00 | |
| 24 x 16 | 610 | 432 | 406 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 406 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 222,00 | 320,00 | | 150,00 | 222,00 | |
| 24 x 14 | 610 | 432 | 406 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 356 | | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | | 222,00 | 300,00 | | 150,00 | 222,00 | |
| 24 x 12 | 610 | 432 | 397 | 9,52 | 12,70 | | | 9,52 | |
| | 324 | | | 9,52 | 12,70 | | | 6,35 | |
| | | | | 218,00 | 300,00 | | | 218,00 | |
| 24 x 10 | 610 | 432 | 384 | 9,52 | 12,70 | | | 9,52 | |
| | 273 | | | 9,27 | 12,70 | | | 6,35 | |
| | | | | 204,00 | 300,00 | | | 204,00 | |

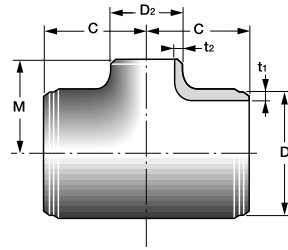
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | | | | | | Pouces/Inches |
| t ₂ ép./W.T. mm | | | | | | | | |
| masse/weight kg | | | | | | | | |
| 14,27 | | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 22 |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | |
| 373,00 | | 595,00 | 675,00 | 910,00 | 1080,00 | 1160,00 | 1290,00 | 24 x 20 |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | |
| 12,70 | 15,09 | 20,62 | 26,19 | 33,54 | 38,10 | 44,45 | 50,01 | 24 x 18 |
| 373,00 | 390,00 | 545,00 | 606,00 | 910,00 | 1060,00 | 1140,00 | 1270,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 16 |
| 11,12 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 340,00 | 390,00 | 472,00 | 533,00 | 815,00 | 1040,00 | 1090,00 | 1210,00 | 24 x 14 |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 24 x 12 |
| 340,00 | 309,00 | 427,00 | 490,00 | 815,00 | 1010,00 | 1040,00 | 1180,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 10 |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 320,00 | 309,00 | 427,00 | 490,00 | 770,00 | 1000,00 | 1050,00 | 1140,00 | 24 x 12 |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 24 x 10 |
| 320,00 | 308,00 | 389,00 | 452,00 | 770,00 | 950,00 | 980,00 | 1090,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 320,00 | 308,00 | 389,00 | 452,00 | 635,00 | 920,00 | 950,00 | 1040,00 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | SCH 10 | SCH 20 | SCH 30 |
|---|--|-------------------------------|--------|----------------------------|--------------|--------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | |
| masse/weight kg | | | | | | | | |
| 26 x 24 | 660 | 495 | 483 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 610 | | | 9,52 | 12,70 | 6,35 | 9,52 | |
| | | | | 280,00 | 350,00 | 234,00 | 350,00 | |
| 26 x 22 | 660 | 495 | 470 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 559 | | | 9,52 | 12,70 | 6,35 | 9,52 | |
| | | | | 272,00 | 340,00 | 234,00 | 340,00 | |
| 26 x 20 | 660 | 495 | 457 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 508 | | | 9,52 | 12,70 | 6,35 | 9,52 | |
| | | | | 264,00 | 330,00 | 219,00 | 330,00 | |
| 26 x 18 | 660 | 495 | 444 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 457 | | | 9,52 | 12,70 | 6,35 | 7,92 | |
| | | | | 255,00 | 323,00 | 212,00 | 320,00 | |
| 26 x 16 | 660 | 495 | 432 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 406 | | | 9,52 | 12,70 | 6,35 | 7,92 | |
| | | | | 247,00 | 309,00 | 205,00 | 309,00 | |
| 26 x 14 | 660 | 495 | 432 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 356 | | | 9,52 | 12,70 | 6,35 | 7,92 | |
| | | | | 239,00 | 300,00 | 199,00 | 300,00 | |
| 26 x 12 | 660 | 495 | 422 | 9,52 | 12,70 | | 12,70 | |
| | 324 | | | 9,52 | 12,70 | | 6,35 | |
| | | | | 231,00 | 293,00 | | 293,00 | |
| 28 x 26 | 711 | 521 | 521 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 660 | | | 9,52 | 12,70 | 7,92 | 12,70 | |
| | | | | 325,00 | 410,00 | 271,00 | 410,00 | |
| 28 x 24 | 711 | 521 | 508 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 610 | | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 |
| | | | | 320,00 | 400,00 | 266,00 | 400,00 | 480,00 |
| 28 x 22 | 711 | 521 | 495 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 559 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 |
| | | | | 311,00 | 390,00 | 258,00 | 390,00 | 461,00 |
| 28 x 20 | 711 | 521 | 483 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 508 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 |
| | | | | 302,00 | 380,00 | 251,00 | 380,00 | 461,00 |
| 28 x 18 | 711 | 521 | 470 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 457 | | | 9,52 | 12,70 | 6,35 | 7,92 | 11,13 |
| | | | | 292,00 | 369,00 | 243,00 | 369,00 | 461,00 |

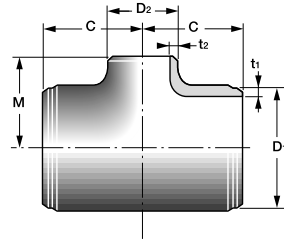
Les masses indiquées sont approximatives.

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | SCH 10 | SCH 20 | SCH 30 |
|---|--|-------------------------------|--------|----------------------------|--------------|--------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | t ₂ ép./W.T. mm | | | | |
| masse/weight kg | | | | | | | | |
| 28 x 16 | 711 | 521 | 457 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 406 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 |
| | | | | 283,00 | 357,00 | 235,00 | 357,00 | 450,00 |
| 28 x 14 | 711 | 521 | 457 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 356 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 |
| | | | | 274,00 | 346,00 | 228,00 | 346,00 | 450,00 |
| 28 x 12 | 711 | 521 | 448 | 9,52 | 12,70 | | 12,70 | 15,88 |
| | 324 | | | 9,52 | 12,70 | | 6,35 | 8,38 |
| | | | | | | | | |
| 30 x 28 | 762 | 559 | 546 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 711 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | | 380,00 | 475,00 | 315,00 | 475,00 | 566,00 |
| 30 x 26 | 762 | 559 | 546 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 660 | | | 9,52 | 12,70 | 7,92 | 12,70 | |
| | | | | 372,00 | 463,00 | 308,00 | 463,00 | |
| 30 x 24 | 762 | 559 | 533 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 610 | | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 |
| | | | | 361,00 | 452,00 | 300,00 | 451,00 | 541,00 |
| 30 x 22 | 762 | 559 | 521 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 559 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 |
| | | | | 351,00 | 441,00 | 291,00 | 440,00 | 500,00 |
| 30 x 20 | 762 | 559 | 508 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 508 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 |
| | | | | 340,00 | 429,00 | 283,00 | 428,00 | 500,00 |
| 30 x 18 | 762 | 559 | 495 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 457 | | | 9,52 | 12,70 | 6,35 | 7,92 | 11,13 |
| | | | | 330,00 | 417,00 | 274,00 | 417,00 | 500,00 |
| 30 x 16 | 762 | 559 | 483 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 406 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 |
| | | | | 321,00 | 405,00 | 266,00 | 404,00 | 470,00 |
| 30 x 14 | 762 | 559 | 483 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 356 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 |
| | | | | 312,00 | 395,00 | 257,00 | 392,00 | 470,00 |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | SCH 10 | SCH 20 | SCH 30 | SCH 40 |
|---|--|-------------------------------|--------|----------------------------|--------------|----------------------------|--------|-----------------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D – mm | C – mm | M – mm | | | | | | |
| 30 x 12 | 762 | 559 | 473 | 9,52 | 12,70 | | 12,70 | 15,88 | |
| | 324 | | | 9,52 | 12,70 | | 6,35 | 8,38 | |
| | | | | 304,00 | 385,00 | | | | |
| 30 x 10 | 762 | 559 | 460 | 9,52 | 12,70 | | 12,70 | 15,88 | |
| | 273 | | | 9,52 | 12,70 | | 6,35 | 7,80 | |
| | | | | 296,00 | 377,00 | | | | |
| 32 x 30 | 813 | 597 | 584 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 762 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 506,00 | 628,00 | 452,00 | 543,00 | 652,00 | |
| 32 x 28 | 813 | 597 | 572 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 711 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 493,00 | 616,00 | 357,00 | 536,00 | 643,00 | |
| 32 x 26 | 813 | 597 | 572 | 9,52 | 12,70 | 7,92 | 12,70 | | |
| | 660 | | | 9,52 | 12,70 | 7,92 | 12,70 | | |
| | | | | 482,00 | 605,00 | 350,00 | 526,00 | | |
| 32 x 24 | 813 | 597 | 559 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | 17,48 |
| | 610 | | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 | 17,48 |
| | | | | 472,00 | 591,00 | 341,00 | 513,00 | 616,00 | |
| 32 x 22 | 813 | 597 | 546 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 559 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 | |
| | | | | 460,00 | 577,00 | | | | |
| 32 x 20 | 813 | 597 | 533 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | 17,48 |
| | 508 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 | 15,09 |
| | | | | 448,00 | 562,00 | 338,00 | 488,00 | 585,00 | |
| 32 x 18 | 813 | 597 | 521 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | 17,48 |
| | 457 | | | 9,52 | 12,70 | 6,35 | 7,92 | 11,13 | 14,27 |
| | | | | 436,00 | 547,00 | 325,00 | 475,00 | 570,00 | |
| 32 x 16 | 813 | 597 | 508 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | 17,48 |
| | 406 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 | 12,70 |
| | | | | 425,00 | 535,00 | 317,00 | 461,00 | 553,00 | |
| 32 x 14 | 813 | 597 | 508 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | 17,48 |
| | 356 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 | 11,13 |
| | | | | 415,00 | 523,00 | | | | |

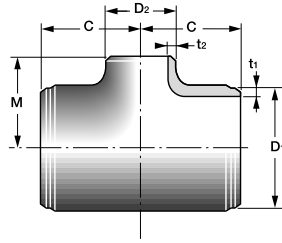
Les masses indiquées sont approximatives.

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | SCH 10 | SCH 20 | SCH 30 | |
|---|--|-------------------------------|--------|----------------------------|--------------|----------------------------|--------|-----------------|--|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D – mm | C – mm | M – mm | | | | | | |
| 34 x 32 | 864 | 635 | 622 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 813 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 506,00 | 628,00 | 419,00 | 628,00 | 788,00 | |
| 34 x 30 | 864 | 635 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 762 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 493,00 | 616,00 | 409,00 | 616,00 | 768,00 | |
| 34 x 28 | 864 | 635 | 597 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 711 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 482,00 | 605,00 | 400,00 | 605,00 | 751,00 | |
| 34 x 26 | 864 | 635 | 597 | 9,52 | 12,70 | 7,92 | 12,70 | | |
| | 660 | | | 9,52 | 12,70 | 7,92 | 12,70 | | |
| | | | | 472,00 | 591,00 | 392,00 | 591,00 | | |
| 34 x 24 | 864 | 635 | 584 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 610 | | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 | |
| | | | | 460,00 | 577,00 | 382,00 | 576,00 | 720,00 | |
| 34 x 22 | 864 | 635 | 572 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 559 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 | |
| | | | | 448,00 | 562,00 | 372,00 | 562,00 | 666,00 | |
| 34 x 20 | 864 | 635 | 559 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 508 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 | |
| | | | | 436,00 | 547,00 | 362,00 | 547,00 | 666,00 | |
| 34 x 18 | 864 | 635 | 546 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 457 | | | 9,52 | 12,70 | 6,35 | 7,92 | 11,13 | |
| | | | | 425,00 | 535,00 | 354,00 | 533,00 | 666,00 | |
| 34 x 16 | 864 | 635 | 533 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 406 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 | |
| | | | | 415,00 | 523,00 | 343,00 | 519,00 | 650,00 | |
| 36 x 34 | 914 | 673 | 660 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 864 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 574,00 | 715,00 | 477,00 | 715,00 | 893,00 | |
| 36 x 32 | 914 | 673 | 648 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | 813 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 | |
| | | | | 561,00 | 700,00 | 467,00 | 700,00 | 873,00 | |

Weights are approximate.

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | SCH 10 | SCH 20 | SCH 30 |
|---|--|-------------------------------|--------|----------------------------|----------------------------|-----------------|--------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg | | |
| Pouces/Inches | D – mm | C – mm | M – mm | | | | | |
| 36 x 30 | 914 | 673 | 635 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 762 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | | 548,00 | 685,00 | 455,00 | 685,00 | 856,00 |
| 36 x 28 | 914 | 673 | 622 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 711 | | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | | 537,00 | 670,00 | 446,00 | 670,00 | 836,00 |
| 36 x 26 | 914 | 673 | 622 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 660 | | | 9,52 | 12,70 | 7,92 | 12,70 | |
| | | | | 526,00 | 654,00 | 437,00 | 654,00 | |
| 36 x 24 | 914 | 673 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 610 | | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 |
| | | | | 513,00 | 643,00 | 426,00 | 642,00 | 803,00 |
| 36 x 22 | 914 | 673 | 597 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 559 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 |
| | | | | 502,00 | 622,00 | 415,00 | 622,00 | 782,00 |
| 36 x 20 | 914 | 673 | 584 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 508 | | | 9,52 | 12,70 | 6,35 | 9,52 | 12,70 |
| | | | | 493,00 | 621,00 | 405,00 | 610,00 | 763,00 |
| 36 x 18 | 914 | 673 | 572 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 457 | | | 9,52 | 12,70 | 6,35 | 7,92 | 11,13 |
| | | | | 483,00 | 611,00 | 394,00 | 596,00 | 746,00 |
| 36 x 16 | 914 | 673 | 559 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 406 | | | 9,52 | 12,70 | 6,35 | 7,92 | 9,52 |
| | | | | 472,00 | 602,00 | 383,00 | 581,00 | 726,00 |
| 38 x 36 | 965 | 711 | 711 | 9,52 | 12,70 | | | |
| | 914 | | | 9,52 | 12,70 | | | |
| | | | | * | * | | | |
| 38 x 34 | 965 | 711 | 698 | 9,52 | 12,70 | | | |
| | 864 | | | 9,52 | 12,70 | | | |
| | | | | * | * | | | |
| 38 x 32 | 965 | 711 | 686 | 9,52 | 12,70 | | | |
| | 813 | | | 9,52 | 12,70 | | | |
| | | | | * | * | | | |

* Masse sur demande

Les masses indiquées sont approximatives

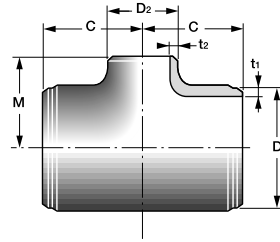
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | E.F. X.S. | |
|---|--|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| Pouces/Inches | D – mm | C – mm | M – mm | | | |
| 38 x 30 | 965 | 711 | 673 | 9,52 | 12,70 | |
| | 762 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 38 x 28 | 965 | 711 | 648 | 9,52 | 12,70 | |
| | 711 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 38 x 26 | 965 | 711 | 648 | 9,52 | 12,70 | |
| | 660 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 38 x 24 | 965 | 711 | 635 | 9,52 | 12,70 | |
| | 610 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 38 x 22 | 965 | 711 | 622 | 9,52 | 12,70 | |
| | 559 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 38 x 20 | 965 | 711 | 610 | 9,52 | 12,70 | |
| | 508 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 38 x 18 | 965 | 711 | 597 | 9,52 | 12,70 | |
| | 457 | | | 9,52 | 12,70 | |
| | | | | * | * | |
| 40 x 38 | 1016 | 749 | 749 | 9,52 | 12,70 | |
| | 965 | | | 9,52 | 12,70 | |
| | | | | 664,00 | 875,00 | |
| 40 x 36 | 1016 | 749 | 737 | 9,52 | 12,70 | |
| | 914 | | | 9,52 | 12,70 | |
| | | | | 659,00 | 840,00 | |
| 40 x 34 | 1016 | 749 | 724 | 9,52 | 12,70 | |
| | 864 | | | 9,52 | 12,70 | |
| | | | | 659,00 | 840,00 | |
| 40 x 32 | 1016 | 749 | 711 | 9,52 | 12,70 | |
| | 813 | | | 9,52 | 12,70 | |
| | | | | 643,00 | 802,00 | |

* Weights on application

Weights are approximate

tés réduits

ASME B 16.9-1993



reducing outlet tees

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | | E.F. X.S. | |
|---|--|-------------------------------|--------|----------------------------|----------------------------|--------------|---------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | mm | kg |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight | | | |
| 40 x 30 | 1016 | 749 | 698 | 9,52 | 12,70 | 627,00 | 763,00 |
| | 762 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 40 x 28 | 1016 | 749 | 673 | 9,52 | 12,70 | 611,00 | 740,00 |
| | 711 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 40 x 26 | 1016 | 749 | 673 | 9,52 | 12,70 | 595,00 | 723,00 |
| | 660 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 40 x 24 | 1016 | 749 | 660 | 9,52 | 12,70 | 580,00 | 700,00 |
| | 610 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 40 x 22 | 1016 | 749 | 648 | 9,52 | 12,70 | 565,00 | 682,00 |
| | 559 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 40 x 20 | 1016 | 749 | 635 | 9,52 | 12,70 | 552,00 | 665,00 |
| | 508 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 40 x 18 | 1016 | 749 | 622 | 9,52 | 12,70 | 540,00 | 650,00 |
| | 457 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 40 | 1067 | 762 | 711 | 9,52 | 12,70 | | |
| | 1016 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 38 | 1067 | 762 | 711 | 9,52 | 12,70 | | |
| | 965 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 36 | 1067 | 762 | 711 | 9,52 | 12,70 | 818,00 | 1045,00 |
| | 914 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 34 | 1067 | 762 | 711 | 9,52 | 12,70 | | |
| | 864 | | | 9,52 | 12,70 | | |
| | | | | | | | |

* Masse sur demande

Les masses indiquées sont approximatives.

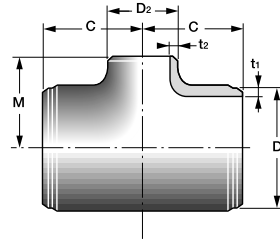
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | | E.F. X.S. | |
|---|--|-------------------------------|--------|----------------------------|----------------------------|--------------|--------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | mm | kg |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight | | | |
| 42 x 32 | 1067 | 762 | 711 | 9,52 | 12,70 | 772,00 | 999,00 |
| | 813 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 30 | 1067 | 762 | 711 | 9,52 | 12,70 | 772,00 | 999,00 |
| | 762 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 28 | 1067 | 762 | 698 | 9,52 | 12,70 | 750,00 | 955,00 |
| | 711 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 26 | 1067 | 762 | 698 | 9,52 | 12,70 | 750,00 | 955,00 |
| | 660 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 24 | 1067 | 762 | 660 | 9,52 | 12,70 | 728,00 | 915,00 |
| | 610 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 22 | 1067 | 762 | 660 | 9,52 | 12,70 | 728,00 | 915,00 |
| | 559 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 20 | 1067 | 762 | 660 | 9,52 | 12,70 | 708,00 | 875,00 |
| | 508 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 18 | 1067 | 762 | 648 | 9,52 | 12,70 | 708,00 | 875,00 |
| | 457 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 42 x 16 | 1067 | 762 | 635 | 9,52 | 12,70 | 700,00 | 847,00 |
| | 406 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 44 x 42 | 1118 | 813 | 762 | 9,52 | 12,70 | * | * |
| | 1067 | | | 9,52 | 12,70 | | |
| | | | | | | | |
| 44 x 40 | 1118 | 813 | 749 | 9,52 | 12,70 | | |
| | 1016 | | | 9,52 | 12,70 | | |
| | | | | | | | |

* Weights on application

Weights are approximate

tés réduits

ASME B 16.9-1993



reducing outlet tees

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| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | | E.F. X.S. | |
|---|--|-------------------------------|--------|----------------------------|----------------------------|--------------|-------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | mm | mm |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight kg | | | |
| 44 x 38 | 1118 | 813 | 737 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 965 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 36 | 1118 | 813 | 724 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 914 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 34 | 1118 | 813 | 724 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 864 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 32 | 1118 | 813 | 711 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 813 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 30 | 1118 | 813 | 711 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 762 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 28 | 1118 | 813 | 698 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 711 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 26 | 1118 | 813 | 698 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 660 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 24 | 1118 | 813 | 698 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 610 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 22 | 1118 | 813 | 686 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 559 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 44 x 20 | 1118 | 813 | 686 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 508 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |

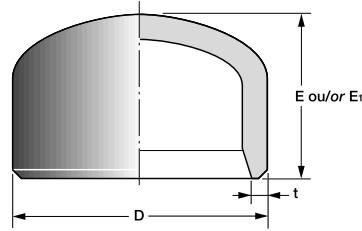
* Masse sur demande

Les masses indiquées sont approximatives

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | STD | | E.F. X.S. | |
|---|--|-------------------------------|--------|----------------------------|----------------------------|--------------|-------|
| | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | mm | mm |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight kg | | | |
| 46 x 44 | 1168 | 851 | 800 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 1118 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 42 | 1168 | 851 | 787 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 1067 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 40 | 1168 | 851 | 775 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 1016 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 38 | 1168 | 851 | 762 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 965 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 36 | 1168 | 851 | 762 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 914 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 34 | 1168 | 851 | 749 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 864 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 32 | 1168 | 851 | 749 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 813 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 30 | 1168 | 851 | 737 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 762 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 28 | 1168 | 851 | 737 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 711 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |
| 46 x 26 | 1168 | 851 | 737 | 9,52 | 12,70 | 9,52 | 12,70 |
| | 660 | | | 9,52 | 12,70 | | |
| | | | | * | * | | |

* Weights on application

Weights are approximate



| Diamètre Nominal Nominal Pipe Size (NPS) | Diamètre extérieur Outside diameter | Hauteur Length | Ep. limite pour hauteur E Limiting W.T. for length E | Hauteur (*) Length (*) | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------|---|---------------------------|----------------------------------|--------------|------------------|--------|--------|
| | | | | | † ép./W.T. mm masse/weight kg | | | | |
| Pouces/Inches | D – mm | E – mm | mm | E ₁ – mm | | | | | |
| 1/2 | 21 | 25 | 3,73 | 25 | 2,77 | 3,73 | 7,47 | | |
| | | | | | 0,03 | 0,05 | | | |
| 3/4 | 27 | 25 | 3,91 | 25 | 2,87 | 3,91 | 7,82 | | |
| | | | | | 0,06 | 0,10 | | | |
| 1 | 33 | 38 | 4,55 | 38 | 3,38 | 4,55 | 9,09 | | |
| | | | | | 0,10 | 0,13 | 0,20 | | |
| 1 1/4 | 42 | 38 | 4,85 | 38 | 3,56 | 4,85 | 9,70 | | |
| | | | | | 0,14 | 0,20 | 0,28 | | |
| 1 1/2 | 48 | 38 | 5,08 | 38 | 3,68 | 5,08 | 10,16 | | |
| | | | | | 0,20 | 0,23 | 0,36 | | |
| 2 | 60 | 38 | 5,54 | 44 | 3,91 | 5,54 | 11,07 | | |
| | | | | | 0,30 | 0,30 | 0,59 | | |
| 2 1/2 | 73 | 38 | 7,01 | 51 | 5,16 | 7,01 | 14,02 | | |
| | | | | | 0,50 | 0,50 | 1,00 | | |
| 3 | 89 | 51 | 7,62 | 64 | 5,49 | 7,62 | 15,24 | | |
| | | | | | 0,70 | 0,90 | 1,78 | | |
| 3 1/2 | 102 | 64 | 8,08 | 76 | 5,74 | 8,08 | | | |
| | | | | | 1,40 | 1,70 | | | |
| 4 | 114 | 64 | 8,56 | 76 | 6,02 | 8,56 | 17,12 | | |
| | | | | | 1,60 | 2,00 | 3,17 | | |
| 5 | 141 | 76 | 9,53 | 89 | 6,55 | 9,52 | 19,05 | | |
| | | | | | 2,30 | 3,00 | 5,50 | | |
| 6 | 168 | 89 | 10,97 | 102 | 7,11 | 10,97 | 21,95 | | |
| | | | | | 3,60 | 4,00 | 8,10 | | |
| 8 | 219 | 102 | 12,70 | 127 | 8,18 | 12,70 | 22,23 | | 6,35 |
| | | | | | 5,50 | 8,40 | 19,50 | | 4,50 |
| 10 | 273 | 127 | 12,70 | 152 | 9,27 | 12,70 | 25,40 | | 6,35 |
| | | | | | 10,00 | 13,60 | 29,30 | | 7,00 |
| 12 | 324 | 152 | 12,70 | 178 | 9,52 | 12,70 | 25,40 | | 6,35 |
| | | | | | 15,00 | 22,00 | 41,00 | | 9,00 |
| 14 | 356 | 165 | 12,70 | 191 | 9,52 | 12,70 | | | 6,35 |
| | | | | | 17,00 | 27,00 | | | 14,00 |
| | | | | | | | | | 15,50 |

Nota : La forme de ces caps sera ellipsoïdale et conforme aux exigences du code «ASME Boiler and Pressure Vessel». La hauteur E s'applique pour des épaisseurs n'excédant pas celles données par la rubrique «Épaisseur limite pour E».

Les masses indiquées sont approximatives.

(*) La hauteur E₁ s'applique pour des épaisseurs supérieures à celles données par la rubrique «Épaisseur limite» pour NPS 24 et au-dessous. Pour les caps NPS 26 et au-dessus, la hauteur E₁ sera déterminée d'un commun accord entre acheteur et fabricant.

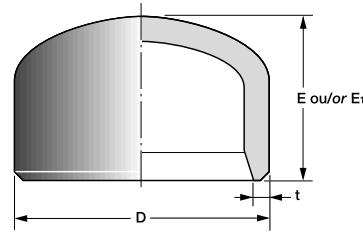
| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------------|--------------|--------|---------------|---------|---------|---------|---------------|---|
| † ép./W.T. mm masse/weight kg | | | | | | | Pouces/Inches | |
| 2,41 | | | | | | | 4,78 | 1/2 |
| 2,41 | | | | | | | 5,56 | 3/4 |
| 2,90 | | | | | | | 6,35 | 1 |
| | | | | | | | 0,15 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 |
| | | | | | | | 0,23 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 |
| | | | | | | | 0,30 | |
| 3,18 | | | | | | | 8,74 | 2 |
| | | | | | | | 0,55 | |
| 4,78 | Voir STD | | Voir E.F. | | | | 9,52 | 2 1/2 |
| | | | | | | | 0,90 | |
| 4,78 | | | | | | | 11,13 | 3 |
| | | | | | | | 1,40 | |
| 4,78 | Refer to STD | | Refer to X.S. | | | | | 3 1/2 |
| | | | | | | | | |
| 4,78 | | | | | | | 11,13 | 4 |
| | | | | | | | 2,31 | |
| | | | | | | | 12,70 | 5 |
| | | | | | | | 3,89 | |
| | | | | | | | 14,27 | 6 |
| | | | | | | | 6,02 | |
| | | | | | | | 7,50 | 6 |
| 7,03 | | 10,31 | | 15,09 | 18,26 | 20,62 | 23,01 | 8 |
| 5,00 | | 7,00 | | 11,00 | 15,50 | 18,50 | 20,00 | |
| 7,80 | | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | 10 |
| 7,63 | | 13,60 | 16,20 | 21,00 | 24,00 | 27,00 | 30,00 | |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | 12 |
| 13,00 | 19,00 | 22,00 | 26,90 | 32,50 | 41,00 | 42,00 | 44,50 | |
| Voir STD | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 |
| Refer to STD | 23,00 | 32,00 | 34,70 | 42,00 | 47,00 | 52,00 | 60,00 | |

Note : The shape of these caps shall be ellipsoïdale and shall conform to the shape requirements as given in «ASME Boiler and Pressure Vessel» Code. Length E applies for thickness not exceeding that given in column «Limiting wall thickness for length E».

Weights are approximate

(*) Length E₁ applies for thickness greater than that given in column «Limiting wall thickness» for sizes NPS 24 and smaller.

For sizes NPS 26 and larger, length E₁ shall be by agreement between manufacturer and purchaser.



| Diamètre Nominal Nominal Pipe Size (NPS) | Diamètre extérieur Outside diameter | Hauteur Length | Ep. limite pour hauteur E Limiting W.T. for length E | Hauteur (*) Length (*) | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|-------------------|---|---------------------------|---------------|--------------|------------------|--------|-----------------|
| | | | | | ↑ ép./W.T. mm | | | | masse/weight kg |
| 16 | 406 | 178 | 12,70 | 203 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | | 23,00 | 30,00 | | 18,00 | 20,00 |
| 18 | 457 | 203 | 12,70 | 229 | 9,52 | 12,70 | | 6,35 | 7,92 |
| | | | | | 29,00 | 32,00 | | 22,00 | 25,00 |
| 20 | 508 | 229 | 12,70 | 254 | 9,52 | 12,70 | | 6,35 | |
| | | | | | 36,00 | 49,00 | | 31,00 | |
| 22 | 559 | 254 | 12,70 | 254 | 9,52 | 12,70 | | 6,35 | |
| | | | | | 42,00 | 51,00 | | 35,50 | |
| 24 | 610 | 267 | 12,70 | 305 | 9,52 | 12,70 | | 6,35 | |
| | | | | | 52,00 | 60,00 | | 40,00 | |
| 26 | 660 | 267 | | | 9,52 | 12,70 | | 7,92 | |
| | | | | | 46,50 | 66,00 | | 42,00 | |
| 28 | 711 | 267 | | | 9,52 | 12,70 | | 7,92 | |
| | | | | | 56,00 | 75,00 | | 47,00 | |
| 30 | 762 | 267 | | | 9,52 | 12,70 | | 7,92 | |
| | | | | | 62,00 | 83,00 | | 51,00 | |
| 32 | 813 | 267 | | | 9,52 | 12,70 | | 7,92 | |
| | | | | | 68,00 | 93,00 | | 57,00 | |
| 34 | 864 | 267 | | | 9,52 | 12,70 | | 7,92 | |
| | | | | | 73,00 | 97,00 | | 60,00 | |
| 36 | 914 | 267 | | | 9,52 | 12,70 | | 7,92 | |
| | | | | | 79,50 | 107,00 | | 66,00 | |
| 38 | 965 | 305 | | | 9,52 | 12,70 | | | |
| | | | | | 86,00 | 125,00 | | | |
| 40 | 1016 | 305 | | | 9,52 | 12,70 | | | |
| | | | | | 95,00 | 129,00 | | | |
| 42 | 1067 | 305 | | | 9,52 | 12,70 | | | |
| | | | | | 104,50 | 136,50 | | | |
| 44 | 1118 | 343 | | | 9,52 | 12,70 | | | |
| | | | | | 120,00 | 168,00 | | | |
| 46 | 1168 | 343 | | | 9,52 | 12,70 | | | |
| | | | | | 136,00 | 186,00 | | | |
| 48 | 1219 | 343 | | | 9,52 | 12,70 | | | |
| | | | | | 159,00 | 215,00 | | | |

Nota : La forme de ces caps sera ellipsoïdale et conforme aux exigences du code «ASME Boiler and Pressure Vessel». La hauteur E s'applique pour des épaisseurs n'excédant pas celles données par la rubrique «Épaisseur limite pour E».

Les masses indiquées sont approximatives.

(*) La hauteur E1 s'applique pour des épaisseurs supérieures à celles données par la rubrique «Épaisseur limite» pour NPS 24 et au-dessous. Pour les caps NPS 26 et au-dessus, la hauteur E1 sera déterminée d'un commun accord entre acheteur et fabricant.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|---------------|---------------|--------|--------|---------|---------|---------|---------------|---|
| ↑ ép./W.T. mm | | | | | | | Pouces/Inches | |
| Voir STD | Voir E.F. | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 |
| Refer to STD | Refer to X.S. | 37,00 | 43,50 | 54,00 | 64,00 | 73,00 | 79,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 |
| 30,30 | 39,00 | 66,00 | 72,50 | 75,00 | 88,00 | 93,00 | 104,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 |
| 49,00 | 66,70 | 94,50 | 98,50 | 100,00 | 105,00 | 153,00 | 170,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 |
| 59,00 | | 107,00 | 120,00 | 135,00 | 150,00 | 198,00 | 220,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 |
| 74,50 | 93,00 | 120,00 | 150,00 | 180,00 | 200,00 | 250,00 | 285,00 | |
| | | | | | | | | 26 |
| 15,88 | | | | | | | | |
| 93,00 | | | | | | | | 28 |
| 15,88 | | | | | | | | |
| 103,00 | | | | | | | | 30 |
| 15,88 | 17,48 | | | | | | | |
| 117,00 | 129,00 | | | | | | | 32 |
| 15,88 | 17,48 | | | | | | | |
| 121,00 | 133,00 | | | | | | | 34 |
| 15,88 | 19,05 | | | | | | | |
| 134,00 | 147,00 | | | | | | | 36 |
| | | | | | | | | |
| | | | | | | | | 38 |
| | | | | | | | | |
| | | | | | | | | 40 |
| | | | | | | | | |
| | | | | | | | | 42 |
| | | | | | | | | |
| | | | | | | | | 44 |
| | | | | | | | | |
| | | | | | | | | 46 |
| | | | | | | | | |
| | | | | | | | | 48 |
| | | | | | | | | |

Note : The shape of these caps shall be ellipsoïdale and shall conform to the shape requirements as given in «ASME Boiler and Pressure Vessel» Code. Length E applies for thickness not exceeding that given in column «Limiting wall thickness for length E».

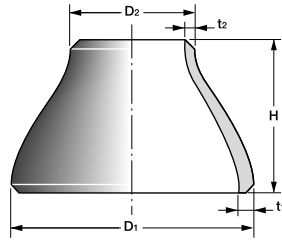
Weights are approximate

(*) Length E1 applies for thickness greater than that given in column «Limiting wall thickness» for sizes NPS 24 and smaller.

For sizes NPS 26 and larger, length E1 shall be by agreement between manufacturer and purchaser.

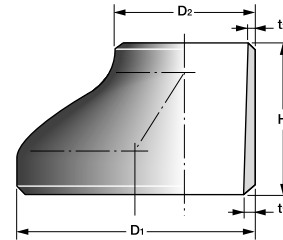
réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|----------------------------|----------------------------|--------------|------------------|----------------------------|--------|
| | | | t ₁ ép./W.T. mm | | | t ₂ ép./W.T. mm | |
| Pouces/Inches | D – mm | H – mm | | | | | |
| 3/4 x 1/2 | 27 | 38 | 2,87 | 3,91 | 7,82 | | |
| | 21 | | 2,77 | 3,73 | 7,47 | | |
| | | | 0,07 | 0,10 | 0,19 | | |
| 3/4 x 3/8 | 27 | 38 | 2,87 | 3,91 | | | |
| | 17 | | 2,31 | 3,20 | | | |
| | | | 0,07 | 0,10 | | | |
| 1 x 3/4 | 33 | 51 | 3,38 | 4,55 | 9,09 | | |
| | 27 | | 2,87 | 3,91 | 7,82 | | |
| | | | 0,13 | 0,16 | 0,28 | | |
| 1 x 1/2 | 33 | 51 | 3,38 | 4,55 | 9,09 | | |
| | 21 | | 2,77 | 3,73 | 7,47 | | |
| | | | 0,13 | 0,16 | 0,28 | | |
| 1 1/4 x 1 | 42 | 51 | 3,56 | 4,85 | 9,70 | | |
| | 33 | | 3,38 | 4,55 | 9,09 | | |
| | | | 0,17 | 0,23 | 0,39 | | |
| 1 1/4 x 3/4 | 42 | 51 | 3,56 | 4,85 | 9,70 | | |
| | 27 | | 2,87 | 3,91 | 7,82 | | |
| | | | 0,17 | 0,23 | 0,39 | | |
| 1 1/4 x 1/2 | 42 | 51 | 3,56 | 4,85 | 9,70 | | |
| | 21 | | 2,77 | 3,73 | 7,47 | | |
| | | | 0,17 | 0,23 | 0,39 | | |
| 1 1/2 x 1 1/4 | 48 | 64 | 3,68 | 5,08 | 10,16 | | |
| | 42 | | 3,56 | 4,85 | 9,70 | | |
| | | | 0,26 | 0,35 | 0,61 | | |
| 1 1/2 x 1 | 48 | 64 | 3,68 | 5,08 | 10,16 | | |
| | 33 | | 3,38 | 4,55 | 9,09 | | |
| | | | 0,26 | 0,35 | 0,61 | | |
| 1 1/2 x 3/4 | 48 | 64 | 3,68 | 5,08 | 10,16 | | |
| | 27 | | 2,87 | 3,91 | 7,82 | | |
| | | | 0,26 | 0,35 | 0,61 | | |
| 1 1/2 x 1/2 | 48 | 64 | 3,68 | 5,08 | 10,16 | | |
| | 21 | | 2,77 | 3,73 | 7,47 | | |
| | | | 0,26 | 0,35 | 0,61 | | |

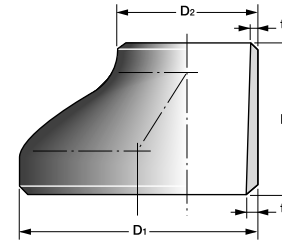
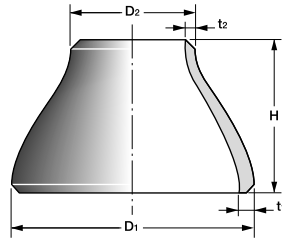
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------------|--------|----------------------------|---------|-----------------|---------|---------------|---|
| t ₁ ép./W.T. mm | | | t ₂ ép./W.T. mm | | masse/weight kg | | Pouces/Inches | |
| 2,41 | | | | | | | 5,56 | 3/4 x 1/2 |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | 0,14 | |
| 2,41 | | | | | | | | 3/4 x 3/8 |
| 1,85 | | | | | | | | |
| | | | | | | | | |
| 2,90 | | | | | | | 6,35 | 1 x 3/4 |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | 0,21 | |
| 2,90 | | | | | | | 6,35 | 1 x 1/2 |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | 0,21 | |
| 2,97 | | | | | | | 6,35 | 1 1/4 x 1 |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 0,29 | |
| 2,97 | Voir STD | | Voir E.F. | | | | 6,35 | 1 1/4 x 3/4 |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | | |
| 2,97 | Refer to STD | | Refer to X.S. | | | | 6,35 | 1 1/4 x 1/2 |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | | |
| 3,18 | | | | | | | 7,13 | 1 1/2 x 1 1/4 |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 0,46 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 x 1 |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 0,46 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 x 3/4 |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | 0,46 | |
| 3,18 | | | | | | | 7,13 | 1 1/2 x 1/2 |
| 2,41 | | | | | | | 4,78 | |
| | | | | | | | 0,46 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|----------------------------|----------------------------|--------------|------------------|----------------------------|--------|
| | | | t ₁ ép./W.T. mm | | | t ₂ ép./W.T. mm | |
| Pouces/Inches | D – mm | H – mm | masse/weight kg | | | | |
| 2 x 1 1/2 | 60 | 76 | 3,91 | 5,54 | 11,07 | | |
| | 48 | | 3,68 | 5,08 | 10,16 | | |
| | | | 0,41 | 0,57 | 1,03 | | |
| 2 x 1 1/4 | 60 | 76 | 3,91 | 5,54 | 11,07 | | |
| | 42 | | 3,56 | 4,85 | 9,70 | | |
| | | | 0,41 | 0,57 | 1,03 | | |
| 2 x 1 | 60 | 76 | 3,91 | 5,54 | 11,07 | | |
| | 33 | | 3,38 | 4,55 | 9,09 | | |
| | | | 0,41 | 0,57 | 1,03 | | |
| 2 x 3/4 | 60 | 76 | 3,91 | 5,54 | 11,07 | | |
| | 27 | | 2,87 | 3,91 | 7,82 | | |
| | | | 0,41 | 0,57 | 1,03 | | |
| 2 1/2 x 2 | 73 | 89 | 5,16 | 7,01 | 14,02 | | |
| | 60 | | 3,91 | 5,54 | 11,07 | | |
| | | | 0,77 | 1,01 | 1,81 | | |
| 2 1/2 x 1 1/2 | 73 | 89 | 5,16 | 7,01 | 14,02 | | |
| | 48 | | 3,68 | 5,08 | 10,16 | | |
| | | | 0,77 | 1,01 | 1,81 | | |
| 2 1/2 x 1 1/4 | 73 | 89 | 5,16 | 7,01 | 14,02 | | |
| | 42 | | 3,56 | 4,85 | 9,70 | | |
| | | | 0,77 | 1,01 | 1,81 | | |
| 2 1/2 x 1 | 73 | 89 | 5,16 | 7,01 | 14,02 | | |
| | 33 | | 3,38 | 4,55 | 9,09 | | |
| | | | 0,77 | 1,01 | 1,81 | | |
| 3 x 2 1/2 | 89 | 89 | 5,49 | 7,62 | 15,24 | | |
| | 73 | | 5,16 | 7,01 | 14,02 | | |
| | | | 1,00 | 4,36 | 2,47 | | |
| 3 x 2 | 89 | 89 | 5,49 | 7,62 | 15,24 | | |
| | 60 | | 3,91 | 5,54 | 11,07 | | |
| | | | 1,00 | 1,36 | 2,47 | | |
| 3 x 1 1/2 | 89 | 89 | 5,49 | 7,62 | 15,24 | | |
| | 48 | | 3,68 | 5,08 | 10,16 | | |
| | | | 1,00 | 1,36 | 2,47 | | |

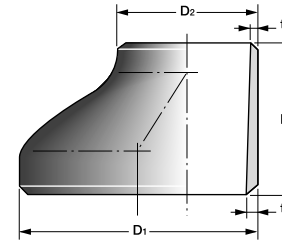
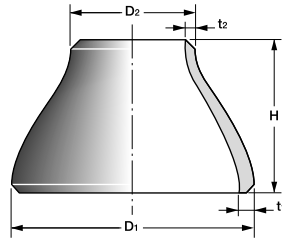
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------------|--------|----------------------------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | t ₂ ép./W.T. mm | | | | | |
| masse/weight kg | | | | | | | | Pouces/Inches |
| 3,18 | | | | | | | 8,74 | 2 x 1 1/2 |
| 3,18 | | | | | | | 7,13 | |
| | | | | | | | 0,84 | |
| 3,18 | | | | | | | 8,74 | 2 x 1 1/4 |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 0,84 | |
| 3,18 | | | | | | | 8,74 | 2 x 1 |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 0,84 | |
| 3,18 | | | | | | | 8,74 | 2 x 3/4 |
| 2,41 | | | | | | | 5,56 | |
| | | | | | | | 0,84 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 x 2 |
| 3,18 | | | | | | | 8,74 | |
| | | | | | | | 1,33 | |
| 4,78 | Voir STD | | | | | | 9,52 | 2 1/2 x 1 1/2 |
| 3,18 | | | | | | | 7,13 | |
| | | | | | | | 1,33 | |
| 4,78 | Refer to STD | | | | | | 9,52 | 2 1/2 x 1 1/4 |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 1,33 | |
| 4,78 | | | | | | | 9,52 | 2 1/2 x 1 |
| 2,90 | | | | | | | 6,35 | |
| | | | | | | | 1,33 | |
| 4,78 | | | | | | | 11,13 | 3 x 2 1/2 |
| 4,78 | | | | | | | 9,52 | |
| | | | | | | | 1,89 | |
| 4,78 | | | | | | | 11,13 | 3 x 2 |
| 3,18 | | | | | | | 8,74 | |
| | | | | | | | 1,89 | |
| 4,78 | | | | | | | 11,13 | 3 x 1 1/2 |
| 3,18 | | | | | | | 7,13 | |
| | | | | | | | 1,89 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|----------------------------|----------------------------|--------------|----------------------------|--------|--------|
| | | | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | |
| Pouces/Inches | D – mm | H – mm | masse/weight kg | | | | |
| 3 x 1 1/4 | 89 | 89 | 5,49 | 7,62 | 15,24 | | |
| | 42 | | 3,56 | 4,85 | 9,70 | | |
| | | | 1,00 | 1,36 | 2,47 | | |
| 3 1/2 x 3 | 102 | 102 | 5,74 | 8,08 | | | |
| | 89 | | 5,49 | 7,62 | | | |
| | | | 1,40 | 1,89 | | | |
| 3 1/2 x 2 1/2 | 102 | 102 | 5,74 | 8,08 | | | |
| | 73 | | 5,16 | 7,01 | | | |
| | | | 1,40 | 1,89 | | | |
| 3 1/2 x 2 | 102 | 102 | 5,74 | 8,08 | | | |
| | 60 | | 3,91 | 5,54 | | | |
| | | | 1,40 | 1,89 | | | |
| 3 1/2 x 1 1/2 | 102 | 102 | 5,74 | 8,08 | | | |
| | 48 | | 3,68 | 5,08 | | | |
| | | | 1,40 | 1,89 | | | |
| 3 1/2 x 1 1/4 | 102 | 102 | 5,74 | 8,08 | | | |
| | 42 | | 3,56 | 4,85 | | | |
| | | | 1,40 | 1,89 | | | |
| 4 x 3 1/2 | 114 | 102 | 6,02 | 8,56 | | | |
| | 102 | | 5,74 | 8,08 | | | |
| | | | 1,60 | 2,27 | | | |
| 4 x 3 | 114 | 102 | 6,02 | 8,56 | 17,12 | | |
| | 89 | | 5,49 | 7,62 | 15,24 | | |
| | | | 1,60 | 2,27 | 4,18 | | |
| 4 x 2 1/2 | 114 | 102 | 6,02 | 8,56 | 17,12 | | |
| | 73 | | 5,16 | 7,01 | 14,02 | | |
| | | | 1,60 | 2,27 | 4,18 | | |
| 4 x 2 | 114 | 102 | 6,02 | 8,56 | 17,12 | | |
| | 60 | | 3,91 | 5,54 | 11,07 | | |
| | | | 1,60 | 2,27 | 4,18 | | |
| 4 x 1 1/2 | 114 | 102 | 6,02 | 8,56 | 17,12 | | |
| | 48 | | 3,68 | 5,08 | 10,16 | | |
| | | | 1,60 | 2,27 | 4,18 | | |

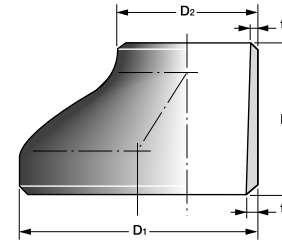
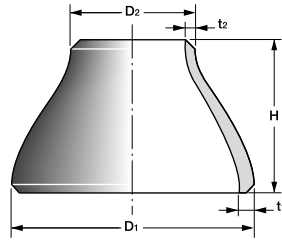
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|----------------------------|--------|-----------------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | | | | |
| Pouces/Inches | | Pouces/Inches | | Pouces/Inches | | | | Pouces/Inches |
| 4,78 | | | | | | | 11,13 | 3 x 1 1/4 |
| 2,97 | | | | | | | 6,35 | |
| | | | | | | | 1,89 | |
| 4,78 | | | | | | | | 3 1/2 x 3 |
| 4,78 | | | | | | | | |
| | | | | | | | | |
| 4,78 | | | | | | | | 3 1/2 x 2 1/2 |
| 4,78 | | | | | | | | |
| | | | | | | | | |
| 4,78 | | | | | | | | 3 1/2 x 2 |
| 3,18 | | | | | | | | |
| | | | | | | | | |
| 4,78 | | | | | | | | 3 1/2 x 1 1/2 |
| 3,18 | | | | | | | | |
| | | | | | | | | |
| 4,78 | | | | | | | | 3 1/2 x 1 1/4 |
| 2,97 | | | | | | | | |
| | | | | | | | | |
| 4,78 | | | | | | | | 4 x 3 1/2 |
| 4,78 | | | | | | | | |
| | | | | | | | | |
| 4,78 | | | | | | | 13,50 | 4 x 3 |
| 4,78 | | | | | | | 11,13 | |
| | | | | | | | 3,41 | |
| 4,78 | | | | | | | 13,50 | 4 x 2 1/2 |
| 4,78 | | | | | | | 9,52 | |
| | | | | | | | 3,41 | |
| 4,78 | | | | | | | 13,50 | 4 x 2 |
| 3,18 | | | | | | | 8,74 | |
| | | | | | | | 3,41 | |
| 4,78 | | | | | | | 13,50 | 4 x 1 1/2 |
| 3,18 | | | | | | | 7,13 | |
| | | | | | | | 3,41 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 |
|---|--|----------------------------|----------------------------|--------------|----------------------------|--------|--------|
| | | | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | |
| Pouces/Inches | D – mm | H – mm | masse/weight kg | | | | |
| 5 x 4 | 141 | 127 | 6,55 | 9,52 | 19,05 | | |
| | 114 | | 6,02 | 8,56 | 17,12 | | |
| | | | 2,80 | 3,93 | 7,31 | | |
| 5 x 3 1/2 | 141 | 127 | 6,55 | 9,52 | | | |
| | 102 | | 5,74 | 8,08 | | | |
| | | | 2,80 | 3,93 | | | |
| 5 x 3 | 141 | 127 | 6,55 | 9,52 | 19,05 | | |
| | 89 | | 5,49 | 7,62 | 15,24 | | |
| | | | 2,80 | 3,93 | 7,31 | | |
| 5 x 2 1/2 | 141 | 127 | 6,35 | 9,52 | 19,05 | | |
| | 73 | | 5,16 | 7,01 | 14,02 | | |
| | | | 2,80 | 3,93 | 7,31 | | |
| 5 x 2 | 141 | 127 | 6,55 | 9,52 | 19,05 | | |
| | 60 | | 3,91 | 5,54 | 11,07 | | |
| | | | 2,80 | 3,93 | 7,31 | | |
| 6 x 5 | 168 | 140 | 7,11 | 10,97 | 21,95 | | |
| | 141 | | 6,55 | 9,52 | 19,05 | | |
| | | | 3,90 | 5,95 | 11,08 | | |
| 6 x 4 | 168 | 140 | 7,11 | 10,97 | 21,95 | | |
| | 114 | | 6,02 | 8,56 | 17,12 | | |
| | | | 3,90 | 5,95 | 11,08 | | |
| 6 x 3 1/2 | 168 | 140 | 7,11 | 10,97 | | | |
| | 102 | | 5,74 | 8,08 | | | |
| | | | 3,90 | 5,95 | | | |
| 6 x 3 | 168 | 140 | 7,11 | 10,97 | 21,95 | | |
| | 89 | | 5,49 | 7,62 | 15,24 | | |
| | | | 3,90 | 5,95 | 11,08 | | |
| 6 x 2 1/2 | 168 | 140 | 7,11 | 10,97 | 21,95 | | |
| | 73 | | 5,16 | 7,01 | 14,02 | | |
| | | | 3,90 | 5,95 | 11,08 | | |

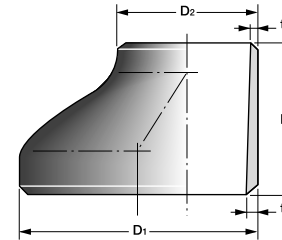
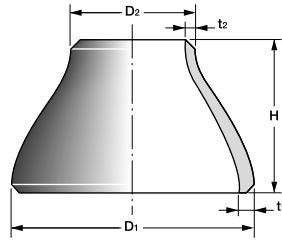
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------------|----------------------------|---------------|-----------------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | | | | |
| Pouces/Inches | | Pouces/Inches | | Pouces/Inches | | | | |
| | | | | | 12,70 | | 15,87 | 5 x 4 |
| | | | | | 11,13 | | 13,50 | |
| | | | | | 5,68 | | 6,26 | |
| | | | | | | | | 5 x 3 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | 15,87 | 5 x 3 |
| | | | | | | | 11,13 | |
| | | | | | | | 6,26 | |
| | | | | | | | 15,87 | 5 x 2 1/2 |
| | | | | | | | 9,52 | |
| | | | | | | | 6,26 | |
| | Voir STD | | Voir E.F. | | | | 15,87 | 5 x 2 |
| | | | | | | | 8,74 | |
| | | | | | | | 6,26 | |
| | Refer to STD | | Refer to X.S. | | 14,27 | | 18,26 | 6 x 5 |
| | | | | | 12,70 | | 15,87 | |
| | | | | | 7,58 | | 9,40 | |
| | | | | | 14,27 | | 18,26 | 6 x 4 |
| | | | | | 11,13 | | 13,50 | |
| | | | | | 7,58 | | 9,40 | |
| | | | | | | | | 6 x 3 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | 18,26 | 6 x 3 |
| | | | | | | | 11,13 | |
| | | | | | | | 9,40 | |
| | | | | | | | 18,26 | 6 x 2 1/2 |
| | | | | | | | 9,52 | |
| | | | | | | | 9,40 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|----------------------------|----------------------------|--------------|----------------------------|--------|-----------------|--|
| | | | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D – mm | H – mm | | | | | | |
| 8 x 6 | 219 | 152 | 8,18 | 12,70 | 22,23 | | | |
| | 168 | | 7,11 | 10,97 | 21,95 | | | |
| | | | 6,50 | 9,86 | 18,00 | | | |
| 8 x 5 | 219 | 152 | 8,18 | 12,70 | 22,23 | | | |
| | 141 | | 6,55 | 9,52 | 19,05 | | | |
| | | | 6,50 | 9,86 | 17,00 | | | |
| 8 x 4 | 219 | 152 | 8,18 | 12,70 | 22,23 | | | |
| | 114 | | 6,02 | 8,56 | 17,12 | | | |
| | | | 6,50 | 9,86 | 16,43 | | | |
| 8 x 3 1/2 | 219 | 152 | 8,18 | 12,70 | | | | |
| | 102 | | 5,74 | 8,08 | | | | |
| | | | 6,50 | 9,86 | | | | |
| 10 x 8 | 273 | 178 | 9,27 | 12,70 | 25,40 | | 6,35 | |
| | 219 | | 8,18 | 12,70 | 22,23 | | 6,35 | |
| | | | 10,70 | 14,50 | 29,00 | | 7,50 | |
| 10 x 6 | 273 | 178 | 9,27 | 12,70 | 25,40 | | | |
| | 168 | | 7,11 | 10,97 | 21,95 | | | |
| | | | 10,70 | 14,50 | 29,00 | | | |
| 10 x 5 | 273 | 178 | 9,27 | 12,70 | 25,40 | | | |
| | 141 | | 6,55 | 9,52 | 19,05 | | | |
| | | | 10,70 | 14,50 | 28,00 | | | |
| 10 x 4 | 273 | 178 | 9,27 | 12,70 | 25,40 | | | |
| | 114 | | 6,02 | 8,56 | 17,12 | | | |
| | | | 10,70 | 14,50 | 28,00 | | | |
| 12 x 10 | 324 | 203 | 9,52 | 12,70 | 25,40 | | 6,35 | |
| | 273 | | 9,27 | 12,70 | 25,40 | | 6,35 | |
| | | | 15,00 | 19,80 | 42,00 | | 10,16 | |
| 12 x 8 | 324 | 203 | 9,52 | 12,70 | 25,40 | | 6,35 | |
| | 219 | | 8,18 | 12,70 | 22,23 | | 6,35 | |
| | | | 15,00 | 19,80 | 40,00 | | 10,16 | |

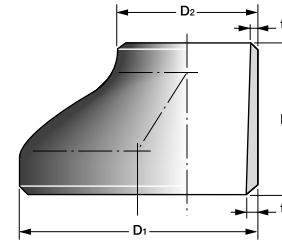
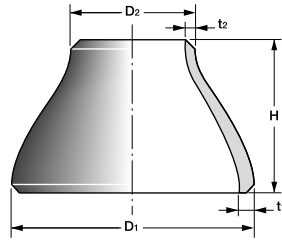
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------------|----------------------------|---------------|-----------------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | | | | |
| | | | | | 18,26 | | 23,01 | 8 x 6 |
| | | | | | 14,27 | | 18,26 | |
| | | | | | 13,70 | | 16,90 | |
| | | | Voir E.F. | | 18,26 | | 23,01 | 8 x 5 |
| | | | | | 12,70 | | 15,87 | |
| | | | | | 13,70 | | 16,90 | |
| | | | Refer to X.S. | | 18,26 | | 23,01 | 8 x 4 |
| | | | | | 11,13 | | 13,50 | |
| | | | | | 13,70 | | 16,90 | |
| | Voir STD | | | | | | | 8 x 3 1/2 |
| | | | | | | | | |
| | | | | | | | | |
| 7,80 | | | | | 18,26 | 21,44 | 25,40 | 10 x 8 |
| 7,03 | Refer to STD | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 9,00 | | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| | | 14,50 | 17,00 | 20,40 | 23,60 | 27,50 | 30,60 | 10 x 6 |
| | | | 15,09 | | 21,44 | | 28,57 | |
| | | | 10,97 | | 14,27 | | 18,26 | |
| | | | 17,00 | | 23,60 | | 30,60 | 10 x 5 |
| | | | 15,09 | | 21,44 | | 28,57 | |
| | | | 9,52 | | 12,70 | | 15,87 | |
| | | | 17,00 | | 23,60 | | 30,60 | 10 x 4 |
| | | | 15,09 | | 21,44 | | 28,57 | |
| | | | 8,56 | | 11,13 | | 13,50 | |
| | | | 17,00 | | 23,60 | | 30,60 | 12 x 10 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 13,20 | 16,30 | 22,20 | 26,80 | 32,40 | 38,00 | 42,30 | 48,60 | 12 x 8 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 13,20 | 16,30 | 22,20 | 26,80 | 32,40 | 38,00 | 42,30 | 48,60 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End to end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|----------------------------|----------------------------|--------------|----------------------------|--------|-----------------|--|
| | | | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D - mm | H - mm | | | | | | |
| 12 x 6 | 324 | 203 | 9,52 | 12,70 | 25,40 | | | |
| | 168 | | 7,11 | 10,97 | 21,95 | | | |
| | | | 15,00 | 19,80 | 39,00 | | | |
| 12 x 5 | 324 | 203 | 9,52 | 12,70 | 25,40 | | | |
| | 141 | | 6,55 | 9,52 | 19,05 | | | |
| | | | 15,00 | 19,80 | 38,00 | | | |
| 14 x 12 | 356 | 330 | 9,52 | 12,70 | | | 7,92 | |
| | 324 | | 9,52 | 12,70 | | | 6,35 | |
| | | | 26,90 | 35,50 | | | 22,60 | |
| 14 x 10 | 356 | 330 | 9,52 | 12,70 | | | 7,92 | |
| | 273 | | 9,27 | 12,70 | | | 6,35 | |
| | | | 26,90 | 35,50 | | | 22,60 | |
| 14 x 8 | 356 | 330 | 9,52 | 12,70 | | | 7,92 | |
| | 219 | | 8,18 | 12,70 | | | 6,35 | |
| | | | 26,90 | 35,50 | | | 22,60 | |
| 14 x 6 | 356 | 330 | 9,52 | 12,70 | | | | |
| | 168 | | 7,11 | 10,97 | | | | |
| | | | 26,90 | 35,50 | | | | |
| 16 x 14 | 406 | 356 | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | 356 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 33,00 | 44,00 | | 28,00 | 27,90 | |
| 16 x 12 | 406 | 356 | 9,52 | 12,70 | | | 7,92 | |
| | 324 | | 9,52 | 12,70 | | | 6,35 | |
| | | | 33,00 | 44,00 | | | 27,90 | |
| 16 x 10 | 406 | 356 | 9,52 | 12,70 | | | 7,92 | |
| | 273 | | 9,27 | 12,70 | | | 6,35 | |
| | | | 33,00 | 44,00 | | | 27,90 | |
| 16 x 8 | 406 | 356 | 9,52 | 12,70 | | | 7,92 | |
| | 219 | | 8,18 | 12,70 | | | 6,35 | |
| | | | 33,00 | 44,00 | | | 27,90 | |

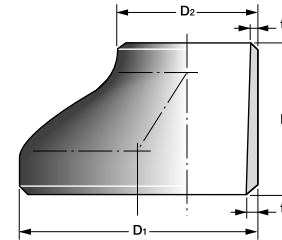
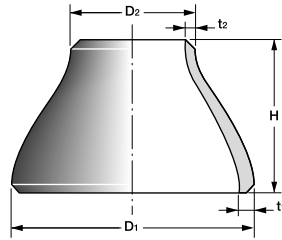
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|----------------------------|--------|-----------------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | | | | Pouces/Inches |
| | 10,31 | | 17,48 | | 25,40 | | 33,32 | 12 x 6 |
| | 7,11 | | 10,97 | | 14,27 | | 18,26 | |
| | 16,30 | | 26,80 | | 38,00 | | 48,60 | |
| | 10,31 | | 17,48 | | 25,40 | | 33,32 | 12 x 5 |
| | 6,55 | | 9,52 | | 12,70 | | 15,87 | |
| | 16,30 | | 26,80 | | 38,00 | | 48,60 | |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 26,80 | 31,10 | 42,00 | 52,20 | 64,00 | 73,00 | 78,00 | 86,00 | |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 26,80 | 31,10 | 42,00 | 52,20 | 64,00 | 73,00 | 78,00 | 86,00 | |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | 14 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 26,80 | 31,10 | 42,00 | 52,20 | 64,00 | 73,00 | 78,00 | 86,00 | |
| | 11,13 | | 19,05 | | 27,79 | | 35,71 | 14 x 6 |
| | 7,11 | | 10,97 | | 14,27 | | 18,26 | |
| | 31,10 | | 52,20 | | 73,00 | | 86,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,90 | 36,53 | 40,49 | 16 x 14 |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 33,10 | 43,80 | 57,00 | 72,20 | 83,00 | 97,00 | 112,00 | 121,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 33,10 | 43,80 | 57,00 | 72,20 | 83,00 | 97,00 | 112,00 | 121,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 33,10 | 43,80 | 57,00 | 72,20 | 83,00 | 97,00 | 112,00 | 121,00 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | 16 x 8 |
| 7,03 | 8,18 | 10,31 | 12,70 | 15,09 | 18,26 | 20,62 | 23,01 | |
| 33,10 | 43,80 | 57,00 | 72,20 | 83,00 | 97,00 | 112,00 | 121,00 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|----------------------------|----------------------------|--------------|----------------------------|--------|-----------------|--|
| | | | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D – mm | H – mm | | | | | | |
| 18 x 16 | 457 | 381 | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | 406 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 40,00 | 53,00 | | 34,00 | 33,30 | |
| 18 x 14 | 457 | 381 | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | 356 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 40,00 | 53,00 | | 34,00 | 33,30 | |
| 18 x 12 | 457 | 381 | 9,52 | 12,70 | | | 7,92 | |
| | 324 | | 9,52 | 12,70 | | | 6,35 | |
| | | | 40,00 | 53,00 | | | 33,30 | |
| 18 x 10 | 457 | 381 | 9,52 | 12,70 | | | 7,92 | |
| | 273 | | 9,27 | 12,70 | | | 6,35 | |
| | | | 40,00 | 53,00 | | | 33,30 | |
| 20 x 18 | 508 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 457 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 59,00 | 79,00 | | 50,00 | 58,00 | |
| 20 x 16 | 508 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 406 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 59,00 | 79,00 | | 50,00 | 58,00 | |
| 20 x 14 | 508 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 356 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 59,00 | 79,00 | | 50,00 | 58,00 | |
| 20 x 12 | 508 | 508 | 9,52 | 12,70 | | | 9,52 | |
| | 324 | | 9,52 | 12,70 | | | 6,35 | |
| | | | 59,00 | 79,00 | | | 58,00 | |
| 22 x 20 | 559 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 508 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 65,00 | 87,00 | | 57,00 | 61,00 | |
| 22 x 18 | 559 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 457 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 65,00 | 87,00 | | 57,00 | 61,00 | |

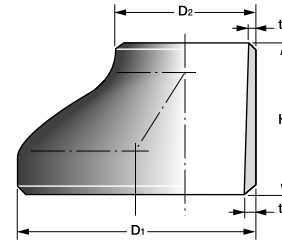
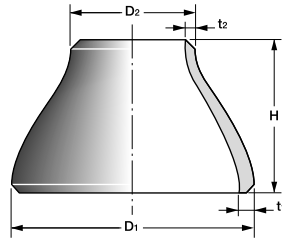
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------------|---|
| t ₁ ép./W.T. mm | | | | | | | Pouces/Inches | |
| t ₂ ép./W.T. mm | | | | | | | | masse/weight kg |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 48,00 | 59,00 | 79,00 | 96,70 | 116,00 | 136,00 | 145,00 | 159,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 14 |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 48,00 | 59,00 | 79,00 | 96,70 | 116,00 | 136,00 | 145,00 | 159,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 48,00 | 59,00 | 79,00 | 96,70 | 116,00 | 136,00 | 145,00 | 159,00 | |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | 18 x 10 |
| 7,80 | 9,27 | 12,70 | 15,09 | 18,26 | 21,44 | 25,40 | 28,57 | |
| 48,00 | 59,00 | 79,00 | 96,70 | 116,00 | 136,00 | 145,00 | 159,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 18 |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 79,00 | 93,00 | 126,00 | 158,00 | 163,00 | 178,00 | 305,00 | 340,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 16 |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 79,00 | 93,00 | 126,00 | 158,00 | 163,00 | 178,00 | 305,00 | 340,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 14 |
| 9,52 | 11,13 | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 79,00 | 93,00 | 126,00 | 158,00 | 163,00 | 178,00 | 305,00 | 340,00 | |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | 20 x 12 |
| 8,38 | 10,31 | 14,27 | 17,48 | 21,44 | 25,40 | 28,57 | 33,32 | |
| 79,00 | 93,00 | 126,00 | 158,00 | 163,00 | 178,00 | 305,00 | 340,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 20 |
| 12,70 | | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | |
| 92,00 | | 150,00 | 188,00 | 201,00 | 233,00 | 415,00 | 460,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 18 |
| 11,13 | | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 92,00 | | 150,00 | 188,00 | 201,00 | 233,00 | 415,00 | 460,00 | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|----------------------------|----------------------------|--------------|------------------|--------|----------|--|
| | | | t ₁ ép./W.T. mm | | | | | |
| Pouces/Inches | D – mm | H – mm | t ₂ ép./W.T. mm | | | | | |
| masse/weight kg | | | | | | | | |
| 22 x 16 | 559 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 406 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 65,00 | 87,00 | | 57,00 | 61,00 | |
| 22 x 14 | 559 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 356 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 65,00 | 87,00 | | 57,00 | 61,00 | |
| 24 x 22 | 610 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 559 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 72,00 | 95,00 | | 63,00 | 72,00 | |
| 24 x 20 | 610 | 508 | 9,52 | 12,70 | | 6,35 | Voir STD | |
| | 508 | | 9,52 | 12,70 | | 6,35 | Refer to | |
| | | | 72,00 | 95,00 | | 63,00 | STD | |
| 24 x 18 | 610 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 457 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 72,00 | 95,00 | | 63,00 | 72,00 | |
| 24 x 16 | 610 | 508 | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | 406 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 72,00 | 95,00 | | 63,00 | 72,00 | |
| 26 x 24 | 660 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 610 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 91,00 | 125,00 | | 75,00 | 123,00 | |
| 26 x 22 | 660 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 559 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 91,00 | 125,00 | | 75,00 | 123,00 | |
| 26 x 20 | 660 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 508 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 91,00 | 115,00 | | 75,00 | 123,00 | |
| 26 x 18 | 660 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 457 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 91,00 | 115,00 | | 75,00 | 123,00 | |

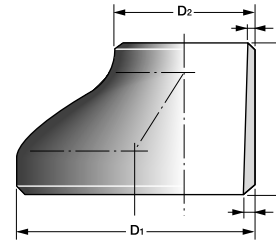
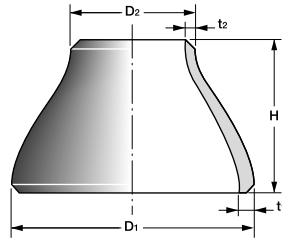
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|--------|--------|---------|---------|---------|---------|---|
| t ₁ ép./W.T. mm | | | | | | | | |
| t ₂ ép./W.T. mm | | | | | | | | Pouces/Inches |
| masse/weight kg | | | | | | | | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 16 |
| 9,52 | | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 92,00 | | 150,00 | 188,00 | 201,00 | 233,00 | 415,00 | 460,00 | |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | 22 x 14 |
| 9,52 | | 15,09 | 19,05 | 23,83 | 27,79 | 31,75 | 35,71 | |
| 92,00 | | 150,00 | 188,00 | 201,00 | 233,00 | 415,00 | 460,00 | |
| 14,27 | | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 22 |
| 12,70 | | 22,22 | 28,58 | 34,92 | 41,27 | 47,62 | 53,97 | |
| 107,00 | | 180,00 | 228,00 | 241,00 | 295,00 | 540,00 | 610,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 20 |
| 12,70 | 15,09 | 20,62 | 26,18 | 32,54 | 38,10 | 44,45 | 50,01 | |
| 107,00 | 129,00 | 180,00 | 228,00 | 241,00 | 295,00 | 540,00 | 610,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 18 |
| 11,13 | 14,27 | 19,05 | 23,83 | 29,36 | 34,93 | 39,67 | 45,24 | |
| 107,00 | 129,00 | 180,00 | 228,00 | 241,00 | 295,00 | 540,00 | 610,00 | |
| 14,27 | 17,48 | 24,61 | 30,96 | 38,89 | 46,02 | 52,37 | 59,54 | 24 x 16 |
| 9,52 | 12,70 | 16,66 | 21,44 | 26,19 | 30,96 | 36,53 | 40,49 | |
| 107,00 | 129,00 | 180,00 | 228,00 | 241,00 | 295,00 | 540,00 | 610,00 | |
| | | | | | | | | 26 x 24 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 26 x 22 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 26 x 20 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | 26 x 18 |
| | | | | | | | | |
| | | | | | | | | |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993



concentric and eccentric reducers

ASME B 16.9-1993

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End to end length | STD | E.F. X.S. | X.E.F. X.X.S. | SCH 10 | SCH 20 | |
|---|--|----------------------------|----------------------------|--------------|----------------------------|--------|-----------------|--|
| | | | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | |
| Pouces/Inches | D - mm | H - mm | | | | | | |
| 28 x 26 | 711 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 660 | | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | | | 95,00 | 132,00 | | 79,00 | 131,00 | |
| 28 x 24 | 711 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 610 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 95,00 | 132,00 | | 79,00 | 131,00 | |
| 28 x 20 | 711 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 508 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 95,00 | 132,00 | | 79,00 | 131,00 | |
| 28 x 18 | 711 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 457 | | 9,52 | 12,70 | | 6,35 | 7,92 | |
| | | | 95,00 | 132,00 | | 79,00 | 131,00 | |
| 30 x 28 | 762 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 711 | | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | | | 100,00 | 143,00 | | 83,00 | 142,00 | |
| 30 x 26 | 762 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 660 | | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | | | 100,00 | 143,00 | | 83,00 | 142,00 | |
| 30 x 24 | 762 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 610 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 100,00 | 143,00 | | 83,00 | 142,00 | |
| 30 x 20 | 762 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 508 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 100,00 | 143,00 | | 83,00 | 142,00 | |
| 32 x 30 | 813 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 762 | | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | | | 115,00 | 150,00 | | 96,00 | 150,00 | |
| 32 x 28 | 813 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 711 | | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | | | 115,00 | 150,00 | | 96,00 | 150,00 | |
| 32 x 26 | 813 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 660 | | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | | | 115,00 | 150,00 | | 96,00 | 150,00 | |
| 32 x 24 | 813 | 610 | 9,52 | 12,70 | | 7,92 | 12,70 | |
| | 610 | | 9,52 | 12,70 | | 6,35 | 9,52 | |
| | | | 115,00 | 150,00 | | 96,00 | 150,00 | |

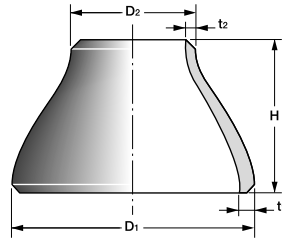
Les masses indiquées sont approximatives.

| SCH 30 | SCH 40 | SCH 60 | SCH 80 | SCH 100 | SCH 120 | SCH 140 | SCH 160 | Diamètre Nominal Nominal Pipe Size (NPS) |
|----------------------------|--------|----------------------------|--------|-----------------|---------|---------|---------------|---|
| t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | | masse/weight kg | | | Pouces/Inches | |
| | | | | | | | | 28 x 26 |
| | | | | | | | | 28 x 24 |
| | | | | | | | | 28 x 20 |
| | | | | | | | | 28 x 18 |
| | | | | | | | | 30 x 28 |
| | | | | | | | | 30 x 26 |
| | | | | | | | | 30 x 24 |
| | | | | | | | | 30 x 20 |
| | | | | | | | | 32 x 30 |
| | | | | | | | | 32 x 28 |
| | | | | | | | | 32 x 26 |
| | | | | | | | | 32 x 24 |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993

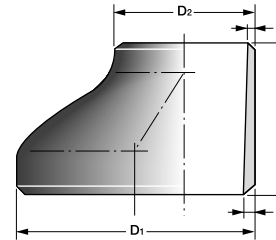


| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. | SCH 10 | SCH 20 | SCH 30 |
|---|--|----------------------------|----------------------------|-----------|--------|--------|--------|
| | | | t ₁ ép./W.T. mm | | | | |
| Pouces/Inches | D – mm | H – mm | t ₂ ép./W.T. mm | | | | |
| masse/weight kg | | | | | | | |
| 34 x 32 | 864 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 813 | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | 123,00 | 162,00 | 112,00 | 157,00 | 202,00 |
| 34 x 30 | 864 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 762 | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | 123,00 | 162,00 | 112,00 | 157,00 | 202,00 |
| 34 x 28 | 864 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 711 | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | 123,00 | 162,00 | 112,00 | 157,00 | 202,00 |
| 34 x 24 | 864 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 610 | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 |
| | | | 123,00 | 162,00 | 112,00 | 157,00 | 202,00 |
| 36 x 34 | 914 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 864 | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | 129,00 | 172,00 | 123,00 | 172,00 | 221,00 |
| 36 x 32 | 914 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 813 | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | 129,00 | 172,00 | 123,00 | 172,00 | 221,00 |
| 36 x 30 | 914 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 762 | | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | | | 129,00 | 172,00 | 123,00 | 172,00 | 221,00 |
| 36 x 26 | 914 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | |
| | 660 | | 9,52 | 12,70 | 7,92 | 12,70 | |
| | | | 129,00 | 172,00 | 123,00 | 172,00 | |
| 36 x 24 | 914 | 610 | 9,52 | 12,70 | 7,92 | 12,70 | 15,88 |
| | 610 | | 9,52 | 12,70 | 6,35 | 9,52 | 14,27 |
| | | | 129,00 | 172,00 | 123,00 | 172,00 | 221,00 |
| 38 x 36 | 965 | 610 | 9,52 | 12,70 | | | |
| | 914 | | 9,52 | 12,70 | | | |
| | | | 136,00 | 186,00 | | | |
| 38 x 34 | 965 | 610 | 9,52 | 12,70 | | | |
| | 864 | | 9,52 | 12,70 | | | |
| | | | 136,00 | 186,00 | | | |

Les masses indiquées sont approximatives.

concentric and eccentric reducers

ASME B 16.9-1993

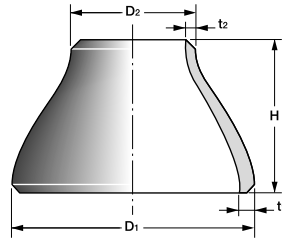


| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | E.F. X.S. |
|---|--|----------------------------|----------------------------|-----------|
| | | | t ₁ ép./W.T. mm | |
| Pouces/Inches | D – mm | H – mm | t ₂ ép./W.T. mm | |
| masse/weight kg | | | | |
| 38 x 32 | 965 | 610 | 9,52 | 12,70 |
| | 813 | | 9,52 | 12,70 |
| | | | 136,00 | 186,00 |
| 38 x 30 | 965 | 610 | 9,52 | 12,70 |
| | 762 | | 9,52 | 12,70 |
| | | | 136,00 | 186,00 |
| 38 x 28 | 965 | 610 | 9,52 | 12,70 |
| | 711 | | 9,52 | 12,70 |
| | | | 136,00 | 186,00 |
| 38 x 26 | 965 | 610 | 9,52 | 12,70 |
| | 660 | | 9,52 | 12,70 |
| | | | 136,00 | 186,00 |
| 40 x 38 | 1016 | 610 | 9,52 | 12,70 |
| | 965 | | 9,52 | 12,70 |
| | | | 143,00 | 193,00 |
| 40 x 36 | 1016 | 610 | 9,52 | 12,70 |
| | 914 | | 9,52 | 12,70 |
| | | | 143,00 | 193,00 |
| 40 x 34 | 1016 | 610 | 9,52 | 12,70 |
| | 864 | | 9,52 | 12,70 |
| | | | 143,00 | 193,00 |
| 40 x 32 | 1016 | 610 | 9,52 | 12,70 |
| | 813 | | 9,52 | 12,70 |
| | | | 143,00 | 193,00 |
| 40 x 30 | 1016 | 610 | 9,52 | 12,70 |
| | 762 | | 9,52 | 12,70 |
| | | | 143,00 | 193,00 |
| 42 x 40 | 1067 | 610 | 9,52 | 12,70 |
| | 1016 | | 9,52 | 12,70 |
| | | | 152,00 | 201,00 |
| 42 x 38 | 1067 | 610 | 9,52 | 12,70 |
| | 965 | | 9,52 | 12,70 |
| | | | 152,00 | 201,00 |

Weights are approximate.

réductions concentriques et excentriques

ASME B 16.9-1993

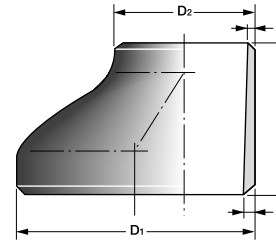


| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | | E.F. X.S. | |
|---|--|-------------------------------|-------------------------|--------|-------------------------|----|
| | | | t ₁ ép./W.T. | mm | t ₂ ép./W.T. | mm |
| Pouces/Inches | D – mm | H – mm | masse/weight kg | | | |
| 42 x 36 | 1067 | 610 | 9,52 | 12,70 | | |
| | 914 | | 9,52 | 12,70 | | |
| | | | 152,00 | 201,00 | | |
| 42 x 34 | 1067 | 610 | 9,52 | 12,70 | | |
| | 864 | | 9,52 | 12,70 | | |
| | | | 152,00 | 201,00 | | |
| 42 x 32 | 1067 | 610 | 9,52 | 12,70 | | |
| | 813 | | 9,52 | 12,70 | | |
| | | | 152,00 | 201,00 | | |
| 42 x 30 | 1067 | 610 | 9,52 | 12,70 | | |
| | 762 | | 9,52 | 12,70 | | |
| | | | 152,00 | 201,00 | | |
| 44 x 42 | 1118 | 610 | 9,52 | 12,70 | | |
| | 1067 | | 9,52 | 12,70 | | |
| | | | 159,00 | 211,00 | | |
| 44 x 40 | 1118 | 610 | 9,52 | 12,70 | | |
| | 1016 | | 9,52 | 12,70 | | |
| | | | 159,00 | 211,00 | | |
| 44 x 38 | 1118 | 610 | 9,52 | 12,70 | | |
| | 965 | | 9,52 | 12,70 | | |
| | | | 159,00 | 211,00 | | |
| 44 x 36 | 1118 | 610 | 9,52 | 12,70 | | |
| | 914 | | 9,52 | 12,70 | | |
| | | | 159,00 | 211,00 | | |
| 46 x 44 | 1168 | 711 | 9,52 | 12,70 | | |
| | 1118 | | 9,52 | 12,70 | | |
| | | | 170,00 | 225,00 | | |
| 46 x 42 | 1168 | 711 | 9,52 | 12,70 | | |
| | 1067 | | 9,52 | 12,70 | | |
| | | | 170,00 | 225,00 | | |

Les masses indiquées sont approximatives.

concentric and eccentric reducers

ASME B 16.9-1993



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Longueur End-to-end length | STD | | E.F. X.S. | |
|---|--|-------------------------------|-------------------------|--------|-------------------------|----|
| | | | t ₁ ép./W.T. | mm | t ₂ ép./W.T. | mm |
| Pouces/Inches | D – mm | H – mm | masse/weight kg | | | |
| 46 x 40 | 1168 | 711 | 9,52 | 12,70 | | |
| | 1016 | | 9,52 | 12,70 | | |
| | | | 170,00 | 225,00 | | |
| 46 x 38 | 1168 | 711 | 9,52 | 12,70 | | |
| | 965 | | 9,52 | 12,70 | | |
| | | | 170,00 | 225,00 | | |
| 48 x 46 | 1219 | 711 | 9,52 | 12,70 | | |
| | 1168 | | 9,52 | 12,70 | | |
| | | | 181,00 | 238,00 | | |
| 48 x 44 | 1219 | 711 | 9,52 | 12,70 | | |
| | 1118 | | 9,52 | 12,70 | | |
| | | | 181,00 | 238,00 | | |
| 48 x 42 | 1219 | 711 | 9,52 | 12,70 | | |
| | 1067 | | 9,52 | 12,70 | | |
| | | | 181,00 | 238,00 | | |
| 48 x 40 | 1219 | 711 | 9,52 | 12,70 | | |
| | 1016 | | 9,52 | 12,70 | | |
| | | | 181,00 | 238,00 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Weights are approximate.



RACCORDS
EN ACIERS INOXYDABLES

STAINLESS STEEL FITTINGS



SOMMAIRE
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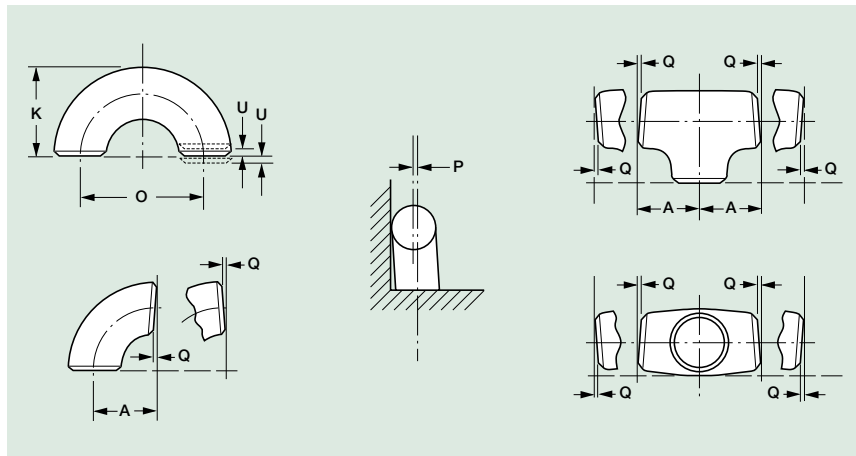
8

coudes – tés – réductions – caps – collets

| Diamètre nominal NPS | Tous raccords | | Coudes 90°/45° Tés | Réductions, Collets | Coudes 180° | | | Caps | Collets pour brides tournantes | |
|-------------------------|--|--|-------------------------------------|--------------------------|----------------------------------|-----------------------------------|---------------------------------|-----------------------|--------------------------------|--------------------------------|
| | Dia. (1) extérieur ou chanfrein D | Épaisseur t | Dimension centre-à- extrémité | Longueur hors tout | Dimension centre-à- centre | Dimension hauteur hors tout | Alignement des extrémités | Longueur hors tout | Rayon (2) | Dia. extérieur du collet |
| | | | A-B-C-M | F-H | O | K | U | E | A | G |
| 1/2 – 3 1/2 | ± 0,8 | Pas plus petite que 87,5 % de l'épaisseur nominale | ± 1,6 | ± 1,6 | ± 6,35 | ± 6,35 | ± 0,8 | ± 3,0 | + 0 - 0,8 | + 0 - 0,8 |
| 4 | ± 0,8 | | ± 1,6 | ± 1,6 | ± 6,35 | ± 6,35 | ± 0,8 | ± 3,0 | + 0 - 1,6 | + 0 - 0,8 |
| 5 – 8 | + 1,6 - 0,8 | | ± 1,6 | ± 1,6 | ± 6,35 | ± 6,35 | ± 0,8 | ± 6,35 | + 0 - 1,6 | + 0 - 0,8 |
| 10 – 18 | + 2,3 - 0,8 | | ± 2,3 | ± 2,3 | ± 9,65 | ± 6,35 | ± 1,6 | ± 6,35 | + 0 - 1,6 | + 0 - 1,6 |
| 20 – 24 | + 3,0 - 0,8 | | ± 2,3 | ± 2,3 | ± 9,65 | ± 6,35 | ± 1,6 | ± 6,35 | + 0 - 1,6 | + 0 - 1,6 |

Dimensions en mm (sauf NPS)

Note : (1) L'ovalisation est la somme des valeurs absolues des tolérances plus ou moins.
(2) Le rayon B est un maxi (voir pages 2-126 et 2-127)

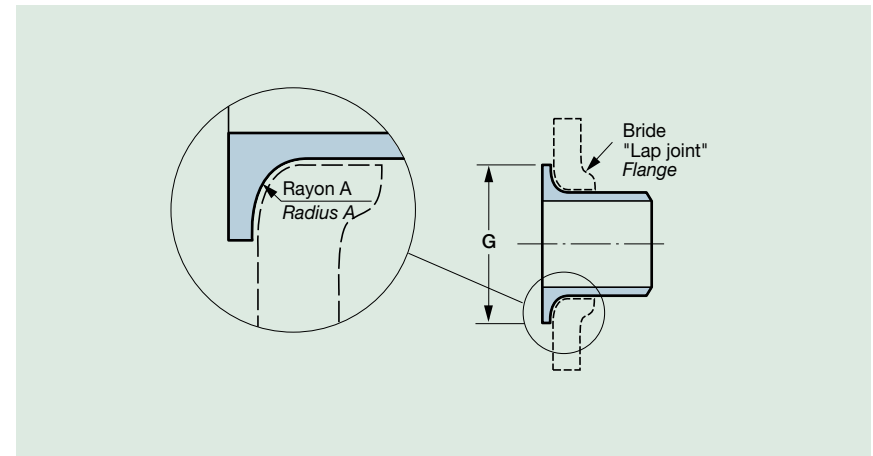


elbows – tees – reducers – caps – stub ends

| Nominal Pipe Size NPS | All fittings | | 90°/45° Elbows, Tees | Reducers, Stub ends | 180° returns | | | Caps | Lap-joint Stub ends | |
|--------------------------|---|---|--------------------------------|------------------------|-----------------------------------|-------------------------------|-------------------------|-------------------|--------------------------------|-------------------------------|
| | Outside (1) diameter at welding end D | Wall thickness t | Center-to- end dimension | Overall length | Center-to- center dimension | Back-to- face dimension | Alignment of ends | Overall length | Fillet (2) radius of lap | Outside diameter of lap |
| | | | A-B-C-M | F-H | O | K | U | E | A | G |
| 1/2 – 3 1/2 | ± 0.03 | Not less than 87.5 % of nominal thickness | ± 0.06 | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.03 | ± 0.12 | + 0 - 0.03 | + 0 - 0.03 |
| 4 | ± 0.03 | | ± 0.06 | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.03 | ± 0.12 | + 0 - 0.06 | + 0 - 0.03 |
| 5 – 8 | + 0.06 - 0.03 | | ± 0.06 | ± 0.06 | ± 0.25 | ± 0.25 | ± 0.03 | ± 0.25 | + 0 - 0.06 | + 0 - 0.03 |
| 10 – 18 | + 0.09 - 0.03 | | ± 0.09 | ± 0.09 | ± 0.38 | ± 0.25 | ± 0.06 | ± 0.25 | + 0 - 0.06 | + 0 - 0.06 |
| 20 – 24 | + 0.12 - 0.03 | | ± 0.09 | ± 0.09 | ± 0.38 | ± 0.25 | ± 0.06 | ± 0.25 | + 0 - 0.06 | + 0 - 0.06 |

Dimensions in inches

Note : (1) Out of roundness is the vector sum of plus and minus tolerance.
(2) Fillet B radius is maximum (see pages 2-126 and 2-127).



spécifications ASTM

ACIERS INOXYDABLES AUSTÉNITIQUES

ASTM standards

AUSTENITIC STAINLESS STEELS

Les raccords en acier inoxydable répondent, en ce qui concerne la matière, aux exigences de l'ASTM.

For steel, stainless steel fittings are in strict accordance with ASTM requirements.

| ASTM A 403 / A 403 M - 95 | | Nuance / Grade (1) (2) | | | | |
|---------------------------|---------|------------------------|----------------------|------------------|----------------------|------------------|
| | | WP 304 CR 304 | WP 304 L CR 304 L | WP 316 CR 316 | WP 316 L CR 316 L | WP 321 CR 321 |
| Composition chimique % | C maxi | 0,08 | 0,035 (d) | 0,08 | 0,035 (d) | 0,08 |
| | Mn maxi | 2,00 | 2,00 | 2,00 | 2,00 | 2,00 |
| | P maxi | 0,045 | 0,045 | 0,045 | 0,045 | 0,045 |
| | S maxi | 0,030 | 0,030 | 0,030 | 0,030 | 0,030 |
| Chemical requirements % | Si maxi | 1,00 | 1,00 | 1,00 | 1,00 | 1,00 |
| | Ni | 8,00 / 11,0 | 8,00 / 13,0 | 10,0 / 14,0 | 10,0 / 16,0 (e) | 9,00 / 13,0 |
| | Cr | 18,0 / 20,0 | 18,0 / 20,0 | 16,0 / 18,0 | 16,0 / 18,0 | 17,0 / 20,0 |
| | Nb | - | - | 2,0 / 3,0 | 2,0 / 3,0 | - |
| | Ti | - | - | - | - | (f) |

(d) Une teneur maxi en carbone de 0,040 % est nécessaire pour les petits diamètres extérieurs (inférieurs à 12,7 mm) ou les faibles épaisseurs (inférieures à 1,24 mm).

(e) Sur les tubes forés, le nickel peut être de 11,0 - 16,0 %.

(f) Ti : 5 x % C minimum - 0,70 % maximum

(d) A carbon maximum of 0.040 % is necessary for small outside diameters (less than 0.500 in) or thin walls (less than 0.049 in).

(e) On pierced tubing, the nickel may be 11.0 - 16.0 %.

(f) Ti : 5 x % C minimum - 0.70 % maximum

| Caractéristiques mécaniques Mechanical requirements | Limite élastique minimum Minimum yield strength | | MPa | 205 | 170 | 205 | 170 | 205 |
|--|--|----|-----------------------|-----|-----|-----|-----|-----|
| | ksi | 30 | | | | | | |
| Résistance minimum Minimum tensile strength | MPa | | ksi | 515 | 485 | 515 | 485 | 515 |
| | 75 | | | | | | | |
| Allongement minimum % sur 4D (3) Elongation minimum % in 4D (3) | | | Long. 28 - Transv. 20 | | | | | |

(1) Les nuances WP répondent aux conditions de ANSI B 16-9 et B 16-28 ; la nuance CR répond aux conditions de MSS-SP 43

(2) La désignation de la nuance WP sera suivie des symboles suivant : «S» pour les raccords sans soudure, «W», «WX» ou «WU» pour les raccords comportant des soudures

(3) Pour éprouvette cylindrique standard ou éprouvette proportionnelle réduite ou éprouvette sous forme de bande découpée dans le tube.

Note : Suivant ASTM A 403, les raccords comportant des soudures contrôlées aux ultrasons au lieu d'être radiographiées seront marquées "U" après l'identification de la coulée.

(1) Classes WP are manufactured to the requirements of ANSI B 16-9 and B 16-28 ; class CR are those manufactured to the requirements of MSS-SP 43

(2) The WP class designation shall be supplemented by following symbols :

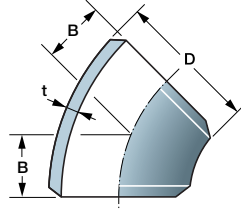
«S» for seamless fittings, «W», «WX» or «WU» for fittings of welded construction

(3) Standard round specimen or small proportional specimen, or strip-type specimen.

Note : According to ASTM A 403, fittings containing welds which have been ultrasonically examined in place of radiography shall be marked "U" after heat identification.

coudes long rayon à 45°

ASME B 16-9 – 1993
MSS-SP 43-1991



45° long radius elbows

ASME B 16-9 – 1993
MSS-SP 43-1991

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-------------------------------------|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | B – mm | | | | |
| 1/2 | 21 | 16 | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | 0,02 | 0,03 | 0,04 | 0,05 |
| 3/4 | 27 | 19 (1) | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | 0,03 | 0,03 | 0,04 | 0,05 |
| 1 | 33 | 22 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | 0,05 | 0,09 | 0,12 | 0,15 |
| 1 1/4 | 42 | 25 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | 0,09 | 0,12 | 0,15 | 0,25 |
| 1 1/2 | 48 | 29 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | 0,11 | 0,17 | 0,22 | 0,30 |
| 2 | 60 | 35 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | 0,14 | 0,25 | 0,35 | 0,50 |
| 2 1/2 | 73 | 44 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | 0,34 | 0,48 | 0,75 | 1,00 |
| 3 | 89 | 51 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | 0,48 | 0,62 | 1,05 | 1,50 |
| 3 1/2 | 102 | 57 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | 0,55 | 0,76 | 1,45 | 2,00 |
| 4 | 114 | 64 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | 0,75 | 1,10 | 2,10 | 3,10 |

Les masses indiquées sont approximatives

(1) La dimension peut être 11 mm suivant option du fabricant

(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-------------------------------------|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | B – mm | | | | |
| 5 | 141 | 79 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | 1,50 | 1,80 | 3,40 | 4,80 |
| 6 | 168 | 95 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | 2,25 | 2,75 | 5,40 | 8,20 |
| 8 | 219 | 127 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | 4,00 | 5,30 | 10,70 | 16,50 |
| 10 | 273 | 159 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | 7,25 | 9,80 | 19,30 | 26,00 |
| 12 | 324 | 190 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | 11,60 | 13,60 | 29,70 | 40,00 |
| 14 | 356 | 222 | 3,96 | 4,78 | 9,53 | |
| | | | 15,40 | 18,10 | 35,40 | (2) |
| 16 | 406 | 254 | 4,19 | 4,78 | 9,53 | |
| | | | 22,60 | 23,80 | 46,20 | (2) |
| 18 | 457 | 286 | 4,19 | 4,78 | 9,53 | |
| | | | 28,40 | 30,0 | 59,80 | (2) |
| 20 | 508 | 318 | 4,78 | 5,54 | 9,53 | |
| | | | 37,40 | 50,00 | 74,00 | (2) |
| 22 | 559 | 343 | 4,78 | 5,54 | 9,53 | |
| | | | | | | (2) |
| 24 | 610 | 381 | 5,54 | 6,35 | 9,53 | |
| | | | 63,50 | 71,00 | 105,00 | (2) |

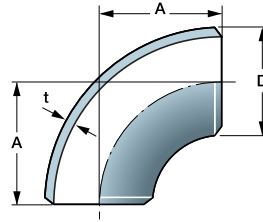
Weights are approximate

(1) The dimension may be 11 mm at the manufacturer's option

(2) Those do not conform to ASME B 36-19 M

coudes long rayon à 90°

ASME B 16-9 – 1993
MSS-SP 43-1991



90° long radius elbows

ASME B 16-9 – 1993
MSS-SP 43-1991

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-------------------------------------|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | A – mm | | | | |
| 1/2 | 21 | 38 | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | 0,06 | 0,06 | 0,08 | 0,10 |
| 3/4 | 27 | 38 (1) | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | 0,06 | 0,07 | 0,09 | 0,12 |
| 1 | 33 | 38 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | 0,09 | 0,15 | 0,16 | 0,22 |
| 1 1/4 | 42 | 48 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | 0,14 | 0,25 | 0,25 | 0,40 |
| 1 1/2 | 48 | 57 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | 0,17 | 0,30 | 0,40 | 0,50 |
| 2 | 60 | 76 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | 0,30 | 0,50 | 0,70 | 0,90 |
| 2 1/2 | 73 | 95 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | 0,70 | 0,85 | 1,40 | 1,80 |
| 3 | 89 | 114 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | 0,90 | 1,20 | 2,20 | 3,00 |
| 3 1/2 | 102 | 133 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | 1,20 | 1,70 | 2,90 | 4,00 |
| 4 | 114 | 152 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | 1,50 | 2,20 | 4,20 | 6,20 |

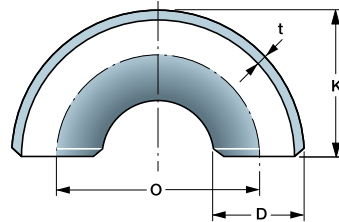
Les masses indiquées sont approximatives.
(1) La dimension peut être 29 mm suivant option du fabricant.

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à-extrémité Center-to-end | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-------------------------------------|----------------------------------|---------|-----------------------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | A – mm | | | | |
| 5 | 141 | 190 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | 3,00 | 3,60 | 6,90 | 9,60 |
| 6 | 168 | 229 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | 4,50 | 5,40 | 11,00 | 16,30 |
| 8 | 219 | 305 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | 7,80 | 10,60 | 21,50 | 33,10 |
| 10 | 273 | 381 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | 14,50 | 19,50 | 38,50 | 52,00 |
| 12 | 324 | 457 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | 23,10 | 27,50 | 60,00 | 80,00 |
| 14 | 356 | 533 | 3,96 | 4,78 | 9,53 | |
| | | | 30,80 | 36,00 | 70,00 ⁽²⁾ | |
| 16 | 406 | 610 | 4,19 | 4,78 | 9,53 | |
| | | | 45,30 | 47,50 | 92,00 ⁽²⁾ | |
| 18 | 457 | 686 | 4,19 | 4,78 | 9,53 | |
| | | | 56,60 | 60,00 | 122,00 ⁽²⁾ | |
| 20 | 508 | 762 | 4,78 | 5,54 | 9,53 | |
| | | | 75,00 | 100,00 | 150,00 ⁽²⁾ | |
| 22 | 559 | 838 | 4,78 | 5,54 | 9,53 | |
| | | | | | | |
| 24 | 610 | 914 | 5,54 | 6,35 | 9,53 | |
| | | | 130,00 | 140,00 | 210,00 ⁽²⁾ | |

Weights are approximate.
(1) The dimension may be 29 mm at the manufacturer's option
(2) Those do not conform to ASME B 36-19 M

coudes long rayon à 180°

ASME B 16-9 – 1993
MSS-SP 43-1991



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to-center | Hauteur Back-to-face | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----------------------------|-------------------------|----------------------------------|---------|---------|---------|
| | | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | |
| 1/2 | 21 | 76 | 48 | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | 0,10 | 0,12 | 0,16 | 0,20 |
| 3/4 | 27 | 76 (1) | 51 (1) | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 0,14 | 0,19 | 0,23 | 0,32 |
| 1 | 33 | 76 | 56 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,24 | 0,34 | 0,35 | 0,65 |
| 1 1/4 | 42 | 95 | 70 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,45 | 0,57 | 0,75 | 1,10 |
| 1 1/2 | 48 | 114 | 83 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,60 | 0,80 | 1,05 | 1,40 |
| 2 | 60 | 152 | 106 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 0,95 | 1,40 | 2,00 | 2,80 |
| 2 1/2 | 73 | 191 | 132 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,60 | 2,70 | 3,50 | 4,40 |
| 3 | 89 | 229 | 159 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 2,40 | 4,50 | 5,80 | 7,80 |
| 3 1/2 | 102 | 267 | 184 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 3,00 | 4,80 | 7,10 | 10,00 |
| 4 | 114 | 305 | 210 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 5,40 | 6,20 | 11,10 | 15,50 |

Les masses indiquées sont approximatives

(1) Les dimensions O et K pour NPS 3/4" peuvent être respectivement 57 et 43 mm à l'option du fabricant

(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

(3) NPS 22" uniquement pour ASME B16-9

long radius returns

ASME B 16-9 – 1993
MSS-SP 43-1991

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to-center | Hauteur Back-to-face | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----------------------------|-------------------------|----------------------------------|---------|---------|---------|
| | | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | |
| 5 | 141 | 381 | 262 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 5,90 | 7,30 | 14,10 | 19,50 |
| 6 | 168 | 457 | 313 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 9,10 | 10,90 | 21,70 | 32,50 |
| 8 | 219 | 610 | 414 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 15,90 | 21,50 | 43,00 | 66,00 |
| 10 | 273 | 762 | 518 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 29,00 | 39,00 | 77,00 | 103,00 |
| 12 | 324 | 914 | 619 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 46,20 | 54,50 | 120,00 | 160,00 |
| 14 | 356 | 1067 | 711 | 3,96 | 4,78 | 9,53 | |
| | | | | 62,00 | 72,50 | 140,00 | (2) |
| 16 | 406 | 1219 | 813 | 4,19 | 4,78 | 9,53 | |
| | | | | 91,00 | 96,00 | 185,00 | (2) |
| 18 | 457 | 1372 | 914 | 4,19 | 4,78 | 9,53 | |
| | | | | 113,00 | 120,00 | 245,00 | (2) |
| 20 | 508 | 1524 | 1016 | 4,78 | 5,54 | 9,53 | |
| | | | | 150,00 | 200,00 | 300,00 | (2) |
| 22 (3) | 559 | 1676 | 1118 | 4,78 | 5,54 | | |
| | | | | | | | |
| 24 | 610 | 1829 | 1219 | 5,54 | 6,35 | 9,53 | |
| | | | | 255,00 | 280,00 | 420,00 | (2) |

Weights are approximate

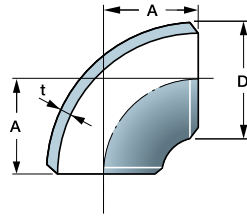
(1) O and K dimensions for size NPS 3/4" may be O = 57 mm and K = 43 mm at the manufacturer's option

(2) Those do not conform to ASME B 36-19 M

(3) NPS 22" only for ASME B 16-9

coudes court rayon à 90°

ASME B 16-28 – 1994



90° short radius elbows

ASME B 16-28 – 1994

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à- extrémité Center-to-end | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|---|---|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | A – mm | | | | |
| 1 | 33 | 25 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | 0,08 | 0,10 | 0,12 | 0,18 |
| 1 1/4 | 42 | 32 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | 0,14 | 0,17 | 0,20 | 0,30 |
| 1 1/2 | 48 | 38 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | 0,19 | 0,22 | 0,30 | 0,40 |
| 2 | 60 | 51 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | 0,30 | 0,37 | 0,50 | 0,70 |
| 2 1/2 | 73 | 64 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | 0,60 | 0,75 | 1,05 | 1,30 |
| 3 | 89 | 76 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | 0,80 | 1,00 | 1,50 | 1,90 |
| 3 1/2 | 102 | 89 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | 1,05 | 1,40 | 2,05 | 2,40 |
| 4 | 114 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | 1,40 | 1,70 | 3,10 | 4,10 |
| 5 | 141 | 127 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | 2,25 | 2,80 | 5,30 | 7,30 |
| 6 | 168 | 152 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | 3,50 | 4,20 | 7,90 | 11,80 |

Les masses indiquées sont approximatives.

(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

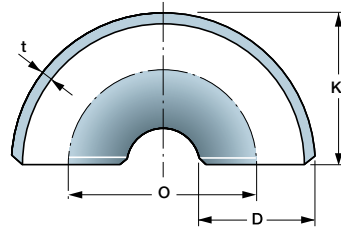
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Centre-à- extrémité Center-to-end | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|---|---|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | A – mm | | | | |
| 8 | 219 | 203 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | 7,00 | 8,00 | 17,00 | 25,00 |
| 10 | 273 | 254 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | 12,40 | 15,90 | 28,50 | 45,00 |
| 12 | 324 | 305 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | 15,90 | 18,10 | 36,00 | 57,00 |
| 14 | 356 | 356 | 3,96 | 4,78 | 9,53 | |
| | | | 20,00 | 23,50 | 46,00 | |
| 16 | 406 | 406 | 4,19 | 4,78 | 9,53 | |
| | | | 29,50 | 31,00 | 60,00 | |
| 18 | 457 | 457 | 4,19 | 4,78 | 9,53 | |
| | | | 36,70 | 39,50 | 79,00 | (2) |
| 20 | 508 | 508 | 4,78 | 5,54 | 9,53 | |
| | | | 49,00 | 65,00 | 97,00 | (2) |
| 22 | 559 | 559 | 4,78 | 5,54 | | |
| | | | | | | |
| 24 | 610 | 610 | 5,54 | 6,35 | 9,53 | |
| | | | 83,00 | 92,00 | 137,00 | (2) |
| | | | | | | |

Weights are approximate

(2) Those do not conform to ASME B 36-19 M

coudes court rayon à 180°

ASME B 16-28 – 1994



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to- center | Hauteur Back-to- face | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|---|---------------------------------|-----------------------------|----------------------------------|---------|---------|---------|
| | | | | † ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | |
| 1 | 33 | 51 | 41 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,16 | 0,20 | 0,24 | 0,35 |
| 1 1/4 | 42 | 64 | 52 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,30 | 0,35 | 0,40 | 0,60 |
| 1 1/2 | 48 | 76 | 62 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,40 | 0,45 | 0,60 | 0,80 |
| 2 | 60 | 102 | 81 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 0,55 | 0,75 | 1,05 | 1,40 |
| 2 1/2 | 73 | 127 | 100 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,15 | 1,25 | 2,05 | 2,60 |
| 3 | 89 | 152 | 121 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 1,60 | 2,00 | 3,00 | 3,80 |
| 3 1/2 | 102 | 178 | 140 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 2,15 | 2,75 | 4,10 | 4,80 |
| 4 | 114 | 203 | 159 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 2,80 | 3,50 | 6,25 | 8,20 |
| 5 | 141 | 254 | 197 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 4,50 | 5,60 | 10,50 | 15,00 |
| 6 | 168 | 305 | 237 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 7,00 | 8,30 | 16,00 | 24,00 |

Les masses indiquées sont approximatives.

(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

180° short radius returns

ASME B 16-28 – 1994

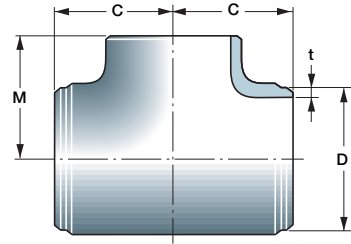
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Entraxe Center-to- center | Hauteur Back-to- face | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|---|---------------------------------|-----------------------------|----------------------------------|---------|---------|---------|
| | | | | † ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | O – mm | K – mm | | | | |
| 8 | 219 | 406 | 313 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 14,00 | 16,00 | 34,00 | 50,00 |
| 10 | 273 | 508 | 391 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 25,00 | 32,00 | 57,00 | 90,00 |
| 12 | 324 | 610 | 467 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 32,00 | 36,00 | 73,00 | 113,00 |
| 14 | 356 | 711 | 533 | 3,96 | 4,78 | 9,53 | |
| | | | | 40,00 | 47,00 | 92,00 | |
| 16 | 406 | 813 | 610 | 4,19 | 4,78 | 9,53 | |
| | | | | 60,00 | 62,00 | 120,00 | |
| 18 | 457 | 914 | 686 | 4,19 | 4,78 | 9,53 | |
| | | | | 74,00 | 78,00 | 160,00 | (2) |
| 20 | 508 | 1016 | 762 | 4,78 | 5,54 | 9,53 | |
| | | | | 97,00 | 130,00 | 195,00 | (2) |
| 22 | 559 | 1118 | 838 | 4,78 | 5,54 | | |
| | | | | | | | |
| 24 | 610 | 1219 | 914 | 5,54 | 6,35 | 9,53 | |
| | | | | 165,00 | 185,00 | 275,00 | (2) |
| | | | | | | | |

Weights are approximate

(2) Those do not conform to ASME B 36-19 M

tés égaux

ASME B 16-9 – 1993
MSS-SP 43-1991



straight tees

ASME B 16-9 – 1993
MSS-SP 43-1991

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-------------------------------|--------|----------------------------------|---------|---------|---------|
| | | C – mm | M – mm | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | | | | |
| 1/2 | 21 | 25 | 25 | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | 00,9 | 0,10 | 0,12 | 0,14 |
| 3/4 | 27 | 29 | 29 | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 0,10 | 0,13 | 0,17 | 0,20 |
| 1 | 33 | 38 | 38 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,18 | 0,28 | 0,30 | 0,40 |
| 1 1/4 | 42 | 48 | 48 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,35 | 0,50 | 0,60 | 0,70 |
| 1 1/2 | 48 | 57 | 57 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,45 | 0,70 | 0,90 | 1,05 |
| 2 | 60 | 64 | 64 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 0,55 | 0,85 | 1,30 | 1,60 |
| 2 1/2 | 73 | 76 | 76 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,00 | 1,40 | 2,20 | 3,10 |
| 3 | 89 | 86 | 86 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 1,55 | 1,80 | 3,30 | 4,40 |
| 3 1/2 | 102 | 95 | 95 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 2,50 | 2,70 | 4,10 | 5,40 |
| 4 | 114 | 105 | 105 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 3,30 | 3,50 | 5,30 | 7,70 |

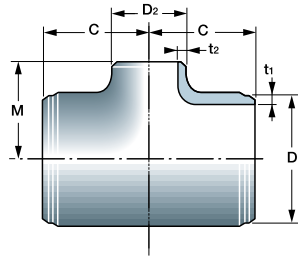
Les masses indiquées sont approximatives.
(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M
(3) NPS 22" uniquement pour ASME B16-9

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-------------------------------|--------|----------------------------------|---------|---------|---------|
| | | C – mm | M – mm | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | | | | |
| 5 | 141 | 124 | 124 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 5,90 | 6,10 | 9,40 | 11,50 |
| 6 | 168 | 143 | 143 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 7,80 | 8,10 | 11,00 | 13,60 |
| 8 | 219 | 178 | 178 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 14,00 | 15,60 | 21,00 | 28,00 |
| 10 | 273 | 216 | 216 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 25,00 | 27,00 | 36,00 | 50,00 |
| 12 | 324 | 254 | 254 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 38,00 | 40,00 | 62,00 | 84,00 |
| 14 | 356 | 279 | 279 | 3,96 | 4,78 | 9,53 | |
| | | | | 40,00 | 48,00 | 79,00 | (2) |
| 16 | 406 | 305 | 305 | 4,19 | 4,78 | 9,53 | |
| | | | | 52,00 | 59,00 | 100,00 | (2) |
| 18 | 457 | 343 | 343 | 4,19 | 4,78 | 9,53 | |
| | | | | 68,00 | 77,00 | 130,00 | (2) |
| 20 | 508 | 381 | 381 | 4,78 | 5,54 | 9,53 | |
| | | | | 78,00 | 103,00 | 162,00 | (2) |
| 22 (3) | 559 | 419 | 419 | 4,78 | 5,54 | | |
| | | | | | | | |
| 24 | 610 | 432 | 432 | 5,54 | 6,35 | 9,53 | |
| | | | | 90,00 | 155,00 | 225,00 | (2) |

Weights are approximate
(2) Those do not conform to ASME B 36-19 M
(3) NPS 22" only for ASME B 16-9

tés réduits

ASME B 16-9 – 1993
MSS-SP 43-1991



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|--------|-------------------------------|-----------------|----------------------------|---------|---------|---------|
| | | | | | t ₁ ép./W.T. mm | | | |
| | | | | | t ₂ ép./W.T. mm | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight kg | | | | |
| 1/2 x 3/8 (3) | 21 | 17 | 25 | 25 | 2,11 | 2,77 | 3,73 | |
| | | | | | 1,65 | 2,31 | 3,20 | |
| | | | | | 0,09 | 0,10 | 0,13 | |
| 1/2 x 1/4 (3) | 21 | 14 | 25 | 25 | 2,11 | 2,77 | 3,73 | |
| | | | | | 1,65 | 2,24 | 3,02 | |
| | | | | | 0,08 | 0,09 | 0,11 | |
| 3/4 x 1/2 | 27 | 21 | 29 | 29 | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | | 0,11 | 0,13 | 0,15 | 0,19 |
| 3/4 x 3/8 (3) | 27 | 17 | 29 | 29 | 2,11 | 2,87 | 3,91 | |
| | | | | | 1,65 | 2,31 | 3,20 | |
| | | | | | 0,11 | 0,14 | 0,17 | |
| 1 x 3/4 | 33 | 27 | 38 | 38 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | | 0,17 | 0,27 | 0,28 | 0,36 |
| 1 x 1/2 | 33 | 21 | 38 | 38 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | | 0,16 | 0,26 | 0,27 | 0,35 |
| 1 1/4 x 1 | 42 | 33 | 48 | 48 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | | 0,31 | 0,46 | 0,53 | 0,34 |
| 1 1/4 x 3/4 | 42 | 27 | 48 | 48 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | | 0,30 | 0,44 | 0,52 | 0,64 |
| 1 1/4 x 1/2 | 42 | 21 | 48 | 48 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | | 0,29 | 0,43 | 0,51 | 0,61 |
| 1 1/2 x 1 1/4 | 48 | 42 | 57 | 57 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 0,39 | 0,67 | 0,78 | 0,92 |
| 1 1/2 x 1 | 48 | 33 | 57 | 57 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | | 0,38 | 0,64 | 0,76 | 0,90 |

Les masses indiquées sont approximatives.
(3) Uniquement pour ASME B16-9

reducing outlet tees

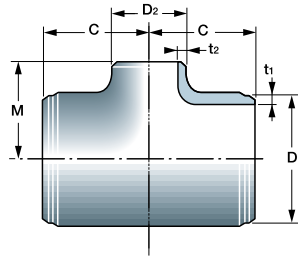
ASME B 16-9 – 1993
MSS-SP 43-1991

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|--------|-------------------------------|-----------------|----------------------------|---------|---------|---------|
| | | | | | t ₁ ép./W.T. mm | | | |
| | | | | | t ₂ ép./W.T. mm | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight kg | | | | |
| 1 1/2 x 3/4 | 48 | 27 | 57 | 57 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | | 0,37 | 0,62 | 0,74 | 0,88 |
| 1 1/2 x 1/2 (3) | 48 | 21 | 57 | 57 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | | 0,36 | 0,61 | 0,73 | 0,86 |
| 2 x 1 1/2 | 60 | 48 | 64 | 60 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 0,49 | 0,77 | 1,15 | 1,43 |
| 2 x 1 1/4 | 60 | 42 | 64 | 57 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 0,48 | 0,75 | 1,13 | 1,40 |
| 2 x 1 | 60 | 33 | 64 | 51 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | | 0,47 | 0,73 | 1,10 | 1,37 |
| 2 x 3/4 | 60 | 27 | 64 | 44 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | | 0,46 | 0,71 | 1,08 | 1,35 |
| 2 1/2 x 2 | 73 | 60 | 76 | 70 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 0,88 | 1,21 | 1,98 | 2,80 |
| 2 1/2 x 1 1/2 | 73 | 48 | 76 | 67 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 0,86 | 1,19 | 1,93 | 2,75 |
| 2 1/2 x 1 1/4 | 73 | 42 | 76 | 64 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 0,84 | 1,17 | 1,89 | 2,70 |
| 2 1/2 x 1 | 73 | 33 | 76 | 57 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | | 0,83 | 1,15 | 1,87 | 2,65 |

Weights are approximate
(3) Only for ASME B 16-9

tés réduits

ASME B 16-9 – 1993
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reducing outlet tees

ASME B 16-9 – 1993
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| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|--------|-------------------------------|-----------------|----------------------------|---------|---------|---------|
| | | | | | t ₁ ép./W.T. mm | | | |
| | | | | | t ₂ ép./W.T. mm | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight kg | | | | |
| 3 x 2 1/2 | 89 | 73 | 86 | 83 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 1,39 | 1,70 | 3,00 | 4,00 |
| 3 x 2 | 89 | 60 | 86 | 76 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 1,35 | 1,65 | 2,90 | 3,90 |
| 3 x 1 1/2 | 89 | 48 | 86 | 73 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 1,33 | 1,60 | 2,85 | 3,85 |
| 3 x 1 1/4 (3) | 89 | 42 | 86 | 70 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | | 1,31 | 1,57 | 2,80 | 3,80 |
| 3 1/2 x 3 | 102 | 89 | 95 | 92 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 2,24 | 2,15 | 4,15 | 4,90 |
| 3 1/2 x 2 1/2 | 102 | 73 | 95 | 89 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 2,19 | 2,10 | 4,05 | 4,80 |
| 3 1/2 x 2 | 102 | 60 | 95 | 83 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 2,14 | 2,05 | 3,50 | 4,70 |
| 3 1/2 x 1 1/2 | 102 | 48 | 95 | 79 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 2,12 | 2,00 | 3,45 | 4,60 |
| 4 x 3 1/2 | 114 | 102 | 105 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 2,94 | 3,10 | 4,70 | 6,95 |
| 4 x 3 | 114 | 89 | 105 | 98 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 2,87 | 3,05 | 4,65 | 6,80 |
| 4 x 2 1/2 | 114 | 73 | 105 | 95 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 2,80 | 2,97 | 4,55 | 6,60 |

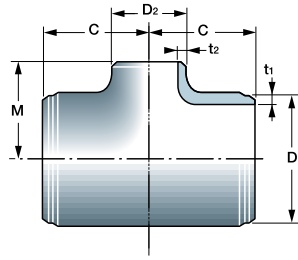
Les masses indiquées sont approximatives.
(3) Uniquement pour ASME B16-9

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|--------|-------------------------------|-----------------|----------------------------|---------|---------|---------|
| | | | | | t ₁ ép./W.T. mm | | | |
| | | | | | t ₂ ép./W.T. mm | | | |
| Pouces/Inches | D – mm | C – mm | M – mm | masse/weight kg | | | | |
| 4 x 2 | 114 | 60 | 105 | 89 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 2,77 | 2,93 | 4,50 | 6,55 |
| 4 x 1 1/2 | 114 | 48 | 105 | 86 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 2,74 | 2,90 | 4,45 | 6,50 |
| 5 x 4 | 141 | 114 | 124 | 117 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 5,30 | 5,50 | 8,50 | 10,20 |
| 5 x 3 1/2 | 141 | 102 | 124 | 114 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 5,18 | 5,35 | 8,30 | 10,00 |
| 5 x 3 | 141 | 89 | 124 | 111 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 5,10 | 5,25 | 8,10 | 9,75 |
| 5 x 2 1/2 | 141 | 73 | 124 | 108 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 5,00 | 5,20 | 8,00 | 9,65 |
| 5 x 2 | 141 | 60 | 124 | 105 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 4,95 | 5,10 | 7,90 | 9,50 |
| 6 x 5 | 168 | 141 | 143 | 137 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 7,00 | 7,25 | 12,30 | 12,20 |
| 6 x 4 | 168 | 114 | 143 | 130 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 6,85 | 7,10 | 12,10 | 12,00 |
| 6 x 3 1/2 | 168 | 102 | 143 | 127 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 6,70 | 6,95 | 12,00 | 11,70 |

Weights are approximate
(3) Only for ASME B 16-9

tés réduits

ASME B 16-9 – 1993
MSS-SP 43-1991



reducing outlet tees

ASME B 16-9 – 1993
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| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|---------|---------|---------|
| | | | | | t ₁ ép./W.T. mm | | | |
| | | | | | t ₂ ép./W.T. mm | | | |
| Pouces/Inches | D – mm | | C – mm | M – mm | masse/weight kg | | | |
| 6 x 3 | 168 | 89 | 143 | 124 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| 6 x 2 1/2 | 168 | 73 | 143 | 121 | 6,65 | 6,85 | 11,90 | 11,50 |
| | | | | | 2,77 | 3,40 | 7,11 | 10,97 |
| 8 x 6 | 219 | 168 | 178 | 168 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 6,60 | 6,75 | 11,70 | 11,40 |
| 8 x 5 | 219 | 141 | 178 | 162 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | | 2,77 | 3,40 | 7,11 | 10,97 |
| 8 x 4 | 219 | 114 | 178 | 156 | 12,60 | 14,00 | 18,80 | 25,30 |
| | | | | | 2,77 | 3,76 | 8,18 | 12,70 |
| 8 x 3 1/2 | 219 | 102 | 178 | 152 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| 10 x 8 | 273 | 219 | 216 | 203 | 12,40 | 13,70 | 18,40 | 24,70 |
| | | | | | 2,77 | 3,76 | 8,18 | 12,70 |
| 10 x 6 | 273 | 168 | 216 | 194 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 12,10 | 13,40 | 18,00 | 24,20 |
| 10 x 5 | 273 | 141 | 216 | 191 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| 10 x 4 | 273 | 114 | 216 | 184 | 11,90 | 13,30 | 17,80 | 23,90 |
| | | | | | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | | 22,40 | 24,10 | 31,80 | 44,80 |
| | | | | | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | | 21,90 | 23,50 | 31,10 | 43,90 |
| | | | | | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 21,40 | 23,00 | 30,40 | 42,90 |
| | | | | | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 21,20 | 22,70 | 30,00 | 42,40 |

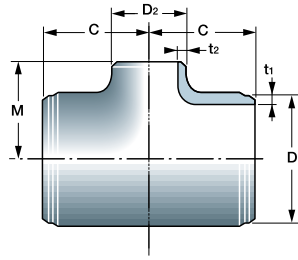
Les masses indiquées sont approximatives.
(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S (2) | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|---------|-------------|---------|
| | | | | | t ₁ ép./W.T. mm | | | |
| | | | | | t ₂ ép./W.T. mm | | | |
| Pouces/Inches | D – mm | | C – mm | M – mm | masse/weight kg | | | |
| 12 x 10 | 324 | 273 | 254 | 241 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | | 3,40 | 4,19 | 9,27 | 12,70 |
| 12 x 8 | 324 | 219 | 254 | 229 | 33,80 | 35,50 | 55,70 | 75,20 |
| | | | | | 3,96 | 4,57 | 9,53 | 12,70 |
| 12 x 6 | 324 | 168 | 254 | 219 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | | 33,10 | 34,70 | 54,40 | 73,80 |
| 12 x 5 | 324 | 141 | 254 | 216 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| 14 x 12 | 356 | 324 | 279 | 270 | 32,30 | 33,90 | 53,50 | 72,00 |
| | | | | | 3,96 | 4,78 | 9,53 | |
| 14 x 10 | 356 | 273 | 279 | 257 | 3,96 | 4,57 | 9,53 | |
| | | | | | 36,30 | 43,60 | 71,10 | |
| 14 x 8 | 356 | 219 | 279 | 248 | 3,96 | 4,78 | 9,53 | |
| | | | | | 3,40 | 4,19 | 9,27 | |
| 14 x 6 | 356 | 168 | 279 | 238 | 35,50 | 42,70 | 69,80 | |
| | | | | | 3,96 | 4,78 | 9,53 | |
| 16 x 14 | 406 | 356 | 305 | 305 | 2,77 | 3,76 | 8,18 | |
| | | | | | 34,70 | 41,70 | 68,00 | |
| 16 x 12 | 406 | 324 | 305 | 295 | 3,96 | 4,78 | 9,53 | |
| | | | | | 2,77 | 3,40 | 7,11 | |
| | | | | | 34,30 | 41,20 | 67,00 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 3,96 | 4,78 | 9,53 | |
| | | | | | 46,70 | 53,00 | 90,00 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 3,96 | 4,57 | 9,53 | |
| | | | | | 45,80 | 51,60 | 87,50 | |

Weights are approximate
(2) Those do not conform to ASME B 36-19 M

tés réduits

ASME B 16-9 – 1993
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| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S (2) | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|----------------------------|-----------------|---------|
| | D – mm | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg | |
| 16 x 10 | 406 | 273 | 305 | 283 | 4,19 | 4,78 | 9,53 | |
| | | | | | 3,40 | 4,19 | 9,27 | |
| | | | | | 44,80 | 50,70 | 85,50 | |
| 16 x 8 | 406 | 219 | 305 | 273 | 4,19 | 4,78 | 9,53 | |
| | | | | | 2,77 | 3,76 | 8,18 | |
| | | | | | 44,30 | 49,80 | 84,50 | |
| 16 x 6 | 406 | 168 | 305 | 264 | 4,19 | 4,78 | 9,53 | |
| | | | | | 2,77 | 3,40 | 7,11 | |
| | | | | | 43,80 | 49,40 | 83,50 | |
| 18 x 16 | 457 | 406 | 343 | 330 | 4,19 | 4,78 | 9,53 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 60,70 | 68,90 | 116,00 | |
| 18 x 14 | 457 | 356 | 343 | 330 | 4,19 | 4,78 | 9,53 | |
| | | | | | 3,96 | 4,78 | 9,53 | |
| | | | | | 59,30 | 67,00 | 114,00 | |
| 18 x 12 | 457 | 324 | 343 | 321 | 4,19 | 4,78 | 9,53 | |
| | | | | | 3,96 | 4,57 | 9,53 | |
| | | | | | 58,00 | 65,70 | 111,00 | |
| 18 x 10 | 457 | 273 | 343 | 308 | 4,19 | 4,78 | 9,53 | |
| | | | | | 3,40 | 4,19 | 9,27 | |
| | | | | | 57,00 | 64,80 | 110,00 | |
| 18 x 8 | 457 | 219 | 343 | 298 | 4,19 | 4,78 | 9,53 | |
| | | | | | 2,77 | 3,76 | 8,18 | |
| | | | | | 56,60 | 64,30 | 109,00 | |
| 20 x 18 | 508 | 457 | 381 | 368 | 4,78 | 5,54 | 9,53 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 69,80 | 93,00 | 146,00 | |
| 20 x 16 | 508 | 406 | 381 | 356 | 4,78 | 5,54 | 9,53 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 68,80 | 90,50 | 143,00 | |

Les masses indiquées sont approximatives.
(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M
(3) Uniquement dans ASME B16-9

reducing outlet tees

ASME B 16-9 – 1993
MSS-SP 43-1991

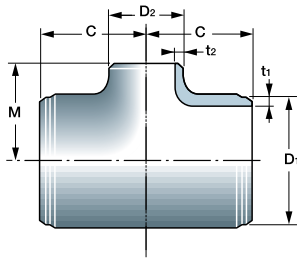
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S (2) | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|----------------------------|-----------------|---------|
| | D – mm | | C – mm | M – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg | |
| 20 x 14 | 508 | 356 | 381 | 356 | 4,78 | 5,54 | 9,53 | |
| | | | | | 3,96 | 4,78 | 9,53 | |
| | | | | | 66,60 | 89,00 | 140,00 | |
| 20 x 12 | 508 | 324 | 381 | 346 | 4,78 | 5,54 | 9,53 | |
| | | | | | 3,96 | 4,57 | 9,53 | |
| | | | | | 65,70 | 87,50 | 138,00 | |
| 20 x 10 | 508 | 273 | 381 | 333 | 4,78 | 5,54 | 9,53 | |
| | | | | | 3,40 | 4,19 | 9,27 | |
| | | | | | 64,80 | 86,50 | 136,00 | |
| 20 x 8 | 508 | 219 | 381 | 324 | 4,78 | 5,54 | 9,53 | |
| | | | | | 2,77 | 3,76 | 8,18 | |
| | | | | | 63,90 | 85,50 | 135,00 | |
| 22 x 20 (3) | 559 | 508 | 419 | 406 | 4,78 | 5,54 | | |
| | | | | | 4,78 | 5,54 | | |
| 22 x 18 (3) | 559 | 457 | 419 | 394 | 4,78 | 5,54 | | |
| | | | | | 4,19 | 4,78 | | |
| 22 x 16 (3) | 559 | 406 | 419 | 381 | 4,78 | 5,54 | | |
| | | | | | 4,19 | 4,78 | | |
| 22 x 14 (3) | 559 | 356 | 419 | 381 | 4,78 | 5,54 | | |
| | | | | | 3,96 | 4,78 | | |
| 22 x 12 (3) | 559 | 324 | 419 | 371 | 4,78 | 5,54 | | |
| | | | | | 3,96 | 4,57 | | |
| 22 x 10 (3) | 559 | 273 | 419 | 359 | 4,78 | 5,54 | | |
| | | | | | 3,40 | 4,19 | | |

Weights are approximate
(2) Those do not conform to ASME B 36-19 M
(3) Only in ASME B 16-9

tés réduits

reducing outlet tees

ASME B 16.9 - 1993
MSS-SP 43-1991



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Encombrement Center-to-end | | SCH 5S | SCH 10S | SCH 40S (2) | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|---------|----------------------------|---------|
| | D - mm | | C - mm | M - mm | t ₁ ép./W.T. mm | | t ₂ ép./W.T. mm | |
| Pouces/Inches | | | | | masse/weight kg | | | |
| 24 x 22 (3) | 610 | 559 | 432 | 432 | 5,54 | 6,35 | | |
| | | | | | 4,78 | 5,54 | | |
| 24 x 20 | 610 | 508 | 432 | 432 | 5,54 | 6,35 | 9,53 | |
| | | | | | 4,78 | 5,54 | 9,53 | |
| | | | | | 121,00 | 140,00 | 207,00 | |
| 24 x 18 | 610 | 457 | 432 | 419 | 5,54 | 6,35 | 9,53 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 119,00 | 137,00 | 198,00 | |
| 24 x 16 | 610 | 406 | 432 | 406 | 5,54 | 6,35 | 9,53 | |
| | | | | | 4,19 | 4,78 | 9,53 | |
| | | | | | 116,00 | 134,00 | 194,00 | |
| 24 x 14 | 610 | 356 | 432 | 406 | 5,54 | 6,35 | 9,53 | |
| | | | | | 3,96 | 4,78 | 9,53 | |
| | | | | | 115,00 | 132,00 | 191,00 | |
| 24 x 12 | 610 | 324 | 432 | 397 | 5,54 | 6,35 | 9,53 | |
| | | | | | 3,96 | 4,57 | 9,53 | |
| | | | | | 113,00 | 130,00 | 189,00 | |
| 24 x 10 | 610 | 273 | 432 | 384 | 5,54 | 6,35 | 9,53 | |
| | | | | | 3,40 | 4,19 | 9,27 | |
| | | | | | 112,00 | 129,00 | 187,00 | |

Les masses indiquées sont approximatives.

(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

(3) Uniquement dans ASME B16-9

Weights are approximate

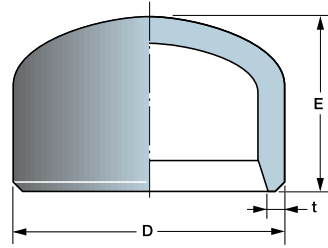
(2) Those do not conform to ASME B 36-19 M

(3) Only in ASME B 16-9



caps

ASME B 16-9 – 1993
MSS-SP 43-1991



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Hauteur Length E – mm | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|--------------------------|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | E – mm | | | | |
| 1/2 | 21 | 25 | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | 0,04 | 0,04 | 0,05 | 0,06 |
| 3/4 | 27 | 25 | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | 0,05 | 0,06 | 0,06 | 0,07 |
| 1 | 33 | 38 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | 0,08 | 0,09 | 0,13 | 0,14 |
| 1 1/4 | 42 | 38 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | 0,09 | 0,13 | 0,17 | 0,18 |
| 1 1/2 | 48 | 38 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | 0,10 | 0,14 | 0,23 | 0,25 |
| 2 | 60 | 38 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | 0,16 | 0,20 | 0,27 | 0,35 |
| 2 1/2 | 73 | 38 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | 0,25 | 0,30 | 0,45 | 0,50 |
| 3 | 89 | 51 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | 0,40 | 0,45 | 0,70 | 0,85 |
| 3 1/2 | 102 | 64 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | 0,55 | 0,60 | 1,05 | 1,15 |
| 4 | 114 | 64 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | 0,60 | 0,65 | 1,20 | 1,60 |

Les masses indiquées sont approximatives.
Note : La forme de ces caps pour ASME B 16-9 sera ellipsoïdale et conforme aux exigences du code «ASME Boiler and Pressure Vessel»

(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M
(3) Uniquement dans ASME B16-9

caps

ASME B 16-9 – 1993
MSS-SP 43-1991

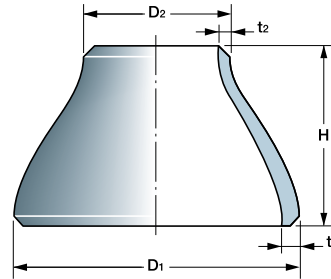
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | Hauteur Length E – mm | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|--------------------------|----------------------------------|---------|---------|---------|
| | | | t ép./W.T. mm masse/weight kg | | | |
| Pouces/Inches | D – mm | E – mm | | | | |
| 5 | 141 | 76 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | 0,90 | 1,05 | 1,90 | 2,60 |
| 6 | 168 | 89 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | 1,25 | 1,40 | 3,20 | 4,50 |
| 8 | 219 | 102 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | 2,10 | 2,50 | 5,70 | 7,40 |
| 10 | 273 | 127 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | 4,30 | 4,90 | 9,20 | 12,40 |
| 12 | 324 | 152 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | 6,40 | 7,00 | 13,00 | 16,60 |
| 14 | 356 | 165 | 3,96 | 4,78 | 9,53 | |
| | | | 7,80 | 8,50 | 16,50 | (2) |
| 16 | 406 | 178 | 4,19 | 4,78 | 9,53 | |
| | | | 13,50 | 14,50 | 22,00 | (2) |
| 18 | 457 | 203 | 4,19 | 4,78 | 9,53 | |
| | | | 17,20 | 18,00 | 27,00 | (2) |
| 20 | 508 | 229 | 4,78 | 5,54 | 9,53 | |
| | | | 25,00 | 27,50 | 34,00 | (2) |
| 22 (3) | 559 | 254 | 4,78 | 5,54 | | |
| 24 | 610 | 267 | 5,54 | 6,35 | 9,53 | |
| | | | 34,00 | 35,00 | 45,00 | (2) |

Weights are approximate
Note : The shape of these caps for ASME B 16-9 shall be ellipsoïdal and shall conform to the shape requirements as given in the ASME Boiler and Pressure Vessel Code.

(2) Those do not conform to ASME B 36-19 M
(3) Only in ASME B 16-9

réductions concentriques et excentriques

ASME B 16-9 – 1993
MSS-SP 43-1991

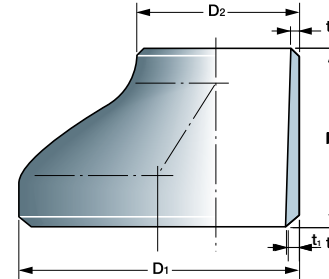


| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|----|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | D – mm | | | H – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| 3/4 x 1/2 | 27 | 21 | 38 | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | 0,08 | 0,10 | 0,13 | 0,18 |
| 3/4 x 3/8 (3) | 27 | 17 | 38 | | 2,11 | 2,87 | 3,91 |
| | | | | | 1,65 | 2,31 | 3,20 |
| | | | | | 0,09 | 0,12 | 0,17 |
| 1 x 3/4 | 33 | 27 | 51 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 0,08 | 0,13 | 0,16 | 0,21 |
| 1 x 1/2 | 33 | 21 | 51 | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | 0,07 | 0,12 | 0,15 | 0,19 |
| 1 x 3/8 (4) | 33 | 17 | 51 | | 2,77 | 3,38 | 4,55 |
| | | | | | 1,65 | 2,31 | 3,20 |
| | | | | | | | |
| 1 1/4 x 1 | 42 | 33 | 51 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,10 | 0,18 | 0,22 | 0,27 |
| 1 1/4 x 3/4 | 42 | 27 | 51 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 0,10 | 0,17 | 0,21 | 0,25 |
| 1 1/4 x 1/2 | 42 | 21 | 51 | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | 0,09 | 0,16 | 0,20 | 0,23 |
| 1 1/2 x 1 1/4 | 48 | 42 | 64 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,12 | 0,21 | 0,28 | 0,36 |
| 1 1/2 x 1 | 48 | 33 | 64 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,11 | 0,20 | 0,26 | 0,33 |

Les masses indiquées sont approximatives.
(3) Uniquement dans ASME B16-9
(4) Uniquement dans MSS-SP 43

concentric and eccentric reducers

ASME B 16-9 – 1993
MSS-SP 43-1991

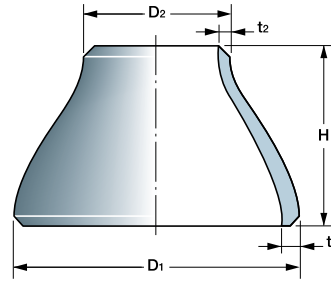


| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|----|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | D – mm | | | H – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| 1 1/2 x 3/4 | 48 | 27 | 64 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 0,11 | 0,18 | 0,24 | 0,32 |
| 1 1/2 x 1/2 | 48 | 21 | 64 | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 1,65 | 2,11 | 2,77 | 3,73 |
| | | | | 0,10 | 0,17 | 0,22 | 0,31 |
| 2 x 1 1/2 | 60 | 48 | 76 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,19 | 0,31 | 0,45 | 0,59 |
| 2 x 1 1/4 | 60 | 42 | 76 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,18 | 0,30 | 0,43 | 0,57 |
| 2 x 1 | 60 | 33 | 76 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,17 | 0,28 | 0,40 | 0,53 |
| 2 x 3/4 | 60 | 27 | 76 | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 1,65 | 2,11 | 2,87 | 3,91 |
| | | | | 0,15 | 0,25 | 0,36 | 0,50 |
| 2 1/2 x 2 | 73 | 60 | 89 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 0,32 | 0,47 | 0,80 | 1,05 |
| 2 1/2 x 1 1/2 | 73 | 48 | 89 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,30 | 0,44 | 0,76 | 0,94 |
| 2 1/2 x 1 1/4 | 73 | 42 | 89 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,29 | 0,43 | 0,73 | 0,90 |
| 2 1/2 x 1 | 73 | 33 | 89 | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,65 | 2,77 | 3,38 | 4,55 |
| | | | | 0,25 | 0,38 | 0,64 | 0,87 |

Weights are approximate
(3) Only in ASME B 16-9
(4) Only in MSS-SP 43

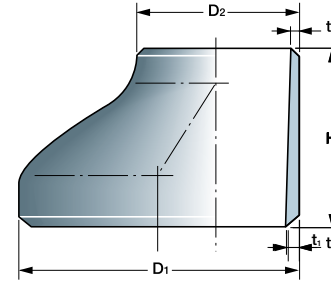
réductions concentriques et excentriques

ASME B 16-9 – 1993
MSS-SP 43-1991



concentric and eccentric reducers

ASME B 16-9 – 1993
MSS-SP 43-1991



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | D – mm | | | H – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| 3 x 2 1/2 | 89 | 73 | 89 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 0,41 | 0,59 | 1,10 | 1,49 |
| 3 x 2 | 89 | 60 | 89 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 0,38 | 0,55 | 1,00 | 1,29 |
| 3 x 1 1/2 | 89 | 48 | 89 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,35 | 0,51 | 0,94 | 1,20 |
| 3 x 1 1/4 | 89 | 42 | 89 | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,32 | 0,47 | 0,85 | 1,15 |
| 3 1/2 x 3 | 102 | 89 | 102 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 0,54 | 0,80 | 1,50 | 2,00 |
| 3 1/2 x 2 1/2 | 102 | 73 | 102 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 0,52 | 0,77 | 1,46 | 1,90 |
| 3 1/2 x 2 | 102 | 60 | 102 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | 0,48 | 0,71 | 1,35 | 1,75 |
| 3 1/2 x 1 1/2 | 102 | 48 | 102 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | 0,45 | 0,66 | 1,25 | 1,65 |
| 3 1/2 x 1 1/4 | 102 | 42 | 102 | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 1,65 | 2,77 | 3,56 | 4,85 |
| | | | | 0,42 | 0,62 | 1,20 | 1,60 |
| 4 x 3 1/2 | 114 | 102 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 0,63 | 0,90 | 1,80 | 2,40 |
| 4 x 3 | 114 | 89 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 0,61 | 0,87 | 1,75 | 2,30 |

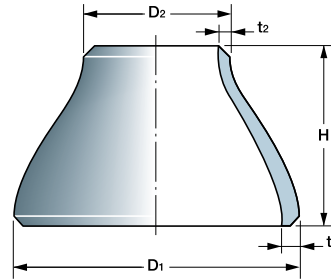
Les masses indiquées sont approximatives.

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | D – mm | | | H – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| 4 x 2 1/2 | 114 | 73 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 0,83 | 1,65 | 2,20 |
| 4 x 2 | 114 | 60 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 0,78 | 1,60 | 1,95 |
| 4 x 1 1/2 | 114 | 48 | 102 | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 1,65 | 2,77 | 3,68 | 5,08 |
| | | | | | 0,68 | 1,35 | 1,90 |
| 5 x 4 | 141 | 114 | 127 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 1,50 | 3,00 | 4,10 |
| 5 x 3 1/2 | 141 | 102 | 127 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 1,48 | 2,90 | 4,00 |
| 5 x 3 | 141 | 89 | 127 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | | 1,45 | 2,80 | 3,90 |
| 5 x 2 1/2 | 141 | 73 | 127 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | | 1,40 | 2,70 | 3,60 |
| 5 x 2 | 141 | 60 | 127 | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 1,65 | 2,77 | 3,91 | 5,54 |
| | | | | | 1,30 | 2,50 | 3,30 |
| 6 x 5 | 168 | 141 | 140 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | | 2,00 | 4,30 | 6,20 |
| 6 x 4 | 168 | 114 | 140 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | | 1,95 | 4,10 | 5,95 |
| 6 x 3 1/2 | 168 | 102 | 140 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | | 1,90 | 4,05 | 5,75 |

Weights are approximate

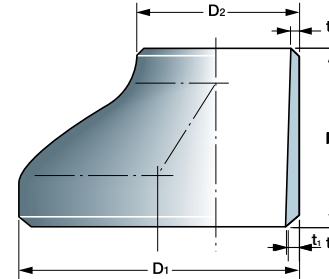
réductions concentriques et excentriques

ASME B 16-9 – 1993
MSS-SP 43-1991



concentric and eccentric reducers

ASME B 16-9 – 1993
MSS-SP 43-1991



| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | D – mm | | | H – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| 6 x 3 | 168 | 89 | 140 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 2,11 | 3,05 | 5,49 | 7,62 |
| | | | | 1,50 | 1,80 | 4,00 | 5,50 |
| 6 x 2 1/2 | 168 | 73 | 140 | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 2,11 | 3,05 | 5,16 | 7,01 |
| | | | | 1,45 | 1,55 | 3,80 | 4,90 |
| 8 x 6 | 219 | 168 | 152 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 2,30 | 3,20 | 6,90 | 10,10 |
| 8 x 5 | 219 | 141 | 152 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 2,20 | 3,10 | 6,70 | 9,70 |
| 8 x 4 | 219 | 114 | 152 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 2,15 | 3,00 | 6,50 | 9,20 |
| 8 x 3 1/2 | 219 | 102 | 152 | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 2,11 | 3,05 | 5,74 | 8,08 |
| | | | | 2,10 | 2,95 | 6,40 | 8,00 |
| 10 x 8 | 273 | 219 | 178 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 4,20 | 5,20 | 11,50 | 15,60 |
| 10 x 6 | 273 | 168 | 178 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 4,00 | 5,00 | 11,10 | 14,80 |
| 10 x 5 | 273 | 141 | 178 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 3,90 | 4,90 | 10,80 | 14,20 |
| 10 x 4 | 273 | 114 | 178 | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 2,11 | 3,05 | 6,02 | 8,56 |
| | | | | 3,80 | 4,70 | 10,50 | 12,50 |

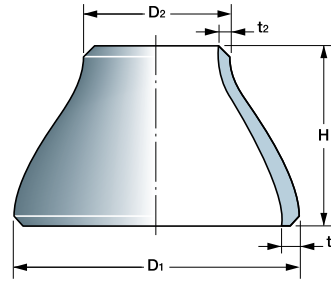
Les masses indiquées sont approximatives.
(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|----------------------------|----------------------------|-----------------|
| | D – mm | | | H – mm | t ₁ ép./W.T. mm | t ₂ ép./W.T. mm | masse/weight kg |
| 12 x 10 | 324 | 273 | 203 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 3,40 | 4,19 | 9,27 | 12,70 |
| | | | | 6,80 | 8,00 | 16,60 | 21,60 |
| 12 x 8 | 324 | 219 | 203 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 2,77 | 3,76 | 8,18 | 12,70 |
| | | | | 6,50 | 7,70 | 16,00 | 20,90 |
| 12 x 6 | 324 | 168 | 203 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 2,77 | 3,40 | 7,11 | 10,97 |
| | | | | 6,30 | 7,40 | 15,50 | 20,10 |
| 12 x 5 | 324 | 141 | 203 | 3,96 | 4,57 | 9,53 | 12,70 |
| | | | | 2,77 | 3,40 | 6,55 | 9,53 |
| | | | | 6,20 | 7,30 | 15,20 | 19,40 |
| 14 x 12 | 256 | 324 | 330 | 3,96 | 4,78 | 9,53 | |
| | | | | 3,96 | 4,57 | 9,53 (2) | |
| | | | | 12,50 | 15,30 | 30,50 | |
| 14 x 10 | 356 | 273 | 330 | 3,96 | 4,78 | 9,53 | |
| | | | | 3,40 | 4,19 | 9,27 (2) | |
| | | | | 11,80 | 14,40 | 28,80 | |
| 14 x 8 | 356 | 219 | 330 | 3,96 | 4,78 | 9,53 | |
| | | | | 2,77 | 3,76 | 8,18 (2) | |
| | | | | 11,40 | 13,90 | 27,70 | |
| 14 x 6 | 356 | 168 | 330 | 3,96 | 4,78 | 9,53 | |
| | | | | 2,77 | 3,40 | 7,11 (2) | |
| | | | | 10,70 | 13,10 | 26,30 | |
| 16 x 14 | 406 | 356 | 356 | 4,19 | 4,78 | 9,53 | |
| | | | | 3,96 | 4,78 | 9,53 (2) | |
| | | | | 16,50 | 18,80 | 37,60 | |
| 16 x 12 | 406 | 324 | 356 | 4,19 | 4,78 | 9,53 | |
| | | | | 3,96 | 4,57 | 9,53 (2) | |
| | | | | 16,10 | 18,30 | 36,70 | |

Weights are approximate
(2) Those do not conform to ASME B 36-19 M

réductions concentriques et excentriques

ASME B 16-9 – 1993
MSS-SP 43-1991

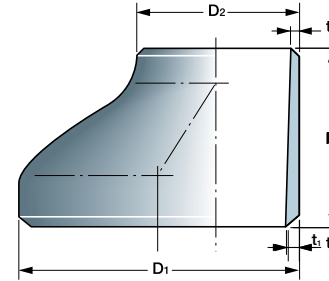


| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|-------------------|-------------------|-----------------|
| | D – mm | | | H – mm | t_1 ép./W.T. mm | t_2 ép./W.T. mm | masse/weight kg |
| 16 x 10 | 406 | 273 | 356 | 4,19 | 4,78 | 9,53 | |
| | | | | 3,40 | 4,19 | 9,27 (2) | |
| | | | | 15,60 | 17,70 | 35,40 | |
| 16 x 8 | 406 | 219 | 356 | 4,19 | 4,78 | 9,53 | |
| | | | | 2,77 | 3,76 | 8,18 (2) | |
| | | | | 14,60 | 16,70 | 33,30 | |
| 18 x 16 | 457 | 406 | 381 | 4,19 | 4,78 | 9,53 | |
| | | | | 4,19 | 4,78 | 9,53 (2) | |
| | | | | 19,80 | 22,50 | 44,90 | |
| 18 x 14 | 457 | 356 | 381 | 4,19 | 4,78 | 9,53 | |
| | | | | 3,96 | 4,78 | 9,53 (2) | |
| | | | | 19,20 | 21,90 | 43,70 | |
| 18 x 12 | 457 | 324 | 381 | 4,19 | 4,78 | 9,53 | |
| | | | | 3,96 | 4,57 | 9,53 (2) | |
| | | | | 18,90 | 21,40 | 42,90 | |
| 18 x 10 | 457 | 273 | 381 | 4,19 | 4,78 | 9,53 | |
| | | | | 3,40 | 4,19 | 9,27 (2) | |
| | | | | 18,50 | 21,00 | 42,00 | |
| 20 x 18 | 508 | 457 | 508 | 4,78 | 5,54 | 9,53 | |
| | | | | 4,19 | 4,78 | 9,53 (2) | |
| | | | | 30,00 | 33,00 | 67,00 | |
| 20 x 16 | 508 | 406 | 508 | 4,78 | 5,54 | 9,53 | |
| | | | | 4,19 | 4,78 | 9,53 (2) | |
| | | | | 29,00 | 32,00 | 65,00 | |
| 20 x 14 | 508 | 356 | 508 | 4,78 | 5,54 | 9,53 | |
| | | | | 3,96 | 4,78 | 9,53 (2) | |
| | | | | 28,00 | 31,00 | 61,00 | |
| 20 x 12 | 508 | 324 | 508 | 4,78 | 5,54 | 9,53 | |
| | | | | 3,96 | 4,57 | 9,53 | |
| | | | | 27,00 | 30,00 | 60,00 | |

Les masses indiquées sont approximatives.
(2) Ces dimensions ne sont pas reprises dans ASME B 36-19 M
(3) Uniquement dans ASME B16-9

concentric and eccentric reducers

ASME B 16-9 – 1993
MSS-SP 43-1991



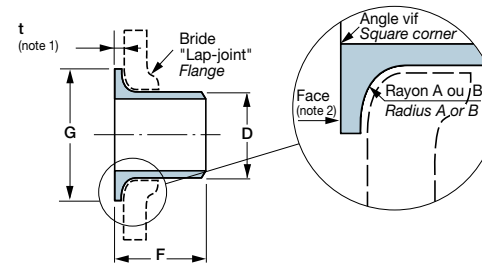
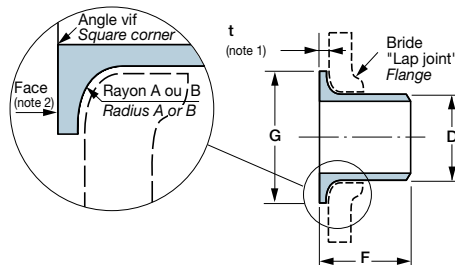
| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur au chanfrein Outside diameter at bevel | | Longueur End-to-end length | SCH 5S | SCH 10S | SCH 40S | SCH 80S |
|---|--|-----|-------------------------------|--------|-------------------|-------------------|-----------------|
| | D – mm | | | H – mm | t_1 ép./W.T. mm | t_2 ép./W.T. mm | masse/weight kg |
| 22 x 20 (3) | 559 | 508 | 508 | 4,78 | 5,54 | | |
| | | | | 4,78 | 5,54 | | |
| 22 x 18 (3) | 559 | 457 | 508 | 4,78 | 5,54 | | |
| | | | | 4,19 | 4,78 | | |
| 22 x 16 (3) | 559 | 406 | 508 | 4,78 | 5,54 | | |
| | | | | 4,19 | 4,78 | | |
| 22 x 14 (3) | 559 | 356 | 508 | 4,78 | 5,54 | | |
| | | | | 3,96 | 4,78 | | |
| 24 x 22 (3) | 610 | 559 | 508 | 5,54 | 6,35 | | |
| | | | | 4,78 | 5,54 | | |
| 24 x 20 | 610 | 508 | 508 | 5,54 | 6,35 | 9,53 | |
| | | | | 4,78 | 5,54 | 9,53 | |
| 24 x 18 | 610 | 457 | 508 | 4,19 | 4,78 | 9,53 | |
| | | | | 40,00 | 45,00 | 76,00 | |
| 24 x 16 | 610 | 406 | 508 | 5,54 | 6,35 | 9,53 | |
| | | | | 4,19 | 4,78 | 9,53 | |
| | | | | 39,00 | 44,00 | 75,00 | |

Weights are approximate
(2) Those do not conform to ASME B 36-19 M
(3) Only in ASME B 16-9

collets «stub end» types A et B

ASME B 16-9 – 1993
MSS-SP 43-1991

Type A pour bride tournante (5)
Type B pour bride slip-on (5)



lap joint stub ends types A and B

ASME B 16-9 – 1993
MSS-SP 43-1991

Type A for lap joint flange (5)
Type B for slip-on flange (5)

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur nominal au chanfrein Nominal outside diameter at bevel | Longueur (4) Length (4) | | Diamètre nominal et maxi du collet Nominal and maxi diameter of lap | Rayon du congé Radius of fillet | | Série courte (4) Short length (4) | | |
|---|--|----------------------------|--------------|--|------------------------------------|---------|--------------------------------------|--|----------------|
| | | Court Short | Long Long | | SCH 5S | SCH 10S | SCH 40S | † ép./W.T. mm masse/weight kg | |
| | | | | | | | | A - mm nom./maxi | B - mm maxi |
| 1/2 | 21 | 51 | 76 | 35 | 3 | 0,8 | 1,65 0,05 | 2,11 0,06 | 2,77 0,08 |
| 3/4 | 27 | 51 | 76 | 43 | 3 | 0,8 | 1,65 0,06 | 2,11 0,07 | 2,87 0,10 |
| 1 | 33 | 51 | 102 | 51 | 3 | 0,8 | 1,65 0,08 | 2,77 0,13 | 3,38 0,16 |
| 1 1/4 | 42 | 51 | 102 | 64 | 5 | 0,8 | 1,65 0,11 | 2,77 0,18 | 3,56 0,23 |
| 1 1/2 | 48 | 51 | 102 | 73 | 6 | 0,8 | 1,65 0,13 | 2,77 0,20 | 3,68 0,28 |
| 2 | 60 | 64 | 152 | 92 | 8 | 0,8 | 1,65 0,20 | 2,77 0,34 | 3,91 0,47 |
| 2 1/2 | 73 | 64 | 152 | 105 | 8 | 0,8 | 2,11 0,31 | 3,05 0,45 | 5,16 0,75 |
| 3 | 89 | 64 | 152 | 127 | 10 | 0,8 | 2,11 0,40 | 3,05 0,57 | 5,49 1,00 |
| 3 1/2 | 102 | 76 | 152 | 140 | 10 | 0,8 | 2,11 0,55 | 3,05 0,75 | 5,74 1,40 |
| 4 | 114 | 76 | 152 | 157 | 11 | 0,8 | 2,11 0,65 | 3,05 0,90 | 6,02 1,70 |

Les masses indiquées sont approximatives.

Notes :

- 1 - L'épaisseur minimale du collet T ne doit pas être inférieure à l'épaisseur nominale du tube.
- 2 - Les faces devront avoir des stries concentriques ou spirales.
- 3 - NPS 22" uniquement dans ASME B 16-9.

- 4 - La longueur «courte» est la seule dimension dans MSS-SP 43 et en option dans ASME B 16-9. La longueur «longue» n'est que dans l'ASME B 16-9 et est le standard de cette norme (longueur «courte» en option).
- 5 - Type A : conforme à ASME B 16-9 et MSS-SP 43
Type B : uniquement dans MSS-SP 43.

| Diamètre Nominal Nominal Pipe Size (NPS) | Dia. extérieur nominal au chanfrein Nominal outside diameter at bevel | Longueur (4) Length (4) | | Diamètre nominal et maxi du collet Nominal and maxi diameter of lap | Rayon du congé Radius of fillet | | Série courte (4) Short length (4) | | |
|---|--|----------------------------|----------------|--|------------------------------------|---------|--------------------------------------|--|----------------|
| | | Court Short | Long. Long. | | SCH 5S | SCH 10S | SCH 40S | † ép./W.T. mm masse/weight kg | |
| | | | | | | | | A - mm nom./maxi | B - mm maxi |
| 5 | 141 | 76 | 203 | 186 | 11 | 1,6 | 2,77 1,00 | 3,40 1,25 | 6,55 2,30 |
| 6 | 168 | 89 | 203 | 216 | 13 | 1,6 | 2,77 1,30 | 3,40 1,60 | 7,11 3,40 |
| 8 | 219 | 102 | 203 | 270 | 13 | 1,6 | 2,77 2,00 | 3,76 2,70 | 8,18 5,70 |
| 10 | 273 | 127 | 254 | 324 | 13 | 1,6 | 3,40 3,60 | 4,19 4,40 | 9,27 9,60 |
| 12 | 324 | 152 | 254 | 381 | 13 | 1,6 | 3,96 5,90 | 4,57 6,70 | 9,53 13,80 |
| 14 | 356 | 152 | 305 | 413 | 13 | 1,6 | 3,96 6,40 | 4,78 7,70 | |
| 16 | 406 | 152 | 305 | 470 | 13 | 1,6 | 4,19 7,90 | 4,78 9,00 | |
| 18 | 457 | 152 | 305 | 533 | 13 | 1,6 | 4,19 9,20 | 4,78 10,50 | |
| 20 | 508 | 152 | 305 | 584 | 13 | 1,6 | 4,78 11,70 | 5,54 13,50 | |
| 22 (3) | 559 | 152 | 305 | 641 | 13 | 1,6 | 4,78 | 5,54 | |
| 24 | 610 | 152 | 305 | 692 | 13 | 1,6 | 5,54 16,50 | 6,35 18,90 | |

Weights are approximate

Notes :

- 1 - The minimum lap thickness T shall not be less than nominal pipe wall thickness.
- 2 - Contact faces of stub ends shall have a modified spiral or concentric serration.
- 3 - NPS 22" only in ASME B 16-9.

- 4 - The short pattern is the standard in MSS-SP 43 and shall be specified by the purchaser in ASME B 16-9. In ASME B 16-9 the long pattern shall be the standard when not specified by the purchaser. The short pattern shall be specified by the purchaser.
- 5 - Type A : conforme à ASME B 16-9 et MSS-SP 43
Type B : only in MSS-SP 43.