

**INT**  
**Intertubi**

**INT**



*FITTINGS, FLANGES,  
PIPES AND VALVES*

**RACCORDI, FLANGE,  
TUBI E VALVOLE**



L'azienda | *The company*

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# INT Intertubi

La costante crescita, la capacità organizzativa e la soddisfazione dei clienti hanno portato, nel corso degli anni, a orientare gli investimenti in tre aree fondamentali:

- **Produzione** di raccordi a saldare in acciaio inossidabile e al carbonio con inserimento di attrezzature all'avanguardia. Grazie a questo impegno l'azienda ha ottenuto approvazioni e certificazioni di Qualità quali:
  - **EN ISO 9001:2008** con il seguente campo di applicazione "Fabbricazione di raccordi a saldare in acciaio e carbonio, legato ed inossidabile con dimensioni comprese tra 1/4" e 32"." "Commercializzazione ed immagazzinamento di raccordi, flange, valvole e tubi di tutti i tipi di materiali ferrosi e non ferrosi".
  - **AD 2000-Merkblatt WO** per i materiali prodotti e utilizzati, che supporta i requisiti dell'allegato I par. 4.3 della Direttiva **PED 97/23CE**.
- **Controllo Qualità** dei prodotti con realizzazione di aree dedicate alle fasi di collaudo;
- **Sicurezza sul Lavoro** ammodernamento e miglioramento continuo di misure di prevenzione e protezione per la tutela dei lavoratori all'interno dell'Azienda.

**La programmazione del magazzino e della produzione** attraverso sofisticati sistemi di gestione, come l'utilizzo di codici a barre, permette le operazioni di carico e scarico del materiale in tempo reale, garantendo la possibilità per i clienti, tramite il sito internet, di **verificare giacenze, effettuare ordini e stampare certificati di qualità dei prodotti**.

*Over the years, our constant growth, our organizational skills and our customer satisfaction have led us, to Focus our investment on three key areas:*

- **Production** of stainless steel and carbon steel welding fittings with the addition of avant-garde equipment. Thanks to this efforts the firm has got approvals and Quality certifications:
  - **EN ISO 9001:2008** in the following field of application "Manufacture of carbon, alloy and stainless fittings dimensional range 1/4" to 32"." "Trade and storage of joints, flanges, valves and pipes of all types of materials, ferrous and non-ferrous".
  - **AD 2000-Merkblatt WO** for materials produced and used, which abined by the requirements for Annex I par. 4.3 of the Directive PED 97/23/CE.
- **Quality Control** of the products with reimplementation testing phase
- **Occupational Safety** on modernization and continuous improvement of prevention and protection measures for the protection of workers within the company.

*The planning of the warehouse and the production through sophisticated management systems, such as the use of bar codes, allows for the operations of loading and unloading of the goods in real time.*

*It also allows customers to **check inventory, place orders and print certificates of product quality** on the website.*

Questa moderna impostazione della produzione e dei criteri di stoccaggio consente:

- **Maggiore flessibilità** nella gestione, garantendo una più ampia differenziazione dei prodotti e dei materiali impiegati.
- **Competitività** nella fase di produzione per specifiche esigenze dei clienti per forniture di materiale in diversi gradi d'acciaio o con requisiti particolari.
- **Competenza** nella gestione di ordini complessi, quali quelli destinati a particolari gare, progetti o export.

**INTERTUBI** fornisce una gamma di articoli destinati all'impiantistica industriale di vari settori:

A) Impianti con basse pressioni d'esercizio e in presenza di agenti scarsamente o mediamente corrosivi, quali ad esempio il settore acqua, depurazione, tessile, conciario, cartiera, alimentare, farmaceutico, etc.

B) Impianti con pressioni d'esercizio elevate, e/o in presenza di agenti altamente corrosivi, o comunque con condizioni critiche nel rapporto pressione/ temperatura quali ad esempio il settore petrolifero, chimico, oleodinamico, navale, etc.

*The up-to-date of the production settings and the stocking criteria allow to:*

- **Greater flexibility** in the management, ensuring a wider differentiation of products and materials.
- **Competitiveness** in the production phase in order meet the different needs of the customers to supply material in different steel grades or with special requirements.
- **Proficiency** in managing elaborated orders designed for tender notices, proposals and export sales.

**INTERTUBI** provides a range of articles for industrial plant engineering in a variety of sectors:

*A) Systems with low working pressure and with agents of low to average corrosivity, such as water, purification, textile, tanning, papermaking, food industry, pharmaceutical, etc*

*B) Systems with high working pressure, and or with highly corrosive agents or with critical conditions in the pressure/ temperature ratio, such as oil, chemical, oil-pressure, naval sector.*



**INTERTUBI S.p.A.** produce e commercializza raccordi secondo le seguenti norme europee e americane:



## Norme europee

**EUROPEA EN 10253-1** - La norma EN 10253-1 tratta raccordi in acciaio al carbonio non legato lavorato plasticamente per impieghi generali, senza requisiti specifici di controllo (non conforme alle PED). Da parte del fabbricante dei raccordi dovranno essere rilasciati i certificati d'officina EN 10204/2.2.

**EUROPEA EN 10253-2** - La norma EN 10253-2 tratta raccordi in acciaio al carbonio legato e non legato con requisiti specifici di controllo per impieghi a pressione (conforme alla PED). Da parte del fabbricante dei raccordi dovranno essere rilasciati i certificati d'officina EN 10204/3.1.

**EUROPEA EN 10253-3** - La norma EN 10253-3 tratta raccordi in acciaio inossidabile per impieghi senza requisiti specifici di controllo (non conformi alla PED). Da parte del fabbricante dei raccordi dovranno essere rilasciati i certificati d'officina EN 10204/2.2.

**EUROPEA EN 10253-4** - La norma EN 10253-4 entrata in vigore in Italia nel Maggio 2008, tratta raccordi a saldare in acciaio inossidabile con requisiti specifici di controllo per impieghi a pressione (conformi alla PED). Da parte del fabbricante dei raccordi dovranno essere rilasciati certificati d'officina EN 10204/3.1 o 3.2.

**EUROPEA EN 1092-1** - La norma EN 1092-1, definisce i requisiti riguardanti le flange, specificando i tipi, le dimensioni, le tolleranze, la marcatura, i materiali, le relazioni di pressione/temperatura e la finitura superficiale.

**DIRETTIVA PED (97/23/CE)** - L'applicazione della direttiva PED (97/23/CE) è obbligatoria per tutte le apparecchiature in pressione (es. caldaie, scambiatori di calore). In base alla Direttiva Europea, entrata in vigore il 29 maggio 2002, il produttore di raccordi deve disporre di un Sistema di Qualità operante secondo la ISO 9001 e certificato, sulle basi di una valutazione specifica per i materiali prodotti, da un organo competente riconosciuto all'interno della Comunità Europea.

**INTERTUBI S.p.A.** produces and markets fittings in accordance with the following European and American standards:



## European standards

**EUROPEAN EN 10253-1** - Standard EN 10253-1 deals with wrought non alloy carbon steel fittings for general use and without specific inspection requirements (not according to PED). The manufacturer must provide inspection certificates EN 10204/2.2.

**EUROPEAN EN 10253-2** - Standard EN 10253-2 deals with alloy and non alloy carbon steel fittings and not alloy with specific inspection requirements for pressure uses (according to PED). The manufacturer must provide inspection certificates EN 10204/3.1 or 3.2.

**EUROPEAN EN 10253-3** - Standard EN 10253-3 deals with stainless steel fittings without specific inspection requirements (not according to PED). The manufacturer must provide release inspection certificates EN 10204/2.2.

**EUROPEAN EN 10253-4** - Standard EN 10253-4 came into force in Italy in May 2008. It deals with stainless steel fittings with specific inspection requirements for pressure uses (according to PED). The manufacturer must provide inspection certificates EN 10204/3.1 or 3.2.

**EUROPEAN EN 1092-1** - Standard EN 1092-1 defines the requirements regarding flanges, specifying types, dimensions, tolerances, markings, materials, pressure/temperature ratios and the surface finish.

**DIRECTIVE PED (97/23/CE)** - The application of PED directive (97/23/EU) is compulsory for all pressure equipments (for ex. boilers, heat exchangers). In accordance with EU Directive, it came into force on 29 May 2002, the manufacturer of fittings must have a Quality System operating according to ISO 9001 and certified, by the basis of a specific evaluation for material produced, recognized by an official authority within the EU.



## Norme americane

**AMERICANA ASME B16.9** - Lo scopo di questa norma, appartenente alla raccolta di norme BPVC ("Boiler and pressure vessel code") per recipienti in pressione, è quello di definire dimensioni, tolleranze, prove di scoppio, controlli e marcature per raccordi a saldare di testa nelle dimensioni da 1/2 pollici fino a 48 pollici. Esistono differenti norme che definiscono i materiali e le loro proprietà meccaniche per i raccordi a saldare di testa. All'interno di tali norme, la sezione della fabbricazione fa riferimento alla norma ASME B16.9.

**AMERICANA ASME B16.5** - Definisce le dimensioni, tolleranze, prove, controlli e marcatura per le flange a saldare.



## American standards

**AMERICAN ASME B16.9** - *The purpose of this standard, which comes under BPVC (Boiler and Pressure Vessel Code) regulation on pressure equipment, is to define dimensions, tolerances, burst tests, inspections and markings for butt welding fittings in size from 1/2" to 48". There are several standards which define the materials and their mechanical properties for butt welding fittings. Under these standards, the manufacturing sector to which we refer, is governed by ASME B16.9.*

**AMERICAN ASME B16.5** - *It defines dimensions, tolerances, tests, controls and marking for welding flanges.*



# CERTIFICATO

Sistema di gestione in accordo a  
**ISO 14001 : 2015**

In accordo con le procedure TÜV NORD CERT, si certifica che

**INTERTUBI S.p.A.**  
Via Orzinuovi, 57  
25100 Brescia  
Italia

applica un sistema di gestione in accordo alla norma sopra citata per il seguente campo d'applicazione

**Fabbricazione di raccordi a saldare in acciaio al carbonio, legato ed inossidabile con dimensioni comprese tra ¼ " to 32". Commercializzazione ed immagazzinamento di raccordi, flange, valvole e tubi di tutti i tipi di materiali ferrosi e non ferrosi.**

N° di registrazione del certificato 44 104 134705  
Rapporto di audit n° 19381/2019

Valido dal 24-10-2019  
Valido fino al 23-10-2022  
Prima certificazione 24-10-2019



Erle di Certificatione  
del TÜV NORD CERT GmbH

Bologna, 24-10-2019

La presente certificazione è stata condotta in accordo alle procedure di certificazione e di auditing del TÜV NORD CERT ed è soggetta a regolari audits di sorveglianza.

TÜV NORD CERT GmbH Langemarckstraße 20 45141 Essen [www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)



# CERTIFICATO

Sistema di gestione in accordo a  
**ISO 45001 : 2018**

In accordo con le procedure TÜV NORD CERT, si certifica che

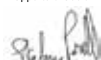
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Valido fino al 02-10-2021  
Prima certificazione 03-10-2018



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del TÜV NORD CERT GmbH

Bologna, 24-10-2020

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TÜV NORD CERT GmbH Langemarckstraße 20 45141 Essen [www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)





I prodotti forniti da Intertubi sono accompagnati da documenti di controllo, in accordo alla norma EN 10204. I tipi di documenti sono:

### **CERTIFICATO 2.1**

Documento rilasciato dal fabbricante in cui si dichiara che i prodotti forniti sono conformi all'ordine, senza inclusione dei risultati di prova.

### **CERTIFICATO 2.2**

Documento in cui il fabbricante dichiara che i prodotti sono forniti conformi all'ordine fornendo i risultati di prova basati sulla non specifica ispezione.

### **CERTIFICATO 3.1**

Documento rilasciato dal fabbricante in cui si dichiara che i prodotti forniti sono conformi all'ordine.

Il certificato convalidato dal rappresentante autorizzato del produttore (indipendente dalla produzione), riportante i risultati di prova basati sulla specifica ispezione, è fornito a condizione che il fabbricante utilizzi procedure di rintracciabilità e sia in grado di fornire i documenti di controllo richiesti.

### **CERTIFICATO 3.2**

Documento rilasciato dal fabbricante in cui si dichiara che i prodotti forniti sono conformi all'ordine. Il certificato convalidato dal rappresentante del produttore (indipendente dalla produzione) e da ispettori autorizzati designati da regolamenti ufficiali, riportante i risultati di prova basati sulla specifica ispezione, è fornito a condizione che il fabbricante utilizzi procedure di rintracciabilità e sia in grado di fornire i documenti di controllo richiesti.

*All our materials are supplied complete with inspection documents, depending on the products required and according to EN 10204 regulation. Types of inspection documents:*

### **CERTIFICATE 2.1**

*Inspection certificate issued by the manufacturer stating that the products supplied are in compliance with the order, without inclusion of test results.*

### **CERTIFICATE 2.2**

*Inspection certificate in which the manufacturer declare that the products are in compliance with the order providing the test results based on non- specific inspection.*

### **CERTIFICATE 3.1**

*Inspection certificate in which the manufacturer declares that the products are in compliance with the order.*

*The document is validated by the manufacture's authorized inspection representative, independent of the manufacturing department. This certificate provides the results of specific inspection, and it is produced on condition that the manufactures uses tracking procedures and provide the requested inspection documents.*

### **CERTIFICATE 3.2**

*Inspection certificate in which the manufacturer declares that the products supplied are in compliance with the order providing the test results based on specific inspection, validated by an authorized representative, by the manufacturer, (independent of production), and by the authorized inspector designated by the official regulations, the manufacturer uses procedures of tracking and able to provide the requested inspection documents.*

## TIPI DI ACCIAIO

Per acciai inossidabili si intendono quelle leghe a base di ferro, cromo e carbonio, eventualmente contenenti altri elementi come Ni, Mo, Si, ecc. la cui caratteristica principale è la resistenza alla corrosione.

Tale caratteristica è dovuta alla loro proprietà di passivarsi in presenza di un ambiente ossidante (quindi anche all'aria). La passivazione consiste nella formazione di uno strato invisibile di ossido (variabile in funzione della composizione chimica dell'acciaio, del trattamento termico e del tipo di ambiente ossidante) che costituisce una barriera al proseguimento dell'ossidazione e quindi della corrosione e che, in caso asportazione, si riforma spontaneamente.

Le classi in cui si dividono:

- Acciai Austenitici
- Acciai Martensitici
- Acciai Ferritici
- Acciai Duplex / Super Duplex

**ACCIAI AUSTENITICI** - Sono acciai inossidabili che contengono Cr (16-20%), Ni (7-18%) ed in alcuni tipi Mo (2-6%) con un tenore di carbonio di solito inferiore a 0,08%; la presenza di elementi stabilizzanti, Ti per esempio, migliora ulteriormente la resistenza alla corrosione, in particolare quella intergranulare, e contemporaneamente dà una maggior resistenza ad alta temperatura.

**ACCIAI MARTENSITICI** - Sono acciai al solo cromo (11% - 18%) contenenti eventualmente piccole quantità di altri elementi. Caratteristica fondamentale di questi acciai è l'attitudine a migliorare le loro proprietà meccaniche mediante un trattamento termico di tempra e di rinvenimento.

**ACCIAI FERRITICI** - Sono acciai contenenti cromo (12-27%) e carbonio generalmente  $\leq 0,20\%$  con eventuali piccole aggiunte di altri elementi.

La loro caratteristica principale è di avere una struttura ferritica a qualsiasi temperatura e quindi di non essere suscettibili di aumento delle caratteristiche meccaniche mediante trattamenti termici.

**ACCIAI DUPLEX / SUPER DUPLEX** - Il termine Duplex deriva dal fatto che il materiale ha una microstruttura a due fasi, formata da grani di acciaio inox ferritico e austenitico

## TYPES OF STEEL

*Stainless steels are iron, chromium and carbon based alloys that may contain other elements such as Ni, Mo, Si, etc, whose main characteristic is their resistance to corrosion.*

*This characteristic is due to the passivation property of these steels in the presence of an oxidizing environment (therefore also in air). Passivation consists in the formation of an invisible layer of oxide, which varies according to the chemical composition of the steel, the type of heat treatment and the type of oxidizing environment which forms a protective barrier to continuation of oxidation and therefore corrosion, and which is rectified immediately if removed.*

*The grades of stainless steels are:*

- Austenitic Steels
- Martensitic steels
- Ferritic steels
- Duplex / Super Duplex Steels

**AUSTENITIC STEELS** - Contain Cr (16-20%), Ni (7-18%) and in some types Mo (2-6%) with a carbon content that is usually less than 0.08%; the presence of stabilizing elements, such as Ti, further improves their resistance to corrosion, particularly intergranular corrosion, combined with greater resistance to high temperatures.

**MARTENSITIC STEELS** - These are basically plain chromium steels (11-18%) that may contain small quantities of other elements. The main characteristic of these steels is their ability to improve their mechanical properties through a hardening and tempering heat treatment.

**FERRITIC STEELS** - These are steels containing chromium (12-27%) and with a carbon content generally of 0.20% possibly with minor additions of other elements.

*Their main characteristic is that they have a ferritic structure at any temperature and, therefore, their mechanical properties cannot be improved through heat treatments.*

**DUPLEX / SUPER DUPLEX STEELS** - The term Duplex derives from the concept that they have a two-phase microstructure consisting of grains of both ferritic and austenitic stainless

incorporati nello stesso materiale. Il termine Super Duplex denota acciaio duplex ad alte prestazioni basato su un elevato contenuto di cromo, nichel e molibdeno per migliorare la resistenza alla corrosione.

### CLASSIFICAZIONE DEGLI ACCIAI AL CARBONIO

Gli acciai da noi utilizzati, contemplati dalla norma di esecuzione per raccordi EN 10253-2, possono essere classificati secondo due modalità:

#### COMPOSIZIONE CHIMICA:

- ACCIAI AL CARBONIO: P235TR1, P235TR2, P235GH, P265GH, P265NL, P355NH, P355NL1, L290NB, L360NB, L360QB, L415NB, L415QB, L450QB.
- ACCIAI BASSO LEGATI, quando nella loro composizione chimica contengono elementi in lega (cromo, nichel, molibdeno, etc) in quantità inferiore al 5% sia come somma degli elementi, sia come valore singolo se contengono un solo elemento: 16Mo3, 13CrMo4-5.
- ACCIAI ALTO LEGATI, quando nella loro composizione chimica contengono elementi in lega (cromo, nichel, molibdeno, etc) in quantità superiore al 5% sia come somma degli elementi, sia come valore singolo se contengono un solo elemento: X11CrMo9-1, X11CrMoVNb9-1.

#### CONDIZIONI DI IMPIEGO:

- ACCIAI PER IMPIEGHI AL ALTE TEMPERATURE: P235GH, P265GH, 16Mo3, 13CrMo4-5, P355NH.
- ACCIAI PER IMPIEGHI A BASSE TEMPERATURE: P265NL, P355NL.
- ACCIAI AD ALTO SNERVAMENTO: L290NB, L360NB, L415QB, L450QB.

### TRATTAMENTI TERMICI

Si definisce trattamento termico l'operazione, o la successione di operazioni nel caso di un trattamento complesso, durante la quale l'acciaio viene sottoposto ad uno o più cicli termici, cioè a variazioni entro limiti determinati della temperatura in funzione

*steel within formulated in the same material. The term Super Duplex denotes highperformance Duplex steel based on elevated contents of chromium, nickel and molybdenum to improve pitting corrosion resistance.*

### CLASSIFICATION OF CARBON STEELS

*The steels which we use as listed by EN 10253-2 standards, are classified in 2 ways:*

#### CHEMICAL COMPOSITION:

- CARBON STEELS: P235TR1, P235TR2, P235GH, P265GH, P265NL, P355NH, P355NL1, L290NB, L360NB, L360QB, L415NB, L415QB, L450QB.
- LOW ALLOY STEELS, when their alloy content (chrome, nickel, molybdenum, etc) is less than 5% whether as the sum of elements or as single value if only one element is present: 16Mo3, 13CrMo4-5.
- HIGH ALLOY STEELS, when their alloy content (chrome, nickel, molybdenum, etc) is greater than 5% whether as the sum of the elements or as single value if only one elements is present: X11CrMo9-1, X11CrMoVNb9-1.

#### APPLICATIONS:

- STEELS FOR USE AT HIGH TEMPERATURES: P235GH, P265GH, 16Mo3, 13CrMo4-5, P355NH.
- STEELS FOR USE AT LOW TEMPERATURES: P265NL, P355NL.
- HIGH-YIELD POINT STEELS: L290NB, L360NB, L415QB, L450QB.

### HEAT TREATMENTS

*Heat treatment is the operation (or series of operations in the case of complex treatments) during which one or more thermal cycles are carried out on the steel, i.e modifying the temperature within specific time limits. During a thermal*

del tempo. Di norma un ciclo termico comporta un riscaldamento ad una data temperatura, un mantenimento per un certo tempo a questa temperatura ed infine un raffreddamento fino a temperatura ambiente con modalità diverse in relazione agli effetti desiderati.

**NORMALIZZAZIONE** - Consiste in un riscaldamento ad una temperatura superiore ad AC<sub>3</sub> (= temperatura alla quale, durante il riscaldamento, inizia la formazione di austenite), per un tempo sufficiente ad austenitizzare completamente il materiale, seguito da raffreddamento in aria calma o mossa. Viene generalmente eseguita su pezzi grezzi di lavorazione a caldo per affinare ed uniformare il grano allo scopo di predisporre l'acciaio nel modo migliore per i successivi trattamenti termici.

**RICOTTURA** - Lo scopo della ricottura è quello di addolcire l'acciaio per renderlo atto alle lavorazioni meccaniche e/o plastiche, di eliminare le tensioni residue e di distruggere gli effetti di una deformazione plastica, di una saldatura o di un trattamento termico precedente. Esistono vari cicli di ricottura, (subcritica, isoterma), la cui scelta fatta in relazione alla durezza ed alle strutture necessarie per un determinato tipo di lavorazione.

**TEMPRA** - Il trattamento tempra comprende un riscaldamento di austenitizzazione, seguito da un raffreddamento fino ad una temperatura inferiore ad MS (= temperatura alla quale, durante il raffreddamento, inizia la trasformazione dell'austenite in martensite) sufficientemente rapido da permettere la trasformazione in martensite, struttura di elevata durezza e fragilità.

**RINVENIMENTO** - Allo stato temprato l'acciaio presenta una elevata durezza e basse caratteristiche di tenacità. È necessario quindi ricorrere ad un successivo trattamento che ne modifichi più o meno profondamente la struttura martensitica di tempra annullandone le tensioni e la fragilità. Questo trattamento, denominato rinvenimento, comprende un riscaldamento ad una temperatura inferiore ad AC<sub>1</sub> (temperatura alla quale, durante il riscaldamento, l'austenite inizia a formarsi), un mantenimento per un certo tempo a questa temperatura ed infine un raffreddamento in un mezzo appropriato fino a temperatura ambiente.

**SOLUBILIZZAZIONE** - Consiste in un riscaldamento a temperatura in genere compresa fra i 1000 e i 1100°C, con una permanenza a questa temperatura sufficiente per eliminare le alterazioni strutturali provocate dalle lavorazioni precedenti e per

*cycle, the steel is usually heated to a certain temperature, held at this temperature for a certain time and then left to cool to room temperature in various ways according to the effects required.*

**NORMALIZING** - *Normalizing consists in heating to a temperature above AC<sub>3</sub> (= temperature at which, during heating, transformation of the ferrite into austenite begin) for a time sufficient allow complete austenization of the material followed by cooling in still or forced air. This process is usually carried out on hot worked rough parts in order to obtain a finer, more even grain so that the steel is in optimal conditions for subsequent heat treatments.*

**ANNEALING** - *The purpose of annealing is to soften the steel so that it is suitable for mechanical and/or plastic machining, to eliminate residual stresses and to eliminate the effects of plastic deformation, of welding or of a previous heat treatment. There are a number of used cycles (Sub critical, isothermal annealing), whose annealing cycles must be selected according to the hardness and structures required for a specific type of machining.*

**HARDENING** - *The hardening treatment includes austenitizing heating followed by cooling to a temperature below MS (= temperature at which, during cooling, transformation of the austenite into martensite starts) at a speed which allows into martensite, a very hard brittle structure.*

**TEMPERING** - *When hardened, steel is characterized by a high level of hardness and a low level of toughness. A subsequent treatment is therefore required to produce a greater or lesser modification of the martensitic hardening structure, eliminating its stresses and brittleness. This treatment, known as tempering, involves heating to a temperature below AC<sub>1</sub>, (= temperature at which, during heating, austenite starts) to form holding this temperature for a certain time and finally, cooling to room temperature in an appropriate container.*

**SOLUTION ANNEALING** - *This process consists in heating to a temperature usually between 1000 and 1100°C. The part is held at this temperature for a time sufficient to eliminate the structural alterations caused by previous machining and also*



realizzare una "solubilizzazione" possibilmente completa dei carburi nell'austenite; il raffreddamento successivo, in aria o acqua, deve essere superficialmente rapido da impedire la riprecipitazione dei carburi che, in un raffreddamento lento, avviene in genere nell'intervallo fra i 450 e gli 850°C circa. Con tale trattamento si ottiene il massimo addolcimento degli acciai inossidabili austenitici.

**BONIFICA ISOTERMICA** - La bonifica isometrica si esegue con riscaldamento alla normale temperatura di tempra seguito da rapido spegnimento in bagno di sali a temperatura sopra  $M_s$  di circa 10°-30° fino a completa trasformazione dell'austenite.

**DISTENSIONE** - Nel caso degli acciai da cementazione o autotempranti, per diminuire e possibilmente annullare le tensioni residue causate dalla tempra pur mantenendo elevati valori di durezza, si ricorre al trattamento di distensione che consiste in un riscaldamento a temperature inferiori ai 250°C. In questo caso non si hanno apprezzabili modifiche strutturali.

*to obtain maximum complete if as possible "solubilization" of the carbides of the austenite; subsequent cooling, in air or water, must be fast enough to prevent reprecipitation of the carbides which, in the case of slow cooling, usually occurs in the range between approx. 450 and 850°C.*

*Maximum softening of austenitic stainless steels is obtained with this treatments.*

**AUSTEMPERING** - *This treatment consists in heating to normal hardening temperature followed by fast quenching in a salt bath at a temperature of around 10°C - 30°C above  $M_s$  until complete transformation of the austenite.*

**STRESS RELIEVING** - *Stress relieving, which consists in heating to temperatures below 250°C, is used for casehardening or air-hardening steels in order to restrict and possibly eliminate residual hardening stresses while maintaining high level hardness. In this way, there are no appreciable modifications to the structure.*



NT



**ACCIAIO AL CARBONIO | CARBON STEEL**

**RACCORDI A SALDARE ASME B16.9**  
**BUTT WELDING FITTINGS ASME B16.9**





**DIMENSIONI E SPESSORI SECONDO ASME B 16.9 + B 36.10 E ASME B 36.19  
RANGE OF SIZES AND WALL THICKNESS**

Ø nom. pipe size	Diam. esterno tubo Outside diam.		Sch. 5		Sch. 10		Sch. 20		Sch. 30		STD WT		Sch. 40		Sch. 60		XS		Sch. 80		Sch. 100		Sch. 120		Sch. 140		Sch. 160		XXS			
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		
1/2"	0.840	21,34	0.065	1,65	0.083	2,11	-	-	-	-	0.109	2,77	-	-	-	-	0.147	3,73	-	-	-	-	-	-	-	-	0.187	4,75	0.294	7,47		
3/4"	1.050	26,67	0.065	1,65	0.083	2,11	-	-	-	-	0.113	2,87	-	-	-	-	0.154	3,91	-	-	-	-	-	-	-	0.218	5,54	0.308	7,82			
1"	1.315	33,40	0.065	1,65	0.109	2,77	-	-	-	-	0.133	3,38	-	-	-	-	0.179	4,55	-	-	-	-	-	-	-	0.250	6,35	0.358	9,09			
1 1/4"	1.660	42,16	0.065	1,65	0.109	2,77	-	-	-	-	0.140	3,56	-	-	-	-	0.191	4,85	-	-	-	-	-	-	-	0.250	6,35	0.382	9,70			
1 1/2"	1.900	48,26	0.065	1,65	0.109	2,77	-	-	-	-	0.145	3,68	-	-	-	-	0.200	5,08	-	-	-	-	-	-	-	0.281	7,14	0.400	10,16			
2"	2.375	60,33	0.065	1,65	0.109	2,77	-	-	-	-	0.154	3,91	-	-	-	-	0.218	5,54	-	-	-	-	-	-	-	0.343	8,71	0.436	11,07			
2 1/2"	2.875	73,03	0.083	2,11	0.120	3,05	-	-	-	-	0.203	5,16	-	-	-	-	0.276	7,01	-	-	-	-	-	-	-	0.375	9,53	0.552	14,02			
3"	3.500	88,90	0.083	2,11	0.120	3,05	-	3,96	-	-	0.216	5,49	-	-	-	-	0.300	7,62	-	-	-	-	-	-	-	0.438	11,13	0.600	15,24			
3 1/2"	4.000	101,60	0.083	2,11	0.120	3,05	-	-	-	-	0.226	5,74	-	-	-	-	0.318	8,08	-	-	-	-	-	-	-	-	-	-	0.636	16,15		
4"	4.500	114,30	0.083	2,11	0.120	3,05	-	4,37	-	-	0.237	6,02	-	-	-	-	0.337	8,56	-	-	-	-	0.438	11,13	-	0.531	13,49	0.674	17,12			
5"	5.563	141,30	0.109	2,77	0.134	3,40	-	-	-	-	0.258	6,55	-	-	-	-	0.375	9,53	-	-	-	-	0.500	12,70	-	0.625	15,88	0.750	19,05			
6"	6.625	168,28	0.109	2,77	0.134	3,40	-	4,78	-	-	0.280	7,11	-	-	-	-	0.432	10,97	-	-	-	-	0.562	14,27	-	0.718	18,24	0.864	21,95			
8"	8.625	219,08	0.109	2,77	0.148	3,76	0.250	6,35	0.277	7,04	0.322	8,18	-	-	-	0.406	10,31	0.500	12,70	0.593	15,06	0.718	18,24	0.812	20,62	0.906	23,01	0.875	22,23			
10"	10.750	273,05	0.134	3,40	0.165	4,19	0.250	6,35	0.307	7,80	0.365	9,27	-	-	-	0.500	12,70	0.500	12,70	0.593	15,06	0.718	18,24	0.843	21,41	1.000	25,40	1.125	28,58	-	-	
12"	12.750	323,85	0.165	4,19	0.180	4,57	0.250	6,35	0.330	8,38	0.375	9,53	0.406	10,31	0.562	14,27	0.500	12,70	0.500	12,70	0.687	17,45	0.843	21,41	1.000	25,40	1.125	28,58	1.312	33,32	-	-
14"	14.000	355,60	-	-	0.250	6,35	0.312	7,92	0.375	9,53	0.375	9,53	0.438	11,13	0.593	15,06	0.500	12,70	0.500	12,70	0.750	19,05	0.937	23,80	1.093	27,76	1.250	31,75	1.406	35,71	-	-
16"	16.000	406,40	-	-	0.250	6,35	0.312	7,92	0.375	9,53	0.375	9,53	0.500	12,70	0.656	16,66	0.500	12,70	0.500	12,70	0.843	21,41	1.031	26,19	1.218	30,94	1.438	36,53	1.593	40,46	-	-
18"	18.000	457,20	-	-	0.250	6,35	0.312	7,92	0.438	11,13	0.375	9,53	0.562	14,27	0.750	19,05	0.500	12,70	0.500	12,70	0.937	23,80	1.156	29,36	1.375	34,93	1.562	39,67	1.781	45,24	-	-
20"	20.000	508,00	-	-	0.250	6,35	0.375	9,53	0.500	12,70	0.375	9,53	0.593	15,06	0.812	20,62	0.500	12,70	0.500	12,70	1.031	26,19	1.281	32,54	1.500	38,10	1.750	44,45	1.968	49,89	-	-
22"	22.000	558,80	-	-	0.250	6,35	0.375	9,53	0.500	12,70	0.375	9,53	-	-	0.875	22,22	0.500	12,70	0.500	12,70	1.125	28,57	1.375	34,92	1.525	41,27	1.875	47,62	2.125	53,97	-	-
24"	24.000	609,60	-	-	0.250	6,35	0.375	9,53	0.562	14,27	0.375	9,53	0.687	17,45	0.968	24,59	0.500	12,70	0.500	12,70	1.218	30,94	1.531	38,89	1.812	46,02	2.062	52,37	2.343	59,51	-	-
26"	26.000	660,40	-	-	0.312	7,92	0.500	12,70	-	-	0.375	9,53	-	-	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-
28"	28.000	711,20	-	-	0.312	7,92	0.500	12,70	0.625	15,87	0.375	9,53	-	-	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-
30"	30.000	762,0	-	-	0.312	7,92	0.500	12,70	0.625	15,87	0.375	9,53	-	-	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-
32"	32.000	812,80	-	-	0.312	7,92	0.500	12,70	0.625	15,87	0.375	9,53	0.688	17,47	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-

Identical to "Standard"

Identical to "Extra Strong"

**INFORMAZIONI GENERALI**  
**GENERAL INFORMATION**

I raccordi a saldare ASME B16.9 sono forniti in accordo alle seguenti norme:

*Intertubi's butt welding fittings are provided in according to the following standards:*

Norma di raccordo <i>Fitting standard</i>	Norma <i>Standard</i>	Descrizione <i>Description</i>	Grado di acciaio <i>Steel grade</i>	Tipologia di raccordi / <i>Fittings types</i>
ASME B16.9	ASTM/ASME A/SA 234	Raccordi per tubazioni in acciaio al carbonio o basso-legato per impiego in pressione a media-alta temperatura.  <i>Piping fittings of wrought carbon steel and alloy steel for moderate and high temperature service.</i>	Acciai al carbonio: WPB, WPC  Acciai legati WP1, WPS(CL.1,3), WP9(CL.1,3), WP11(CL.1,2,3), WP12(CL.1,2) WP22(CL.1,3), WP91	Curve/Elbows (SR, LR, R=3D) Riduzioni concentriche/eccentriche <i>Concentric and eccentric reducer</i> Tee con derivazione uguale e ridotta <i>Equal reducing tee</i> Fondi/Caps
	ASTM/ASME A/SA 420	Raccordi per tubazione in acciaio al carbonio o basso-legato per impiego in pressione a bassa temperatura.  <i>Piping fittings of wrought carbon steel and alloy steel for low-temperature service</i>	WPL6	--
MSS SP75	ASTM A 860	Raccordi a saldare di testa ad alto snervamento per il trasporto di fluidi combustibili.  <i>Wrought high-strength ferritic steel butt-welding fittings.</i>	WPHY42, WPHY52, WPHY60, WPHY65, WPHY70	--

I raccordi vengono forniti con estremità smussate secondo ASME B16.25.

*Fittings are supplied with beveled ends according to ASME B16.25.*

Le tabelle riportate in seguito permettono un confronto tra i differenti gradi di acciaio secondo la composizione chimica e le proprietà meccaniche:

Tables shown below allow a comparison between the different steel grades according to the chemical composition and mechanical properties:

Grado / Grade		Composizione / Composition %							
Grade WP	C	Mn	P	S	Si	Ni	Cr	Mo	Others
WPB <sup>B,C,D,E,F</sup>	0.30 max	0.29 - 1.06	0.050	0.058	0.10 min	0.40 max	0.40 max	0.15 max	Vanadium 0.08 max
WPC <sup>C,D,E,F</sup>	0.35 max	0.29 - 1.06	0.050	0.058	0.10 min	0.40 max	0.40 max	0.15 max	Vanadium 0.08 max
WP1	0.28 max	0.30 - 0.90	0.045	0.045	0.10 - 0.50	...	...	0.44 - 0.65	...
WP12 CL1, WP12 CL2	0.05 - 0.20	0.30 - 0.80	0.045	0.045	0.60 max	...	0.80 - 1.25	0.44 - 0.65	...
WP11 CL1	0.05 - 0.15	0.30 - 0.60	0.030	0.030	0.50 - 1.00	...	1.00 - 1.50	0.44 - 0.65	...
WP11 CL2, WP11 CL3	0.05 - 0.20	0.30 - 0.80	0.040	0.040	0.50 - 1.00	...	1.00 - 1.50	0.44 - 0.65	...
WP22 CL1, WP22 CL3	0.05 - 0.15	0.30 - 0.60	0.040	0.040	0.50 max	...	1.90 - 2.60	0.87 - 1.13	...
WP5 CL1, WP5 CL3	0.15 max	0.30 - 0.60	0.040	0.030	0.50 max	...	4.0 - 6.0	0.44 - 0.65	...
WP9 CL1	0.15 max	0.30 - 0.60	0.030	0.030	1.00 max	...	8.0 - 10.0	0.90 - 1.10	...
WP91	0.08 - 0.12	0.30 - 0.60	0.020	0.010	0.20 - 0.50	0.40 max	8.0 - 9.5	0.85 - 1.05	Vanadium 0.18-0.25
WPL6	0.30 max	0.50 - 1.35	0.035	0.040	0.15 - 0.40	0.40 max	0.30	0.12	Vanadium 0.08
WPHY	0.20 max	1.00 - 1.45	0.030	0.010	0.15 - 0.40	0.50 max	0.30	0.25	Vanadium 0.10

NOTA 1 - Tutti i requisiti sono al massimo se non diversamente indicato.

NOTA 2 - Dove i puntini di sospensione (...) appare in questa tabella, non vi è alcun obbligo.

NOTA 1 - All requirements are maximum unless otherwise indicated.

NOTA 2 - Where an ellipsis (...) appears in this table, there is no requirement.

<sup>A</sup> Quando raccordi sono di costruzione saldata, il simbolo di grado e la marcatura sopra indicato deve essere completata con la lettera "W".

<sup>B</sup> Raccordi prodotti da barra o piastra può avere carbonio max 0,35.

<sup>C</sup> Raccordi a base di forgiati può avere carbonio max 0,35 e 0,35 silicio max sempre minimo.

<sup>D</sup> Per ogni riduzione dello 0,01% al di sotto del massimo di carbonio specificato, con un incremento del 0,06% manganese al di sopra del massimo specificato sarà consentito, fino ad un massimo di 1,35%.

<sup>E</sup> La somma di rame, nichel, cromo, molibdeno e non supera 1,00%.

<sup>F</sup> La somma di cromo e molibdeno non supera 0,32%.

<sup>A</sup> When fittings are of welded construction, the grade and marking symbol shown above shall be supplemented by the letter "W".

<sup>B</sup> Fittings made from bar or plate may have 0.35 max carbon.

<sup>C</sup> Fittings made from forgings may have 0,35 max carbon and 0,35 max silicon with no minimum.

<sup>D</sup> For each reduction of 0,01% below the specified carbon maximum, an increase of 0,06% manganese above the specified maximum will be permitted, up to a maximum of 1,35%.

<sup>E</sup> The sum of Copper, Nickel, chromium, and Molybdenum shall not exceed 1,00%.

<sup>F</sup> The sum of Chromium and Molybdenum shall not exceed 0,32%.

GRADO E MARCATURA GRADE AND MARKING SYMBOL	WPB	WPC WP11 CL2 WP12 CL2	WP1	WP11 CL1 WP22 CL1 WP5 CL1 WP9 CL1	WPL6	WP11 CL3 WP22 CL3 WP5 CL3 WP9 CL3	WP91	WP12 CL1
Tensile strength, range ksi [MPa]	60 - 95 [415 - 655]	70 - 95 [485 - 655]	55 - 85 [380 - 550]	60 - 85 [415 - 585]	60 - 85 [415 - 585]	75 - 100 [520 - 690]	90 - 120 [620 - 840]	60 - 85 [415 - 585]
Yield strenght, min. Ksi [MPa] (0,2% offset or 0,5% estension-un- der-load)	35 [240]	40 [275]	30 [205]	30 [205]	35 [240]	45 [310]	60 [415]	32 [220]

	Elongation Requirements					
	Grades					
	All Grades except WPR, WP91 and WP911		WPR		WP91 WP911	
	Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse
Elongation:  Standard campione rotondo, o piccolo campione proporzionale, % min in 4D. Campione rettangolare per spessore della parete 5/16 in [7,94 mm] e oltre, e per tutte le taglie piccole testate nella sezione separata; % min in 2 pollici [50 mm]. <i>Standard round specimen, or small proportional specimen, min % in 4 D. Rectangular specimen for wall thickness 5/16 [7.94 mm] and over, and for all small sizes tested in full section; min % in 2 in. [50 mm].</i>	22	14	20	...	20	13
Campione rettangolare per spessore della parete inferiore a 5/16 [7,94 mm] % min in 2 pollici [50 mm] (1/2 in. campione [12,7 mm] larghezza). <i>Rectangular specimen for wall thickness less than 5/16 in. [7.94 mm]; min % in 2 in. [50 mm] (1/2 in. [12.7 mm] wide specimen).</i>	30	20 <sup>A</sup>	28	...	...	...
	B	B	B	...	...	...

<sup>A</sup> Raccordi WPB e WPC fabbricati dalla piastra devono avere un allungamento minimo del 17%

<sup>B</sup> Per ogni 1/32 pollici [0,79 mm] diminuzione dello spessore della parete al di sotto di 5/16 in [7,94 mm], una detrazione del 1,5% per il longitudinale e trasversale per il 1,0% dei valori indicati sopra è consentita. La seguente tabella fornisce il valore minimo per parete diversi spessori.

<sup>A</sup> WPB and WPC fittings manufactured from plate shall have a minimum elongation of 17%

<sup>B</sup> For each 1/32 in. [0,79 mm] decrease in wall thickness below 5/16 in. [7,94 mm], a deduction of 1,5% for longitudinal and 1,0% for transverse from the values shown above is permitted. The following table gives the minimum value for various wall thicknesses.

Wall Thickness		Grades				
		Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal
in.	[mm]					
5/16 (0,312)	7.94	30.0	20.0	30.0	16.5	20
0/32 (0,281)	7.14	28.5	19.0	28.5	15.5	19
1/4 (0,250)	6.35	27.0	18.0	27.0	14.5	18
7/32 (0,219)	5.56	25.5	...	...	...	17
3/16 (0,188)	4.76	24.0	...	...	...	16
5/32 (0,156)	3.97	22.5	...	...	...	15
1/8 (0,125)	3.17	21.0	...	...	...	14
3/32 (0,094)	2.38	19.5	...	...	...	13
1/10 (0,062)	1.59	18.0	...	...	...	12

Property	Grado / Grade					
	WPHY 42	WPHY 46	WPHY 52	WPHY 60	WPHY 65	WPHY 70
Yield strength min <sup>^</sup> 0.2% offset, ksi [MPa]	42 [290] 60 [415]	46 [315] 63 [435]	52 [360] 66 [455]	60 [415] 75 [515]	65 [450] 77 [530]	70 [485] 80 [550]
Tensile strength, ksi [MPa]	-85 [585] 25 32 B	-88 [605] 25 32 B	-91 [625] 25 32 B	-100 [690] 20 28 B	-102 [705] 20 28 B	-105 [725] 20 28 B
Toughness: C.energy absorption <sup>°</sup> , measured at -50°F (-46°C)						



**LE TOLLERANZE ASME B16.9 SONO RIEPILOGATE NELLE SEGUENTI TABELLE:**

**TOLERANCES ASME B16.9 ARE SUMMARIZED IN THE FOLLOWING TABLES:**

Tutti i raccordi [Note (1) e (2)] All Fittings [Notes (1) and (2)]				Dimensioni dal centro all'estremità Center-to-End dimensions				Spessore Thickness
Diametro nominale del tubo (NPS) Nominal Pipe Size (NPS)	DN	Diametro esterno allo smusso Outside Diameter at Bevel D* <sup>1</sup>	Diametro interno all'estremità Inside Diameter at End* <sup>2</sup>	90° e 45° curve long e short radius e tee 90-deg and 45-deg long and short radius Elbows and tees A, B, C, M	Curve raggio 3D 3D Radius Elbows A, B	Lunghezza generale delle riduzioni e delle cartelle Overall Length of reducers and lap joint stub ends F, H	Lunghezza generale dei fondi Overall length of caps E	Alle estremità At the ends
1/2 to 2 1/2	15-65	+1.6, -0.8	0.8	2	3	2	3	-12,5%
3 to 3 1/2	80-90	1.6	1.6	2	3	2	3	
4	100	1.6	1.6	2	3	2	3	
5 to 8	125-200	+2.4, -1.6	1.6	2	3	2	6	
10 to 18	250-450	+4.0, -3.2	3.2	2	3	2	6	
20 to 24	500-600	+6.4, -4.8	4.8	2	3	2	6	
26 to 30	650-750	+6.4, -4.8	4.8	3	6	5	10	
32 to 48	800-1200	+6.4, -4.8	4.8	5	6	5	10	

NOTE GENERALI / GENERAL NOTES

- (a) Tutte le dimensioni sono in millimetri / (a) All dimensions are in millimeters
- (b) Le tolleranze sono uguali più o meno eccetto le note / (b) Tolerances are equal plus and minus except as noted

NOTES

- (1) Il diametro interno e nominale della parete dello spessore alle estremità deve essere specificato dall'acquirente  
(1) The inside diameter and the nominal wall thickness at ends are to be specified by the purchaser
- (2) Il minimo spessore della parete del 87,5% è applicato a meno che l'acquirente specifichi una differente tolleranza della parete dello spessore  
(2) A minimum wall thickness of 87.5% is applied unless the purchaser specifies a different wall thickness tolerance
- (3) L'ovalità è la somma dei valori assoluti delle tolleranze minime e massime  
(3) Out-of-round is the sum of absolute values of plus and minus tolerances
- (4) Questa tolleranza non può essere applicata ad aree localizzate dei raccordi formati dove è necessario un aumento per soddisfare i requisiti di progetto  
(4) This tolerance may not be applied in localized areas of fittings formed where increased wall thickness is required to meet design requirements
- (5) Se non diversamente specificato dall'acquirente queste tolleranze applicate al diametro interno nominale, corrispondono alla differenza tra il diametro esterno nominale e il doppio spessore della parete nominale  
(5) Unless otherwise specified by the purchaser, these tolerances applied to the nominal inside diameter, correspond to the difference between the nominal outside diameter and twice the nominal wall thickness

\*1 (NOTES 3 AND 4)

\*2 (NOTES 3 AND 5)


**CURVE 90°**
**RAGGIO=1,5 D DIMA 3**

SENZA SALDATURA ASME B16.9

**LONG RADIUS**
**RADIUS = 1.5 DIMA 3**

SEAMLESS ELBOWS

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	CURVE / ELBOWS		PESO TEORICO THEORETICAL WEIGHT
			90° A	45° B	
1/2"	21,3 x 2,77	Std	38*	16	0,08
	21,3 x 3,73	Xs			0,10
	21,3 x 4,75	160			0,12
	21,3 x 7,47	XXs			0,15
3/4"	26,7 x 2,87	Std	38*	19	0,09
	26,7 x 3,91	Xs			0,11
	26,7 x 5,54	160			0,12
	26,7 x 7,82	XXs			0,17
1"	33,4 x 3,38	Std	38*	22	0,15
	33,4 x 4,55	Xs			0,20
	33,4 x 6,35	160			0,26
	33,4 x 9,09	XXs			0,33
1 1/4"	42,4 x 3,56	Std	48	25	0,26
	42,4 x 4,85	Xs			0,34
1 1/2"	48,3 x 3,68	Std	57	29	0,37
	48,3 x 5,08	Xs			0,49
	48,3 x 7,14	160			0,65
	48,3 x 10,16	XXs			0,86
2"	60,3 x 3,91	Std	76	35	0,65
	60,3 x 5,54	Xs			0,90
	60,3 x 8,71	160			1,33
	60,3 x 11,07	XXs			1,61
2 1/2"	73,1 x 5,16	Std	95	44	1,29
	73,1 x 7,01	Xs			1,71
	73,1 x 9,53	160			2,23
	73,1 x 14,02	XXs			3,06

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	CURVE / ELBOWS		PESO TEORICO THEORETICAL WEIGHT
			90° A	45° B	
3"	88,9 x 3,96	20	114	51	1,50
	88,9 x 5,49	Std			2,03
	88,9 x 7,62	Xs			2,74
	88,9 x 11,13	160			3,83
	88,9 x 15,24	XXs			4,97
3 1/2"	101,6 x 5,74	Std	133	57	2,85
	101,6 x 8,08	Xs			3,91
4"	114,3 x 4,37	20	152	64	2,92
	114,3 x 6,02	Std			3,85
	114,3 x 8,56	Xs			5,35
	114,3 x 11,13	120			6,78
	114,3 x 13,49	160			8,03
	114,3 x 17,12	XXs			9,82
5"	141,3 x 6,55	Std	190	79	6,52
	141,3 x 9,53	Xs			9,26
	141,3 x 12,70	120			12,00
	141,3 x 15,88	160			14,70
	141,3 x 19,05	XXs			17,20
6"	168,3 x 4,76	20	229	95	6,50
	168,3 x 7,11	Std			10,20
	168,3 x 10,97	Xs			15,30
	168,3 x 14,27	120			19,50
	168,3 x 18,24	160			24,30
	168,3 x 21,95	160			28,50
		XXs			28,50

\* SU RICHIESTA 28 / ON REQUEST 28



D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	CURVE / ELBOWS		PESO TEORICO THEORETICAL WEIGHT
			90° A	45° B	
8"	219,1 x 6,35	20	305	127	16,00
	219,1 x 7,04	30			17,60
	219,1 x 8,18	Std			20,40
	219,1 x 10,31	60			25,40
	219,1 x 12,70	Xs			30,90
	219,1 x **15,06	100			** 43,30
	219,1 x 18,24	120			43,30
	219,1 x **20,62	140			** 53,30
	219,1 x **22,23	XXs			** 53,30
	219,1 x 23,01	160			53,30
10"	273,0 x 6,35	20	381	159	24,99
	273,0 x 7,80	30			30,53
	273,0 x 9,27	Std			36,08
	273,0 x 12,70	Xs			48,79
	273,0 x 15,06	80			57,44
	273,0 x **18,24	100			**79,60
	273,0 x 21,41	120			79,60
	273,0 x **25,40	140/ XXs			**103,10
	273,0 x 28,58	160			103,10
	12"	323,9 x 6,35			20
323,9 x 8,38		30	46,80		
323,9 x 9,53		Std	53,00		
323,9 x 10,31		40	57,30		
323,9 x 12,70		Xs	70,00		
323,9 x 14,27		60	78,20		
323,9 x 17,45		80	94,80		
323,9 x **21,41		100	**134,00		
323,9 x 25,40		120/ XXs	134,00		
323,9 x **28,58		140	**171,00		
323,9 x 33,32	160	171,00			
14"	355,6 x 6,35	10	533	222	45,80
	355,6 x 7,92	20			56,90
	355,6 x 9,53	Std			68,10
	355,6 x **11,13	40			**90,00
	355,6 x 12,70	Xs			90,00
14"	355,6 x 19,05	80	533	222	132,00
	355,6 x **23,80	100			**187,91
	355,6 x 27,76	120			187,91
	355,6 x **31,75	140			**235,86
	355,6 x 35,71	160			235,86

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	CURVE / ELBOWS		PESO TEORICO THEORETICAL WEIGHT
			90° A	45° B	
16"	406,4 x **6,35	10	610	254	74,58
	406,4 x 7,92	20			74,58
	406,4 x 9,53	Std			89,20
	406,4 x 12,70	Xs			118,00
	406,4 x 16,66	60			153,00
	406,4 x 21,41	80			195,00
	406,4 x **26,19	100			274,51
	406,4 x 30,94	120			274,51
	406,4 x **36,53	140			350,00
	406,4 x 40,46	160			350,00
18"	457,0 x **6,35	10	686	286	** 113,00
	457,0 x **7,92	20			** 113,00
	457,0 x 9,53	Std			113,00
	457,0 x **11,13	30			** 150,00
	457,0 x 12,70	Xs			150,00
	457,0 x 14,27	40			168,00
	457,0 x 19,05	60			197,15
	457,0 x 23,80	80			243,63
	508,0 x **6,35	10			** 140,00
	508,0 x 9,53	Std			140,00
20"	508,0 x 12,70	Xs	762	318	186,00
	508,0 x 15,06	40			219,00
	508,0 x **20,62	60			** 372,00
	508,0 x 26,19	80			372,00
	558,8 x 9,53	Std			170,00
22"	558,8 x 12,70	Xs	838	343	225,00
	609,6 x **6,35	10			** 202,00
24"	609,6 x 9,53	Std	914	381	202,00
	609,6 x 12,70	Xs			268,00
	609,6 x **14,27	30			** 366,00
	609,6 x 17,48	40			366,00
	609,6 x 24,59	60			634,00
	609,6 x 30,94	80			634,00
	711,0 x 7,92	10			230,00
28"	711,0 x 9,53	Std	1067	438	276,00
	711,0 x 12,70	Xs			366,00
	762,0 x 9,53	Std			317,00
30"	762,0 x 12,70	Xs	1143	470	421,00
	812,8 x 9,53	Std			361,00
32"	812,8 x 12,70	Xs	1219	502	472,00

\*\* TAPERED FROM HIGHER SCHEDULE


**CURVE 90°**
**RAGGIO= 1 D DIMA 2**

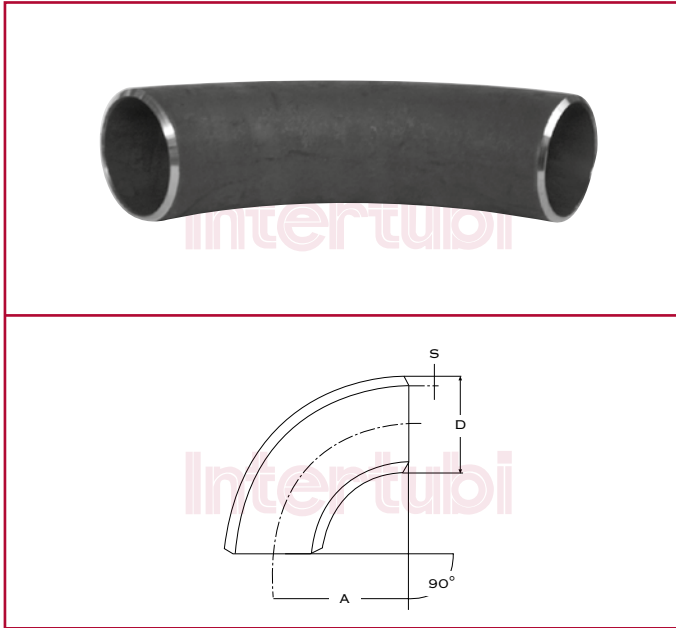
SENZA SALDATURA ASME B16.9

**SHORT RADIUS**
**RADIUS= 1 DIMA 2**

SEAMLESS ELBOWS ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO radius	H	PESO TEORICO THEORICAL WEIGHT KG
1 1/4"	42,4 x 3,56	Std	32	52	0,17
1 1/2"	48,3 x 3,68	Std	38	62	0,24
2"	60,3 x 3,91	Std	51	81	0,44
	60,3 x 5,54	Xs			0,60
	60,3 x 8,71	160			0,89
2 1/2"	73,1 x 5,16	Std	64	100	0,86
3"	88,9 x 5,49	Std	76	121	1,35
	88,9 x 7,62	Xs			1,83
	88,9 x 11,13	160			2,55
4"	114,3 x 6,02	Std	102	159	2,57
	114,3 x 8,56	Xs			3,55
	114,3 x 11,13	120			4,54
	114,3 x 13,49	160			5,37
	141,3 x 6,55	Std			127
141,3 x 9,53	Xs	6,17			
6"	168,3 x 7,11	Std	152	237	4,77
	168,3 x 10,97	Xs			10,20
	168,3 x 14,27	120			12,95
	168,3 x 18,24	160			16,12

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORICAL WEIGHT KG
8"	219,1 x 6,35	20	203	313	10,60
	219,1 x 7,04	30			11,70
	219,1 x 8,18	Std			13,60
	219,1 x 12,70	Xs			20,60
10"	273,0 x 6,35	20	254	391	16,70
	273,0 x 7,80	30			20,30
	273,0 x 9,27	Std			24,10
12"	323,9 x 6,35	20	305	467	23,80
	323,9 x 8,38	30			31,20
	323,9 x 9,53	Std			35,30
	323,9 x 10,31	40			38,20
14"	323,9 x 12,70	Xs	356	533	46,70
	355,6 x 6,35	10			30,60
	355,6 x 7,92	20			37,90
	355,6 x 9,53	Std			45,40
	355,6 x 12,70	Xs			80,00
16"	406,4 x 6,35	10	406	610	40,00
	406,4 x 7,92	20			50,00
	406,4 x 9,53	Std			59,50
24"	609,6 x **6,35	10	610	914	90,50
	609,6 x 9,53	Std			135,00
	609,6 x 12,70	Xs			179,00



**CURVA SENZA SALDATURA**

**R=2,5 D DIMA 5**

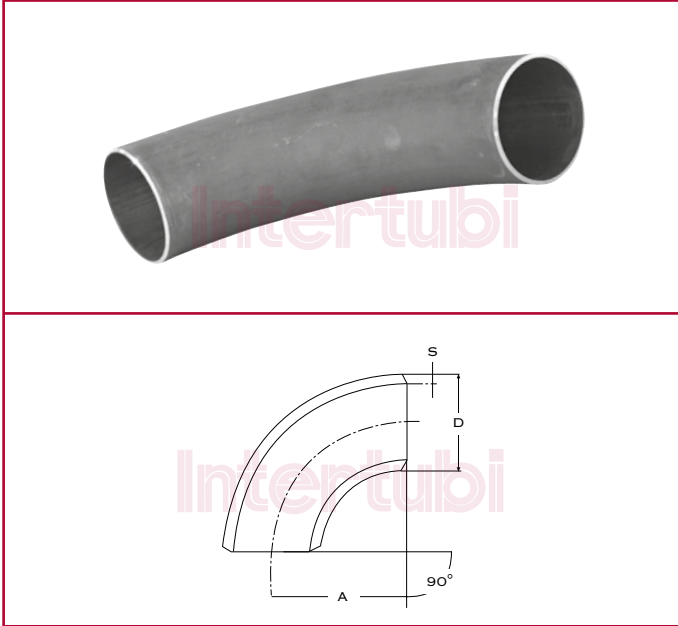
ASME B16.9

**R=2.5 D DIMA 5  
SEAMLESS ELBOWS**

ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORETICAL WEIGHT KG
1"	33,4 x 3,38	Std	72,5	89	0,28
	33,4 x 4,55	Xs			0,37
1 1/4"	42,4 x 3,56	Std	92,5	114	0,50
	42,4 x 4,85	Xs			0,65
1 1/2"	48,3 x 3,68	Std	107,5	132	0,68
	48,3 x 5,08	Xs			0,91
2"	60,3 x 3,91	Std	135	165	1,15
	60,3 x 5,54	Xs			1,59
3"	88,9 x 3,96	20	205	250	2,67
	88,9 x 5,49	Std			3,64
	88,9 x 7,62	Xs			4,92
3 1/2"	101,6 x 5,74	Std	237	288	5,05
	101,6 x 8,08	Xs			6,94
4"	114,3 x 4,37	20	270	327	5,02
	114,3 x 6,02	Std			6,82
	114,3 x 8,56	Xs			9,47
6"	168,3 x 4,76	20	390	474	11,81
	168,3 x 7,11	Std			17,31
	168,3 x 10,97	Xs			26,07

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORETICAL WEIGHT KG
8"	219,1 x 6,35	20	510	619	26,69
	219,1 x 7,04	30			29,49
	219,1 x 8,18	Std			34,09
	219,1 x 10,31	60			42,53
10"	219,1 x 12,70	Xs	650	786	51,79
	273,0 x 6,35	20			42,64
	273,0 x 7,80	30			52,09
	273,0 x 9,27	Std			61,56
12"	273,0 x 12,70	Xs	775	937	83,24
	323,9 x 6,35	20			60,54
	323,9 x 8,38	30			79,38
	323,9 x 9,53	Std			89,94
14"	323,9 x 10,31	40	850	1028	97,06
	323,9 x 12,70	Xs			118,65
	355,6 x 6,35	10			73,02
	355,6 x 7,92	20			90,67
16"	355,6 x 9,53	Std	406	610	108,60
	355,6 x 11,13	40			126,24
	355,6 x 12,70	Xs			143,39
16"	406,4 x 6,35	10	406	610	95,46
	406,4 x 7,92	20			118,59
	406,4 x 9,53	Std			142,12
	406,4 x 12,70	Xs			187,88


**CURVA SENZA SALDATURA**
**RAGGIO= 3 D DIMA 6**

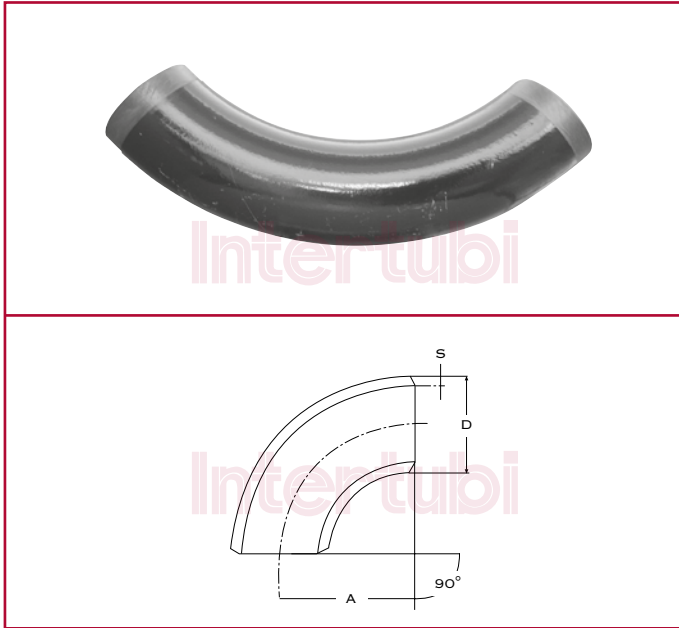
ASME B16.9

**SEAMLESS ELBOWS**
**RADIUS= 3 D DIMA 6**

ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORICAL WEIGHT KG
2"	60,3 x 3,91	Std	152	182	1,30
	60,3 x 5,54	Xs			1,79
3"	88,9 x 3,96	20	229	278	2,98
	88,9 x 5,49	Std			4,06
3"	88,9 x 7,62	Xs	229	278	5,49
	114,3 x 4,37	20			5,68
4"	114,3 x 6,02	Std	305	352	7,70
	114,3 x 8,56	Xs			10,69
6"	168,3 x 4,78	20	457	541	13,84
	168,3 x 7,11	Std			20,29
6"	168,3 x 10,97	Xs	457	541	30,55
	219,1 x 6,35	20			31,92
8"	219,1 x 7,04	30	610	720	35,28
	219,1 x 8,18	Std			40,77
	219,1 x 10,31	60			50,87
	219,1 x 12,70	Xs			61,94

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORICAL WEIGHT KG		
10"	273,0 x 6,35	20	762	898	49,98		
	273,0 x 7,80	30			61,06		
	273,0 x 9,27	Std			72,17		
	273,0 x 12,70	Xs			97,58		
12"	323,9 x 6,35	20	914	1078	71,40		
	323,9 x 8,38	30			93,62		
	323,9 x 9,53	Std			106,08		
	323,9 x 10,31	40			114,47		
12"	323,9 x 12,70	Xs	914	1078	139,94		
	355,6 x 6,35	10			1067	1245	91,67
	355,6 x 7,92	20					113,82
	355,6 x 9,53	Std					136,32
355,6 x 11,13	40	158,47					
14"	355,6 x 12,70	Xs	1067	1245	180,00		
	406,4 x 6,35	10			1219	1422	119,98
	406,4 x 7,92	20					149,03
	406,4 x 9,53	Std					178,60
406,4 x 12,70	Xs	236,11					



**CURVA SENZA SALDATURA**

**RAGGIO= 5 D DIMA 10**

ASME B16.9

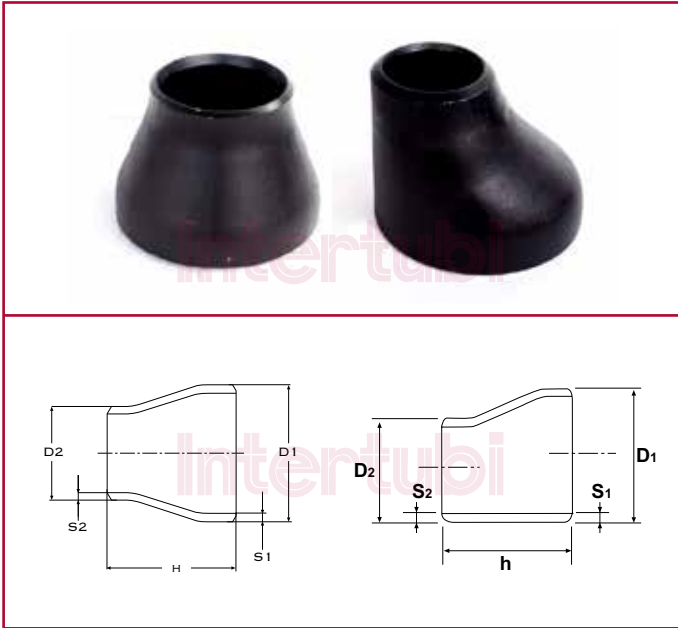
**SEAMLESS ELBOWS**

**RADIUS= 5 D DIMA 10**

ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORICAL WEIGHT KG
2"	60,3 x 3,91	Std	254	284	2,17
	60,3 x 5,54	Xs			2,99
3"	88,9 x 3,96	20	381	426	4,96
	88,9 x 5,49	Std			6,76
	88,9 x 7,62	Xs			9,14
4"	114,3 x 4,37	20	508	565	9,45
	114,3 x 6,02	Std			12,83
	114,3 x 8,56	Xs			17,81
6"	168,3 x 4,78	20	762	846	23,07
	168,3 x 7,11	Std			33,83
	168,3 x 10,97	Xs			50,95
8"	219,1 x 6,35	20	1016	1126	53,17
	219,1 x 7,04	30			58,76
	219,1 x 8,18	Std			67,91
	219,1 x 10,31	60			84,72
	219,1 x 12,70	Xs			103,17
10"	273,0 x 6,35	20	1270	1407	83,30
	273,0 x 7,80	30			101,77
	273,0 x 9,27	Std			120,28
	273,0 x 12,70	Xs			162,64

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	RAGGIO RADIUS	H	PESO TEORICO THEORICAL WEIGHT KG
12"	323,9 x 6,35	20	1524	1688	117,04
	323,9 x 8,38	30			156,10
	323,9 x 9,53	Std			176,87
	323,9 x 10,31	40			190,87
	323,9 x 12,70	Xs			233,33
14"	355,6 x 6,35	10	1778	1956	152,75
	355,6 x 7,92	20			189,66
	355,6 x 9,53	Std			227,16
	355,6 x 11,13	40			264,07
	355,6 x 12,70	Xs			299,95
16"	406,4 x 6,35	10	2032	2235	199,96
	406,4 x 7,92	20			248,42
	406,4 x 9,53	Std			297,72
	406,4 x 12,70	Xs			393,58


**RIDUZIONI CONCENTRICHE  
ED ECCENTRICHE SENZA SALDATURA**  
ASME B16.9

**SEAMLESS CONCENTRIC  
AND ECCENTRIC REDUCERS**  
ASME B16.9

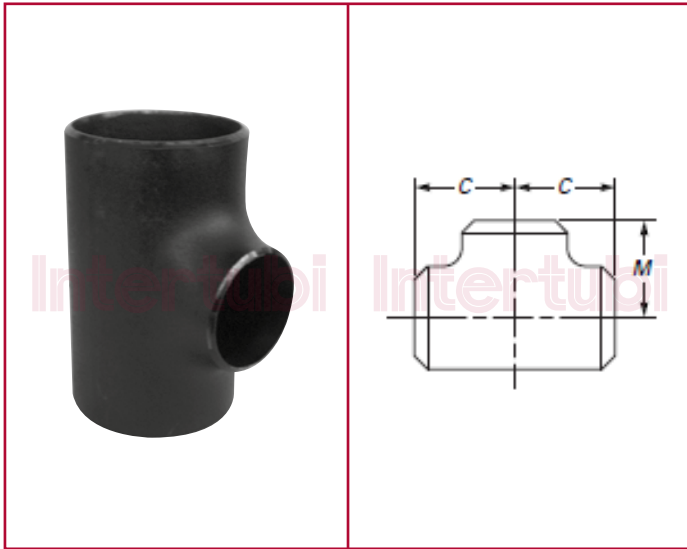
D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP. MM THCK X THCK MM	SCH	H	PESO TEORICO THEORETICAL WEIGHT KG	
1" x 3/4"	33,40 x 26,70	3,38 x 2,87	Std	51	0,14	
	33,40 x 26,70	4,55 x 3,91	Xs		0,17	
1 1/4" x 3/4"	42,60 x 26,70	3,56 x 2,87	Std		0,20	
	42,60 x 26,70	4,85 x 3,91	Xs		0,23	
1 1/4" x 1"	42,60 x 33,40	3,56 x 3,38	Std		0,20	
	42,60 x 33,40	4,85 x 4,55	Xs		0,24	
1 1/2" x 3/4"	48,30 x 26,70	3,68 x 2,87	Std		64	0,22
	48,30 x 26,70	5,08 x 3,91	Xs			0,30
1 1/2" x 1"	48,30 x 33,40	3,68 x 3,38	Std			0,24
	48,30 x 33,40	5,08 x 4,55	Xs			0,31
1 1/2" x 1 1/4"	48,30 x 42,40	3,68 x 3,56	Std	0,26		
	48,30 x 42,40	5,08 x 4,85	Xs	0,33		
2" x 1"	60,30 x 33,40	3,91 x 3,38	Std	76		0,37
	60,30 x 33,40	5,54 x 4,55	Xs			0,45
2" x 1 1/4"	60,30 x 42,40	3,91 x 3,56	Std			0,39
	60,30 x 42,40	5,54 x 4,85	Xs			0,53
2" x 1 1/2"	60,30 x 48,30	3,91 x 3,68	Std		0,41	
	60,30 x 48,30	5,54 x 5,08	Xs		0,54	
2 1/2" x 1 1/4"	73,10 x 42,40	5,16 x 3,56	Std		0,39	
	73,10 x 42,40	7,01 x 4,85	Xs		0,53	

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP. MM THCK X THCK MM	SCH	H	PESO TEORICO THEORETICAL WEIGHT KG
2 1/2" x 1 1/2"	73,10 x 48,30	5,16 x 3,66	Std	89	0,68
	73,10 x 48,30	7,01 x 5,08	Xs		0,86
2 1/2" x 2"	73,10 x 60,30	5,16 x 3,91	Std		0,73
	73,10 x 60,30	7,01 x 5,54	Xs		0,94
3" x 1"	88,90 x 33,40	5,49 x 3,38	Std		0,86
	88,90 x 33,40	7,62 x 4,55	Xs		0,99
3" x 1 1/2"	88,90 x 48,30	5,49 x 3,68	Std		0,86
	88,90 x 48,30	7,62 x 5,08	Xs		0,99
3" x 2"	88,90 x 60,30	5,49 x 3,91	Std		0,91
	88,90 x 60,30	7,62 x 5,54	Xs		1,18
3" x 2 1/2"	88,90 x 73,10	5,49 x 5,16	Std	89	0,98
	88,90 x 73,10	7,62 x 7,01	Xs		1,29
4" x 2"	114,30 x 60,30	6,02 x 3,91	Std	102	1,44
	114,30 x 60,30	8,56 x 5,54	Xs		1,78
4" x 2 1/2"	114,30 x 73,10	6,02 x 5,16	Std	102	1,62
	114,30 x 73,10	8,56 x 7,01	Xs		1,90
4" x 3"	114,30 x 88,90	6,02 x 5,49	Std	102	1,59
	114,30 x 88,90	8,56 x 7,62	Xs		2,13

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP. MM THCK X THCK MM	SCH	H	PESO TEORICO THEORETICAL WEIGHT KG	
5" x 3"	141,30 x 88,90	6,55 x 5,49	Std	127	2,60	
	141,30 x 88,90	9,53 x 7,62	Xs		3,55	
5" x 4"	141,30 x 114,30	6,55 x 6,02	Std		2,72	
	141,30 x 114,30	9,53 x 8,56	Xs		3,78	
6" x 3"	168,30 x 88,90	7,11 x 5,49	Std	140	3,63	
	168,30 x 88,90	10,97 x 7,62	Xs		5,04	
6" x 4"	168,30 x 114,30	7,11 x 6,02	Std		3,72	
	168,30 x 114,30	10,97 x 8,56	Xs		5,45	
6" x 5"	168,30 x 141,30	7,11 x 6,55	Std		3,93	
	168,30 x 141,30	10,97 x 9,53	Xs		5,72	
8" x 4"	219,10 x 114,30	8,18 x 6,02	Std	152	5,95	
	219,10 x 114,30	12,70 x 8,56	Xs		8,44	
8" x 5"	219,10 x 141,30	8,18 x 6,55	Std		4,08	
	219,10 x 141,30	12,70 x 9,53	Xs		8,88	
8" x 6"	219,10 x 168,30	8,18 x 7,11	Std		6,31	
	219,10 x 168,30	12,70 x 10,97	Xs		9,26	
10" x 5"	273,00 x 141,30	9,27 x 6,55	Std		178	9,90
	273,00 x 141,30	12,70 x 9,53	Xs			13,00
10" x 6"	273,00 x 168,30	9,27 x 7,11	Std	10,10		
	273,00 x 168,30	12,70 x 12,97	Xs	13,50		
10" x 8"	273,00 x 219,10	9,27 x 8,18	Std	203	10,50	
	273,00 x 219,10	12,70 x 12,70	Xs		14,20	
12" x 6"	323,90 x 168,30	9,53 x 7,11	Std		14,10	
	323,90 x 168,30	12,70 x 10,97	Xs		18,40	
12" x 8"	323,90 x 219,10	9,53 x 8,18	Std		14,60	
	323,90 x 219,10	12,70 x 12,70	Xs		17,00	
12" x 10"	323,90 x 273,00	9,53 x 9,27	Std	15,20		
	323,90 x 273,00	12,70 x 12,70	Xs	19,80		
14" x 8"	355,60 x 219,10	9,53 x 8,18	Std	330	26,00	
	355,60 x 219,10	12,70 x 12,70	Xs		34,90	
14" x 10"	355,60 x 273,00	9,53 x 9,27	Std		27,40	
	355,60 x 273,00	12,70 x 12,70	Xs		36,10	
14" x 12"	355,60 x 323,90	9,53 x 9,53	Std		28,80	
	355,60 x 323,90	12,70 x 12,70	Xs		37,70	

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP. MM THCK X THCK MM	SCH	H	PESO TEORICO THEORETICAL WEIGHT KG
16" x 10"	406,40 x 273,00	9,53 x 9,27	Std	356	33,10
	406,40 x 273,00	12,70 x 12,70	Xs		43,70
16" x 12"	406,40 x 323,90	9,53 x 9,53	Std		34,30
	406,40 x 323,90	12,70 x 12,70	Xs		45,00
16" x 14"	406,40 x 355,60	9,53 x 9,53	Std		35,20
	406,40 x 355,60	12,70 x 12,70	Xs		46,30
18" x 12"	457,00 x 323,90	9,53 x 9,53	Std	381	40,50
	457,00 x 323,90	12,70 x 12,70	Xs		53,60
18" x 14"	457,00 x 355,60	9,53 x 9,53	Std		41,30
	457,00 x 355,60	12,70 x 12,70	Xs		54,50
18" x 16"	457,00 x 406,40	9,53 x 9,53	Std		42,70
	457,00 x 406,40	12,70 x 12,70	Xs		55,80
20" x 12"	508,00 x 323,90	9,53 x 9,53	Std	508	60,80
	508,00 x 323,90	12,70 x 12,70	Xs		79,90
20" x 14"	508,00 x 355,60	9,53 x 9,53	Std		61,30
	508,00 x 355,60	12,70 x 12,70	Xs		81,30
20" x 16"	508,00 x 406,40	9,53 x 9,53	Std		62,60
	508,00 x 406,40	12,70 x 12,70	Xs		82,60
20" x 18"	508,00 x 457,00	9,53 x 9,53	Std	64,50	
	508,00 x 457,00	12,70 x 12,70	Xs	84,40	
24" x 14"	609,60 x 355,60	9,53 x 9,53	Std	508	72,60
	609,60 x 355,60	12,70 x 12,70	Xs		95,80
24" x 16"	609,60 x 406,40	9,53 x 9,53	Std		72,60
	609,60 x 406,40	12,70 x 12,70	Xs		95,80
24" x 18"	609,60 x 457,00	9,53 x 9,53	Std		74,00
	609,60 x 457,00	12,70 x 12,70	Xs		97,60
24" x 20"	609,60 x 508,00	9,53 x 9,53	Std	75,80	
	609,60 x 508,00	12,70 x 12,70	Xs	99,90	




**TEE UGUALI SENZA SALDATURA**

ASME B16.9

**SEAMLESS EQUAL TEES**

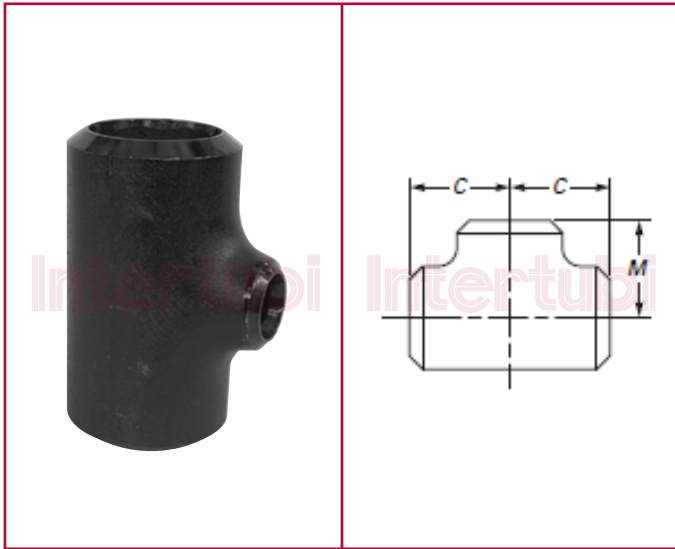
ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	$\frac{C}{M}$	C+C	PESO TEORICO THEORETICAL WEIGHT KG
1/2"	21,3 x 2,77	Std	25	50	0,12
	21,3 x 3,73	Xs			0,13
3/4"	26,7 x 2,87	Std	29	58	0,16
	26,7 x 3,91	Xs			0,20
1"	33,4 x 3,38	Std	38	76	0,30
	33,4 x 4,55	Xs			0,38
	33,4 x 6,35	160			0,42
1 1/4"	42,4 x 3,56	Std	48	96	0,54
	42,4 x 4,58	Xs			0,71
	42,4 x 6,35	160			0,90
1 1/2"	48,3 x 3,68	Std	57	114	0,75
	48,3 x 5,08	Xs			1,02
	48,3 x 7,14	160			1,61
2"	60,3 x 3,91	Std	76	106	0,65
	60,3 x 5,54	Xs			0,90
	60,3 x 8,71	160			1,33
	60,3 x 11,07	XXs			1,61
2 1/2"	73,1 x 5,16	Std	76	152	2,07
	73,1 x 7,01	Xs			2,78
	73,1 x 9,53	160			3,63
3"	88,9 x 5,49	Std	86	172	3,05
	88,9 x 7,62	Xs			3,75
	88,9 x 11,13	160			6,19
4"	114,3 x 6,02	Std	105	210	5,02
	114,3 x 8,56	Xs			6,67
	114,3 x 11,13	120			8,10
	114,3 x 13,49	160			11,80
5"	141,3 x 6,55	Std	124	248	7,72
	141,3 x 9,53	Xs			10,51
	141,3 x 12,70	120			15,75
	141,3 x 15,88	160			19,90

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	$\frac{C}{M}$	C+C	PESO TEORICO THEORETICAL WEIGHT KG
6"	168,3 x 7,11	Std	143	286	11,51
	168,3 x 10,97	Xs			17,21
	168,3 x 14,27	120			21,60
	168,3 x 18,24	160			31,10
8"	219,1 x 6,35	20	178	356	20,70
	219,1 x 7,04	30			22,14
	219,1 x 8,18	Std			29,45
	219,1 x 12,70	Xs			29,48
	219,1 x 18,24	120			44,55
10"	219,1 x 23,01	160	216	432	63,50
	273,0 x 6,35	20			31,23
	273,0 x 7,80	30			36,00
	273,0 x 9,27	Std			33,86
	273,0 x 12,70	Xs			44,15
	273,0 x 15,06	80			60,75
12"	273,0 x 21,41	120	254	508	83,70
	273,0 x 28,58	160			118,00
	323,9 x 6,35	20			39,06
	323,9 x 8,38	30			50,94
	323,9 x 9,53	Std			55,00
	323,9 x 10,31	40			63,45
	323,9 x 12,70	Xs			78,70
	323,9 x 14,27	60			85,50
14"	323,9 x 17,45	80	279	558	103,50
	323,9 x 22,23	120			135,00
	323,9 x 33,32	160			155,00
	355,6 x 7,92	20			75,60
16"	355,6 x 9,53	Std	305	610	72,60
	355,6 x 12,70	Xs			96,70
	406,4 x 7,92	20			90,00
18"	406,4 x 9,53	Std	343	686	90,30
	406,4 x 12,70	Xs			120,00
20"	457,4 x 9,53	Std	381	762	131,00
	457,4 x 12,70	Xs			139,00
24"	508,0 x 9,53	Std	432	864	151,20
	508,0 x 12,70	Xs			220,50
	609,6 x 9,53	Std			216,00
	609,6 x 12,70	Xs			315,00

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**TEE RIDOTTI SENZA SALDATURA**

ASME B16.9

**SEAMLESS REDUCING TEES**

ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP MM THCK X THCK MM	SCH	C	M	PESO TEORICO THEORETICAL WEIGHT KG
3/4" x 1/2"	26,70 x 21,30	2,87 x 2,77	Std	29	29	0,16
	26,70 x 21,30	3,91 x 3,73	Xs			0,20
1" x 1/2"	33,40 x 21,30	3,38 x 2,77	Std	38	38	0,30
	33,40 x 21,30	4,55 x 3,73	Xs			0,37
1" x 3/4"	33,40 x 26,70	3,38 x 2,87	Std	38	38	0,30
	33,40 x 26,70	4,55 x 3,91	Xs			0,38
1 1/4" x 1/2"	42,40 x 21,30	3,56 x 2,77	Std	48	48	0,54
	42,40 x 21,30	4,85 x 3,73	Xs			0,68
1 1/4" x 3/4"	42,60 x 26,70	3,56 x 2,87	Std	48	48	0,54
	42,60 x 26,70	4,85 x 3,91	Xs			0,68
1 1/4" x 1"	42,60 x 33,410	3,56 x 3,38	Std	48	48	0,54
	42,60 x 33,410	4,85 x 4,55	Xs			0,69
1 1/2" x 3/4"	48,30 x 26,70	3,68 x 2,87	Std	57	57	0,77
	48,30 x 26,70	5,08 x 3,91	Xs			0,98
1 1/2" x 1"	48,30 x 33,40	3,68 x 3,38	Std	57	57	0,77
	48,30 x 33,40	5,08 x 4,55	Xs			1,02
1 1/2" x 1 1/4"	48,30 x 42,40	3,68 x 3,56	Std	57	57	0,77
	48,30 x 42,40	5,08 x 4,85	Xs			1,02
2" x 1"	60,30 x 33,40	3,91 x 3,38	Std	64	51	0,98
	60,30 x 33,40	5,54 x 4,55	Xs			1,32
2" x 1 1/4"	60,30 x 42,40	3,91 x 3,56	Std	64	57	1,04
	60,30 x 42,40	5,54 x 4,85	Xs			1,44
2" x 1 1/2"	60,30 x 48,30	3,91 x 3,68	Std	64	60	1,06
	60,30 x 48,30	5,54 x 5,08	Xs			1,44

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP MM THCK X THCK MM	SCH	C	M	PESO TEORICO THEORETICAL WEIGHT KG
2 1/2" x 1 1/4"	73,10 x 42,40	5,16 x 3,56	Std	76	64	1,72
	73,10 x 42,40	7,01 x 4,85	Xs			2,14
2 1/2" x 1 1/2"	73,10 x 48,30	5,16 x 3,68	Std	76	67	1,72
	73,10 x 48,30	7,01 x 5,08	Xs			2,14
2 1/2" x 2"	73,10 x 60,30	5,16 x 3,91	Std	76	70	1,72
	73,10 x 60,30	7,01 x 5,54	Xs			2,24
3" x 1"	88,90 x 33,40	5,49 x 3,38	Std	86	70	2,45
	88,90 x 33,40	7,62 x 4,55	Xs			2,80
3" x 1 1/4"	88,90 x 42,40	5,49 x 3,56	Std	86	70	2,45
	88,90 x 42,40	7,62 x 4,85	Xs			2,80
3" x 1 1/2"	88,90 x 48,30	5,49 x 3,68	Std	86	73	2,48
	88,90 x 48,30	7,62 x 5,08	Xs			3,05
3" x 2"	88,90 x 60,30	5,49 x 3,91	Std	86	76	2,48
	88,90 x 60,30	7,62 x 5,54	Xs			3,09
3" x 2 1/2"	88,90 x 73,10	5,49 x 5,16	Std	86	83	2,91
	88,90 x 73,10	7,62 x 7,01	Xs			3,50
4" x 2"	114,30 x 60,30	6,02 x 60,30	Std	105	89	4,12
	114,30 x 60,30	8,56 x 4,54	Xs			5,08
4" x 2 1/2"	114,30 x 73,10	6,02 x 5,16	Std	105	95	4,48
	114,30 x 73,10	8,56 x 7,01	Xs			5,96
4" x 3"	114,30 x 88,90	6,02 x 5,49	Std	105	98	4,56
	114,30 x 88,90	8,56 x 7,62	Xs			6,13
5" x 3"	141,30 x 88,90	6,55 x 5,49	Std	124	111	7,60
	141,30 x 88,90	9,53 x 7,62	Xs			8,85
5" x 4"	141,30 x 114,30	6,55 x 6,02	Std	124	117	7,10
	141,30 x 114,30	9,53 x 8,56	Xs			9,90
6" x 3"	168,30 x 88,90	7,11 x 5,49	Std	143	124	10,22
	168,30 x 88,90	10,97 x 7,62	Xs			13,33
6" x 4"	168,30 x 114,30	7,11 x 6,02	Std	143	130	10,25
	168,30 x 114,30	10,97 x 8,56	Xs			14,26
6" x 5"	168,30 x 141,30	7,11 x 6,55	Std	143	137	11,13
	168,30 x 141,30	10,97 x 9,53	Xs			15,04

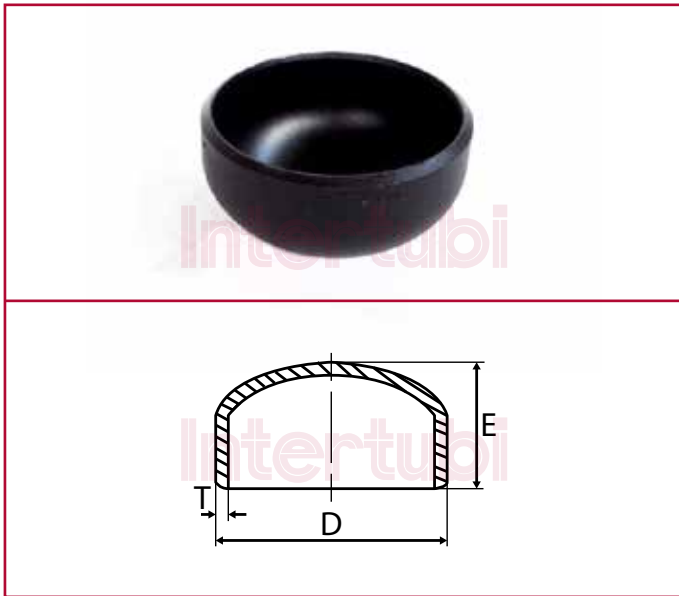
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D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP MM THCK X THCK MM	SCH	C	M	PESO TEORICO THEORETICAL WEIGHT KG		
8" x 4"	219,10 x 114,30	8,18 x 6,02	Std	178	156	16,77		
	219,10 x 114,30	12,70 x 8,56	Xs			24,59		
8" x 5"	219,10 x 141,30	8,18 x 6,55	Std		162	17,36		
	219,10 x 141,30	12,70 x 9,53	Xs			24,59		
8" x 6"	219,10 x 168,00	8,18 x 7,11	Std		168	17,96		
	219,10 x 168,00	12,70 x 10,97	Xs			28,27		
10" x 4"	273,00 x 114,30	9,27 x 6,02	Std		216	184	26,93	
	273,00 x 114,30	12,70 x 8,56	Xs				35,11	
10" x 6"	273,00 x 168,00	9,27 x 7,11	Std			194	26,93	
	273,00 x 168,00	12,70 x 10,97	Xs				35,11	
10" x 8"	273,00 x 219,10	9,27 x 8,18	Std			203	28,35	
	273,00 x 219,10	12,70 x 12,70	Xs				36,97	
12" x 6"	323,90 x 168,30	9,53 x 7,11	Std	254		219	40,50	
	323,90 x 168,30	12,70 x 10,97	Xs				75,20	
12" x 8"	323,90 x 219,10	7,53 x 8,18	Std			229	40,50	
	323,90 x 219,10	12,70 x 12,70	Xs				75,20	
12" x 10"	323,90 x 273,00	9,53 x 9,27	Std			241	43,00	
	323,90 x 273,00	12,70 x 12,70	Xs				75,20	
14" x 10"	355,60 x 273,00	9,53 x 9,27	Std		279	257	87,84	
	355,60 x 273,00	12,70 x 12,70	Xs				98,60	
14" x 12"	355,60 x 323,90	9,53 x 9,53	Std			270	91,80	
	355,60 x 323,90	12,70 x 12,70	Xs				103,50	
16" x 10"	406,40 x 273,00	9,53 x 9,27	Std			305	283	95,85
	406,40 x 273,00	12,70 x 12,70	Xs					144,00
16" x 12"	406,40 x 323,90	9,53 x 9,53	Std	295			99,00	
	406,40 x 323,90	12,70 x 12,70	Xs				147,60	
16" x 14"	406,40 x 355,60	9,53 x 9,53	Std	305			99,00	
	406,40 x 355,60	12,70 x 12,70	Xs				150,30	

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SP X SP MM THCK X THCK MM	SCH	C	M	PESO TEORICO THEORETICAL WEIGHT KG	
18" x 10"	457,00 x 273,00	9,53 x 9,27	Std	343	308	116,10	
	457,00 x 273,00	12,70 x 12,70	Xs			138,60	
18" x 12"	457,00 x 323,90	9,53 x 9,53	Std		321	121,50	
	457,00 x 323,90	12,70 x 12,70	Xs			147,60	
18" x 14"	457,00 x 355,60	9,53 x 9,53	Std		330	121,50	
	457,00 x 355,60	12,70 x 12,70	Xs			171,00	
18" x 16"	457,00 x 406,40	9,53 x 9,53	Std		330	121,50	
	457,00 x 406,40	12,70 x 12,70	Xs			171,00	
20" x 10"	508,00 x 273,00	9,53 x 9,27	Std		381	333	147,15
	508,00 x 273,00	12,70 x 12,70	Xs				192,60
20" x 12"	508,00 x 323,90	9,53 x 9,53	Std			346	147,15
	508,00 x 323,90	12,70 x 12,70	Xs				192,60
20" x 14"	508,00 x 355,60	9,53 x 9,53	Std	356		147,15	
	508,00 x 355,60	12,70 x 12,70	Xs			192,60	
20" x 16"	508,00 x 406,40	9,53 x 9,53	Std	356		151,20	
	508,00 x 406,40	12,70 x 12,70	Xs			196,20	
20" x 18"	508,00 x 457,00	9,53 x 9,53	Std	368		151,20	
	508,00 x 457,00	12,70 x 12,70	Xs			196,20	
24" x 14"	609,60 x 355,60	9,53 x 9,53	Std	432		397	155,25
	609,60 x 355,60	12,70 x 12,70	Xs				220,50
24" x 16"	609,60 x 406,40	9,53 x 9,53	Std		406	188,10	
	609,60 x 406,40	12,70 x 12,70	Xs			234,00	
24" x 18"	609,60 x 457,00	9,53 x 9,53	Std		419	188,10	
	609,60 x 457,00	12,70 x 12,70	Xs			234,00	
24" x 20"	609,60 x 508,00	9,53 x 9,53	Std		432	198,00	
	609,60 x 508,00	12,70 x 12,70	Xs			252,00	

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**FONDI**  
ASME B16.9

**CAPS**  
ASME B16.9

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	E	PESO TEORICO THEORETICAL WEIGHT KG
1"	33,4 x 3,38	Std	38	0,10
	33,4 x 4,55	Xs		0,13
	33,4 x 6,35	160		0,15
1 1/4"	42,4 x 3,56	Std	38	0,14
	42,4 x 4,85	Xs		0,19
	42,4 x 6,35	160		0,23
1 1/2"	48,3 x 3,68	Std	38	0,20
	48,3 x 5,08	Xs		0,23
	48,3 x 7,14	160		0,30
2"	60,3 x 3,91	Std	38	0,25
	60,3 x 5,54	Xs		0,30
	60,3 x 8,71	160		0,55
2 1/2"	73,1 x 5,16	Std	38	0,35
	73,1 x 7,01	Xs		0,45
	73,1 x 9,53	160		0,90
3"	88,9 x 5,49	Std	51	0,70
	88,9 x 7,62	Xs		0,85
	88,9 x 11,13	160		1,45
4"	114,3 x 6,02	Std	64	1,10
	114,3 x 8,56	Xs		1,60
	114,3 x 11,13	120		2,50
	114,3 x 13,49	160		2,75
5"	141,3 x 6,55	Std	76	2,00
	141,3 x 9,53	Xs		2,70
	141,3 x 12,70	120		4,00
	141,3 x 15,88	160		5,00
6"	168,3 x 4,78	20	89	2,01
	168,3 x 7,11	Std		3,00
	168,3 x 10,97	Xs		4,40
	168,3 x 14,27	120		6,00
	168,3 x 18,24	160		7,50

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	E	PESO TEORICO THEORETICAL WEIGHT KG
8"	219,1 x 6,35	20	102	4,50
	219,1 x 7,04	30		5,00
	219,1 x 8,18	Std		5,50
	219,1 x 10,31	60		7,00
	219,1 x 12,70	Xs		8,35
	219,1 x 18,24	120		12,27
10"	273,0 x 6,35	20	127	6,00
	273,0 x 7,80	30		8,00
	273,0 x 9,27	Std		9,00
	273,0 x 12,70	Xs		13,60
	273,0 x 15,06	80		16,25
	273,0 x 21,41	120		24,74
12"	323,9 x 6,35	20	152	10,00
	323,9 x 8,38	30		13,00
	323,9 x 9,53	Std		15,00
	323,9 x 10,31	40		19,00
	323,9 x 12,70	Xs		22,50
	323,9 x 14,27	60		25,50
14"	323,9 x 17,45	80	165	29,50
	323,9 x 25,40	120		41,00
	323,9 x 33,32	160		53,77
	355,6 x 7,92	20		14,00
	355,6 x 9,53	Std		16,00
	355,6 x 12,70	Xs		27,00
16"	406,4 x 7,92	20	178	18,00
	406,4 x 9,53	Std		21,00
	406,4 x 12,70	Xs		31,50
18"	457,0 x 7,92	20	203	22,00
	457,0 x 9,53	Std		26,00
	457,0 x 12,70	Xs		36,00
20"	508,0 x 9,53	Std	229	32,00
	508,0 x 12,70	Xs		42,00
24"	609,6 x 9,53	Std	267	46,00
	609,6 x 12,70	Xs		60,00

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.  
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**ACCIAIO AL CARBONIO | CARBON STEEL**

**RACCORDI A SALDARE EN 10253**  
**BUTT WELDING FITTINGS EN 10253**

**INFORMAZIONI GENERALI  
GENERAL INFORMATION**

I raccordi a saldare di testa della società Intertubi sono forniti in accordo alle seguenti norme:  
Intertubi's butt welding fittings are provided in according to the following standards:

Norma di raccordo Fitting standard	Descrizione Description	Norma del tubo Pipe standard		Grado di acciaio Steel grade	Tipologia di raccordi Fittings types
		Senza saldature Seamless	Saldato Welded		
EN 10253-1	Raccordi in acciaio non legato lavorato plasticamente per impieghi generali e senza requisiti specifici di controllo (certificato EN 10204/2.2) non in accordo PED.  <i>Butt-welding pipe fittings wrought carbon steel for general use and without specific inspection requirements not according to PED.</i>	EN 10216-1 (P235TR1, P236TR1)	EN 10217-1 (P235TR1, P236TR1)	S235, S265	Curve (2D, 3D, 5D) Riduzioni concentriche (Forma 1) Riduzioni concentriche ed eccentriche Forma 2 Tee con derivazione uguale e ridotta Fondi bombati  <i>Elbows (2D, 3D, 5D) Concentric reducers (Form 1) Concentric and eccentric reducers (Form 2) Equal reducing tee Caps</i>
EN 10253-2	Raccordi in acciaio non legato e legato con requisiti specifici di controllo per impieghi a pressione (certificato EN 10204/2.2) in accordo a PED.  <i>Butt-welding pipe fittings non alloy and ferritic alloy steels with specific inspection requirements, according to PED.</i>	EN 10216-1	EN 10217-1	Acciaio al carbonio a temperatura ambiente P235TR2, P265TR2	Curve (2D, 3D, 5D) Riduzioni concentriche (Forma 1) Riduzioni concentriche ed eccentriche Forma 2 Tee con derivazione uguale e ridotta Fondi bombati  <i>Elbows (2D, 3D, 5D) Concentric reducers (Form 1) Concentric and eccentric reducers (Form 2) Equal reducing tee Caps</i>
		EN 10216-2 (TC1 e TC2)	EN 10217-2 (TC1 e TC2)	Acciaio al carbonio per alta temperatura P235GH, P265GH	
		EN 10216-2 (TC2)	EN 10217-2 (TC2)	Acciai legati per alta temperatura 16Mo3, 13CrMo4-5, 100LvMo5-5, X10CrMoVNb9-1	
		EN 10216-3/4 (TC1 e TC2)	EN 10217-3/4 (TC1 e TC2)	Acciaio al carbonio per basse temperature P265NL, P355NL	
		EN 10208-2		Acciai al carbonio per trasporto di fluidi combustibili (line pipe) L290NB, L360NB, L4150B, L4500B	



Le tabelle riportate in seguito permettono un confronto tra i differenti gradi di acciaio secondo la composizione chimica e le proprietà meccaniche:

Tables shown below allow a comparison between the different steel grades according to the chemical composition and mechanical properties:

Grado acciaio / Steel grade	EN	C max. %	Si max. %	Mn max. %	P max. %	S max. %	N max. %	Cr max. %	Cu max. %	Mo max. %	Nb max. %	Ni max. %	Ti max. %	Altri Others %
Nome / Names														
P235TR2	1.0255	0.16	0.35	1.20	0.025	0.020	-	0.30	0.30	0.08	0.01	0.30	0.04	Cr+Cu+Mo+Ni≤0,70
P265TR2	1.0259	0.20	0.40	1.40	0.025	0.020	-	0.30	0.30	0.08	0.01	0.30	0.04	<<
P235GH	1.0345	0.16	0.35	1.20	0.025	0.020	-	0.30	0.30	0.08	0.01	0.30	0.04	<<
P265GH	1.0425	0.20	0.40	1.40	0.025	0.020	-	0.30	0.30	0.08	0.01	0.30	0.04	<<
16Mo3	1.5415	0.12 - 0.20	0.35	0,40-0,90	0.025	0.020	-	0.30	0.30	0,25-0,35	-	0.30	-	-
10CrMo5-5	1.7338	0.15	0,50 - 1,00	0,30-0,60	0.025	0.020	-	1,00-1,50	0.30	0,45-0,65	-	0.30	-	-
13CrMo4-5	1.7335	0.10 - 0.17	0.35	0,40-0,70	0.025	0.020	-	0,70-1,15	0.30	0,40-0,60	-	0.30	-	-
P355NL1	1.0566	0.18	0.50	0,90-1,70	0.025	0.020	-	0.30	0.30	0.08	0.05	0.50	0.04	N≤0,02 Nb+Ti+V≤0,12
P265NL	1.0453	0.20	0.40	0,60-1,40	0.025	0.020	-	0.30	0.30	0.08	0.10	0.30	0.04	-
L290NB	1.0484	0.17	0.40	1.20	0.025	0.020	-	0.30	0.25	0.10	0.05	0.30	0.04	N≤0,012 CEV≤0,42
L360NB	1.0582	0.20	0.45	1.60	0.025	0.020	-	0.30	0.25	0.10	0.05	0.30	0.04	N≤0,012 V+Nb+Ti≤0,15 CEV ≤ 0,45
L415QB	1.8947	0.16	0.45	1.60	0.025	0.020	-	0.30	0.25	0.10	0.05	0.30	0.04	N≤0,012 V+Nb+Ti≤0,15 CEV ≤ 0,43
L450Q8	1.8952	0.16	0.45	1.60	0.025	0.020	-	0.30	0.25	0.10	0.05	0.30	0.06	N≤0,012 V+Nb+Ti≤0,15 CEV ≤ 0,45

## COMPOSIZIONE CHIMICA CHEMICAL COMPOSITION

Tipo di acciaio	C max. %	Si max. %	Mn max. %	S max. %	P max. %
S 265	0,20	0,40	1,40	0,025	0,030
S 235	0,16	0,35	1,2	0,025	0,030

Nota 1 - Gli elementi che non figurano nel presente prospetto non devono essere aggiunti intenzionalmente all'acciaio senza il consenso del committente, fatta eccezione per gli elementi utilizzati per la disossidazione dell'acciaio. Possono tuttavia essere tollerati elementi residui a condizione che le caratteristiche meccaniche e l'utilizzabilità del prodotto non vengano influenzati sfavorevolmente. Nota 2 Vedere appendice A per i particolari relativi al tipo di acciaio alternativo S265

Note 1 - The elements that don't show up in the present prospectus don't have to intentionally be assistant to the steel without the consent of the buyer, made exception for the elements used for the deoxidation of the steel. They are able nevertheless to be born elements condition residues that the mechanical characteristics and the usability of the product is not unfavorably influenced. Note 2 To see appendix A for the particular ones related to the type of alternative steel S265

**PROPRIETÀ MECCANICHE  
MECHANICAL PROPERTIES**

Steel grade		Upper yield strength or proof strength $R_{eH}$ or $R_{p0.2}$ min for wall thicknesses T in mm N/mm <sup>2</sup>				Tensile strength $R_m$ for wall thicknesses T in mm N/mm <sup>2</sup>			Elongation A min. %	
Name	Number	T≤16	16<T≤40	40<T≤60	60<T≤100	T≤16	16<T≤60	60<T≤100	Longitudinal	Transverse
P235TR2	1,0255	235	225	215	-	360-500	360-500	-	25	23
P265TR2	1,0259	265	255	245	-	410-570	410-570	-	21	19
P235GH	0,0345	235	225	215	-	360-500	360-500	-	25	23
P265GH	1,0425	265	255	245	-	410-570	410-570	-	23	21
16Mo3	1,5415	280	270	260	-	450-600	450-600	-	22	20
10CrMo5-5	1,7338	275	275	265	-	410-560	410-560	-	22	20
13CrMo4-5	1,7335	290	290	280	-	440-590	440-590	-	22	20
P355NL1	1,0566	355	345	325	305	490-650	490-630	450-590	22	20
P265NL	1,0453	265	265 <sup>b</sup>	-	-	410-570	410-570	-	24	22
L290NB	1,0484	290-440	290-440	-	-	≥415	-	-	23	21
L360NB	1,0582	360-510	360-510	-	-	≥460	-	-	22	20
L415QB	1,8947	415-565	415-565	-	-	≥520	≥520	-	20	18
L450QB	1,8952	450-570	450-570	-	-	≥535	≥535	-	20	18

<sup>a</sup> For wall thicknesses equal to or smaller than 10 mm.  
<sup>b</sup> For wall thicknesses equal to or smaller than 25 mm.

Le caratteristiche meccaniche (a temperatura ambiente) devono essere conformi ai requisiti indicati nel prospetto:  
The mechanical characteristics (to temperature environment) they have to be conforming to the suitable requisite in the prospectus:

Tipo di acciaio	$R_{eH}$ min N/mm <sup>2</sup>	$R_m$ N/mm <sup>2</sup>	A min. %	HB max.
S265	265	410-570	21	180
S235	235	360-500	25	170

**MINIMUM PROOF STRENGTH  $R_{p0.2}$  AT ELEVATED TEMPERATURE**

Grade	Minimum proof strength $R_{p0.2}$ N/mm <sup>2</sup> at temperature of (°C)										
	100	150	200	250	300	350	400	450	500	550	600
16Mo3	243	237	224	205	173	159	156	150	146	-	-
10CrMo5-5	240	228	219	208	165	156	148	144	143	-	-
13CrMo4-5	2W64	253	245	236	192	182	174	168	166	-	-

**MINIMUM TENSILE STRENGTH VALUES AT TEMPERATURE FOR GRADE P355NH**

Temperature in °C	Rm for wall thickness T in mm			
	T ≤ 30	30 < T ≤ 50	50 < T ≤ 80	80 < T ≤ 100
100	440	420	400	390
150	430	410	390	380
200	410	390	370	360
250	410	390	370	360
300	410	390	370	360
350	400	380	360	350
400	390	370	350	340

**LE TOLLERANZE, COME DA PAR 11.2 E EN 10253-2, SONO RIEPILOGATE NELLA SEGUENTE TABELLA:**  
**TOLERANCES, AS EXPLAINED IN PAR 11.2 E EN 10253-2, ARE SUMMARIZED IN THE FOLLOWING TABLE:**

Diametro esterno Outside diameter D (mm)	Diametro interno Inside diameter		Ovalità (2) Out of round		Spessore (3) Thickness	F-G-H-L (mm)	B (mm)	C (mm)	K (mm)
	Alle estremità At the ends	Sul corpo On the body	Alle estremità At the ends	Sul corpo On the body					
≤114,3	± 1% min ± 0,5 mm (classe D2)	Almeno 80% del diametro interno alle estremità  At least 80% of the internal diameter at the ends	Inclusa nella tolleranza del diametro  Included in the tolerance of the diameter	Max 4%	-12,5% +15%	±2mm	±7mm	±7mm	±4mm
>=139,7 <=219,1									±7mm
273									±7mm
>=323,9 <=406,4									±10mm
>=457 <=610									±10mm
>=660 <=762			±10mm						
>762			±10mm						
			Max 2%		Senza saldatura Seamless -0,35 mm +15%	±5mm	±10mm	±10mm	±7mm
						±10mm	±10mm	±10mm	±10mm

(1) Le quote F-G-H-L-B-C-K sono riferite alle figure 1-2-3-4-5-6-7-8-9-10-11-12 della EN 10253-4.

(2) L'ovalità deve essere così calcolata  $Ov=100(D_{max}-D_{min})/D$  in % dove:

$D_{max}$  = diametro massimo misurato sulla sezione in mm

$D_{min}$  = diametro minimo misurato sulla sezione in mm

D = diametro nominale della sezione in mm

(3) La tolleranza minima si applica anche sul corpo del raccordo

(1) Dimensions are F-G-H-L-B-C-K are referring to the figures 1-2-3-4-5-6-7-8-9-10-11-12 of EN 10253-4.

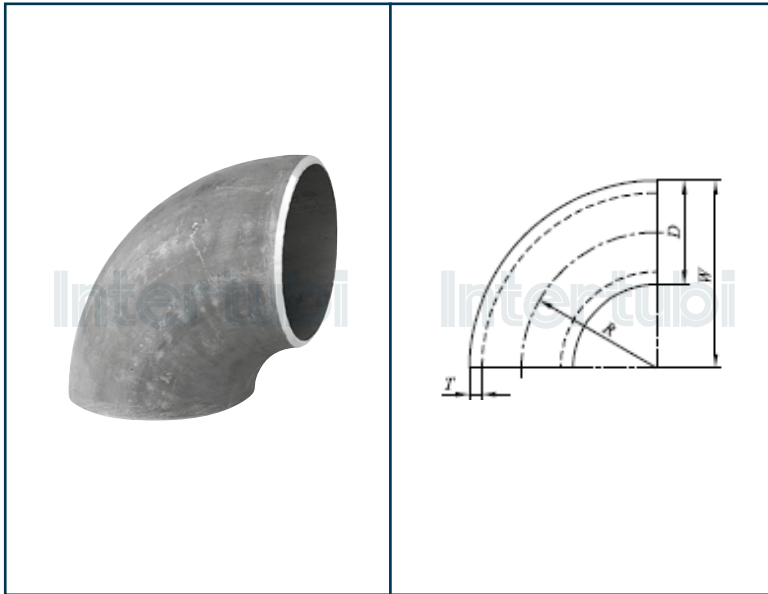
(2) The out of roundness must be so calculate:  $Ov=100(D_{max}-D_{min})/D$  in % where:

$D_{max}$  = maximum diameter measured on the section in mm

$D_{min}$  = minimum diameter measured on the section in mm

D = nominal diameter of section in mm

(3) Minimum tolerance is applied also on the body of the fitting.

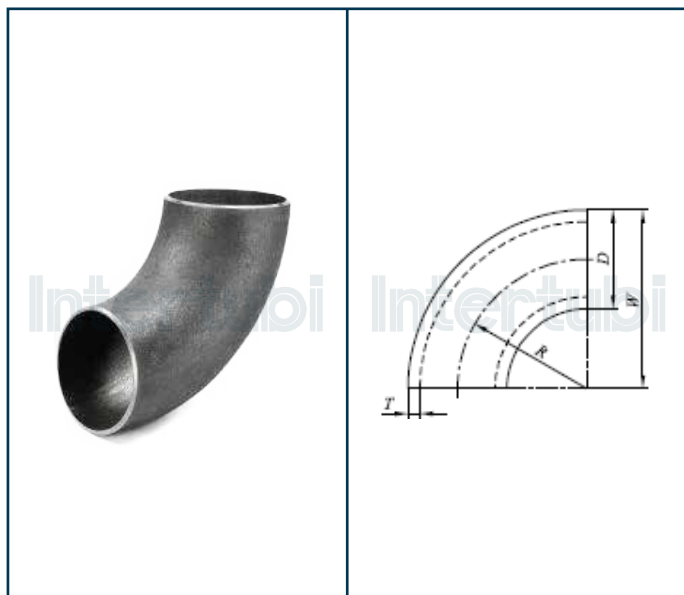

**CURVE SENZA SALDATURA**
**R=1D DIMA 2**

EN 10253-2 TIPO A

**SEAMLESS ELBOWS**
**R=1D DIMA 2**

EN 10253-2 TYPE A

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
26,90	2,30	25	39	0,06
33,70	2,30	25	42	0,08
	2,60			0,10
42,40	2,60	32	53	0,15
48,30	2,60	38	62	0,18
60,30	2,90	51	81	0,36
76,10	2,90	63	102	0,50
88,90	3,20	76	121	0,88
114,30	3,60	102	159	1,62
	6,30			2,77
139,70	4,00	127	197	2,79
168,30	4,50	152	237	4,43
	7,10			6,87
219,10	6,30	203	313	10,90
	8,00			13,70
	12,50			21,00
273,00	6,30	254	391	16,50
	8,80			22,90
323,90	7,10	305	467	26,90
355,60	8,00	356	533	38,20
406,40	8,80	406	610	55,10



**CURVE SENZA SALDATURA**

**R=1,5D DIMA 3**

EN 10253-2 TIPO A S235 - P235GH - P265GH

**SEAMLESS ELBOWS**

**R=1,5D DIMA 3**

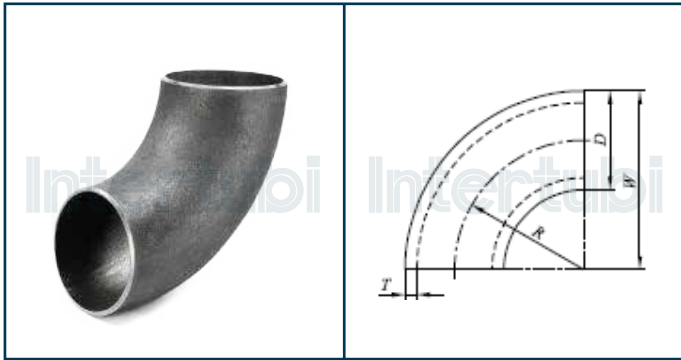
EN 10253-2 TYPE A S235 - P235GH - P265GH

Su richiesta saldate | *Welded on request*

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
21,30	2,00	38*	49	0,04
	2,90			0,06
	3,20			0,06
	3,60			0,07
	4,00			0,08
	4,00			0,08
26,90	2,30	38*	51	0,06
	2,90			0,08
	3,20			0,09
	3,60			0,10
	4,00			0,10
33,70	2,30	38*	56	0,11
	2,60			0,12
	3,20			0,15
	3,60			0,16
	4,00			0,18
	4,50			0,20
	5,00			0,21
	6,30			0,26
42,40	2,60	48	69	0,19
	3,20			0,23
	3,60			0,26
	4,00			0,29
	4,50			0,32
	4,50			0,32
	5,00			0,35

\* R=28 ACCORDING TO DIN 2609

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
48,30	2,60	57	82	0,26
	3,20			0,32
	3,60			0,36
	4,00			0,39
	4,50			0,44
	5,00			0,48
60,30	6,30	76	106	0,59
	2,90			0,49
	3,20			0,54
	3,60			0,60
	4,00			0,67
	4,50			0,74
	5,00			0,82
	5,60			0,90
	6,30			1,00
	7,10			1,11
	8,00			1,23
76,10	8,80	95	133	1,34
	10,00			1,48
	11,00			1,60
	2,90			0,78
	3,20			0,86
	3,60			0,96
	4,00			1,06
	4,50			1,19
	5,00			1,31
	5,60			1,46
76,10	6,30	95	133	1,62
	7,10			1,81


**CURVE SENZA SALDATURA**
**R=1,5D DIMA 3**

EN 10253-2 TIPO A S235 - P235GH - P265GH

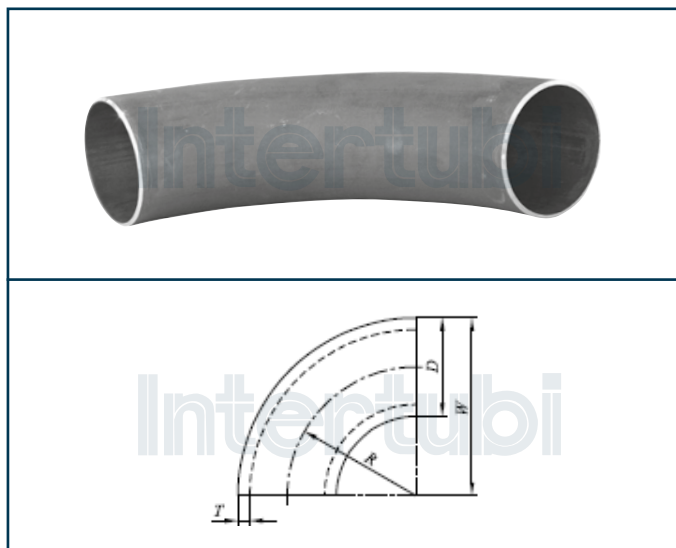
**SEAMLESS ELBOWS**
**R=1,5D DIMA 3**

EN 10253-2 TYPE A S235 - P235GH - P265GH

 Su richiesta saldate | *Welded on request*

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
88,90	3,20	114	159	1,22
	3,60			1,36
	4,00			1,51
	4,50			1,69
	5,00			1,86
	5,60			2,07
	6,30			2,31
	7,10			2,58
	8,00			2,87
	12,50			4,24
101,60	3,60	133	184	1,83
	4,00			2,02
	4,50			2,26
	5,00			2,50
	5,60			2,78
114,30	3,60	152	210	2,36
	4,00			2,61
	4,50			2,92
	5,00			3,23
	5,60			3,60
	6,30			4,02
	7,10			4,50
	8,00			5,03
	8,80			5,49
	12,50			7,52
139,70	4,00	190	260	4,01
	4,50			4,49
	5,00			4,97
	5,60			5,54
	6,30			6,20
	7,10			6,95
	8,80			8,50
	10,00			9,57

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
168,30	4,50	229	313	6,53
	5,00			7,23
	5,60			8,07
	6,30			9,04
	7,10			10,10
	8,80			12,40
219,10	6,30	305	415	15,80
	7,10			17,80
	8,00			20,00
	8,80			21,90
	10,00			24,70
273,00	12,50	381	517	30,50
	6,30			24,80
	7,10			27,90
	8,00			31,30
	8,80			34,30
	10,00			38,80
323,90	12,50	457	619	48,10
	7,10			39,80
	8,00			44,70
	8,80			49,10
	0,00			55,60
	12,50			68,90
355,60	8,00	533	711	57,50
	8,80			63,10
	10,00			71,40
	12,50			88,60
406,40	8,80	609	813	82,60
	10,00			93,60
	12,50			116,00
457,00	10,00	686	914	119,00
	12,50			148,00
508,00	11,00	762	1016	161,00
	12,50			183,00
609,60	12,50	914	1219	260,00



**CURVE SENZA SALDATURA**

**R=2,5D DIMA 5**

EN 10253-2 - P235GH

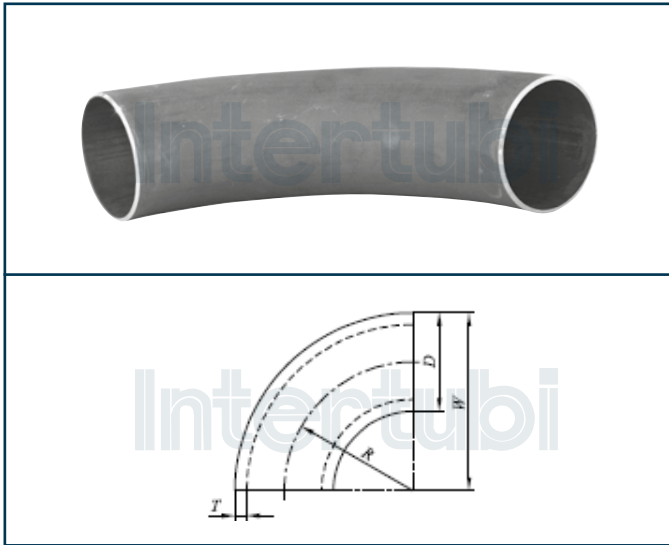
**SEAMLESS ELBOWS**

**R=2,5D DIMA 5**

EN 10253-2 - P235GH

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
21,30	2,00	43	53	0,07
	2,90			0,09
	3,60			0,11
26,90	2,30	58	71	0,13
	2,90			0,16
	4,00			0,21
33,70	2,60	73	89	0,23
	3,60			0,31
	4,50			0,37
42,40	2,60	93	114	0,37
	3,60			0,50
	5,00			0,67
48,30	2,50	108	134	0,50
	3,60			0,67
	5,00			0,90
60,30	2,90	137	168	0,87
	4,00			1,18
	5,00			1,60
76,10	2,90	175	213	1,44
	5,00			2,41
	7,10			3,32
88,90	3,20	205	252	2,18
	5,60			3,71
	8,00			5,14

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
101,60	3,60	235	286	3,25
	5,60			4,95
	8,00			6,89
114,30	3,60	270	327	4,17
	6,30			7,12
	8,80			9,71
139,70	4,00	330	400	6,94
	6,30			10,80
	10,00			16,60
168,30	4,50	390	474	11,10
	7,10			17,30
	11,00			26,10
219,10	6,30	510	619	26,50
	8,00			33,40
	12,50			51,00
273,00	6,30	650	786	42,30
	10,00			66,20
	12,50			82,00
323,90	7,10	770	932	67,50
	10,00			94,20
	12,50			117,00
355,60	8,00	850	1028	91,60
	10,00			114,00
	12,50			141,00
406,40	8,80	970	1173	132,00
	10,00			149,00
	12,50			185,00


**CURVE SENZA SALDATURA**
**R=5D DIMA 10**

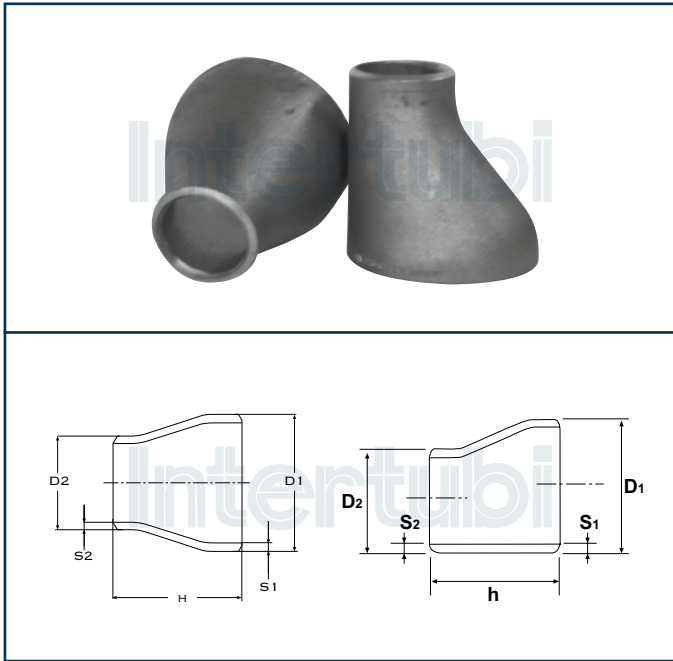
EN 10253-2 - P235GH

**SEAMLESS ELBOWS**
**R=5D DIMA 10**

EN 10253-2 - P235GH

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	W	PESO TEORICO THEORETICAL WEIGHT KG
48,30	2,60	190	214	0,87
	3,60			1,18
60,30	2,90	254	284	1,64
	4,00			2,22
88,90	3,20	381	425	4,05
	5,60			6,88
114,30	3,60	508	585	7,84
	6,30			13,39
168,30	4,50	762	846	21,76
	7,10			33,78
219,10	6,30	1016	1126	52,76
	8,00			66,47
273,00	6,30	1270	1407	82,66
	8,80			114,38
323,90	6,30	1524	1666	118,13
	8,80			163,70
	10,00			185,32
355,60	7,92	1956	2136	208,65
	9,50			249,13
406,40	7,92	2235	2438	273,24
	9,50			326,45



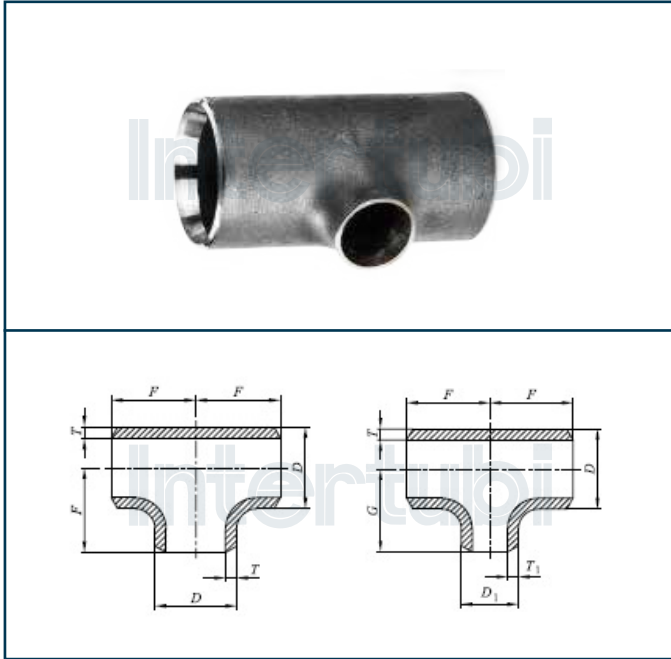


**RIDUZIONI CONCENTRICHE ED  
ECCENTRICHE SENZA SALDATURA**  
EN 10253-2 P235GH

**SEAMLESS CONCENTRIC AND  
ECCENTRIC REDUCERS**  
EN 10253-2 P235GH

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS 1	SPESSORE THICKNESS 2	H	PESO TEORICO THEORETICAL WEIGHT KG
33,70	26,90	2,60	2,30	50	0,09
42,40	26,90	2,60	2,30	50	0,13
	33,70		2,60		0,14
48,30	26,90	2,60	2,30	64	0,19
	33,70		2,60		0,20
	42,40		2,60		0,20
60,30	33,70	2,90	2,60	76	0,31
	42,40		2,60		0,32
	48,30		2,60		0,33
76,10	42,40	2,90	2,60	90	0,47
	48,30		2,60		0,48
	60,30		2,90		0,49
88,90	48,30	3,20	2,60	90	0,61
	60,30		2,90		0,62
	76,10		2,90		0,63
101,60	88,90	3,60	3,20	100	0,88
114,30	60,30	3,60	2,90	100	0,98
	76,10		2,90		1,00
	88,90		3,20		1,00

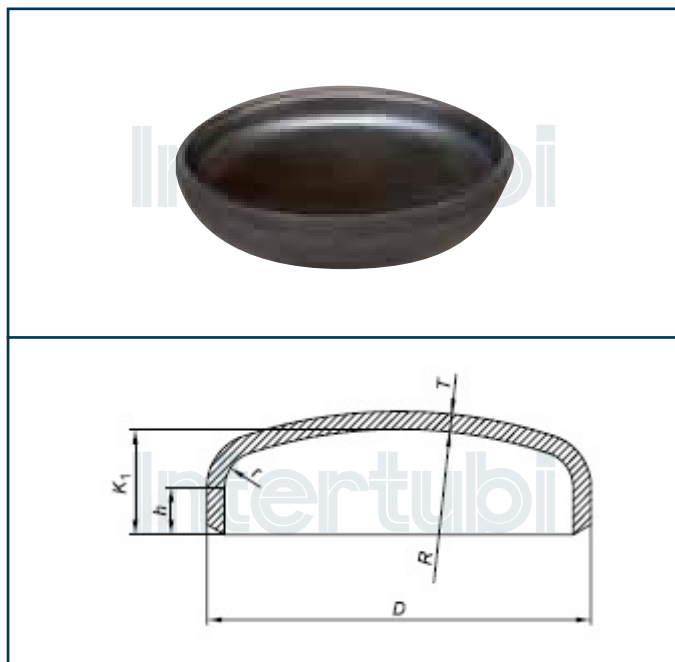
Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS 1	SPESSORE THICKNESS 2	H	PESO TEORICO THEORETICAL WEIGHT KG
139,70	76,10	4,00	2,90	127	1,70
	88,90		3,20		1,74
	108,00		3,60		1,74
	114,30		3,60		1,76
168,30	88,90	4,50	3,20	140	2,70
	114,30		3,60		2,82
	139,70		4,00		2,94
219,00	114,30	6,30	3,60	152	5,03
	139,70		4,00		5,12
	159,00		4,50		5,18
	168,30		4,50		5,18
273,00	168,30	6,30	4,50	178	7,40
	219,10		6,30		7,55
323,90	219,10	7,10	6,30	203	11,50
	273,00		6,30		11,90
355,60	273,00	8,00	6,30	330	23,00
	323,90		7,10		23,50
406,40	273,00	8,80	6,30	355	31,40
	323,90		7,10		32,20


**TEE UGUALI E RIDOTTI  
SENZA SALDATURA**  
EN 10253-2 - P235GH

**SEAMLESS EQUAL AND  
REDUCING TEE**  
EN 10253-2 - P235GH

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS 2	SPESSORE THICKNESS 2	F	G	PESO TEORICO THEORETICAL WEIGHT KG
21,30	21,30	2,00	2,00	50	/	0,09
26,90	26,90	2,30	2,30	29	/	0,15
33,70	33,70	2,60	2,60	38	/	0,25
	21,30		2,00	38	38	0,25
	26,90		2,30			0,25
42,40	42,40	2,60	2,60	48	/	0,47
	26,90		2,30	48	48	0,47
	33,70		2,60			0,47
48,30	48,30	2,60	2,60	57	/	0,68
	26,90		2,30			0,68
	33,70		2,60	57	57	0,68
	42,40		2,60			0,68
60,30	60,30	2,90	2,90	64	/	1,10
	33,70		2,60		51	1,10
	42,40		2,60	64	57	1,10
	48,30		2,60		60	1,10
76,10	76,10	2,90	2,90	76	/	1,50
	42,40		2,60		64	1,50
	48,30		2,60	76	67	1,50
	60,30		2,90		70	1,50
88,90	88,90	3,20	3,20	86	/	2,20
	48,30		2,60		73	2,20
	60,30		2,90	86	76	2,20
	76,10		2,90		83	2,20

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS 2	SPESSORE THICKNESS 2	F	G	PESO TEORICO THEORETICAL WEIGHT KG
114,30	114,30	3,60	3,60	105	/	4,30
	60,30		2,90		89	4,30
	76,10		2,90	105	95	4,30
	88,90		3,20		98	4,30
139,70	139,70	4,00	4,00	124	/	6,20
	76,10		2,90		108	6,20
	88,90		3,20	124	111	6,20
	114,30		3,60		117	6,20
168,30	168,30	4,50	4,50	143	/	9,00
	88,90		3,20		124	8,80
	114,30		3,60	143	130	8,80
	139,70		4,00		137	9,00
219,10	219,10	6,30	6,30	178	/	19,70
	114,30		3,60		156	19,70
	139,70		4,00	178	162	19,70
	168,30		4,50		168	19,70
273,00	273,00	6,30	6,30	273	/	26,20
	168,30		4,50		194	26,20
	219,10		6,30	216	203	26,20
323,90	323,90	7,10	4,50	254	/	49,00
	219,10		6,30		229	47,00
	273,00		6,30	254	241	47,00
355,60	355,60	8,00	8,00	279	/	68,00



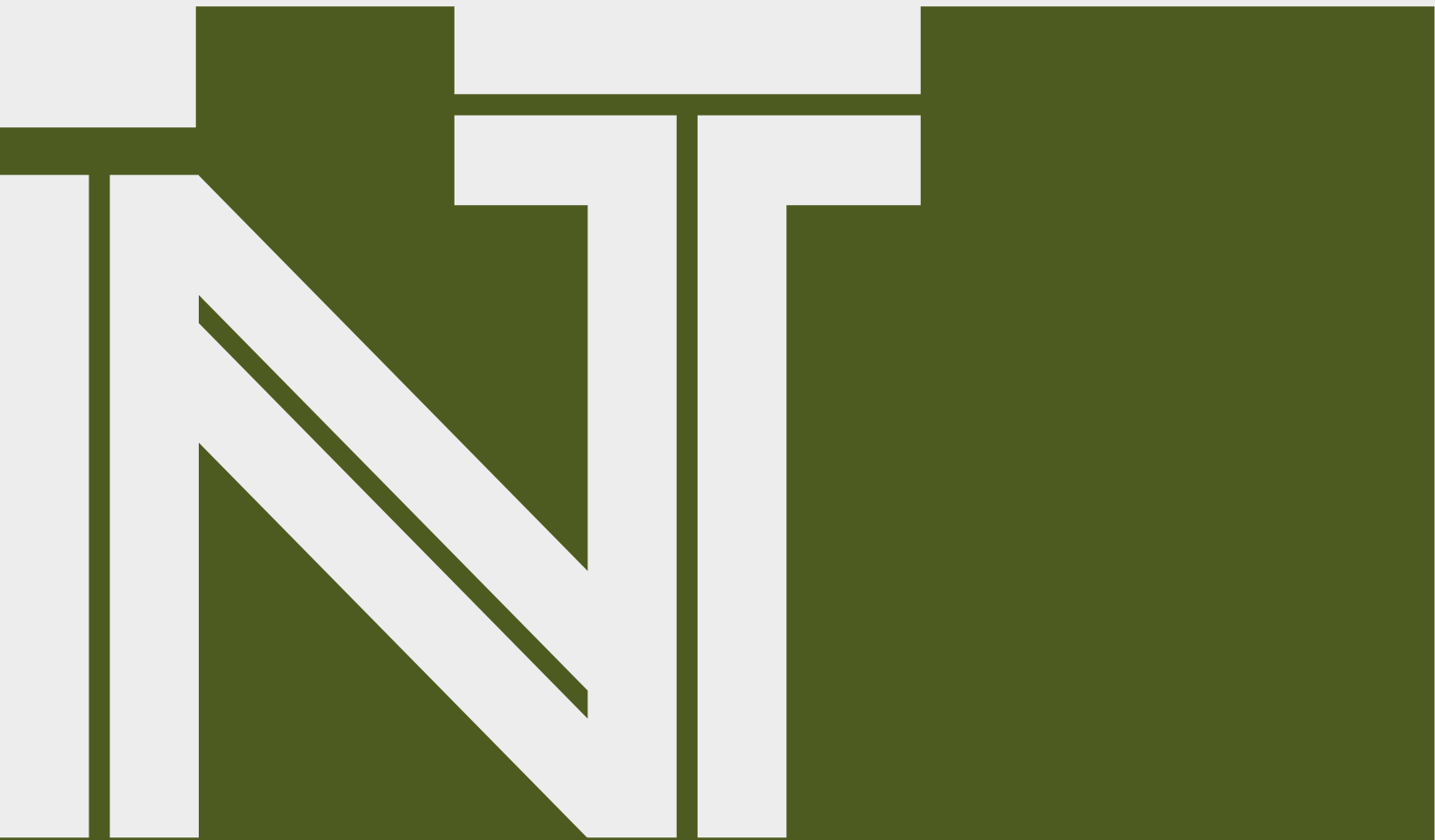
**FONDI**

EN 10253-1  
S235

**DISHED ENDS**

EN 10253-1  
S235

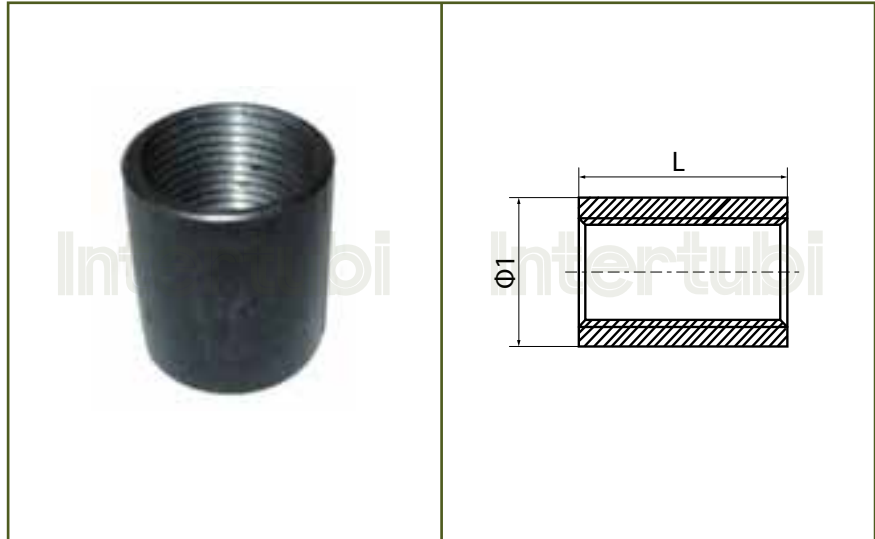
O D1 EST.MM O D1 OUTS.DIAM MM	SPESSORE THICKNESS	K1	PESO TEORICO THEORETICAL WEIGHT KG
26,90	2,30	11	0,02
33,70	2,60	11	0,03
42,40	2,60	11	0,05
48,30	2,60	12	0,06
60,30	2,90	17	0,10
76,10	2,90	19	0,16
88,90	3,20	23	0,22
101,60	3,60	25	0,34
114,30	3,60	26	0,39
133,00	4,00	32	0,56
139,70	4,00	36	0,63
168,30	4,50	45	1,06
219,10	6,30	69	2,82
273,00	6,30	90	5,00
323,90	7,10	99	6,32
355,60	8,00	106	10,14
406,40	8,80	125	10,94





**ACCIAIO AL CARBONIO | CARBON STEEL**

**MANICOTTI E TRONCHETTI**  
**COUPLINGS AND WELDING NIPPLES**

**MANICOTTO  
CARBONIO**
**CARBON STEEL  
COUPLING**


Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø 1	15	18,5	21,3	26,6	31,8	39,5	48,3	54,5	66,2	82	95	121
L	17	25	26	34	36	43	48	48	56	65	71	83
SP/THK	2,0/2,6	2,3/2,9	2,3/2,9	2,6/3,2	3,2/4,0	3,2/4,0	3,2/4,0	3,2/4,0	3,6/4,5	3,6/4,5	4,0/5,0	4,5/5,4

**CARATTERISTICHE TECNICHE:**

Dimensioni: tipo EN 10241 (EX DIN 2986)  
 Filettatura: conforme EN 10226 EN ISO 228  
 Acciaio carbonio

**Certificati EN 10204/2.1**
**TECHNICAL INFORMATION:**

Dimensional standard type EN 10241 (EX DIN 2986)  
 Thread: according to EN 10226 EN ISO 228  
 Carbon steel

**Certificates EN 10204/2.1**

**TRONCHETTO  
CARBONIO**

**CARBON STEEL  
COUPLING**



Size mm	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø 1	17,2	21,4	26,7	33,4	42,2	48,3	60,4	73,1	88,9	114,3
A	14	16	16	19	20	20	24	27	30	32
L	100	100	100	100	100	100	100	100	100	100
SP/THK	2,20	2,35	2,65	2,90	2,90	2,90	3,20	3,60	3,80	4,00

**CARATTERISTICHE TECNICHE:**

Ricavato da tubo saldato  
 Dimensioni e tolleranze UNI EN 10255 Filettatura: conforme EN 10226-1 (EX ISO 7-1)  
 Acciaio al carbonio

**Certificati EN 10204/2.1**

**TECHNICAL INFORMATION:**

Made from pipes welded  
 Dimensions and tolerances type UNI EN 10255 Thread: according to EN 10226-1 (EX ISO 7-1)  
 Carbon steel

**Certificates EN 10204/2.1**

Su richiesta tronchetti disponibili con altre lunghezze | *Welding nipple with other lengths on request*

NT





**ACCIAIO INOX | STAINLESS STEEL**

**RACCORDI A SALDARE ASME B16.9**  
**BUTT WELDING FITTINGS ASME B16.9**



**DIMENSIONI E SPESSORI SECONDO ASME B 16.9 + B 36.10 E ASME B 36.19  
RANGE OF SIZES AND WALL THICKNESS**

Ø nom. pipe size	Diam. esterno tubo Outside diam.		Sch. 5		Sch. 10		Sch. 20		Sch. 30		STD WT		Sch. 40		Sch. 60		XS		Sch. 80		Sch. 100		Sch. 120		Sch. 140		Sch. 160		XXS			
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		
1/2"	0.840	21,34	0.065	1,65	0.083	2,11	-	-	-	-	0.109	2,77	-	-	-	-	0.147	3,73	-	-	-	-	-	-	0.187	4,75	0.294	7,47				
3/4"	1.050	26,67	0.065	1,65	0.083	2,11	-	-	-	-	0.113	2,87	-	-	-	-	0.154	3,91	-	-	-	-	-	-	0.218	5,54	0.308	7,82				
1"	1.315	33,40	0.065	1,65	0.109	2,77	-	-	-	-	0.133	3,38	-	-	-	-	0.179	4,55	-	-	-	-	-	-	0.250	6,35	0.358	9,09				
1 1/4"	1.660	42,16	0.065	1,65	0.109	2,77	-	-	-	-	0.140	3,56	-	-	-	-	0.191	4,85	-	-	-	-	-	-	0.250	6,35	0.382	9,70				
1 1/2"	1.900	48,26	0.065	1,65	0.109	2,77	-	-	-	-	0.145	3,68	-	-	-	-	0.200	5,08	-	-	-	-	-	-	0.281	7,14	0.400	10,16				
2"	2.375	60,33	0.065	1,65	0.109	2,77	-	-	-	-	0.154	3,91	-	-	-	-	0.218	5,54	-	-	-	-	-	-	0.343	8,71	0.436	11,07				
2 1/2"	2.875	73,03	0.083	2,11	0.120	3,05	-	-	-	-	0.203	5,16	-	-	-	-	0.276	7,01	-	-	-	-	-	-	0.375	9,53	0.552	14,02				
3"	3.500	88,90	0.083	2,11	0.120	3,05	-	3,96	-	-	0.216	5,49	-	-	-	-	0.300	7,62	-	-	-	-	-	-	0.438	11,13	0.600	15,24				
3 1/2"	4.000	101,60	0.083	2,11	0.120	3,05	-	-	-	-	0.226	5,74	-	-	-	-	0.318	8,08	-	-	-	-	-	-	-	-	0.636	16,15				
4"	4.500	114,30	0.083	2,11	0.120	3,05	-	4,37	-	-	0.237	6,02	-	-	-	-	0.337	8,56	-	-	-	0.438	11,13	-	0.531	13,49	0.674	17,12				
5"	5.563	141,30	0.109	2,77	0.134	3,40	-	-	-	-	0.258	6,55	-	-	-	-	0.375	9,53	-	-	-	0.500	12,70	-	0.625	15,88	0.750	19,05				
6"	6.625	168,28	0.109	2,77	0.134	3,40	-	4,78	-	-	0.280	7,11	-	-	-	-	0.432	10,97	-	-	-	0.562	14,27	-	0.718	18,24	0.864	21,95				
8"	8.625	219,08	0.109	2,77	0.148	3,76	0.250	6,35	0.277	7,04	0.322	8,18	-	-	-	0.406	10,31	0.500	12,70	0.593	15,06	0.718	18,24	0.812	20,62	0.906	23,01	0.875	22,23			
10"	10.750	273,05	0.134	3,40	0.165	4,19	0.250	6,35	0.307	7,80	0.365	9,27	-	-	-	0.500	12,70	0.500	12,70	0.593	15,06	0.718	18,24	0.843	21,41	1.000	25,40	1.125	28,58	-	-	
12"	12.750	323,85	0.165	4,19	0.180	4,57	0.250	6,35	0.330	8,38	0.375	9,53	0.406	10,31	0.562	14,27	0.500	12,70	0.500	12,70	0.687	17,45	0.843	21,41	1.000	25,40	1.125	28,58	1.312	33,32	-	-
14"	14.000	355,60	-	-	0.250	6,35	0.312	7,92	0.375	9,53	0.375	9,53	0.438	11,13	0.593	15,06	0.500	12,70	0.500	12,70	0.750	19,05	0.937	23,80	1.093	27,76	1.250	31,75	1.406	35,71	-	-
16"	16.000	406,40	-	-	0.250	6,35	0.312	7,92	0.375	9,53	0.375	9,53	0.500	12,70	0.666	16,66	0.500	12,70	0.500	12,70	0.843	21,41	1.031	26,19	1.218	30,94	1.438	36,53	1.593	40,46	-	-
18"	18.000	457,20	-	-	0.250	6,35	0.312	7,92	0.438	11,13	0.375	9,53	0.562	14,27	0.750	19,05	0.500	12,70	0.500	12,70	0.937	23,80	1.156	29,36	1.375	34,93	1.562	39,67	1.781	45,24	-	-
20"	20.000	508,00	-	-	0.250	6,35	0.375	9,53	0.500	12,70	0.375	9,53	0.593	15,06	0.812	20,62	0.500	12,70	0.500	12,70	1.031	26,19	1.281	32,54	1.500	38,10	1.750	44,45	1.968	49,89	-	-
22"	22.000	558,80	-	-	0.250	6,35	0.375	9,53	0.500	12,70	0.375	9,53	-	-	0.875	22,22	0.500	12,70	0.500	12,70	1.125	28,57	1.375	34,92	1.525	41,27	1.875	47,62	2.125	53,97	-	-
24"	24.000	609,60	-	-	0.250	6,35	0.375	9,53	0.562	14,27	0.375	9,53	0.687	17,45	0.968	24,59	0.500	12,70	0.500	12,70	1.218	30,94	1.531	38,89	1.812	46,02	2.062	52,37	2.343	59,51	-	-
26"	26.000	660,40	-	-	0.312	7,92	0.500	12,70	-	-	0.375	9,53	-	-	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-
28"	28.000	711,20	-	-	0.312	7,92	0.500	12,70	0.625	15,87	0.375	9,53	-	-	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-
30"	30.000	762,0	-	-	0.312	7,92	0.500	12,70	0.625	15,87	0.375	9,53	-	-	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-
32"	32.000	812,80	-	-	0.312	7,92	0.500	12,70	0.625	15,87	0.375	9,53	0.688	17,47	-	-	0.500	12,70	0.500	12,70	-	-	-	-	-	-	-	-	-	-	-	-

Identical to "Standard"

Identical to "Extra Strong"

**INFORMAZIONI GENERALI**  
**GENERAL INFORMATION**

I raccordi a saldare ASME B16.9 sono forniti in accordo alle seguenti norme:

*Intertubi's butt welding fittings are provided in according to the following standards:*

Norma di raccordo <i>Fitting standard</i>	Norma <i>Standard</i>	Descrizione <i>Description</i>	Grado di acciaio <i>Steel grade</i>	Tipologia di raccordi / <i>Fittings types</i>
ASME B16.9	ASTM/ASME A/SA 403	Specifiche standard di raccordi di tubazione in acciaio inox austenitici <i>Standard specification for piping fittings of stainless steel austenitic</i>	WP304/304L WP316/316L	Curve / Elbows Long / Short Radius Riduzioni concentriche ed eccentriche / <i>Concentric and eccentric reducers</i> Tee con derivazione uguale e ridotta / <i>Equal reducing tee</i> Fondi / <i>Caps</i> Stub - Ends Short Length

I raccordi vengono forniti con estremità smussate secondo ASME B16.25.

*Fittings are supplied with beveled ends according to ASME B16.25.*



Le tabelle riportate in seguito permettono un confronto tra i differenti gradi di acciaio secondo la composizione chimica e le proprietà meccaniche:

*Tables shown below allow a comparison between the different steel grades according to the chemical composition and mechanical properties:*

Grado / Grade		Composizione / Composition %						
Grade WP	C	Mn	P	S	Si	Ni	Cr	Mo
WP304	0.08	2.00	0.045	0.030	1.00	8.0 - 11.0	18.0 - 20.0	
WP304L	0.030	2.00	0.045	0.030	1.00	8.0 - 12.0	18.0 - 20.0	
WP316	0.08	2.00	0.045	0.030	1.00	10.0 - 14.0	16.0 - 18.0	2.00 - 3.00
WP316L	0.030	2.00	0.045	0.030	1.00	10.0 - 14.0	16.0 - 18.0	2.00 - 3.00

NOTA 1 - Tutti i requisiti sono al massimo se non diversamente indicato.

NOTA 2 - Dove i puntini di sospensione (...) appare in questa tabella, non vi è alcun obbligo.

NOTA 1 - All requirements are maximum unless otherwise indicated.

NOTA 2 - Where an ellipsis (...) appears in this table, there is no requirement.

<sup>A</sup> Quando raccordi sono di costruzione saldata, il simbolo di grado e la marcatura sopra indicato deve essere completata con la lettera "W".

<sup>B</sup> Raccordi prodotti da barra o piastra può avere carbonio max 0,35.

<sup>C</sup> Raccordi a base di forgiati può avere carbonio max 0,35 e 0,35 silicio max sempre minimo.

<sup>D</sup> Per ogni riduzione dello 0,01% al di sotto del massimo di carbonio specificato, con un incremento del 0,06% manganese al di sopra del massimo specificato sarà consentito, fino ad un massimo di 1,35%.

<sup>E</sup> La somma di rame, nichel, cromo, molibdeno e non supera 1,00%.

<sup>F</sup> La somma di cromo e molibdeno non supera 0,32%.

<sup>A</sup> When fittings are of welded construction, the grade and marking symbol shown above shall be supplemented by the letter "W".

<sup>B</sup> Fittings made from bar or plate may have 0.35 max carbon.

<sup>C</sup> Fittings made from forgings may have 0,35 max carbon and 0,35 max silicon with no minimum.

<sup>D</sup> For each reduction of 0,01% below the specified carbon maximum, an increase of 0,06% manganese above the specified maximum will be permitted, up to a maximum of 1,35%.

<sup>E</sup> The sum of Copper, Nickel, Chromium, and Molybdenum shall not exceed 1,00%.

<sup>F</sup> The sum of Chromium and Molybdenum shall not exceed 0,32%.

Grado di acciaio   Steel grade	Snervamento   Yield Strength min. ksi [MPa]	Rottura   Tensile Strength min. ksi [MPa]
304, 316	30 [205]	75 [515]
304L, 316L	20 [170]	70 [485]

**LE TOLLERANZE ASME B16.9 SONO RIEPILOGATE NELLE SEGUENTI TABELLE:  
TOLERANCES ASME B16.9 ARE SUMMARIZED IN THE FOLLOWING TABLES:**

Tutti i raccordi [Note (1) e (2)] All Fittings [Notes (1) and (2)]				Dimensioni dal centro all'estremità Center-to-End dimensions				Spessore Thickness
Diametro nominale del tubo (NPS) Nominal Pipe Size (NPS)	DN	Diametro esterno allo smusso Outside Diameter at Bevel D*1	Diametro interno all'estremità Inside Diameter at End*2	90° e 45° curve long e short radius e tee 90-deg and 45-deg long and short radius Elbows and tees A, B, C, M	Curve raggio 3D 3D Radius Elbows A, B	Lunghezza generale delle riduzioni e delle cartelle Overall Length of reducers and lap joint stub ends F, H	Lunghezza generale dei fondi Overall length of caps E	Alle estremità At the ends
1/2 to 2 1/2	15-65	+1.6, -0.8	0.8	2	3	2	3	-12,5%
3 to 3 1/2	80-90	1.6	1.6	2	3	2	3	
4	100	1.6	1.6	2	3	2	3	
5 to 8	125-200	+2.4, -1.6	1.6	2	3	2	6	
10 to 18	250-450	+4.0, -3.2	3.2	2	3	2	6	
20 to 24	500-600	+6.4, -4.8	4.8	2	3	2	6	
26 to 30	650-750	+6.4, -4.8	4.8	3	6	5	10	
32 to 48	800-1200	+6.4, -4.8	4.8	5	6	5	10	

**NOTE GENERALI / GENERAL NOTES**

- (a) Tutte le dimensioni sono in millimetri / (a) All dimensions are in millimeters
- (b) Le tolleranze sono uguali più o meno eccetto le note / (b) Tolerances are equal plus and minus except as noted

**NOTES**

- (1) Il diametro interno e nominale della parete dello spessore alle estremità deve essere specificato dall'acquirente  
(1) The inside diameter and the nominal wall thickness at ends are to be specified by the purchaser
- (2) Il minimo spessore della parete del 87,5% è applicato a meno che l'acquirente specifichi una differente tolleranza della parete dello spessore  
(2) A minimum wall thickness of 87.5% is applied unless the purchaser specifies a different wall thickness tolerance
- (3) L'ovalità è la somma dei valori assoluti delle tolleranze minime e massime  
(3) Out-of-round is the sum of absolute values of plus and minus tolerances
- (4) Questa tolleranza non può essere applicata ad aree localizzate dei raccordi formati dove è necessario un aumento per soddisfare i requisiti di progetto  
(4) This tolerance may not be applied in localized areas of fittings formed where increased wall thickness is required to meet design requirements
- (5) Se non diversamente specificato dall'acquirente queste tolleranze applicate al diametro interno nominale, corrispondono alla differenza tra il diametro esterno nominale e il doppio spessore della parete nominale  
(5) Unless otherwise specified by the purchaser, these tolerances applied to the nominal inside diameter, correspond to the difference between the nominal outside diameter and twice the nominal wall thickness

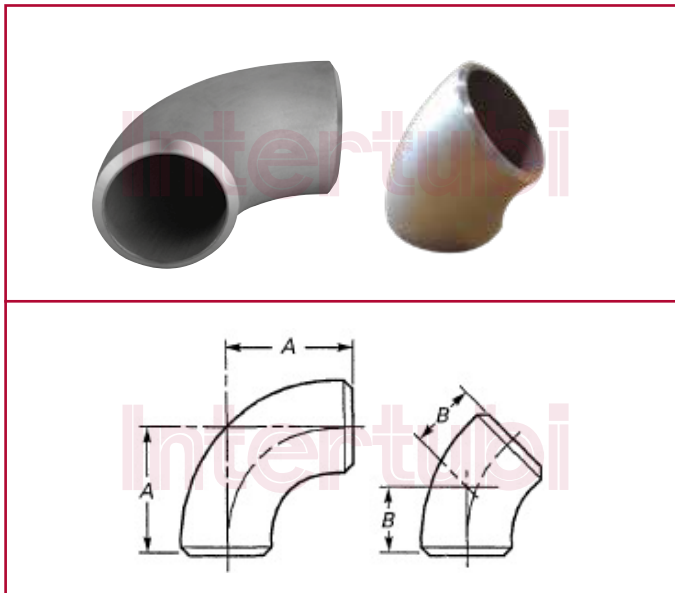
\*1 (NOTES 3 AND 4)      \*2 (NOTES 3 AND 5)

**CARATTERISTICHE TECNICHE**

Ricavate da tubo senza saldatura o saldato.  
Norme dimensionali e tolleranze: ASME B16.9 / B16.25  
MARCATURA: in accordo ASTM/ASME B16.9 e MSS SP-25  
Certificati: EN 10204/3.1

**TECHNICAL INFORMATION**

Made from seamless pipe or welded.  
Dimensional standard and tolerances: ASME B16.9 / B16.25  
MARKING: according to ASTM/ASME B16.9 and MSS SP-25  
CertificatEs: EN 10204/3.1


**CURVE SENZA SALDATURA 90°**
**RAGGIO= 1,5 D DIMA 3  
(45° SU RICHIESTA)**

 ASME B16.9 ASTM A 403  
 WP 304/304L E WP 316/316L

**SEAMLESS LONG RADIUS ELBOWS 90°  
DIMA 3**
**(45° ON REQUEST)**

 ASME B16.9 ASTM A 403  
 WP 304/304L AND WP 316/316L

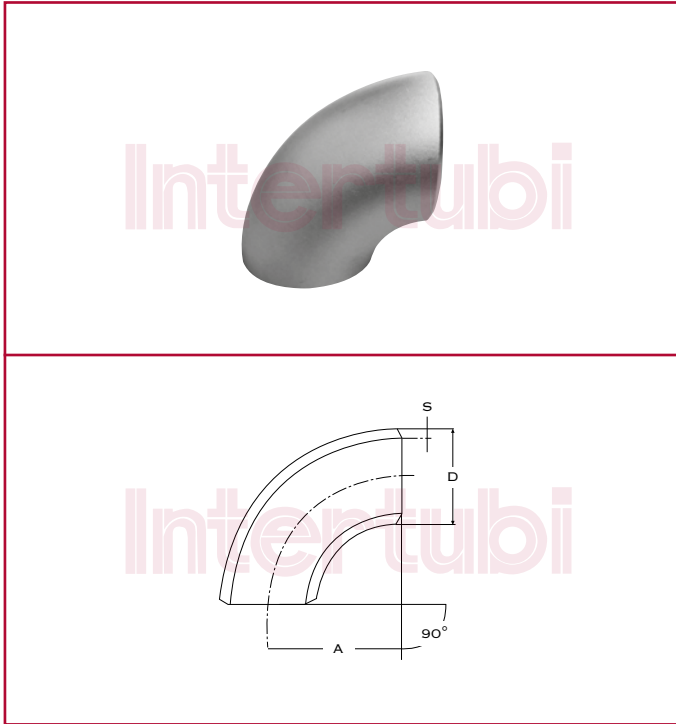
Su richiesta saldate | Welded on request

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	CURVE / ELBOWS		PESO KG/PZ. WEIGHT KG/PCS.
			90° A	45° B	
1/2"	21.34 x 2.11	10S	38	16	0.06
	21.34 x 2.77	40S			0.08
	21.34 x 3.73	80S			0.10
	21.34 x 4.78	160			0.15
3/4"	26.67 x 2.11	10S	38	19	0.07
	26.67 x 2.87	40S			0.09
	26.67 x 3.91	80S			0.11
	26.67 x 5.56	160			0.23
1"	33.40 x 2.77	10S	38	22	0.14
	33.40 x 3.38	40S			0.16
	33.40 x 4.55	80S			0.22
	33.40 x 6.35	160			0.25
1 1/4"	42.16 x 2.77	10S	48	25	0.23
	42.16 x 3.56	40S			0.25
	42.16 x 4.85	80S			0.40
	42.16 x 6.35	160			0.42
1 1/2"	48.26 x 2.77	10S	57	29	0.30
	48.26 x 3.68	40S			0.40
	48.26 x 5.08	80S			0.51
	48.26 x 7.14	160			0.65
2"	60.33 x 2.77	10S	76	35	0.51
	60.33 x 3.91	40S			0.71
	60.33 x 5.54	80S			0.91
	60.33 x 8.71	160			1.33
2 1/2"	73.03 x 3.05	10S	95	44	0.85
	73.03 x 5.16	40S			1.36
	73.03 x 7.01	80S			1.81
	73.03 x 9.53	160			2.33
3"	88.90 x 3.05	10S	114	51	1.22
	88.90 x 5.49	40S			2.18

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THICKN MM	SCH	CURVE / ELBOWS		PESO KG/PZ. WEIGHT KG/PCS.
			90° A	45° B	
3"	88.90 x 7.62	80S	114	51	2.98
	88.90 x 11.13	160			3.83
	88.90 x 11.13	160			3.83
4"	114.30 x 3.05	10S	152	64	2.15
	114.30 x 6.02	40S			4.17
	114.30 x 8.56	80S			6.18
	114.30 x 13.49	160			8.02
5"	141.30 x 3.40	10S	190	79	3.63
	141.30 x 6.55	40S			6.86
	141.30 x 9.53	80S			9.58
6"	168.28 x 3.40	10S	229	95	4.90
	168.28 x 7.11	40S			10.90
	168.28 x 10.97	80S			16.33
8"	219.08 x 3.76	10S	305	127	10.66
	219.08 x 8.18	40S			21.50
	219.08 x 12.70	80S			33.11
10"	273.05 x 4.19	10S	381	159	19.50
	273.05 x 9.27	40S			38.60
12"	323.85 x 4.57	10S	457	190	27.22
	323.85 x 9.53	40S			59.40
14"	355.60 x 4.78	10S	533	222	36.30
	355.60 x 9.53	40S			70.30
16"	406.40 x 4.78	10S	610	254	47.63
	406.40 x 9.53	40S			91.60
18"	457.20 x 4.78	10S	686	286	59.87
	457.20 x 9.53	40S			113.00
20"	508.00 x 5.54	10S	762	318	99.79
	508.00 x 9.52	40S			140.00
24"	609.60 x 6.35	10S	914	381	140.61
	609.60 x 9.52	40S			207.80

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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**CURVE SENZA SALDATURA 90°**

**RAGGIO= 1 D DIMA 2**

ASME B16.9 ASTM A 403

WP 304/304L E WP 316/316L

**SEAMLESS SHORT RADIUS**

**ELBOWS 90° DIMA 2**

ASME B16.9 ASTM A 403

WP 304/304L AND WP 316/316L

Su richiesta saldate | Welded on request

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	A	PESO KG/PZ. WEIGHT KG/PCS.
1"	33.40 x 2.77	10S	25	0.10
	33.40 x 3.38	40S		0.12
	33.40 x 4.55	80S		0.13
1 1/4"	42.16 x 3.56	40S	32	0.20
	42.16 x 4.85	80S		0.22
1 1/2"	48.26 x 2.77	10S	38	0.22
	48.26 x 3.68	40S		0.29
	48.26 x 5.08	80S		0.32
2"	60.33 x 2.77	10S	51	0.37
	60.33 x 3.91	40S		0.51
	60.33 x 5.54	80S		0.60
2 1/2"	73.03 x 3.05	10S	64	0.62
	73.03 x 5.16	40S		1.02
	73.03 x 7.01	80S		1.14
3"	88.90 x 3.05	10S	76	0.98
	88.90 x 5.49	40S		1.50
	88.90 x 7.62	80S		1.85
4"	114.30 x 3.05	10S	102	1.72
	114.30 x 6.02	40S		3.12
	114.30 x 8.56	80S		3.56

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	A	PESO KG/PZ. WEIGHT KG/PCS.
5"	141.30 x 3.40	10S	127	2.78
	141.30 x 6.55	40S		5.28
6"	168.28 x 3.40	10S	152	4.15
	168.28 x 7.11	40S		7.15
	168.28 x 10.97	80S		11.79
8"	219.08 x 3.76	10S	203	8.00
	219.08 x 8.18	40S		17.05
10"	273.05 x 4.19	10S	254	12.40
	273.05 x 9.27	40S		24.00
12"	323.85 x 4.57	10S	305	17.20
	323.85 x 9.53	40S		38.10
14"	355.60 x 4.78	10S	356	23.59
	355.60 x 9.78	40S		45.40
16"	406.40 x 4.78	10S	406	30.84
	406.40 x 9.53	40S		59.40
18"	457.20 x 4.78	10S	457	39.50
20"	508.00 x 5.54	10S	508	65.00
24"	609.60 x 6.35	10S	610	92.00




**RIDUZIONI CONCENTRICHE  
SENZA SALDATURA  
(SU RICHIESTA SCH160)**

 ASME B16.9 ASTM A 403  
WP 304/304L E WP 316/316L

**SEAMLESS CONCENTRIC REDUCERS  
(SCH160 ON REQUEST)**

 ASME B16.9 ASTM A 403  
WP 304/304L AND WP 316/316L

Su richiesta saldate | Welded on request

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
3/4" x 1/2"	26.67 x 21.33	2.11 x 2.11	10S	38	0.10
	26.67 x 21.33	2.87 x 2.77	40S		0.14
	26.67 x 21.33	3.91 x 3.73	80S		0.18
1" x 1/2"	33.40 x 21.33	2.77 x 2.11	10S	51	0.12
	33.40 x 21.33	3.38 x 2.77	40S		0.15
	33.40 x 21.33	4.55 x 3.73	80S		0.20
1" x 3/4"	33.40 x 26.67	2.77 x 2.11	10S	51	0.13
	33.40 x 26.67	3.38 x 2.87	40S		0.16
	33.40 x 26.67	4.55 x 3.91	80S		0.22
1 1/4" x 3/4"	42.16 x 26.67	2.77 x 2.11	10S	51	0.18
	42.16 x 26.67	3.56 x 2.87	40S		0.22
	42.16 x 26.67	4.85 x 3.91	80S		0.25
1 1/4" x 1"	42.16 x 33.40	2.77 x 2.77	10S	51	0.18
	42.16 x 33.40	3.56 x 3.38	40S		0.22
	42.16 x 33.40	4.85 x 4.55	80S		0.27
1 1/2" x 3/4"	48.26 x 26.67	2.77 x 2.11	10S	64	0.20
	48.26 x 26.67	3.68 x 2.87	40S		0.26
	48.26 x 26.67	5.08 x 3.91	80S		0.37
1 1/2" x 1"	48.26 x 33.40	2.77 x 2.77	10S	64	0.20
	48.26 x 33.40	3.68 x 3.38	40S		0.26
	48.26 x 33.40	5.08 x 4.55	80S		0.37
1 1/2" x 1 1/4"	48.26 x 42.16	2.77 x 2.77	10S	64	0.21
	48.26 x 42.16	3.68 x 3.56	40S		0.28
	48.26 x 42.16	5.08 x 4.85	80S		0.36

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
2" x 3/4"	60.33 x 26.67	2.77 x 2.11	10S	76	0.25
	60.33 x 26.67	3.91 x 2.87	40S		0.37
	60.33 x 26.67	5.54 x 3.91	80S		0.41
2" x 1"	60.33 x 33.40	2.77 x 2.77	10S	76	0.28
	60.33 x 33.40	3.91 x 3.38	40S		0.40
	60.33 x 33.40	5.54 x 4.55	80S		0.54
2" x 1 1/4"	60.33 x 42.16	2.77 x 2.77	10S	76	0.30
	60.33 x 42.16	3.91 x 3.56	40S		0.44
	60.33 x 42.16	5.54 x 4.85	80S		0.48
2" x 1 1/2"	60.33 x 48.26	2.77 x 2.77	10S	76	0.31
	60.33 x 48.26	3.91 x 3.68	40S		0.45
	60.33 x 48.26	5.54 x 5.08	80S		0.59
2 1/2" x 1 1/4"	73.03 x 42.16	3.05 x 2.77	10S	89	0.37
	73.03 x 42.16	5.16 x 3.56	40S		0.63
	73.03 x 42.16	7.01 x 4.85	80S		0.78
2 1/2" x 1 1/2"	73.03 x 48.30	3.05 x 2.77	10S	89	0.44
	73.03 x 48.30	5.16 x 3.68	40S		0.77
	73.03 x 48.30	7.01 x 5.08	80S		0.83
2 1/2" x 2"	73.03 x 60.30	3.05 x 2.77	10S	89	0.47
	73.03 x 60.30	5.16 x 3.91	40S		0.80
	73.03 x 60.30	7.01 x 5.54	80S		1.03
3" x 1"	88.90 x 33.40	3.05 x 2.77	10S	89	0.49
	88.90 x 33.40	5.49 x 3.38	40S		0.85
	88.90 x 33.40	7.62 x 4.55	80S		0.97
3" x 1 1/4"	88.90 x 42.16	3.05 x 2.77	10S	89	0.43
	88.90 x 42.16	5.49 x 3.56	40S		0.75
	88.90 x 42.16	7.62 x 4.85	80S		0.95
3" x 1 1/2"	88.90 x 48.26	3.05 x 2.77	10S	89	0.51
	88.90 x 48.26	5.49 x 3.68	40S		0.94
	88.90 x 48.26	7.62 x 5.08	80S		1.21





**RIDUZIONI CONCENTRICHE  
SENZA SALDATURA  
(SU RICHIESTA SCH160)**

ASME B16.9 ASTM A 403  
WP 304/304L E WP 316/316L

**SEAMLESS CONCENTRIC REDUCERS  
(SCH160 ON REQUEST)**

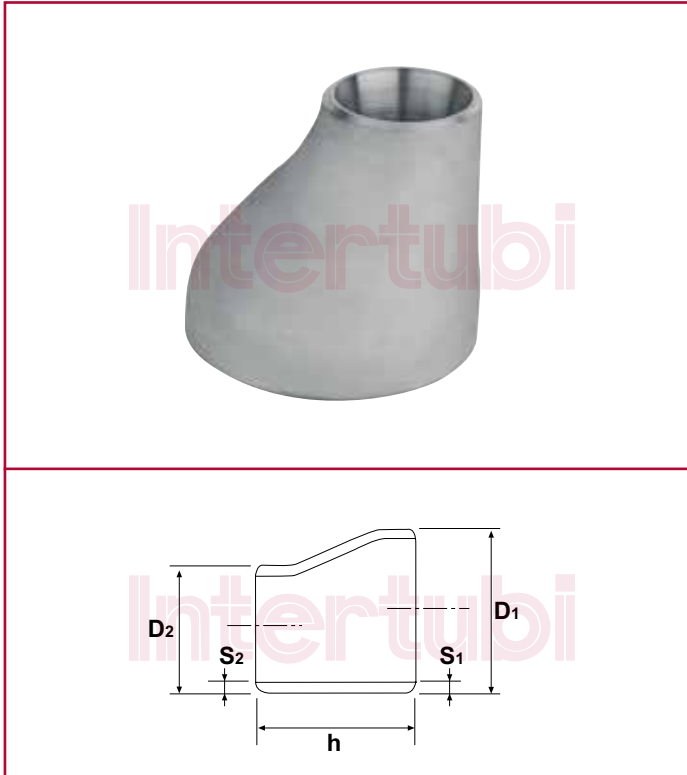
ASME B16.9 ASTM A 403  
WP 304/304L AND WP 316/316L

Su richiesta saldate | Welded on request

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.	
3" x 2"	88.90 x 60.30	3.05 x 2.77	10S	89	0.55	
	88.90 x 60.30	5.49 x 3.91	40S		1.00	
	88.90 x 60.30	7.62 x 5.54	80S		1.29	
3" x 2 1/2"	88.90 x 73.03	3.05 x 3.05	10S		0.59	
	88.90 x 73.03	5.49 x 5.16	40S		1.08	
	88.90 x 73.03	7.62 x 7.01	80S		1.49	
4" x 1 1/2"	114.30 x 48.26	3.05 x 2.77	10S		102	0.62
	114.30 x 48.26	6.02 x 3.68	40S			1.18
	114.30 x 48.26	8.56 x 5.08	80S			1.64
4" x 2"	114.30 x 60.30	3.05 x 2.77	10S	0.78		
	114.30 x 60.30	6.02 x 3.91	40S	1.57		
	114.30 x 60.30	8.56 x 5.54	80S	1.95		
4" x 2 1/2"	114.30 x 73.03	3.05 x 3.05	10S	0.83		
	114.30 x 73.03	6.02 x 5.16	40S	1.66		
	114.30 x 73.03	8.56 x 7.01	80S	1.97		
4" x 3"	114.30 x 88.90	3.05 x 3.05	10S	0.87		
	114.30 x 88.90	6.02 x 5.49	40S	1.74		
	114.30 x 88.90	8.56 x 7.62	80S	2.33		
5" x 3"	141.30 x 88.90	3.40 x 3.05	10S	127		1.45
	141.30 x 88.90	6.55 x 5.49	40S			2.85
5" x 4"	141.30 x 114.30	3.40 x 3.05	10S			1.49
	141.30 x 114.30	6.55 x 6.02	40S		2.98	

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
6" x 3"	168.28 x 88.9	3.40 x 3.05	10S	140	1.82
	168.28 x 88.9	7.11 x 5.49	40S		3.98
	168.28 x 88.9	10.97 x 8.56	80S		5.51
6" x 4"	168.28 x 114.30	3.40 x 3.05	10S		1.95
	168.28 x 114.30	7.11 x 6.02	40S		4.08
	168.28 x 114.30	10.97 x 8.56	80S		5.96
6" x 5"	168.28 x 141.30	3.40 x 3.40	10S		2.05
	168.28 x 141.30	8.18 x 7.11	40S		4.18
8" x 4"	219.08 x 114.30	3.76 x 3.05	10S		152
	219.08 x 114.30	8.18 x 6.02	40S	6.55	
8" x 5"	219.08 x 141.30	3.76 x 3.40	10S	3.08	
	219.08 x 141.30	8.18 x 6.55	40S	6.70	
8" x 6"	219.08 x 168.30	3.76 x 3.40	10S	3.19	
	219.08 x 168.30	8.18 x 7.11	40S	6.94	
10" x 6"	273.05 x 168.28	4.19 x 3.40	10S	178	5.00
	273.05 x 168.28	9.27 x 7.11	40S		11.12
10" x 8"	273.05 x 219.08	4.19 x 3.76	10S		5.25
	273.05 x 219.08	9.27 x 8.18	40S	11.56	
12" x 6"	323.85 x 168.28	4.57 x 3.40	10S	203	6.58
	323.85 x 168.28	9.53 x 7.11	40S		12.80
12" x 8"	323.85 x 219.08	4.57 x 3.76	10S		7.67
	323.85 x 219.08	9.53 x 8.18	40S		15.98
12" x 10"	323.85 x 273.05	4.57 x 4.19	10S		7.98
	323.85 x 273.05	9.53 x 9.27	40S		16.63
14" x 10"	355.60 x 273.05	4.78 x 4.19	10S	330	14.41
	355.60 x 273.05	9.53 x 9.27	40S		23.60
14" x 12"	355.60 x 323.85	4.78 x 4.57	10S		15.29
	355.60 x 323.85	9.53 x 9.53	40S	25.40	
16" x 12"	406.40 x 323.85	4.78 x 4.57	10S	356	18.35
	406.40 x 323.85	9.53 x 9.53	40S		29.60
16" x 14"	406.40 x 355.60	4.78 x 4.78	10S		18.90
	406.40 x 355.60	9.53 x 9.53	40S		31.00

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**RIDUZIONI ECCENTRICHE  
SENZA SALDATURA  
(SU RICHIESTA SCH160)**

 ASME B16.9 ASTM A 403  
WP 304/304L E WP 316/316L

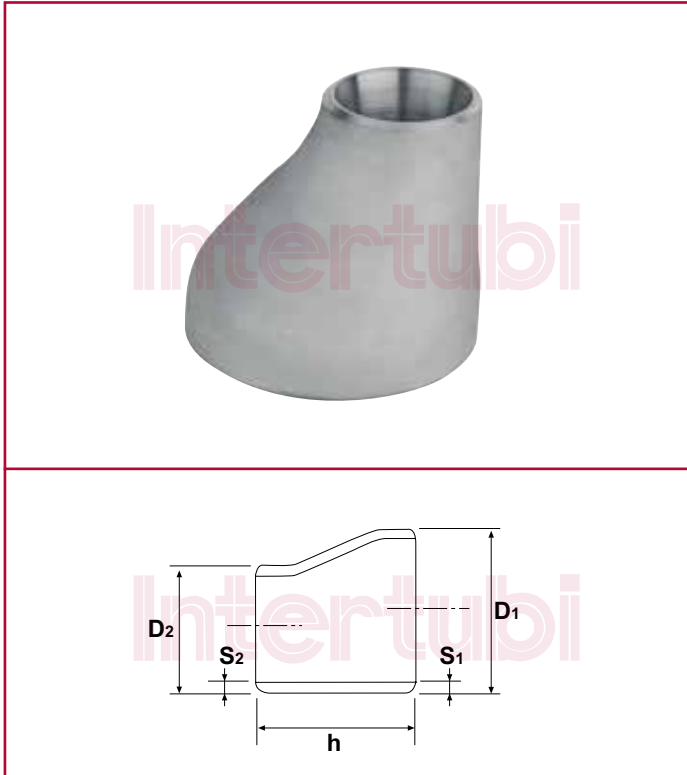
**SEAMLESS ECCENTRIC REDUCERS  
(SCH160 ON REQUEST)**

 ASME B16.9 ASTM A 403  
WP 304/304L AND WP 316/316L

Su richiesta saldate | Welded on request

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
3/4" x 1/2"	26.67 x 21.33	2.11 x 2.11	10S	38	0.10
	26.67 x 21.33	2.87 x 2.77	40S		0.14
	26.67 x 21.33	3.91 x 3.73	80S		0.18
1" x 1/2"	33.40 x 21.33	2.77 x 2.11	10S	51	0.12
	33.40 x 21.33	3.38 x 2.77	40S		0.15
	33.40 x 21.33	4.55 x 3.73	80S		0.20
1" x 3/4"	33.40 x 26.67	2.77 x 2.11	10S	51	0.13
	33.40 x 26.67	3.38 x 2.87	40S		0.16
	33.40 x 26.67	4.55 x 3.91	80S		0.22
1 1/4" x 3/4"	42.16 x 26.67	2.77 x 2.11	10S	51	0.18
	42.16 x 26.67	3.56 x 2.87	40S		0.22
	42.16 x 26.67	4.85 x 3.91	80S		0.25
1 1/4" x 1"	42.16 x 33.40	2.77 x 2.77	10S	51	0.18
	42.16 x 33.40	3.56 x 3.38	40S		0.22
	42.16 x 33.40	4.85 x 4.55	80S		0.27
1 1/2" x 3/4"	48.26 x 26.67	2.77 x 2.11	10S	64	0.20
	48.26 x 26.67	3.68 x 2.87	40S		0.26
	48.26 x 26.67	5.08 x 3.91	80S		0.37
1 1/2" x 1"	48.26 x 33.40	2.77 x 2.77	10S	64	0.20
	48.26 x 33.40	3.68 x 3.38	40S		0.26
	48.26 x 33.40	5.08 x 4.55	80S		0.37
1 1/2" x 1 1/4"	48.26 x 42.16	2.77 x 2.77	10S	64	0.21
	48.26 x 42.16	3.68 x 3.56	40S		0.28
	48.26 x 42.16	5.08 x 4.85	80S		0.36

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
2" x 3/4"	60.33 x 26.67	2.77 x 2.11	10S	76	0.25
	60.33 x 26.67	3.91 x 2.87	40S		0.37
	60.33 x 26.67	5.54 x 3.91	80S		0.41
2" x 1"	60.33 x 33.40	2.77 x 2.77	10S	76	0.28
	60.33 x 33.40	3.91 x 3.38	40S		0.40
	60.33 x 33.40	5.54 x 4.55	80S		0.54
2" x 1 1/4"	60.33 x 42.16	2.77 x 2.77	10S	76	0.30
	60.33 x 42.16	3.91 x 3.56	40S		0.44
	60.33 x 42.16	5.54 x 4.85	80S		0.48
2" x 1 1/2"	60.33 x 48.26	2.77 x 2.77	10S	76	0.31
	60.33 x 48.26	3.91 x 3.68	40S		0.45
	60.33 x 48.26	5.54 x 5.08	80S		0.59
2 1/2" x 1 1/4"	73.03 x 42.16	3.05 x 2.77	10S	89	0.37
	73.03 x 42.16	5.16 x 3.56	40S		0.63
	73.03 x 42.16	7.01 x 4.85	80S		0.78
2 1/2" x 1 1/2"	73.03 x 48.30	3.05 x 2.77	10S	89	0.44
	73.03 x 48.30	5.16 x 3.68	40S		0.77
	73.03 x 48.30	7.01 x 5.08	80S		0.83
2 1/2" x 2"	73.03 x 60.30	3.05 x 2.77	10S	89	0.47
	73.03 x 60.30	5.16 x 3.91	40S		0.80
	73.03 x 60.30	7.01 x 5.54	80S		1.03
3" x 1"	88.90 x 33.40	3.05 x 2.77	10S	89	0.49
	88.90 x 33.40	5.49 x 3.38	40S		0.85
	88.90 x 33.40	7.62 x 4.55	80S		0.97
3" x 1 1/4"	88.90 x 42.16	3.05 x 2.77	10S	89	0.43
	88.90 x 42.16	5.49 x 3.56	40S		0.75
	88.90 x 42.16	7.62 x 4.85	80S		0.95
3" x 1 1/2"	88.90 x 48.26	3.05 x 2.77	10S	89	0.51
	88.90 x 48.26	5.49 x 3.68	40S		0.94
	88.90 x 48.26	7.62 x 5.08	80S		1.21



**RIDUZIONI ECCENTRICHE  
SENZA SALDATURA  
(SU RICHIESTA SCH160)**

ASME B16.9 ASTM A 403  
WP 304/304L E WP 316/316L

**SEAMLESS ECCENTRIC REDUCERS  
(SCH160 ON REQUEST)**

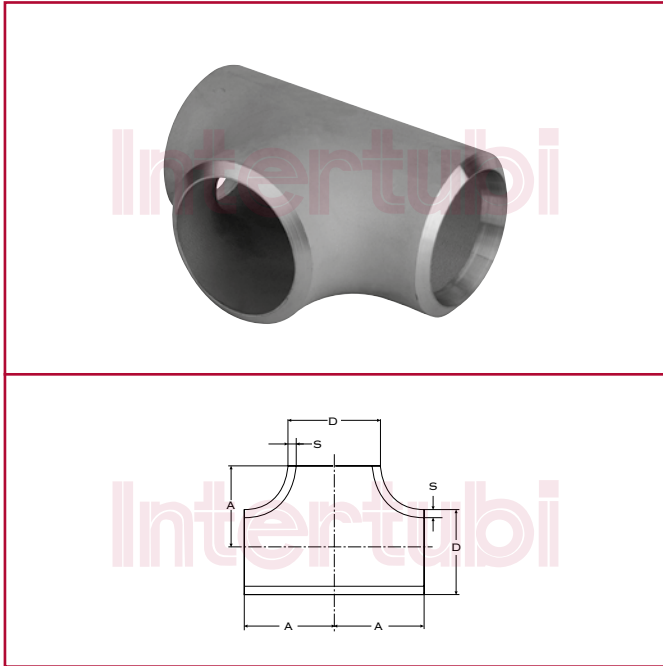
ASME B16.9 ASTM A 403  
WP 304/304L AND WP 316/316L

Su richiesta saldate | Welded on request

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
3" x 2"	88.90 x 60.30	3.05 x 2.77	10S	89	0.55
	88.90 x 60.30	5.49 x 3.91	40S		1.00
	88.90 x 60.30	7.62 x 5.54	80S		1.29
3" x 2 1/2"	88.90 x 73.03	3.05 x 3.05	10S	89	0.59
	88.90 x 73.03	5.49 x 5.16	40S		1.08
	88.90 x 73.03	7.62 x 7.01	80S		1.49
4" x 1 1/2"	114.30 x 48.26	3.05 x 2.77	10S	102	0.71
	114.30 x 48.26	6.02 x 3.68	40S		1.18
	114.30 x 48.26	8.56 x 5.08	80S		1.64
4" x 2"	114.30 x 60.30	3.05 x 2.77	10S	102	0.78
	114.30 x 60.30	6.02 x 3.91	40S		1.57
	114.30 x 60.30	8.56 x 5.54	80S		1.95
4" x 2 1/2"	114.30 x 73.03	3.05 x 3.05	10S	102	0.83
	114.30 x 73.03	6.02 x 5.16	40S		1.66
	114.30 x 73.03	8.56 x 7.01	80S		1.97
4" x 3"	114.30 x 88.90	3.05 x 3.05	10S	102	0.87
	114.30 x 88.90	6.02 x 5.49	40S		1.74
	114.30 x 88.90	8.56 x 7.62	80S		2.33
5" x 3"	141.30 x 88.90	3.40 x 3.05	10S	127	1.45
	141.30 x 88.90	6.55 x 5.49	40S		2.85
	141.30 x 88.90	6.55 x 6.02	40S		2.98
5" x 4"	141.30 x 114.30	3.40 x 3.05	10S	127	1.49
	141.30 x 114.30	6.55 x 6.02	40S		2.98
	141.30 x 114.30	6.55 x 6.02	40S		2.98
6" x 3"	168.28 x 88.9	3.40 X 3.05	10S	140	1.82
	168.28 x 88.9	7.11 X 5.49	40S		3.98
	168.28 x 88.9	10.97 X 8.56	80S		5.51

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	H	PESO KG/PZ. WEIGHT KG/PCS.
6" x 4"	168.28 x 114.30	3.40 x 3.05	10S	140	1.95
	168.28 x 114.30	7.11 x 6.02	40S		4.08
	168.28 x 114.30	10.97 x 8.56	80S		5.96
6" x 5"	168.28 x 141.30	3.40 x 3.40	10S	140	2.05
	168.28 x 141.30	8.18 x 7.11	40S		4.18
8" x 4"	219.08 x 114.30	3.76 x 3.05	10S	152	3.02
	219.08 x 114.30	8.18 x 6.02	40S		6.55
8" x 5"	219.08 x 141.30	3.76 x 3.40	10S	152	3.08
	219.08 x 141.30	8.18 x 6.55	40S		6.70
8" x 6"	219.08 x 168.30	3.76 x 3.40	10S	152	3.19
	219.08 x 168.30	8.18 x 7.11	40S		6.94
10" x 6"	273.05 x 168.28	4.19 x 3.40	10S	178	5.00
	273.05 x 168.28	9.27 x 7.11	40S		11.12
10" x 8"	273.05 x 219.08	4.19 x 3.76	10S	178	5.25
	273.05 x 219.08	9.27 x 8.18	40S		11.56
12" x 6"	323.85 x 168.28	4.57 x 3.40	10S	203	6.58
	323.85 x 168.28	9.53 x 7.11	40S		12.80
12" x 8"	323.85 x 219.08	4.57 x 3.76	10S	203	7.67
	323.85 x 219.08	9.53 x 8.18	40S		15.98
12" x 10"	323.85 x 273.05	4.57 x 4.19	10S	203	7.98
	323.85 x 273.05	9.53 x 9.27	40S		16.63
14" x 10"	355.60 x 273.05	4.78 x 4.19	10S	330	14.41
	355.60 x 273.05	9.53 x 9.27	40S		23.60
	355.60 x 323.85	4.78 x 4.57	10S		15.29
14" x 12"	355.60 x 323.85	9.53 x 9.53	40S	330	25.40
	355.60 x 323.85	9.53 x 9.53	40S		25.40
16" x 12"	406.40 x 323.85	4.78 x 4.57	10S	356	18.35
	406.40 x 323.85	9.53 x 9.53	40S		29.60
16" x 14"	406.40 x 355.60	4.78 x 4.78	10S	356	18.90
	406.40 x 355.60	9.53 x 9.53	40S		31.00

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**TEES UGUALI  
SENZA SALDATURA**

 ASME B16.9 ASTM A 403  
 WP 304/304L E WP 316/316L

**SEAMLESS EQUAL TEES**

 ASME B16.9 ASTM A 403  
 WP 304/304L AND WP 316/316L

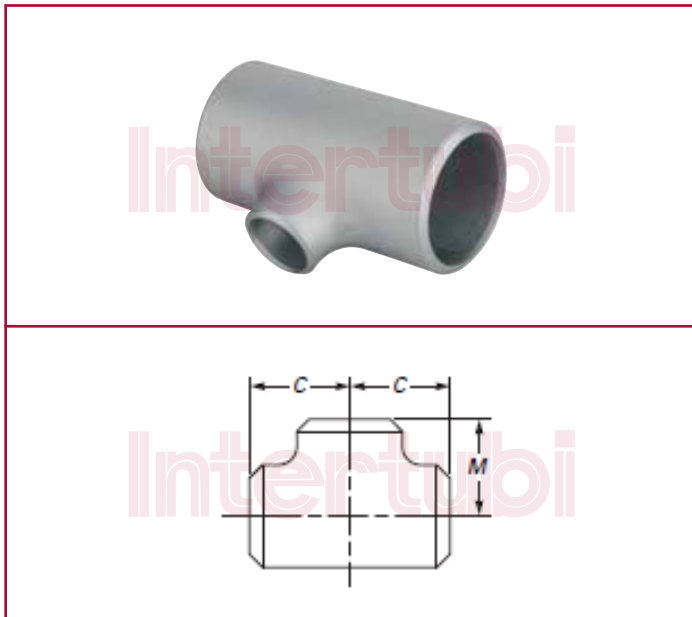
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D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	A	PESO KG/PZ. WEIGHT KG/PCS.
1/2"	21.34 x 2.11	10S	25	0.07
	21.34 x 2.77	40S		0.08
	21.34 x 3.73	80S		0.14
	21.34 x 4.75	160		0.15
3/4"	26.67 x 2.11	10S	29	0.09
	26.67 x 2.87	40S		0.11
	26.67 x 3.91	80S		0.20
	26.67 x 5.54	160		0.30
1"	33.40 x 2.77	10S	38	0.20
	33.40 x 3.38	40S		0.24
	33.40 x 4.55	80S		0.39
	33.40 x 6.35	160		0.47
1 1/4"	42.16 x 2.77	10S	48	0.33
	42.16 x 3.56	40S		0.41
	42.16 x 4.85	80S		0.54
	42.16 x 6.35	160		0.89
1 1/2"	48.26 x 2.77	10S	57	0.46
	48.26 x 3.68	40S		0.60
	48.26 x 5.08	80S		1.02
	48.26 x 7.14	160		1.43
2"	60.33 x 2.77	10S	64	0.63
	60.33 x 3.91	40S		0.87
	60.33 x 5.54	80S		1.60
	60.33 x 8.71	160		3.18
2 1/2"	73.03 x 3.05	10S	76	1.10
	73.03 x 5.16	40S		1.70
	73.03 x 7.01	80S		3.63

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	A	PESO KG/PZ. WEIGHT KG/PCS.
3"	88.90 x 3.05	10S	86	1.37
	88.90 x 5.49	40S		1.90
	88.90 x 7.62	80S		4.45
	88.90 x 11.13	160		5.87
3 1/2"	101.6 x 3.05	10S	95	1.74
	101.6 x 5.74	40S		3.19
4"	114.30 x 3.05	10S	105	2.15
	114.30 x 6.02	40S		4.13
	114.30 x 8.56	80S		7.70
5"	141.30 x 3.40	10S	124	3.48
	141.30 x 6.55	40S		6.55
6"	168.28 x 3.40	10S	143	4.76
	168.28 x 7.11	40S		9.73
	168.28 x 10.97	80S		13.61
8"	219.08 x 3.76	10S	178	8.46
	219.08 x 8.18	40S		18.00
	219.08 x 12.70	80S		27.40
10"	273.05 x 4.19	10S	216	14.20
	273.05 x 9.27	40S		30.60
12"	323.85 x 4.57	10S	254	21.60
	323.85 x 9.53	40S		44.30
14"	355.60 x 4.78	10S	279	48.53
	355.60 x 9.53	40S		79.38
16"	406.40 x 4.77	10S	305	58.90
	406.40 x 9.53	40S		99.70

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**TEES RIDOTTI SENZA SALDATURA  
(SU RICHIESTA SCH160)**

ASME B16.9 ASTM A 403  
WP 304/304L E WP 316/316L

**SEAMLESS REDUCING TEES (SCH160 ON REQUEST)**

ASME B16.9 ASTM A 403  
WP 304/304L AND WP 316/316L

Su richiesta saldate | Welded on request

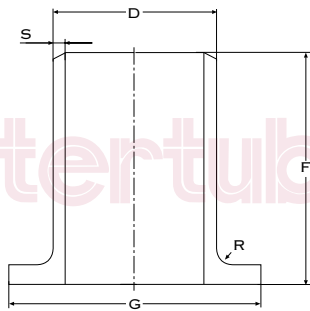
D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	C	M	PESO KG/PZ. WEIGHT KG/ PCS.
3/4" x 1/2"	26.67 x 21.34	2.11 x 2.11	10S	29	29	0.11
	26.67 x 21.34	2.87 x 2.77	40S			0.15
	26.67 x 21.34	3.91 x 3.73	80S			0.19
1" x 1/2"	33.40 x 21.30	2.77 x 2.11	10S	38	38	0.19
	33.40 x 21.30	3.38 x 2.77	40S			0.22
	33.40 x 21.30	4.55 x 3.73	80S			0.28
1" x 3/4"	33.40 x 26.67	2.77 x 2.11	10S	38	38	0.19
	33.40 x 26.67	3.38 x 2.87	40S			0.23
	33.40 x 26.67	4.55 x 3.91	80S			0.29
1 1/4" x 3/4"	42.16 x 26.67	2.77 x 2.11	10S	48	48	0.44
	42.16 x 26.67	3.56 x 2.87	40S			0.53
	42.16 x 26.67	4.85 x 3.91	80S			0.66
1 1/4" x 1"	42.16 x 33.40	2.77 x 2.77	10S	48	48	0.45
	42.16 x 33.40	3.56 x 3.38	40S			0.53
	42.16 x 33.40	4.85 x 4.55	80S			0.60
1 1/2" x 1/2"	48.26 x 21.30	2.77 x 2.11	10S	57	57	0.39
	48.26 x 21.30	3.68 x 2.77	40S			0.51
	48.26 x 21.30	5.08 x 3.73	80S			0.67
	48.26 x 21.30	5.08 x 3.73	80S			0.67
1 1/2" x 3/4"	48.26 x 26.67	2.77 x 2.11	10S	57	57	0.40
	48.26 x 26.67	3.68 x 2.87	40S			0.52
	48.26 x 26.67	5.08 x 3.91	80S			0.69
1 1/2" x 1"	48.26 x 33.40	2.77 x 2.77	10S	57	57	0.42
	48.26 x 33.40	3.68 x 3.38	40S			0.55
	48.26 x 33.40	5.08 x 4.55	80S			0.73
	48.26 x 33.40	5.08 x 4.55	80S			0.73
1 1/2" x 1 1/4"	48.26 x 42.16	2.77 x 2.77	10S	57	57	0.44
	48.26 x 42.16	3.68 x 3.56	40S			0.57
	48.26 x 42.16	5.08 x 4.85	80S			0.77
	48.26 x 42.16	5.08 x 4.85	80S			0.77
2" x 3/4"	60.33 x 26.67	2.77 x 2.11	10S	64	44	0.51
	60.33 x 26.67	3.91 x 2.87	40S			0.71
	60.33 x 26.67	5.54 x 3.91	80S			0.99
2" x 1"	60.33 x 33.40	2.77 x 2.77	10S	64	51	0.54
	60.33 x 33.40	3.91 x 3.38	40S			0.74
	60.33 x 33.40	5.54 x 4.55	80S			1.02

D.E. POLLICI D.E. INCHES	Ø EST. X Ø EST. OUTS. Ø X OUTS. Ø	SP. X SP. MM THCK. X THCK. MM	SCH	C	M	PESO KG/PZ. WEIGHT KG/ PCS.
2" x 1 1/4"	60.33 x 42.16	2.77 x 2.77	10S	64	57	0.57
	60.33 x 42.16	3.91 x 3.56	40S			0.80
	60.33 x 42.16	5.54 x 4.85	80S			1.07
2" x 1 1/2"	60.33 x 48.26	2.77 x 2.77	10S	64	60	0.59
	60.33 x 48.26	3.91 x 3.68	40S			0.83
	60.33 x 48.26	5.54 x 5.08	80S			1.11
2 1/2" x 1"	73.03 x 33.40	3.05 x 2.77	10S	76	57	0.88
	73.03 x 33.40	5.16 x 3.38	40S			1.35
2 1/2" x 1 1/2"	73.03 x 48.26	3.05 x 2.77	10S	76	67	0.90
	73.03 x 48.26	5.16 x 3.68	40S			1.49
	73.03 x 48.26	5.16 x 3.68	40S			1.49
2 1/2" x 2"	73.03 x 60.30	3.05 x 2.77	10S	76	70	0.94
	73.03 x 60.30	5.16 x 3.91	40S			1.53
3" x 1"	88.90 x 33.40	3.05 x 2.77	10S	86	67	1.15
	88.90 x 33.40	5.49 x 3.38	40S			2.05
3" x 1 1/2"	88.90 x 48.30	3.05 x 2.77	10S	86	73	1.19
	88.90 x 48.30	5.49 x 3.68	40S			2.05
	88.90 x 48.30	7.62 x 5.08	80S			2.77
3" x 2"	88.90 x 60.33	3.05 x 2.77	10S	86	76	1.23
	88.90 x 60.33	5.49 x 3.91	40S			2.16
	88.90 x 60.33	7.62 x 5.54	80S			2.85
3" x 2 1/2"	88.90 x 73.03	3.05 x 3.05	10S	86	83	1.31
	88.90 x 73.03	5.49 x 5.16	40S			2.29
4" x 2"	114.30 x 60.33	3.05 x 2.77	10S	105	89	2.35
	114.30 x 60.33	6.02 x 3.91	40S			4.50
	114.30 x 60.33	8.56 x 5.54	80S			4.91
4" x 2 1/2"	114.30 x 73.03	3.05 x 3.05	10S	105	95	2.45
	114.30 x 73.03	6.02 x 5.16	40S			4.70
4" x 3"	114.30 x 88.90	3.05 x 3.05	10S	105	98	2.50
	114.30 x 88.90	6.02 x 5.49	40S			4.80
	114.30 x 88.90	8.56 x 7.62	80S			5.31
5" x 3"	141.30 x 88.9	3.40 x 3.05	10S	124	111	3.13
	141.30 x 88.9	6.55 x 5.49	40S			5.85
5" x 4"	141.30 x 114.3	3.40 x 3.05	10S	124	117	3.26
	141.30 x 114.3	6.55 x 6.02	40S			6.14
6" x 3"	168.28 x 88.90	7.11 x 5.49	40S	143	124	9.80
	168.28 x 114.30	3.40 x 3.05	10S			5.10
6" x 4"	168.28 x 114.30	7.11 x 6.02	40S	143	130	10.00
	168.28 x 114.30	7.11 x 6.02	40S			10.00
8" x 4"	219.08 x 114.30	3.40 x 3.05	10S	178	156	8.00
	219.08 x 114.30	8.18 x 6.02	40S			17.50
8" x 6"	219.08 x 168.28	3.76 x 3.40	10S	178	168	8.40
	219.08 x 168.28	8.18 x 7.11	40S			18.10

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**STUB-ENDS SHORT LENGTH**

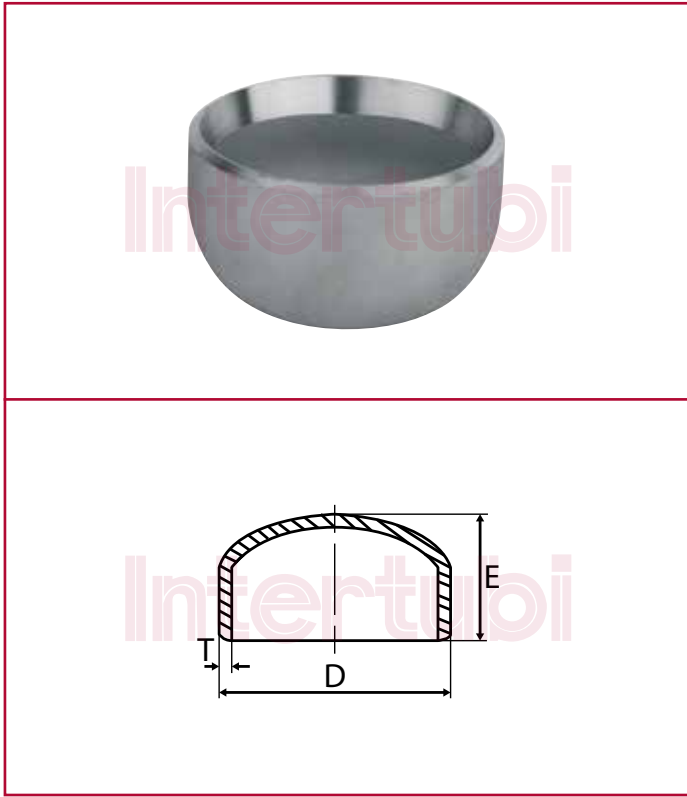
 ASME B16.9 ASTM A 403  
 WP 304/304L E WP 316/316L

**STUB-ENDS SHORT LENGTH**

 ASME B16.9 ASTM A 403  
 WP 304/304L AND WP 316/316L

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	F	G	R	PESO KG/PZ. WEIGHT KG/PCS.
1/2"	21.34 x 2.11	10S	50.8	34.9	3.18	0.07
	21.34 x 2.77	40S				0.09
3/4"	26.67 x 2.11	10S	50.8	42.9	3.18	0.10
	26.67 x 2.87	40S				0.12
1"	33.40 x 2.77	10S	50.8	50.8	3.18	0.16
	33.40 x 3.38	40S				0.17
1 1/4"	42.16 x 2.77	10S	50.8	63.5	4.76	0.22
	42.16 x 3.56	40S				0.25
1 1/2"	48.26 x 2.77	10S	50.8	73.0	6.35	0.25
	48.26 x 3.68	40S				0.31
2"	60.33 x 2.77	10S	63.5	92.1	7.94	0.43
	60.33 x 3.91	40S				0.61
2 1/2"	73.03 x 3.05	10S	63.5	104.8	7.94	0.57
	73.03 x 5.16	40S				0.80
3"	88.90 x 3.05	10S	63.5	127.0	9.53	0.73
	88.90 x 5.49	40S				1.13

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	F	G	R	PESO KG/PZ. WEIGHT KG/PCS.
4"	114.30 x 3.05	10S	76.2	157.2	11.11	1.09
	114.30 x 6.02	40S				1.87
5"	141.30 x 3.40	10S	76.2	185.7	11.11	1.47
	141.30 x 6.55	40S				2.28
6"	168.28 x 3.40	10S	88.9	215.9	12.70	2.15
	168.28 x 7.11	40S				3.57
8"	219.08 x 3.76	10S	101.6	269.9	12.70	3.22
	219.08 x 8.18	40S				6.07
10"	273.05 x 4.19	10S	127.0	323.9	12.70	5.13
	273.05 x 9.27	40S				10.07
12"	323.85 x 4.57	10S	152.4	381.0	12.70	8.16
	323.85 x 9.53	40S				14.29
14"	355.60 x 4.78	10S	152.4	412.8	12.70	10.89
16"	406.40 x 4.78	10S	152.4	469.9	12.70	12.70
18"	457.20 x 4.78	10S	152.4	533.4	12.70	17.24
20"	508.00 x 5.54	10S	152.4	584.2	12.70	21.77



**FONDELLI**

ASME B16.9 ASTM A 403  
WP 304/304L E WP 316/316L

**CAPS**

ASME B16.9 ASTM A 403  
WP 304/304L AND WP 316/316L

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	E	PESO KG/PZ. WEIGHT KG/PCS.
1/2"	21.34 x 2.11	10S	25	0.04
	21.34 x 2.77	40S		0.05
	21.34 x 3.73	80S		0.06
3/4"	26.67 x 2.11	10S	25	0.06
	26.67 x 2.87	40S		0.07
	26.67 x 3.91	80S		0.08
1"	33.40 x 2.77	10S	38	0.09
	33.40 x 3.38	40S		0.13
	33.40 x 4.55	80S		0.13
1 1/4"	42.16 x 2.77	10S	38	0.13
	42.16 x 3.56	40S		0.17
	42.16 x 4.85	80S		0.18
1 1/2"	48.26 x 2.77	10S	38	0.14
	48.26 x 3.68	40S		0.23
	48.26 x 5.08	80S		0.24
2"	60.33 x 2.77	10S	38	0.19
	60.33 x 3.91	40S		0.26
	60.33 x 5.54	80S		0.35
2 1/2"	73.03 x 3.05	10S	38	0.25
	73.03 x 5.16	40S		0.45
	73.03 x 7.01	80S		0.51

D.E. POLLICI D.E. INCHES	Ø EST. MM X SPESS. MM OUTS. DIAM. MM X THCKN MM	SCH	E	PESO KG/PZ. WEIGHT KG/PCS.
3"	88.90 x 3.05	10S	51	0.40
	88.90 x 5.49	40S		0.71
	88.90 x 7.62	80S		0.85
4"	114.30 x 3.05	10S	64	0.65
	114.30 x 6.02	40S		1.22
	114.30 x 8.56	80S		1.61
5"	141.30 x 3.40	10S	76	1.02
	141.30 x 6.55	40S		1.91
6"	168.28 x 3.40	10S	89	1.36
	168.28 x 7.11	40S		3.23
	168.28 x 10.97	80S		4.54
8"	219.08 x 3.76	10S	102	2.49
	219.08 x 8.18	40S		5.67
	219.08 x 12.70	80S		7.80
10"	273.05 x 4.19	10S	127	4.90
	273.05 x 9.27	40S		9.21
	273.05 x 12.70	80S		13.10
12"	323.85 x 4.57	10S	152	6.53
	323.85 x 9.53	40S		13.06
	323.85 x 12.70	80S		17.30

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NT





**ACCIAIO INOX | STAINLESS STEEL**

**RACCORDI A SALDARE EN 10253  
BUTT WELDING FITTINGS EN 10253**

**INFORMAZIONI GENERALI  
GENERAL INFORMATION**

I raccordi a saldare di testa della società Intertubi sono forniti in accordo alle seguenti norme:  
Intertubi's butt welding fittings are provided in according to the following standards:

Norma di raccordo Fitting standard	Descrizione Description	Norma del tubo Pipe standard		Grado di acciaio Steel grade	AISI	EN	Tipologia di raccordi Fittings types	Note Notes
		Senza saldature Seamless	Saldato Welded					
EN 10253-3	<p>Accessori per tubi a saldare di testa. Austenitici e austenitico-ferritici (duplex) acciai inossidabili senza requisiti specifici di controllo.</p> <p><i>Butt-welding pipe fittings. Wrought austenitic and austenitic-ferritic (duplex) stainless steel without specific inspection requirements.</i></p>	EN 10216-5	EN 10217-7	X5CrNi18-10 X2CrNi18-9 X5CrNiMo17-12-2 X2CrNiMo17-12-2	304 304L 316 316L	1.4301 1.4307 1.4401 1.4404	<p>Curve (3D, 5D) Riduzioni concentriche ed eccentriche Riduzioni concentriche ed eccentriche "dritte" Tee con derivazione uguale e ridotta Tee sboccati e con prolunga saldata Fondi</p> <p><i>Elbows (3D, 5D) Concentric and eccentric reducers Concentric and eccentric reducers "straight" Equal reducing tee Pulled tee and branch welded tee Caps</i></p>	<p>Non conforme alla PED</p> <p><i>Not according to PED</i></p>
EN 10253-4	<p>Accessori per tubi a saldare di testa. Austenitici e austenitico-ferritici (duplex) acciai inossidabili con requisiti specifici di controllo per impieghi a pressione.</p> <p><i>Butt-welding pipe fittings. Wrought austenitic and austenitic-ferritic (duplex) stainless steel with specific inspection requirements.</i></p>	EN 10216-5	EN 10217-7	X5CrNi18-10 X2CrNi18-9 X5CrNiMo17-12-2 X2CrNiMo17-12-2	304 304L 316 316L	1.4301 1.4307 1.4401 1.4404	<p>Curve (3D, 5D) Riduzioni concentriche ed eccentriche Riduzioni concentriche ed eccentriche "dritte" Tee con derivazione uguale e ridotta Tee sboccati e con prolunga saldata Fondi</p> <p><i>Elbows (3D, 5D) Concentric and eccentric reducers Concentric and eccentric reducers "straight" Equal reducing tee Pulled tee and branch welded tee Caps</i></p>	<p>Conforme alla PED In funzione della resistenza alla pressione i raccordi sono: Raccordi tipo "A" * Raccordi tipo "B" **</p> <p><i>According to PED In function of the resistance to the pressure the fittings are: Fittings type "A" * Fittings type "B" **</i></p>
ISO 5251	<p>Accessori a saldare di testa in acciaio inossidabile.</p> <p><i>Stainless steel butt-welding pipe fittings.</i></p>	EN 10216-5	EN 10217-7	X5CrNi18-10 X2CrNi18-9 X5CrNiMo17-12-2 X2CrNiMo17-12-2	304 304L 316 316L	1.4301 1.4307 1.4401 1.4404	<p>Curve (2D, 3D, 5D) Riduzioni concentriche ed eccentriche Tee con derivazione uguale e ridotta Fondi</p> <p><i>Elbows (2D, 3D, 5D) Concentric and eccentric reducers Equal reducing tee Caps</i></p>	

Le tabelle riportate in seguito permettono un confronto tra i differenti gradi di acciaio secondo la composizione chimica e le proprietà meccaniche:

Tables shown below allow a comparison between the different steel grades according to the chemical composition and mechanical properties:

Grado acciaio / Steel grade	EN	C max. %	Si max. %	Mn max. %	P max. %	S max. %	N max. %	Cr max. %	Cu max. %	Mo max. %	Nb max. %	Ni max. %	Ti max. %	Altri Others %
Nome / Names														
X2CrNi18-9	1.4307	0,030	1,00	2,00	0,045	0,015	≤ 0,11	17,50-19,50	-	-	-	8,00-10,00	-	-
X5CrNi18-10	1.4301	0,07	1,00	2,00	0,045	0,015	≤ 0,11	17,00-19,50	-	-	-	8,00-10,50	-	-
X2CrNiMo17-12-2	1.4404	0,030	1,00	2,00	0,045	0,015	≤ 0,11	16,50-18,50	-	2,00-2,50	-	10,00-13,00	-	-
X5CrNiMo17-12-2	1.4401	0,07	1,00	2,00	0,045	0,015	≤ 0,11	16,50-18,50	-	2,00-2,50	-	10,00-13,00	-	-

Grado acciaio / Steel grade		Durezza Hardness HB max.	Snervamento Yield point		Rottura / Tensile R <sub>m</sub> MPa	Allungamento / Elongation A % min.		Resistenza / Impact test		
Nome / Names	EN		R <sub>PD.2</sub> MPa min.	R <sub>PD.0</sub> MPa min.		Longitudinal l	Trasverse t	at RT		at-196°C
								Longitudinal l	Trasverse t	t
X2CrNi18-9	1.4307	200	180	215	470-670	40	35	100	60	60
X5CrNi18-10	1.4301	200	195	230	500-700	40	35	100	60	60
X2CrNiMo17-12-2	1.4404	200	190	225	490-690	40	35	100	60	60

**LE TOLLERANZE, COME DA PAR 11.2 E EN 10253-4, SONO RIEPILOGATE NELLA SEGUENTE TABELLA:  
TOLERANCES, AS EXPLAINED IN PAR 11.2 E EN 10253-4, ARE SUMMARIZED IN THE FOLLOWING TABLE:**

Diametro esterno Outside diameter D (mm)	Diametro interno Inside diameter		Ovalità (2) Out of round		Spessore (3) Thickness	F-G-H-L (mm)	B (mm)	C (mm)	K (mm)
	Alle estremità At the ends	Sul corpo On the body	Alle estremità At the ends	Sul corpo On the body	Alle estremità At the ends				
≤114,3	± 1% min ± 0,5 mm (classe D2)	Almeno 80% del diametro interno alle estremità  At least 80% of the internal diameter at the ends	Inclusa nella tolleranza del diametro  Included in the tolerance of the diameter	Max 4%	-12,5% +15%	±2mm	±7mm	±7mm	±4mm
>=139,7 <=219,1						±2mm	±7mm	±7mm	±7mm
273						±5mm	±7mm	±10mm	±7mm
>=323,9 <=406,4						±5mm	±10mm	±10mm	±7mm
>=457 <=610						±5mm	±10mm	±10mm	±7mm
>=660 <=762						Senza saldatura Seamless -0,35 mm +15%	±5mm	±10mm	±10mm
>762			±10mm	±10mm	±10mm		±10mm		

(1) Le quote F-G-H-L-B-C-K sono riferite alle figure 1-2-3-4-5-6-7-8-9-10-11-12 della EN 10253-4.

(2) L'ovalità deve essere così calcolata  $Ov=100(D_{max}-D_{min})/D$  in % dove:

$D_{max}$  = diametro massimo misurato sulla sezione in mm

$D_{min}$  = diametro minimo misurato sulla sezione in mm

D = diametro nominale della sezione in mm

(3) La tolleranza minima si applica anche sul corpo del raccordo

(1) Dimensions are F-G-H-L-B-C-K are referring to the figures 1-2-3-4-5-6-7-8-9-10-11-12 of EN 10253-4.

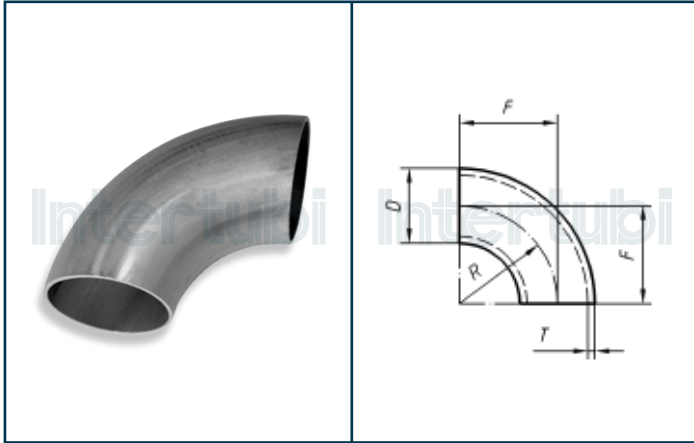
(2) The out of roundness must be so calculate:  $Ov=100(D_{max}-D_{min})/D$  in % where:

$D_{max}$  = maximum diameter measured on the section in mm

$D_{min}$  = minimum diameter measured on the section in mm

D = nominal diameter of section in mm

(3) Minimum tolerance is applied also on the body of the fitting.


**CURVE SALDATE 3D 90°  
R=1,5D (45° SU RICHIESTA)**
**CARATTERISTICHE TECNICHE**

Norme dimensionali: EN 10253-3 | EN 10253-4

Ricavate da tubo saldato o lamiera

**WELDED ELBOWS 3D 90°  
R=1,5D (45° ON REQUEST)**
**TECHNICAL INFORMATION**

Dimensional standard: EN 10253-3 | EN 10253-4

Made from welded pipe or plate

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	H	PESO TEORICO THEORETICAL WEIGHT KG
13,7	2	20	27	0,02
17,2	2	28,5	37	0,02
21,3	2	28	38	0,04
	2,5			0,06
26,9	2	29	43	0,06
	2,5			0,08
33,7	2	38	55	0,09
	3			0,13
42,4	2	48	69	0,15
	3			0,22
48,3	2	57	81	0,17
	3			0,30
60,3	2	76	106	0,34
	3			0,51
76,1	2	95	133	0,56
	3			0,80
88,9	2	114	159	0,78
	3			1,10
101,6	2	134	184	1,05
	3			1,6
114,3	2	152	209	1,30
	3			2,00
139,7	2	190	260	2,10
	3			3,00
168,3	2	229	313	3,10
	3			4,40
	4			6,10
219,1	2	305	414	5,20
	3			7,80
	4			10,50
273	2	381	518	8,00
	3			12,00
	4			16,10

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	H	PESO TEORICO THEORETICAL WEIGHT KG
323,9	2	457	619	11,60
	3			17,40
	4			23,00
355,6	3	533	711	22,20
	4			29,50
406,4	3	610	813	29,10
	4			39,00
457,2	3	686	914	36,70
508	3	762	1016	45,00
	4			60,00
609,6	3	914	1219	66,00
	4			86,00

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	H	PESO TEORICO THEORETICAL WEIGHT KG
35	2	52,5	70	0,11
40	2	60	80	0,16
54	2	75	102	0,31
70	2	92	127	0,50
80	2	120	160	0,72
84	2	120	160	1,17
104	2	150	202	1,20
129	2	187	251	1,86
154	2	225	302	2,69
	3			3,90
156	3	225	302	4,10
204	2	300	402	4,80
	3			6,80
254	2	375	502	7,42



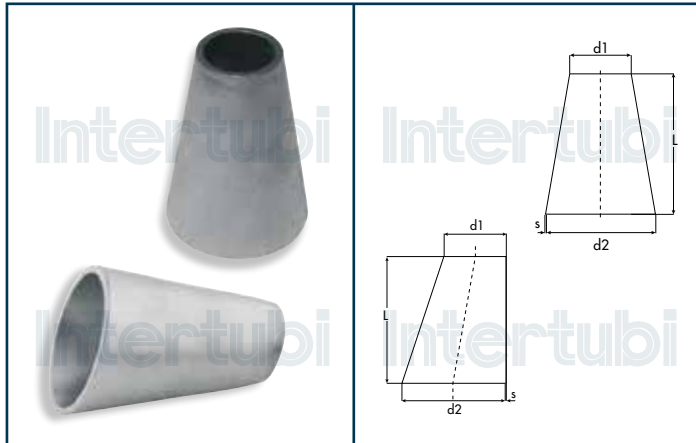
**CURVE SALDATE 5D 90°**  
**R=2,5D**

**CARATTERISTICHE TECNICHE**  
Norme dimensionali: EN 10253-3  
Ricavate da tubo saldato

**WELDED ELBOWS 5D 90°**  
**R=2,5D**

**TECHNICAL INFORMATION**  
Dimensional standard: EN 10253-3  
Made from welded pipe

Ø EST.MM OUTS. DIAM MM	SPESSORE THICKNESS	RAGGIO RADIUS	H	PESO TEORICO THEORETICAL WEIGHT KG
21,3	2	45	55	0,07
	3			0,08
26,9	2	57	70	0,11
	3			0,14
33,7	2	72	88	0,18
	3			0,27
42,4	2	93	114	0,29
	3			0,45
48,3	2	108	132	0,39
	3			0,61
60,3	2	135	165	0,62
	3			0,89
76,1	2	175	213	1,01
	3			1,44
88,9	2	205	250	1,39
	3			2,07
114,3	2	270	327	2,35
	3			3,49


**RIDUZIONI CONCENTRICHE ED ECCENTRICHE**
**CARATTERISTICHE TECNICHE**

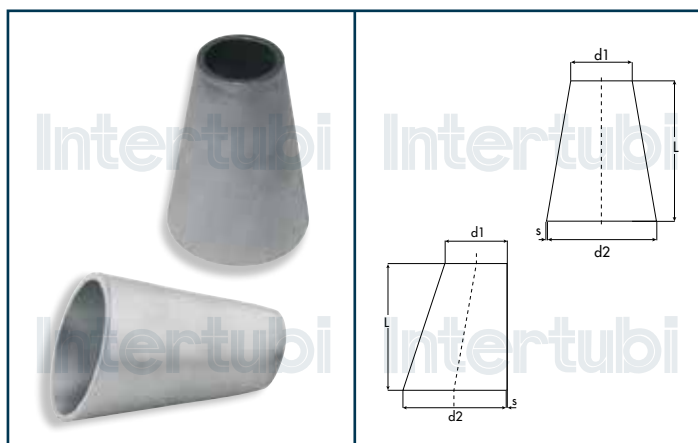
Ricavate da tubo saldato o lamiera  
Dimensioni tipo ISO 5251, forma dritta

**CONCENTRIC AND ECCENTRIC REDUCERS**
**TECHNICAL INFORMATION**

Made from welded pipe or plate  
Dimensions type ISO 5251, straight form

Ø D1 EST.MM O D1 OUTS.DIAM MM	Ø D2 EST.MM O D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
17,2	13,7	2	28	0,02
21,3	13,7	2	28	0,02
	17,2	2		0,02
	13,7	3		0,03
	17,2	3		0,03
26,9	13,7	2	38	0,03
	17,2	2		0,04
	21,3	2		0,04
	13,7	3		0,04
	17,2	3		0,05
33,7	21,3	3	51	0,06
	17,2	2		0,05
	21,3	2		0,06
	26,9	2		0,06
	17,2	3		0,06
42,4	21,3	3	51	0,07
	26,9	3		0,08
	21,3	2		0,08
	26,9	2		0,09
	33,7	2		0,10
	21,3	3		0,12
48,3	26,9	3	64	0,13
	33,7	3		0,15
	21,3	2		0,11
	26,9	2		0,12
	33,7	2		0,13
	42,4	2		0,15
	21,3	3		0,17
60,3	26,9	3	76	0,18
	33,7	3		0,20
	42,4	3		0,22
	21,3	2		0,16
21,3	13,7	2	28	0,02
	17,2	2		0,02
	13,7	3		0,03
26,9	13,7	2	38	0,03
	17,2	2		0,04
	21,3	2		0,04
	13,7	3		0,04
	17,2	3		0,05
33,7	21,3	3	51	0,06
	17,2	2		0,05
	21,3	2		0,06
	26,9	2		0,06
	17,2	3		0,06
	21,3	3		0,07
42,4	26,9	3	51	0,08
	33,7	3		0,15
	21,3	2		0,08
	26,9	2		0,09
	33,7	2		0,10
	21,3	3		0,12
48,3	26,9	3	64	0,13
	33,7	3		0,15
	42,4	2		0,15
	21,3	3		0,17
	26,9	3		0,18
	33,7	3		0,20
	42,4	3		0,22
60,3	26,9	3	76	0,18
	33,7	3		0,20
	42,4	3		0,22
	21,3	2		0,16

Ø D1 EST.MM O D1 OUTS.DIAM MM	Ø D2 EST.MM O D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
60,3	42,4	2	76	0,20
	48,3	2		0,20
	21,3	3		0,23
	26,9	3		0,25
	33,7	3		0,27
	42,4	3		0,29
	48,3	3		0,31
76,1	26,9	2	89	0,23
	33,7	2		0,25
	42,4	2		0,26
	48,3	2		0,28
	60,3	2		0,30
	26,9	3		0,34
	33,7	3		0,37
	42,4	3		0,39
88,9	48,3	3	89	0,41
	60,3	3		0,46
	33,7	2		0,27
	42,4	2		0,29
	48,3	2		0,30
	60,3	2		0,33
	76,1	2		0,37
	33,7	3		0,41
	42,4	3		0,44
101,6	48,3	3	98	0,46
	60,3	3		0,50
	76,1	3		0,55
	60,3	2		0,39
	76,1	2		0,43
	88,9	2		0,45
	60,3	3		0,52
60,3	76,1	3	76	0,55
	88,9	3		0,59
	21,3	2		0,02



**RIDUZIONI CONCENTRICHE ED ECCENTRICHE**

**CARATTERISTICHE TECNICHE**

Ricavate da tubo saldato o lamiera  
Dimensioni tipo ISO 5251, forma dritta

**CONCENTRIC AND ECCENTRIC REDUCERS**

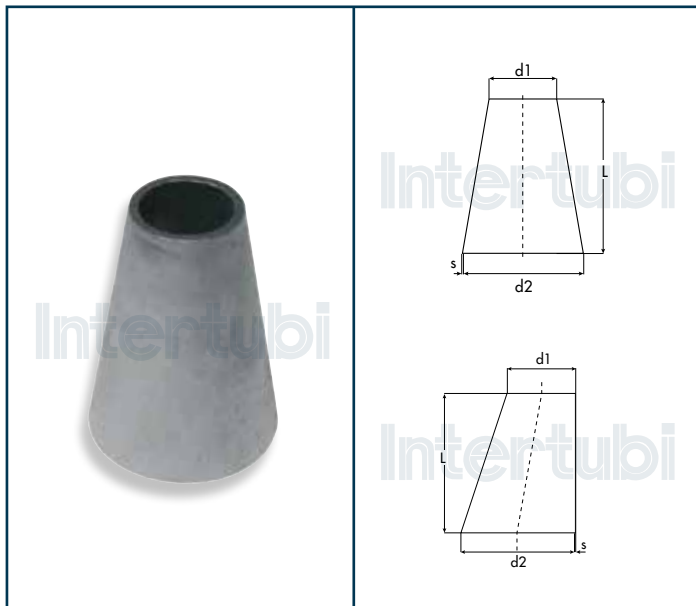
**TECHNICAL INFORMATION**

Made from welded pipe or plate  
Dimensions type ISO 5251, straight form

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG		
114,3	33,7	2	102	0,37		
	42,4	2		0,40		
	48,3	2		0,42		
	60,3	2		0,44		
	76,1	2		0,49		
	88,9	2		0,52		
	33,7	3		0,57		
	42,4	3		0,60		
	48,3	3		0,62		
	60,3	3		0,67		
	76,1	3		0,73		
	88,9	3		0,78		
139,7	60,3	2	127	0,64		
	76,1	2		0,69		
	88,9	2		0,73		
	114,3	2		0,81		
	60,3	3		0,96		
	76,1	3		1,03		
	88,9	3		1,10		
	114,3	3		1,21		
168,3	60,3	2	140	0,80		
	76,1	2		0,86		
	88,9	2		0,90		
	114,3	2		0,99		
	139,7	2		1,08		
	60,3	3		1,28		
	76,1	3		1,29		
	88,9	3		1,35		
	114,3	3		1,49		
	139,7	3		1,62		
	219,1	88,9		2	152	1,18
		114,3		2		1,27
139,7		2	1,37			
168,3		2	1,48			
88,9		3	1,76			

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
219,1	114,3	3	152	1,91
	139,7	3		2,05
	168,3	3		2,22
273	114,3	2	178	1,73
	139,7	2		1,85
	168,3	2		1,97
	219,1	2		2,20
	114,3	3		2,60
	139,7	3		2,75
	168,3	3		2,96
	219,1	3		3,30
323,9	139,7	2	203	2,36
	168,3	2		2,51
	219,1	2		2,76
	273	2		3,04
	139,7	3		3,54
	168,3	3		3,76
	219,1	3		4,15
273	3	4,37		
355,6	168,3	3	330	6,51
	219,1	3		7,15
	273	3		7,81
	323,9	3		8,45
406,4	219,1	3	356	8,39
	273	3		9,11
	323,9	3		9,79
	355,6	3		10,22
457	273	3	381	10,48
	323,9	3		11,21
	355,6	3		11,67
	406,4	3		12,39
508	323,9	3	508	15,92
	355,6	3		16,53
	406,4	3		17,51
	457	3		18,47

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## RIDUZIONI CONCENTRICHE ED ECCENTRICHE DRITE

### CARATTERISTICHE TECNICHE

Dimensioni e tolleranze accordo EN 10253-3 (EX AFNOR)

Ricavate da tubo saldato o lamiera

Lunghezza delle riduzioni secondo quanto esposto in tabella L= 3X (DIAM MAG - DIAM min.)

### CONCENTRIC AND ECCENTRIC REDUCERS STRAIGHT

#### TECHNICAL INFORMATION

Dimensions and tolerances according to EN 10253-3 (EX AFNOR)

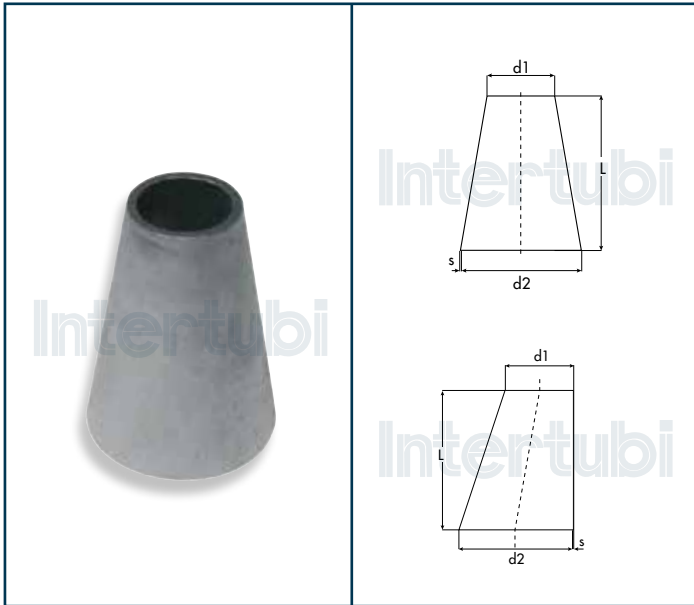
Made from welded pipe or plate

Reducers length: according to the size-table beside L= 3X (bigger Ø - smaller Ø)

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
21,3	17,2	2	12	0,02
26,9	21,3	2	17	0,04
33,7	26,9	2	20	0,06
42,4	26,9	2	46	0,09
	33,7	2	26	0,05
48,3	26,9	2	63	0,12
	33,7	2	43	0,09
	42,4	2	17	0,04
	26,9	3	63	0,18
	33,7	3	43	0,13
	42,4	3	17	0,06
	60,3	26,9	2	99
33,7		2	79	0,19
42,4		2	53	0,14
48,3		2	36	0,09
26,9		3	99	0,33
33,7		3	79	0,28
42,4		3	53	0,21
48,3		3	36	0,14
76,1	33,7	2	126	0,35
	42,4	2	100	0,3
	48,3	2	82	0,26
	60,3	2	47	0,16

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
76,1	33,7	3	126	0,53
	42,4	3	100	0,45
	48,3	3	82	0,39
	60,3	3	47	0,24
88,9	42,4	2	138	0,46
	48,3	2	120	0,42
	60,3	2	85	0,32
	76,1	2	38	0,16
	42,4	3	138	0,69
	48,3	3	120	0,63
	60,3	3	85	0,48
	76,1	3	38	0,24
114,3	48,3	2	195	0,81
	60,3	2	160	0,71
	76,1	2	113	0,56
	88,9	2	75	0,39
	48,3	3	195	1,21
	60,3	3	160	1,06
	76,1	3	113	0,83
	88,9	3	75	0,58
139,7	60,3	2	235	1,20
	76,1	2	188	1,03
	88,9	2	155	0,87





**RIDUZIONI CONCENTRICHE ED ECCENTRICHE DRITE**

**CARATTERISTICHE TECNICHE**

Dimensioni e tolleranze accordo EN 10253-3 (EX AFNOR)

Ricavate da tubo saldato o lamiera

Lunghezza delle riduzioni secondo quanto esposto in tabella L= 3X (DIAM MAG - DIAM min.)

**CONCENTRIC AND ECCENTRIC REDUCERS STRAIGHT**

**TECHNICAL INFORMATION**

Dimensions and tolerances according to EN 10253-3 (EX AFNOR)

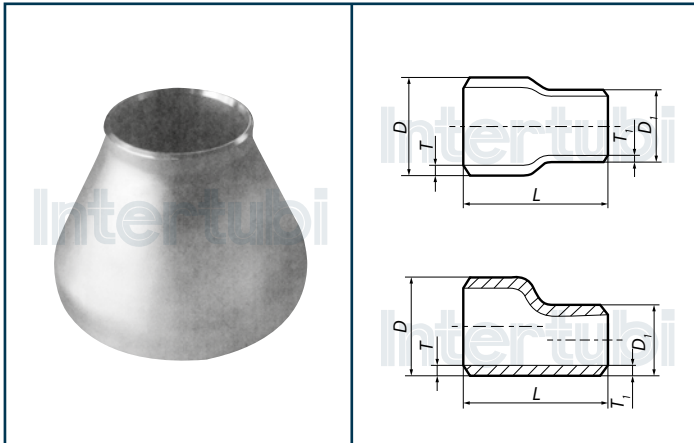
Made from welded pipe or plate

Reducers length: according to the size-table beside L= 3X (bigger Ø - smaller Ø)

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
139,7	114,3	2	75	0,49
	60,3	3	235	1,8
	76,1	3	188	1,55
	88,9	3	155	1,31
	114,3	3	75	0,73
168,3	76,1	2	273	1,70
	88,9	2	235	1,54
	114,3	2	160	1,15
	139,7	2	85	0,60
	76,1	3	273	2,55
	88,9	3	235	2,31
	114,3	3	160	1,73
	139,7	3	85	0,99
219,1	88,9	2	385	3,02
	114,3	2	310	2,63
	139,7	2	235	2,15
	168,3	2	150	1,48
	88,9	3	385	4,53
	114,3	3	310	3,95
	139,7	3	235	3,22
	168,3	3	150	2,23

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
273	168,3	2	510	3,48
	219,1	2	160	1,99
	168,3	3	510	5,22
	219,1	3	160	2,99
323,9	219,1	2	310	4,29
	273	2	151	2,29
	219,1	3	310	6,43
	273	3	151	3,43
355,6	219,1	3	404	8,87
	273	3	244	5,87
	323,9	3	94	2,44
406,4	273	3	395	10,29
	323,9	3	244	6,81
	355,6	3	150	4,38
457	323,9	3	395	11,77
	355,6	3	301	9,34
	406,4	3	150	4,96
508	355,6	3	451	14,88
	406,4	3	301	10,51
	457	3	150	5,54

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**RIDUZIONI CONCENTRICHE ED ECCENTRICHE**
**CARATTERISTICHE TECNICHE**

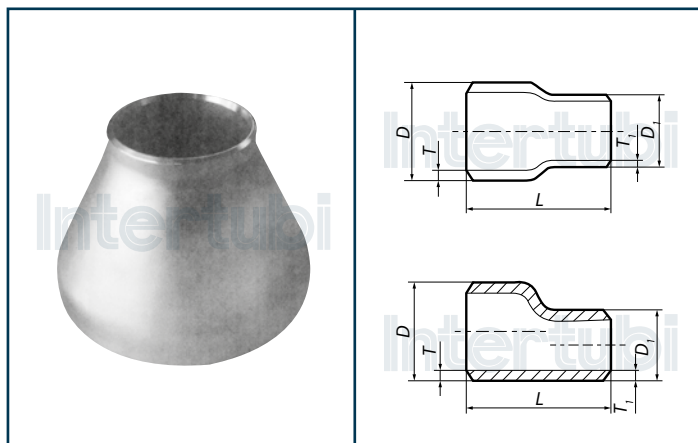
Ricavate da tubo saldato o lamiera  
Dimensioni e tolleranze in accordo EN 10253-3

**CONCENTRIC AND ECCENTRIC REDUCERS**
**TECHNICAL INFORMATION**

Made from welded pipe or plate  
Dimensions and tolerances according to EN 10253-3

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
26,9	13,7	2	38	0,03
	17,2	2		0,04
	21,3	2		0,04
	13,7	3		0,04
	17,2	3		0,05
	21,3	3		0,06
33,7	17,2	2	51	0,05
	21,3	2		0,06
	26,9	2		0,06
	17,2	3		0,06
	21,3	3		0,08
	26,9	3		0,09
42,4	21,3	2	51	0,08
	26,9	2		0,09
	33,7	2		0,10
	21,3	3		0,12
	26,9	3		0,13
	33,7	3		0,15
48,3	21,3	2	64	0,11
	26,9	2		0,12
	33,7	2		0,13
	42,4	2		0,15
	21,3	3		0,17
	26,9	3		0,18
	33,7	3		0,20
	42,4	3		0,22
60,3	21,3	2	76	0,16
	26,9	2		0,17
	33,7	2		0,18
	42,4	2		0,20
	48,3	2		0,20

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
60,3	21,3	3	76	0,23
	26,9	3		0,25
	33,7	3		0,27
	42,4	3		0,29
	48,3	3		0,31
76,1	26,9	2	89	0,23
	33,7	2		0,25
	42,4	2		0,26
	48,3	2		0,28
	60,3	2		0,30
	26,9	3		0,34
	33,7	3		0,37
	42,4	3		0,39
	48,3	3		0,41
	60,3	3		0,46
88,9	33,7	2	89	0,27
	42,4	2		0,29
	48,3	2		0,30
	60,3	2		0,33
	76,1	2		0,37
	33,7	3		0,41
	42,4	3		0,44
	48,3	3		0,46
	60,3	3		0,50
	76,1	3		0,55
114,3	33,7	2	102	0,37
	42,4	2		0,40
	48,3	2		0,42
	60,3	2		0,44
	76,1	2		0,49
	88,9	2		0,52



## RIDUZIONI CONCENTRICHE ED ECCENTRICHE

### CARATTERISTICHE TECNICHE

Ricavate da tubo saldato o lamiera  
Dimensioni e tolleranze in accordo EN 10253-3

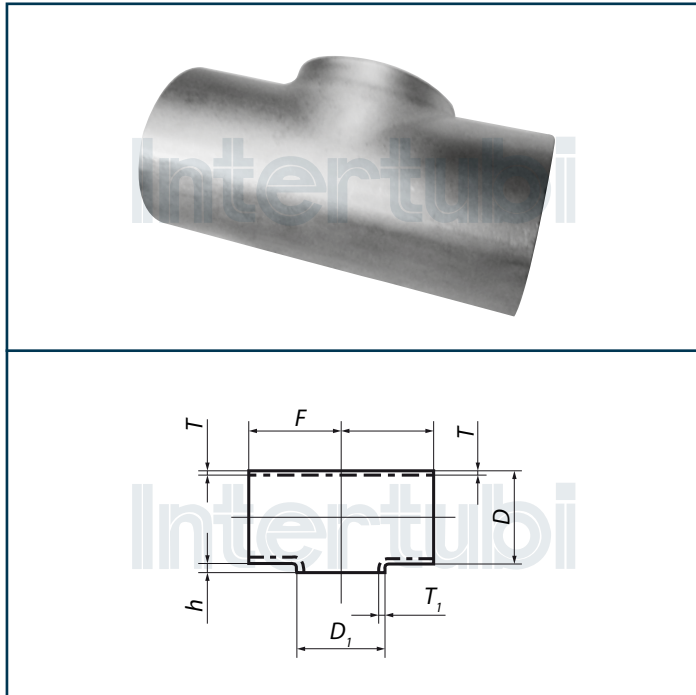
### CONCENTRIC AND ECCENTRIC REDUCERS

#### TECHNICAL INFORMATION

Made from welded pipe or plate  
Dimensions and tolerances according to EN 10253-3

Ø D1 EST.MM O D1 OUTS.DIAM MM	Ø D2 EST.MM O D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
114,3	33,7	3	102	0,57
	42,4	3		0,60
	48,3	3		0,62
	60,3	3		0,67
	76,1	3		0,73
	88,9	3		0,78
139,7	60,3	2	127	0,64
	76,1	2		0,69
	88,9	2		0,73
	114,3	2		0,81
	60,3	3		0,96
	76,1	3		1,03
	88,9	3		1,10
	114,3	3		1,21
168,3	60,3	2	140	0,80
	76,1	2		0,86
	88,9	2		0,90
	114,3	2		0,99
	139,7	2		1,08
	60,3	3		1,28
	76,1	3		1,29
	88,9	3		1,35
	114,3	3		1,49
	139,7	3		1,62
219,1	88,9	2	152	1,18
	114,3	2		1,27
	139,7	2		1,37
	168,3	2		1,48
	88,9	3		1,76
	114,3	3		1,91
	139,7	3		2,05
	168,3	3		2,22

Ø D1 EST.MM O D1 OUTS.DIAM MM	Ø D2 EST.MM O D2 OUTS.DIAM MM	SPESSORE THICKNESS	L	PESO TEORICO THEORETICAL WEIGHT KG
273	114,3	2	178	1,73
	139,7	2		1,85
	168,3	2		1,97
	219,1	2		2,20
	114,3	3		2,60
	139,7	3		2,75
	168,3	3		2,96
	219,1	3		3,30
323,9	139,7	2	203	2,36
	168,3	2		2,51
	219,1	2		2,76
	273	2		3,04
	139,7	3		3,54
	168,3	3		3,76
	219,1	3		4,15
	273	3		4,37
355,6	168,3	3	330	6,51
	219,1	3		7,15
	273	3		7,81
	323,9	3		8,45
406,4	219,1	3	356	8,39
	273	3		9,11
	323,9	3		9,79
	355,6	3		10,22
457	273	3	381	10,48
	323,9	3		11,21
	355,6	3		11,67
	406,4	3		12,39
508	323,9	3	508	15,92
	355,6	3		16,53
	406,4	3		17,51
	457	3		18,47


**TEES UGUALI E RIDOTTI SBOCCATI**
**CARATTERISTICHE TECNICHE**

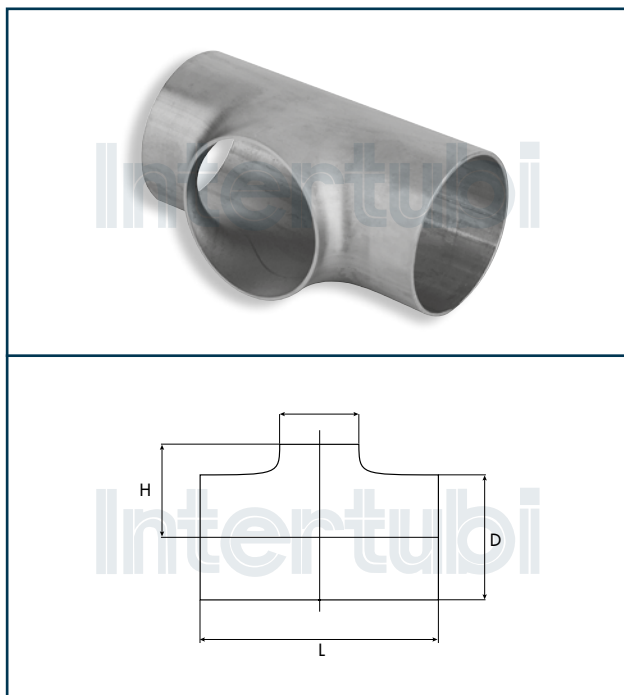
Ricavati da tubo saldato o lamiera  
Dimensioni e tolleranze tipo EN 10253-3

**EQUAL AND REDUCER PULLED TEES**
**TECHNICAL INFORMATION**

Made from welded pipe or plate  
Dimensions and tolerances type EN 10253-3

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	F	H	PESO TEORICO THEORETICAL WEIGHT KG
60,3	60,3	2	50	3	0,22
	48,3	2		3	0,35
	42,4	2		2	0,20
	33,7	2		2	0,20
76,1	76,1	2	65	4	0,37
	60,3	2		3	0,35
	48,3	2		3	0,35
	42,4	2		2	0,34
88,9	88,9	2	80	5	0,63
	76,1	2		4	0,60
	60,3	2		3	0,59
	48,3	2		3	0,57
114,3	114,3	2	100	7	0,95
	88,9	2		5	0,90
	76,1	2		4	0,89
	60,3	2		3	0,86

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	F	H	PESO TEORICO THEORETICAL WEIGHT KG
139,7	139,7	2	125	8	1,42
	114,3	2		7	1,30
	88,9	2		5	1,28
	76,1	2		4	1,25
168,3	168,3	2	150	10	2,03
	139,7	2		8	1,90
	114,3	2		7	1,87
	88,9	2		5	1,85
219,1	219,2	2	200	12	3,80
	168,3	2		10	3,60
	139,7	2		8	3,56
	114,3	2		7	3,30
273	273	2	250	13	5,80
	219,1	2		12	5,50
	168,3	2		10	5,40
	139,7	2		8	5,30



### TEES UGUALI IDROFORMATI

#### CARATTERISTICHE TECNICHE

Dimensioni tipo ISO 5251 con altezza del colletto di derivazione più alto come esposto in tabella, tale da permettere la saldatura automatica

Ricavati da tubo saldato

Derivazione lavorata a macchina con spessore costante che permette una saldatura orbitale e perfetta

### HYDROFORMED EQUAL TEES

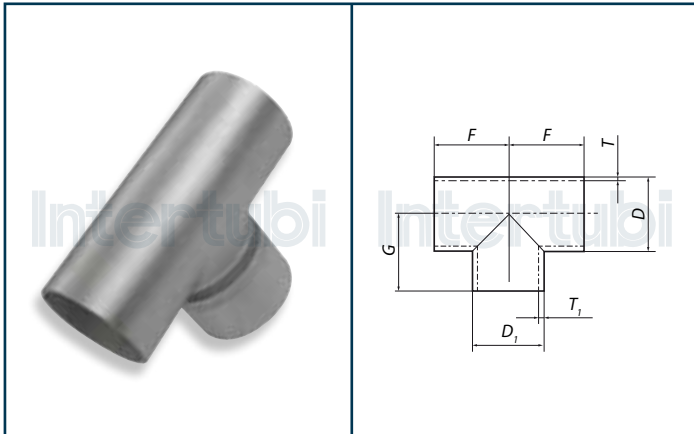
#### TECHNICAL INFORMATION

Dimensions type ISO 5251 with branch higher as shown in the table, such as to enable the automatic welding

Made from welded pipe

A machined neck with a regular wall thickness enabling a perfect orbital welding

Ø D1 EST.MM O D1 OUTS. DIAM MM	SPESSORE THICKNESS	L	H	PESO TEORICO THEORETICAL WEIGHT KG
21,3	2	50	18	0,04
26,9	2	58	22	0,05
33,7	2	76	26	0,13
42,4	2	95	33	0,19
48,3	2	114	37	0,25
60,3	2	127	44	0,40
	3			0,62
76,1	2	152	53	0,55
	3			0,83
88,9	2	171	60	0,80
	3			1,00
114,3	2	210	67	1,18
	3			1,70
139,7	2	248	81	1,50
	3			2,60
168,3	2	286	96	2,20
	3			3,20
219,1	2	356	120	3,40
	3			5,30


**TEES SALDATI UGUALI E RIDOTTI**
**CARATTERISTICHE TECNICHE**

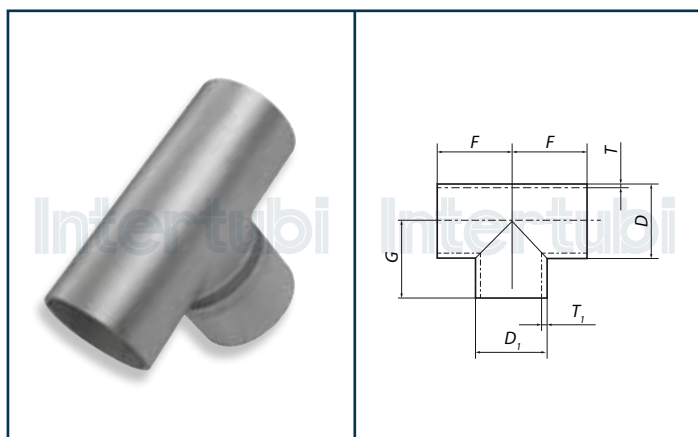
Ricavati da tubo saldato o lamiera  
Dimensioni tipo EN 10253-3 con colletto di derivazione saldato

**EQUAL AND REDUCER WELDED TEE**
**TECHNICAL INFORMATION**

Made from welded pipe or plate  
Dimensions type EN 10253-3 with welded branch

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
13,7	13,7	1,5	27	27	0,21
17,2	17,2	1,5	30	30	0,23
21,3	21,3	2	25	-	0,25
		3		-	0,28
26,9	26,9	2	29	-	0,35
	21,3	2		29	0,33
	26,9	3		-	0,38
	21,3	3		29	0,42
33,7	33,7	2	38	-	0,38
	26,9	2		38	0,36
	21,3	2		-	0,34
	33,7	3		-	0,52
	26,9	3		38	0,49
	21,3	3		38	0,45
42,4	42,4	2	48	-	0,43
	33,7	2		-	0,41
	26,9	2		48	0,40
	21,3	2		-	0,40
	42,4	3		-	0,48
	33,7	3		-	0,46
	26,9	3		48	0,45
	21,3	3		48	0,44
48,3	48,3	2	57	-	0,48
	42,4	2		-	0,46
	33,7	2		57	0,44
	26,9	2		-	0,42
	48,3	3		-	0,55
	42,4	3		-	0,51
	33,7	3		57	0,49
	26,9	3		57	0,48

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
60,3	60,3	2	64	-	0,56
	48,3	2		40	0,55
	42,4	2		57	0,53
	33,7	2		51	0,52
	60,3	3		-	0,63
	48,3	3		40	0,61
	42,4	3		57	0,59
	33,7	3		51	0,58
76,1	76,1	2	76	-	0,72
	60,3	2		70	0,68
	48,3	2		67	0,66
	42,3	2		64	0,64
	76,1	3		-	0,94
	60,3	3		70	0,92
	48,3	3		67	0,91
	42,3	3		64	0,89
88,9	88,9	2	86	-	1,02
	76,1	2		83	0,98
	60,3	2		76	0,96
	48,3	2		73	0,94
	88,9	3		-	1,32
	76,1	3		83	1,29
	60,3	3		76	1,26
	48,3	3		73	1,25
114,3	114,3	2	105	-	1,72
	88,9	2		98	1,65
	76,1	2		95	1,62
	60,3	2		89	1,58
	114,3	3		-	2,35
	88,9	3		98	2,30



### TEES SALDATI UGUALI E RIDOTTI

#### CARATTERISTICHE TECNICHE

Ricavati da tubo saldato o lamiera  
Dimensioni tipo EN 10253-3 con colletto di derivazione saldato

#### EQUAL AND REDUCER WELDED TEE

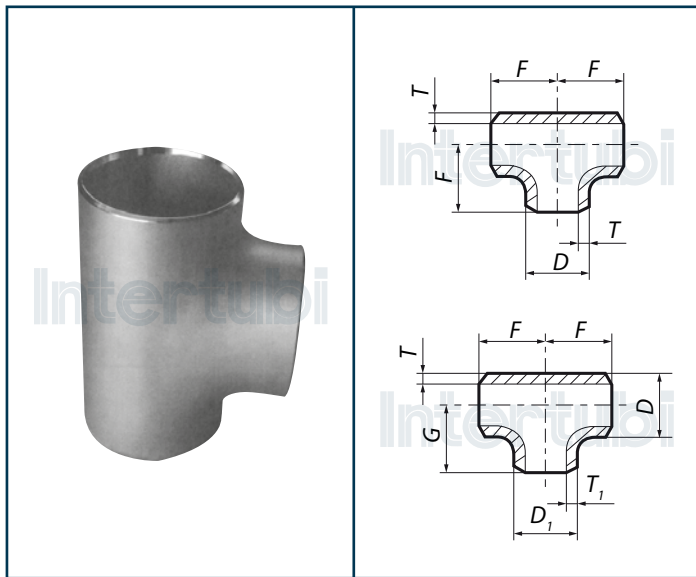
#### TECHNICAL INFORMATION

Made from welded pipe or plate  
Dimensions type EN 10253-3 with welded branch

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
114,3	76,1	3	105	95	2,25
	60,3	3		89	2,20
139,7	139,7	2	124	-	2,20
	114,3	2		117	2,00
	88,9	2		111	1,90
	76,1	2		108	1,85
	139,7	3		-	2,89
	114,3	3		117	2,85
	88,9	3		111	2,81
	76,1	3		108	2,79
168,3	168,3	2	143	-	3,25
	139,7	2		137	3,15
	114,3	2		130	3,05
	88,9	2		124	2,90
	168,3	3		-	4,5
	139,7	3		137	4,1
	114,3	3		130	3,9
	88,9	3		124	3,7
219,1	219,1	2	178	-	4,50
	168,3	2		168	4,30
	139,7	2		162	4,10
	114,3	2		156	4,00
	219,1	3		-	6,5
	168,3	3		168	5,9
	139,7	3		162	5,8
	114,3	3		156	5,6
273	273	2	216	-	6,15
	219,1	2		203	5,95
	168,3	2		194	5,60
	139,7	2		191	5,45

Ø D1 EST.MM Ø D1 OUTS. DIAM MM	Ø D2 EST.MM Ø D2 OUTS. DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
273	273	3	216	-	8,18
	219,1	3		203	7,90
	168,3	3		194	7,50
	139,7	3		191	7,10
323,9	323,9	2	254	-	9,55
	273	2		241	9,45
	219,1	2		229	9,15
	168,3	2		219	9,00
	323,9	3		-	14,50
	273	3		241	14,00
	219,1	3		229	13,50
	168,3	3		219	12,90
355,6	355,6	3	279	-	16,80
	323,9	3		270	16,00
	273	3		257	15,50
	219,1	3		248	15,30
406,4	406,4	3	305	-	20,60
	355,6	3		305	20,00
	323,9	3		295	19,50
	273	3		283	19,10
457	457	3	343	-	26,00
	406,4	3		330	25,00
	355,6	3		330	22,00
	323,9	3		321	20,00
508	508	3	381	-	43,80
	457	3		368	41,80
	406,4	3		356	41,00
	355,6	3		356	40,80

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**TEES SALDATI UGUALI E RIDOTTI**
**CARATTERISTICHE TECNICHE**

Norma dimensionale EN 10253-3  
Ricavati da tubo saldato o lamiera

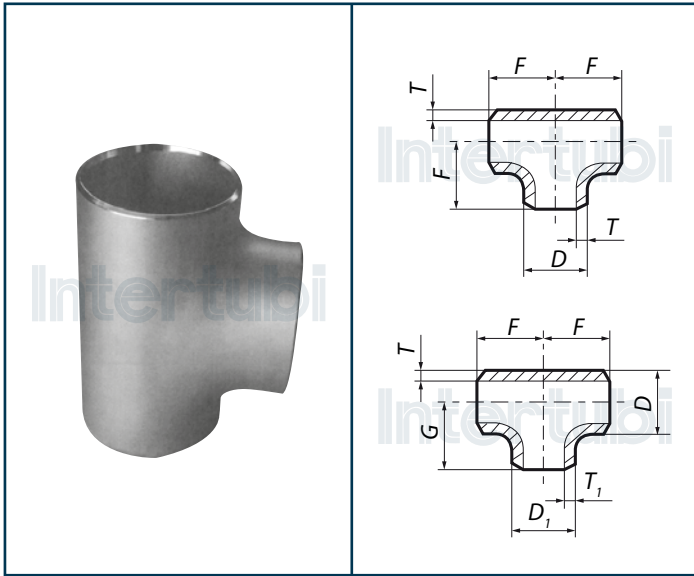
**EQUAL AND REDUCER WELDED TEE**
**TECHNICAL INFORMATION**

Dimensional standard EN 10253-3  
Made from welded pipe or plate

Ø D1 EST.M Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
13,7	13,7	1,5	27	27	0,21
17,2	17,2	1,5	30	30	0,23
21,3	21,3	2	25	-	0,25
		3		-	0,28
26,9	26,9	2	29	-	0,35
	21,3	2		29	0,33
	26,9	3		-	0,38
	21,3	3		29	0,42
33,7	33,7	2	38	-	0,38
	26,9	2		38	0,36
	21,3	2			0,34
	33,7	3		-	0,52
	26,9	3		38	0,49
	21,3	3			0,45
42,4	42,4	2	48	-	0,43
	33,7	2		48	0,41
	26,9	2			0,40
	21,3	2			0,40
	42,4	3		-	0,48
	33,7	3		48	0,46
	26,9	3			0,45
	21,3	3			0,44

Ø D1 EST.M Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
48,3	48,3	2	57	-	0,48
	42,4	2		57	0,46
	33,7	2			0,44
	26,9	2			0,42
	48,3	3		-	0,55
	42,4	3		57	0,51
	33,7	3			0,49
60,3	26,9	3	64	0,48	
	60,3	2		-	0,56
	48,3	2		40	0,55
	42,4	2		57	0,53
	33,7	2		51	0,52
	60,3	3		-	0,63
	48,3	3		40	0,61
	42,4	3		57	0,59
76,1	33,7	3	76	51	0,58
	76,1	2		-	0,72
	60,3	2		70	0,68
	48,3	2		67	0,66
	42,3	2		64	0,64
	76,1	3		-	0,94
	60,3	3		70	0,92





**TEES SALDATI UGUALI E RIDOTTI**

**CARATTERISTICHE TECNICHE**

Norma dimensionale EN 10253-3  
 Ricavati da tubo saldato o lamiera

**EQUAL AND REDUCER WELDED TEE**

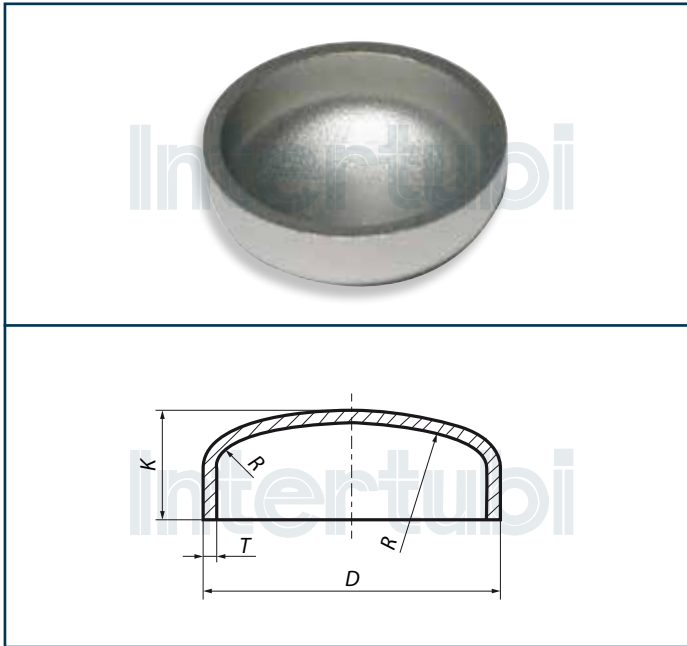
**TECHNICAL INFORMATION**

Dimensional standard EN 10253-3  
 Made from welded pipe or plate

Ø D1 EST.M Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
76,1	48,3	3	76	67	0,91
	42,3	3		64	0,89
88,9	88,9	2	86	-	1,02
	76,1	2		83	0,98
	60,3	2		76	0,96
	48,3	2		73	0,94
	88,9	3		-	1,32
	76,1	3		83	1,29
	60,3	3		76	1,26
	48,3	3		73	1,25
114,3	114,3	2	105	-	1,72
	88,9	2		98	1,65
	76,1	2		95	1,62
	60,3	2		89	1,58
	114,3	3		-	2,35
	88,9	3		98	2,30
	76,1	3		95	2,25
	60,3	3		89	2,20
139,7	139,7	2	124	-	2,20
	114,3	2		117	2,00
	88,9	2		111	1,90
	76,1	2		108	1,85

Ø D1 EST.M Ø D1 OUTS.DIAM MM	Ø D2 EST.MM Ø D2 OUTS.DIAM MM	SPESSORE THICKNESS	F	G	PESO TEORICO THEORETICAL WEIGHT KG
139,7	139,7	3	124	-	2,89
	114,3	3		117	2,85
	88,9	3		111	2,81
	76,1	3		108	2,79
168,3	168,3	2	143	-	3,25
	139,7	2		137	3,15
	114,3	2		130	3,05
	88,9	2		124	2,90
	168,3	3		-	4,5
	139,7	3		137	4,1
	114,3	3		130	3,9
	88,9	3		124	3,7
219,1	219,1	2	178	-	4,50
	168,3	2		168	4,30
	139,7	2		162	4,10
	114,3	2		156	4,00
	219,1	3		-	6,5
	168,3	3		168	5,9
	139,7	3		162	5,8
	114,3	3		156	5,6

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**FONDI BOMBATI**
**CARATTERISTICHE TECNICHE**

Dimensioni tipo EN 10253-3 con altezze secondo quanto esposto in tabella

**CAPS**
**TECHNICAL INFORMATION**

Dimensions type EN 10253-3 with length according to the size table beside

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	SPESSORE THICKNESS	K	PESO TEORICO THEORETICAL WEIGHT KG
17,2	1,5	11,5	0,01
21,3	2	9,0	0,01
	3	15,5	0,02
26,9	2	10,5	0,01
	3	12,0	0,02
33,7	2	12,5	0,02
	3	14,5	0,03
42,4	2	17,0	0,04
	3	18,0	0,06
48,3	2	17,0	0,05
	3	23,0	0,08
60,3	2	20,0	0,08
	3	22,0	0,11
76,1	2	27,0	0,13
	3	29,0	0,19
88,9	2	29,0	0,16
	3	30,0	0,24
101,6	2	26,0	0,19
	3	27,0	0,28

Ø D1 EST.MM Ø D1 OUTS.DIAM MM	SPESSORE THICKNESS	K	PESO TEORICO THEORETICAL WEIGHT KG
114,3	2	32,0	0,25
	3	32,0	0,37
139,7	2	35,0	0,37
	3	36,0	0,53
168,3	2	40,0	0,52
	3	43,0	0,77
219,1	2	50,0	0,85
	3	51,0	1,27
273	2	63,0	1,31
	3	62,0	1,97
323,9	2	72,0	1,81
	3	72,0	2,72
355,6	3	89,0	3,52
406,4	3	107,0	4,52
457,2	3	120,0	5,46
508	3	140,0	6,56
609,6	3	152,0	9,50







**ACCIAIO INOX | STAINLESS STEEL**

**FLANGE FORGIATE ASME B16.5**

***FORGED FLANGES B16.5***

**INFORMAZIONI GENERALI  
GENERAL INFORMATION**

**LE FLANGE A SALDARE ASME B16.5 SONO FORNITE IN ACCORDO ALLE SEGUENTI NORME:  
INTERTUBI'S FLANGES ARE PROVIDED IN ACCORDING TO THE FOLLOWING STANDARDS:**

Norma di raccordo Fitting standard	Norma Standard	Descrizione Description	Grado di acciaio Steel grade	Tipologia di raccordi Fittings types
ASME B16.5	ASTM/ASME A/SA 403  ASTM A182	Specifiche standard per raccordi di Tubazioni in acciaio inox austenitici Standard Specification for Piping Fittings of stainless steel austenitic  Specifiche standard per flange e raccordi forgiati Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature	WP304/304L WP316/316L	Flange forgiate Slip-on Flange forgiate Welding neck Flange forgiate Socket welding Flange forgiate Lap joint Flange forgiate Blind

Le tabelle riportate in seguito permettono un confronto tra i differenti gradi di acciaio secondo la composizione chimica e le proprietà meccaniche:

*Tables shown below allow a comparison between the different steel grades according to the chemical composition and mechanical properties:*

Grado / Grade		Composizione / Composition %							
Grade WP	C	Mn	P	S	Si	Ni	Cr	Mo	Others
WP304	0.08	2.00	0.045	0.030	1.00	8.0 - 11.0	18.0 - 20.0		
WP304L	0.030	2.00	0.045	0.030	1.00	8.0 - 12.0	18.0 - 20.0		
WP316	0.08	2.00	0.045	0.030	1.00	10.0 - 14.0	16.0 - 18.0	2.00 - 3.00	
WP316L	0.030	2.00	0.045	0.030	1.00	10.0 - 14.0	16.0 - 18.0	2.00 - 3.00	

Grado acciaio / Steel grade	Snervamento / Yield Strength min. ksi [MPa]	Rottura / Tensile Streigth min. ksi [MPa]
304, 316	30 [205]	75 [515]
304L, 316L	20 [170]	70 [485]

**TOLLERANZE | TOLERANCES**

Flange Welding Neck			Flange Slip-on Lapped e Blind		
Area	Dimensione Dimension	Tolleranze Tolerances mm	Area	Dimensione Dimension	Tolleranze Tole- rances mm
D Diametro Esterno / Outside Diameter	NPS ≤ 5" NPS ≥ 6"	+2,0, -1,0 +4,0, -1,0	D Diametro Esterno / Outside Diameter	NPS ≤ 5" NPS ≥ 6"	+2,0, -1,0 +4,0, -1,0
J Diametro interno / Inside Diameter	NPS ≤ 10" 12" ≤ NPS ≤ 18" NPS ≥ 20"	± 1,0 ± 1,5 + 3,0 - 1,5	J Diametro interno / Inside Diameter	NPS ≤ 10" 12" ≤ NPS ≤ 18" NPS ≥ 20"	± 1,0 ± 1,5 +3,0, -1,5
b Spessore / Thickness	NPS ≤ 18" NPS ≥ 20"	+3,0, -0,0 +5,0, -0,0	b Spessore / Thickness	NPS ≤ 18" NPS ≥ 20"	+3,0, -0,0 +5,0, -0,0

**CARATTERISTICHE TECNICHE**

METODO DI FABBRICAZIONE: forgiato  
MARCATURA: accordo ASTM/ASME B16.5 e MSS SP-25  
ACCIAIO: WP 304/304L, WP 316/316L  
**Certificati EN 10204/3.1**

**TECHNICAL INFORMATION**

METHOD OF MANUFACTURE: forged  
MARKING: according to ASTM/ASME B16.5 and MSS SP-25  
STEEL: WP 304/304L, WP 316/316L  
**Certificates: EN 10204/3.1**

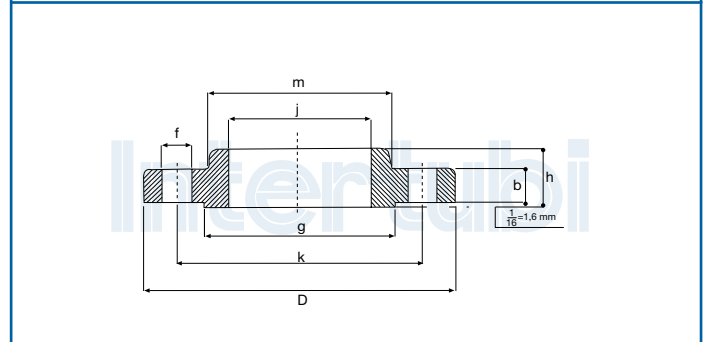
**FLANGE SLIP-ON FORGIATE**

ASME B 16.5 | ASTM A182  
150 / 300 / 600 LBS

**FORGED SLIP-ON FLANGES**

ASME B 16.5 | ASTM A182  
150 / 300 / 600 LBS

150 LB										
Nom. Size	D mm	b mm	g mm	m mm	j mm	h mm	k mm	Fori Holes	f mm	Kg
1/2"	90	11.2	34.9	30	22.2	14	60.3	4	15.9	0.40
3/4"	100	12.7	42.9	38	27.7	14	69.9	4	15.9	0.70
1"	110	14.2	50.8	49	34.5	16	79.4	4	15.9	0.80
1 1/4"	115	15.7	63.5	59	43.2	19	88.9	4	15.9	1.10
1 1/2"	125	17.5	73.0	65	49.5	21	98.4	4	15.9	1.40
2"	150	19.1	92.1	78	61.9	24	120.7	4	19.0	2.20
2 1/2"	180	22.4	104.8	90	74.7	27	139.7	4	19.0	3.60
3"	190	23.9	127.0	108	90.7	29	152.4	4	19.0	4.10
3 1/2"	215	23.9	139.7	122	103.4	30	177.8	8	19.0	5.20
4"	230	23.9	157.2	135	116.1	32	190.5	8	19.0	5.60
5"	255	23.9	185.7	164	143.8	35	215.9	8	22.2	6.30
6"	280	25.4	215.9	192	170.7	38	241.3	8	22.2	7.50
8"	345	28.4	269.9	246	221.5	43	298.4	8	22.2	12.60
10"	405	30.2	323.8	305	276.3	48	361.0	12	25.4	18.50
12"	485	31.8	381.0	365	327.1	54	431.8	12	25.4	28.00
14"	535	34.9	412.7	400	359.1	56	476.2	12	28.6	36.00
16"	595	36.5	469.9	457	410.5	62	539.8	16	28.6	46.00
18"	635	39.6	533.4	505	461.8	67	577.9	16	31.7	50.00
20"	700	42.9	584.2	559	513.1	71	635.0	20	31.7	64.00
24"	815	47.7	692.1	663	616.0	81	749.3	20	34.9	89.00



300 LB										
Nom. Size	D mm	b mm	g mm	m mm	j mm	h mm	k mm	Fori Holes	f mm	Kg
1/2"	95	14.3	34.9	38	22.2	21	66.7	4	15.9	0.70
3/4"	115	15.9	42.9	48	27.7	24	82.6	4	19.0	1.10
1"	125	17.5	50.8	54	34.5	25	88.9	4	19.0	1.40
1 1/4"	135	19.1	63.5	64	43.2	25	98.4	4	19.0	1.80
1 1/2"	155	20.6	73.0	70	49.5	29	114.3	4	22.2	2.60
2"	165	22.2	92.1	84	61.9	32	127.0	4	19.0	3.40
2 1/2"	190	25.4	104.8	100	74.7	37	149.2	4	22.2	4.40
3"	210	28.6	127.0	117	90.7	41	168.3	4	22.2	6.10
3 1/2"	230	30.2	139.7	133	103.4	43	184.2	8	22.2	7.50
4"	255	31.7	157.2	146	116.1	46	200.0	8	22.2	10.10
5"	280	34.9	185.7	178	143.8	49	235.0	8	22.2	12.50
6"	320	36.5	215.9	206	170.7	51	269.9	8	22.2	14.10
8"	380	41.3	269.9	260	221.5	60	330.2	8	25.4	24.80
10"	445	47.6	323.8	321	276.3	65	387.4	12	28.6	37.10
12"	520	50.8	381.0	375	327.1	71	450.8	12	31.7	50.00

600 LB										
Nom. Size	D mm	b mm	g mm	m mm	j mm	h mm	k mm	Fori Holes	f mm	Kg
1/2"	95	14.3	34.9	38	22.2	22	66.7	4	15.9	0.80
3/4"	115	15.9	42.9	48	27.7	25	82.6	4	19.0	1.40
1"	125	17.5	50.8	54	34.5	27	88.9	4	19.0	1.60
1 1/4"	135	20.6	63.5	64	43.2	29	98.4	4	19.0	2.10
1 1/2"	155	22.2	73.0	70	49.5	32	114.3	4	22.2	3.10
2"	165	25.4	92.1	84	61.9	37	127.0	8	19.0	3.70
2 1/2"	190	28.6	104.8	100	74.7	41	149.2	8	22.2	5.40
3"	210	31.7	127.0	117	90.7	46	168.3	8	22.2	7.30
4"	275	38.1	157.2	152	116.1	54	215.9	8	25.4	11.8
5"	330	44.4	185.7	189	143.8	60	266.7	8	28.6	24.5
6"	355	47.6	215.9	222	170.7	67	292.1	12	28.6	29.5
8"	420	55.6	269.9	273	221.5	76	349.2	12	31.7	43.0
10"	510	63.5	323.8	343	276.3	86	431.8	16	34.9	70.0
12"	560	66.7	381.0	400	327.1	92	488.9	20	34.9	86.0

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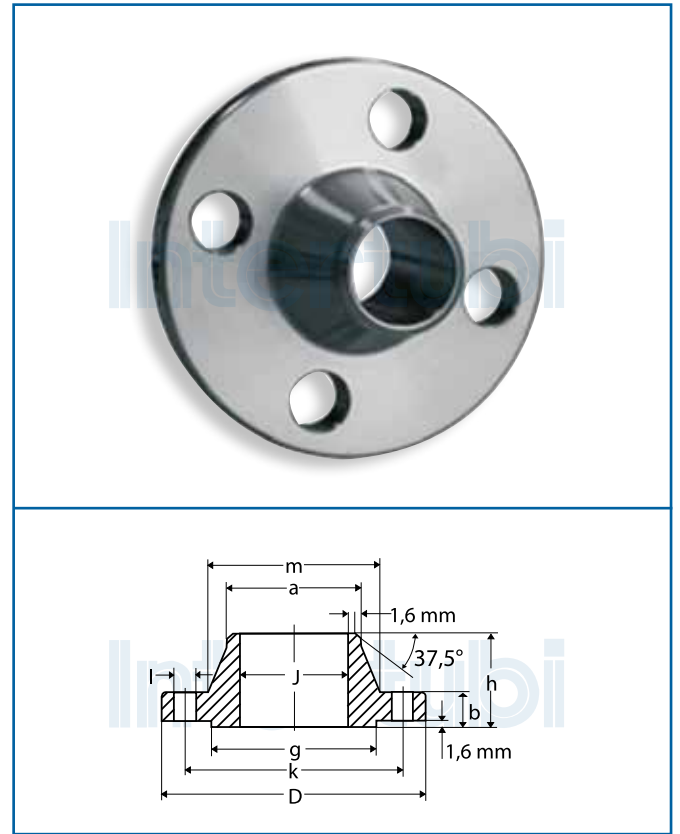
**FLANGE WELDING NECK FORGIATE**

 ASME B 16.5 | ASTM A182  
 SCH 40S | SCH 10S/80S SU RICHIESTA  
 150 / 300 / 600 LBS

**FORGED WELDING NECK FLANGES**

 ASME B 16.5 | ASTM A182  
 SCH 40S | SCH 10S/80S ON REQUEST  
 150 / 300 / 600 LBS

150 LB												
Nom. Size	O.D. mm	D mm	J mm	b mm	h mm	a mm	m mm	g mm	l mm	k mm	Fori Holes	Kg
1/2"	21.3	90	15.7	11.2	46	21.3	30	35.1	15.7	60.3	4	0.48
3/4"	26.7	100	20.8	12.7	51	26.7	38	42.9	15.7	69.9	4	0.71
1"	33.4	110	26.7	14.2	54	33.5	49	50.8	15.7	79.4	4	1.01
1 1/4"	42.2	115	35.1	15.7	56	42.2	59	63.5	15.7	88.9	4	1.33
1 1/2"	48.3	125	40.9	17.5	60	48.3	65	73.2	15.7	98.4	4	1.72
2"	60.3	150	52.6	19.1	62	60.5	78	91.9	19.1	120.7	4	2.58
2 1/2"	73.0	180	62.7	22.4	68	73.2	90	104.6	19.1	139.7	4	4.11
3"	88.9	190	78.0	23.9	68	88.9	108	127.0	19.1	152.4	4	4.92
4"	114.3	230	102.4	23.9	75	114.3	135	157.2	19.1	190.5	8	6.84
5"	141.3	255	128.3	23.9	87	141.2	164	185.7	22.4	215.9	8	9.20
6"	168.3	280	154.2	25.4	87	168.4	192	215.9	22.4	241.3	8	10.60
8"	219.1	345	202.7	28.4	100	219.2	246	269.7	22.4	298.5	8	17.60
10"	273.0	405	254.8	30.2	100	273.1	305	323.9	25.4	362.0	12	24.00
12"	323.8	485	304.8	31.8	113	323.9	365	381.0	25.4	431.8	12	36.50
14"	355.6	535	336.5	34.9	125	355.6	400	412.7	28.6	476.2	12	51.00
16"	406.4	595	387.3	36.5	125	406.4	457	469.9	28.6	539.8	16	60.00
18"	457.2	635	438.1	39.6	138	457.2	505	533.4	31.8	577.9	16	68.30
20"	508.0	700	488.9	42.9	143	508.0	559	584.2	31.8	635.0	20	84.50
24"	609.6	815	590.5	47.8	151	609.6	663	692.2	35.1	749.3	20	115.00



300 LB												
Nom. Size	O.D. mm	D mm	J mm	b mm	h mm	a mm	m mm	g mm	l mm	k mm	Fori Holes	Kg
1/2"	21.3	95	15.7	14.2	51	21.3	38.1	35.0	15.7	66.7	4	0.75
3/4"	26.7	115	20.8	15.7	56	26.7	47.7	42.9	19.0	82.6	4	1.26
1"	33.4	125	26.7	17.5	60	33.5	53.8	50.8	19.0	88.9	4	1.52
1 1/4"	42.2	135	35.1	19.0	64	42.2	63.5	63.5	19.0	98.4	4	2.03
1 1/2"	48.3	155	40.9	20.6	67	48.3	69.5	73.1	22.3	114.3	4	2.89
2"	60.3	165	52.6	22.3	67	60.4	84.0	91.9	19.0	127.0	8	3.40
2 1/2"	73.0	190	62.7	25.4	75	73.1	100.0	104.6	22.3	149.2	8	5.17
3"	88.9	210	78.0	28.4	78	88.9	117.3	127.0	22.3	168.3	8	6.93
4"	114.3	255	102.4	31.7	84	114.3	146.0	157.2	22.3	200.0	8	11.20
5"	141.3	280	128.3	35.1	97	141.3	177.8	185.7	22.4	235.0	8	15.10
6"	168.3	320	154.2	36.5	97	168.4	206.2	215.9	22.3	269.7	12	19.10
8"	219.1	380	202.7	41.1	110	219.2	260.3	269.7	25.4	330.2	12	29.90
10"	273.0	445	254.8	47.6	116	273.1	320.7	323.8	28.6	387.3	16	44.30
12"	323.8	520	304.8	50.8	129	323.9	374.6	381.0	31.7	450.8	16	64.00

600 LB											
Nom. Size	D mm	J mm	b mm	h mm	a mm	m mm	g mm	l mm	k mm	Fori Holes	Kg
1/2"	95	15.7	14.2	52	21.3	38.1	35.0	15.7	66.7	4	0.90
3/4"	115	20.8	15.7	57	26.7	47.7	42.9	19.0	82.6	4	1.50
1"	125	26.7	17.5	62	33.5	53.8	50.8	19.0	88.9	4	1.90
1 1/4"	135	35.1	20.6	67	42.2	63.5	63.5	19.0	98.4	4	2.60
1 1/2"	155	40.9	22.2	70	48.3	69.5	73.1	22.2	114.3	4	3.30
2"	165	52.6	25.4	73	60.4	84.0	91.9	19.0	127.0	8	4.70
2 1/2"	190	62.7	28.6	79	73.1	100.0	104.6	22.2	149.2	8	6.50
3"	210	78.0	31.7	83	88.9	117.3	127.0	22.2	168.3	8	8.70
4"	275	102.4	38.1	102	114.3	152	157.2	25.4	215.9	8	18.1
5"	330	128.3	44.4	110	141.3	189	185.7	28.6	266.7	8	30.5
6"	355	154.2	47.6	117	168.4	222	215.9	28.6	292.1	12	36.2
8"	420	202.7	55.6	133	219.2	273	269.7	31.7	349.2	12	56.5
10"	510	254.8	63.5	152	273.1	343	323.8	34.9	431.8	16	91.0
12"	560	304.8	66.7	156	323.9	400	381.0	34.9	488.9	20	105

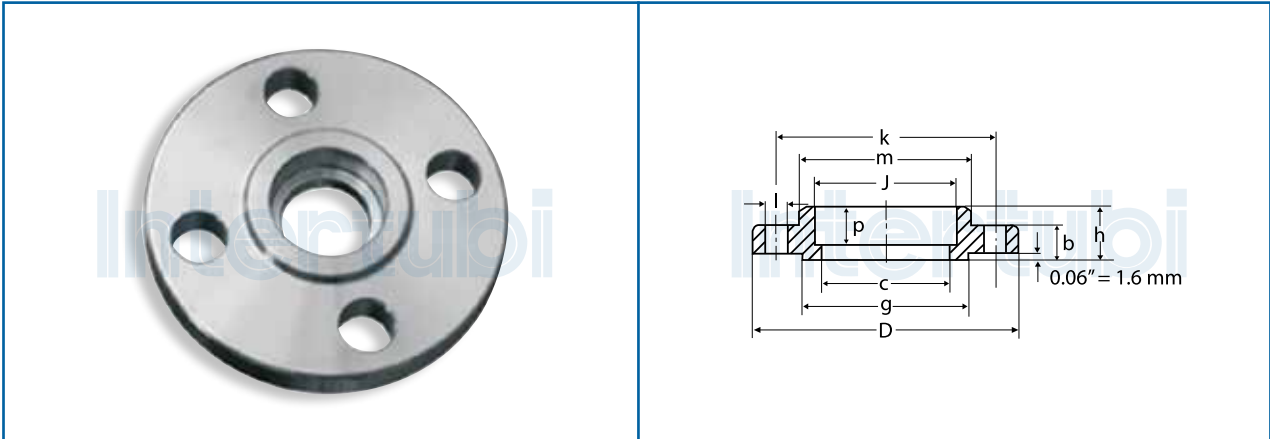


**FLANGE DA SALDARE A TASCA FORGIATE**

ASME B 16.5 | ASTM A182 | ASTM A403  
SCH 40S  
150 / 300 LBS

**FORGED SOCKET WELDING FLANGES**

ASME B 16.5 | ASTM A182 | ASTM A403  
SCH 40S  
150 / 300 LBS



150 LB													
Nom. Size	O.D. mm	D mm	J mm	c mm	p mm	b mm	h mm	m mm	g mm	Fori Holes	l mm	k mm	Kg
1/2"	21.3	90	22.2	15.7	9.7	11.2	14	30	35.1	4	15.7	60.3	0.42
3/4"	26.7	100	27.7	20.8	11.2	12.7	14	38	42.9	4	15.7	69.9	0.59
1"	33.4	110	34.5	26.7	12.7	14.2	16	49	50.8	4	15.7	79.4	0.81
1 1/4"	42.2	115	43.2	35.1	14.2	15.7	19	59	63.5	4	15.7	88.9	1.07
1 1/2"	48.3	125	49.5	40.9	15.7	17.5	21	65	73.2	4	15.7	98.4	1.36
2"	60.3	150	61.9	52.6	17.5	19.1	24	78	91.9	4	19.1	120.7	2.10
2 1/2"	73	180	74.6	75.4	20.7	22.3	27	90	140.6	4	19.1	139.7	3.4
3"	88.9	190	90.7	77.9	22.3	23.9	29	108	127.0	4	19.1	152.4	3.9
4"	114	230	116.1	102.3	22.3	23.9	32	135	157.2	8	19.1	190.5	5.9
5"	141.3	255	143.8	128.2	22.3	23.9	35	164	185.7	8	22.2	215.9	6.8
6"	168.3	280	170.7	154.1	23.9	25.4	38	192	215.9	8	22.2	241.3	8.6
8"	219.1	345	221.5	202.7	27.0	28.6	43	246	269.9	8	22.4	298.5	13.7

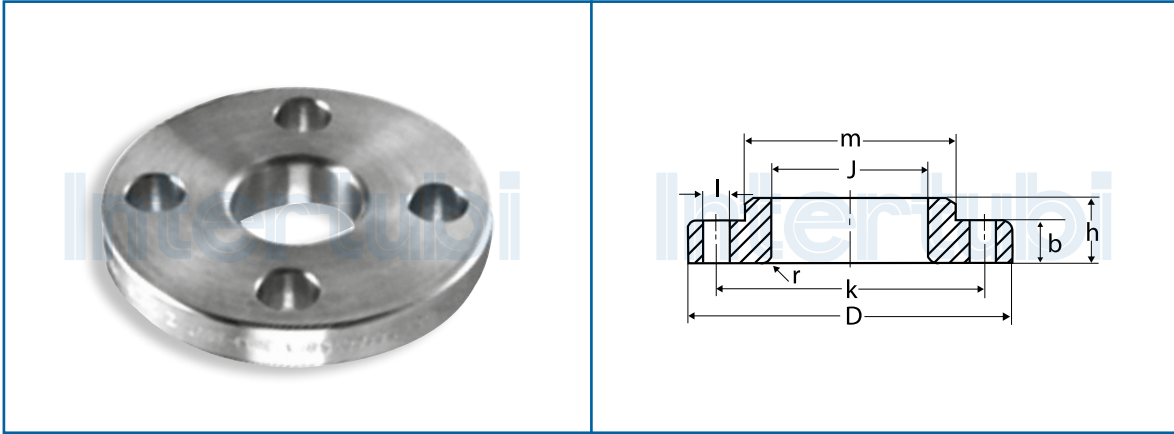
300 LB													
Nom. Size	O.D. mm	D mm	J mm	c mm	p mm	b mm	h mm	m mm	g mm	Fori Holes	l mm	k mm	Kg
1/2"	21.3	95	22.2	15.7	9.7	14.2	21	38	35.1	4	15.7	66.7	0.66
3/4"	26.7	115	27.7	20.8	11.2	15.7	24	48	42.9	4	19.1	82.6	1.15
1"	33.4	125	34.5	26.7	12.7	17.5	25	54	50.8	4	19.1	88.9	1.40
1 1/4"	42.2	135	43.2	35.1	14.2	19.1	25	64	63.5	4	19.1	98.4	1.75
1 1/2"	48.3	155	49.5	40.9	15.7	20.6	29	70	73.2	4	22.4	114.3	2.55
2"	60.3	165	61.9	52.6	17.5	22.4	32	84	91.9	8	19.1	127.0	2.93
2 1/2"	73	190	74.7	62.7	19	25.4	37	100	104.6	8	22.3	149.3	4.4
3"	88.9	210	90.7	77.9	20.6	28.6	41	117.3	127.0	8	22.3	168.1	6.0
4"	114	255	116.1	102.3	23.8	31.8	46	146	157.2	8	22.3	200.0	10

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**FLANGE LAP JOINT FORGIATE**

 ASME B 16.5 | ASTM A182 | ASTM A403  
 150 / 300 LBS

**FORGED LAP JOINT FLANGES**

 ASME B 16.5 | ASTM A182 | ASTM A403  
 150 / 300 LBS


150 LB											
Nom. Size	O.D. mm	D mm	J mm	b mm	h mm	r mm	m mm	l mm	k mm	Fori Holes	Kg
1/2"	21.3	90	22.9	11.2	16	3	30	15.7	60.3	4	0.39
3/4"	26.7	100	28.2	12.7	16	3	38	15.7	69.9	4	0.56
1"	33.4	110	34.9	14.2	17	3	49	15.7	79.4	4	0.78
1 1/2"	48.3	125	50.0	17.5	22	6	65	15.7	98.4	4	1.32
2"	60.3	150	62.5	19.1	25	8	78	19.1	120.7	4	2.06
3"	88.9	190	91.4	23.9	30	10	108	19.1	152.4	4	3.20
4"	114.3	230	116.8	23.9	33	11	135	19.1	190.5	8	5.30
6"	168.3	280	171.4	25.4	40	13	192	22.2	241.3	8	7.45
8"	219.1	345	222.2	28.6	44	13	246	22.4	298.5	8	12.6
10"	273.0	405	277.4	30.2	49	13	305	22.4	362.0	12	16.1
12"	323.8	485	328.2	31.8	56	13	365	25.4	431.8	12	28.3

300 LB											
Nom. Size	O.D. mm	D mm	J mm	b mm	h mm	r mm	m mm	l mm	k mm	Fori Holes	Kg
1/2"	21.3	95	22.9	14.3	16	3	38	15.7	66.7	4	0.61
3/4"	26.7	115	28.2	15.9	16	3	48	19.1	82.6	4	1.15
1"	33.4	125	34.9	17.5	18	3	54	19.1	88.9	4	1.39
1 1/4"	42.2	135	43.7	19.1	21	5	64	19.1	98.4	4	1.66
1 1/2"	48.3	155	50.0	20.7	23	6	70	22.4	114.3	4	2.52
2"	60.3	165	62.5	22.3	29	8	84	19.1	127.0	8	2.79
2 1/2"	73.0	190	75.4	25.4	32	8	100	22.4	149.2	8	4.22
3"	88.9	210	91.4	28.6	32	10	117	22.4	168.3	8	5.78
4"	114.3	255	116.8	31.8	37	11	146	22.4	200.0	8	7.72
6"	168.3	320	171.4	36.6	47	13	206	22.4	269.9	12	10.07

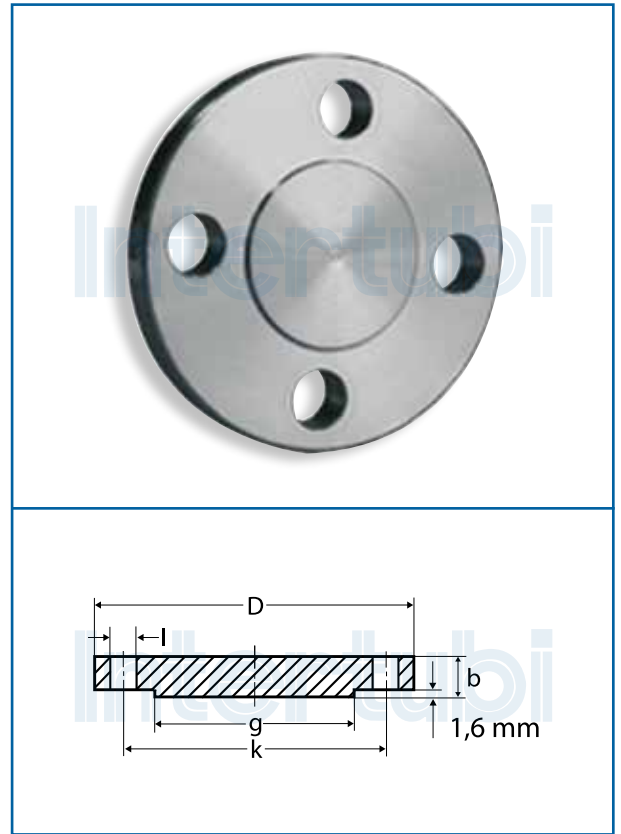
**FLANGE CIECHE FORGIATE**

ASME B 16.5 | ASTM A182 | ASTM A 403  
150 / 300 / 600 LBS

**FORGED BLIND FLANGES**

ASME B 16.5 | ASTM A182 | ASTM A 403  
150 / 300 / 600 LBS

150 LB								
Nom. Size	O.D. mm	D mm	b mm	g mm	l mm	k mm	Fori Holes	Kg
1/2"	21.3	90	11.2	35.1	15.7	60.3	4	0.42
3/4"	26.7	100	12.7	42.9	15.7	69.9	4	0.61
1"	33.4	110	14.2	50.8	15.7	79.4	4	0.86
1 1/4"	42.2	115	15.7	63.5	15.7	88.9	4	1.30
1 1/2"	48.3	125	17.5	73.2	15.7	98.4	4	1.53
2"	60.3	150	19.1	91.9	19.1	120.7	4	2.42
2 1/2"	73.0	180	22.3	104.8	19.1	139.7	4	4.10
3"	88.9	190	23.9	127.0	19.1	152.4	8	4.93
4"	114.3	230	23.9	157.2	19.1	190.5	8	7.00
5"	141.3	255	23.9	185.7	22.4	215.9	8	9.00
6"	168.3	280	25.4	215.9	22.4	241.3	8	11.30
8"	219.1	345	28.4	269.7	22.4	298.5	8	19.69
10"	273.0	405	30.2	323.9	25.4	362.0	12	28.80
12"	323.8	485	31.8	381.0	25.4	431.8	12	43.20
14"	355.6	535	35.0	412.7	25.4	476.2	12	59.00
16"	406.4	595	36.6	469.9	28.6	539.8	16	79.00
18"	457.2	635	39.7	533.4	31.8	577.9	16	93.70
20"	508.0	700	42.9	584.2	31.8	635.0	20	122.00
24"	609.6	815	47.7	692.2	35.1	749.3	20	185.00



300 LB								
Nom. Size	O.D. mm	D mm	b mm	g mm	l mm	k mm	Fori Holes	Kg
1/2"	21.3	95	14.3	35.0	15.7	66.7	4	0.64
3/4"	26.7	115	15.9	42.9	19.0	82.6	4	1.11
1"	33.4	125	17.5	50.8	19.0	88.9	4	1.39
1 1/4"	42.2	135	19.1	63.5	19.0	98.4	4	2.00
1 1/2"	48.3	155	20.7	73.1	22.3	114.3	4	2.66
2"	60.3	165	22.3	91.9	19.0	127.0	8	3.18
2 1/2"	73.0	190	25.4	104.8	22.3	149.2	8	5.10
3"	88.9	210	28.6	127.0	22.3	168.3	8	6.81
4"	114.3	255	31.8	157.2	22.3	200.0	8	11.50
5"	141.3	280	35.0	185.7	22.3	235.0	8	14.50
6"	168.3	320	36.6	215.9	22.3	269.9	12	20.90
8"	219.1	380	41.3	269.7	25.4	330.2	12	34.30
10"	273.0	445	47.7	323.8	28.6	387.4	16	57.00
12"	323.8	520	50.8	381.0	31.7	450.8	16	87.00

600 LB							
Nom. Size	D mm	b mm	g mm	l mm	k mm	Fori Holes	Kg
1/2"	95	14.3	35.0	15.7	66.7	4	0.70
3/4"	115	15.9	42.9	19.0	82.6	4	1.20
1"	125	17.5	50.8	19.0	88.9	4	1.50
1 1/4"	135	20.7	63.5	19.0	98.4	4	2.00
1 1/2"	155	22.3	73.1	22.2	114.3	4	3.20
2"	165	25.4	91.9	19.0	127.0	8	4.30
2 1/2"	190	28.6	104.8	22.2	149.2	8	6.00
3"	210	31.7	127.0	22.2	168.3	8	8.00
4"	275	38.1	157.2	25.4	215.9	8	18.0
5"	330	44.4	185.7	28.6	266.7	8	28.5
6"	355	47.6	215.9	28.6	292.1	12	35.5
8"	420	55.6	269.7	31.7	349.2	12	58.0
10"	510	63.5	323.8	34.9	431.8	16	98.0
12"	560	66.7	381.0	34.9	488.9	20	125

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**ACCIAIO INOX | STAINLESS STEEL**

**FLANGE FORGIATE E CARTELLE EN 1092-1**  
**FORGED FLANGES AND COLLARS EN 1092-1**

**INFORMAZIONI GENERALI**
**GENERAL INFORMATION**
**LE FLANGE DELLA SOCIETÀ INTERTUBI SONO FORNITE IN ACCORDO ALLE SEGUENTI NORME:**
**INTERTUBI'S FLANGES ARE PROVIDED IN ACCORDING WITH THE FOLLOWINGS STANDARDS:**

Norma del raccordo <i>Fitting standard</i>	Descrizione <i>Description</i>	Grado di acciaio <i>Steel grade</i>	AISI	EN	Tipologia di raccordi <i>Fittings types</i>	Note <i>Notes</i>
EN-1092-1	Flange circolari per tubazioni, valvole, raccordi e accessori, designate PN  Circular flanges for pipes, velves, fittings and accessories, PN designaed	X5CrNi18-10 X2CrNi18-9 X5CrNiMo17-12-2 X2CrNiMo17-12-2	304 304L 316 316L	1.4301 1.4307 1.4401 1.4404	Flange piane e cieche Flange a collarino  Plate and blind flanges Welding-neck flanges	Conforme alla PED According to PED

Le tabelle riportate in seguito permettono un confronto tra i differenti gradi di acciaio secondo la composizione chimica e le proprietà meccaniche:

Tables shown below allow a comparison between the different steel grades according to the chemical composition and mechanical properties:

Designazione dell'acciaio <i>Steel designation</i>		Composizione chimica (analisi di colata) % <i>Chemical composition (heat analysis)</i>									
Designazione simbolica <i>Symbolic designation</i>	Designazione numerica <i>Numerical designation</i>	C	Si max.	Mn max.	P max.	S max.	Cr	Mo	Ni	N	Altri
X2 CrNi18-9	1.4307	≤0,030	1,00	2,00	0,045	0,015	da 17,50 a 19,50	-	da 8,00 a 10,00	0,11 max.	-
X5 CrNi18-10	1.4301	≤0,07	1,00	2,00	0,045	0,015	da 17,00 a 19,50		da 8,00 a 10,50	0,11 max.	-
X5 CrNiMo17-12-2	1.4401	≤0,07	1,00	2,00	0,045	0,015	da 16,50 a 18,50	da 2,00 a 2,50	da 10,00 a 13,00	0,11 max.	-
X2 CrNiMo17-12-2	1.4404	≤0,030	1,00	2,00	0,045	0,015	da 16,50 a 18,50	da 2,00 a 2,50	da 10,00 a 13,00	0,11 max.	-

Designazione dell'acciaio <i>Steel designation</i>		Caratteristiche meccaniche a temperatura ambiente <i>Chemical composition</i>								
Designazione simbolica <i>Symbolic designation</i>	Designazione numerica <i>Numerical designation</i>	Snervamento <i>Yeld point</i>		Rottura <i>Tensile strenght</i>	Allungamento dopo la rottura <i>Elongation after tensile strenght A</i>		Resistenza <i>Impact test</i>			
		0,2% R <sub>p0,2</sub>	1,0% R <sub>p1,0</sub>		R N/mm <sup>2</sup>	l	tr, t	20°C		196°C
		min. N/mm <sup>2</sup>	min. N/mm <sup>2</sup>	(l)				(tr)	(tr)	
X2 CrNi18-9	1.4307	200	230	da 500 a 700	45	35	100	60	60	
X5 CrNi18-10	1.4301	200	230	da 500 a 700	45	35	100	60	60	
X5 CrNiMo17-12-2	1.4401	205	240	da 510 a 710	45	35	100	60	60	
X2 CrNiMo17-12-2	1.4404	190	225	da 490 a 690	45	35	100	60	60	

VALORI MINIMI UNITARI DI SNERVAMENTO 0,2% (R<sub>p0,2</sub>) COME DA TABELLA  
 MINIMUM UNIT VALUES OF YIELD POINT AS SHOWN IN THE TABLES

Designazione dell'acciaio Steel designation		R <sub>p0,2</sub> min., in N/mm <sup>2</sup> , ad una temperatura di:   at a temperature of:
Designazione simbolica Symbolic designation	Designazione numerica Numerical designation	100°C
X2 CrNi18-9	1.4307	147
X5 CrNi18-10	1.4301	157
X2 CrNiMo17-12-2	1.4404	166
X5 CrNiMo17-12-2	1.4401	177

TOLLERANZE | TOLERANCES

Dimensione Dimension	Tipo flangia Flange type	Misura Size	Tolleranze / Tolerance mm		
Diametro esterno Outside diameter of neck A D	11	≤ DN 125	+ 3,0	0	
		> DN 125 ≤ DN 1200	+ 4,5	0	
		> DN 1200	+ 6,0	0	
	37	≤ DN 150	± 0,75 % <sup>a</sup> , max. ± 0,3 mm		
		> DN 150	± 1 % <sup>a</sup> , max. ± 3,0 mm		
	Diametro del foro Bore diameter B <sub>1</sub> , B <sub>2</sub> , B <sub>3</sub>	01, 02	≤ DN 100	+ 0,5	0
> DN 100 ≤ DN 400			+ 1,0	0	
> DN 400 ≤ DN 600			+ 1,5	0	
> DN 600			+ 3,0	0	
Spessore della parete Wall thickness S <sup>c</sup>	11	≤ DN 100	+ 1,0 0	+ 2,0 0	
		> DN 100 ≤ DN 400	+ 1,5 0	+ 2,5 0	
		> DN 400	+ 2,0 0	+ 3,5 0	
	37	≤ DN 600	- 12,5 % a + 15%		
		> DN 600	- 0,5 mm a + 15%		
	Diametro esterno Outside diameter D	Tutti gli altri tipi All other types	≤ DN 150	± 2,0	
> DN 150 ≤ DN 500			± 3,0		
> DN 500 ≤ DN 1200			± 5,0		
> DN 1200 ≤ DN 1800			± 7,0		
> DN 1800			± 10,0		

Dimensione <i>Dimension</i>	Tipo flangia <i>Flange type</i>	Misura <i>Size</i>	Tolleranze   <i>Tolerance</i> mm	
Diametro del cerchio dei bulloni <i>Diameter of bolt circle</i> K	Tutti i tipi <i>All types</i>	Bolt size M10 to M24	± 1,0	
		Bolt size M27 to M45	± 1,5	
		Bolt size > M45	± 2,0	
Interasse dei fori per bulloni adiacenti <i>Centre-to-centre of adjacent bolt holes</i>	Tutti i tipi <i>All types</i>	Bolt size M10 to M24	± 1,0	
		Bolt size M27 to M45	± 1,5	
		Bolt size > M45	± 2,0	
Lunghezza attraverso il centro <i>Length through hub</i> H <sub>1</sub> , H <sub>2</sub> , H <sub>3</sub> , H <sub>4</sub> , H <sub>5</sub>	11, 37	≤ DN 80	± 1,5	
		> DN 80 ≤ DN 250	± 2,0	
		> DN 250	± 3,0	
Diametro del colletto <i>Neck diameter</i> N <sup>1</sup>	11 Lavorato sulla superficie di tenuta <i>Machined bearing surface</i>	N1 ≤ 120	0 - 1,0	
		N1 > 120 ≤ 400	0 - 1,2	
		N1 > 400 ≤ 1000	+ 1,6 0	
		N1 > 1000 ≤ 2000	+ 2,5 0	
		N1 > 2000	+ 4,0 0	
		11 Non lavorato sulla superficie di tenuta <i>Un-machined bearing surface</i>	N1 ≤ 120	0 - 1,0
	N1 > 120 ≤ 400		+ 0 - 2,0	
	N1 > 400 ≤ 1000		+ 4,0 0	
	N1 > 1000 ≤ 2000		+ 6,0 0	
	N1 > 2000		+ 8,0 0	
	Spessore flange <i>Flange thickness</i> C <sub>1</sub> , C <sub>2</sub> , C <sub>3</sub> , C <sub>4</sub>		Tutti i tipi (Lavorato su entrambe le facce) <i>All types (Machined on both faces)</i>	≤ 18 mm
		> 18 mm ≤ 50 mm		± 1,5
> 50 mm		± 2,0		
Tutti i tipi (Lavorato solo sul lato anteriore) <i>All types (Machined on front side only)</i>		≤ 18 mm	+ 2,0 - 1,3	
		> 18 mm ≤ 50 mm	+ 4,0 - 1,5	
		> 50 mm	+ 7,0 - 2,0	
Tipo 02 e 04 (non lavorati) <i>Type 02 and 04 (un-machined)</i>				

**CARATTERISTICHE TECNICHE**

Metodo di fabbricazione: forgiate  
 Dimensioni-marcatura-tolleranze in accordo  
 EN 1092-1  
 ACCIAIO INOSSIDABILE  
**Certificati: EN 10204/3.1**

**TECHNICAL INFORMATION**

Method of manufacture: forged  
 Dimensions-marketing-tolerances according  
 to EN 1092-1  
 STAINLESS STEEL  
**CertificatEs: EN 10204/3.1**



**FLANGE PIANE DA SALDARE FORGIATE**

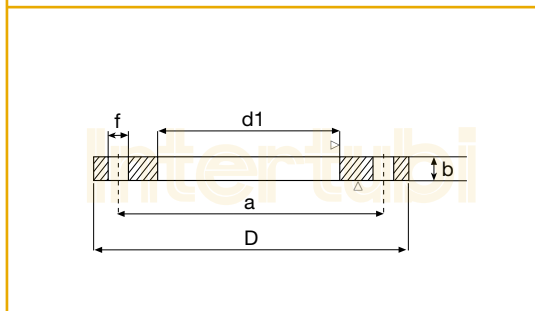
EN 1092-1 TIPO 01/A PN 6

Disponibile a richiesta versione economica flange da fusione

**FORGED WELDING PLATE FLANGES**

EN 1092-1 TYPE 01/A PN 6

Cheap version of casting flanges available on request



DN	D	d1	b	Fori   Holes			Peso Kg Weight Kg
				a	f	N° fori holes	
15	80	22,0	12	55	11	4	0,40
20	90	27,5	14	65	11	4	0,60
25	100	34,5	14	75	11	4	0,80
32	120	43,5	16	90	14	4	1,20
40	130	49,5	16	100	14	4	1,40
50	140	61,5	16	110	14	4	1,50
65	160	77,5	16	130	14	4	1,80
80	190	90,5	18	150	18	4	2,80
100	210	116,0	18	170	18	4	3,20
125	240	141,5	20	200	18	8	4,30
150	265	170,5	20	225	18	8	5,40
200	320	221,5	22	280	18	8	7,20
250	375	276,5	24	335	18	12	10,00
300	440	327,5	24	395	22	12	12,40
350	490	359,5	26	445	22	12	17,50
400	540	411,0	28	495	22	16	21,00
450	595	462,0	30	550	22	16	27,00
500	645	513,5	30	600	22	20	31,00
600	755	616,5	32	705	26	20	39,00
700	860	-	40	810	26	24	49,00
800	975	-	44	920	30	24	64,00
900	1.075	-	48	1.020	30	24	76,00
1.000	1.175	-	52	1.120	30	28	84,00

**FLANGE PIANE DA SALDARE FORGIATE**

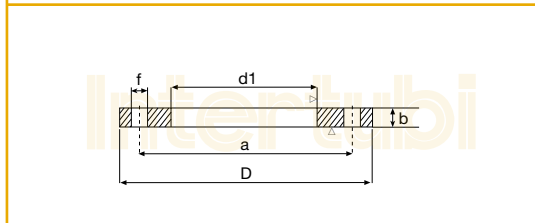
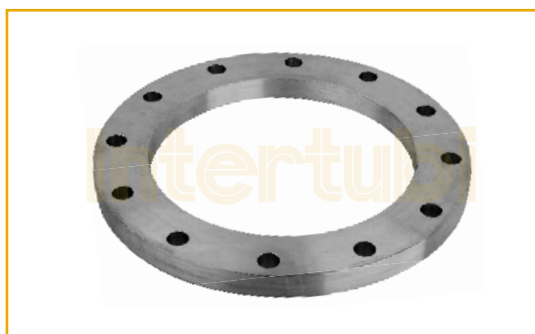
EN 1092-1 TIPO 01/A PN 10

Disponibile a richiesta versione economica flange da fusione

**FORGED WELDING PLATE FLANGES**

EN 1092-1 TYPE 01/A PN 10

Cheap version of casting flanges available on request



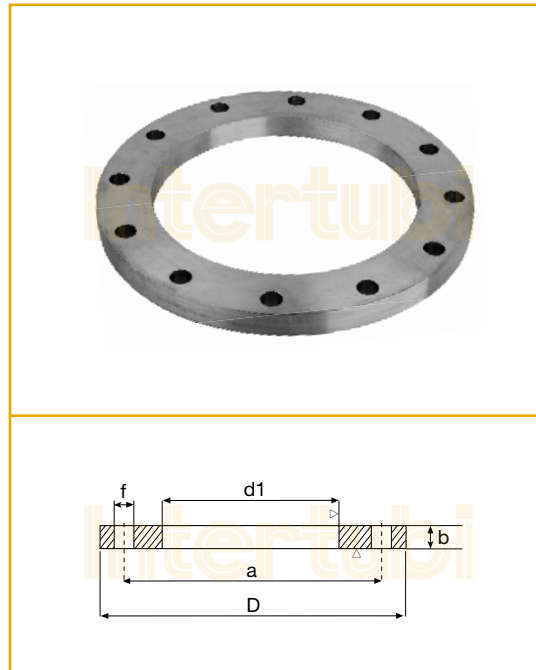
DN	D	d1	b	Fori   Holes			Peso Kg Weight Kg
				a	f	N° fori holes	
Da DN15 a DN50 dimensioni identiche con PN40 / From DN15 to DN50 dimensions identical with PN40							
Da DN65 a DN150 dimensioni identiche con PN16 / From DN65 to DN150 dimensions identical with PN16							
200	340	221,5	24	295	22	8	10,30
250	395	276,5	26	350	22	12	14,00
300	445	327,5	26	400	22	12	15,50
350	505	359,5	30	460	22	16	23,00
400	565	411,0	32	515	26	16	29,00
450	615	462,0	36	565	26	20	35,00
500	670	513,5	38	620	26	20	42,00
600	780	616,5	42	725	30	20	54,00
700	895	-	-	840	30	24	66,00
800	1.015	-	-	950	33	24	90,00
900	1.115	-	-	1.050	33	28	103,00
1.000	1.230	-	-	1.160	36	28	131,00

**FLANGE PIANE DA SALDARE FORGIATE**

EN 1092-1 TIPO 01/A PN 16

PN 25 SU RICHIESTA

Disponibile a richiesta versione economica flange da fusione


**FORGED WELDING PLATE FLANGES**

EN 1092-1 TYPE 01/A PN 16

PN 25 ON REQUEST

Cheap version of casting flanges available on request

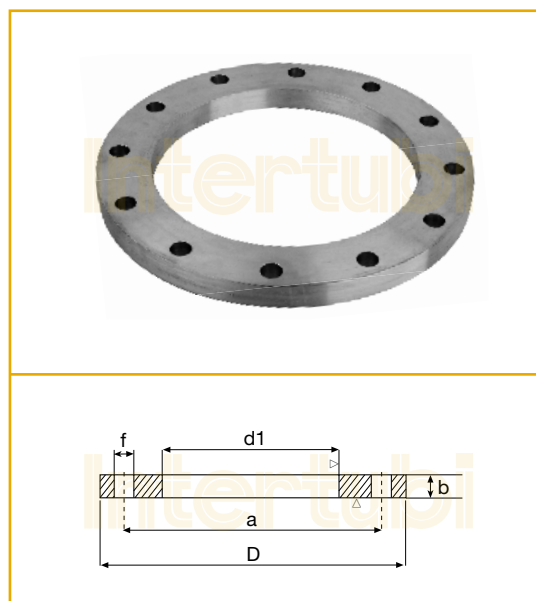
DN	D	d1	b	Fori   Holes			Peso Kg Weight Kg
				a	f	N° fori holes	
Da DN15 a DN50 dimensioni identiche con PN40 / From DN15 to DN50 dimensions identical with PN40							
65	185	77,5	20	145	18	8(4)*	3,10
80	200	90,5	20	160	18	8	3,80
100	220	116,0	22	180	18	8	4,80
125	250	141,5	22	210	18	8	6,40
150	285	170,5	24	240	22	8	8,00
200	340	221,5	26	295	22	12	10,30
250	405	276,5	29	355	26	12	17,50
300	460	327,5	32	410	26	12	20,00
350	520	359,5	35	470	26	16	30,50
400	580	411,0	38	525	30	16	37,50
450	640	462,0	42	585	30	20	43,00
500	715	513,5	46	650	33	20	52,00
600	840	616,5	55	770	36	20	72,00
700	910	-	63	840	36	24	90,00
800	1.025	-	74	950	39	24	117,00
900	1.125	-	82	1.050	39	28	130,00
1.000	1.255	-	90	1.170	42	28	165,00

\*Disponibili con 4 fori | On stock with 4 holes

**FLANGE PIANE DA SALDARE FORGIATE**

EN 1092-1 TIPO 01/A PN 40

Disponibile a richiesta versione economica flange da fusione


**FORGED WELDING PLATE FLANGES**

EN 1092-1 TYPE 01/A PN 40

Cheap version of casting flanges available on request

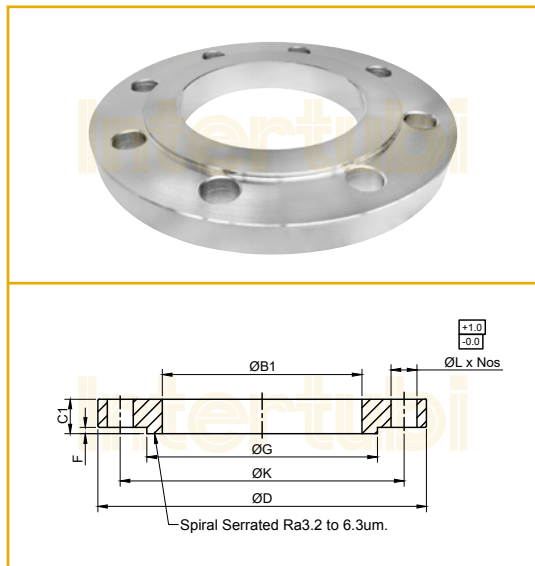
DN	D	d1	b	Fori   Holes			Peso Kg Weight Kg
				a	f	N° fori holes	
15	95	22,0	14	65	14	4	0,68
20	105	27,5	16	75	14	4	0,95
25	115	34,5	16	85	14	4	1,14
32	140	43,5	18	100	18	4	1,87
40	150	49,5	18	110	18	4	2,13
50	165	61,5	20	125	18	4	2,78
65	185	77,5	22	145	18	8	3,80
80	200	90,5	24	160	18	8	4,70
100	235	116,0	26	190	22	8	6,33
125	270	141,5	28	220	26	8	8,53
150	300	170,5	30	250	26	8	10,90
200	375	221,5	36	320	30	12	18,00
250	450	276,5	42	385	33	12	31,80
300	515	327,5	52	450	33	16	41,90
350	580	359,5	58	510	36	16	64,40
400	660	411,0	65	585	39	16	90,30

**FLANGE PIANE CON GRADINO  
DA SALDARE FORGIATE**

EN 1092-1 TIPO 01/B PN 10

**FORGED WELDING RAISED FACE FLANGES**

EN 1092-1 TYPE 01/B PN 10



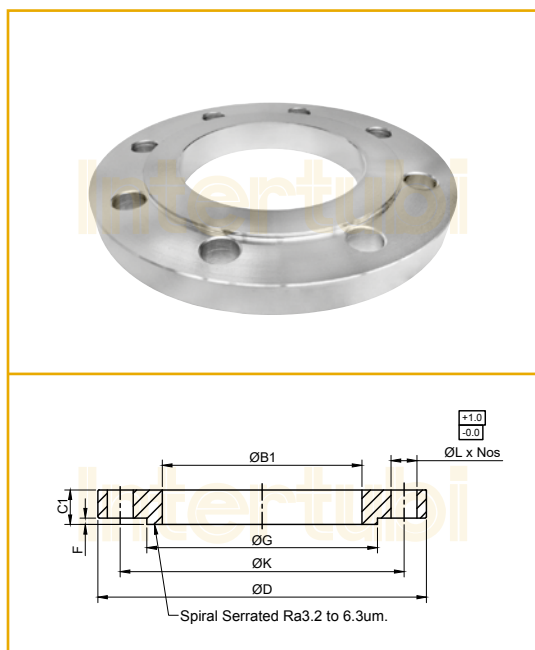
DN	D	B1	C1	Fori   Holes			Peso Kg Weight Kg	F
				K	L	N° fori holes		
Da DN15 a DN50 dimensioni identiche con PN40 / From DN15 to DN50 dimensions identical with PN40								
Da DN65 a DN150 dimensioni identiche con PN16 / From DN65 to DN150 dimensions identical with PN16								
200	340	221,5	24	295	22	8	10,30	3
250	395	276,5	26	350	22	12	14,00	3
300	445	327,5	26	400	22	12	15,50	4
350	505	359,5	30	460	22	16	23,00	4
400	565	411,0	32	515	26	16	29,00	4
450	615	462,0	36	565	26	20	35,00	4
500	670	513,5	38	620	26	20	42,00	4
600	780	616,5	42	725	30	20	54,00	5

**FLANGE PIANE CON GRADINO  
DA SALDARE FORGIATE**

EN 1092-1 TIPO 01/B PN 16

**FORGED WELDING RAISED FACE FLANGES**

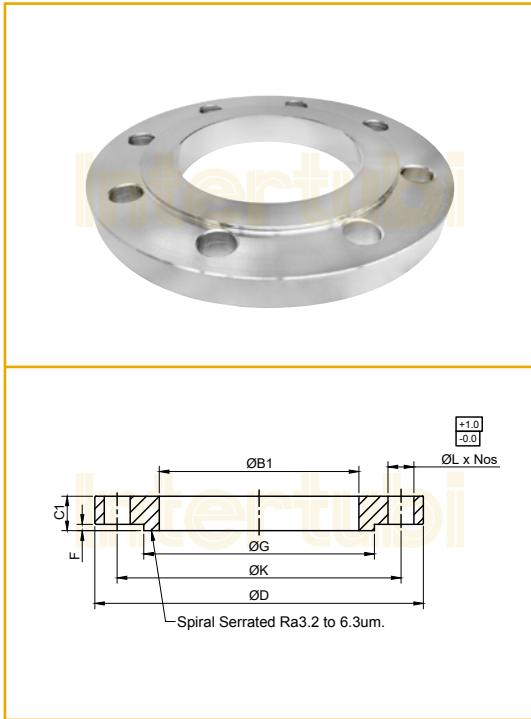
EN 1092-1 TYPE 01/B PN 16



DN	D	B1	C1	Fori   Holes			Peso Kg Weight Kg	F
				K	L	N° fori holes		
Da DN15 a DN50 dimensioni identiche con PN40 / From DN15 to DN50 dimensions identical with PN40								
65	185	77,5	20	145	18	8(4)*	3,10	3
80	200	90,5	20	160	18	8	3,80	3
100	220	116,0	22	180	18	8	4,80	3
125	250	141,5	22	210	18	8	6,40	3
150	285	170,5	24	240	22	8	8,00	3
200	340	221,5	26	295	22	12	10,30	3
250	405	276,5	29	355	26	12	17,50	3
300	460	327,5	32	410	26	12	20,00	4
350	520	359,5	35	470	26	16	30,50	4
400	580	411,0	38	525	30	16	37,50	4
450	640	462,0	42	585	30	20	43,00	4
500	715	513,5	46	650	33	20	52,00	4
600	840	616,5	55	770	36	20	72,00	5

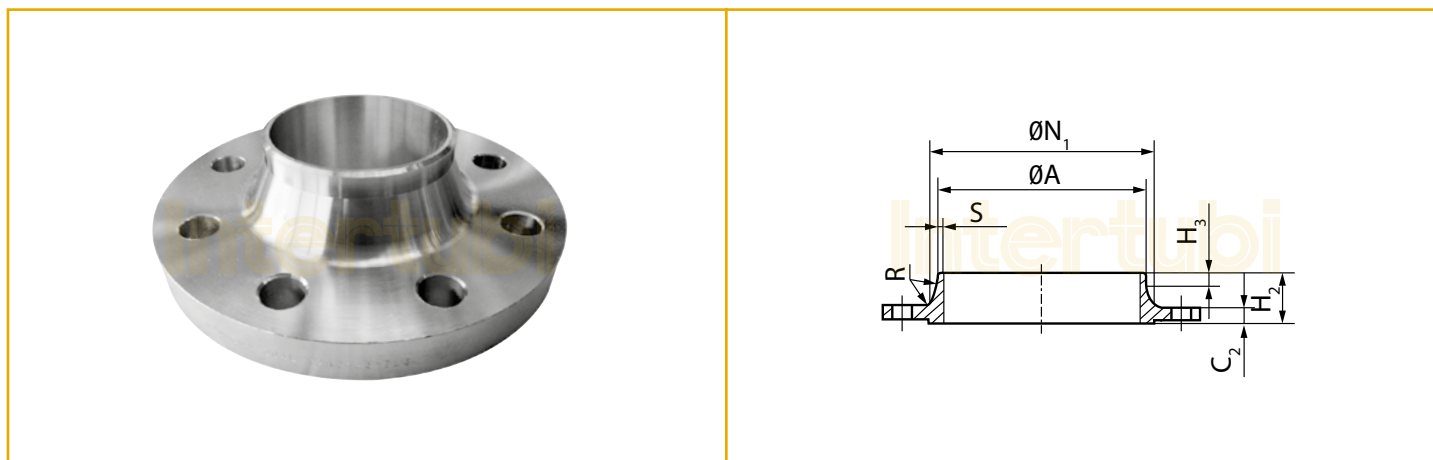
\*Disponibili con 4 fori | On stock with 4 holes

**FLANGE PIANE CON GRADINO  
DA SALDARE FORGIATE**  
 EN 1092-1 TIPO 01/B PN 40

**FORGED WELDING RAISED FACE FLANGES**  
 EN 1092-1 TYPE 01/B PN 40


DN	D	B1	C1	Fori   Holes			Peso Kg Weight Kg	F
				K	L	N° fori holes		
15	95	22,0	14	65	14	4	0,68	2
20	105	27,5	16	75	14	4	0,95	2
25	115	34,5	16	85	14	4	1,14	2
32	140	43,5	18	100	18	4	1,87	2
40	150	49,5	18	110	18	4	2,13	3
50	165	61,5	20	125	18	4	2,78	3
65	185	77,5	22	145	18	8	3,80	3
80	200	90,5	24	160	18	8	4,70	3
100	235	116,0	26	190	22	8	6,33	3
125	270	141,5	28	220	26	8	8,53	3
150	300	170,5	30	250	26	8	10,90	3
200	375	221,5	36	320	30	12	18,00	3
250	450	276,5	42	385	33	12	31,80	3
300	515	327,5	52	450	33	16	41,90	4
350	580	359,5	58	510	36	16	64,40	4
400	660	411,0	65	585	39	16	90,30	4





DN	A	C2	R	H2	N1	H3	S	N° Fori holes	Peso Kg Weight Kg
Da DN15 a DN50 dimensioni identiche con PN40 / From DN15 to DN50 dimensions identical with PN40									
Da DN50 a DN150 dimensioni identiche con PN16 / From DN50 to DN150 dimensions identical with PN16									
200	219.5	24	10	62	234	16	5.9	8	11.3
250	273.0	26	12	68	292	16	6.3	12	14.7
300	323.9	26	12	68	342	16	7.1	12	17.4

**FLANGE FORGIATE CON COLLARE**  
EN 1092-1 TIPO 11/B PN10 (EX DIN 2632)

**FORGED WELDING NECK FLANGES**  
EN 1092-1 TYPE 11/B PN10 (EX DIN 2632)

DN	A	C2	R	H2	N1	H3	S	N° Fori holes	Peso Kg Weight Kg
Da DN15 a DN50 dimensioni identiche con PN40 / From DN15 to DN50 dimensions identical with PN40									
50	60.3	18	6	45	74	8	2.9	4	2.53
65	76.1	18	6	45	92	10	2.9	8(4)*	3.06
80	88.9	20	6	50	105	10	3.2	8	3.70
100	114.3	20	8	52	131	12	3.6	8	4.62
125	139.7	22	8	55	156	12	4.0	8	6.30
150	168.3	22	10	55	184	12	4.5	8	7.75
200	219.1	24	10	62	235	16	6.3	12	11.00
250	273.0	26	12	70	292	16	6.3	12	15.60
300	323.9	28	12	78	344	16	7.1	12	22.00

**FLANGE FORGIATE CON COLLARE**  
EN 1092-1 TIPO 11/B PN16 (EX DIN 2633)

**FORGED WELDING NECK FLANGES**  
EN 1092-1 TYPE 11/B PN16 (EX DIN 2633)

\*Disponibili con 4 fori | On stock with 4 holes

DN	A	C2	R	H2	N1	H3	S	N° Fori holes	Peso Kg Weight Kg
15	21.3	16	4	38	32	6	2.0	4	0.75
20	26.9	18	4	40	40	6	2.3	4	1.06
25	33.7	18	4	40	46	6	2.6	4	1.29
32	42.4	18	6	42	56	6	2.6	4	1.89
40	48.3	18	6	45	64	7	2.6	4	2.33
50	60.3	20	6	48	75	8	2.9	4	2.82
65	76.1	22	6	52	90	10	2.9	8	3.74
80	88.9	24	8	58	105	12	3.2	8	4.75
100	114.3	24	8	65	134	12	3.6	8	6.52
125	139.7	26	8	68	162	12	4.0	8	9.07
150	168.3	28	10	75	192	12	4.5	8	11.80
200	219.1	34	10	88	244	16	6.3	12	21.50

**FLANGE FORGIATE CON COLLARE**  
EN 1092-1 TIPO 11/B PN40 (EX DIN 2635)

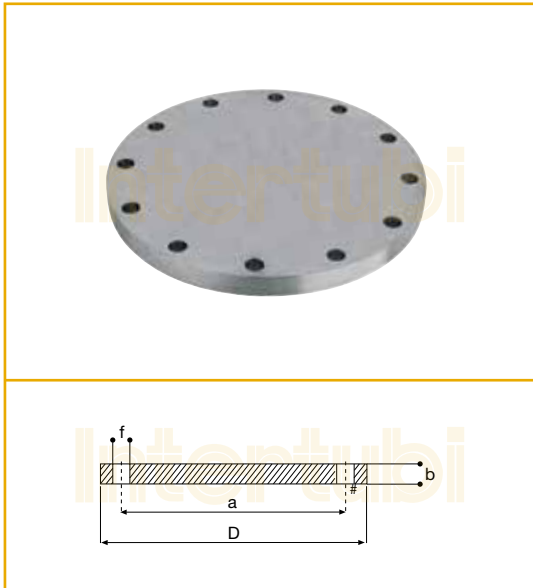
**FORGED WELDING NECK FLANGES**  
EN 1092-1 TYPE 11/B PN40 (EX DIN 2635)

**FLANGE CIECHE FORGIATE**

EN 1092-1 TIPO 05/A PN 10

**FORGED BLIND FLANGES**

EN 1092-1 TYPE 05/A PN 10



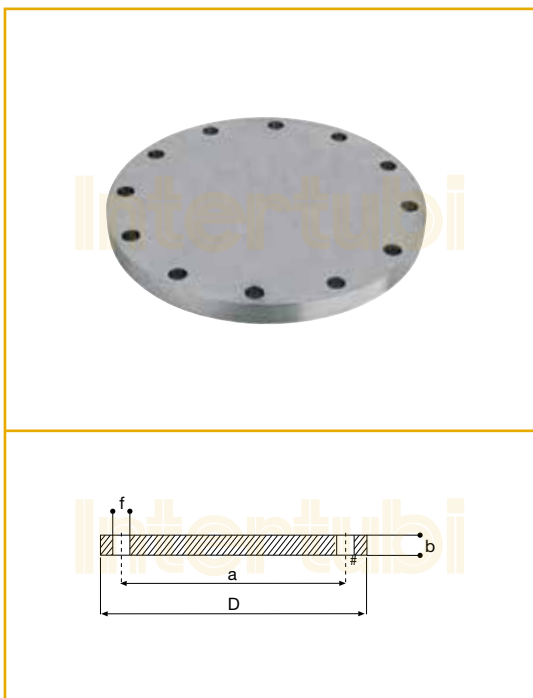
DN	D	b	Fori   Holes			Peso Kg Weight Kg
			a	f	N° fori holes	
Da DN15 a DN40 dimensioni identiche con PN40 / From DN15 to DN40 dimensions identical with PN40						
Da DN50 a DN150 dimensioni identiche con PN16 / From DN50 to DN150 dimensions identical with PN16						
200	340	24	295	22	12	16,50
250	395	26	350	22	12	24,10
300	445	26	400	22	12	30,80
350	505	26	460	22	16	39,60
400	565	26	515	26	16	49,60
450	615	28	565	26	20	58,60
500	670	28	620	26	20	75,30

**FLANGE CIECHE FORGIATE**

EN 1092-1 TIPO 05/A PN 16

**FORGED BLIND FLANGES**

EN 1092-1 TYPE 05/A PN 16



DN	D	b	Fori   Holes			Peso Kg Weight Kg
			a	f	N° fori holes	
Da DN15 a DN40 dimensioni identiche con PN40 / From DN15 to DN40 dimensions identical with PN40						
50	165	18	125	18	4	2,87
65	185	18	145	18	8 (4)*	3,65
80	200	20	160	18	8	4,61
100	220	20	180	18	8	5,65
125	250	22	210	18	8	8,12
150	285	22	240	22	8	10,50
200	340	24	295	22	8	16,50
250	405	26	355	26	12	25,10
300	460	28	410	26	12	35,20
350	520	30	470	26	16	48,20
400	580	32	525	30	16	63,50
450	640	40	585	30	20	77,20
500	715	44	650	33	20	102,00

\*Disponibili con 4 fori | On stock with 4 holes

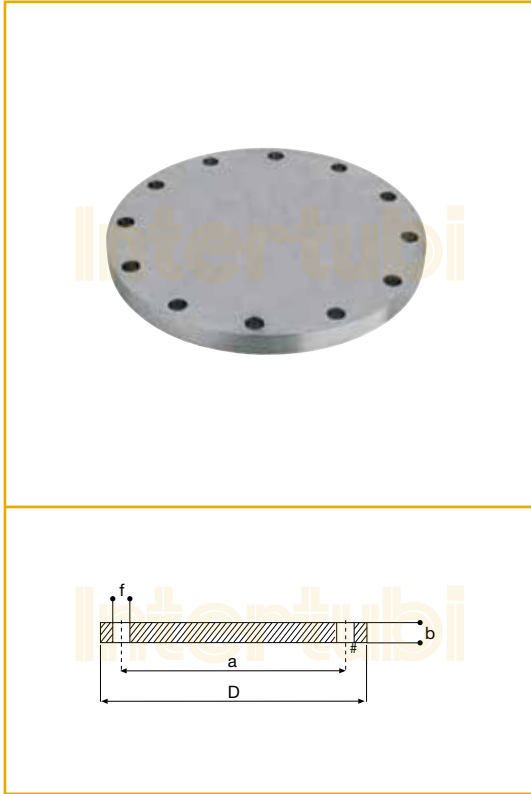


**FLANGE CIECHE FORGIATE**

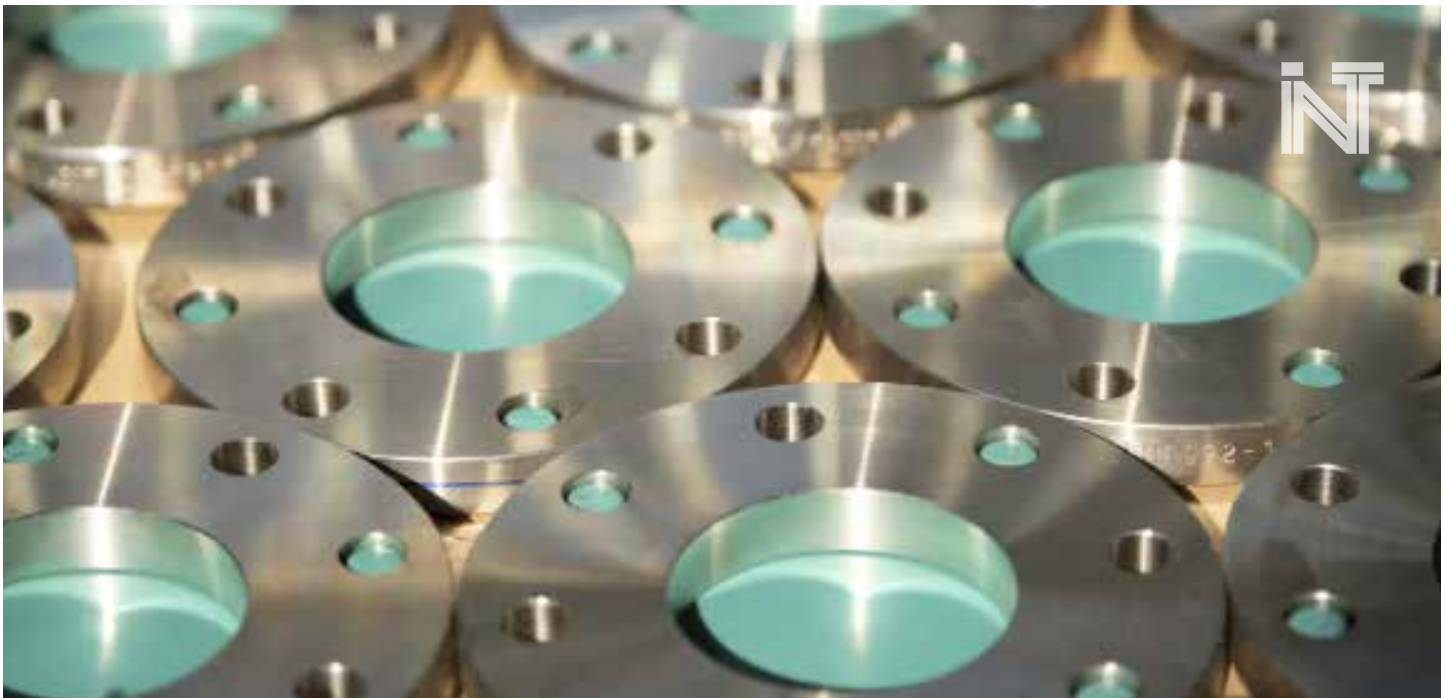
EN 1092-1 TIPO 05/A PN 40

**FORGED BLIND FLANGES**

EN 1092-1 TYPE 05/A PN 40



DN	D	b	Fori   Holes			Peso Kg Weight Kg
			a	f	N° fori holes	
15	95	16	65	14	4	0,71
20	105	18	75	14	4	1,01
25	115	18	85	14	4	1,22
32	140	18	100	18	4	1,80
40	150	18	110	18	4	2,09
50	165	20	125	18	4	3,20
65	185	22	145	18	8	4,30
80	200	24	160	18	8	5,90
100	235	24	190	22	8	7,50
125	270	26	220	26	8	10,80
150	300	28	250	26	8	14,50
200	375	36	320	30	12	20,50
250	450	38	385	33	12	29,50
300	515	42	450	33	16	46,20
350	580	46	510	36	16	59,80
400	660	50	585	39	16	74,20
450	685	57	610	39	20	89,50
500	755	57	670	42	20	123,10

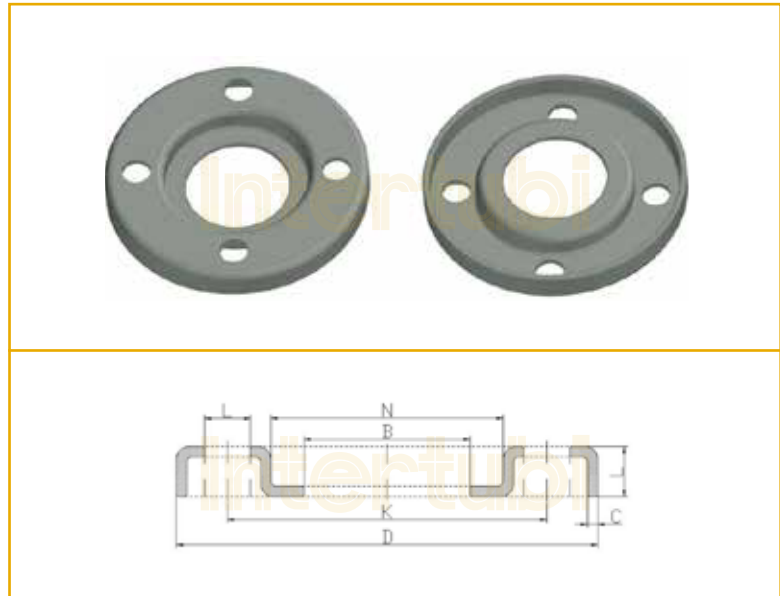


**FLANGE STAMPATE LIBERE**

EN 1092-1 TIPO 02 PN 10  
 DIN 2642 | ISO  
 Da DN15 a DN150 = PN10/16

**PRESSED LOOSE FLANGES**

EN 1092-1 TYPE 02 PN 10  
 DIN 2642 | ISO  
 From DN15 To DN150 = PN10/16



DN	D	N	B	K	H	C	N° Fori holes	Tipo type	L	Peso Kg Weight Kg
15	95	38	24	65	12	3	4	M12	13.5	0.20
20	105	48	30	75	14	3	4	M12	13.5	0.24
25	115	53	37	85	16	3	4	M12	13.5	0.26
32	140	68	45	100	16	3	4	M16	17.5	0.45
40	150	77	54	110	17.5	4	4	M16	18.0	0.62
50	165	91	65	125	19.5	4	4	M16	18.0	0.80
65	185	108	81	145	21.5	4	4	M16	18.0	0.95
80	200	123	94	160	21.5	4	8	M16	18.0	1.40
100	220	141	119	180	22	4	8	M16	18.0	1.60
125	250	168	145	210	22	5	8	M16	18.0	2.00
150	285	192	173	240	26	5	8	M16	22.0	3.05
200	340	245	225	295	28	6	8	M20	22.0	3.65
250	395	295	279	350	31	6	12	M20	22.0	9.00
300	445	345	326	400	38	8	12	M20	22.0	11.0

**CARATTERISTICHE TECNICHE**

Acciaio: AISI 304/1.4301  
 Finitura delle superfici: decapate e passivate  
 Marcatura: ad inchiostro riportante marchio del fabbricante  
 DN - PN - acciaio - numero di colata / lotto  
**Certificati: EN 10204/3.1**

**TECHNICAL INFORMATION**

Steel: AISI 304/1.4301  
 Surfaces finish: pickled and passivated  
 Marking: ink, reporting producer's name - DN - PN  
 steel - heat number / lot  
**CertificatEs: EN 10204/3.1**



## FLANGE LIBERE IN ALLUMINIO

TIPO ISO PN10

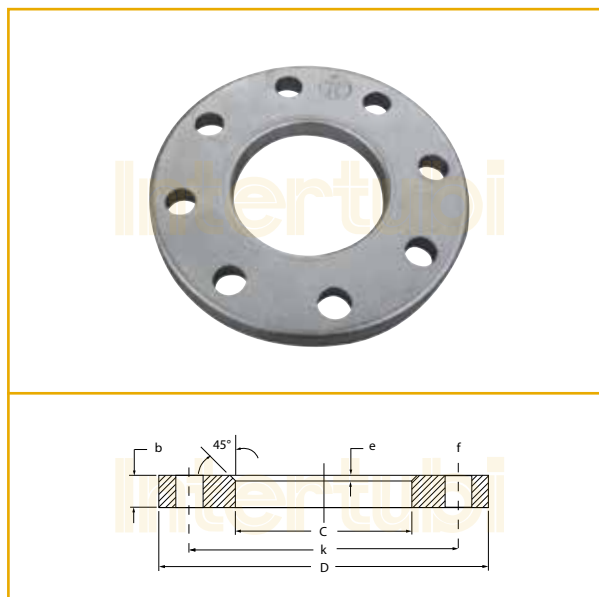
### CARATTERISTICHE TECNICHE

Dimensioni compatibili con norma EN 1092-1/02 PN 10 (DIN 2642)

Materiale: lega di alluminio EN AB 47000 (EX UNI 7369)

Finitura delle superfici: grezze (verniciatura epossidica a richiesta)

CERTIFICATI EN 10204/2.1



## LAP JOINT ALUMINIUM FLANGES

TIPO ISO PN10

### TECHNICAL INFORMATION

Dimensions compatible with EN 1092-1/02 PN 10 (DIN 2642)

Material: aluminium alloy EN AB 47000 (EX UNI 7369)

Surfaces finish: blank (epossidic painting on request)

CERTIFICATES EN 10204/2.1

Diametro Nominale Nominal Pipe Size		Tubo Pipe	Flangia Flange				Fori Holes			Peso Weight
DN	DE	Ø C	Ø D	b	e	Ø K	Ø f	nr.	Kg.	
10	3/8"	17,2	19	90	12	4	60	14	4	0,18
15	1/2"	21,3	24	95	12	4	65	14	4	0,19
20	3/4"	26,9	30	105	12	4	75	14	4	0,22
25	1"	33,7	36	115	12	4	85	14	4	0,27
32	1 1/4"	42,2	46	140	16	4	100	18	4	0,53
40	1 1/2"	48,3	54	150	16	4	110	18	4	0,59
50	2"	60,3	65	165	16	4	125	18	4	0,70
65	2 1/2"	76,1	81	185	16	4	145	18	4	0,87
80	3"	88,9	94	200	18	5	160	18	8	1,05
100	4"	114,3	119	220	18	5	180	18	8	1,16
125	5"	139,7	144	250	18	5	210	18	8	1,45
150	6"	168,3	173	285	18	5	240	22	8	1,70
200	8"	219,1	225	340	20	5	295	22	8	2,50
250	10"	273	279	395	22	5	350	22	12	3,25
300	12"	323,9	329	445	22	5	400	22	12	3,80
350	14"	355,6	362	505	22	5	460	22	16	5,25
400	16"	406,4	413	565	25	6	515	25	16	7,20
450	18"	457	466	615	24	6	565	25	20	8,50
500	20"	508	517	670	28	6	620	25	20	9,60
600	24"	610	620	780	30	6	725	30	20	12,75
700	28"	711	721	895	32	6	840	30	24	17,10
800	32"	813	824	1015	36	7	950	33	24	25,60

Composizione chimica (valori di norma): | Chemical composition (as a rule values):

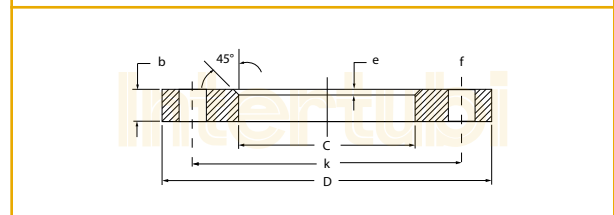
Si%	Cu%	Fe%	Mn%	Mg%	Zn%	Ni%	Ti%	Sn%	Pb%	Al%
11,5 ÷ 13,5	0,8 max	0,8 max	0,2 ÷ 0,4	0,3 max	0,5 max	0,3 max	0,15 max	0,10 max	0,15 max	Il resto (83 ÷ 87,5)

**FLANGE LIBERE IN ALLUMINIO TIPO METRICO**
**CARATTERISTICHE TECNICHE**

Dimensioni compatibili con norma EN 1092-1/02 PN 10 (DIN 2642)

Materiale: lega di alluminio EN AB 47000 (EX UNI 7369)

Finitura delle superfici: grezze (verniciatura epossidica a richiesta)

**CERTIFICATI EN 10204/2.1**

**LAP JOINT ALUMINIUM FLANGES METRIC TYPE**
**TECHNICAL INFORMATION**

Dimensions compatible with EN 1092-1/02 PN 10 (DIN 2642)

Material: aluminium alloy EN AB 47000 (EX UNI 7369)

Surfaces finish: blank (epossidic painting on request)

**CERTIFICATES EN 10204/2.1**

Diametro Nominale Nominal Pipe Size	Tubo Pipe	Flangia Flange				Fori Holes			Peso Weight
		Ø C	Ø D	b	e	Ø K	Ø f	nr.	
10	13-14	19	90	12	4	60	14	4	0,18
15	18-20	24	95	12	4	65	14	4	0,19
20	23-25	30	105	12	4	75	14	4	0,22
25	28-30	34	115	12	4	85	14	4	0,27
32	35-38	40	140	16	4	100	18	4	0,54
40	43-44,5	48	150	16	4	110	18	4	0,61
50	53,56	58	165	16	4	125	18	4	0,73
65	69	73	185	16	4	145	18	4	0,90
80	84-86	90	200	18	5	160	18	8	1,08
100	104-106	110	220	18	5	180	18	8	1,23
125	129-131	135	250	18	5	210	18	8	1,52
150	154-156	160	285	18	5	240	22	8	1,90
200	204-206	212	340	20	5	295	22	8	2,71
250	254-256	262	395	22	5	350	22	12	3,70
300	304-306	312	445	22	5	400	22	12	4,25
350	356	362	505	22	5	460	22	16	2,25
400	406	413	565	25	6	515	25	16	7,20
450	456	466	615	25	6	565	25	20	7,60
500	506	517	670	28	6	620	25	20	9,60
600	606	620	780	30	6	725	30	20	12,75
700	706	721	895	32	6	840	30	24	17,00
800	806	824	1015	36	7	950	33	24	25,60

**Composizione chimica (valori di norma):** | Chemical composition (as a rule values):

Si%	Cu%	Fe%	Mn%	Mg%	Zn%	Ni%	Ti%	Sn%	Pb%	Al%
11,5 ÷ 13,5	0,8 max	0,8 max	0,2 ÷ 0,4	0,3 max	0,5 max	0,3 max	0,15 max	0,10 max	0,15 max	Il resto (83 ÷ 87,5)

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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## FLANGE CIECHE ALLUMINIO

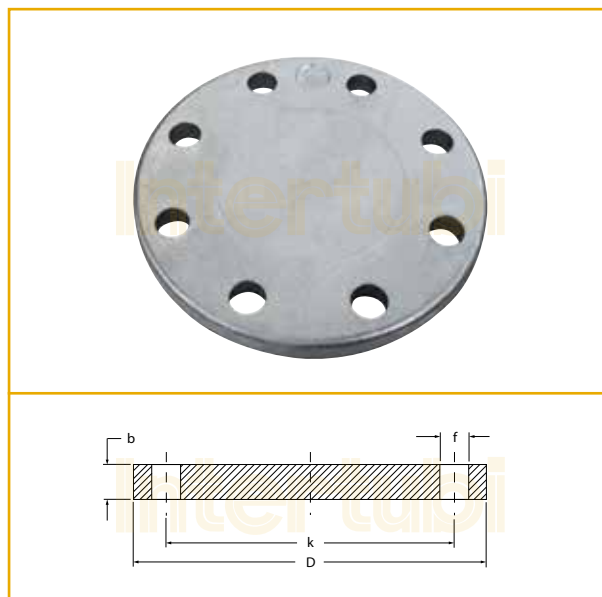
### CARATTERISTICHE TECNICHE

Dimensioni compatibili con norma EN 1092-1/02 PN 10 (DIN 2642)  
 Materiale: lega di alluminio EN AB 47000 (EX UNI 7369)  
 Finitura delle superfici: grezze (verniciatura epossidica a richiesta)  
 CERTIFICATI EN 10204/2.1

## BLIND ALUMINIUM FLANGES

### TECHNICAL INFORMATION

Dimensions compatible with EN 1092-1/02 PN 10 (DIN 2642)  
 Material: aluminium alloy EN AB 47000 (EX UNI 7369)  
 Surfaces finish: blank (epossidic painting on request)  
 CERTIFICATES EN 10204/2.1



Diametro Nominale Nominal Pipe Size	Flangia Flange		Fori Holes			Peso Weight
	DN	Ø D	b	Ø K	Ø f	nr.
10	90	12	60	14	4	0,19
15	95	12	65	14	4	0,20
20	105	12	75	14	4	0,27
25	115	12	85	14	4	0,30
32	140	16	100	18	4	0,60
40	150	16	110	18	4	0,70
50	165	16	125	18	4	0,85
65	185	16	145	18	4	1,08
80	200	18	160	18	8	1,35
100	220	18	180	18	8	1,70
125	250	18	210	18	8	1,21
150	285	18	240	22	8	2,90
200	340	20	295	22	8	4,60
250	395	22	350	22	12	6,70
300	445	22	400	22	12	8,60
350	505	22	460	22	16	10,70
400	565	25	515	25	16	14,50
450	615	25	565	25	20	16,00
500	670	28	620	25	20	22,40

Composizione chimica (valori di norma): | Chemical composition (as a rule values):

Si%	Cu%	Fe%	Mn%	Mg%	Zn%	Ni%	Ti%	Sn%	Pb%	Al%
11,5 ÷ 13,5	0,8 max	0,8 max	0,2 ÷ 0,4	0,3 max	0,5 max	0,3 max	0,15 max	0,10 max	0,15 max	Il resto (83 ÷ 87,5)

**CARTELLE A SALDARE**
**CARATTERISTICHE TECNICHE**

Dimensioni tipo EN 1092-1 tipo 33, con altezza secondo quanto esposto in tabella

Marcatura: marchio produttore, numero colata, dimensioni, tipo di acciaio.

CERTIFICATI EN 10204/2.2

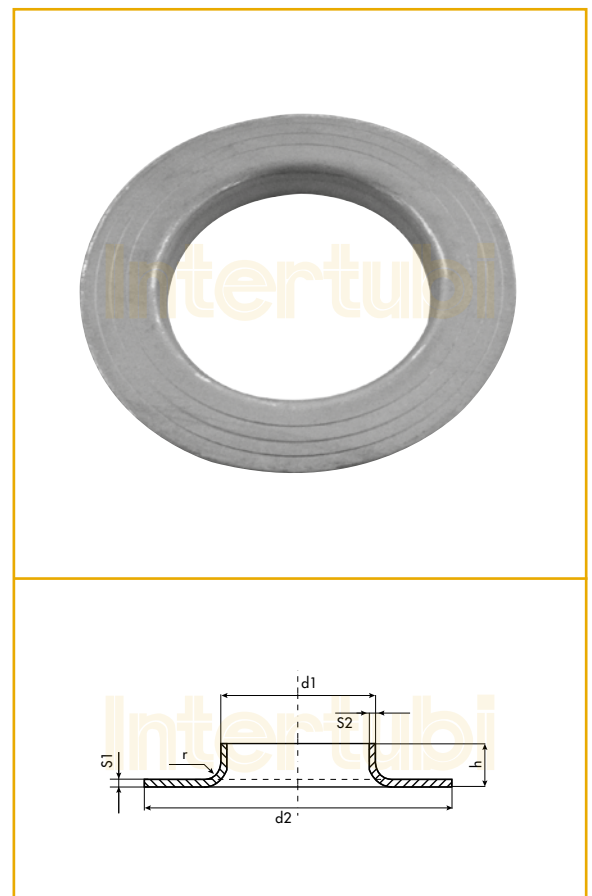
**WELDING COLLARS**
**TECHNICAL INFORMATION**

Dimensions type EN 1092-1 type 33, with length according to the size-table

Marking: Producer's name, heat number, dimensions, steel.

CERTIFICATES EN 10204/2.2

DN	Ø D <sub>1</sub>	D <sub>2</sub>	H*	Peso Weight Kg		
				2,00 mm	3,00 mm	4,00 mm
15	21,3	45	6	0,02	0,03	//
20	26,9	58	8	0,04	0,06	0,08
25	33,7	68	9	0,05	0,07	0,10
32	42,4	78	10	0,07	0,10	0,14
40	48,3	88	10	0,08	0,12	0,16
	54	105	11	0,10	//	//
50	60,3	102	12	0,11	0,16	0,22
65	76,1	122	12	0,14	0,21	0,29
	84	138	13	0,16	//	//
80	88,9	139	12	0,19	0,28	0,37
	101,6	150	12	0,20	0,29	//
	104	158	16	0,28	//	//
100	114,3	158	16	0,21	0,32	0,43
	129	188	15	0,25	//	//
125	139,7	188	16	0,28	0,42	0,56
	154	212	19	0,30	//	//
	156	212	19	//	0,35	//
150	168,3	212	17	0,32	0,48	0,64
	204	268	21	0,35	//	//
	206	268	21	//	0,38	//
200	219,1	270	18	0,47	0,71	0,94
	254	320	24	0,50	//	//
	256	320	24	//	0,54	//
250	273,0	320	18	0,56	0,84	1,11
	304	372	20	0,60	//	//
	306	372	20	//	0,63	//
300	323,9	370	19	0,64	0,96	1,28
350	355,6	430	21	1,01	1,52	2,02
400	406,4	482	21	//	1,77	2,36
450	457,2	532	25	//	2,08	2,78
500	508	585	27	//	2,29	3,05
600	609,6	685	28	//	2,72	3,63



// = Non fornibile | Not supplied

\* Altezza non prevista norma EN 1092-1

\* Height not provided by the standard EN 1092-1

## CARTELLE A SALDARE A RICHIESTA

### CARATTERISTICHE TECNICHE

Dimensioni in accordo EN 1092-1 tipo 37, ricavate da tubo saldato o lamiera

Marcatura: marchio produttore, numero colata, dimensioni, tipo di acciaio.

CERTIFICATI EN 10204/2.2

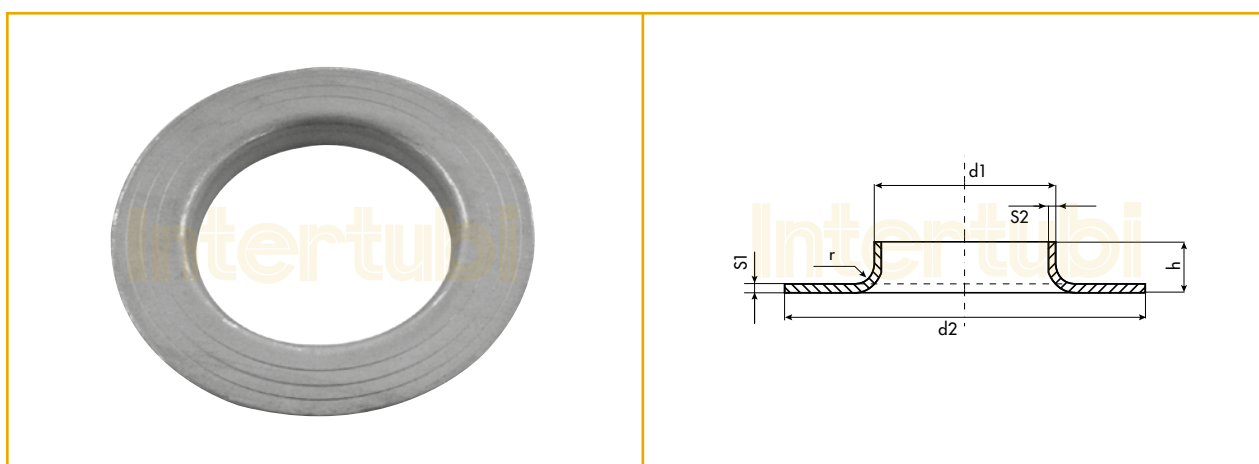
## WELDING COLLARS ON REQUEST

### TECHNICAL INFORMATION

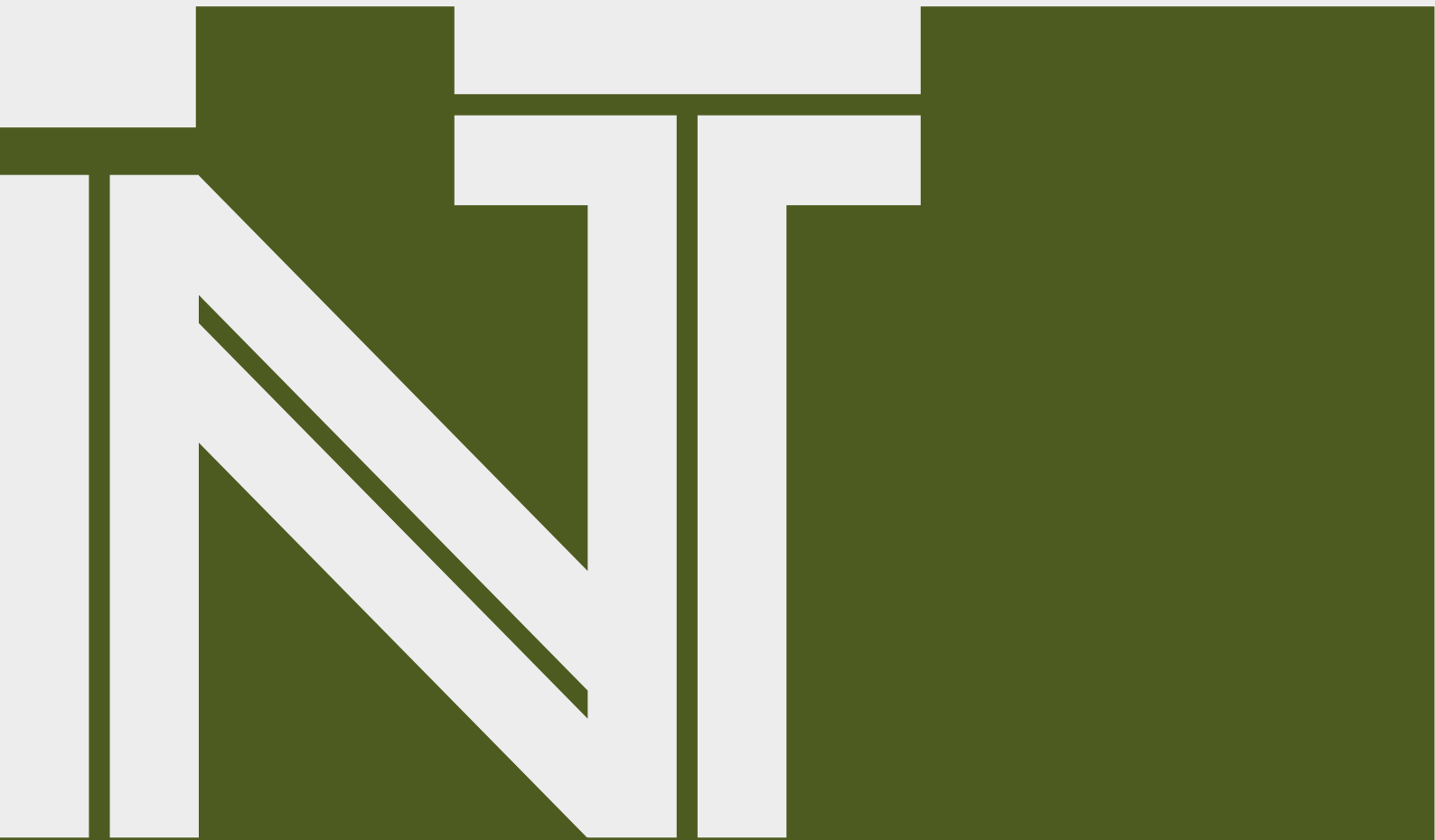
Dimensions according to EN 1092-1 type 37, made from welded pipe or plate

Marking: Producer's name, heat number, dimensions, steel.

CERTIFICATES EN 10204/2.2



DN	$\varnothing D_1$	$D_2$	H	S1	S2	Peso Weight kg
15	21,3	45	7	2,5	2,0	0,03
20	26,9	58	8	3	2	0,06
25	33,7	68	10	3	2	0,08
32	42,4	78	12	3	2	0,10
40	48,3	88	15	3	2	0,13
50	60,3	102	20	4	3	0,18
65	76,1	122	20	4	3	0,24
80	88,9	139	25	4	3	0,31
100	114,3	158	25	4	3,2	0,49
125	139,7	188	25	4	3,2	0,64
150	168,3	212	25	4	3,5	0,80
200	219,1	270	30	5	4,5	1,59





**ACCIAIO INOX | STAINLESS STEEL**

**RACCORDERIA FILETTATA ISO 4144**  
**THREADED FITTINGS ISO 4144**

**INFORMAZIONI GENERALI | GENERAL INFORMATION**

I raccordi filettati forniti da Intertubi si distinguono in due diverse tipologie: **Tipo standard ISO 4144** e **Tipo pesante EN-10241**  
*The threaded fittings provided by INTERTUBI are divided into two different types: **Standard Type ISO 4144** and **Heavy Type EN-10241***

**ISO 4144 TOLLERANZE | TOLERANCES:**

I valori riportati nelle tabelle sulla lunghezza sono valori minimi e si applicano per tutti i raccordi.  
*The length values shown in the tables are minimum values and they are applied for all fittings.*

Il Diametro esterno e interno indicato nelle tabelle è un valore minimo e si applica per tutti i raccordi.  
*Outside and inside diameter shown in the tables is a minimum value and is applied for all fittings.*

Le tolleranze sullo spessore di parete devono essere le seguenti:  
*Tolerances on wall thickness must be the following:*

DIMENSIONI / DIMENSIONS:	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>ISO-4144</b> Valori minimi / Minimum values	1,5	1,5	1,5	1,6	1,7	1,9	2,2	2,4	2,7	3,2	3,6	4,1

**EN-10241 TOLLERANZE | TOLERANCES**

Le tolleranze sulla lunghezza del raccordo:  
*Tolerances on fitting length:*

DIMENSIONI / DIMENSIONS: mm	Fino a 25 compresso	> di 25 fino a 40	> di 40 fino a 65	> di 6 fino a 75	> di 75 fino a 150	> di 150
<b>Tolleranze</b> <i>Tolerances</i>	+1,5 0	+3,0 0	+4,5 0	+6,0 0	+8,0 0	+10,0 0

Il Diametro esterno e interno indicato nelle tabelle è un valore minimo e si applica per tutti i raccordi.  
*Outside and inside diameter shown in the tables is a minimum value and is applied for all fittings.*

Le tolleranze sullo spessore di parete devono essere le seguenti:  
*Tolerances on wall thickness must be the following:*

DIMENSIONI / DIMENSIONS:	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
<b>Serie media</b>	2,0	2,3	2,3	2,6	2,6	3,2	3,2	3,2	3,6	3,6	4,0	4,5
<b>Serie pesante</b>	2,6	2,9	2,9	3,2	3,2	4,0	4,0	4,0	4,5	4,5	5,0	5,4
<b>Tolleranze / Tolerances</b>	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%	+0 -12,5%

**CARATTERISTICHE TECNICHE | TECHNICAL INFORMATION**
**TIPO STANDARD ISO 4144 | STANDARD TYPE ISO 4144**

Esecuzione: Microfusione  
 Dimensioni e tolleranze in accordo ISO 4144  
 Filettatura: conforme a EN 10226-1 (EX ISO 7-1) (filetto maschio conico, filetto femmina cilindrico)  
 Acciaio: AISI 316/EN 1.4401  
 Pressione desercizio: 150 Lbs

Execution: Microcasting  
 Dimensions and tolerances according ISO 4144  
 Thread: according to EN 10226-1 (EX ISO 7-1) (conical male thread, cylindrical female thread)  
 Steel: AISI 316/EN 1.4401  
 Rate pressure: 150 Lbs

**Certificati EN 10204/2.1 | Certificates: EN 10204/2.1**

**TIPO PESANTE EN-10241 | HEAVY TYPE EN-10241**

Esecuzione: Microfusione  
 Caratteristiche dimensionali tipo EN-10241  
 Filettatura: conforme a EN 10226-1 (EX ISO 7-1) (filetto maschio conico, filetto femmina cilindrico)  
 Acciaio: AISI 316/EN 1.4401  
 Pressione desercizio: 150 Lbs

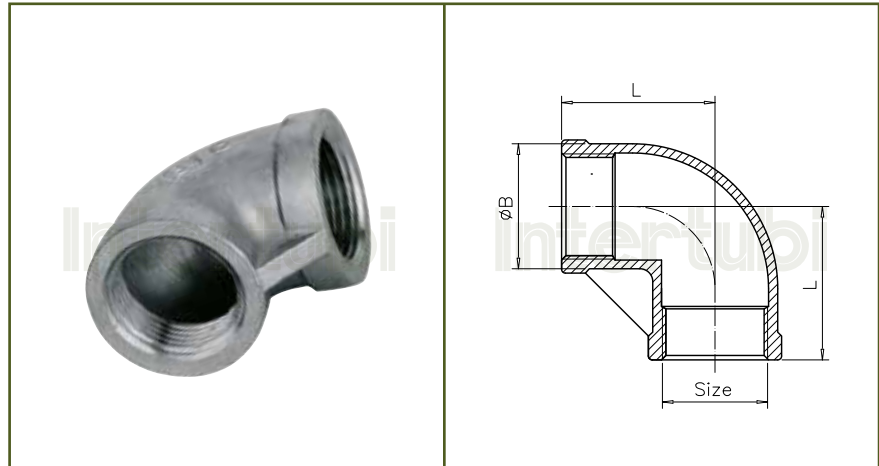
Execution: Microcasting  
 Dimensional characteristics type to EN-10241  
 Thread: according to EN 10226-1 (EX ISO 7-1) (conical male thread, cylindrical female thread)  
 Steel: AISI 316/EN 1.4401  
 Rate pressure: 150 Lbs

**Certificati EN 10204/2.1 | Certificates: EN 10204/2.1**



**IF 90 GOMITO**  
ISO 4144

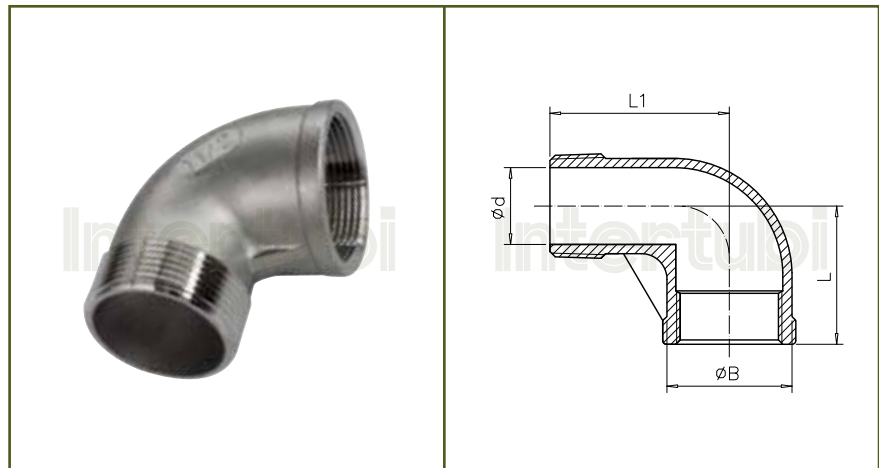
**ELBOW F/F**  
ISO 4144



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
B	13	16.5	20	25.2	30	37.5	46.5	53	65.5	82	95.5	121.5
L	17	19	23	27	32	38	45	48	57	69	78	96

**IF 92 GOMITO M/F**  
ISO 4144

**STREET ELBOW M/F**  
ISO 4144



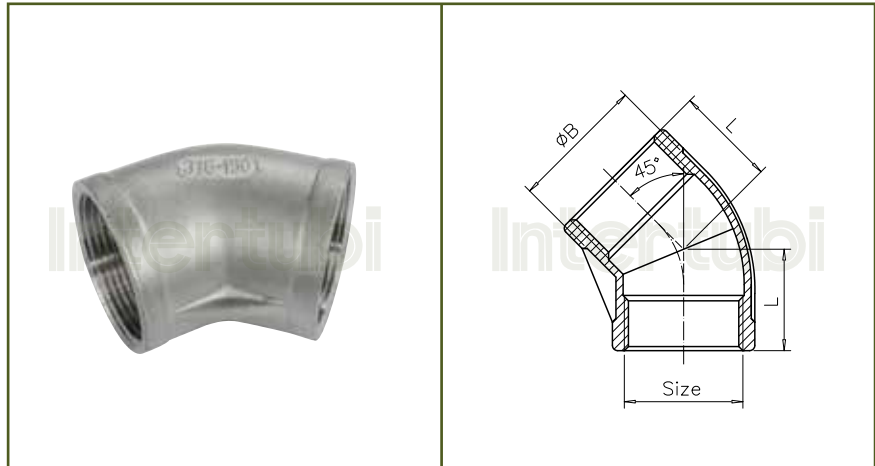
Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
B	13	16.7	19.7	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
d	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	101.5
L	17	19	23	27	32	38	45	48	57	69	78	97
L1	26	27	29	35	40	46	54	57	70	83	94	115

**IF 120 GOMITO 45°**

ISO 4144

**ELBOW 45°**

ISO 4144



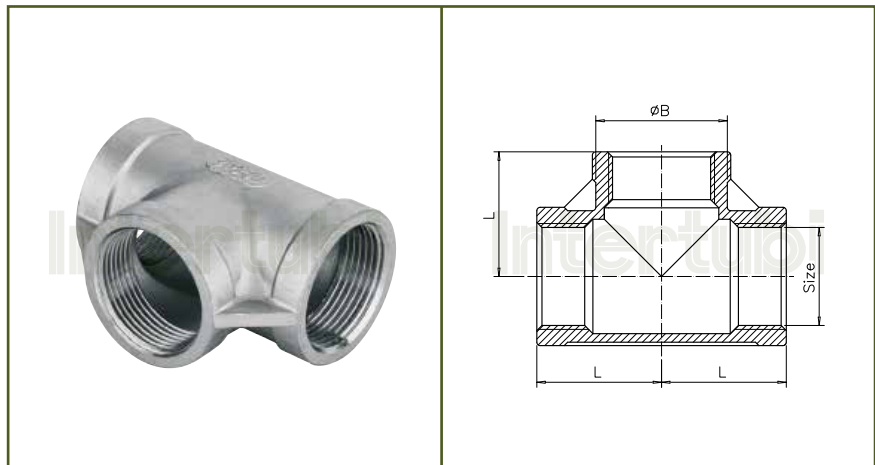
Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
B	13	16.5	19.7	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	16	17	19	21	25	29	33	37	42	49	54	64

**IF 130 TEE**

ISO 4144

**TEE**

ISO 4144

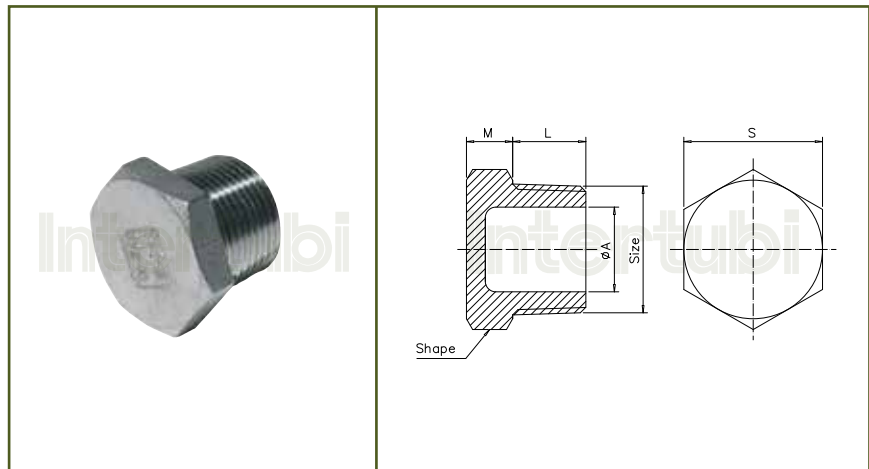


Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
B	13	16.5	20	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	17	19	23	27	32	38	45	48	57	69	78	96

**IF 292 TAPPO MASCHIO**  
ISO 4144

**HEX PLUG**  
ISO 4144

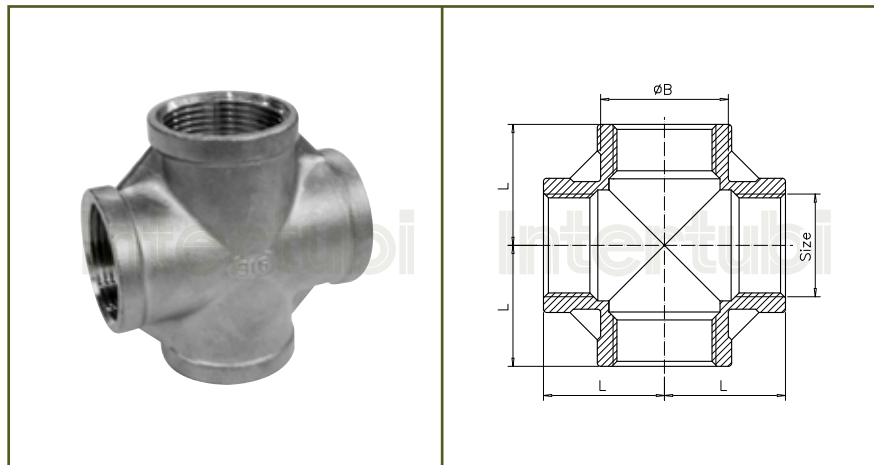
Forma | Shape:  
1/8" - 1/2" Esagono - Hexagon  
3/4" - 4" Ottagono - Octagon



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
A	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	101.5
S	12.5	15	18.5	22.5	28	35	44	50.5	62.5	78.5	92	118
M	4	4	5	5	5.5	6	6.5	6.5	7	7	7.5	8
L	8	10.5	11	14.5	15.5	18	20.5	20.5	25	27	30	36

**IF 180 CROCE FEMMINA**  
ISO 4144

**CROSS**  
ISO 4144



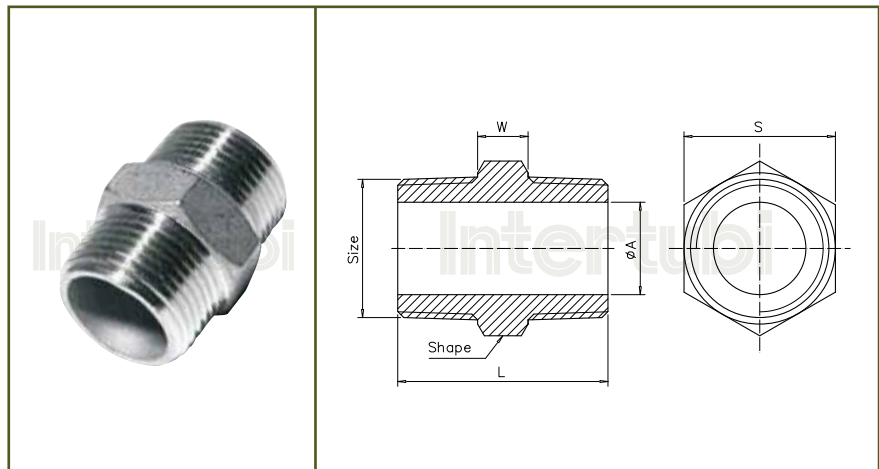
Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø B	13.7	16.7	20.7	25.2	30.7	38.2	47.5	54	66.5	83.5	97	123
L	17	19	23	27	32	38	45	48	57	69	78	97

**IF 280 NIPPLO**

ISO 4144

**NIPPLE**

ISO 4144



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
L	20	25	27	34	36.5	42	47.5	47.5	57	61	67.5	80
A	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	101.5
S	11	15	18	22	28	35	43.5	49.5	62	77.5	90.5	117
W	4	4	5	5	5.5	6	6.5	6.5	7	7	7.5	8

**IF 290 TAPPO  
TESTA QUADRA**

ISO 4144

**SQUARE PLUG**

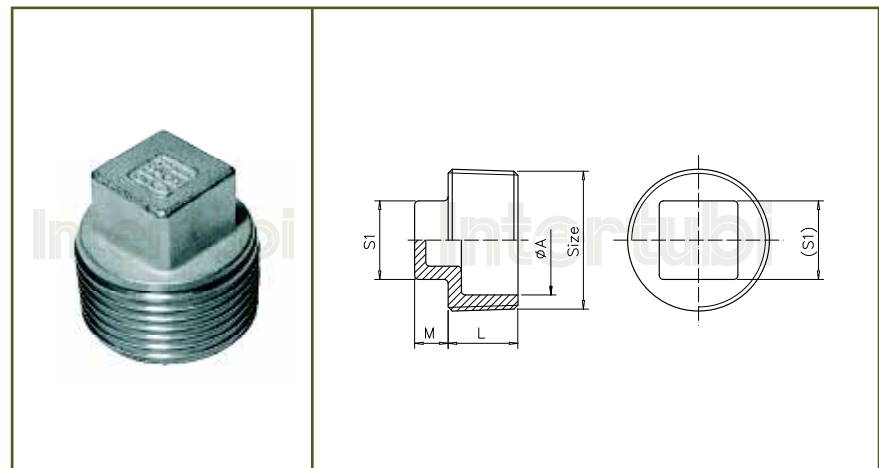
ISO 4144

Forma | Shape:

1/8" - 1/2" Esagono - Hexagon

3/4" - 2" Ottagono - Octagon

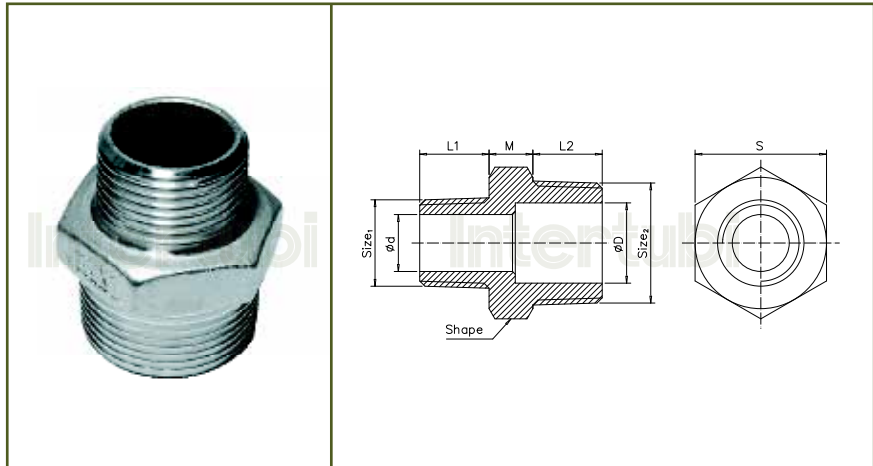
2 1/2" - 4" Decagono - Decagon



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
L	6	8.5	9	11.5	13	14.5	17	17	21.5	23.5	26.5	32.5
S1	7	9	10	11	15	18	20.5	22	28	32	36	42
A	5.5	8	11.5	15	20.5	26.5	34.5	40	51	65.5	77.5	101.5
M	5	5	6	7	8	11	11	12	13	15	15	19

**IF 245 NIPPLO RIDOTTO**  
ISO 4144

**RED NIPPLE**  
ISO 4144



Size 1	*			*			*			*							
	1/4"	3/8"		1/2"			3/4"			1"			1 1/4"				
Size 2	1/8"	1/8"	1/4"	1/8"	1/4"	3/8"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	3/4"	1/2"	3/4"	3/4"	1"
L1	8	8	10.5	8	10.5	11	10.5	11	14.5	10.5	11	14.5	15.5	14.5	15.5	15.5	18
L2	10.5	11	11	14.5	14.5	14.5	14.5	15.5	15.5	14.5	18	18	18	18	18	20.5	20.5
M	4	5	5	5	5	5	5	5.5	5.5	5	6	6	6	6	6	6.5	6.5
d	5.5	5.5	8	5.5	8	11.5	8	11.5	15	8	11.5	15	20.5	15	20.5	20.5	26
D	8	11.5		15			20.5			26			34.5				

Size 1	*			*					*		*			
	1 1/2"			2"					2 1/2"		3"		4"	
Size 2	1/2"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	3"
L1	14.5	15.5	18	20.5	15.5	18	20.5	20.5	20.5	25	25	27	27	30
L2	18	18	20.5	20.5	18	25	25	25	27	27	30	30	36	36
M	6	6	6.5	6.5	6	7	7	7	7	7	7.5	7.5	8	8
d	15	20.5	26	34.5	20.5	26	34.5	40	40	51	51	65.5	65.5	77.5
D	40			51					65.5		77.5		101.5	

\* Dimensione non standard | Means the size is not standard

Forma | Shape:

1/8" - 1/2" Esagono - Hexagon

3/4" - 2" Ottagono - Octagon

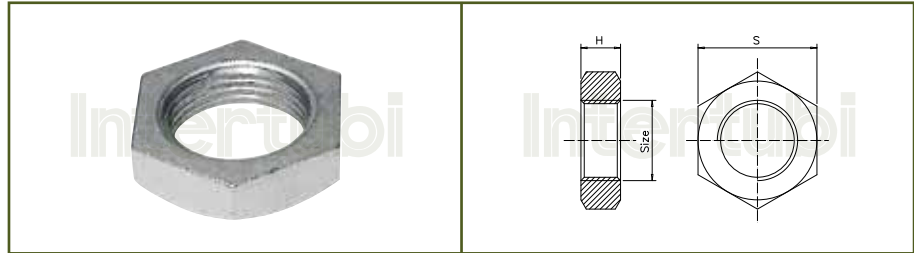
2 1/2" - 4" Decagono - Decagon

**IF 310 CONTRODADO**

ISO 4144

**BACK NUT**

ISO 4144



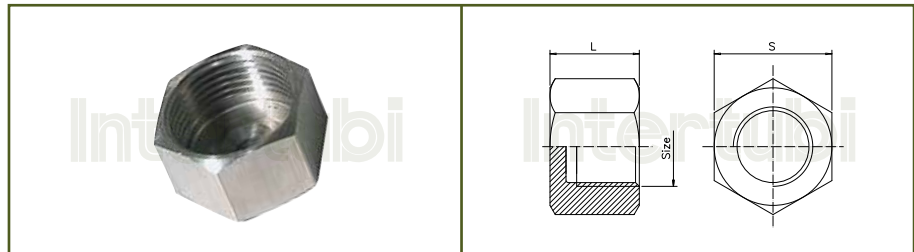
Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
H	5	6	6	7	7	9	11	11	13	15	17	19
S	16	18	24	30	34	42.5	52	58	72	85	100	125

**IF 300 CALOTTA ESAGONALE**

ISO 4144

**HEXAGONAL CAP**

ISO 4144



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
S	13	16.5	20	24.5	30	37.5	46.5	53	65.5	82	95.5	121.5
L	12.5	16	16.5	21	22.5	26	29	29	33.5	38.5	42	48.5

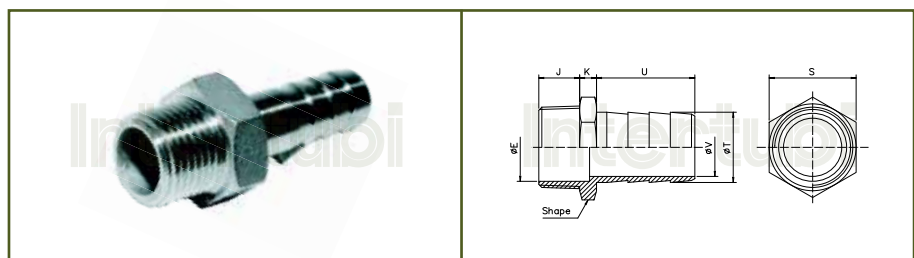
Forma | Shape: 1/8" - 1/2" Esagono - Hexagon 3/4" - 2" Ottagono - Octagon 2 1/2" - 4" Decagono - Decagon

**IF 344 PORTAGOMMA**

ISO 4144

**HOSE NIPPLE**

ISO 4144

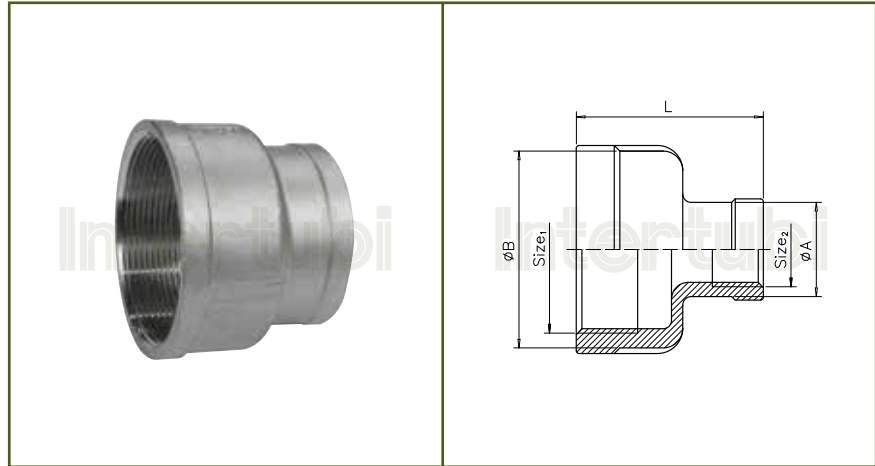


Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
E	5.5	8	11.5	15	20.5	26	34.5	40	51	65.5	77.5	102
J	8	10.5	11	14.5	15.5	18	20.5	20.5	25	27	30	34.5
K	4	4	5	5	5.5	6	6.5	6.5	7	7	7.5	9.5
U	23	28	33	38	45	52	52	56	60	65	70	73
V	4	5	7	10.5	16	22	27.5	34.5	46	59	71	95
T	8	9	11	15	21	27	33	39.5	52	67	80	105
S	11	15	18	22	28	35	44	50	61.5	78	90	117

Forma | Shape: 1/8" - 1/2" Esagono - Hexagon 3/4" - 2" Ottagono - Octagon 2 1/2" - 4" Decagono - Decagon

**IF 240 MANICOTTO  
RIDOTTO**  
ISO 4144

**REDUCING COUPLING**  
ISO 4144



Size 1	1/4"			3/8"			1/2"			3/4"				1"			1 1/4"		
Size 2	1/8"	1/8"	1/4"	1/8"	1/4"	3/8"	1/8"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"	3/4"	1/2"	3/4"	1"		
A	13	13	16.5	13	16.5	20	13	16.5	20	24.5	16.5	20	24.5	30	24.5	30	37.5		
B	16.5		20	24.5			30				37.5			46.5					
L	25		26	34			36				42			48					

Size 1	1 1/2"			2"				2 1/2"		3"		4"		
Size 2	1/2"	3/4"	1"	1 1/4"	3/4"	1"	1 1/4"	1 1/2"	1 1/2"	2"	2"	2 1/2"	2 1/2"	3"
A	24.5	30	37.5	46.5	30	37.5	46.5	53	53	65.5	65.5	82	82	95.5
B	53			65.5				81.5		95.5		121.5		
L	52			58				65		72		94		

\* Dimensione non standard | Means the size is not standard

**IF 340 BOCCHETTONE F/F**  
 ISO 4144

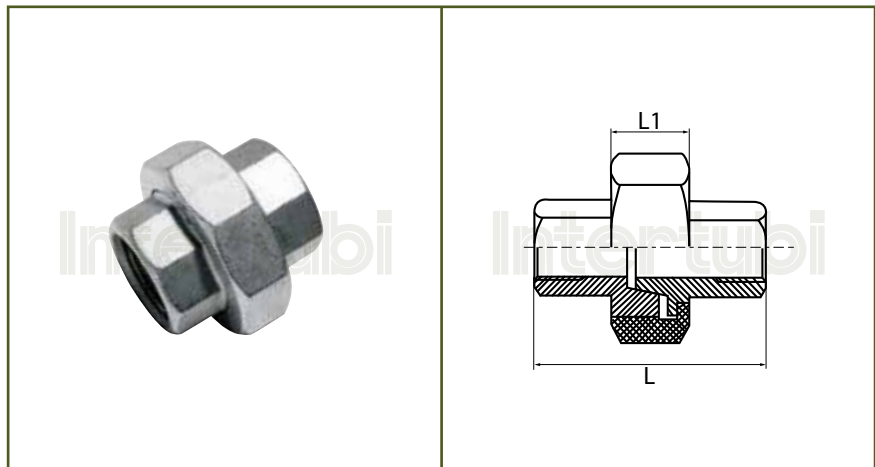
**UNION CONICAL F/F**  
 ISO 4144

Forma | Shape:

1/8" - 1/2" Esagono - Hexagon

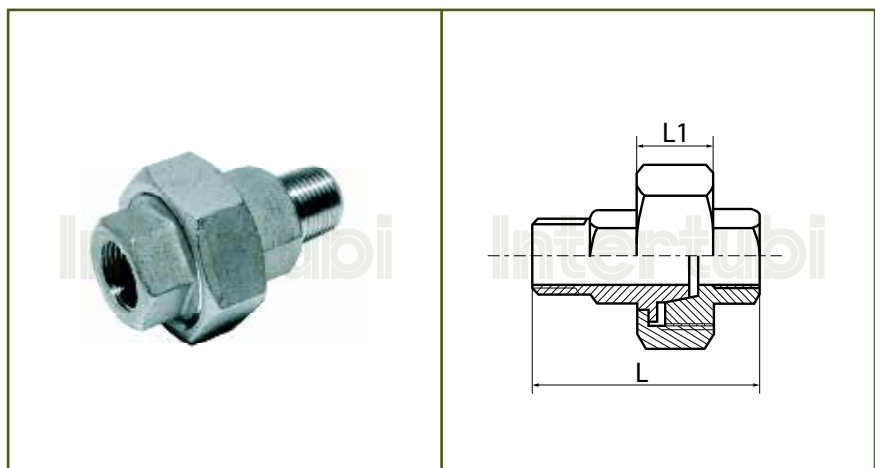
3/4" - 2" Ottagono - Octagon

2 1/2" - 4" Decagono - Decagon



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
L1	13	13.5	15	16	17	20	22	24	27	29.5	31	34
L	30	33.5	36.5	39.5	42.5	50	54	58	65	75	83	110
SP/THK	1.5	1.5	1.5	1.6	1.7	1.9	2.2	2.4	2.7	3.2	3.6	4.1

**IF 341 BOCCHETTONE M/F**  
 ISO 4144

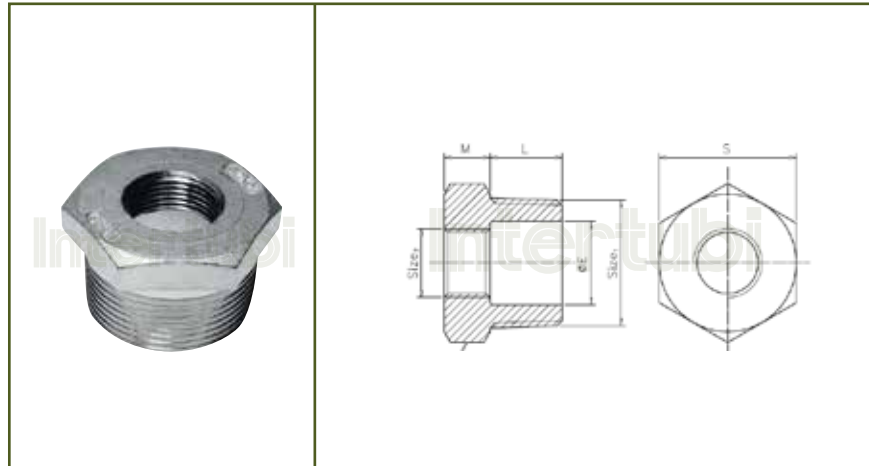
**UNION CONICAL M/F**  
 ISO 4144


Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
L1	13	13.5	15	16	17	20	22	24	27	29.5	31	34
L	38	44	47.5	54	58	68	74.5	78.5	90	102	113	146
SP/THK	1.5	1.5	1.5	1.6	1.7	1.9	2.2	2.4	2.7	3.2	3.6	4.1



**IF 241 RIDUZIONE M/F**  
ISO 4144

**BUSHING M/F**  
ISO 4144



Size 1	1/4"		3/8"			1/2"			3/4"			1"			1 1/4"		
	1/8"	1/8"	1/4"	1/8"	1/4"	3/8"	1/8"	3/8"	1/2"	1/4"	3/8"	1/2"	3/4"	1/2"	3/4"	1"	
S	14.5	18.5		22.5			28			35			44				
E	8	11.5		15			20.5			26			34.5				
L	10.5	11		14.5			15.5			18			20.5				
M	4	5		5			5.5			6			6.5				

Size 1	1 1/2"			2"					2 1/2"		3"			4"	
	1/2"	3/4"	1"	1 1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 1/2"	2"	1 1/2"	2"	2 1/2"	2 1/2"
S	49.5			61.5					77.5		90.5			116.5	
E	40			51					65.5		77.5			101.5	
L	20.5			25					27		30			36	
M	6.5			7					7		7.5			8	

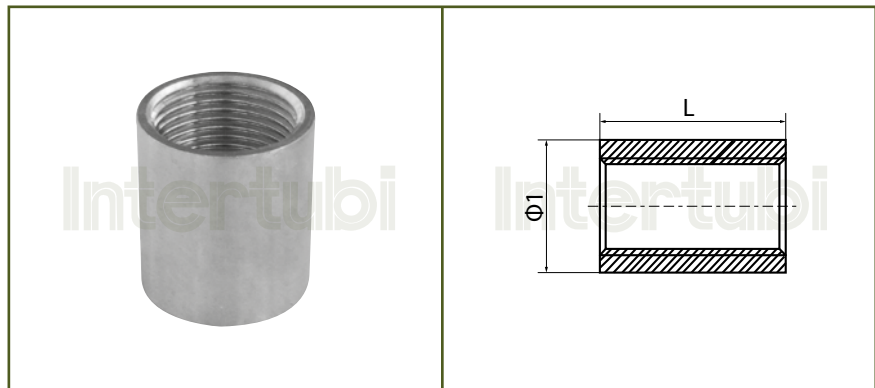
\* Dimensione non standard | Means the size is not standard

Forma | Shape:

1/8" - 1/2" Esagono - Hexagon

3/4" - 2" Ottagono - Octagon

2 1/2" - 4" Decagono - Decagon

**IF 270 MANICOTTO  
IF 274 MANICOTTO  
EN 10241**
**COUPLING  
EN 10241**


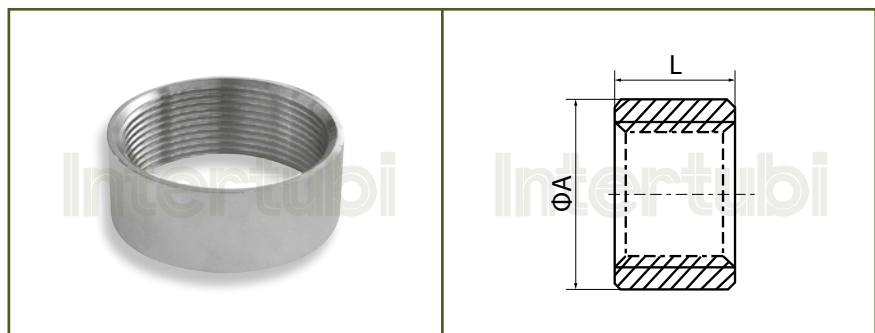
Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø 1	15	18,5	21,3	26,6	31,8	39,5	48,3	54,5	66,2	82	95	121
L	17	25	26	34	36	43	48	48	56	65	71	83

**CARATTERISTICHE TECNICHE:**

Esecuzione: microfusione  
 Dimensioni: tipo EN 10241 (EX DIN 2986)  
 Filettatura: conforme a EN 10226-1 (EX ISO 7-1)  
 Acciaio: AISI 316/EN 1.4401, AISI 304/EN 1.4301  
 Pressione d'esercizio: 150 Lbs  
 Certificati EN 10204/2.1

**TECHNICAL INFORMATION:**

Execution: microcasting  
 Dimensional standard: type EN 10241 (EX DIN 2986)  
 Thread: according to EN 10226-1 (EX ISO 7-1)  
 Steel: AISI 316/EN 1.4401, AISI 304/EN 1.4301  
 Rate pressure: 150 Lbs  
 Certificates EN 10204/2.1

**IF 168 MEZZO MANICOTTO  
EN 10241**
**HALF COUPLING  
EN 10241**


Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø A	15	18,5	21,3	26,6	31,8	39,5	48,3	54,5	66,2	82	95	121
L	8	11	12	15	17	20	22	22	26	30	34	40

**CARATTERISTICHE TECNICHE:**

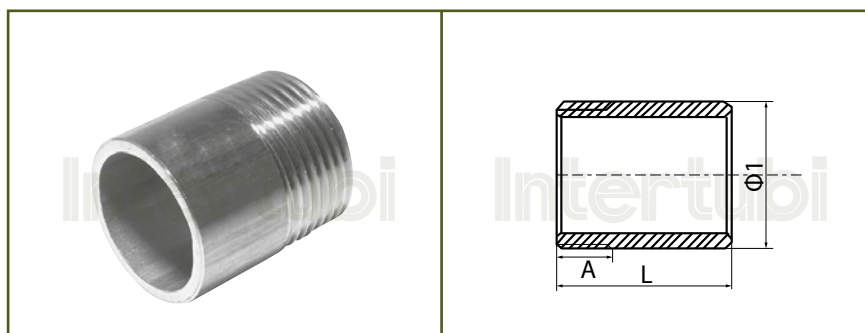
Esecuzione: microfusione  
 Dimensioni: tipo EN 10241 (EX DIN 2986)  
 Filettatura: conforme a EN 10226-1 (EX ISO 7-1)  
 Acciaio: AISI 316/EN 1.4401  
 Pressione d'esercizio: 150 Lbs  
 Certificati EN 10204/2.1

**TECHNICAL INFORMATION:**

Execution: microcasting  
 Dimensional standard type EN 10241 (EX DIN 2986)  
 Thread: according to EN 10226-1 (EX ISO 7-1)  
 Steel: AISI 316/EN 1.4401  
 Rate pressure: 150 Lbs  
 Certificates EN 10204/2.1

**IF 600 TRONCHETTO**  
**IF 604 TRONCHETTO**  
EN 10241

**WELDING NIPPLE**  
EN 10241



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø 1	10	14	17,2	21,4	26,7	33,4	42,2	48,3	60,4	73,1	88,9	114,3
A	11	11	12	15	17	20	21	21	26	28	31	35
L	30	30	30	35	40	40	50	50	50	60	70	80
SP/THK	2,0	2,2	2,3	2,77	2,87	3,38	3,56	3,68	3,91	5,16	5,49	5,87

**CARATTERISTICHE TECNICHE:**

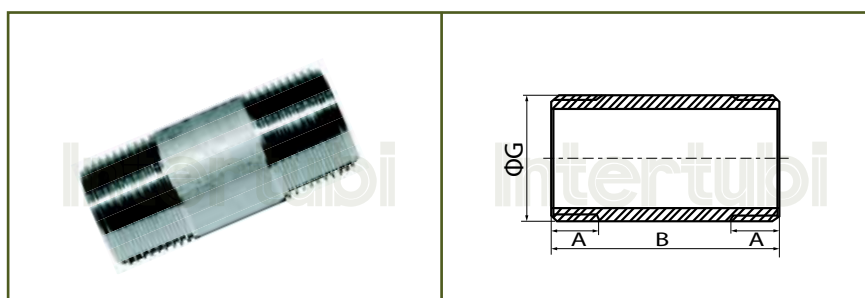
Ricavato da tubo saldato (SCH 40)  
Dimensioni e tolleranze EN 10241 (EX DIN 2982)  
Filettatura: conforme a EN 10226-1 (EX ISO 7-1)  
Acciaio: AISI 316/EN 1.4401, AISI 304/EN 1.4301  
Pressione d'esercizio: 150 Lbs-PN10  
Certificati EN 10204/2.1

**TECHNICAL INFORMATION:**

Made from pipes welded (SCH 40)  
Dimensions and tolerances type EN 10241 (EX DIN 2982)  
Thread: according to EN 10226-1 (EX ISO 7-1)  
Steel: AISI 316/EN 1.4401, AISI 304/EN 1.4301  
Rate pressure: 150 Lbs-PN10  
Certificates EN 10204/2.1

**IF 530 BARILOTTO**  
EN 10241

**BARREL NIPPLE**  
EN 10241



Size mm	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
G	10	14	17,2	21,4	26,7	33,4	42,2	48,3	60,4	73,1	88,9	114,3
A	11	11	12	15	17	20	21	21	26	28	31	35
B	40	40	40	60	60	60	80	80	100	100	120	150

**CARATTERISTICHE TECNICHE:**

Ricavato da tubo saldato (SCH 40)  
Dimensioni: tipo EN 10241 (EX DIN 2982)  
Filettatura: conforme a EN 10226-1 (EX ISO 7-1)  
Acciaio: AISI 316/EN 1.4401  
Pressione d'esercizio: 150 Lbs-PN10  
Certificati EN 10204/2.1

**TECHNICAL INFORMATION:**

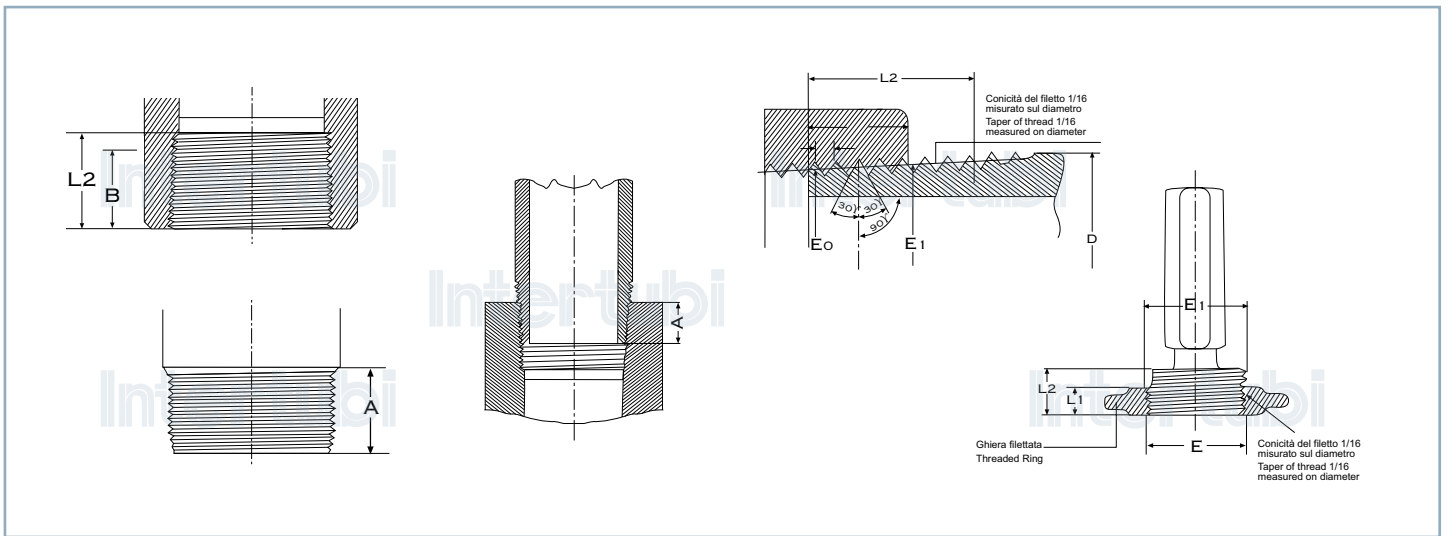
Made from pipes welded (SCH 40)  
Dimensional standard: type EN 10241 (EX DIN 2982)  
Thread: according to EN 10226-1 (EX ISO 7-1)  
Steel: AISI 316/EN 1.4401  
Rate pressure: 150 Lbs-PN10  
Certificates EN 10204/2.1



ACCIAIO INOX | STAINLESS STEEL

**RACCORDI FILETTATI ANSI B16.11 - B1.20.1**

*THREADED FITTINGS ANSI B16.11 - B1.20.1*

**CARATTERISTICHE TECNICHE**  
**TECHNICAL INFORMATION**
**LUNGHEZZA DEL FILETTO**  
**ANSI B16.11**
**LENGHT OF THREAD**  
**ANSI B16.11**
**FILETTATURA CONICA PER TUBI (NPT)**  
**ANSI B1.20.1 O API STD 5 B**
**STANDARD TAPER PIPE THREAD (NPT)**  
**ANSI B1.20.1 O API STD 5 B**


Diametro nominale Nominal pipe size	Filetto interno - Internal thread				Filetto esterno - External thread	
	B min.		L2 min.		A min.	
	mm	inches	mm	inches	mm	inches
1/8"	6.5	0.25	6.5	0.2639	9.5	0.38
1/4"	8.0	0.32	10.0	0.4018	11.0	0.44
3/8"	9.0	0.36	10.5	0.4078	12.5	0.50
1/2"	11.0	0.43	13.5	0.5337	14.5	0.56
3/4"	12.5	0.50	14.0	0.5457	16.0	0.62
1"	14.5	0.58	17.5	0.6828	19.0	0.75
1 1/4"	17.0	0.67	18.0	0.7068	20.5	0.81
1 1/2"	18.0	0.70	18.5	0.7235	20.5	0.81
2"	19.0	0.75	19.0	0.7565	22.0	0.88
2 1/2"	23.5	0.93	29.0	1.138	27.0	1.06
3"	26.0	1.02	30.5	1.200	28.5	1.12
4"	27.5	1.09	33.0	1.300	32.0	1.25

Ø nominale del tubo Nominal pipe size	Ø esterno del tubo Outside diameter of pipe mm	Num. filetti per pollice Number of threads per inch	Passo Pitch of thread mm	Ø sul filetto esterno Pitch diameter at external thread end mm	Ø sul filetto interno Pitch diameter at internal thread end mm	Lunghezza effettiva del filetto Effective threads length mm	Lunghezza serraggio a mano Length of hand tightening mm	Incremento del diametro per giro Increase in diameter per thread mm	Lunghezza del serraggio alla chiave Length of wrench tightening mm
	D	n	P	E0	E1	L2	L1		A
1/8"	10.29	27	0.940	9.233	9.489	6.703	4.102	0.0586	6.9
1/4"	13.72	18	1.411	12.126	12.487	10.205	5.786	0.0881	10
3/8"	17.14	18	1.411	15.545	15.926	10.358	6.096	0.0881	10.3
1/2"	21.34	14	1.814	19.264	19.772	13.556	8.128	0.1132	13.6
3/4"	26.67	14	1.814	24.579	25.117	13.860	8.610	0.1132	14.1
1"	33.40	11 1/2	2.209	30.826	31.461	17.343	10.160	0.1379	16.8
1 1/4"	42.16	11 1/2	2.209	39.551	40.218	17.952	10.668	0.1379	17.3
1 1/2"	48.26	11 1/2	2.209	45.621	46.287	18.377	10.668	0.1379	17.3
2"	60.32	11 1/2	2.209	57.633	58.325	19.215	11.074	0.1379	17.7
2 1/2"	73.02	8	3.175	69.076	70.159	28.892	17.322	0.1983	23.7
3"	88.90	8	3.175	84.852	86.068	30.480	19.456	0.1983	25.8
3 1/2"	101.60	8	3.175	97.472	98.776	31.750	20.853	0.1983	27.2
4"	114.30	8	3.175	110.093	111.433	33.020	21.437	0.1983	27.8

Ø nominale del tubo Nominal pipe size inches	Ø esterno del tubo Outside diameter of pipe inches	Num. filetti per pollice Number of threads per inch	Passo Pitch of thread inches	Ø sul filetto esterno Pitch diameter at external thread end inches	Ø sul filetto interno Pitch diameter at internal thread end inches	Lunghezza effettiva del filetto Effective threads length inches	Lunghezza serraggio a mano Length of hand tightening inches	Incremento del diametro per giro Increase in diameter per thread inches	Lunghezza del serraggio alla chiave Length of wrench tightening inches
	D	n	P	E0	E1	L2	L1		A
1/8"	0.405	27	0.03704	0.36351	0.37360	0.2639	0.1615	0.00231	0.2726
1/4"	0.540	18	0.05556	0.47739	0.49163	0.4018	0.2278	0.00347	0.3945
3/8"	0.675	18	0.05556	0.61201	0.62701	0.4078	0.240	0.00347	0.4067
1/2"	0.840	14	0.07143	0.75843	0.77843	0.5337	3.320	0.00446	0.5343
3/4"	1.050	14	0.07143	0.96768	0.98887	0.5457	0.339	0.00446	0.5533
1"	1.315	11 1/2	0.08696	1.21363	1.23863	0.6828	0.400	0.00543	0.6609
1 1/4"	1.660	11 1/2	0.08696	1.55713	1.58338	0.7068	0.420	0.00543	0.6809
1 1/2"	1.900	11 1/2	0.08696	1.79609	1.82234	0.7235	0.420	0.00543	0.6809
2"	2.375	11 1/2	0.08696	2.26902	2.29627	0.7565	0.436	0.00543	0.6969
2 1/2"	2.875	8	0.12500	2.71953	2.76216	1.1375	0.682	0.00781	0.9320
3"	3.500	8	0.12500	3.34062	3.38850	1.2000	0.766	0.00781	1.016
3 1/2"	4.000	8	0.12500	3.83750	3.88881	1.2500	0.821	0.00781	1.071
4"	4.500	8	0.12500	4.33438	4.33438	1.3000	0.844	0.00781	1.094

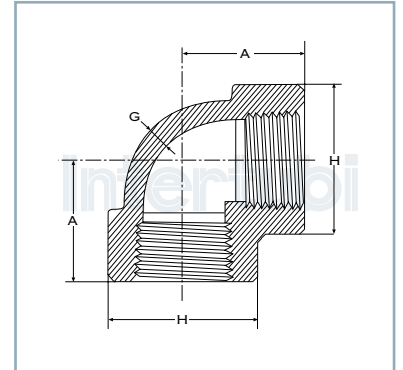
Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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**GOMITI 90°**  
 ANSI B16.11  
 3000 - 6000 LBS

**90° ELBOWS**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000						6000					
	A		H		G		A		H		G	
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	25	0.97	25	1.00	3.5	0.130	29	1.12	33	1.31	6.5	0.260
3/8"	29	1.12	33	1.31	3.5	0.138	33	1.31	38	1.50	7.0	0.275
1/2"	33	1.31	38	1.50	4.0	0.161	38	1.50	46	1.81	8.0	0.321
3/4"	38	1.50	46	1.81	4.5	0.170	44	1.75	56	2.19	8.5	0.336
1"	44	1.75	56	2.19	5.0	0.196	51	2.00	62	2.44	10.0	0.391
1 1/4"	51	2.00	62	2.44	5.5	0.208	60	2.38	75	2.97	10.5	0.417
1 1/2"	60	2.38	75	2.97	5.5	0.219	64	2.50	84	3.31	11.0	0.436
2"	64	2.50	84	3.31	7.0	0.281	83	3.25	102	4.00	12.0	0.476
2 1/2"	83	3.25	102	4.00	7.5	0.301	95	3.75	121	4.75	15.5	0.602
3"	95	3.75	121	4.75	9.0	0.348	106	4.19	146	5.75	16.0	0.655
4"	114	4.50	152	6.00	11.00	0.440	114	4.50	152	6.00	18.5	0.735

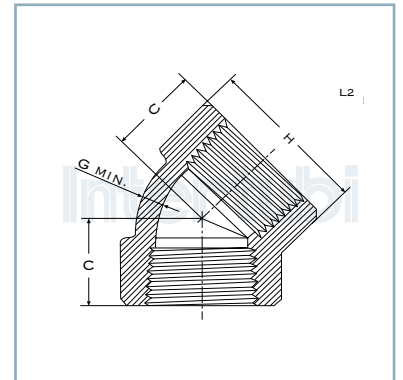


Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

**GOMITI 45°**  
 ANSI B16.11  
 3000 - 6000 LBS

**45° ELBOWS**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000						6000					
	C		H		G		C		H		G	
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	19	0.75	25	1.00	3.5	0.130	22	0.88	33	1.31	6.5	0.260
3/8"	22	0.88	33	1.31	3.5	0.138	25	1.00	38	1.50	7.0	0.275
1/2"	25	1.00	38	1.50	4.0	0.161	29	1.12	46	1.81	8.0	0.321
3/4"	29	1.12	46	1.81	4.5	0.170	33	1.31	56	2.19	8.5	0.336
1"	33	1.31	56	2.19	5.0	0.196	35	1.38	62	2.44	10.0	0.391
1 1/4"	35	1.38	62	2.44	5.5	0.208	43	1.69	75	2.97	10.5	0.417
1 1/2"	43	1.69	75	2.97	5.5	0.219	44	1.72	84	3.31	11.0	0.436
2"	45	1.72	84	3.31	7.0	0.281	52	2.06	102	4.00	12.0	0.476
2 1/2"	52	2.06	102	4.00	7.5	0.301	64	2.50	121	4.75	15.5	0.602
3"	64	2.50	121	4.75	9.0	0.348	79	3.12	146	5.75	16.5	0.655
4"	79	3.12	152	6.00	11.00	0.440	79	3.12	152	6.00	18.5	0.735



Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1



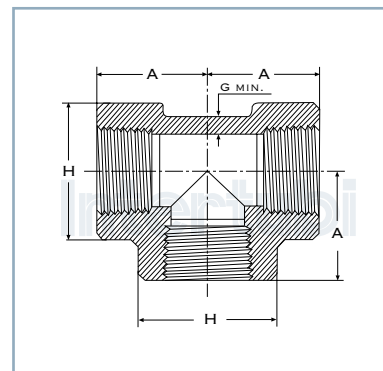
**TEES**

ANSI B16.11  
3000 - 6000 LBS

**TEES**

ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000						6000					
	A		H		G		A		H		G	
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	25	0.97	25	1.00	3.5	0.130	29	1.12	33	1.31	6.5	0.260
3/8"	29	1.12	33	1.31	3.5	0.138	33	1.31	38	1.50	7.0	0.275
1/2"	33	1.31	38	1.50	4.0	0.161	38	1.50	46	1.81	8.0	0.321
3/4"	38	1.50	46	1.81	4.5	0.170	44	1.75	56	2.19	8.5	0.336
1"	44	1.375	56	2.19	5.0	0.196	51	2.00	62	2.44	10.0	0.391
1 1/4"	51	2.00	62	2.44	5.5	0.208	60	2.38	75	2.97	10.5	0.417
1 1/2"	60	2.38	75	2.97	5.5	0.219	64	2.50	84	3.31	11.0	0.436
2"	64	2.50	84	3.31	7.0	0.281	83	3.25	102	4.00	12.0	0.476
2 1/2"	83	3.25	102	4.00	7.5	0.301	95	3.75	121	4.75	15.5	0.602
3"	95	3.75	121	4.75	9.0	0.348	106	4.19	146	5.75	16.0	0.655
4"	114	4.50	152	6.00	11.00	0.440	114	4.50	152	6.00	18.5	0.735



Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

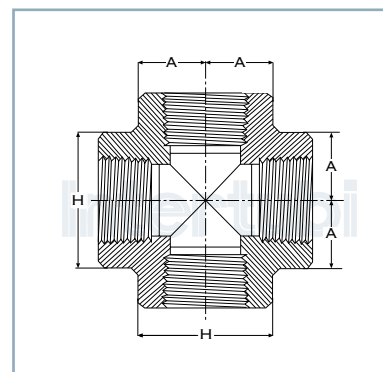
**CROCI**

ANSI B16.11  
3000 - 6000 LBS

**CROSSES**

ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000						6000					
	C		H		G		C		H		G	
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	25	0.97	25	1.00	3.5	0.130	29	1.12	33	1.31	6.5	0.260
3/8"	29	1.12	33	1.31	3.5	0.138	33	1.31	38	1.50	7.0	0.275
1/2"	33	1.31	38	1.50	4.0	0.161	38	1.50	46	1.81	8.0	0.321
3/4"	38	1.50	46	1.81	4.5	0.170	44	1.75	56	2.19	8.5	0.336
1"	44	1.375	56	2.19	5.0	0.196	51	2.00	62	2.44	10.0	0.391
1 1/4"	51	2.00	62	2.44	5.5	0.208	60	2.38	75	2.97	10.5	0.417
1 1/2"	60	2.38	75	2.97	5.5	0.219	64	2.50	84	3.31	11.0	0.436
2"	64	2.50	84	3.31	7.0	0.281	83	3.25	102	4.00	12.0	0.476
2 1/2"	83	3.25	102	4.00	7.5	0.301	95	3.75	121	4.75	15.5	0.602
3"	95	3.75	121	4.75	9.0	0.348	106	4.19	146	5.75	16.0	0.655
4"	114	4.50	152	6.00	11.00	0.440	114	4.50	152	6.00	18.5	0.735

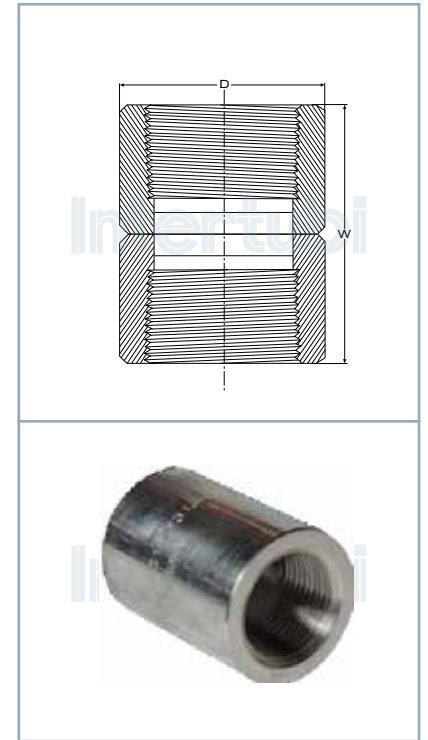


Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

**MANICOTTI**  
 ANSI B16.11  
 3000 - 6000 LBS

**COUPLINGS**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000				6000			
	W		D		W		D	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	35	1.38	19	0.75	35	1.38	25	1.00
3/8"	38	1.50	22	0.88	38	1.50	32	1.25
1/2"	48	1.88	29	1.12	48	1.88	38	1.50
3/4"	51	2.00	35	1.38	51	2.00	44	1.75
1"	60	2.38	44	1.75	60	2.38	57	2.25
1 1/4"	67	2.62	57	2.25	67	2.62	64	2.50
1 1/2"	79	3.12	64	2.50	79	3.12	76	3.00
2"	86	3.38	76	3.00	86	3.38	92	3.62
2 1/2"	92	3.62	92	3.62	92	3.62	108	4.25
3"	108	4.25	108	4.25	108	4.25	127	5.00
4"	121	4.75	140	5.50	121	4.75	159	6.25

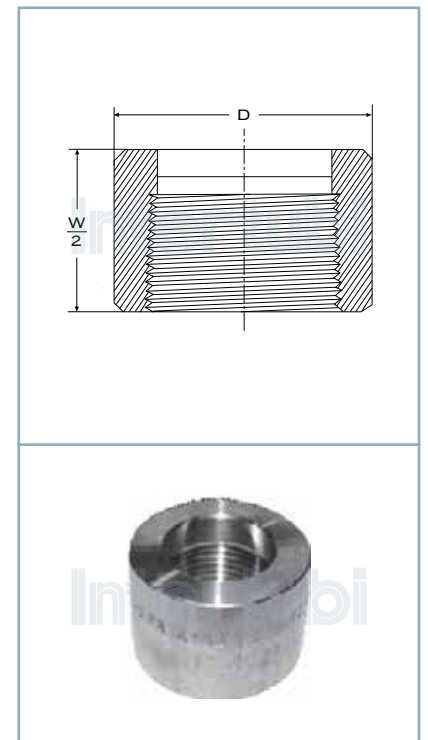


Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

**MEZZI MANICOTTI**  
 ANSI B16.11  
 3000 - 6000 LBS

**HALF-COUPLINGS**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000				6000			
	W		D		W		D	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	35	1.38	19	0.75	35	1.38	25	1.00
3/8"	38	1.50	22	0.88	38	1.50	32	1.25
1/2"	48	1.88	29	1.12	48	1.88	38	1.50
3/4"	51	2.00	35	1.38	51	2.00	44	1.75
1"	60	2.38	44	1.75	60	2.38	57	2.25
1 1/4"	67	2.62	57	2.25	67	2.62	64	2.50
1 1/2"	79	3.12	64	2.50	79	3.12	76	3.00
2"	86	3.38	76	3.00	86	3.38	92	3.62
2 1/2"	92	3.62	92	3.62	92	3.62	108	4.25
3"	108	4.25	108	4.25	108	4.25	127	5.00
4"	121	4.75	140	5.50	121	4.75	159	6.25



Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

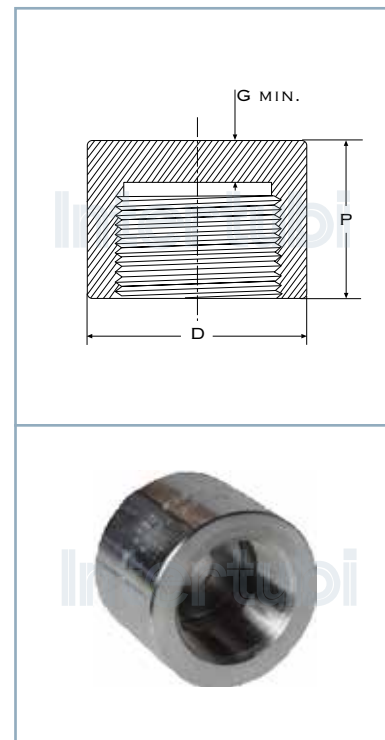
**TAPPO FEMMINA**

ANSI B16.11  
3000 - 6000 LBS

**CAPS**

ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000						6000					
	P		D		G		P		D		G	
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	25	1.00	19	0.75	5.0	0.19	27	1.06	25	1.00	6.5	0.25
3/8"	25	1.00	22	0.88	5.0	0.19	27	1.06	32	1.25	6.5	0.25
1/2"	32	1.25	29	1.12	6.5	0.25	33	1.31	38	1.50	8.0	0.31
3/4"	37	1.44	35	1.38	6.5	0.25	38	1.50	44	1.75	8.0	0.31
1"	41	1.62	44	1.75	9.5	0.38	43	1.69	57	2.25	11.0	0.44
1 1/4"	44	1.75	57	2.25	9.5	0.38	46	1.81	64	2.50	11.0	0.44
1 1/2"	44	1.75	64	2.50	11.0	0.44	48	1.88	76	3.00	12.5	0.50
2"	48	1.88	76	3.00	12.5	0.50	51	2.00	92	3.62	16.0	0.62
2 1/2"	60	2.38	92	3.62	16.0	0.62	64	2.50	108	4.25	19.0	0.75
3"	65	2.56	108	4.25	19.0	0.75	68	2.69	127	5.00	22.0	0.88
4"	68	2.69	140	5.50	22.0	0.88	75	2.94	159	6.25	28.5	1.12



Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

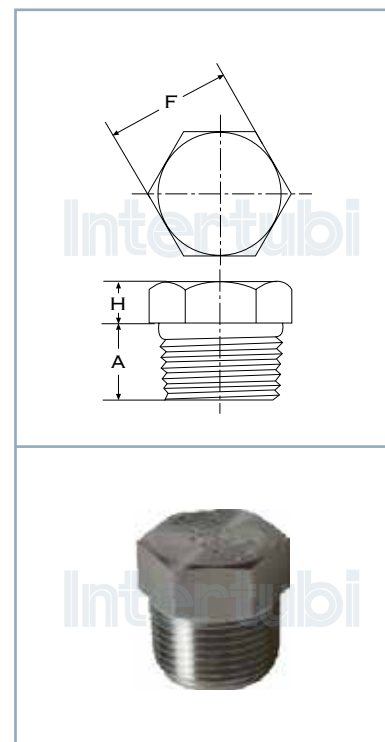
**TAPPO MASCHIO - TESTA ESAGONALE**

ANSI B16.11  
3000 - 6000 LBS

**HEXAGON HEAD PLUGS**

ANSI B16.11  
3000 - 6000 LBS

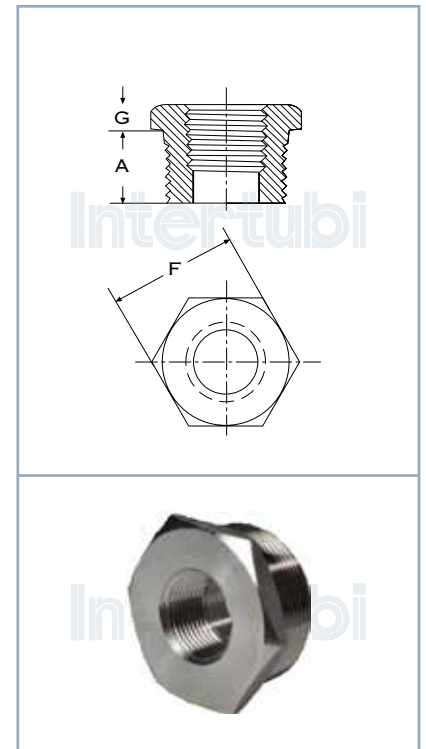
Diam. nominale Nominal pipe size	3000 - 6000					
	A min.		F nominal		H min.	
	mm	inches	mm	inches	mm	inches
1/4"	11	0.44	16.0	0.62	6	0.25
3/8"	12.5	0.50	17.5	0.69	8	0.31
1/2"	14.5	0.56	22.0	0.88	8	0.31
3/4"	16.0	0.62	27.0	1.06	10	0.38
1"	19.0	0.75	35.0	1.38	10	0.38
1 1/4"	20.5	0.81	44.5	1.75	14	0.56
1 1/2"	20.5	0.81	51.0	2.00	16	0.62
2"	22.0	0.88	63.5	2.50	17	0.69
2 1/2"	27.0	1.06	76.0	3.00	19	0.75
3"	28.5	1.12	89.0	3.50	21	0.81
4"	32.0	1.25	117.5	4.62	25	1.00



Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B1.20.1

**RIDUZIONI MASCHIO-FEMMINA**
**ANSI B16.11**  
**3000 - 6000 LBS**

Diam. nominale Nominal pipe size	3000 - 6000					
	A min.		F nominal		G min.	
	mm	inches	mm	inches	mm	inches
3/8" x 1/4"	12.5	0.50	17.5	0.69	7	0.16
1/2" x 3/8"	14.5	0.56	22.0	0.88	5	0.19
1/2" x 1/4"	14.5	0.56	22.0	0.88	5	0.19
3/4" x 1/2"	16.0	0.62	27.0	1.06	6	0.22
3/4" x 1/4"	16.0	0.62	27.0	1.06	6	0.22
1" x 3/4"	19.0	0.75	35.0	1.38	6	0.25
1" x 1/2"	19.0	0.75	35.0	1.38	6	0.25
1" x 1/4"	19.0	0.75	35.0	1.38	6	0.25
1 1/4" x 1"	20.5	0.81	44.5	1.75	7	0.28
1 1/2" x 1"	20.5	0.81	51.0	2.00	8	0.31
1 1/2" x 3/4"	20.5	0.81	51.0	2.00	8	0.31
1 1/2" x 1/2"	20.5	0.81	51.0	2.00	8	0.31
2" x 1 1/2"	22.0	0.88	63.5	2.50	9	0.34
2" x 1"	22.0	0.88	63.5	2.50	9	0.34
2 1/2" x 2"	27.0	1.06	76.0	3.00	10	0.38
3" x 2"	28.5	1.12	89.0	3.50	10	0.41
4" x 3"	32.0	1.25	117.5	4.62	13	0.50
4" x 2"	32.0	1.25	117.5	4.62	13	0.50

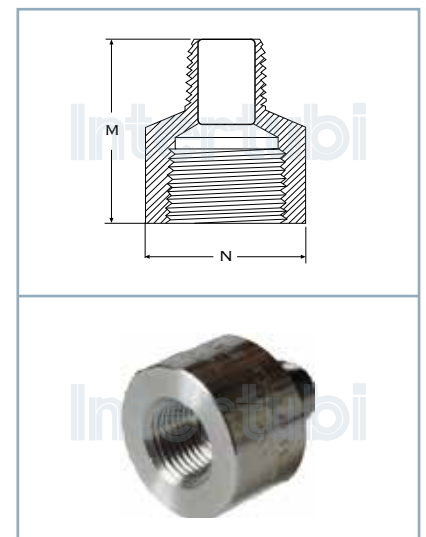
**HEX HEAD BUSHING**
**ANSI B16.11**  
**3000 - 6000 LBS**


Filettatura conforme a ANSI B1.20.1

Thread according to ANSI B1.20.1

**RIDUZIONI FEMMINA-MASCHIO**
**ANSI B16.11**  
**3000 LBS**

Diam. nominale Nominal pipe size	3000			
	M (1)		N (1)	
	mm	inches	mm	inches
3/8" x 1/4"	42	1.50	22	0.87
1/2" x 3/8"	49	1.81	28	1.10
1/2" x 1/4"	49	1.81	28	1.10
3/4" x 1/2"	59	2.01	35	1.38
1" x 3/4"	63	2.36	45	1.77
1" x 1/2"	61	2.36	45	1.77
1" x 1/4"	60	2.36	45	12.77
1 1/4" x 1"	68	2.68	60	2.24
1 1/2" x 1"	72	2.76	65	2.56
1 1/2" x 3/4"	67	2.76	65	2.56
1 1/2" x 1/2"	67	2.76	65	2.56
2" x 1 1/2"	70	2.95	76	2.99
2" x 1"	75	2.95	76	2.99
2 1/2" x 2"	92	3.74	95	3.74
3" x 2"	95	3.94	110	4.33
4" x 3"	113	4.33	140	5.51
4" x 2"	100	4.33	140	5.51

**FEMALE-MALE REDUCERS**
**ANSI B16.11**  
**3000 LBS**


Filettatura conforme a ANSI B1.20.1

Thread according to ANSI B1.20.1

<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

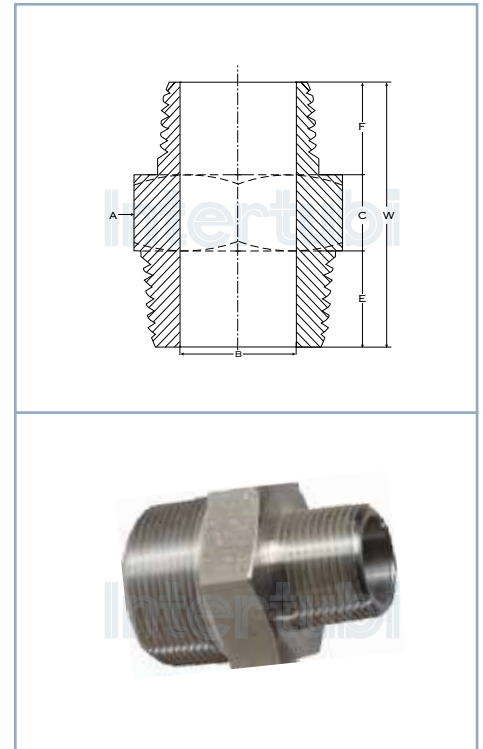
**NIPPLI RIDOTTI**  
ANSI B16.11  
3000 - 6000 LBS

**REDUCING HEXAGONAL NIPPLES**  
ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size		A (mini)		E (mini)		F (mini)		C (mini)		W (mini)		b*			
inches	mm	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	3000		6000	
												mm	inches	mm	inches
1/4" x 1/8"	8 x 6	15	0.59	15	0.59	10	0.39	6	0.24	31	1.22	5	0.20	2	0.08
3/8" x 1/4"	10 x 8	18	0.71	16	0.63	15	0.59	8	0.31	39	1.54	8	0.31	6	0.24
1/2" x 3/8"	15 x 10	22	0.87	20	0.79	16	0.63	8	0.31	44	1.73	11	0.43	8	0.31
1/2" x 1/4"	15 x 8	22	0.87	20	0.79	15	0.59	8	0.31	43	1.69	8	0.31	6	0.24
3/4" x 1/2"	20 x 15	27	1.06	21	0.83	20	0.79	9	0.35	50	1.97	14	0.55	11	0.43
3/4" x 3/8"	20 x 10	27	1.06	21	0.83	16	0.63	9	0.35	46	1.81	11	0.43	8	0.31
1" x 3/4"	25 x 20	35	1.38	25	0.98	21	0.83	10	0.39	56	2.20	19	0.75	13	0.51
1" x 1/2"	25 x 15	35	1.38	25	0.98	20	0.79	10	0.39	55	2.17	14	0.55	11	0.43
1 1/2" x 1"	40 x 25	50	1.97	26	1.02	25	0.98	16	0.63	67	2.64	24	0.94	17	0.67
1 1/2" x 3/4"	40 x 20	50	1.97	26	1.02	21	0.83	16	0.63	63	2.48	19	0.75	13	0.51
1 1/2" x 1/2"	40 x 15	50	1.97	26	1.02	20	0.79	16	0.63	62	2.44	14	0.55	11	0.43
2" x 1 1/2"	50 x 40	62	2.44	27	1.06	26	1.02	17	0.67	70	2.76	38	1.50	30	1.18
2" x 1"	50 x 25	62	2.44	27	1.06	25	0.98	18	0.71	70	2.76	24	0.94	17	0.67
2" x 3/4"	50 x 20	62	2.44	27	1.06	21	0.83	17	0.67	65	2.60	19	0.75	13	0.51
2" x 1/2"	50 x 15	62	2.44	27	1.06	20	0.79	18	0.71	65	2.60	14	0.55	11	0.43

(\*) La dimensione "b" è nominale e soggetta alle normali tolleranze di fabbricazione.

(\*) Dimension "b" is nominal and is subject to normal MANUFACTURE tolerances.



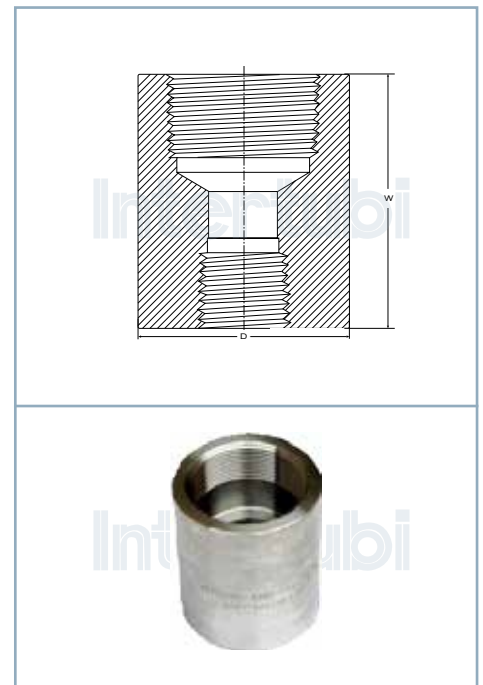
Filettatura conforme a ANSI B1.20.1

Thread according to ANSI B1.20.1

**MANICOTTO RIDOTTO**  
ANSI B16.11  
3000 - 6000 LBS

**REDUCING COUPLING**  
ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000				6000			
	W <sup>(1)</sup>		D <sup>(1)</sup>		W <sup>(1)</sup>		D <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
3/8" x 1/4"	38.10	1.50	22.35	0.88	38.10	1.50	31.75	1.25
1/2" x 3/8"	47.75	1.88	28.45	1.12	47.75	1.88	38.10	1.50
1/2" x 1/4"	47.75	1.88	28.45	1.12	47.75	1.88	38.10	1.50
3/4" x 1/2"	50.80	2.00	35.05	1.38	50.80	2.00	44.45	1.75
3/4" x 1/4"	50.80	2.00	35.05	1.38	50.80	2.00	44.45	1.75
1" x 3/4"	60.45	2.38	44.45	1.75	60.45	2.38	57.15	2.25
1" x 1/2"	60.45	2.38	44.45	1.75	60.45	2.38	57.15	2.25
1" x 1/4"	60.45	2.38	44.45	1.75	60.45	2.38	57.15	2.25
1 1/4" x 1"	66.55	2.62	57.15	2.25	66.55	2.62	63.50	2.50
1 1/2" x 1"	79.25	3.12	63.50	2.50	79.25	3.12	76.20	3.00
1 1/2" x 3/4"	79.25	3.12	63.50	2.50	79.25	3.12	76.20	3.00
1 1/2" x 1/2"	79.25	3.12	63.50	2.50	79.25	3.12	76.20	3.00
2" x 1 1/2"	85.85	3.38	76.20	3.00	85.85	3.38	91.95	3.62
2" x 1"	85.85	3.38	76.20	3.00	85.85	3.38	91.95	3.62
2 1/2" x 2"	91.95	3.62	91.95	3.62	90.95	3.62	107.95	4.25
3" x 2"	107.95	4.25	107.95	4.25	107.95	4.25	127.00	5.00
4" x 3"	120.65	4.75	139.70	5.50	120.65	4.75	158.75	6.25
4" x 2"	120.65	4.75	139.70	5.50	120.65	4.75	158.75	6.25



<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

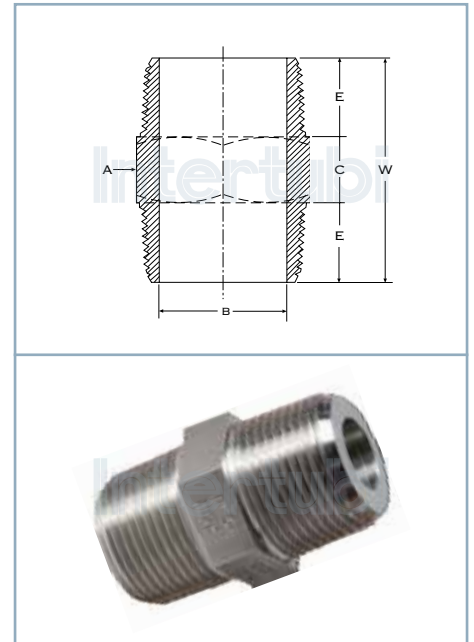
<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

**NIPPLIO**
**ANSI B16.11**  
**3000 - 6000 LBS**
**HEXAGONAL NIPPLES**
**ANSI B16.11**  
**3000 - 6000 LBS**

Diam. nominale Nominal pipe size		A (mini)		E (mini)		C (mini)		W (mini)		b*			
inches	mm	mm	inches	mm	inches	mm	inches	mm	inches	3000		6000	
										mm	inches	mm	inches
1/8"	6	11	0.43	10	0.39	6	0.24	26	1.02	5	0.20	2	0.08
1/4"	8	15	0.59	15	0.59	6	0.24	36	1.42	8	0.31	6	0.24
3/8"	10	18	0.71	16	0.63	8	0.31	40	1.57	11	0.43	8	0.31
1/2"	15	22	0.87	20	0.79	8	0.31	48	1.89	14	0.55	11	0.43
3/4"	20	27	1.06	21	0.83	10	0.39	52	2.05	19	0.75	13	0.51
1"	25	35	1.38	25	0.98	10	0.39	60	2.36	24	0.94	17	0.67
1 1/2"	40	50	1.97	26	1.02	16	0.63	68	2.68	38	1.50	30	1.18
2"	50	62	2.44	27	1.06	17	0.67	71	2.80	49	1.93	39	1.54

(\*) La dimensione "b" è nominale e soggetta alle normali tolleranze di fabbricazione.

(\*) Dimension "b" is nominal and is subject to normal MANUFACTURE tolerances.



Filettatura conforme a ANSI B1.20.1

Thread according to ANSI B 1.20.1

**DERIVAZIONE FILETTATA**
**3000 - 6000 LBS**
**THREADED OUTLET**
**3000 - 6000 LBS**

Diam. nominale Nominal pipe size	3000 - 6000					
	K <sup>(1)</sup>		M <sup>(1)</sup>		N <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches
1/4"	30.5	1.20	28.0	1.10	14.0	0.55
3/8"	30.5	1.20	32.0	1.26	17.4	0.69
1/2"	33.5	1.32	38.0	1.50	21.6	0.85
3/4"	35.0	1.38	44.5	1.75	26.9	1.06
1"	43.0	1.69	57.5	2.26	33.6	1.32
1 1/4"	48.0	1.89	63.5	2.50	42.4	1.67
1 1/2"	51.0	2.00	76.1	3.00	48.5	1.91
2"	57.5	2.26	92.0	3.62	60.9	2.40

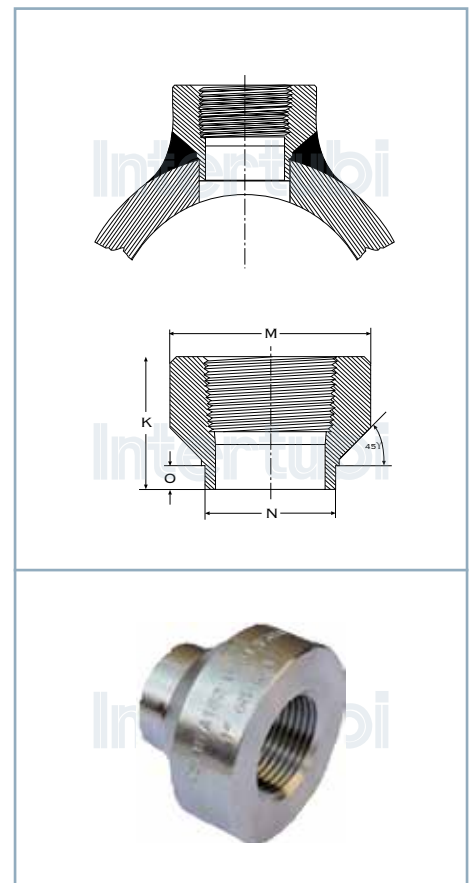
<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

DA 1/4" A 2" O = 9,5 mm

FROM 1/4" TO 2" O = 0,375 inch

Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B 1.20.1



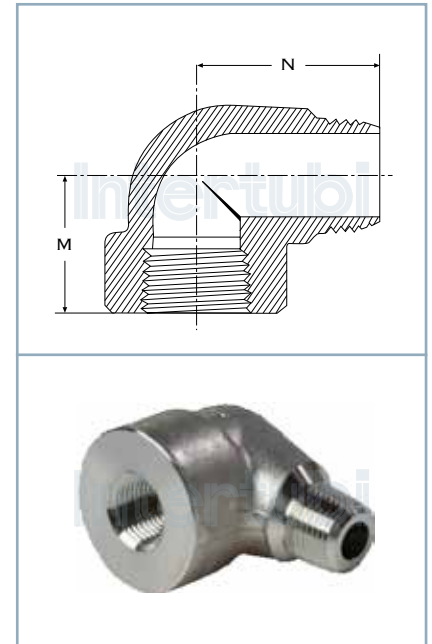
**GOMITI MASCHIO-FEMMINA A 90°**

ANSI B16.11  
3000 - 6000 LBS

**90° STREET ELBOWS**

ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000				6000			
	M <sup>(1)</sup>		N <sup>(1)</sup>		M <sup>(1)</sup>		N <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	24.6	0.97	32.0	1.05	30.0	1.12	39.0	1.26
3/8"	30.0	1.12	39.0	1.26	33.5	1.31	44.0	1.39
1/2"	33.5	1.31	44.0	1.39	38.0	1.50	49.0	1.61
3/4"	38.0	1.50	49.0	1.61	46.5	1.75	59.0	1.97
1"	46.5	1.75	59.0	1.97	53.0	2.00	65.0	2.40
1 1/4"	53.0	2.00	65.0	2.40	62.0	2.27	75.0	2.75
1 1/2"	62.0	2.27	75.0	2.75	68.0	2.50	82.5	3.25
2"	68.0	2.50	82.5	3.25	82.5	3.25	110.0	4.33



<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

Filettatura conforme a ANSI B1.20.1

Thread according to ANSI B 1.20.1

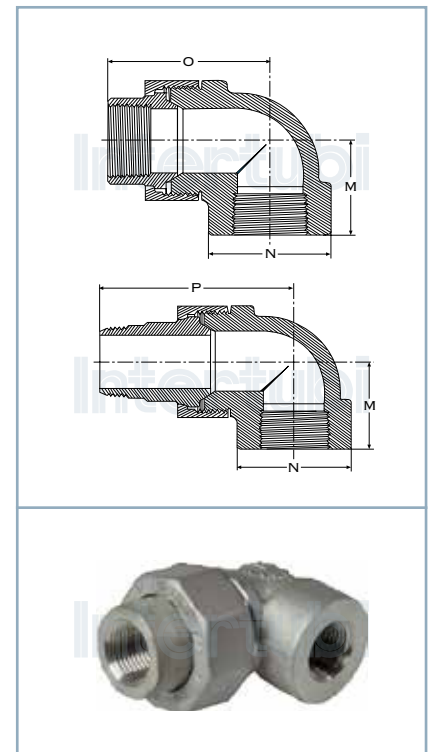
**GOMITO TRE PEZZI**

ANSI B16.11  
3000 LBS

**UNION ELBOWS**

ANSI B16.11  
3000 LBS

Diam. nominale Nominal pipe size		1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
<b>3000</b>									
M <sup>(1)</sup>	mm	28.5	28.5	33	38	44.5	60.5	60.5	63.5
	inches	1.12	1.12	1.30	1.50	1.75	2.38	2.38	2.50
N <sup>(1)</sup>	mm	34	34	38	45.5	56.5	76	76	92
	inches	1.34	1.34	1.50	1.83	2.22	3.00	3.00	3.62
O <sup>(1)</sup>	mm	46.5	54	60	67	75	85	98	109
	inches	2.02	2.13	2.56	2.64	3.15	3.19	3.97	4.29
P <sup>(1)</sup>	mm	62	72	82	90	102	115	125	140
	inches	2.72	2.83	3.47	3.55	4.25	4.96	5.20	5.51



<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

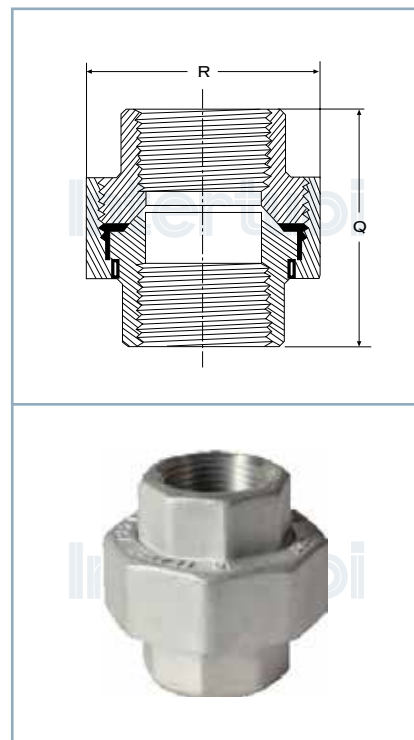
Filettatura conforme a ANSI B1.20.1 - Thread according to ANSI B 1.20.1



**GIUNTO TRE PEZZI FEMMINA-FEMMINA**
**ANSI B16.11  
3000 - 6000 LBS**
**FEMALE-FEMALE UNIONS**
**ANSI B16.11  
3000 - 6000 LBS**

Diam. nominale Nominal pipe size	3000				6000			
	Q <sup>(1)</sup>		R <sup>(1)</sup>		Q <sup>(1)</sup>		R <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	42.5	1.67	36.0	1.42	54.0	2.13	46.0	1.81
3/8"	47.5	1.87	41.0	1.62	57.0	2.25	51.0	2.00
1/2"	52.0	2.05	46.0	1.81	69.0	2.72	60.0	2.36
3/4"	57.0	2.25	56.0	2.20	72.0	2.84	72.0	2.84
1"	63.0	2.48	65.0	2.56	80.0	3.15	80.0	3.15
1 1/4"	68.0	2.76	80.0	3.07	89.0	3.50	94.0	3.70
1 1/2"	78.0	3.07	88.0	3.39	108.0	4.25	100.0	3.94
2"	91.0	3.50	105.0	4.06	114.0	4.49	122.0	4.80
2 1/2"	120.0	4.49	122.0	4.80	130.0	5.13	144.0	5.67
3"	140.0	5.12	144.0	5.67	150.0	5.91	180.0	7.09
4"	148.0	5.91	200.0	7.09				

<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.


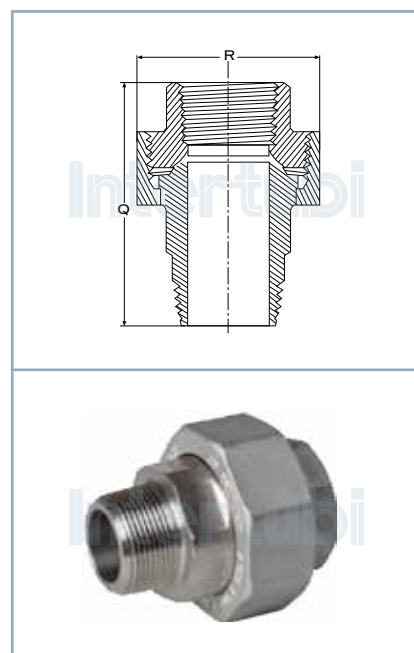
Filettatura conforme a ANSI B1.20.1

Thread according to ANSI B 1.20.1

**GIUNTO TRE PEZZI MASCHIO-FEMMINA**
**ANSI B16.11  
3000 - 6000 LBS**
**MALE-FEMALE UNIONS**
**ANSI B16.11  
3000 - 6000 LBS**

Diam. nominale Nominal pipe size	3000				6000			
	Q <sup>(1)</sup>		R <sup>(1)</sup>		Q <sup>(1)</sup>		R <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	61.0	2.48	32.0	1.26	82.5	2.86	46.0	1.81
3/8"	69.0	2.72	38.0	1.50	77.0	3.03	51.0	2.00
1/2"	75.0	3.03	46.0	1.81	94.5	3.72	60.0	2.36
3/4"	80.0	3.15	56.0	2.00	98.5	3.88	72.0	2.84
1"	90.0	3.82	65.0	2.36	108.0	4.25	80.0	3.15
1 1/4"	98.0	3.98	80.0	2.84	120.0	4.72	94.0	3.70
1 1/2"	100.0	4.33	88.0	3.15	138.0	5.44	100.0	3.94
2"	120.0	4.72	105.0	3.70	146.0	5.75	122.0	4.80

<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.




**CODICI UTILIZZATI PER LA DESCRIZIONE DEGLI SWEDGE NIPPLES  
(nippli ridotti)**

P.B.E.	Due estremità lisce	
P.L.E.	Diametro maggiore liscio	
P.S.E.	Diametro inferiore liscio	
B.B.E.	Due estremità smussate	
B.L.E.	Diametro maggiore smussato	
B.S.E.	Diametro inferiore smussato	
T.B.E.	Due estremità filettate	
T.L.E.	Diametro maggiore filettato	
T.S.E.	Diametro inferiore filettato	
B.O.E.	Un'estremità smussata	] si applicano solo ai nippli da tubo
P.O.E.	Un'estremità liscia	
T.O.E.	Un'estremità filettata	

Si possono utilizzare due codici per lo stesso pezzo. Esempio: 1 Swage Nipple 3 X 2 BLE/TSE

Dunque:

- DIAMETRO MAGGIORE SMUSSATO
- DIAMETRO MINORE FILETTATO

**CODE USED IN MATERIAL LIST OF SWEDGE NIPPLES  
(reduced nipples)**

P.B.E.	Plain both ends	
P.L.E.	Plain large end	
P.S.E.	Plain small end	
B.B.E.	Beveled both ends	
B.L.E.	Beveled large end	
B.S.E.	Beveled small end	
T.B.E.	Threaded both ends	
T.L.E.	Threaded large end	
T.S.E.	Threaded small end	
B.O.E.	Beveled one end	] for barrel nipples only
P.O.E.	Plain one end	
T.O.E.	Threaded one end	

Two codes may be used on the same item for example: 1 Swage Nipple 3 X 2 BLE/TSE

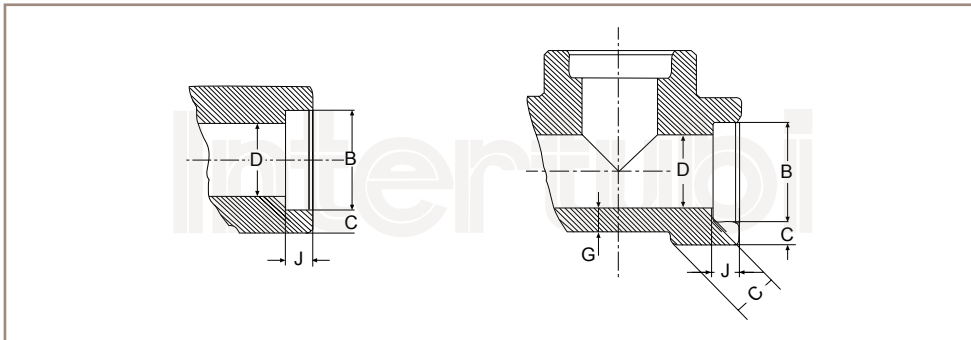
Which means:

- BEVELED LARGE END
- THREADED SMALL END

NT

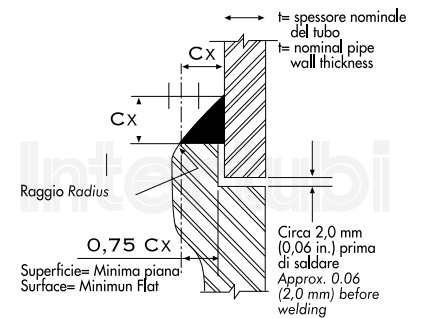
**ACCIAIO INOX | STAINLESS STEEL**

**RACCORDI A SALDARE A TASCA ANSI B16.11**  
***SOCKET WELDING FITTINGS ANSI B16.11***


**DIMENSIONI DEI  
SOCKET WELDING  
ANSI B16.11**
**SOCKET WELDING  
FITTING DIMENSIONS  
ANSI B16.11**
**DIMENSIONI RICHIESTE PER LA SALDATURA DI COMPONENTI DA SALDARE A TASCA  
WELDING DIMENSIONS REQUIRED FOR SOCKET-WELDING COMPONENTS**

Dimensioni in mm | Dimensions in mm

Diametro nominale		1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
B	mini	10.65	14.10	17.55	21.70	27.05	33.80	42.55	48.65	61.10	73.80	89.80	115.45	
	maxi	10.90	14.35	17.80	21.95	27.30	34.05	42.80	48.90	61.35	74.20	90.15	115.80	
D	3000 ib	mini	6.10	8.50	11.80	15.00	20.20	25.90	34.30	40.10	51.70	61.20	76.40	100.70
		maxi	7.60	10.00	13.30	16.60	21.70	27.40	35.80	41.70	53.50	64.20	79.50	103.80
	6000 ib	mini	3.20	5.60	8.40	15.00	14.80	19.90	28.70	33.20	42.10			
		maxi	4.80	7.10	9.90	12.50	16.30	21.50	30.20	34.70	43.60			
C <sup>(1)</sup>	3000 ib	medio	3.20	3.80	4.00	4.65	4.90	5.70	6.05	6.35	6.95	8.75	9.50	10.70
		mini	3.20	3.30	3.50	4.10	4.25	5.00	5.30	5.55	6.05	7.65	8.30	9.35
	6000 ib	medio	3.95	4.60	5.05	5.95	6.95	7.90	7.90	8.90	10.90			
		mini	3.45	4.00	4.35	5.20	6.05	6.95	6.95	7.80	9.50			
	G mini.	3000 ib	2.40	3.00	3.20	3.75	3.90	4.55	4.85	5.10	5.55	7.00	7.60	8.55
		6000 ib	3.15	3.70	4.00	4.80	5.55	6.35	6.35	7.15	8.75			
J mini.		10.00	10.00	10.00	10.00	13.00	13.00	13.00	13.00	16.00	16.00	16.00	19.00	


 $Cx \text{ (min.)} = 1.09 t$ , ma non meno di 3 mm (0,12 in.)

 $Cx \text{ (min.)} = 1.09 t$ , but not less than 0,12 mm (3,0 mm.)

Dimensioni in pollici | Dimensions in inches

Nominal pipe size		1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
B	mini	0.420	0.555	0.690	0.855	1.065	1.330	1.675	1.915	2.406	2.906	3.535	4.545	
	maxi	0.430	0.565	0.700	0.865	1.075	1.340	1.685	1.925	2.416	2.961	3.550	4.560	
D	3000 ib	mini	0.239	2.334	0.463	0.592	0.794	1.019	1.350	1.580	2.037	2.409	3.008	3.966
		maxi	0.299	0.394	0.523	0.652	0.854	1.079	1.410	1.640	2.097	2.529	3.128	4.086
	6000 ib	mini	0.126	0.220	0.329	0.434	0.582	0.785	1.130	1.308	1.657			
		maxi	0.189	0.280	0.389	0.494	0.642	0.845	1.190	1.368	1.717			
C <sup>(1)</sup>	3000 ib	medium	0.125	0.149	0.158	0.184	0.193	0.224	0.239	0.250	0.273	0.345	0.375	0.421
		mini	0.125	0.130	0.138	0.161	0.168	0.196	0.208	0.218	0.238	0.302	0.327	0.368
	6000 ib	medium	0.156	0.181	0.198	0.235	0.274	0.312	0.312	0.351	0.430			
		mini	0.135	0.158	0.172	0.204	0.238	0.273	0.273	0.307	0.374			
	G mini.	3000 ib	0.095	0.119	0.126	0.147	0.154	0.179	0.191	0.200	0.218	0.276	0.300	0.337
		6000 ib	0.124	0.145	0.158	0.188	0.219	0.250	0.250	0.281	0.344			
J mini.		0.38	0.38	0.38	0.38	0.50	0.50	0.50	0.50	0.62	0.62	0.62	0.75	

<sup>(1)</sup> Lo spessore medio del finale della parete del raccordo non sarà inferiore ai valori elencati. I valori minimi sono autorizzati su superfici delimitate.

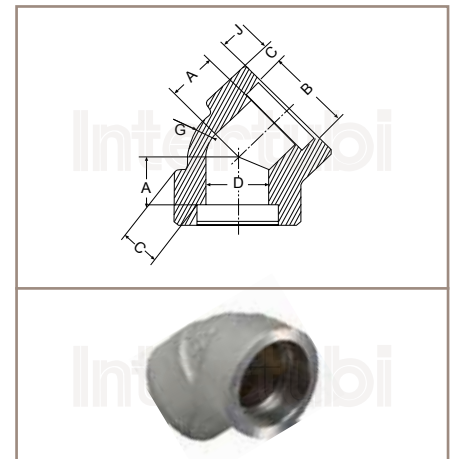
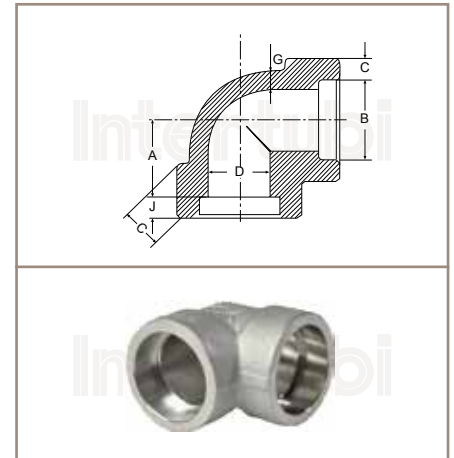
<sup>(1)</sup> Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

**GOMITI**  
ANSI B16.11  
3000 - 6000 LBS

**ELBOWS**  
ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	Dal centro alla base del raccordo A Center to bottom of socket A									
	90°				45°				Tolleranze ± Tolerances ±	
	3000		6000		3000		6000			
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	11.0	0.44	13.5	0.53	8.0	0.31	8.0	0.31	1.0	0.03
3/8"	13.5	0.53	15.5	0.62	7.5	0.31	11.5	0.44	1.5	0.06
1/2"	15.5	0.62	19.5	0.75	11.5	0.44	12.5	0.50	1.5	0.06
3/4"	19.5	0.75	22.5	0.88	12.5	0.50	14.5	0.56	1.5	0.06
1"	22.0	0.88	27.0	1.06	14.0	0.56	17.0	0.69	2.0	0.08
1 1/4"	27.0	1.06	32.0	1.25	17.0	0.69	21.0	0.81	2.0	0.08
1 1/2"	32.0	1.25	38.0	1.50	21.0	0.81	25.0	1.00	2.0	0.08
2"	38.0	1.50	41.0	1.62	25.0	1.00	29.0	1.12	2.0	0.08
2 1/2"	41.5	1.62			29.0	1.12			2.5	0.10
3"	57.5	2.25			31.5	1.25			2.5	0.10
4"	66.5	2.62			41.5	1.62			2.5	0.10

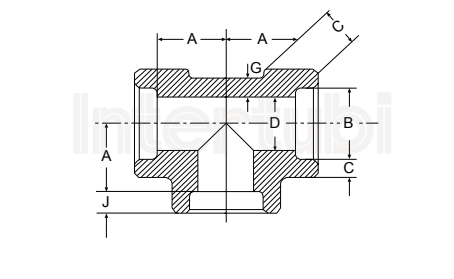
\* Per quote B - C - D - G - J si vedano caratteristiche dimensionali nella pagina accanto  
\* For dimensions B - C - D - G - J refer to dimensions of s.w. fittings shown on the opposite page



**TEES S.W.**  
ANSI B16.11  
3000 - 6000 LBS

**TEES S.W.**  
ANSI B16.11  
3000 - 6000 LBS

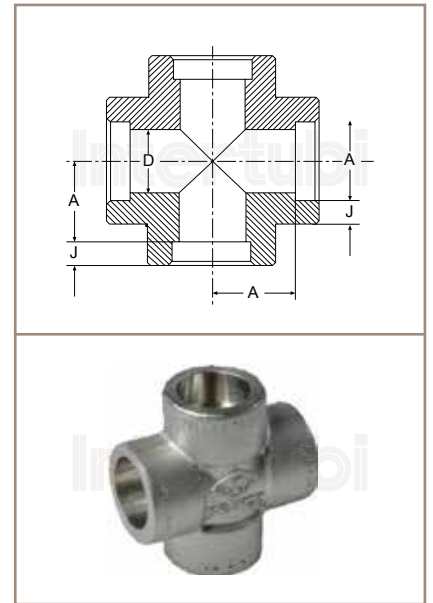
Diam. nominale Nominal pipe size	Dal centro alla base del raccordo A Center to bottom of socket A					
	3000		6000		Tolleranze ± Tolerances ±	
	mm	inches	mm	inches		
1/4"	11.0	0.44	13.5	0.53	1.0	0.03
3/8"	13.5	0.53	15.5	0.62	1.5	0.06
1/2"	15.5	0.62	19.5	0.75	1.5	0.06
3/4"	19.5	0.75	22.5	0.88	1.5	0.06
1"	22.0	0.88	27.0	1.06	2.0	0.08
1 1/4"	27.0	1.06	32.0	1.25	2.0	0.08
1 1/2"	32.0	1.25	38.0	1.50	2.0	0.08
2"	38.0	1.50	41.0	1.62	2.0	0.08
2 1/2"	41.5	1.62			2.5	0.10
3"	57.5	2.25			2.5	0.10
4"	66.5	2.62			2.5	0.10



**CROCI S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

**CROSSES S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	Dal centro alla base del raccordo A Center to bottom of socket A					
	3000		6000		Tolleranze ± Tolerances ±	
	mm	inches	mm	inches	mm	inches
1/4"	11.0	0.44	13.5	0.53	1.0	0.03
3/8"	13.5	0.53	15.5	0.62	1.5	0.06
1/2"	15.5	0.62	19.5	0.75	1.5	0.06
3/4"	19.5	0.75	22.5	0.88	1.5	0.06
1"	22.0	0.88	27.0	1.06	2.0	0.08
1 1/4"	27.0	1.06	32.0	1.25	2.0	0.08
1 1/2"	32.0	1.25	38.0	1.50	2.0	0.08
2"	38.0	1.50	41.0	1.62	2.0	0.08
2 1/2"	41.5	1.62			2.5	0.10
3"	57.5	2.25			2.5	0.10
4"	66.5	2.62			2.5	0.10



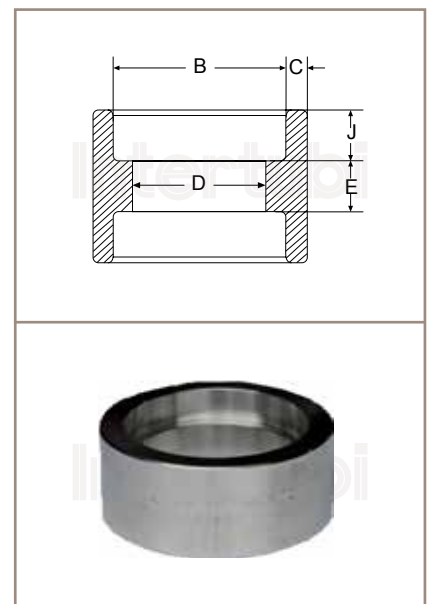
\* Per quote B - C - D - G - J si vedano caratteristiche dimensionali a pagina **VEDI DEFINITIVO**

\* For dimensions B - C - D - G - J refer to dimensions of s.w. fittings shown on page

**MANICOTTI S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

**COUPLINGS S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	Coste di montaggio / Laying lengths											
	Manicotti / Couplings - E						Mezzi manicotti / Half couplings - F					
	3000		6000		Tolleranze ± Tolerances ±		3000		6000		Tolleranze ± Tolerances ±	
mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	
1/4"	6.5	0.25	6.5	0.25	1.5	0.06	16.0	0.62	16.0	0.62	1.0	0.03
3/8"	6.5	0.25	6.5	0.25	3.0	0.12	17.5	0.69	17.5	0.69	1.5	0.06
1/2"	9.5	0.38	9.5	0.38	3.5	0.12	22.5	0.88	22.5	0.88	1.5	0.06
3/4"	9.5	0.38	9.5	0.38	3.5	0.12	23.5	0.94	23.5	0.94	1.5	0.06
1"	13.0	0.50	13.0	0.50	4.0	0.16	29.0	1.12	29.0	1.12	2.0	0.08
1 1/4"	13.0	0.50	13.0	0.50	4.0	0.16	30.0	1.19	30.0	1.19	2.0	0.08
1 1/2"	13.0	0.50	13.0	0.50	4.0	0.16	32.0	1.25	32.0	1.25	2.0	0.08
2"	19.0	0.75	19.0	0.75	4.0	0.16	41.0	1.62	41.0	1.62	2.0	0.08
2 1/2"	19.0	0.75	19.0	0.75	5.0	0.20	42.5	1.69	42.5	1.69	2.5	0.10
3"	19.0	0.75	19.0	0.75	5.0	0.20	44.5	1.75	44.5	1.75	2.5	0.10
4"	19.0	0.75	19.0	0.75	5.0	0.20	47.5	1.88	47.5	1.88	2.5	0.10



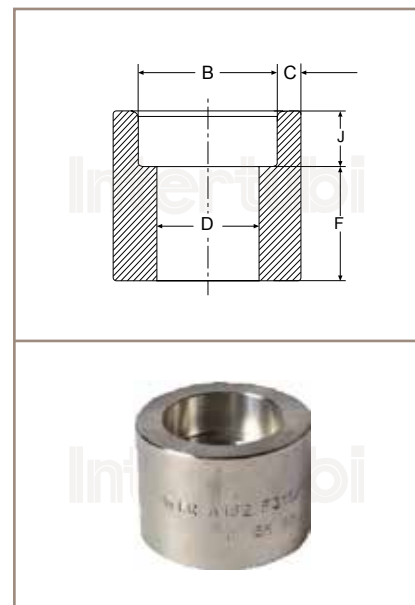
**MEZZI MANICOTTI S.W.**

ANSI B16.11  
3000 - 6000 LBS

**HALF-COUPPLINGS S.W.**

ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	Coste di montaggio / Laying lengths											
	Manicotti / Couplings - E						Mezzi manicotti / Half couplings - F					
	3000		6000		Tolleranze ± Tolerances ±		3000		6000		Tolleranze ± Tolerances ±	
	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	6.5	0.25	6.5	0.25	1.5	0.06	16.0	0.62	16.0	0.62	1.0	0.03
3/8"	6.5	0.25	6.5	0.25	3.0	0.12	17.5	0.69	17.5	0.69	1.5	0.06
1/2"	9.5	0.38	9.5	0.38	3.5	0.12	22.5	0.88	22.5	0.88	1.5	0.06
3/4"	9.5	0.38	9.5	0.38	3.5	0.12	23.5	0.94	23.5	0.94	1.5	0.06
1"	13.0	0.50	13.0	0.50	4.0	0.16	29.0	1.12	29.0	1.12	2.0	0.08
1 1/4"	13.0	0.50	13.0	0.50	4.0	0.16	30.0	1.19	30.0	1.19	2.0	0.08
1 1/2"	13.0	0.50	13.0	0.50	4.0	0.16	32.0	1.25	32.0	1.25	2.0	0.08
2"	19.0	0.75	19.0	0.75	4.0	0.16	41.0	1.62	41.0	1.62	2.0	0.08
2 1/2"	19.0	0.75	19.0	0.75	5.0	0.20	42.5	1.69	42.5	1.69	2.5	0.10
3"	19.0	0.75	19.0	0.75	5.0	0.20	44.5	1.75	44.5	1.75	2.5	0.10
4"	19.0	0.75	19.0	0.75	5.0	0.20	47.5	1.88	47.5	1.88	2.5	0.10



\* Per quote B - C - D - G - J si vedano caratteristiche dimensionali a pagina **VEDI DEFINITIVO**

\* For dimensions B - C - D - G - J refer to dimensions of s.w. fittings shown on page

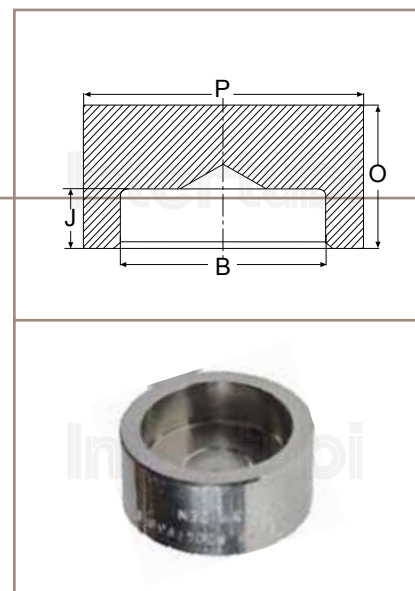
**TAPPO FEMMINA S.W.**

ANSI B16.11  
3000 - 6000 LBS

**CAPS S.W.**

ANSI B16.11  
3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000				6000			
	O <sup>(1)</sup>		P <sup>(1)</sup>		O <sup>(1)</sup>		P <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	20	0.59	22	0.87	17.5	0.69	23.1	0.91
3/8"	20	0.67	26	1.02	19.1	0.75	26.7	1.05
1/2"	20	0.75	32	1.26	22	0.87	34	1.34
3/4"	25	0.91	38	1.50	26	1.02	41	1.61
1"	26	1.02	45	1.77	28	1.10	50	1.97
1 1/4"	30	1.10	55	2.17	30	1.18	58	2.28
1 1/2"	31	1.18	60	2.56	32	1.26	66.5	2.62
2"	38	1.42	75	2.95	38	1.50	85	3.35
2 1/2"	41	1.50	95	3.62	42	1.65	100	3.94
3"	43	1.65	110	4.33	45	1.77	120	4.72
4"	48	1.89	140	5.51	51	2.01	150	5.91



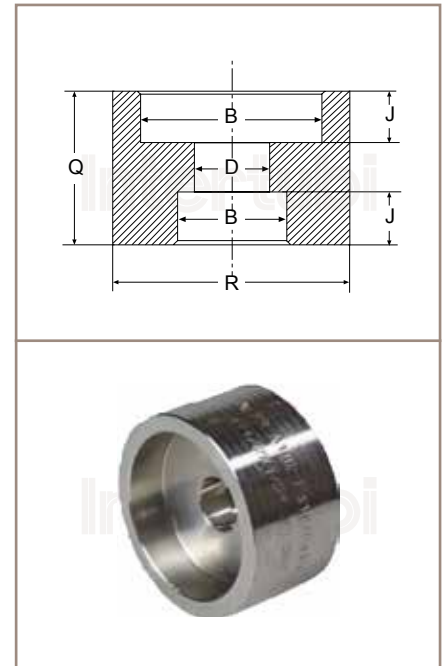
<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

**MANICOTTI RIDOTTI S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

**REDUCING COUPLINGS S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000				6000			
	Q <sup>(1)</sup>		R <sup>(1)</sup>		Q <sup>(1)</sup>		R <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
3/8" x 1/4"	25.4	1	24.9	0.98	25.4	1	26.7	1.05
1/2" x 3/8"	28.7	1.13	31.0	1.22	28.7	1.13	33.0	1.30
1/2" x 1/4"	28.7	1.13	31.0	1.22	28.7	1.13	33.0	1.30
3/4" x 1/2"	35.0	1.38	36.0	1.42	35.0	1.38	40.1	1.58
3/4" x 1/4"	35.0	1.38	36.0	1.42	35.0	1.38	40.1	1.58
1" x 3/4"	38.1	1.50	45.2	1.78	38.1	1.50	50.0	1.97
1" x 1/2"	38.1	1.50	45.2	1.78	38.1	1.50	50.0	1.97
1" x 1/4"	38.1	1.50	45.2	1.78	38.1	1.50	50.0	1.97
1 1/4" x 1"	38.1	1.50	55.1	2.17	38.1	1.50	57.9	2.28
1 1/2" x 1"	38.1	1.50	60.0	2.36	38.1	1.50	65.0	2.56
1 1/2" x 3/4"	38.1	1.50	60.0	2.36	38.1	1.50	65.0	2.56
1 1/2" x 1/2"	38.1	1.50	60.0	2.36	38.1	1.50	65.0	2.56
2" x 1/2"	51.3	2.02	74.9	2.95	51.3	2.02	82.0	3.23
2" x 1"	51.3	2.02	74.9	2.95	51.3	2.02	82.0	3.23



\* Per quote B - D - J si vedano caratteristiche dimensionali a pagina **VEDI DEFINITIVO**

\* For dimensions B - D - J refer to dimensions of s.w. fittings shown on page

**DERIVAZIONE S.W.**  
 ANSI B16.11  
 3000 - 6000 LBS

**SOCKET WELDING OUTLET**  
 ANSI B16.11  
 3000 - 6000 LBS

Diam. nominale Nominal pipe size	3000 - 6000					
	K <sup>(1)</sup>		M <sup>(1)</sup>		N <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches
1/4"	30.5	1.20	28.0	1.10	14.0	0.55
3/8"	30.5	1.20	32.0	1.26	17.4	0.69
1/2"	33.5	1.32	38.0	1.50	21.6	0.85
3/4"	35.0	1.38	44.5	1.75	26.9	1.06
1"	43.0	1.69	57.5	2.26	33.6	1.32
1 1/4"	48.0	1.89	63.5	2.50	42.4	1.67
1 1/2"	51.0	2.00	76.1	3.00	48.5	1.91
2"	57.5	2.26	92.0	3.62	60.9	2.40



<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

Da 1/4" A 2" L = 9,5 mm | From 1/4" To 2" L = 0,375 inch



**RIDUZIONI MASCHIO-FEMMINA S.W.**  
ANSI B16.11  
3000 LBS

**REDUCER INSERTS S.W.**  
ANSI B16.11  
3000 LBS

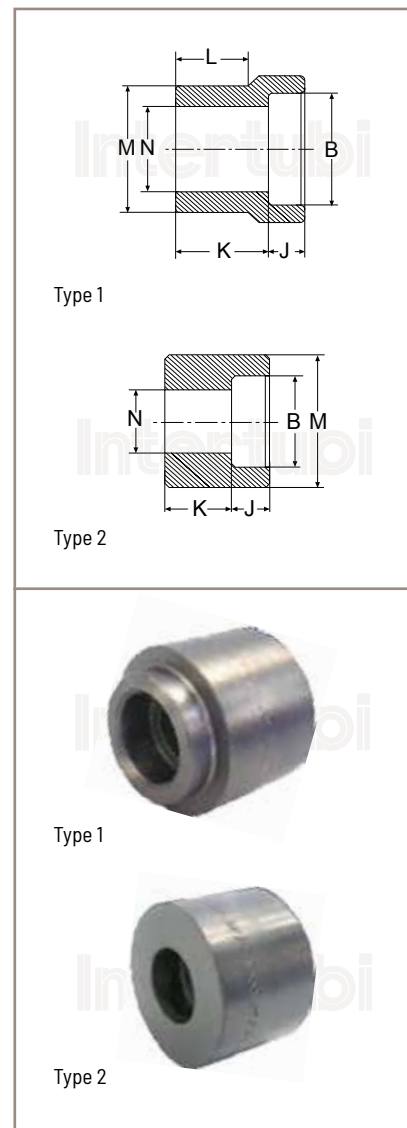
Diam. nominale Nominal pipe size	TIPO TYPE	M <sup>(1)</sup>		N <sup>(1)</sup>		K <sup>(1)</sup>		L <sup>(1)</sup>	
		mm	inches	mm	inches	mm	inches	mm	inches
1/2" x 3/8"	1	21.6	0.850	11	0.44	24	0.94	20	0.78
1/2" x 1/4"	2	21.6	0.850	7.5	0.30	15.5	0.62		
1/2" x 1/8"	3	21.6	0.850	5.5	0.22	15.5	0.62	7	0.28
3/4" x 1/2"	1	26.9	1.060	14	0.56	27	1.06	22	0.87
3/4" x 3/8"	2	26.9	1.060	11	0.44	15.5	0.62		
3/4" x 1/4"	3	26.9	1.060	7.5	0.30	15.5	0.62	7	0.28
3/4" x 1/8"	3	26.9	1.060	5.5	0.22	15.5	0.62	7	0.28
1" x 3/4"	1	33.6	1.325	19	0.75	28.5	1.12	23	0.91
1" x 1/2"	2	33.6	1.325	14	0.56	24	0.94		
1" x 3/8"	3	33.6	1.325	11	0.44	23	0.90	7	0.28
1" x 1/4"	3	33.6	1.325	7.5	0.30	24	0.94	7	0.28
1 1/4" x 1"	1	42.4	1.670	24.5	0.97	31.5	1.25	24.5	0.97
1 1/4" x 3/4"	2	42.4	1.670	19	0.75	22	0.87		
1 1/4" x 1/2"	3	42.4	1.670	14	0.56	24.5	0.97	7	0.28
1 1/2" x 1 1/4"	1	48.5	1.970	32.5	1.28	33.5	1.31	27	1.06
1 1/2" x 1"	2	48.5	1.910	24.5	0.97	33.5	1.31		
1 1/2" x 3/4"	3	48.5	1.910	19	0.75	22	0.87	8	0.32
1 1/2" x 1/2"	3	48.5	1.910	14	0.56	26	1.03	7	0.28
2" x 1 1/2"	2	60.9	2.400	38	1.50	27	1.06		
2" x 1 1/4"	3	60.9	2.400	32.5	1.28	25.5	1.00	8	0.32
2" x 1"	3	60.9	2.400	24.5	0.97	25.5	1.00	8	0.32
2" x 3/4"	3	60.9	2.400	19	0.75	25.5	1.00	8	0.32
2" x 1/2"	3	60.9	2.400	14	0.56	29.5	1.16	7	0.28
2 1/2" x 2"	1	79.6	2.900	49	1.93	41.5	1.63	30	1.19
2 1/2" x 1 1/2"	3	79.6	2.900	38	1.50	27.5	1.09	8	0.32
2 1/2" x 1 1/4"	3	79.6	2.900	32.5	1.28	29.5	1.16	8	0.32
2 1/2" x 1"	3	79.6	2.900	24.5	0.97	29.5	1.16	8	0.32
3" x 2 1/2"	1	89.6	3.530	59	2.32	46	1.81	33.5	1.32
3" x 2"	3	89.6	3.530	49	1.93	41.5	1.63	10	0.40
3" x 1 1/2"	3	89.6	3.530	38	1.50	42	1.66	8	0.32
3" x 1 1/4"	3	89.6	3.530	32.5	1.28	42.5	1.67	8	0.32
3" x 1"	3	89.6	3.530	24.5	0.97	39	1.53	8	0.32

\* Per quote B - J si vedano caratteristiche dimensionali a pagina **VEDI DEFINITIVO**

\* For dimensions B - J refer to dimensions of s.w. fittings shown on page

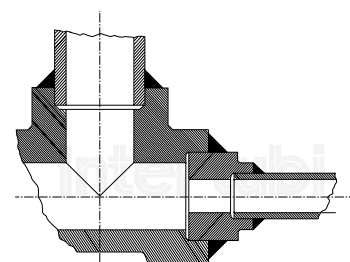
<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B 16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B 16.11-1980 and BS 3799-1974 may vary according to the manufacturer.



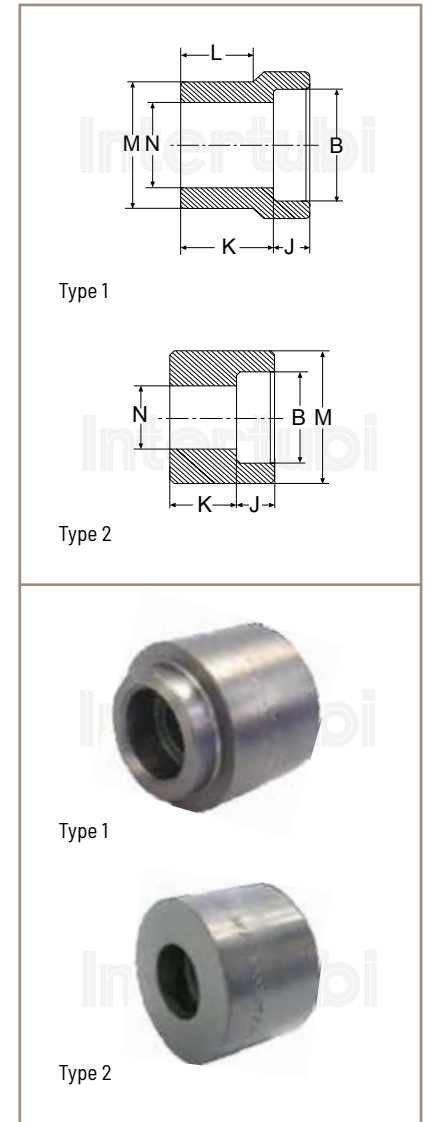
Esempio di utilizzo di una riduzione maschio/femmina

Application of reducer insert



**RIDUZIONI MASCHIO-FEMMINA S.W.**  
**ANSI B16.11**  
**6000 LBS**
**REDUCER INSERTS S.W.**  
**ANSI B16.11**  
**6000 LBS**

Diam. nominale Nominal pipe size	TIPO TYPE	M <sup>(1)</sup>		N <sup>(1)</sup>		K <sup>(1)</sup>		L <sup>(1)</sup>	
		mm	inches	mm	inches	mm	inches	mm	inches
1/2" x 3/8"	1	21.6	0.850	11	0.44	30	1.19	21	0.83
3/4" x 1/2"	1	26.9	1.060	12	0.47	33.5	1.31	23	0.90
3/4" x 3/8"	2	26.9	1.060	11	0.44	25.5	1.00		
1" x 3/4"	1	33.6	1.325	15.5	0.61	42	1.66	26	1.03
1" x 1/2"	1	33.6	1.325	12	0.47	40	1.58	24	0.94
1" x 3/8"	3	33.6	1.325	11	0.44	28.5	1.12	7	0.28
1 1/4" x 1"	1	42.4	1.670	20.5	0.81	43	1.70	28	1.11
1 1/4" x 3/4"	1	42.4	1.670	15.5	0.61	43	1.70	28	1.11
1 1/4" x 1/2"	2	42.4	1.670	12	0.47	32	1.26		
1 1/4" x 3/8"	3	42.4	1.670	11	0.44	32.5	1.28	7	0.28
1 1/2" x 1 1/4"	1	48.5	1.910	29.5	1.16	51	2.01	32	1.27
1 1/2" x 1"	1	48.5	1.910	20.5	0.81	49	1.93	28	1.11
1 1/2" x 3/4"	2	48.5	1.910	15.5	0.61	35	1.38		
1 1/2" x 1/2"	3	48.5	1.910	12	0.47	39	1.53	7	0.28
2" x 1 1/2"	1	60.9	2.400	34	1.34	46	1.81	34	1.34
2" x 1 1/4"	1	60.9	2.400	29.5	1.16	47.5	1.87	34	1.34
2" x 1"	3	60.9	2.400	20.5	0.81	36	1.42	8	0.32
2" x 3/4"	3	60.9	2.400	15.5	0.61	36	1.42	8	0.32
2" x 1/2"	3	60.9	2.400	12	0.47	39	1.53	7	0.28
2 1/2" x 2"	1	73.6	2.900	43	1.70	54	2.13	36	1.42
2 1/2" x 1 1/2"	2	73.6	2.900	34	1.34	47.5	1.87		
2 1/2" x 1 1/4"	3	73.6	2.900	29.5	1.16	42	1.66	8	0.32
2 1/2" x 1"	3	73.6	2.900	20.5	0.81	44	1.73	8	0.32
2 1/2" x 3/4"	3	73.6	2.900	15.5	0.61	44	1.73	8	0.32
2 1/2" x 1/2"	3	73.6	2.900	12	0.47	46.5	1.83	7	0.28
3" x 2 1/2"	1	89.6	3.530	54	2.13	63.5	2.50	38	1.50
3" x 2"	2	89.6	3.530	43	1.70	54	2.13		
3" x 1 1/2"	3	89.6	3.530	34	1.34	47.5	1.87	8	0.32
3" x 1 1/4"	3	89.6	3.530	29.5	1.16	49.6	1.95	8	0.32
3" x 1"	3	89.6	3.530	20.5	0.81	48.5	1.91	8	0.32



\* Per quote B - J si vedano caratteristiche dimensionali a pagina **VEDI DEFINITIVO**

\* For dimensions B - J refer to dimensions of s.w. fittings shown on page

<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

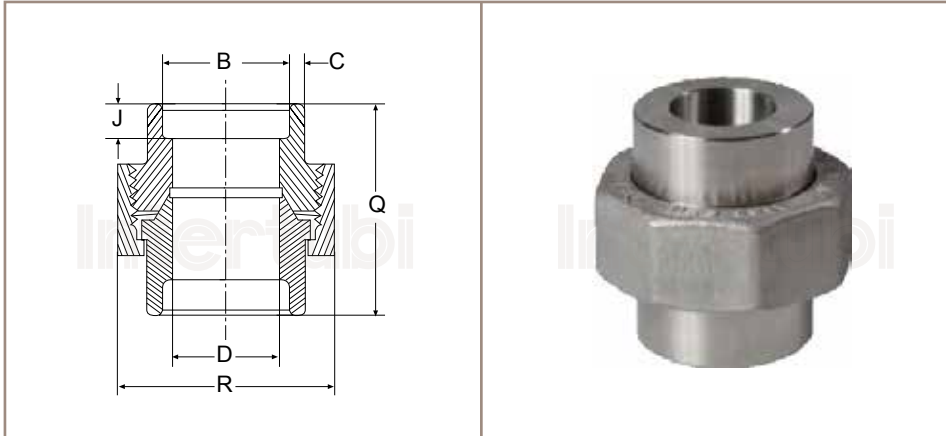
<sup>(1)</sup> Dimensions not listed in ANSI B16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

**GIUNTO TRE PEZZI**

ANSI B16.11  
3000 - 6000 LBS

**UNIONS**

ANSI B16.11  
3000 - 6000 LBS



Diam. nominale Nominal pipe size	3000				6000			
	Q <sup>(1)</sup>		R <sup>(1)</sup>		Q <sup>(1)</sup>		R <sup>(1)</sup>	
	mm	inches	mm	inches	mm	inches	mm	inches
1/4"	42.5	1.67	36.0	1.42	54.0	2.13	46.0	1.81
3/8"	47.5	1.87	41.0	1.62	57.0	2.25	51.0	2.00
1/2"	52.0	2.05	46.0	1.81	69.0	2.72	60.0	2.36
3/4"	57.0	2.25	56.0	2.20	72.0	2.84	72.0	2.84
1"	63.0	2.48	65.0	2.56	80.0	3.15	80.0	3.15
1 1/4"	68.0	2.76	80.0	3.07	89.0	3.50	94.0	3.70
1 1/2"	78.0	3.07	88.0	3.39	108.0	4.25	100.0	3.94
2"	91.0	3.50	105.0	4.06	114.0	4.49	122.0	4.80
2 1/2"	120.0	4.49	122.0	4.80				
3"	120.0	5.12	144.0	5.67				
4"	148.0	5.91	200.0	7.09				

<sup>(1)</sup> Le dimensioni non elencate nell'ANSI B16.11-1980 e BS 3799-1974 possono variare a seconda del produttore.

<sup>(1)</sup> Dimensions not listed in ANSI B16.11-1980 and BS 3799-1974 may vary according to the manufacturer.

\* Per quote B - C - D - J si vedano caratteristiche dimensionali a pagina **VEDI DEFINITIVO**

\* For dimensions B - C - D - J refer to dimensions of s.w. fittings shown on page





**ACCIAIO INOX | STAINLESS STEEL**

**TUBI SENZA SALDATURA A312**

**SEAMLESS PIPES A312**

**INFORMAZIONI GENERALI  
GENERAL INFORMATION**

Grado Grade		Composizione % Composition %							
Grade WP	C	Mn	P	S	Si	Ni	Cr	Mo	Others
TP304L	0.035	2.00	0.045	0.030	1.00	8.0-13.0	18.0-20.0		
TP316L	0.035	2.00	0.045	0.030	1.00	10.0-14.0	16.0-18.0	2.00-3.00	

**TOLLERANZE  
TOLERANCES**

Diametro Diameter	Spessore % Thickness %	
10.3 < D ≤ 73 tutti i rapporti t/D	+20	-12.5
88.9 < D ≤ 457 con t/D ≤ 5%	+22.5	-12.5
88.9 < D ≤ 457 con t/D > 5%	+15.0	-12.5

**Dove**  
t = spessore nominale  
D = diametro esterno

*Where*  
t = nominal wallthickness  
D = ordered outside diameter

Grado di acciaio Steel grade	Snervamento Yield Strength min. ksi [MPa]	Rottura Tensile Strength min. ksi [MPa]
TP304L/TP316L	25 [170]	70 [485]

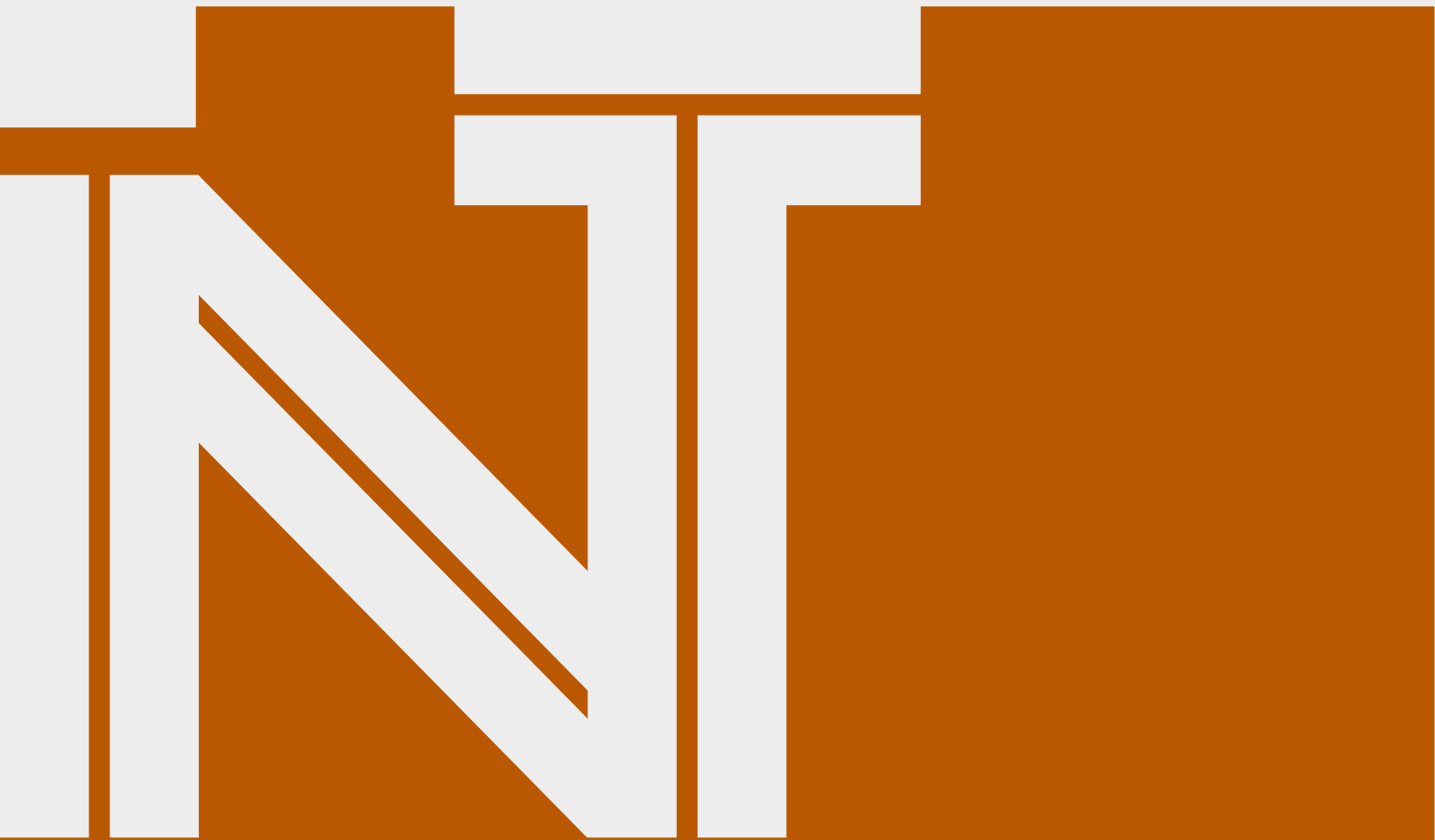
Diametro esterno mm Outside diameter mm		
10.3 < D ≤ 48.3	+0.4	-0.8
48.3 < D ≤ 114.3	+0.8	-0.8
114.3 < D ≤ 219.1	+1.6	-0.8
219.1 < D ≤ 457	+2.4	-0.8



**TUBI SENZA SALDATURA**  
**ASME B36.19 - ASTM A-312**  
 TP304L E TP316L SCH10S/SCH40S/SCH80S

**SEAMLESS PIPES**  
**ASME B36.19 - ASTM A-312**  
 TP304L AND TP316L SCH10S/SCH40S/SCH80S

D. INCH	D.E mm	SCH 10S		SCH 40S		SCH 80S	
		SP/THICK	KG/MTR	SP/THICK	KG/MTR	SP/THICK	KG/MTR
1/2"	21.34	2.11	1.00	2.77	1.26	3.73	1.62
3/4"	26.67	2.11	1.28	2.87	1.68	3.91	2.19
1"	33.40	2.77	2.08	3.38	2.50	4.55	3.23
1 1/4"	42.16	2.77	2.69	3.56	3.38	4.85	4.46
1 1/2"	48.26	2.77	3.11	3.68	4.05	5.08	5.40
2"	60.30	2.77	3.93	3.91	5.43	5.54	7.47
2 1/2"	73.03	3.05	5.25	5.16	8.62	7.01	11.40
3"	88.90	3.05	6.44	5.49	11.28	7.62	15.25
3 1/2"	101.60	3.05	7.39	5.74	13.56	8.08	18.62
4"	114.30	3.05	8.35	6.02	10.06	8.56	22.29
5"	141.30	3.40	11.56	6.55	21.76	9.52	30.92
6"	168.30	3.40	13.82	7.11	23.23	10.97	42.52
8"	219.10	3.76	19.94	8.18	42.49	12.70	64.57







**ACCIAIO INOX | STAINLESS STEEL**

**VALVOLE E FILTRI  
VALVES AND STRAINERS**

**ART. 621  
VALVOLA A SFERA INOX, 2 PEZZI, PASSAGGIO TOTALE**

CERTIFICATI EN 10204/2.1

ESECUZIONE SPECIALE: A RICHIESTA FILETTATURA NPT

**CARATTERISTICHE TECNICHE**

1. Valvola inox passaggio totale, 2 pezzi
2. Filettatura delle estremità gas EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Acciaio AISI 316 (CF8M)
4. Sede sfera in PTFE + 15% fibra di vetro
5. Stelo anti-espulsione
6. O'ring dello stelo in Viton
7. Guarnizione dello stelo in PTFE
8. Sistema di bloccaggio
9. Pressione massima 63 bar
10. Temperatura d'esercizio - 25 °C + 180 °C

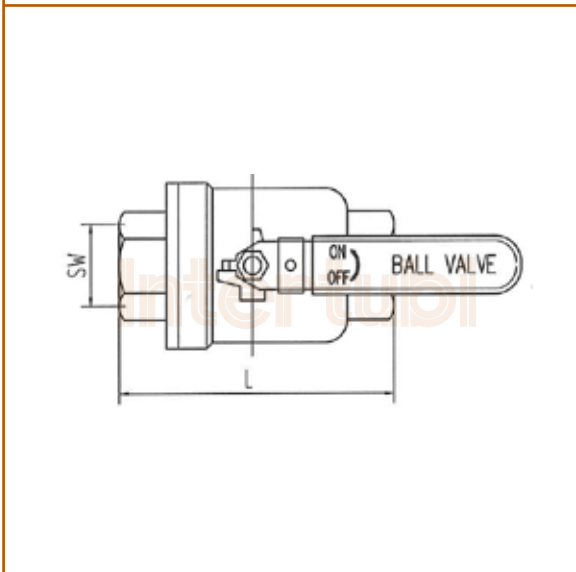
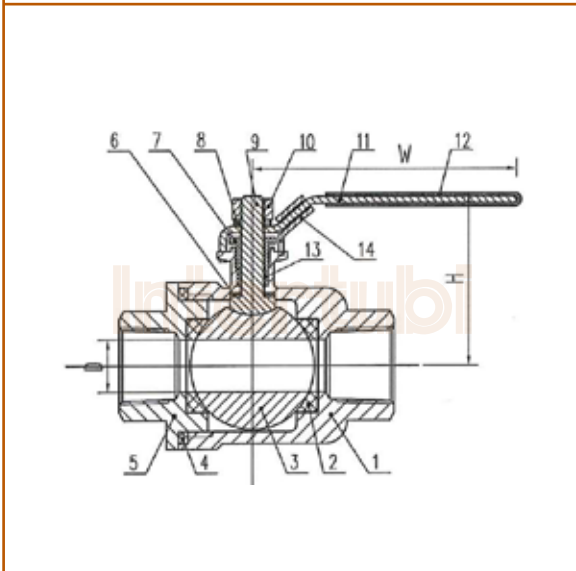
**ART. 621  
STAINLESS STEEL FULL PORT BALL VALVE, 2 PIECES**

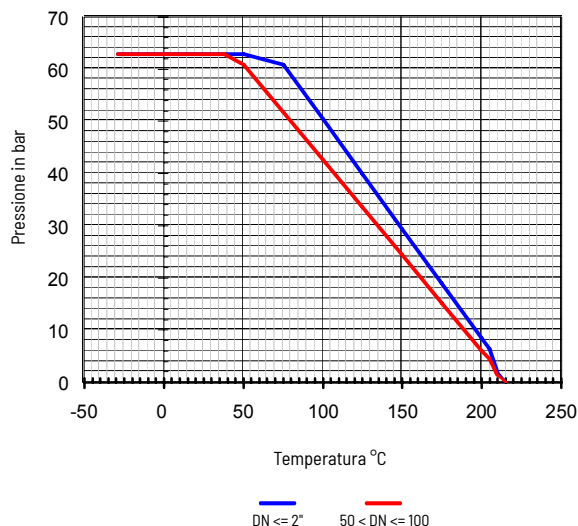
CERTIFICATES EN 10204/2.1

SPECIAL EXECUTION: THREADING ON REQUEST NPT

**TECHNICAL INFORMATION**

1. Stainless steel full port ball valve, 2 pieces
2. Thread ends according gas EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Made of AISI 316 (CF8M)
4. Ball seats PTFE + 15% G.F.
5. Blow-out proof stem
6. Viton o'ring stem
7. Stem gasket PTFE
8. Locking system
9. Max.. Working pressure bar
10. Working temperature -25 °C + 180 °C



**CURVA PRESSIONE TEMPERATURA**  
 PRESSURE TEMPERATURE RATING

**DIMENSIONI GENERALI**  
 GENERAL DIMENSIONS

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)				Peso Weight (Kg)
			L	H	SW	W	
1/4"	IV6211/4	63	49	44	17	85	0.20
3/8"	IV6213/8	63	50	44	21	85	0.19
1/2"	IV6211/2	63	59	46	25	95	0.23
3/4"	IV6213/4	63	65	53	31	120	0.44
1"	IV6211	63	78	57	38	120	0.60
1 1/4"	IV62111/4	63	88	71	48	135	1.08
1 1/2"	IV62111/2	63	100	75	55	170	1.54
2"	IV6212	63	120.5	96	68	170	2.64
2 1/2"	IV62121/2	63	146.5	128	83	235	4.70
3"	IV6213	63	168	135	99	235	7.28

N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316/SS 316	Ruvida/Shot blasting
2	Coperchio / Cap	Inox Aisi 316/SS 316	Ruvida/Shot blasting
3	Sfera / Ball	Inox Aisi 316/SS 316	--
4	Stelo / Stem	Inox Aisi 316/SS 316	--
5	Guarnizione sede sfera / seat ball	TEFLON + 15% FV/PTFE +15% GF	--
6	Guarnizione corpo - coperchio / Gasket	TEFLON PTFE/TEFLON	--
7	Rondella / Trust Washer	TEFLON PTFE/TEFLON	--
8	O'ring Asta / O'ring	VITON	--
9	Guarnizione corpo - asta / Stem packing	Inox Aisi 304/SS 304	--
10	Rondella / Washer	Inox Aisi 304/SS 304	--
11	Dado / Nut	Inox Aisi 304/SS 304	--
12	Leva / Handle	Inox Aisi 304/SS 304	--
13	Rivestimento leva / Handle sleeve	Vinile / Vinyl	--

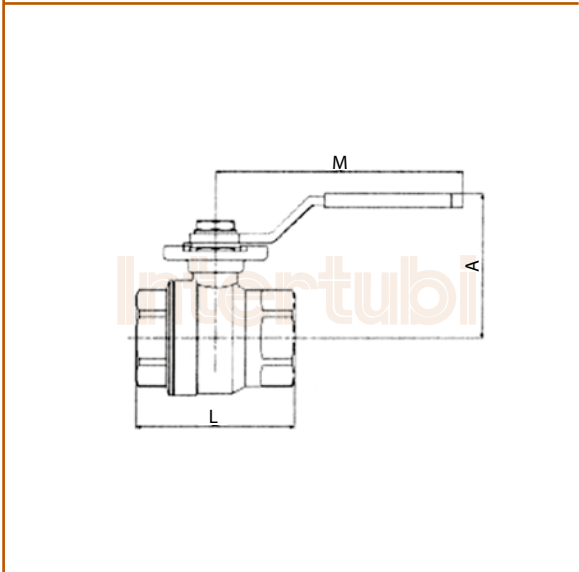
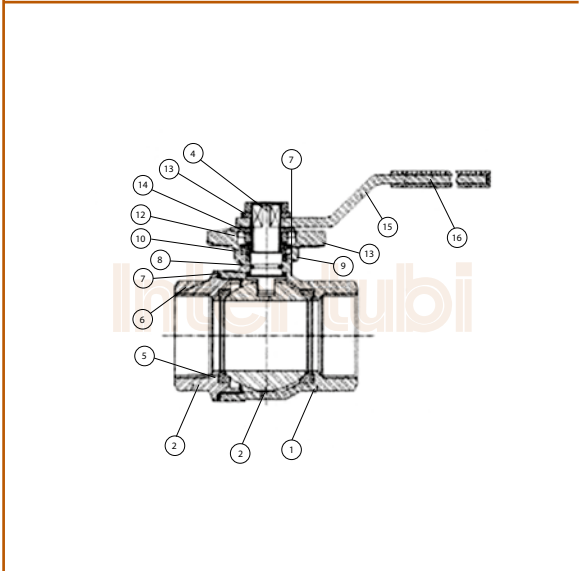
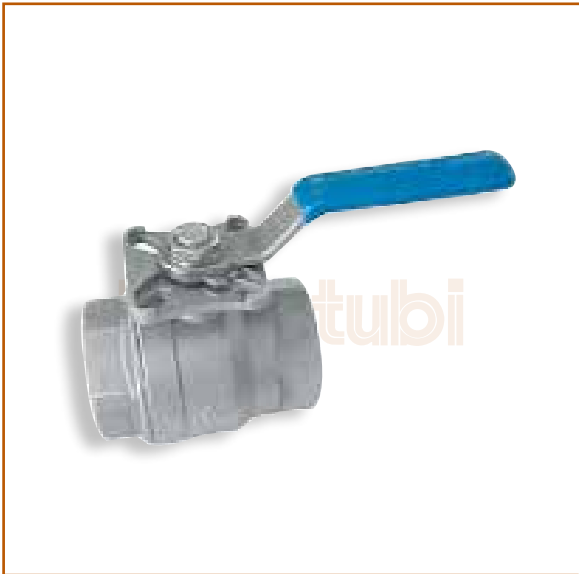
Misura Size	Coppia Activating torque (Nm)
1/4"	4 - 5
3/8"	4 - 5
1/2"	4 - 5
3/4"	7 - 8
1"	9 - 10
1 1/4"	12 - 14
1 1/2"	18 - 20
2"	28 - 30
2 1/2"	34 - 36
3"	58 - 60

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
6	10	24	43	83	130	205	340	520	1100


**ART. 621/A**
**VALVOLA A SFERA INOX, 2 PEZZI, PASSAGGIO TOTALE**

CERTIFICATI EN 10204/2.1

ESECUZIONE SPECIALE: A RICHIESTA FILETTATURA NPT

**CARATTERISTICHE TECNICHE**

1. Valvola inox passaggio totale, 2 pezzi
2. Filettatura delle estremità gas EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Acciaio AISI 316 (CF8M)
4. Sede sfera in PTFE + 15% fibra di vetro
5. Anello dello stelo in Viton
6. Guarnizione dello stelo in PTFE
7. Sistema di bloccaggio
8. Flangia ISO 5211 per montaggio diretto attuatore
9. Stelo anti-espulsione
10. Pressione massima 63 bar
11. Temperatura d'esercizio - 25 °C + 180 °C

**ART. 621/A**
**STAINLESS STEEL FULL PORT BALL VALVE, 2 PIECES**

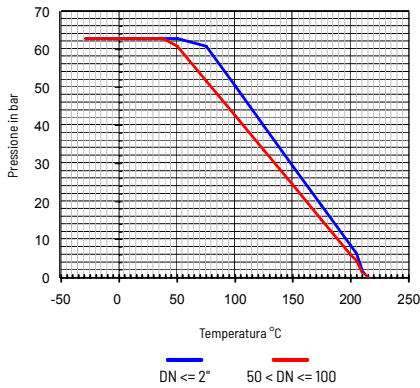
CERTIFICATES EN 10204/2.1

SPECIAL EXECUTION: THREADING ON REQUEST NPT

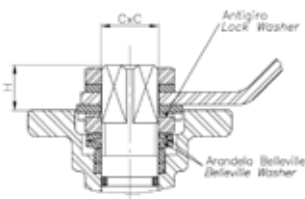
**TECHNICAL INFORMATION**

1. Stainless steel full port ball valve, 2 pieces
2. Thread ends according gas EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Made of AISI 316 (CF8M)
4. Ball seats PTFE + 15% G.F.
5. Viton o 'ring stem
6. Stem gasket PTFE
7. Locking system
8. Direct mounting actuator ISO 5211
9. Blow-out proof stem.
10. Max.. Working pressure 63 bar
11. Working temperature -25 °C + 180 °C

**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**DETTAGLI DELLA ZONA DI TENUTA ALBERO**  
STEM DETAIL



Molle a tazza / Belleville Washer. Le molle a tazza esercitano una forza costante sulle guarnizioni dell'albero, garantendo una tenuta stagna al variare delle condizioni di esercizio. / Standard belleville washers provide constant "live load" on the stem seals, assuring a tight seal even varying parameters.

Rosetta anti svitamento / Lock Washer. Previene lo svitamento del dado dell'albero quando sottoposto a un elevato ciclo di manovre. / Prevents unthreading of stem nut in high cycle automation applications.

**DIMENSIONI GENERALI**  
GENERAL DIMENSIONS

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)						Peso Weight (Kg)
			A	L	M	ISO 5211	CxC	H	
1/4"	IV621A1/4	63	62	50	112	F-03	9	10	0.30
3/8"	IV621A3/8	63	62	50	112	F-03	9	10	0.30
1/2"	IV621A1/2	63	63	55	112	F-03/F-04	9	11	0.35
3/4"	IV621A3/4	63	70	70.6	138	F-04/F-05	11	11	0.56
1"	IV621A1	63	70	83	138	F-04/F-05	11	11	0.78
1 1/4"	IV621A11/4	63	88	91	160	F-05/F-07	14	15	1.35
1 1/2"	IV621A11/2	63	94	103	205	F-05/F-07	14	15	1.90
2"	IV621A2	63	100	120	205	F-05/F-07	14	15	2.83

Misura Size	Coppia Breakaway torque (Nm)
1/4"	4 - 5
3/8"	4 - 5
1/2"	4 - 5
3/4"	7 - 8
1"	9 - 10
1 1/4"	12 - 14
1 1/2"	18 - 20
2"	28 - 30

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

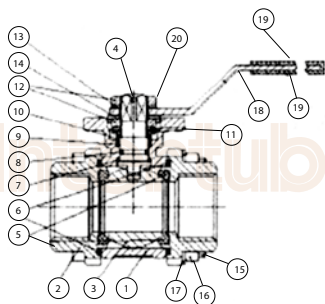
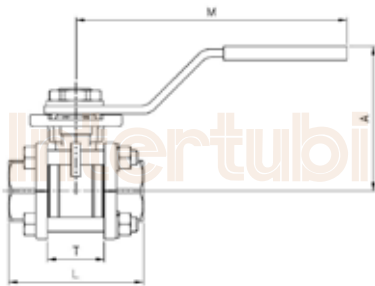
Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
6	10	24	43	83	130	205	340

N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316/SS 316	Ruvida / Shoot blasting
2	Coperchio / Cap	Inox Aisi 316/SS 316	Ruvida / Shoot blasting
3	Sfera / Ball	Inox Aisi 316/SS 316	---
4	Stelo / Stem	Inox Aisi 316/SS 316	---
5	Guarnizione sede sfera / Seat ball	TEFLON + 15% FV/PTFE + 15% GF	---
6	Guarnizione corpo - coperchio / Gasket	TEFLON PTFE	---
7	Rondella / Trust Washer	TEFLON PTFE+Grafite / PTFE +Graphite	---
8	O'ring Asta / O'ring	VITON	---
9	Guarnizione corpo - asta / Stem packing	PTFE	---
10	Guarnizione / Stem ring	Inox Aisi 304/SS 304	---
11	Rondella molla / Spring washer	Inox Aisi 301/SS 301	---
12	Dado / Nut	Inox Aisi 304/SS 304	---
13	Rondella / Washer	Inox Aisi 304/SS 304	---
14	Rondella di sicurezza / Stopper	Inox Aisi 304/SS 304	---
15	Leva / Handle	Inox Aisi 304/SS 304	---
16	Rivestimento leva / Handle sleeve	Vinile - Vinyl	---
17	Rosetta anti slittamento / Lock washer	Inox Aisi 304/SS 304	---

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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UNICAMENTE PER I DIAMETRI DA 2 1/2" A 4"  
FOR 2 1/2" - 4" SIZES ONLY


**ART. 641**
**VALVOLA A SFERA INOX, 3 PEZZI, PASSAGGIO TOTALE**

CERTIFICATI EN 10204/2.1

ESECUZIONE SPECIALE: A RICHIESTA NPT, BW, SW

**CARATTERISTICHE TECNICHE**

1. Valvola inox passaggio totale, 3 pezzi
2. Filettatura delle estremità standard gas EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Acciaio AISI 316 (CF8M)
4. Sede sfera in PTFE + 15% fibra di vetro
5. O'ring dello stelo in Viton
6. Guarnizione dello stelo in PTFE
7. Sistema di bloccaggio
8. Flangia ISO 5211 per montaggio diretto attuatore
9. Stelo anti-espulsione
10. Pressione massima 63 bar
11. Temperatura d'esercizio - 25 °C + 180 °C

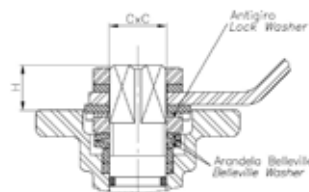
**ART. 641**
**STAINLESS STEEL FULL PORT BALL VALVE, 3 PIECES**

CERTIFICATES EN 10204/2.1

SPECIAL EXECUTION: ON REQUEST NPT, BW, SW

**TECHNICAL INFORMATION**

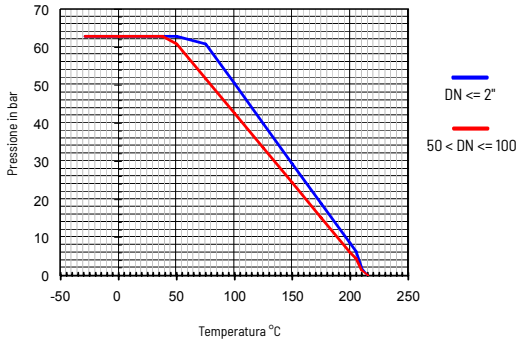
1. Stainless steel full port ball valve, 3 pieces
2. Thread ends according gas EN 10226-1 (EX ISO 7-1 e DIN 2999) standard
3. Made of AISI 316 (CF8M)
4. Ball seats PTFE + 15% G.F.
5. Viton o'ring stem
6. Stem gasket PTFE
7. Locking system
8. Direct mounting actuator ISO 5211
9. Blow-out proof stem.
10. Max.. Working pressure 63 bar
11. Working temperature -25 °C + 180 °C

**DETTAGLI DELLA ZONA DI TENUTA ALBERO | STEM DETAIL**


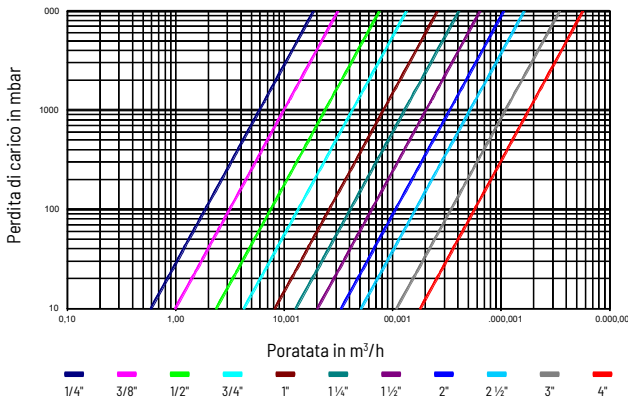
Molle a tazza / Belleville Washer. Le molle a tazza esercitano una forza costante sulle guarnizioni dell'albero, garantendo una tenuta stagna al variare delle condizioni di esercizio. / Standard belleville washers provide constant "live load" on the stem seals, assuring a tight seal even varying parameters.

Rosetta anti svitamento / Lock Washer. Previene lo svitamento del dado dell'albero quando sottoposto a un elevato ciclo di manovre. / Prevents unthreading of stem nut in high cycle automation applications.

**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**DIAGRAMMA DELLE PERDITE DI CARICO**  
HEAD LOSSES DIAGRAM



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316	Ruvida / Shoot blasting
2	Coperchio / Cap	Inox Aisi 316	Ruvida / Shoot blasting
3	Sfera / Ball	Inox Aisi 316	---
4	Stelo / Stem	Inox Aisi 316	---
5	Guarnizione sede sfera / Seat ball	PTFE+15% GF	---
6	Guarnizione corpo - coperchio / Gasket	PTFE	---
7	Rondella / Trust Washer	PTFE+Grafite / PTFE++ Graphite	---
8	O'ring Asta / O'ring	VITON	---
9	Guarnizione corpo - asta / Stem packing	PTFE	---
10	Guarnizione corpo-asta / Stem ring	Inox Aisi 316	---
11	Rondella molla / Spring washer	Inox Aisi 301	---
12	Dado / Nut	Inox Aisi 304	---
13	Rondella / Washer	Inox Aisi 304	---
14	Rondella di sicurezza / Stopper	Inox Aisi 304	---
15	Bullone / Bolt	Inox Aisi 304	---
16	Dado / Nut	Inox Aisi 304	---
17	Rondella del bullone / Bolt washer	Inox Aisi 304	---
18	Leva / Handle	Inox Aisi 304	---
19	Rivestimento leva / Handle sleeve	Vinile / Vinyl	---
20	Antisfilamento / Lock	Inox AISI 304	---

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)						M	Peso Weight (Kg)
			A	L	M	ISO 5211	H	CxC		
1/4"	IV6411/4	63	60	47.6	23	F-03	10	9x9	112	0.39
3/8"	IV6413/8	63	60	47.6	23	F-03	10	9x9	112	0.38
1/2"	IV6411/2	63	60	56	24	F-03/F-04	11	9x9	112	0.44
3/4"	IV6413/4	63	70	73	30	F-04/F-05	11	11x11	138	0.82
1"	IV6411	63	70	82	33.5	F-04/F-05	11	11x11	138	1.02
1 1/4"	IV64111/4	63	88	91	41.5	F-05/F-07	15	14x14	160	1.79
1 1/2"	IV64111/2	63	94	104	51.5	F-05/F-07	15	14x14	205	2.46
2"	IV6412	63	100	120	63	F-05/F-07	15	14x14	205	3.47
2 1/2"	IV64121/2	63	150	155	83.5	F-07/F-10	19	17x17	330	8.50
3"	IV6413	63	165	182	100	F-07/F-10	19	17x17	330	12.40
4"	IV6414	63	175	220	118.5	F-07/F-10	19	17x17	340	19.65

Misura Size	Coppia Breakaway torque (Nm)
1/4"	4 - 5
3/8"	4 - 5
1/2"	4 - 5
3/4"	7 - 8
1"	9 - 10
1 1/4"	12 - 14
1 1/2"	18 - 20
2"	28 - 30
2 1/2"	34 - 36
3"	58 - 60
4"	90 - 95

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
6	10	24	43	83	130	205	340	520	1100	1820

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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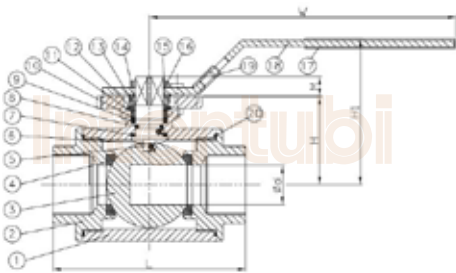



**ART. 040  
VALVOLA A SFERA ACCIAIO INOSSIDABILE  
TRE VIE TIPO "L"**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

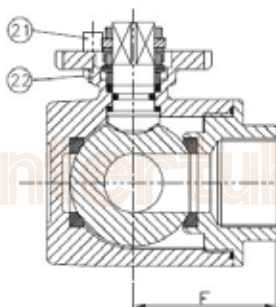
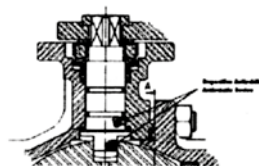
1. Valvola inox tre vie tipo "L"
2. Configurazione sfera "L"
3. Filettatura estremità accordo EN 10226-1 (ISO 7.1, DIN 2999)
4. Acciaio Inox 316
5. Quadro guarnizioni sede sfera PTFE + 15% GF
6. Guarnizione dello stelo in PTFE
7. Anello dello stelo in VITON
8. Dispositivo anti-statico
9. Sistema di bloccaggio
10. Flangia ISO 5211 per montaggio diretto attuatore
11. Stelo anti-espulsione
12. Pressione massima 63 bar


**ART. 040  
STAINLESS STEEL REDUCE PORT BALL VALVE,  
THREE WAY TYPE "L"**

CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. Stainless steel full port ball valve, 3 pieces
2. "L" Ball configuration
3. Thread ends according EN 10226-1 (ISO 7.1 and DIN 2999)
4. Made of AISI 316 (CF8M)
5. Four Ball seats PTFE + 15% G.F.
6. Stem gasket PTFE
7. Viton o'ring stem
8. Anti-static device (Ball-Stem-Body)
9. Locking system
10. Direct mounting actuator ISO 5211
11. Blow-out proof stem.
12. Max.. Working pressure 63 bar

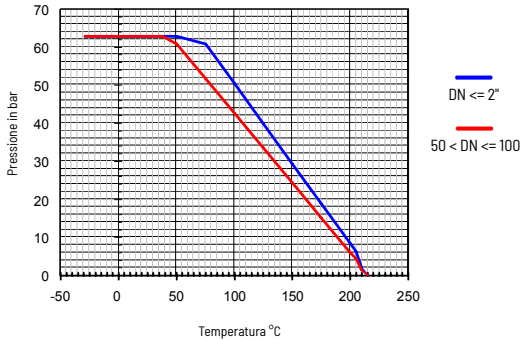

**DISPOSITIVO ANTISTATICO | ANTISTATIC DEVICE**


Questo dispositivo garantisce una continuità elettrica tra Sfera - Stelo - Corpo, esigenza particolarmente richiesta per i fluidi infiammabili.

*This device guarantees electric continuity between Ball - Stem - Body.  
This is of special necessity in inflammable fluids.*

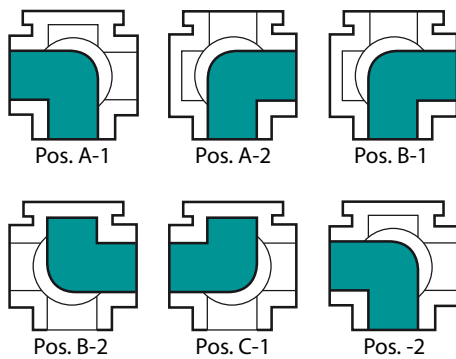


**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**CONFIGURAZIONE VALVOLE 3 VIE L-PORT "GIRO 90°"**  
FLOW PATTERNS FOR "L-PORT" 3 WAY VALVES 90° TURN

**DIREZIONE FLUIDO | FLOW PATTERN (ART. 040)**



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox AISI 316 / SS 316	Decapata / Shoot blasting + Pickling
2	Coperchio / Cap	Inox AISI 316 / SS 316	Decapata / Shoot blasting + Pickling
3	Sfera / Ball	Inox AISI 316 / SS 316	---
4	Guarnizione sede sfera / Ball Seat	Teflòn + 15% FV / PTFE + 15% GF	---
5	Stelo / Stem	Inox AISI 316 / SS 316	---
6	Dispositivo anti statico / Anti-Static device	Inox AISI 316 / SS 316	---
7	Rondella / Trust Washer	PTFE	---
8	O'ring / O'ring	FKM (Viton)	---
9	Guarnizione stelo / Stem packing	PTFE	---
10	Guarnizione / Bushing	Inox + PTFE / S.S. + PTFE	---
11	Anello di tenuta / Stem ring	Inox AISI 316 / SS 316	---
12	Rondella molla / Spring Washer	Inox AISI 301 / SS 301	---
13	Dado / Nut	ASTM A194-8	---
14	Rondella di sicurezza / Stopper	Inox AISI 304 / SS 304	---
15	Rondella / Washer	Inox AISI 304 / SS 304	---
16	Dado leva / Handle Nut	Inox AISI 304 / SS 304	---
17	Rivestimento leva / Handle Sleeve	Vynil	---
18	Leva / Handle	Inox AISI 304 / SS 304	---
19	Dispositivo a chiave / Lock device	Inox AISI 304 / SS 304	---
20	Guarnizione coperchio / Gasket	Teflòn / PTFE	---
21	Perno / Stop Bolt	Inox AISI 304 / SS 304	---
22	Dado / Nut	ASTM A194-8	---

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)								Cx C	d	Peso Weight (Kg)
			ISO 5211		L	H	H1	W	M	F			
1/4"	IV0401/4	63	F03	F04	75	37	66	130	7	37	9x9	11	0.70
3/8"	IV0403/8	63	F03	F04	75	37	66	130	7	37	9x9	11	0.67
1/2"	IV0401/2	63	F03	F04	75	37	66	130	7	37	9x9	11	0.63
3/4"	IV0403/4	63	F04	F05	85	41	72	161	7	42	11x11	15	0.95
1"	IV0401	63	F04	F05	100	47	77	161	7	50	11x11	20	1.40
1 1/4"	IV04011/4	63	F05	F07	122	56	92	203	7	61	14x14	25	2.90
1 1/2"	IV04011/2	63	F05	F07	131	60	96	203	12	65	14x14	32	3.60
2"	IV0402	63	F05	F07	158	71	107	203	12	79	14x14	40	6.25
2 1/2"	IV04021/2	63	F07	F10	178	95	135	254	14	89	17x17	49	8.95

Misura Size	Coppia Breakaway torque (Nm)
1/4"	5 - 6
3/8"	5 - 6
1/2"	5 - 6
3/4"	8 - 9
1"	11 - 12
1 1/4"	14 - 15
1 1/2"	20 - 21
2"	30 - 31
2 1/2"	***

**VALORE di Kv / Kv VALUES**

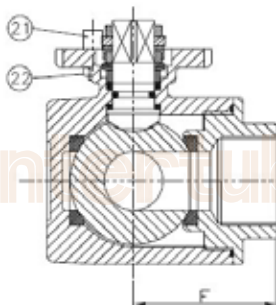
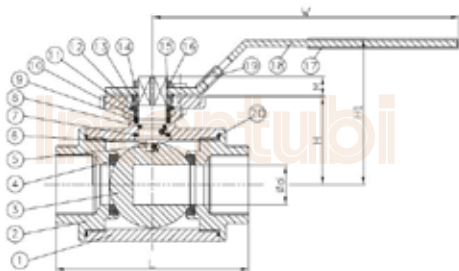
Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

Med./Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
m³/h	11	11	13	15	31	39	62	103	205

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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**ART. 041**  
**VALVOLA A SFERA ACCIAIO INOSSIDABILE**  
**TRE VIE TIPO "T"**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

1. Valvola inox tre vie tipo "T"
2. Configurazione sfera "T"
3. Filettatura estremità accordo EN 10226-1 (ISO 7.1, DIN 2999)
4. Acciaio Inox 316
5. Quadro guarnizioni sede sfera PTFE + 15% GF
6. Guarnizione dello stelo in PTFE
7. Anello dello stelo in VITON
8. Dispositivo anti-statico
9. Sistema di bloccaggio
10. Flangia ISO 5211 per montaggio diretto attuatore
11. Stelo anti-espulsione
12. Pressione massima 63 bar
13. Temperatura d'esercizio - 25 °C + 180 °C

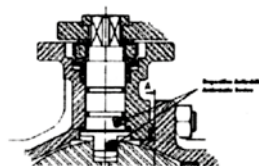
**ART. 041**  
**STAINLESS STEEL REDUCE PORT BALL VALVE,**  
**THREE WAY TYPE "T"**

CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. Stainless steel full port ball valve, 3 pieces
2. "T" Ball configuration
3. Thread ends according EN 10226-1 (ISO 7.1 and DIN 2999)
4. Made of AISI 316 (CF8M)
5. Four Ball seats PTFE + 15% G.F.
6. Stem gasket PTFE
7. Viton o'ring stem
8. Anti-static device (Ball-Stem-Body)
9. Locking system
10. Direct mounting actuator ISO 5211
11. Blow-out proof stem.
12. Max.. Working pressure 63 bar
13. Working temperature -25 °C + 180 °C

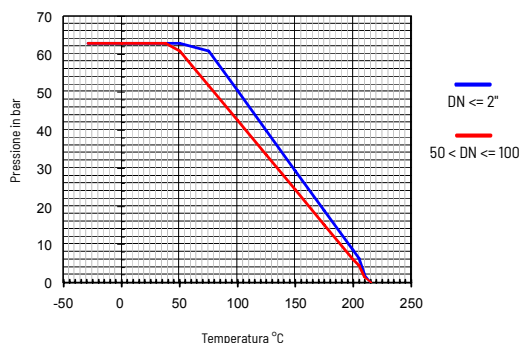
**DISPOSITIVO ANTISTATICO | ANTISTATIC DEVICE**



Questo dispositivo garantisce una continuità elettrica tra Sfera - Stelo - Corpo, esigenza particolarmente richiesta per i fluidi infiammabili.

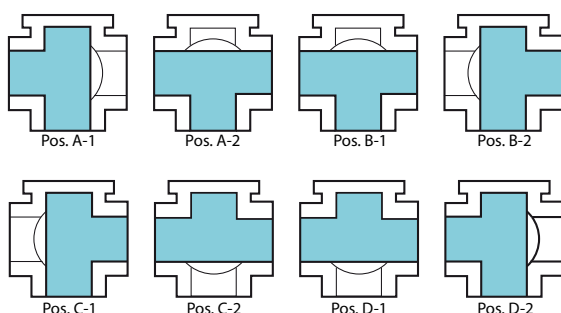
*This device guarantees electric continuity between Ball - Stem - Body.  
 This is of special necessity in inflammable fluids.*

**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**CONFIGURAZIONE VALVOLE 3 VIE T-PORT "GIRO 90°"**  
FLOW PATTERNS FOR "T-PORT" 3 WAY VALVES 90° TURN

**DIREZIONE FLUIDO | FLOW PATTERN (ART. 041)**



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox AISI 316 / SS 316	Decapata / Shoot blasting + Pickling
2	Coperchio / Cap	Inox AISI 316 / SS 316	Decapata / Shoot blasting + Pickling
3	Sfera / Ball	Inox AISI 316 / SS 316	---
4	Guarnizione sede sfera / Ball Seat	Teflòn + 15% FV / PTFE + 15% GF	---
5	Stelo / Stem	Inox AISI 316 / SS 316	---
6	Dispositivo anti statico / Anti-Static device	Inox AISI 316 / SS 316	---
7	Rondella / Trust Washer	PTFE	---
8	O'ring / O'ring	FKM (Viton)	---
9	Guarnizione stelo / Stem packing	PTFE	---
10	Guarnizione / Bushing	Inox + PTFE / S.S. + PTFE	---
11	Anello di tenuta / Stem ring	Inox AISI 316 / SS 316	---
12	Rondella molla / Spring Washer	Inox AISI 301 / SS 301	---
13	Dado / Nut	ASTM A194-8	---
14	Rondella di sicurezza / Stopper	Inox AISI 304 / SS 304	---
15	Rondella / Washer	Inox AISI 304 / SS 304	---
16	Dado leva / Handle Nut	Inox AISI 304 / SS 304	---
17	Rivestimento leva / Handle Sleeve	Vynil	---
18	Leva / Handle	Inox AISI 304 / SS 304	---
19	Dispositivo a chiave / Lock device	Inox AISI 304 / SS 304	---
20	Guarnizione coperchio / Gasket	Teflòn / PTFE	---
21	Perno / Stop Bolt	Inox AISI 304 / SS 304	---
22	Dado / Nut	ASTM A194-8	---

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)								Cx C	d	Peso Weight (Kg)
			ISO 5211		L	H	H1	W	M	F			
1/4"	IV0401/4	63	F03	F04	75	37	66	130	7	37	9x9	9.5	0.70
3/8"	IV0403/8	63	F03	F04	75	37	66	130	7	37	9x9	11	0.67
1/2"	IV0401/2	63	F03	F04	75	37	66	130	7	37	9x9	12	0.63
3/4"	IV0403/4	63	F04	F05	85	41	72	161	7	42	11x11	15	0.95
1"	IV0401	63	F04	F05	100	47	77	161	7	50	11x11	20	1.40
1 1/4"	IV04011/4	63	F05	F07	122	56	92	203	7	61	14x14	25	2.90
1 1/2"	IV04011/2	63	F05	F07	131	60	96	203	12	65	14x14	32	3.60
2"	IV0402	63	F05	F07	158	71	107	203	12	79	14x14	40	6.25
2 1/2"	IV04021/2	63	F07	F10	178	95	135	254	14	89	17x17	49	8.72

Misura Size	Coppia Breakaway torque (Nm)
1/4"	5 - 6
3/8"	5 - 6
1/2"	5 - 6
3/4"	8 - 9
1"	11 - 12
1 1/4"	14 - 15
1 1/2"	20 - 21
2"	30 - 31
2 1/2"	***

**VALORE di Kv / Kv VALUES**

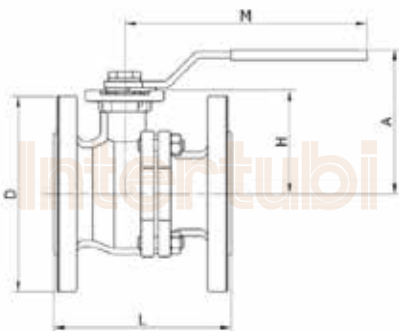
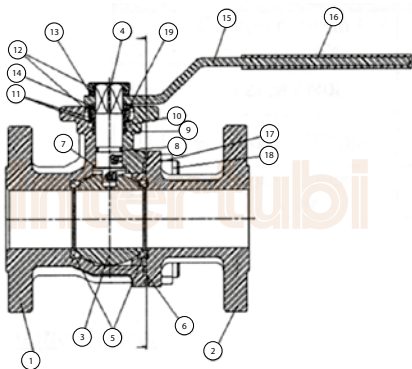
Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

Med./Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
m³/h	11	11	13	15	31	39	62	103	205

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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**ART. 528**  
**VALVOLA A SFERA ACCIAIO INOSSIDABILE,**  
**PASSAGGIO TOTALE FLANGIATA**

CERTIFICATI EN 10204/2.1

CARATTERISTICHE TECNICHE

1. Valvola a sfera passaggio totale, 2 pezzi
2. Estremità flangiate secondo DIN 2501-EN. PN40 da DN15 a DN50 e Pn16 da Dn65 a DN200
3. Acciaio inox DIN 1.4408 (CF8M)
4. Disegni secondo le normative DIN 3357/ISO 5752
5. Scartamento tra le facce secondo DIN 3202 F4/F5
6. Sede della sfera in PTFE + 15% Fibra di vetro
7. Guarnizione spirometallica fino a DN32
8. O'ring dello stelo in Viton
9. Stelo anti-espulsione
10. Flangia ISO 5211 per montaggio diretto attuatore
11. Sistema di bloccaggio
12. Dispositivo anti-statico
13. Disegno anti-incendio
14. Pressione massima 40/16 bar
15. Temperatura d'esercizio -30°C + 180° C

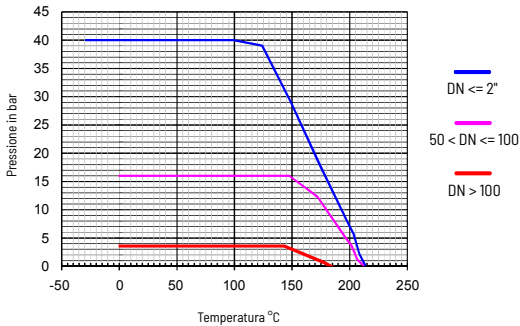
**ART. 528**  
**STAINLESS STEEL FULL PORT BALL VALVE, FLANGED ENDS**

CERTIFICATES EN 10204/2.1

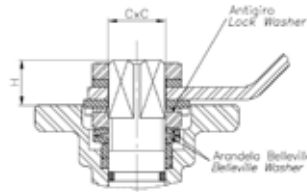
TECHNICAL INFORMATION

1. Full port ball valve, 2 pieces
2. Flanged ends according DIN 2501-EN. PN40 DN 15 to DN 50 and PN16 DN 65 to DN 200
3. Made of Stainless Steel Din 1.4408 (CF8M)
4. Desing according DIN 3357 / ISO 5752
5. Face to face according Din 3202 F4 / F5
6. Ball seats PTFE + 15% G. F.
7. Up to Dn 32 with spirometalic gasket
8. Viton O' ring stem
9. Blow-out proof stem.
10. Direct mounting actuator according ISO 5211 (patent system).
11. Block System included
12. Anti- Static device
13. Fire-safe design
14. Max.. Working pressure 40/16 bar
15. Working Temperature -30 °C + 180 °C

**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**DETTAGLI DELLA ZONA DI TENUTA ALBERO**  
STEM DETAIL

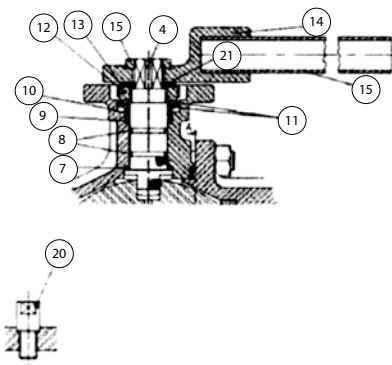


Molle a tazza / Belleville Washer. Le molle a tazza esercitano una forza costante sulle guarnizioni dell'albero, garantendo una tenuta stagna al variare delle condizioni di esercizio. / Standard belleville washers provide constant "live load" on the stem seals, assuring a tight seal even varying parameters.

Rosetta anti svitamento / Lock Washer. Previene lo svitamento del dado dell'albero quando sottoposto a un elevato ciclo di manovre. / Prevents unthreading of stem nut in high cycle automation applications.

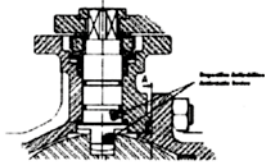
**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)						H	h	Peso Weight (Kg)	Misura Size	Coppia Activating torque (Nm)
			ISO 5211	D	A	L	M	CxC					
1/2"	IV5281/2	40	F04	95	85	115	170	9x9	46	9.5	2.20	1/2"	4 - 5
3/4"	IV5283/4	40	F04/05	105	85	120	170	9x9	51	10	3.05	3/4"	7 - 8
1"	IV5281	40	F04/05	116	95	125	170	11x11	57	11	3.75	1"	9 - 10
1 1/4"	IV52811/4	40	F05/07	140	106	130	200	14x14	71	15.5	5.75	1 1/4"	12 - 14
1 1/2"	IV52811/2	40	F05/07	150	110	140	200	14x14	76	15.5	7.00	1 1/2"	18 - 20
2"	IV5282	40	F05/07	165	118	150	200	14x14	83	15.5	9.50	2"	28 - 30
2 1/2"	IV52821/2	16	F07/10	185	170	170	380	17x17	119	21	14.75	2 1/2"	34 - 36
3"	IV5283	16	F07/10	200	170	180	380	17x17	130	21	18.85	3"	58 - 60
4"	IV5284	16	F07/10	220	170	190	380	17x17	145	21	26.25	4"	90 - 95
5"	IV5285	16	F10/12	250	200	325	520	27x27	163	34	43.65	5"	130 - 150
6"	IV5286	16	F10/12	285	220	350	620	27x27	180	34	60.85	6"	190 - 210
8"	IV5288	16	F12	340	300	400	700	25x25	-	-	106.70	8"	380 - 410



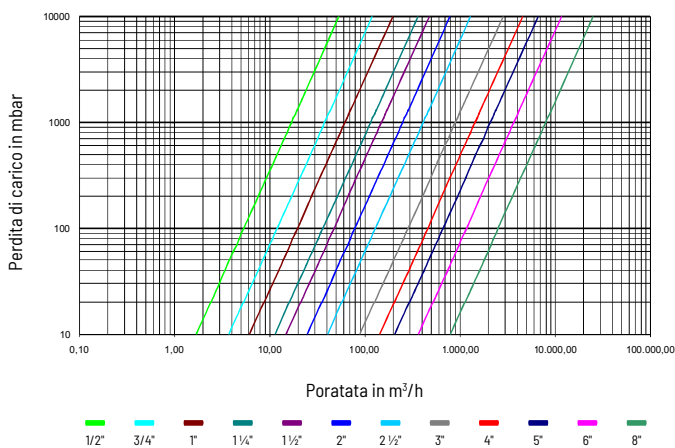
**SOLO PER DIAMETRI DA 2 1/2" - 8"**  
FOR 2 1/2" - 8" SIZES ONLY

N°	Nome / Name	Materiale / Material	Finitura / Surface Treatment
14	Corpo della leva / Body Handle	AISI 304	Decapata / Shot blasting + pickling
19	Dado / Nut	Inox AISI 316	--
20	Perno di bloccaggio / Stopper	Inox AISI 304	--
21	Antigiro / Lock washer	Inox AISI 304	--

**DISPOSITIVO ANTISTATICO**  
**ANTISTATIC DEVICE**


Questo dispositivo garantisce una continuità elettrica tra Sfera - Stelo - Corpo, esigenza particolarmente richiesta per i fluidi infiammabili.

*This device guarantees electric continuity between Ball - Stem - Body. This is of special necessity in inflammable fluids.*

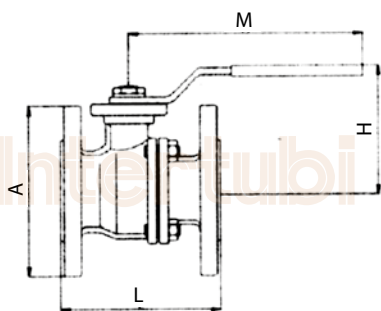
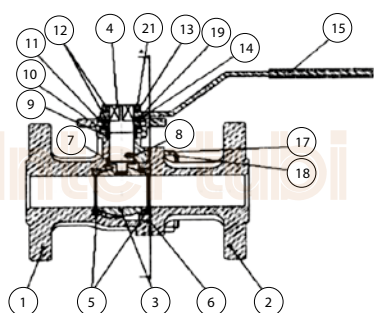
**DIAGRAMMA DELLE PERDITE DI CARICO**  
**HEAD LOSSES DIAGRAM**

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

*Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.*

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
19	40	65	110	180	365	495	970	1620	2530	4050	8650

N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Din 1.4408 (CF8M)	Decapata / Shot blasting + Picking
2	Coperchio / Cap	Din 1.4408 (CF8M)	Decapata / Shot blasting + Picking
3	Sfera / Ball	Inox Aisi 316	---
4	Stelo / Stem	Inox Aisi 316	---
5	Guarnizione sede sfera / Seat ball	PTFE + GF	---
6	Guarnizione corpo - coperchio / Gasket	Spirometallica	---
7	Guarnizione corpo - asta / Stem Packing	PTFE+Grafite / PTFE+Graphite	---
8	O'ring Stelo / O'ring	VITON	---
9	Guarnizione / Stem packing	PTFE	---
10	Guarnizione / Stem ring	Inox Aisi 316	---
11	Rondella / Spring Washer	Inox Aisi 301	---
12	Dado / Nut	Inox Aisi 316	---
13	Rondella / Washer	Inox Aisi 304	---
14	Fermo molla / Stopper	Inox Aisi 304	---
15	Leva / Handle	Inox Aisi 304	---
16	Rivestimento leva / Handle sleeve	Vinyl	---
17	Dado / Nut	Inox Aisi 316	---
18	Perno / Stud bolt	Inox Aisi 316	---
19	Rondella di sicurezza / Lock Washer	Inox Aisi 304	---



**ART. 528/A**  
**VALVOLA A SFERA ACCIAIO INOSSIDABILE,**  
**PASSAGGIO TOTALE FLANGIATA, ANSI CLASSE 150**

CERTIFICATI EN 10204/2.1

CARATTERISTICHE TECNICHE

1. Valvola a sfera passaggio totale, 2 pezzi
2. Estremità flangiata secondo Asme B 16.5 Ansi classe 150
3. Acciaio inox DIN 1.4408 (CF8M)
4. Disegno secondo le normative ASME B16.34
5. Scartamento tra le facce secondo norme ASME B 16.10
6. Sede della sfera in PTFE + 15% Fibra di vetro
7. Guarnizione di tenuta in PTFE
8. Disegno anti-incendio
9. Stelo anti-espulsione
10. Flangia montaggio diretto attuatore secondo ISO 5211
11. Sistema di bloccaggio
12. Dispositivo anti-statico
13. Ispezione e collaudo secondo norme API 598, API 6D
14. Pressione massima 19 bar
15. Temperatura d'esercizio - 30° C + 180 °C

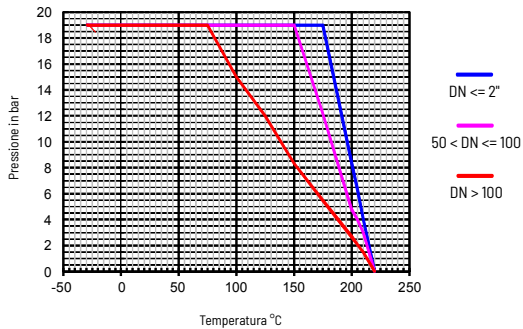
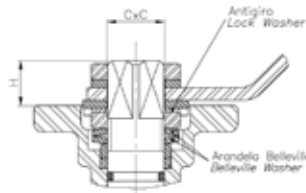
**ART. 528/A**  
**STAINLESS STEEL FULL PORT BALL VALVE, FLANGED**  
**ENDS, ANSI CLASS 150**

CERTIFICATES EN 10204/2.1

TECHNICAL INFORMATION

1. Full port ball valve, 2 pieces
2. Flanged ends according ASME B 16.5 ANSI Class 150
3. Made of Stainless Steel DIN 1.4408 (CF8M)
4. Design according ASME B16.34
5. Face to Face according ASME B 16.10
6. Ball seats PTFE + 15% G.F.
7. Body seal made by PTFE
8. Fire-safe design
9. Blow-out proof stem
10. Direct mounting actuator according ISO 5211
11. Block System included
12. Anti - static device
13. Inspection & Testing: API 598, API 6 D
14. Max.. Working pressure 19 bar
15. Working Temperature - 30 °C + 180 °C



**CURVA PRESSIONE TEMPERATURA**  
*PRESSURE TEMPERATURE RATING*

**DETTAGLI DELLA ZONA DI TENUTA ALBERO**  
*STEM DETAIL*


Molle a tazza / *Belleville Washer*. Le molle a tazza esercitano una forza costante sulle guarnizioni dell'albero, garantendo una tenuta stagna al variare delle condizioni di esercizio. / *Standard belleville washers provide constant "live load" on the stem seals, assuring a tight seal even varying parameters.*

Rosetta anti svitamento / *Lock Washer*. Previene lo svitamento del dado dell'albero quando sottoposto a un elevato ciclo di manovre. / *Prevents unthreading of stem nut in high cycle automation applications.*

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

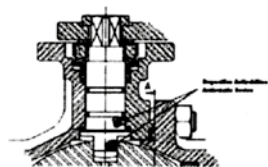
Diametri Size	Codice Code	Classe Class	Dimensioni / Dimensions (mm)					Peso Weight (Kg)	Misura Size	Coppia Activating torque (Nm)	
			ISO 5211	D	A	L	M				CxC
1/2"	IV528A1/2	150	F04	89	85	108	170	9x9	1.50	1/2"	4 - 5
3/4"	IV528A3/4	150	F04/F05	98.6	85	117	170	9x9	2.15	3/4"	7 - 8
1"	IV528A1	150	F04/F05	108	95	127	170	11x11	2.87	1"	9 - 10
1 1/4"	IV528A11/4	150	F05/F07	117	106	140	200	14x14	3.95	1 1/4"	12 - 14
1 1/2"	IV528A11/2	150	F05/F07	127	110	165	200	14x14	5.80	1 1/2"	18 - 20
2"	IV528A2	150	F05/F07	152.5	118	178	200	14x14	8.40	2"	28 - 30
2 1/2"	IV528A21/2	150	F07/F10	177.8	170	190	380	17x17	13.50	2 1/2"	34 - 36
3"	IV528A3	150	F07/F10	190.5	170	203	380	17x17	17.80	3"	58 - 60
4"	IV528A4	150	F07/F10	228.6	170	229	380	17x17	30.50	4"	90 - 95
6"	IV528A6	150	F10/F12	279.4	228	394	620	27x27	56.00	6"	190 - 210
8"	IV528A8	150	F12	342.9	--	457	--	27x27	135.00	8"	380 - 410

**SOLO PER DIAMETRI DA 2 1/2" - 8"**  
*FOR 2 1/2" - 8" SIZES ONLY*

N°	Nome / Name	Materiale / Material	Finitura / Surface Treatment
14	Corpo della leva / Body Handle	AISI 304	Decapata / Shot blasting + Pickling
19	Dado / Nut	AISI 304	--
20	Perno di bloccaggio / Stopper	AISI 304	--
21	Antigiro / Lock washer	AISI 304	--



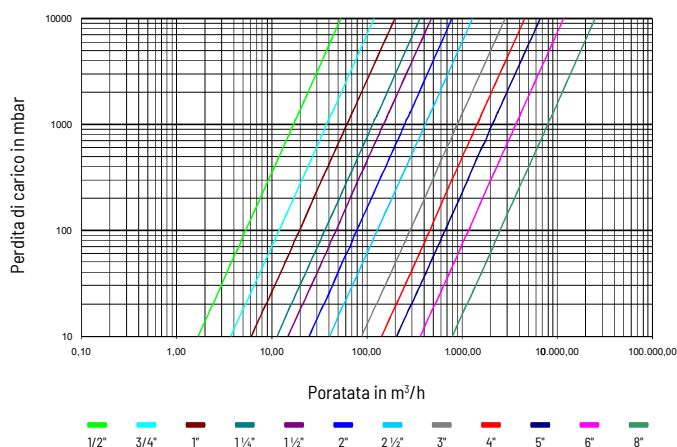
**DISPOSITIVO ANTISTATICO**  
ANTISTATIC DEVICE



Questo dispositivo garantisce una continuità elettrica tra Sfera - Stelo - Corpo, esigenza particolarmente richiesta per i fluidi infiammabili.

*This device guarantees electric continuity between Ball - Stem - Body. This is of special necessity in inflammable fluids.*

**DIAGRAMMA DELLE PERDITE DI CARICO**  
HEAD LOSSES DIAGRAM



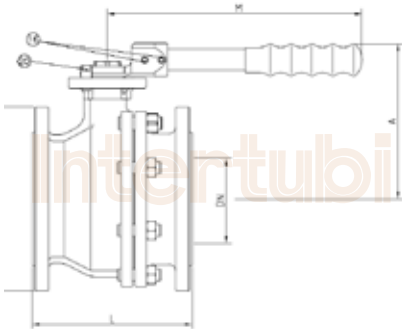
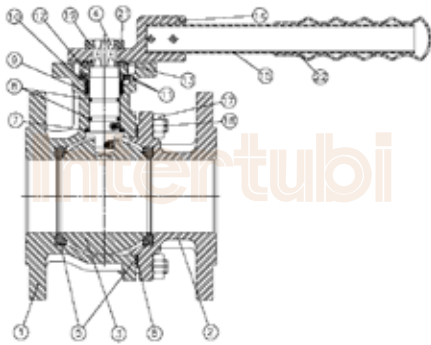
N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	CF8M (AISI 316)	Decapata / Shot blasting + Pickling
2	Coperchio / Cap	CF8M (AISI 316)	Decapata / Shot blasting + Pickling
3	Sfera / Ball	CF8M (AISI 316)	---
4	Stelo / Stem	Inox Aisi 316/SS 316	---
5	Guarnizione sede sfera / Seat ball	PTFE + GF	---
6	Guarnizione corpo/Gasket	PTFE	---
7	Tenuta stelo / Stem racking	PTFE + Graphite	---
8	O'ring	Viton	---
9	Tenuta stelo / Stem racking	PTFE	---
10	Anello di tenuta / Stem ring	Inox Aisi 304/SS 304	---
11	Rondella / Spring washer	Inox Aisi 301/SS 301	---
12	Dado / Nut	Inox Aisi 304/SS 304	---
13	Rondella / Washer	Inox Aisi 304/SS 304	---
14	Corpo Leva / Body Handle	Inox Aisi 304/SS 304	---
15	Leva / Handle	Inox Aisi 304/SS 304	---
16	Rivestimento leva / Handle sleeve	Vinile / Vynil	---
17	Dado / Nut	Inox Aisi 304/SS 304	---
18	Perno / Stud bolt	Inox Aisi 304/SS 304	---
19	Rondella di sicurezza / Lock washer	Inox AISI 304/SS304	---

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

*Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.*

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
17	38	62	115	150	250	410	900	1450	3700	8000



**ART. 529**  
**VALVOLA A SFERA INOX, PASSAGGIO TOTALE**  
**ESTREMITÀ FLANGIATE**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

1. Valvola a sfera passaggio totale, 2 pezzi
2. Estremità flangiate secondo DIN 2501-EN, PN 40.
3. Acciaio inox secondo CF8M
4. Scartamento tra le facce secondo DIN 3202 F4/F5
5. Sede della sfera in PTFE + 15% Fibra di vetro
6. Flangia superiore secondo ISO 5211
7. Anello dello stelo in Viton
8. Stelo anti-espulsione
9. Pressione massima 40 bar
10. Temperatura d'esercizio -30°C + 180° C

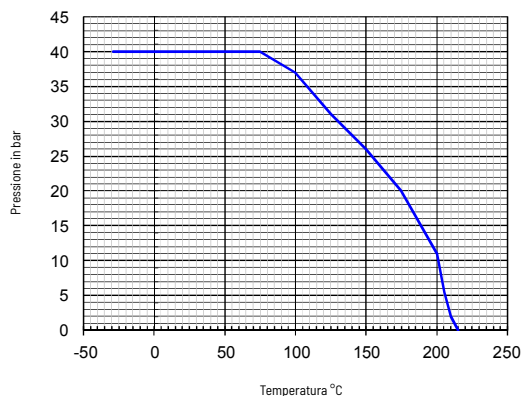
**ART. 529**  
**STAINLESS STEEL FULL PORT BALL VALVE, FLANGED**  
**ENDS**

CERTIFICATES EN 10204/2.1

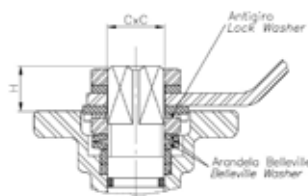
**TECHNICAL INFORMATION**

1. Full port ball valve, 2 pieces
2. Flanged ends according DIN 2501-EN PN-40
3. Made of Stainless Steel Din (CF8M)
4. Face to Face according Din 3202 F4 / F5
5. Ball seats PTFE + 15% G.F.
6. Top flange according ISO 5211
7. Viton O' ring stem
8. Blow-out proof stem
9. Max. Working pressure 40 bar
10. Working Temperature -30 °C + 180 °C

**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**DETTAGLI DELLA ZONA DI TENUTA ALBERO**  
STEM DETAIL



Molle a tazza / Belleville Washer. Le molle a tazza esercitano una forza costante sulle guarnizioni dell'albero, garantendo una tenuta stagna al variare delle condizioni di esercizio. / Standard belleville washers provide constant "live load" on the stem seals, assuring a tight seal even varying parameters.

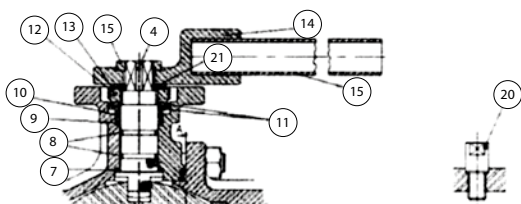
Rosetta anti svitamento / Lock Washer. Previene lo svitamento del dado dell'albero quando sottoposto a un elevato ciclo di manovre. / Prevents unthreading of stem nut in high cycle automation applications.

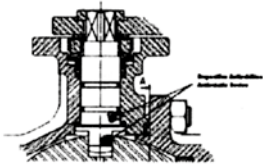
**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)							Peso Weight (Kg)
			DN	D	A	L	M	ISO	CxC	
2 1/2"	IV52921/2	40	65	185	155	170	280	F07/F10	17x17	17.15
3"	IV5293	40	80	200	165	180	280	F07/F10	17x17	21.20
4"	IV5294	40	100	235	180	190	280	F07/F10	17x17	29.90
5"	IV5295	40	125	270	200	325	380	F10/F12	27x27	52.90
6"	IV5296	40	150	300	350	350	450	F10/F12	27x27	75.45

Misura Size	Coppia Activating torque (Nm)
2 1/2"	34 - 36
3"	58 - 60
4"	90 - 95
5"	130 - 150
6"	190 - 210

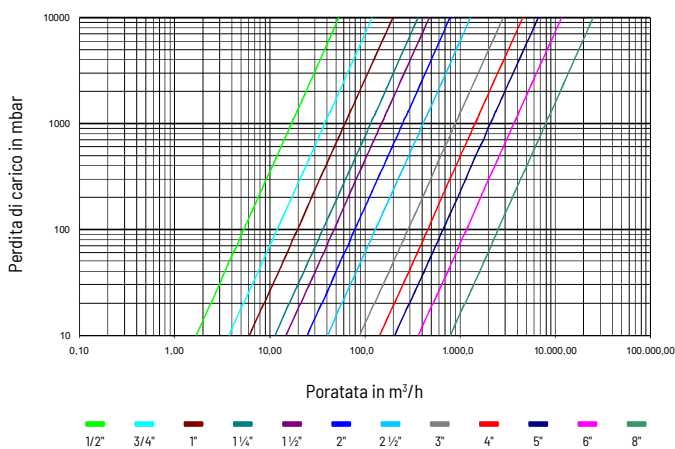
**SOLO PER DIAMETRI DA 4" - 6"**  
FOR 4" - 6" SIZES ONLY



**DISPOSITIVO ANTISTATICO**  
**ANTISTATIC DEVICE**


Questo dispositivo garantisce una continuità elettrica tra Sfera - Stelo - Corpo, esigenza particolarmente richiesta per i fluidi infiammabili.

*This device guarantees electric continuity between Ball - Stem - Body. This is of special necessity in inflammable fluids.*

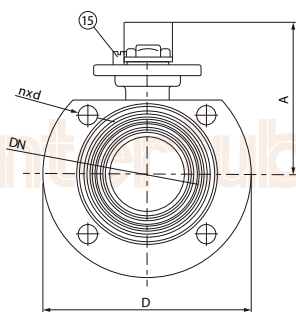
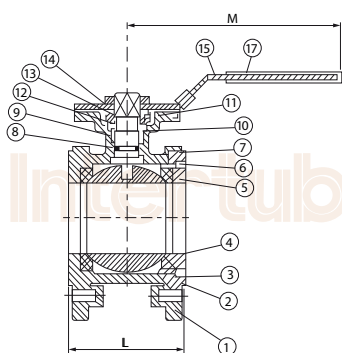
**DIAGRAMMA DELLE PERDITE DI CARICO**  
**HEAD LOSSES DIAGRAM**

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

*Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.*

2 1/2"	3"	4"	5"	6"
410	900	1450	2150	3700

N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Din 1.4408 (CF8M)	Decapata / Shot blasting + Picking
2	Coperchio / Cap	Din 1.4408 (CF8M)	Decapata / Shot blasting + Picking
3	Sfera / Ball	Inox Aisi 316/SS 316	---
4	Stelo / Stem	Inox Aisi 316/SS 316	---
5	Guarnizione sede sfera / Seat ball	PTFE + GF + 15 GF	---
6	Guarnizione corpo / Gasket	PTFE	---
7	Tenuta stelo / Stem packing	PTFE	---
8	O'ring	Viton	---
9	Tenuta stelo / Stem packing	PTFE	---
10	Anello di tenuta / Stem ring	Inox Aisi 304/SS 304	---
11	Rondella / Spring Washer	Inox Aisi 301/SS 301	---
12	Dado / Nut	Inox Aisi 304/SS 304	---
13	Rondella / Spring Washer	Inox Aisi 304/SS 304	---
14	Corpo Leva / Body Handle	Inox Aisi 304/SS 304	---
15	Leva / Handle	Din 1.4408 (CF8M)	---
16	Rivestimento leva / Stud bolt	Inox AISI 304/SS 304	---
17	Dado / Nut	Inox AISI 304/SS 304	---
18	Dado / Stud bolt	Inox AISI 316/SS 316	---
19	Dado / Nut	Inox AISI 304/SS 304	---
20	Fermo/ Stopper	Inox AISI 304/SS 304	---
21	Rondella / Washer	Inox AISI 304/SS 304	---
22	Rivestimento / Mandrel Sleeve	VXNIL	---



## ART. 118 VALVOLA A SFERA INOX, TIPO WAFER

CERTIFICATI EN 10204/2.1

### CARATTERISTICHE TECNICHE

1. Valvola a sfera tipo wafer
2. Montaggio con Flange DIN EN PN16
3. Acciaio AISI 316
4. Sede sfera in PTFE + 15% fibra di vetro
5. Stelo anti-espulsione
6. Flangia ISO 5211 per montaggio diretto attuatore
7. Sistema di bloccaggio
8. Pressione massima 16 bar
9. Temperatura d'esercizio -20°C + 180°C

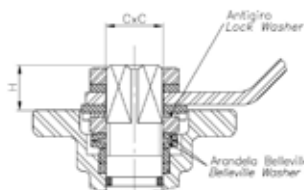
## ART. 118 STAINLESS STEEL FULL PORT BALL VALVE, WAFER TYPE

CERTIFICATES EN 10204/2.1

### TECHNICAL INFORMATION

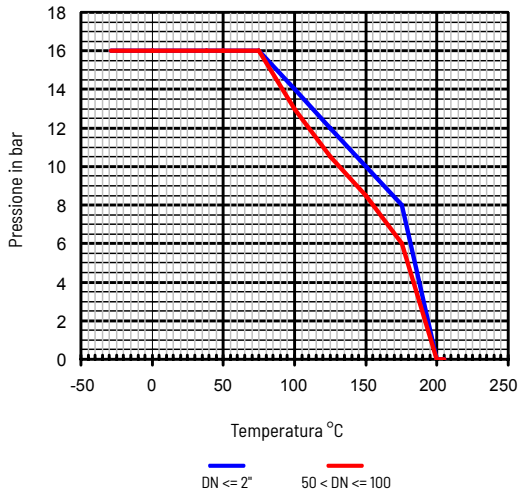
1. Full port ball valve, Wafer type
2. Assembly with flanges DIN EN PN16
3. Made of Stainless Steel AISI 316
4. Ball seats PTFE + 15% G.F.
5. Blow - out proof stem
6. Direct mounting actuator according ISO 5211 (from 1")
7. Block System included
8. Max. Working pressure 16 bar
9. Working Temperature -20°C + 180°C

### DETTAGLI DELLA ZONA DI TENUTA ALBERO | STEM DETAIL



Molle a tazza / Belleville Washer. Le molle a tazza esercitano una forza costante sulle guarnizioni dell'albero, garantendo una tenuta stagna al variare delle condizioni di esercizio. / Standard belleville washers provide constant "live load" on the stem seals, assuring a tight seal even varying parameters.

Rosetta anti svitamento / Lock Washer. Previene lo svitamento del dado dell'albero quando sottoposto a un elevato ciclo di manovre. / Prevents unthreading of stem nut in high cycle automation applications.

**CURVA PRESSIONE TEMPERATURA**  
**PRESSURE TEMPERATURE RATING**


N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316	Sabbiata / Shoot blasting
2	Coperchio / Cap	Inox Aisi 316	Sabbiata / Shoot blasting
3	Guarnizione corpo / Gasket	PTFE	--
4	Sfera / Ball	Inox Aisi 316	--
5	Guarnizione sede / Ball	PTFE + 15% GF	--
6	Sfera stelo / Stem	Inox Aisi 316	--
7	Rondella / Trust washe	PTFE	--
8	O'ring / O'ring	VITON	--
9	Guarnizione corpo / Stem packing	PTFE	--
10	Guarnizione / Stem ring	Inox Aisi 304	--
11	Dado / Nut	Inox Aisi 304	--
12	Rondella molla / Spring Washer	Inox Aisi 304	--
13	Rosetta anti slittamento / Lock washer	Inox Aisi 304	--
14	Rondella / Washer	Inox Aisi 304	--
15	Fermo spilla / Stop pin	Inox Aisi 304	--
16	Leva / Handle	Inox Aisi 304	--
17	Coperchio plastica / Plastic cover	VINILE / VYNIL	--

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)								Fori Holes	Peso Weight (Kg)
			Ø d	A	L	M	ISO 5211		H	CxC		
1/2"	IV1181/2	16	95	85	36	115	F03	F04	10	9x9	4xM12	1.70
3/4"	IV1183/4	16	105	90	38	115	F03	F04	10	9x9	4xM12	1.90
1"	IV1181	16	115	95	50	170	F04	F05	10	11x11	4xM12	2.50
1 1/4"	IV11811/4	16	140	100	53	170	F04	F05	12.5	11x11	4xM16	3.50
1 1/2"	IV11811/2	16	150	105	65	210	F05	F07	14.5	14x14	4xM16	4.35
2"	IV1182	16	165	115	78	210	F05	F07	14	14x14	4xM16	5.45
2 1/2"	IV11821/2	16	185	130	98	260	F07	F10	17	17x17	4xM16	7.80
3"	IV1183	16	200	145	118	260	F07	F10	16	17x17	8xM16	10.30
4"	IV1184	16	220	175	140	260	F07	F10	19	17x17	8xM16	18.00

Misura Size	Coppia Activating torque (Nm)
DN15	4 - 5
DN20	6 - 8
DN25	8 - 10
DN32	12 - 14
DN40	18 - 20
DN50	25 - 30
DN65	32 - 36
DN80	50 - 60
DN100	85 - 95

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
24	43	83	130	205	340	520	1100	1820

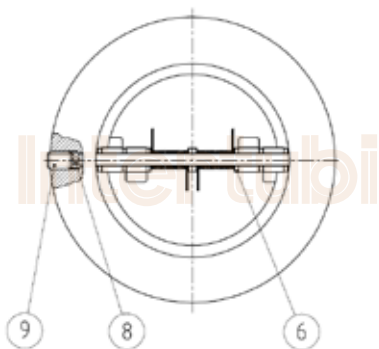


### ART. 402 VALVOLA DI RITEGNO TIPO WAFER, DOPPIO BATTENTE

CERTIFICATI EN 10204/2.1

#### CARATTERISTICHE TECNICHE

1. Valvola di ritegno doppio battente tipo wafer
2. Acciaio inossidabile in CF8M
3. Battente in CF8M
4. Asta e molla in AISI 316
5. Sede in Viton (FKM) vulcanizzata
6. Montaggio tra le flange DIN EN PN25 | ANSI 150
7. Installazione con flusso verticale, orizzontale o inclinato
8. Scartamento tra le facce secondo EN558-1
9. Pressione massima 25 bar
10. Temperatura massima d'esercizio 180 °C

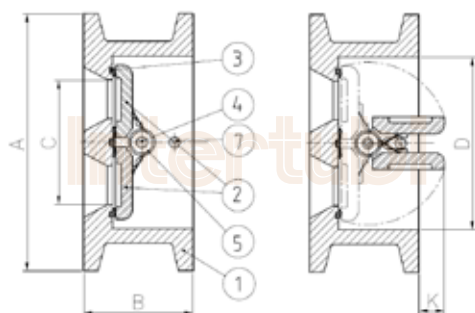


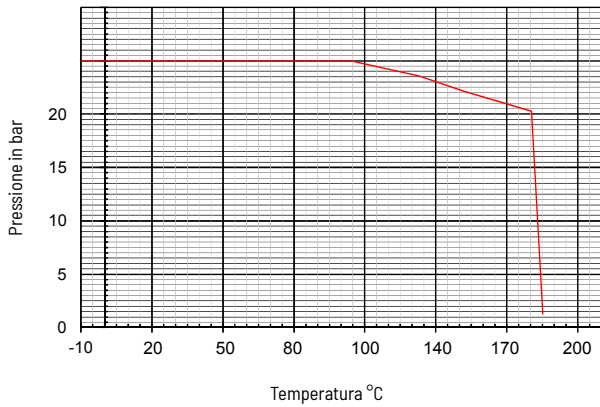
### ART. 402 CHECK VALVE (DOUBLE DISK) WAFER TYPE

CERTIFICATES EN 10204/2.1

#### TECHNICAL INFORMATION

1. Wafer check valve (double disk)
2. Made of stainless steel CF8M
3. Disk made of CF8M
4. Axle and spring made of AISI 316
5. Seat of viton (FKM) vulcanised in groove
6. Assembly between flanges DIN EN PN25 | ANSI 150
7. Installed with vertical horizontal or inclined flow
8. Face to face according EN 558-1
9. Max working pressure 25 bar
10. Max. Working temperature 180 °C



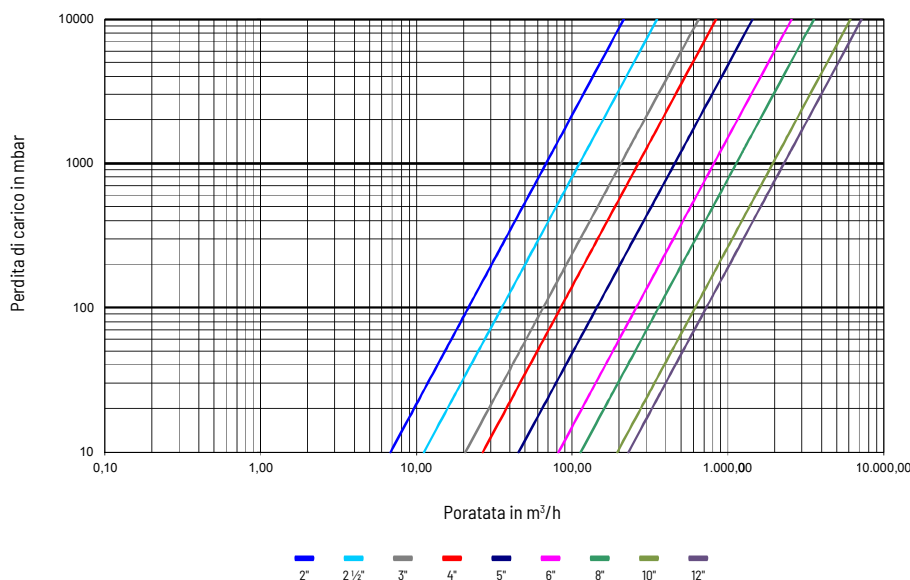
**CURVA PRESSIONE TEMPERATURA**  
*PRESSURE TEMPERATURE RATING*

**DIMENSIONI GENERALI**  
*GENERAL DIMENSIONS*

Diametri Size	Codice Code	DN	PN	Dimensioni / Dimensions (mm)					Peso Weight (Kg)
				A	B	C	D	K	
2"	IV4022	50	25	101	54	48	65	5	1.62
2 1/2"	IV40221/2	65	25	119	54	59	80	11	2.10
3"	IV4023	80	25	133	57	72	95	11	2.55
4"	IV4024	100	25	164	64	90	117	24	4.10
5"	IV4025	125	25	194	70	110	145	34	6.50
6"	IV4026	150	25	219	76	135	170	43	8.30
8"	IV4028	200	25	276	95	175	224	67	16.50
10"	IV40210	250	25	337	108	215	265	80	19.80
12"	IV40212	300	25	400	143	254	310	96	35.90

N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316	Decapata / Shot blasting + Picking
2	Battente / Disk	Inox Aisi 316	Decapata / Shot blasting + Picking
3	Guarnizione / Seat	Viton (FKM)	--
4	Asta / Axle	Inox Aisi 316	--
5	Molla / Spring	Inox Aisi 316	--
6	Rondella / Washer	PTFE	--
7	Fermo del disco / Disk stopper	Inox Aisi 316	--
8	Tappo / Plug	FKM	--
9	Grano / Grub screw	Inox Aisi 304	--



## DIAGRAMMA DELLE PERDITE DI CARICO HEAD LOSSES DIAGRAM



## PRESSIONE MINIMA DI APERTURA | MINIMUM OPENING PRESSURE

Flusso Flow	Applicazione Application	Pressione Pressure	2"	2½"	3"	4"	5"	6"	8"	10"	12"
↑	Con molla With spring	mbar	22,8	22,8	22,8	24	24,5	24,7	25,4	26,6	27,3
→	Con molla With spring	mbar	22,4	22,4	22,4	23,5	24	24,1	24,7	25,8	26,4
↓	Con molla With spring	mbar	22	22	22	23	23,5	23,5	24	25	25,5
↑	Senza molla Without spring	mbar	0,4	0,4	0,4	0,5	0,5	0,6	0,7	0,8	0,9

## VALORE di Kv / Kv VALUES

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

2"	2½"	3"	4"	5"	6"	8"	10"	12"
68	111	206	266	455	813	1132	1950	2300

**ART. 406**
**VALVOLA DI RITEGNO A CLAPET TIPO WAFER**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

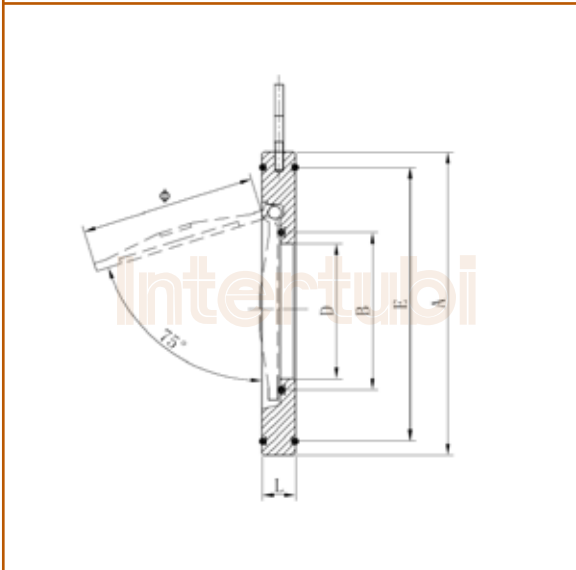
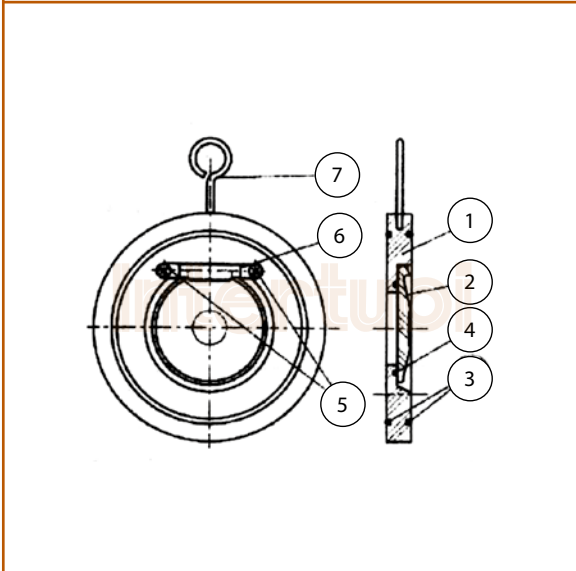
1. Valvola di ritegno a clapet tipo wafer
2. Acciaio inossidabile AISI 316
3. O'ring esterno in viton (FKM)
4. O'ring del battente in Viton (FKM)
5. Montaggio tra le flange DIN EN PN10/16 ANSI150
6. (Eccetto DN40 solo DIN) Installazione con flusso verticale o orizzontale
7. Pressione massima 16 bar
8. Temperatura massima d'esercizio -20°C / +180 °C
9. Basse perdite di carico

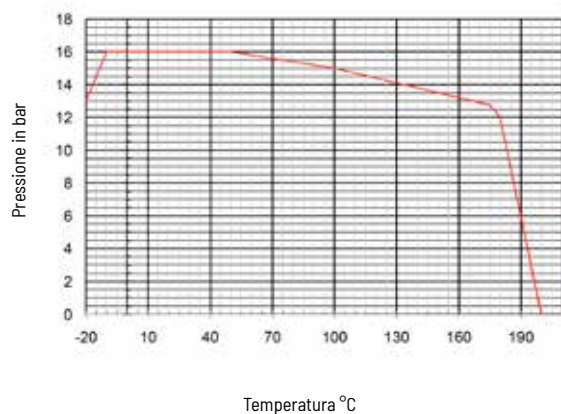
**ART. 406**
**CHECK VALVE (SINGLE DISK) WAFER TYPE**

CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. Wafer check valve (single disk)
2. Made of stainless steel AISI 316
3. External o'ring made of viton (FKM)
4. Disk o'ring made of viton (FKM)
5. Assembly between flanges DIN EN PN10/16 ANSI150
6. (Except DN40 only DIN) Installed with vertical or horizontal flow
7. Max working pressure 16 bar
8. Max working temperature -20°C / +180 °C
9. Low head losses



**CURVA PRESSIONE TEMPERATURA**  
**PRESSURE TEMPERATURE RATING**


N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316	--
2	Battente / Disk	Inox Aisi 316	--
3	O'ring esterno / External O'ring	Viton	--
4	O'ring battente / Disk O'ring	Viton	--
5	Vite dell'asse / Axis screw	Inox Aisi 316	--
6	Fermo dello stelo / Stem stopper	Inox Aisi 316	--
7	Gancio / Hook	Acciaio / Steel	Zincato / Zinc plated

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)				L	Ø	Peso Weight (Kg)
			A	B	D	E			
2"	IV4062	16	105	41	32	84	14	47.5	0.85
2 1/2"	IV40621/2	16	124	51	40	96	14	63	1.18
3"	IV4063	16	136	65	54	118	14	74	1.48
4"	IV4064	16	164	85	70	148	18	92	2.50
5"	IV4065	16	194	106	92	166	18	116	3.20
6"	IV4066	16	220	130	114	197	20	138	4.40
8"	IV4068	16	275	170	154	249	22	179	7.15
10"	IV40610	16	330	220	200	310	26	230	11.95

**PRESSIONE DI APERTURA | OPENING PRESSURE (MBAR)**

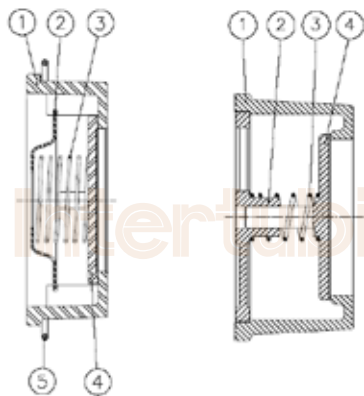
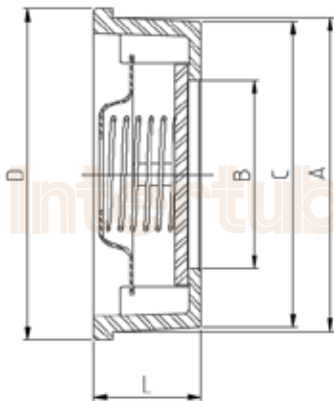
Flusso / Flow	DN40 ~ DN150	DN200 ~ DN300
→	≈ 0	≈ 0
↑	6	9

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
11,5	25,5	42,5	68	248	550,5	729	1045	1907	2720



DN15~DN100

DN125~DN200

**ART. 415  
VALVOLA DI RITEGNO A DISCO TIPO WAFER**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

1. Valvola di ritegno a Disco tipo Wafer
2. Corpo in acciaio inox AISI 316
3. Disco in acciaio inox AISI 316
4. Molla in acciaio inox AISI 316
5. Dimensioni ridotte
6. Montaggio tra flange DIN EN PN 10/16/40 e ANSI 150/300
7. Installazione Orizzontale, Verticale o Inclinata
8. Scartamento secondo EN 558-1 S.49
9. Pressione di esercizio massima 40/25 bar
10. Bassa perdita di carico
11. Tempertura di esercizio -20°C / + 240°C

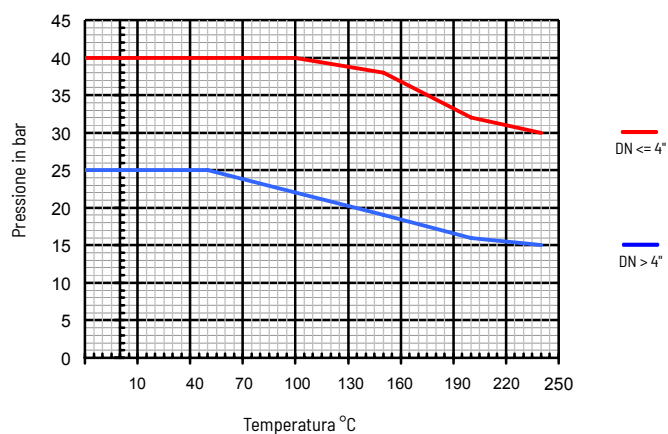
**ART. 415  
WAFER DISK CHECK VALVE**

CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. Wafer check valve (single disk).
2. Made of Stainlees Steel AISI 316
3. Disk made of AISI 316
4. Spring made of AISI 316
5. Little dimensions
6. Assembly between flanges DIN EN PN 10/16/40 and ANSI 150/300
7. Installed with vertical, horizontal or inclined flow
8. Face to Face according EN 558-1 S.49
9. Max. Working pressure 40/25 bar
10. Low head losses
11. Working Temperature -20°C / +240°C

### CURVA PRESSIONE TEMPERATURA PRESSURE TEMPERATURE RATING



### DIMENSIONI GENERALI GENERAL DIMENSIONS

Diametri Size	Codice Code	DN	PN	Dimensioni / Dimensions (mm)				C	Peso Weight (Kg)
				D	B	A	L		
1/2"	IV4151/2	15	40	39	15	34	16	33	0.08
3/4"	IV4153/4	20	40	46	20	41	19	40	0.12
1"	IV4151	25	40	54	25	49	22	47,5	0.19
1 1/4"	IV41511/4	32	40	70	32	62	28	59,5	0.38
1 1/2"	IV41511/2	40	40	81	40	71	32	68	0.52
2"	IV4152	50	40	94	48	85	40	81,5	0.77
2 1/2"	IV41521/2	65	40	113	62	102	46	97	1.24
3"	IV4153	80	40	132	75	123	50	117,5	1.86
4"	IV4154	100	40	150	95	140	60	134,5	2.65
5"	IV4155	125	25	187	118	177	90	169	5.50
6"	IV4156	150	25	217	140	205	106	196	8.30

### PRESSIONE DI APERTURA | OPENING PRESSURE (MBAR)

Flusso / Flow	DN15 - DN65	DN80 - DN100	DN125 - DN200
↑ → ↓	24 ~ 30	20 ~ 26	30 ~ 36

### VALORE di Kv / Kv VALUES

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
4.9	8.8	11.2	20.7	29	40	57	85	92	192	255	425

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.

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**ART. 430  
VALVOLA DI RITEGNO A CLAPET FILETTATA**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

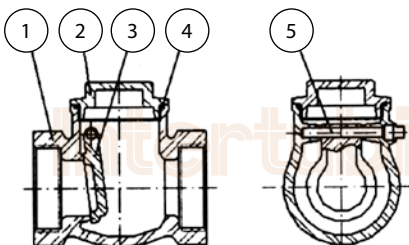
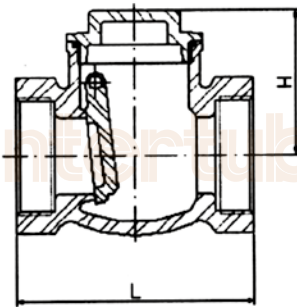
1. Valvola di ritegno a clapet filettata
2. Acciaio inossidabile Aisi 316
3. Estremità filettate secondo EN 10226-1 (EX ISO 7-1 e DIN 2999)
4. Pressione massima 16 Kg/cm<sup>2</sup>
5. Temperatura massima d'esercizio 180 °C

**ART. 430  
SWING CHECK VALVE, THREADED ENDS**

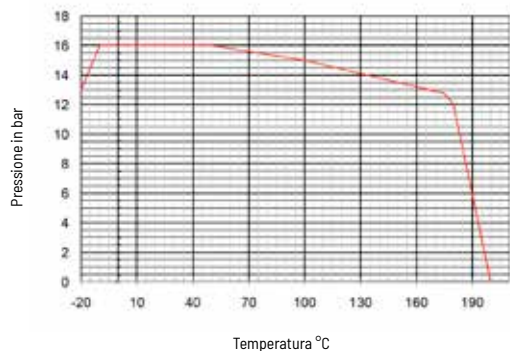
CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. Swing check valve
2. Made by stainless steel Aisi 316
3. Threaded ends according EN 10226-1 (EX ISO 7-1 e DIN 2999)
4. Max. Working pressure 16 Kg / cm<sup>2</sup>
5. Max. working temperature 180 °C

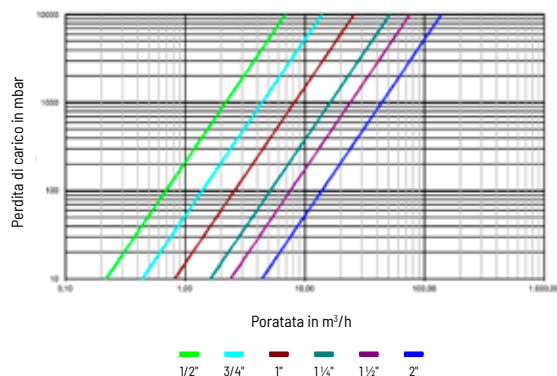


**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**DIAGRAMMA DELLE PERDITE DI CARICO**  
HEAD LOSSES DIAGRAM

Rif: H2O -20C° Flusso in Orizzontale / Horizontal flow



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	Inox Aisi 316	Sabbziata / Shot blasting
2	Coperchio / Cap	Inox Aisi 316	Sabbziata / Shot blasting
3	Disco / Disc	Inox 316	---
4	Guarnizione / Gasket	PTFE	---
5	Stelo / Stem	Inox Aisi 316	---

**DIMENSIONI GENERALI**  
GENERAL DIMENSIONS

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)		Peso Weight (Kg)
			D	L	
1/2"	IV4301/2	16	44	65	0.31
3/4"	IV4303/4	16	53	80	0.49
1"	IV4301	16	58	90	0.72
1 1/4"	IV43011/4	16	62	105	1.04
1 1/2"	IV43011/2	16	73	120	1.65
2"	IV4302	16	78	141	2.39

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
2.2	4.4	8.2	16.4	24.1	44.2


**ART. 901 - PTFE  
VALVOLA DI RITEGNO A MOLLA MOD. AURORA**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

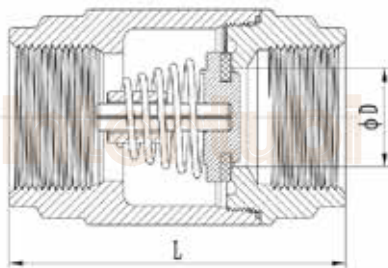
1. Valvola di ritegno a molla
2. Acciaio inossidabile AISI 316
3. Guarnizione di tenuta PTFE
4. Estremità filettate secondo EN 10226-1 (EX ISO 7-1 e DIN 2999)
5. Pressione di esercizio max PN 16
6. Temperatura di esercizio: -25C° / + 180 C°
7. Pressione minima di apertura 0,13 bar

**APPLICAZIONI: ACQUA, ACIDI E SOLVENTI COMPATIBILI**
**ART. 901 - PTFE  
SPRING CHECK VALVE MOD. AURORA**

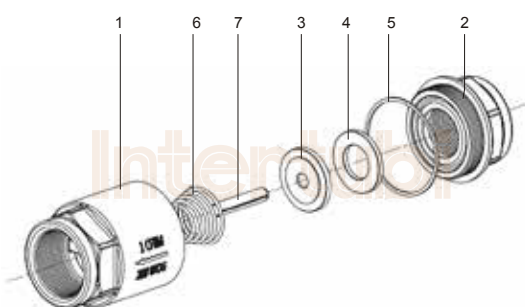
CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. Spring check valve
2. Made by AISI 316 (CF8M)
3. Seat PTFE
4. Thread ends EN 10226-1 (EX ISO 7-1 e DIN 2999)
5. Max working pressure 16Kg/cm2
6. Working temperature -25C° / + 180 C°
7. Minimum opening pressure 0,13 bar

**APPLICATIONS: WATER, ACIDS AND COMPATIBLE SOLVENT**

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	Dimensioni / Dimensions (mm)			Peso Weight (Kg)
		D	B	L	
3/8"	IV9013/8	10	30	54	0.15
1/2"	IV9011/2	15	34.5	57	0.17
3/4"	IV9013/4	20	41.5	64	0.29
1"	IV9011	25	48	75	0.44
1 1/4"	IV90111/4	32	60.5	82	0.67
1 1/2"	IV90111/2	40	71	93	1.0
2"	IV9012	50	87	100	1.61



N°	NOME / NAME	MATERIALI / MATERIAL
1	Corpo / Body	ACCIAIO INOX CF8M / SS 316 CF8M
2	Coperchio / Cover	ACCIAIO INOX CF8M / SS 316 CF8M
3	Disco / Disc	ACCIAIO INOX AISI 316 / SS AISI 316
4	Tenuta / Seat	PTFE / PTFE
5	Guarnizione Corpo Coperchio / Body Gasket	PTFE / PTFE
6	Molla / Spring	ACCIAIO INOX AISI 302 / 304
7	Stelo / Stem	ACCIAIO INOX AISI 316 / SS AISI 316





### ART. 902 - FKM VALVOLA DI RITEGNO A MOLLA MOD. AURORA

CERTIFICATI EN 10204/2.1

#### CARATTERISTICHE TECNICHE

1. Valvola di ritegno a molla
2. Acciaio inossidabile AISI 316
3. Guarnizione di tenuta FKM
4. Estremità filettate secondo EN 10226-1 (EX ISO 7-1 e DIN 2999)
5. Pressione di esercizio max PN 16
6. Temperatura di esercizio:  $-15\text{C}^{\circ}$  /  $+160\text{C}^{\circ}$
7. Pressione minima di apertura 0,13 bar

APPLICAZIONI: GAS, ACIDI E SOLVENTI COMPATIBILI

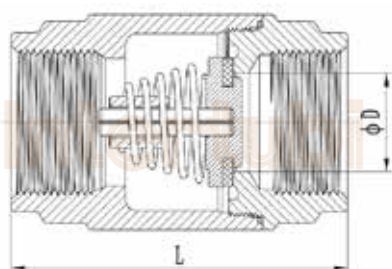
### ART. 902 - FKM SPRING CHECK VALVE MOD. AURORA

CERTIFICATES EN 10204/2.1

#### TECHNICAL INFORMATION

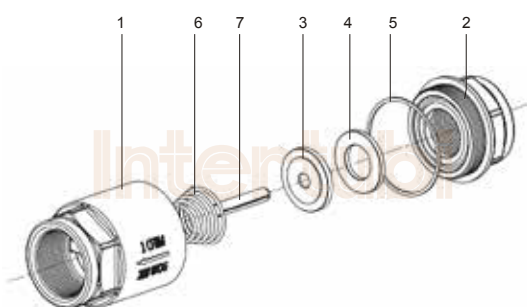
1. Spring check valve
2. Made by AISI 316 (CF8M)
3. Seat FKM
4. Thread ends EN 10226-1 (EX ISO 7-1 e DIN 2999)
5. Max working pressure 16Kg/cm<sup>2</sup>
6. Working temperature  $-15\text{C}^{\circ}$  /  $+160\text{C}^{\circ}$
7. Minimum opening pressure 0,13 bar

APPLICATIONS: GAS, ACIDS AND COMPATIBLE SOLVENT



#### DIMENSIONI GENERALI | GENERAL DIMENSIONS

Diametri Size	Codice Code	Dimensioni / Dimensions (mm)			Peso Weight (Kg)
		D	B	L	
3/8"	IV9023/8	10	30	54	0.15
1/2"	IV9021/2	15	34.5	57	0.17
3/4"	IV9023/4	20	41.5	64	0.29
1"	IV9021	25	48	75	0.44
1 1/4"	IV9021/4	32	60.5	82	0.67
1 1/2"	IV9021/2	40	71	93	1.0
2"	IV9022	50	87	100	1.61



N°	NOME / NAME	MATERIALI / MATERIAL
1	Corpo / Body	ACCIAIO INOX CF8M / SS 316 CF8M
2	Coperchio / Cover	ACCIAIO INOX CF8M / SS 316 CF8M
3	Disco / Disc	ACCIAIO INOX AISI 316 / SS AISI 316
4	Tenuta / Seat	FKM / FKM
5	Guarnizione Corpo Coperchio / Body Gasket	PTFE / PTFE
6	Molla / Spring	ACCIAIO INOX AISI 302 / 304
7	Stelo / Stem	ACCIAIO INOX AISI 316 / SS AISI 316

**ART. 461  
FILTRO A Y FLANGIATO**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

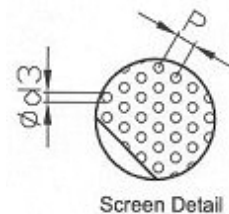
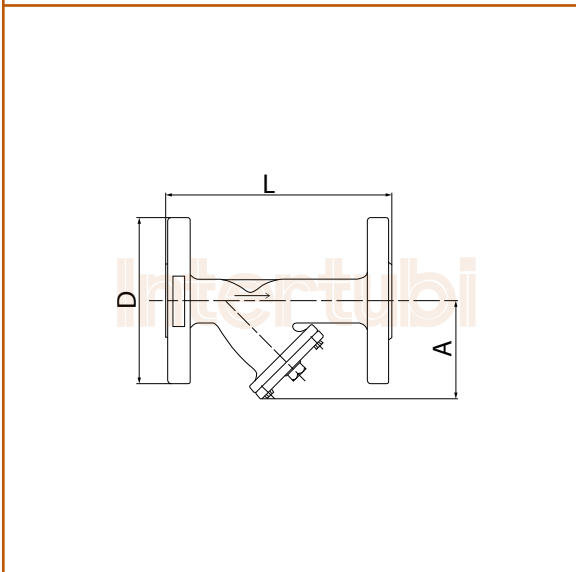
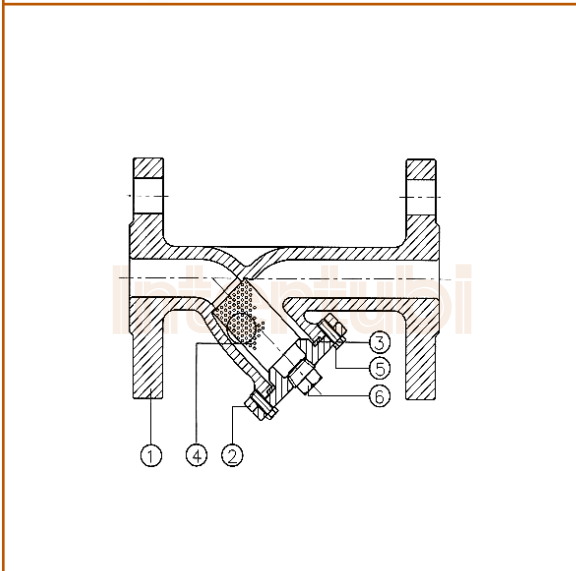
1. Filtro a Y
2. Estremità flangiate in accordo con DIN 2501 PN 16
3. Scartamento in accordo con DIN 3020 F1
4. Costruzione in acciaio INOX CF8M
5. Pressione massima di lavoro: 16 bar
6. Temperatura di lavoro  $-30C^{\circ} / + 240C^{\circ}$

**ART. 461  
FLANGED ENDS Y STRAINER**

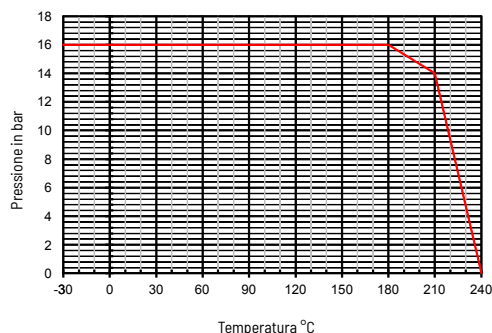
CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

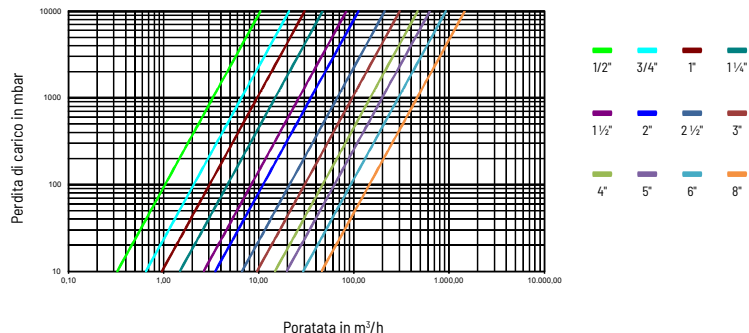
1. "Y" Strainer
2. Flanged ends according to DIN 2501 PN 16
3. Face to Face according to DIN 3202 F1
4. Made of Stainless Steel CF8M
5. Max Working pressure 16 bar
6. Working temperature  $-30C^{\circ} / + 240C^{\circ}$



**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



**DIAGRAMMA DELLE PERDITE DI CARICO**  
HEAD LOSSES DIAGRAM



N°	Nome / Name	Materiale / Material	Finitura Superficiale / Surface Treatment
1	Corpo / Body	ACCIAIO INOX CF8M / SS 316 CF8M	SABBIATA / SHOT BLASTING + PICKLING
2	Coperchio / Cover	ACCIAIO INOX CF8M / SS 316 CF8M	SABBIATA / SHOT BLASTING + PICKLING
3	Guarnizione / Gasket	PTFE / PTFE	
4	Filtro / Strainer	ACCIAIO INOX CF8M / SS 316 CF8M	
5	Viti / Bolt	ACCIAIO INOX AISI 304 / SS AISI 304	
6	Tappo / Plug	ACCIAIO INOX AISI 316 / SS AISI 316	TAPPO G1/2" Eccetto diametri da 1/2" a 1" / G1/2" Plug except for sizes 1/2"-1"

**DIMENSIONI GENERALI | GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)					Peso Weight (Kg)
			A	D	L	P	d3	
1/2"	IV4611/2	16	75	95	130	2	1	1.95
3/4"	IV4613/4	16	90	105	150	2	1	2.75
1"	IV4611	16	100	115	160	2	1	3.70
1 1/4"	IV4611/4	16	115	140	180	2	1	5.90
1 1/2"	IV4611/2	16	130	150	200	2	1	6.40
2"	IV4612	16	150	165	230	2	1	8.90
2 1/2"	IV4612/2	16	190	185	290	3.5	2	12.95
3"	IV4613	16	200	200	310	3.5	2	18.15
4"	IV4614	16	230	220	350	3.5	2	24.30
5"	IV4615	16	280	250	400	3.5	2	38.35
6"	IV4616	16	300	285	480	3.5	2	61.30
8"	IV4618	16	400	340	605	3.5	2	115.00

Misura Size	Coppia Maximum torque value (Nm)
1 1/4" - 4"	50
5" - 6"	60
8" - 14"	80

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
3,30	6,60	9,70	14,90	26,60	35,40	67,20	96,10	149,00	198,50	294,60	462,50


**ART. 601  
FILTRO A Y FILETTATO**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

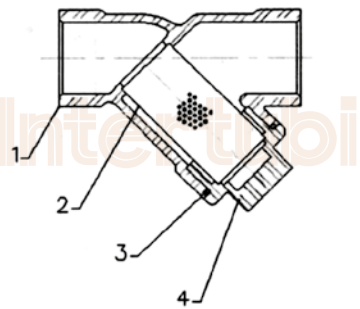
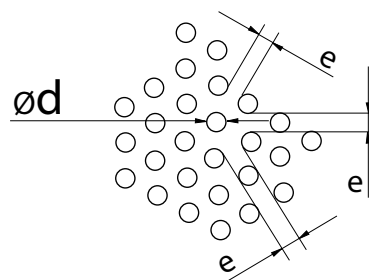
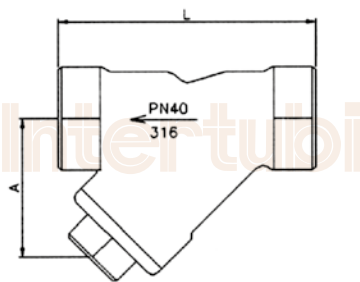
1. Filtro a Y filettato
2. Estremità filettate secondo norme EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Acciaio inossidabile CF8M
4. Pressione massima 40 bar
5. Temperatura d'esercizio -30 °C + 240 °C

**ART. 601  
TTHREADED ENDS Y STRAINER**

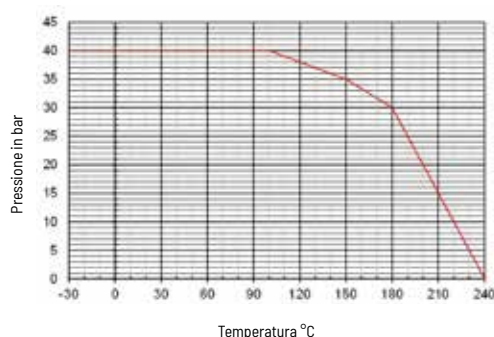
CERTIFICATES EN 10204/2.1

**TECHNICAL INFORMATION**

1. "Y" Strainer
2. Threaded ends according EN 10226-1 (EX ISO 7-1 e DIN 2999)
3. Made of stainless steel CF8M
4. Max. working pressure 40 bar
5. Working temperature -30 °C + 240 °C

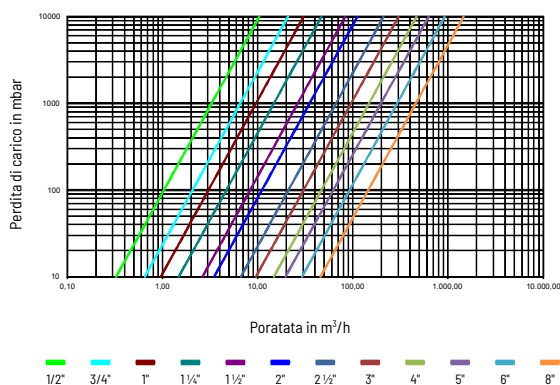

**DETTAGLIO MAGLIA FILTRANTE  
MESH DETAIL**


**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	CF8M	Sabbiata / Shot blasting + Pickling
2	Filtro / Strainer	AISI 316	---
3	Guarnizione / Gasket	PTFE	---
4	Tappo / Plug	CF8M	Sabbiata / Shot blasting + Pickling

**DIAGRAMMA DELLE PERDITE DI CARICO**  
HEAD LOSSES DIAGRAM



Misura Size	Coppia Maximum torque value (Nm)
1 1/4" - 4"	50

**DIMENSIONI GENERALI**  
GENERAL DIMENSIONS

Diametri Size	Codice Code	PN	Dimensioni / Dimensions (mm)				Peso Weight (Kg)
			A	L	Ø d	e	
1/4"	IV601 1/4	40	30	65	1	1	0.29
3/8"	IV601 3/8	40	30	65	1	1	0.21
1/2"	IV601 1/2	40	40	65	1	1	0.22
3/4"	IV601 3/4	40	45	80	1	1	0.35
1"	IV6011	40	55	90	1	1	0.66
1 1/4"	IV6011 1/4	40	65	105	1	1	0.77
1 1/2"	IV6011 1/2	40	70	120	1	1	1.15
2"	IV6012	40	85	140	1	1	1.76

Nota: i dati tecnici su questo catalogo sono indicativi e non impegnativi / Note: the technical data reported in this catalogue is proximate and not binding.  
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**ART. 223**
**VALVOLA A SPILLO A VIA DIRITTA**

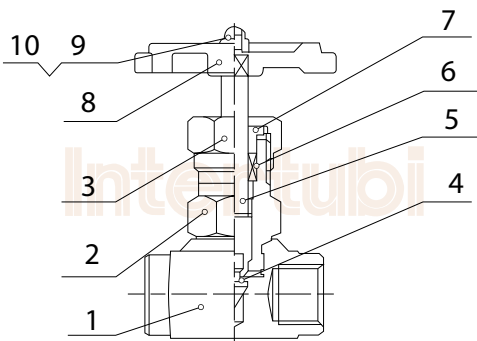
3000 PSI

CERTIFICATI EN 10204/2.1

ESECUZIONE SPECIALE: NPT

**CARATTERISTICHE TECNICHE**

1. Valvola a spillo via diritta
2. Acciaio Inox ASTM A182 F316
3. Filetto estremità secondo EN 10226-1 (EX ISO 7-1 e DIN 2999) gas
4. Premistoppa in PTFE + Grafite
5. Pressione massima di lavoro 3000 Lbs.
6. Limiti pressione / Temperatura:
  - 1/4" - 1/2" = 3000 PSI / 260°C
  - 3/4" - 1 1/4" = 3000 PSI / 240°C
  - 1 1/2" - 2" = 3000 PSI / 200°C



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**ART. 223**
**NEEDLE VALVES**

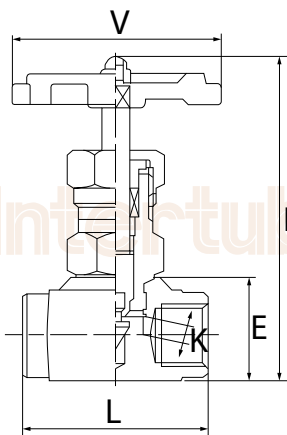
3000 PSI

CERTIFICATES EN 10204/2.1

SPECIAL EXECUTION: NPT

**TECHNICAL INFORMATION**

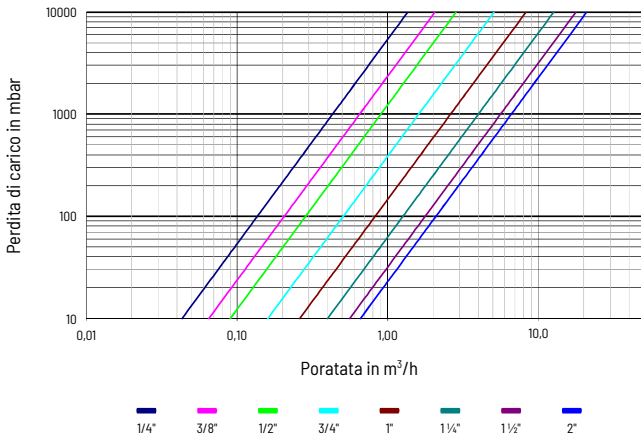
1. Needle valve
2. Made of Stainless steel ASTM A182 F316
3. Threaded ends according EN 10226-1 (EX ISO 7-1 e DIN 2999) gas
4. Stem Packing PTFE + Graphite
5. Max. Working pressure 3000 Lbs.
6. Pressure / Temperature Range:
  - 1/4" - 1/2" = 3000 PSI / 260°C
  - 3/4" - 1 1/4" = 3000 PSI / 240°C
  - 1 1/2" - 2" = 3000 PSI / 200°C



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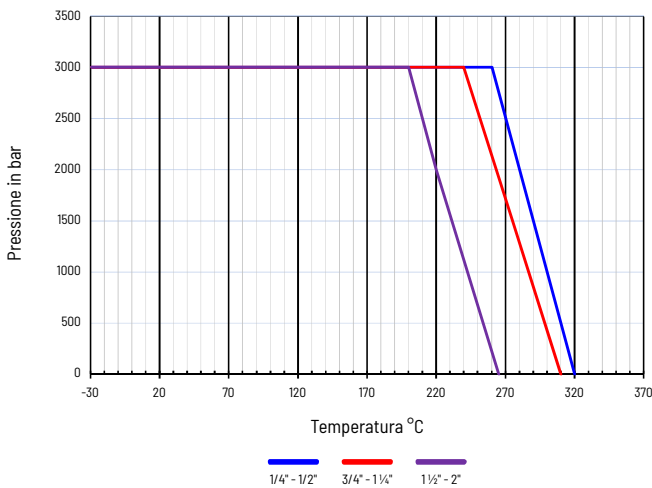
**DIAGRAMMA DELLE PERDITE DI CARICO**  
**HEAD LOSSES DIAGRAM**

Rif: H2O -20C° Flusso in Orizzontale / Horizontal flow



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	AISI 316 / SS ASTM A182 F316	
2	Vitone / Bonnet	AISI 316	
3	Dado premistoppa / Nut	AISI 316	
4	Spillo / Needle	AISI 316 + Stellite / SS 316 + Stellite	
5	Stelo / Stem	AISI 316 / SS ASTM A182 F316	
6	Pacco Tenuta / Stem Packing	Teflon + Grafite / PTFE + Grafite	
7	Dado premistoppa / Packing Nut	AISI 316 / SS. AISI 316	
8	Volantino / Handwheel	Alluminio / Aluminium	Verniciato / Painted
9	Dado / Nut	AISI 304 / SS. AISI 304	
10	Rondella / Washer	AISI 304 / SS. AISI 304	

**CURVA PRESSIONE TEMPERATURA**  
**PRESSURE TEMPERATURE RATING**



**DIMENSIONI GENERALI**  
**GENERAL DIMENSIONS**

Diametri Size	Codice Code	PN (Lbs)	Dimensioni / Dimensions (mm)					Peso Weight (kg)
			E	H	L	K	V	
1/4"	IV2231/4	3000	25	85	50	3	63	0.26
3/8"	IV2233/8	3000	30	100	55	4	63	0.36
1/2"	IV2231/2	3000	34	115	60	6	72	0.53
3/4"	IV2233/4	3000	40	120	70	8	72	0.76
1"	IV2231	3000	45	138	75	9	80	1.17
1 1/4"	IV2231 1/4	3000	57	165	90	11	100	1.85
1 1/2"	IV2231 1/2	3000	67	185	100	15	120	2.90
2"	IV2232	3000	78	195	120	18	140	4.70

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

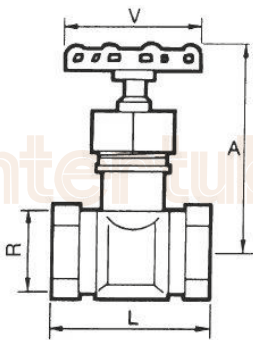
Med./Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
m³/h	0.25	0.36	0.47	0.95	1.1	1.6	4.76	5.36


**ART. 230  
VALVOLA A GLOBO FILETTATA**

CERTIFICATI EN 10204/2.1

**CARATTERISTICHE TECNICHE**

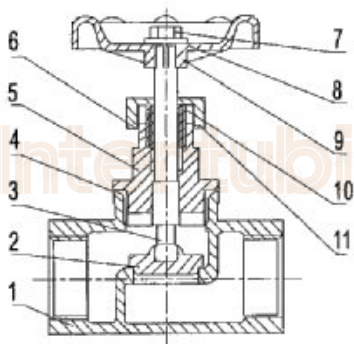
1. Valvola a globo
2. Corpo in Acciaio AISI 316 CF8M
3. Otturatore in AISI 316
4. Estremità filettate secondo nome EN 10226-1 (EX ISO 7-1 e DIN 2999)
5. Premistoppa in PTFE
6. Pressione massima di esercizio 16 bar
7. Temperatura massima di esercizio: 180C°


**ART. 230  
TTHREADED ENDS GLOBE VALVES**

CERTIFICATES EN 10204/2.1

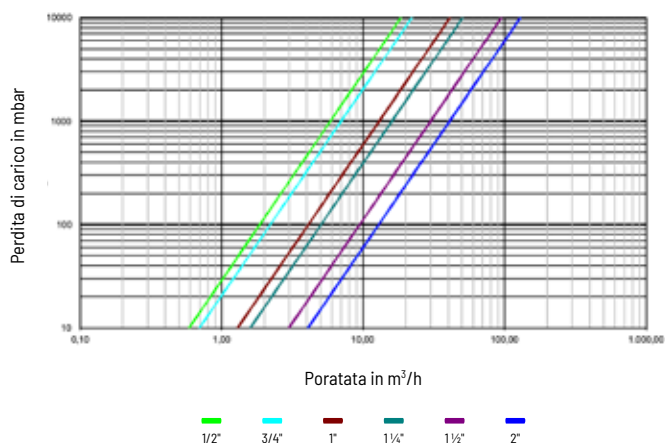
**TECHNICAL INFORMATION**

1. Globe valve
2. Made of Stainless steel CF8M
3. Compact disc made of S. Steel 316
4. Threaded ends according EN 10226-1 (EX ISO 7-1 e DIN 2999)
5. Stem packing PTFE
6. Max working pressure 16 bar
7. Max working temperature: 180C°

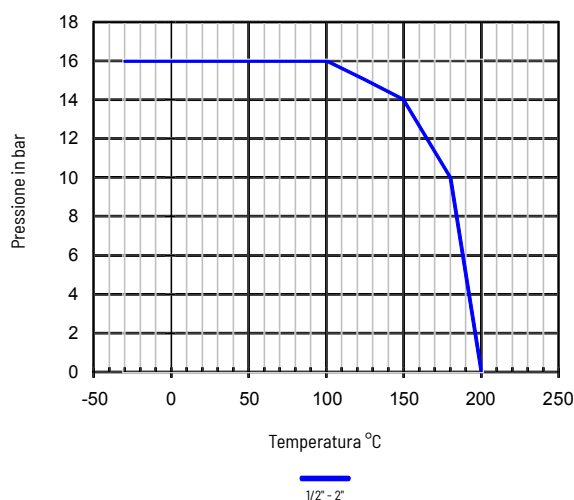




**DIAGRAMMA DELLE PERDITE DI CARICO**  
HEAD LOSSES DIAGRAM



**CURVA PRESSIONE TEMPERATURA**  
PRESSURE TEMPERATURE RATING



N°	Nome Name	Materiale Material	Finitura Superficiale Surface Treatment
1	Corpo / Body	ACCIAIO INOX CF8M / S.S. CF8M	RUVIDA / SHOT BLASTING
2	Otturatore / Disc	ACCIAIO INOX 316 / S.S. 316	
3	Stelo / Stem	ACCIAIO INOX 316 / S.S. 316	
4	Guarnizione / Body Gasket	TEFLÒN / PTFE	
5	Coperchio / Cap	ACCIAIO INOX CF8M / S.S. CF8M	RUVIDA / SHOT BLASTING
6	Rondella / Washer	ACCIAIO INOX 316 / S.S. 316	
7	Dado / Nut	ACCIAIO INOX 304 / S.S. 304	
8	Rondella / Washed	ACCIAIO INOX 304 / S.S. 304	
9	Volantino / Handwheel	ALLUMINIO / ALUMINIUM	VERNICIATA / PAINTED
10	Dado Premistoppa / Packing Nut	ACCIAIO INOX 316 / S.S. 316	
11	Tenuta / Stem Packing	TEFLÒN / PTFE	

**DIMENSIONI GENERALI**  
GENERAL DIMENSIONS

Diametri Size	Codice Code	PN (Lbs)	Dimensioni / Dimensions (mm)				Peso Weight (Kg)
			R	A(OPEN)	L	V	
1/2"	IV2301/2	16	1/2"	97	65	70	0.38
3/4"	IV2303/4	16	3/4"	103	75	70	0.60
1"	IV2301	16	1"	116	90	70	0.85
1 1/4"	IV23011/4	16	1 1/4"	135	105	80	1.36
1 1/2"	IV23011/2	16	1 1/2"	152	120	100	1.88
2"	IV2302	16	2"	164	140	100	2.68

**VALORE di Kv / Kv VALUES**

Kv = Quantità metri cubi per ora che passa attraverso valvola generando una perdita di carico in bar.

Kv = Flow rate of water in cubic meter per hour that will generate a pressure drop of 1 bar across the valve.

Med./Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
m³/h	5.9	7	13	16	30	41

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