NEUMO

NEUMO UK Ltd.

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- All weights are based on European recognised theoretical calculations; however these may vary greatly due to the mass and dimensional tolerances set by the manufacturer's specification.
- All pressures ratings are based on theoretical calculation set out by scientific recognised theory and therefore due to the vast amount of variables are offered strictly as a guide only.

Information can change without prior warning.

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Tube, Fittings, Connections, Clips, Accessories

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Stainless Steel

General

The designation "stainless steel" is a general generic term for rust-proof steels. The chrome content in the steel is generally at least 12 %. This makes it resistant to oxidising corrosive agents. If the chrome alloy or other alloy components, such as Ni, Mo, Ti or Niob, are increased, the resistance to corrosion is also improved.

Sulphur as an alloy component improves the machinability but increases the susceptibility to cracking and the addition of nitrogen improves the mechanical properties. Titanium and niobium are important alloy components for the prevention of intergranular corrosion. These materials are carbide formers which bind the released carbon when exposed to heat.

Because of the various different structures which exist, stainless steels are classified in the groups of austenitic steels and ferritic and martensitic steels.

Properties of austenitic Steels

- are not magnetic in an annealed state (can be checked with a magnet)
- work hardening causes the formation of martensite which manifests itself in the low magnetisability
- solution annealing can be used to convert the austenite structure back
- the most important alloy components are min. 18 % chrome and min. 8 % nickel
- have excellent cold forming properties
- have very good toughness properties at very low temperatures (as low as -271 °C)
- are very suitable for welding and are resistant to corrosion
- are the materials most commonly used in the field of stainless steels

Properties of ferritic and martensitic Steels

- are magnetic and not as resistant to corrosion as austenitic steels
- the most important alloy component is chrome with a content of 10.5 to 18 %
- the typical ferritic structure cannot be transformed with heat treatment
- higher resistance to chloride-induced transcrystalline stress crack corrosion that austenitic steels
- martensitic steels can be hardened and annealed
- poor welding properties

Types of Corrosion

Erosive surface corrosion: Erosive surface corrosion is characterised by even or almost even erosion. Sufficient resistance is assumed if the erosion rate is up to 0.1 mm/year. It occurs with acids and strong alkalis.

Pitting: Localised penetration of the passive layer can cause pitting. Mostly circular corrosion holes which are caused by chlorine, bromine, fluorine or iodine ions with halogen content. Deposits, external rust, slag residue and discolouration on the surface increase the risk of pitting.

Crevice corrosion: Occurs in crevices and has the same mechanisms as pitting. The existing crevices cause a reduction of the available oxygen which prevents the formation of a passivation layer. The lack of circulation/ventilation, i.e. diffusion resistance, can be prevented with a suitable construction.

Contact corrosion: Contact corrosion occurs when different metallic materials which are moistened with an electrolyte come into contacts. The less noble material merges with the more noble material. In practice, stainless steels are the more noble materials compared to many other metallic materials (e.g. non-alloy and low-alloy steels, aluminium). To prevent it, direct contact should be avoided with insulation.

Stress corrosion cracking: A critical type of corrosion for austenitic steel. The tensile stress on the surface, generate by welding, cold forming or alternating loads, for instance, causes fine cracks. Chloride solutions cause corrosion in these heavy ramified transcrystalline cracks. Once corrosion attack has taken place, it quickly spreads over large areas and causes the components to break. Stress corrosion cracking is heavily dependent on temperature. At under 50 °C there damage is very rare. To reduce the risk of stress corrosion cracking it is recommendable to use a suitable annealing method for the components or to increase the nickel content in the steel.

Intergranular corrosion (core decay): To prevent intergranular corrosion it is important to prevent chromium carbides from forming. Improper thermal influences between 450 and 850 °C causes this unwanted formation of chromium carbides. An increased carbon content is particularly damaging. It stimulates the formation of chromium carbides and thus depletes the chrome. These areas of depleted chrome then corrode immediately with a corrosive medium and cause corrosion attack. These kinds of thermal influences occur in the vicinity of welded seams (heat influence zone), for instance.

The use of steels with a low carbon content and suitable heat treatment can prevent this formation of chromium carbides.

Roughness

General

Stainless steels are harmless when used as a standard material in the food and beverage industry, both physiologically and with regard to taste. In addition to the correct selection of material, the properties of the surface which comes into contact with the product during the manufacturing and transportation of food products are crucial. As well as resistance to pitting, the adhesion of microorganisms, product residue and covering, the structure of crusts and the cleaning performance all depend on the surface quality of the material. The average roughness Ra of the roughness profile of the surface is generally used a the gauge. It is determined during cleaning, based on practical experiences, in accordance with the quality of the product, its microbiological hazard or the required hygienic conditions.

The smoothness of the surface cannot be determined using roughness values, such as Ra, alone. A smooth surface is also characterised by large gaps between roughness peaks and valleys and rounded profile shapes. Acc. to recent trials these types of surface only cause low-level interaction with certain products which prevents the formation of coatings and is beneficial for cleaning.

Nowadays smooth surfaces are produced using electrolytic polishing as standard for hygiene requirements. This method, unlike mechanical processing or chemical pickling processes, smooths the surface profiles on a micro scale. The erosion of the top layer also generates a crack-free and pore-free surface which is characterised by the original austenitic crystal structure and thus has the ideal prerequisites for cleaning.

The standardisation of the surface roughness is designed to provide a transparent measurement criterion for manufacturers and suppliers. Additional data on the production of the surface quality, such as electrolytic polishing, grinding, creates a further basis for preventing misunderstandings.

Definition of Surface Roughness

The following roughness measured values are described in DIN EN ISO 4288. The standard describes how roughness value are determined with electrical surface profiling devices.

The average roughness value Ra (µm)
if the arithmetical mean of the absolute values of profile fluctuation within roughness reference section l.
This means: The sum of individual surfaces which are between the X axis and the actual profile is equal to the surface area of a certain rectangular area. (All individual surfaces are added, regardless of whether they are above or below the middle line). The height of the rectangular area is the Ra value and the width is the length of the reference section. The Ra variable is the preferred variable.

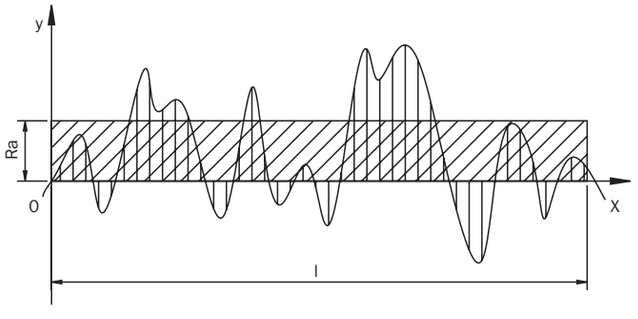
The average roughness height (peak-to-valley height) Rz (µm)
is the arithmetical mean value from the individual roughness depths of five adjacent individual measurement sections (acc. to DIN EN ISO 4287). The highest and the lowest points on each individual measurement section are used as the basis for calculation.

The maximum roughness (peak-to-valley height) Rmax (µm)
is the greatest of the individual roughness depth over the entire measurement section.

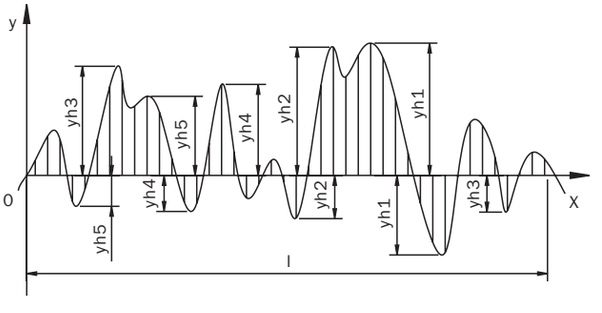
Other roughness depths, such as the mean spacing of profile irregularities RSm, maximum profile peak height Rp or the maximum profile valley depth RM are not relevant to the food industry because of the transparency.

Dependence of the Surface Roughness on the Production Methods

Arithmetical mean roughness value Ra



Average roughness height (peak-to-valley height) Rz



Comparison of technical Delivery Conditions
DIN EN 10217-7 of May 2005 and DIN 17457 of July 1985

Comparison						
NEW **DIN EN 10217-7 / 2005 Technical delivery condition** **Table 2**			**OLD** **DIN 17457** **Table 6**		**DIN EN 10357** **Table 2**	
Abbre-viation	Type of delivery condition (a)	Surface properties	Abbre-viation	Remarks	Abbre-viation	Remarks
W0 (b)	welded from hot-rolled or cold-rolled sheet metal or strip 1D, 2D, 2E, 2B	welded	d0	pipes not pickled		
W1 (b)	welded from hot-rolled or cold-rolled sheet metal or strip 1D, descaled	metallically clean	d1	pickled		
W1A (b)	Welded from hot-rolled or cold-rolled sheet metal or strip 1D, heat treated, descaled		d2	pickled heat treated		
W1R (b)	welded from hot-rolled or cold-rolled sheet metal or strip 1D, bright an-nealed	metallically bright	d3	scale-free heat treated		
W2 (b)	welded from cold-rolled sheet metal or strip 2D, 2E, 2B, descaled	metallically clean	k1	pickled	CC	pickled
W2A (b)	welded from cold-rolled sheet metal or strip 2D, 2E, 2B, heat treated, descaled	with the exception of the welded seam much smoother than W1 and W1A	k2	pickled heat treated	BC	pickled heat treated
W2R (b)	welded from cold-rolled sheet metal or strip 2D, 2E, 2B, bright annealed	metallically bright	k3	scale-free heat treated	BC	scale-free heat treated
WCA	welded from hot-rolled or cold-rolled sheet metal or strip 1D, 2D, 2E, 2B, heat treated, if suitable, at least 20 % cold formed, heat treated, with recrys-tallised weld metal, descaled	metallically clean, welded seam hardly visible	l1	pickled		
WCR	welded from hot-rolled or cold-rolled sheet metal or strip 1D, 2D, 2E, 2B, heat treated, if suitable, at least 20 % cold formed, bright annealed, with recrystallised weld metal	metallically bright, welded seam hardly visible	l2	scale-free heat treated		
WG	ground (c) (normally cold-rolled base material)	ground metallically bright; type of grinding and the roughness to be achieved must be agreed in the en-quiry and order (d)	o	ground		
WP	polished (c) (normally cold-rolled base material)	polished metallically bright; type of polishing and the roughness to be achieved must be agreed in the en-quiry and order (d)	p	polished		
a b c d	Symbols of the delivery condition acc. to EN 10088-2. If pipes are ordered with smoothed welded seams ("welded seam removed"), the letter "b" has to be added to the abbreviation code for the delivery condition (example: W2Ab). Base material in delivery condition W2, W2A, W2R, WCA or WCR is usually used. It should always be specified in the order whether inside or outside, i.e. whether grinding or polishing is to be performed inside and outside.		g	A "g" is added to the end of the abbreviation code for the design type for pipes with a smoothed welded seam.		

Identification marking for pipes acc. to DIN EN 10217-7

Example: Name of the pipe manufacturer – pipe dimensions – DIN EN 10217-7 – material number – heat number
test category - delivery condition marking - party responsible for acceptance - ID number
(Manufacturer-70 x 2,0 - DIN EN 10217-7 – 1.4404-Heat number-TC1-W2b-X-12345)

DIN EN 10217-7

General

DIN EN 10217-7 (DIN purchased from Beuth Verlag GmbH, 10722 Berlin) describes the technical delivery conditions for "Welded steel tubes for pressure purposes". The calculation value for the welded seam is set at 1.0 in this standard.

The pipes described in this way are essentially used in pressure vessel engineering, apparatus engineering and pipeline engineering.

As well as the assessment criteria for the supplied goods, the DIN standard also describes

- the manufacturing method
- the delivery condition
- the chemical compositions
- mechanical and technological properties
- suitability for welding and weldability
- further processing and heat treatment
- chemical corrosion performance
- design types and appearance of the surfaces and the welded connection.

Typical Ordering Data acc. to DIN EN 10217-7

- DIN dimensions standard	Example: DIN EN ISO 1127
- Outer pipe diameter and wall thickness	Example: 114.3 x 3.6
- Test class	Example: TC 1
- Production length	Example: approx. 6000 mm
- Material number	Example: 1.4541
- Tolerance classes	Example: D2, T3
- Design type acc. to DIN EN 10217-7, table 2	Example: W1 (b)

Test Category

Test category 1 (scope of testing of DIN EN 10204 3.1)	- DIN 17457 (old) **PK 1** - DIN EN 10217-7 (new) **TC 1**
Test category 2 (scope of testing of AD 2000-W2)	- DIN 17457 (old) **PK 2** - DIN EN 10217-7 (new) **TC 2**

DIN EN 10204

Scope of Testing acc. to DIN EN 10217-7

	Type of testing	Scope of testing		Notes	Test standard
		Test category 1	Test category 2		
Binding tests	Heat analysis	one test per heat		11.1	
	Tensile test at room temperature	one test per test unit	two tests per test unit	11.2.1	DIN EN 10002-1
	Ring flattening test or	one test per test unit	each pipe	11.4.1	DIN EN 10233
	Ring tensile test	one test per test unit	each pipe	11.4.2	DIN EN 10237
	Drift expanding test	one test per test unit	each pipe	11.4.3	DIN EN 10234
	Ring expansion test or	one test per test unit	each pipe	11.4.4	DIN EN 10236
	Welded seam bend test	one test per test unit	each pipe	11.5	DIN EN 910
	Leak test	each pipe	each pipe	11.8	DIN EN 10246-2
	Dimensional check	each pipe	each pipe	11.9	
	Visual inspection	each pipe	each pipe	11.10	
	NDT of welded seam (b)	each pipe	each pipe		
	a) Eddy current testing	each pipe	each pipe		DIN EN 10246-3
	b) Ultrasound testing	each pipe	each pipe		DIN EN 10246-7
	c) Ultrasound testing	each pipe	each pipe		DIN EN 10246-9
	d) Radiographic testing	each pipe	each pipe		DIN EN 10246-10
	Material identification	each pipe	each pipe	11.12	
	Testing for crystalline corrosion (option 13) for austenitic and austenitic-ferritic steel types (c)	one test per heat		11.7	DIN ISO 3651-2
Other tests (options)	Part analysis (option 6)	one test per heat		11.1	
	Tensile test at increased temperature (option 11)	acc. to agreement or one test per heat and heat treatment condition	acc. to agreement or one test per heat and heat treatment condition	11.2.2	DIN EN 10002-5
	Tensile test for welded seam (option 22)			11.3	DIN EN 10002-1
	Notched bar impact test at room temperature (option 8)			11.6	DIN EN 10045-1
	Tensile test at low temperature (option 12)			11.6	DIN EN 10045-1
	Wall thickness measurement outside the pipe end area (option 24)	each pipe	each pipe	11.9	
	Ultrasound testing of edges of sheet metal/strip to demonstrate doubling (option 17)		each pipe	11.11	DIN EN 10246-17
	Ultrasound testing to demonstrate doubling (option 17)		each pipe	11.11	DIN EN 10246-16

(a) The choice of test method is left to the manufacturer, taking into consideration the stipulations in table 14.
(b) The choice of test method is left to the manufacturer. However, see also foot note a in table 16.
(c) Only applies as a binding test for pipes acc. to DIN EN 10357, otherwise it is an optional test (option 13).

Refer to DIN EN 10217-7 for further technical specifications.

DIN EN 10204

DIN EN 10204 : 2004 describes the "Types of Inspection Documents"			
Designation of the inspection documents acc. to DIN EN 10204		**Content of the document**	**Confirmation of document by**
Type	**English**		
2.1	factory document	confirmation of match to order	the manufacturer
2.2	factory certificate	confirmation of match to order with indication of results of non-specific test	the manufacturer
3.1	acceptance test certificate 3.1	confirmation of match to order with indication of results of specific test	the party representing the manufacturer authorised by the production department to perform acceptance
3.2	acceptance test certificate 3.2	confirmation of match to order with indication of results of specific test	the independent party representing the manufacturer and the purchaser authorised by the production department to perform acceptance or the party authorised to perform acceptance as indicated in the authority regulations
DIN purchased from BEUTH Verlag GmbH, 10722 Berlin			

Explanations for Table

2.1 Non-specific test

Testing carried out by the manufacturer using a method which he considered suitable in order to determine whether products, which have been produced using the same product specification and using the same method, match the requirements stipulated in the order.

The tested products do not necessarily need to come from the delivery itself.

2.2 Specific test

Tests which are performed before delivery in accordance with the product specification on the products to be delivered or on test units, of which they are a part, in order to determine whether the products match the requirements stipulated in the order.

2.3 Manufacturer

Organisation which produces the respective products in accordance with the requirements of the order with the properties acc. to the product specification.

2.4 Distributor

Organisation which receives products from a manufacturer and distributes them without further processing or, if processed, without a change to the basic properties in the order or in the product specification on which the order is based.

2.5 Product specification

All the applicable technical requirements for the production order, stipulated in the production order itself and / or using reference to rules, standards and other specifications, for instances

Test Certificates from Armaturenwerk Hötensleben GmbH

AWH has been approved to issue test certificates for 2.1 and 2.2 and restamping certificates.

Furthermore, a 3.1 product or a 3.1. AD 2000-W2 certificate of the raw material can be made available for the product in conjunction with a restamping certificate. AWH has the respective certificate from TÜV Nord for restamping certification.

These certificates for the finished product are sufficient for the notified body (acc. to the pressure vessels directive) as the chemical and physical properties do not change during processing.

The certificates subject to a charge and must be requested at the latest together with placement of the order.

Pressure Equipment Directive

General

AWH (Neumo UK Ltd. parent company) is authorised to produce pressure equipment acc. to the pressure equipment directive.
AWH has a QA department with the relevant welding authorisation, a TÜV restamping certificate and a certificate from TÜV Nord for the manufacture of pressure equipment. Details of certification as follows:

Certification acc. to
- AD 2000 data sheet - HP0
- DIN EN ISO 3834-2 (EN729-2)
- Internal production control with monitoring of acceptance (module A1)
- Quality assurance system acc. to module D
- Quality assurance system acc. to 97/23/EC
- Inspection of production facilities for pressure vessels acc. to directive 97/23/EC
- Agreement on the proper restamping of materials and products for pressure equipment

Applicability

The pressure equipment directive states that only complete piping or containers can be tested. Therefore no CE marking can be applied to individual components (e.g. individual pipes, screw connection parts, T-pieces, bends and similar parts).

Guideline 1/9 can be referenced. It defines the term "pipeline" exactly (components which have to be tested acc. to the pressure equipment directive): Individual line components, e.g. a pipe or pipe system, pipe fittings, equipment parts, compensators, hose lines or other pressure-retaining components, are not "pipelines".

For these components the customer can request specific material documentation, e.g. 2.1; 2.2; 3.1 or 3.1 AD 2000-W2 or similar certificates.
The scope of testing is stipulated in the various standards for semi-finished products or the technical rules.
The choice of certificates is determined by the notified body or acc. to the requirements of the purchaser.
When selecting the test certificates the cost factor of the increased testing requirements and the special production technology must also be considered.

Implementation

The requirements for implementation of the pressure equipment directive are based on the classification of the hazard potential.

The following prerequisites are assumed for classification of the hazard potential:
- the product is gaseous
- the product is subject to the hazard classification of "Group 2 (harmless media)"

The hazard potential is greater than for products which are liquid and hazardous.

The following production parts are covered by the pressure equipment directive and are divided up into two groups

1. Parts which are given no CE marking

- Butterfly valves DN10 - DN100
- Strainers up to DN65
- Level indicator, mixer tap
- Non-return valves DN25 - DN100

Article 3 paragraph 3 states:
- Pressure equipment and / or assemblies which reach limit values no higher than those acc. to points 1.1 to 1.3 of the pressure equipment directive must be engineered and manufactured in accordance with good engineering practice in a member state in order to ensure that they can be used safely. The pressure equipment and / or assemblies must be supplied with sufficient instructions for use and they must bear a marking with which the manufacturer or his representative resident in the community can be identified.
  This pressure equipment and / or assemblies must not bear the CE marking indicated in article 15.

If the customer order parts for a plant or assembly unit which requires acceptance, we can supply the respective factory documentation.
This must be taken into account for order processing.

2. Parts with CE marking

- Strainers DN80 and DN100 fall under category 1
- Strainers DN125 and above fall under category 2
- Butterfly valves DN125 - DN200 fall under category 1

Based on this classification, we have to test in accordance with modules "A" and "A1" acc. to the pressure equipment directive.

Pressure Equipment Directive

Set-up of the Modules

Category	without QA system		with QA system	
	Series production	Individual production	Series production	Individual production
Category I	A - internal production control			
Category II	A1 - internal production control with monitoring of acceptance	D1 - production quality assurance	D1 - product quality assurance	
Category III	B - EC type test inspection + C1 - design conformity	B1 - EC design examination + F - inspection of products	B - EC type test inspection + E - product quality assurance B1 - EC design examination + D - production quality assurance	H - comprehensive quality assurance
Category IV	B - EC type test inspection + F - inspection of products	G - EC individual examination	B - EC type test inspection + D - production quality assurance	H1 - comprehensive quality assurance with design examination and special monitoring of production

Description of the Modules

Module A:
Internal production control, for products of category I, without QA system

Module A1:
Internal production control with monitoring of acceptance, for products of category II, without QA system

Module B:
EC type examination, only in conjunction with another module, for products of categories III + IV

Module B1:
EC design examination, only in conjunction with another module, for products of categories III + IV

Module C1:
Conformity with the type, only in conjunction with module B, for products of category III, without QA system

Module D:
Quality assurance for production, only in conjunction with another module, for products of categories III + IV, with QA system

Module D1:
Quality assurance for production, for products of category II, with QA system

Module E:
Quality assurance for product, for products of category III, with QA system

Module E1:
Quality assurance for product, for products of category II, with QA system

Module F:
Inspection of the products, only in conjunction with module B or B1, for products of categories III + IV, without QA system

Module G:
EC individual examination, for products of category IV, without QA system

Module H:
Comprehensive quality assurance, for products of category III, with QA system

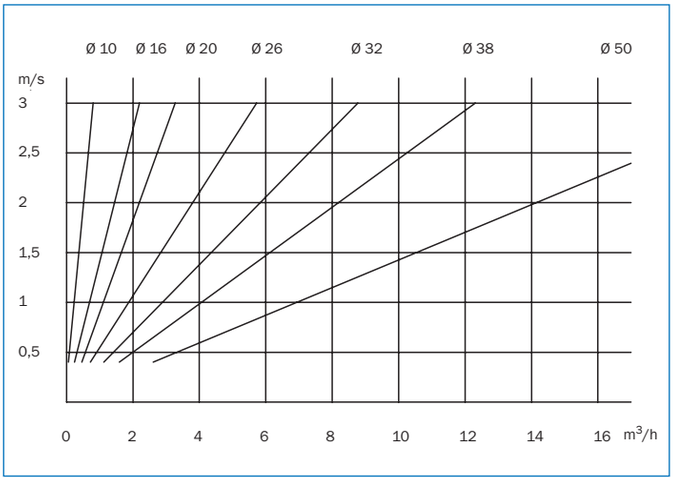
Module H1:
Comprehensive quality assurance with design examination and special monitoring of acceptance, for products of category IV, with QA system

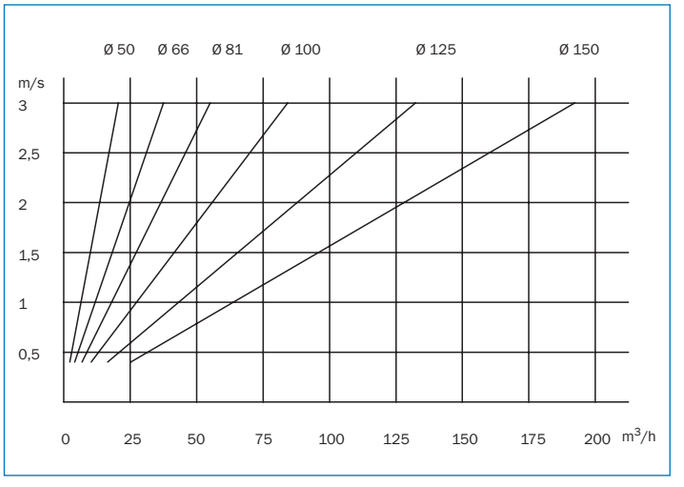
Flow Rates

Reference Values for Flow Rates

Operating equipment		Type of line	Flow rate [m/s]
Water	drinking water and service water	suction line pressure line	up to 1.5 up to 2.0
	lukewarm water	suction line pressure line	up to 1.5 up to 2.0
	hot water	suction line pressure line	up to 1.5 up to 3.0
	iced water and salt water	suction line pressure line	up to 1.3 up to 2.5
	returning water	suction line pressure line	up to 1.5 up to 3.0
Cooling agent	ammoniac	liquid gas line gas line	up to 1.5 1.5 to 20
	frigen	liquid gas line gas line	0.4 to 0.8 8.0 to 12.0
Air	compressed air and sterile air	suction line pressure line control line	up to 6.0 up to 15.0 2.0 to 5.0
Cleaning agent		suction line pressure line	up to 1.5 up to 2.0
Product	milk	suction line pressure line	1.0 to 2.0 2.0 to 3.0
	cream	suction line pressure line	0.7 to 1.0 1.0 to 2.0
	yoghurt	suction line pressure line	0.5 to 0.8 1.0 to 1.5
	carbonated drinks	pressure line	0.5 to 1.0
	mash	pressure line	1.2 to 1.5
	condiments	pressure line	1.5 to 2.0

The values listed in the table are empirical values.
For long pipelines and low pressures it is recommendable to assume lower speeds.





Wall Thickness Calculation

Calculation Formula for the Wall Thickness

The calculation for longitudinally welded pipes with internal positive pressure is performed acc. to AD 2000 data sheet B1.

Calculation formula for the wall thickness

s = Da x p / (20 x K / S x v + p) + c1 + c2

s = wall thickness [mm]
Da = outer diameter of the pipe [mm]
p = highest permitted positive operating pressure [bar]
K = characteristic value of strength (see table) [N/mm^2]
S = safety coefficient (acc. to AD 2000 data sheet) = 1.5
v = characteristic value for calculation of the welded seam
1.0 for pipes acc. to DIN EN 10357 and DIN EN 10217-7
c1 = 0 (supplement for wall thickness to offset the thickness tolerance which does not apply to austenitic steels according to the AD data sheet)
c2 = 0 (supplement for corrosion and wear, does not apply under normal conditions for austenitic steels)

Table of Strength Values

Type of steel	1.0 yield point at a temperature [°C] of					
	20°C	50°C	100°C	150°C	200°C	250°C
1.4301	230	211	191	172	157	145
1.4307	230	201	181	162	147	137
1.4541	235	222	208	195	185	175
1.4404	225	217	199	181	167	157
1.4571	245	234	218	206	196	186
1.4435	225	217	199	181	167	157
1.4306	215	201	181	162	147	137
1.4432	225	217	199	181	167	157
1.4539	250	244	235	220	205	190

In accordance with the limit dimensions for the wall thickness (DIN EN ISO 1127) the allowance still has to be factored in.

Example Calculation

Given: Outer pipe diameter: Da = 42.4 mm
Material: 1.4301
Positive operating pressure: 45 bar
Operating temperature: 150°C
Limit allowance: D3 (0.5 % with min. ± 0.3 mm)

Sought: Minimum wall thickness s [mm]

Solution: s = Da x p / (20 x K / S x v + p) + c1 + c2
s = 42.4 mm x 45 bar / (20 x 172/1.5 x 0.8 + 45 bar) + 0 + 0
s = 1.015 mm

Required pipe wall thickness = s + limit dimension
= 1.015 mm + 0.3 mm
= 1.315 mm

Material Parameters

Chemical Composition of the Steels acc. to DIN EN 10088 Part 1

Type of steel		Reference analysis						
Material	Abbreviated name	C ≤	Si ≤	Mn ≤	Cr	Mo	Ni	other
1.4301	X 5 CrNi 18 10	0.07	1.0	2.0	17.5 - 19.5		8.0 - 10.5	
1.4306	X 2 CrNi 19 11	0.03	1.0	2.0	18.0 - 20.0		10.0 - 12.0	
1.4307	X 2 CrNi 18 9	0.03	1.0	2.0	17.5 - 19.5		8.0 - 10.5	
1.4541	X 6 CrNiTi 18 10	0.08	1.0	2.0	17.0 - 19.0		9.0 - 12.0	Ti ≥ 5 x C to 0.7
1.4401	X 6 CrNiMo 17 12 2	0.07	1.0	2.0	16.5 - 18.5	2.0 - 2.5	10.0 - 13.0	
1.4404	X 2 CrNiMo 17 13 2	0.03	1.0	2.0	16.5 - 18.5	2.0 - 2.5	10.0 - 13.0	
1.4571	X 6 CrNiMoTi 17 12 2	0.08	1.0	2.0	16.5 - 18.5	2.0 - 2.5	10.5 - 13.5	Ti ≥ 5 x C to 0.7
1.4435	X 2 CrNiMo 18 14 3	0.03	1.0	2.0	17.0 - 19.0	2.5 - 3.0	12.5 - 15.0	S ≤ 0.015
1.4432	X 2 CrNiMo 17 12 3	0.03	1.0	2.0	16.5 - 18.5	2.5 - 3.0	10.5 - 13.0	
1.4539	X 1 CrNiMoCu 25 20 5	0.02	0.7	2.0	19.0 - 21.0	4.0 - 5.0	24.0 - 26.0	Cu 1.2 - 2.0

Yield Point and Limit Temperature

Type of steel		0.2 % yield point [N/mm²] at a temp. °C of											1.0 % yield point [N/mm²] at a temp. °C of											Limit temp.
Material	Abbreviated name	50	100	150	200	250	300	350	400	450	500	550	50	100	150	200	250	300	350	400	450	500	550	in °C
1.4301	X 5 CrNi 18 10	180	157	142	127	118	110	104	98	95	92	90	218	191	172	157	145	135	129	125	122	120	120	300
1.4306	X 2 CrNi 19 11	165	147	132	118	108	100	94	89	85	81	80	200	181	162	147	137	127	121	116	112	109	108	350
1.4307	X 2 CrNi 18 9	165	147	132	118	108	100	94	89	85	81	80	200	181	162	147	137	127	121	116	112	109	108	350
1.4541	X 6 CrNiTi 18 10	190	176	167	157	147	136	130	125	121	119	118	222	208	196	186	177	167	161	156	152	149	147	400
1.4401	X 6 CrNiMo 17 12 2	193	177	162	147	137	127	120	115	112	110	108	230	211	191	177	167	156	150	144	141	139	137	300
1.4404	X 2 CrNiMo 17 13 2	182	166	152	137	127	118	113	108	103	100	98	217	199	181	167	157	145	139	135	130	128	127	400
1.4571	X 6 CrNiMoTi 17 12 2	202	185	177	167	157	145	140	135	131	129	127	234	218	206	196	186	175	169	164	160	158	157	400
1.4435	X 2 CrNiMo 18 14 3	180	165	150	137	127	119	113	108	103	100	98	217	200	180	165	153	145	139	135	130	128	127	400
1.4432	X 2 CrNiMo 17 12 3	182	166	152	137	127	118	113	108	103	100	98	217	199	181	167	157	145	139	135	130	128	127	400
1.4539	X 1 CrNiMoCu 25 20 5	216	205	190	175	160	145	135	125	115	110	105	244	235	220	205	190	175	165	155	145	140	135	400

Minimum values for the 0.2 % and 1.0 % yield point at increased temperatures and reference indications on the limit temperature in case of strain to intergranular corrosion

1)... Up to this temperature (up to 100,000 h) the material has not shown any susceptibility with regards to intergranular corrosion testing.

Remarks: The values refer to parts which are in a solution annealed and quenched condition.
Source: DIN EN 10217-7

Chemical Composition of the Steels acc. to AISI Qualities

Type of steel		Reference analysis						
Material	Altern. material no.	C ≤	Si ≤	Mn ≤	Cr	Mo	Ni	other
304	1.4301	0.08	1.0	2.0	18.0 - 20.0		8.0 - 10.5	
304 L	1.4307	0.03	1.0	2.0	18.0 - 20.0		8.0 - 12.0	
316	1.4401 / 1.4436	0.08	1.0	2.0	16.0 - 18.0	2.0 - 3.0	10.0 - 14.0	
316 L	1.4404 / 1.4435	0.03	1.0	2.0	16.5 - 18.5	2.0 - 3.0	10.0 - 14.0	
904 L	1.4539	0.02	0.7	2.0	19.0 - 21.0	4.0 - 5.0	24.0 - 26.0	

Physical Properties of the Steels acc. to DIN EN 10088 Part 1

Type of steel		Density	Modulus of elasticity	Tensile strength	Heat exp.	Thermal conduct.	Spec. heat	Elec. resistance
Material	Abbreviated name	[kg/dm³]	at 20 °C [N/mm²]	[N/mm²]	20-100 °C [10⁻⁶ K⁻¹]	at 20 °C [W/mK]	at 20 °C [J/kgK]	at 20 °C [Ω mm²/m]
1.4301	X 5 CrNi 18 10	7.90	200	500 - 750	16.0	15	500	0.73
1.4306	X 2 CrNi 19 11	7.90	200	450 - 700	16.0	15	500	0.73
1.4307	X 2 CrNi 18 9	7.90	200	450 - 700	16.0	15	500	0.73
1.4541	X 6 CrNiTi 18 10	7.90	200	540 - 740	16.0	15	500	0.73
1.4401	X 6 CrNiMo 17 12 2	8.00	200	550 - 700	16.0	15	500	0.75
1.4404	X 2 CrNiMo 17 13 2	8.00	200	450 - 700	16.0	15	500	0.75
1.4571	X 6 CrNiMoTi 17 12 2	8.00	200	540 - 690	16.5	15	500	0.75
1.4435	X 2 CrNiMo 18 14 3	8.00	200	500 - 700	16.0	15	500	0.75
1.4432	X 2 CrNiMo 17 12 3	8.00	200	490 - 690	16.0	15	500	0.75
1.4539	X 1 CrNiMoCu 25 20 5	8.00	195	520 - 720	15.8	12	450	1.00

Welding Notes

General

The listed base materials are austenitic steels. Due to their chemical composition and the resultant position in the Schaeffler diagram they are very suitable for welding and as a rule can be welded without heat treatment. High-alloy materials are used as additional materials in order to offset the melting loss on alloying elements. When different base materials are combined, the choice of additional material depends on the base material with the highest alloy.

A further important influence factor with regards to the quality of the welded seams is the choice of protective gas. The various physical properties and thermal conductivity of the active and inert protective gases have a significant influence of the penetration profile. The default protective gas for the welding method most commonly used at AWH, i.e. TIG welding, is the inert gas argon. "Pure" argon can be mixed with additives of helium (inert gas) from 30 % to 70 %, of hydrogen (reducing gas) from 2 % to 7.2 % and with minimum admixtures of 0.015 % nitrogen (inert gas).

Argon around 99.996 vol% - default protective gas
- no chemical reaction with the welded goods
- good electric arc ionisation and ignition, also as root protective gas

Argon + hydrogen (5 %) - increases the welding speed and the penetration
- for welding CrNi steels
- mainly fully mechanical welding (orbital welding) (not for ferrite or duplex steels)

Forming gas N_2 + 10 % H_2 - 4 l/min 1.5 min flushing time with pipe Ø 15 - 20 mm
- 6 l/min 1.5 min flushing time with pipe Ø 33 - 38 mm

For MAG welding Ag + 2.5 % H_2 is used and for MIG welding Ag is used as protective gas.

Welding current sources with pulse technology are recommendable. The benefits of pulse technology are:
- option of lower energy input,
- stable electric arc,
- even root formation,
- better constrained position inclination,
- lower warpage of workpieces,
- better plasticity of the molten bath,
- better gap bridging properties.

The following Distinctions are made regarding the Types of Documentation

Material acc. to DIN 17007	Abbreviated name acc. to DIN 17006	Properties and areas of application	Additional material recommendation
1.4301 1.4307 1.4541	X 5 CrNi 18 10 X 2 CrNi 18 9 X 6 CrNiTi 18 10	water and lightly contaminated waste water, food and organic acids, up to a pH value of 4.5 resistant in low-chlorine corrosive agents: Food industry, apparatus engineering, domestic	1.4302 (1.4301), 1.4316, 1.4316 (1.4307) 1.4551, 1.4576 (1.4541)
1.4404 1.4571 1.4432	X 2 CrNiMo 17 12 2 X 6 CrNiMoTi 17 12 2 X 2 CrNiMo 17 12 3	higher general resistance than the above group, preferred for chem. apparatus engineering, sewage works, paper industry, above all for higher chlorine content: Chemical industry, textile industry, breweries, dairies	1.4430, 1.4455 (1.4404), 1.4576
1.4435	X 2 CrNiMo 18 14 3	higher resistance than the above groups to oxidising acids and corrosive agents with chlorine content; chemical industry, transport containers for chemicals, cellulose industry	1.4430, 1.4576
1.4539	X 1 CrNiMoCu 25 20 5	Particularly suitable for media with chlorine content and sea water. High resistance to reduced acids of medium corrosivity. At room temperature resistant to all concentrations of sulphuric acids, for example.	1.4539, 1.4519

DIN EN 10357

General

DIN EN 10357 was developed for seam welded tubes made of stainless steel for pipeline systems in the food, pharmaceutical and chemical industries.

DIN EN 10357 (2014-3) replaces DIN 11850 at the beginning of 2014. Fundamental changes to DIN 11850:
- Tube series 1 and 2 have been replaced and supplemented by series A to D.
- Series A replaces DIN series 2, series B replaces DIN series 1, series C corresponds to ISO and series D corresponds to OD and SMS.

With regard to EN 10357 the following normative references must be provided: DIN EN 2768, DIN 11851, DIN 11852, DIN11853-1 to -3, DIN 11864-1 to -3, DIN 32676, DIN EN 10088-1, DIN EN 10088-2, DIN EN 10204, DIN EN ISO 1127, DIN EN 10217-7

The standard materials 1.4301, 1.4307, 1.4404, 1.4432 and 1.4435 are listed as types of steel.
Material 1.4404 has replaced the titanium-stabilised material 1.4571. Which is no longer included in DIN EN 10357. The end user is responsible for selecting the correct material. In particular for drinking water, for applications in the food and milk processing industry there are strict regulations which may differ from country to country.

Pipe Unions

- Threaded pipe union acc. to DIN 11851	for rolling in and butt welding
- Threaded pipe unions acc. to DIN 11864-1 and DIN 11853-1	for butt welding
- Flange connections acc. to DIN 11864-2 and DIN 11853-2	for butt welding
- Clamp connection acc. to DIN 11864-3 and DIN 11853-3	for butt welding
- Clamp connections acc. to DIN 32676	for butt welding
- Unions acc. to ISO 2037	for butt welding
- Unions acc. to BS 4825	for butt welding

Typical Ordering Data acc. to DIN EN 10357

- Technical terms and conditions of delivery acc. to DIN EN 10217-7	Example: BC bright annealed W2R(b) or matt pickled W2A(b) and annealed (acc. to DIN EN 10217-7)
- Outer pipe diameter and wall thickness	Example: 41 x 1.5
- Production lengths	Example: approx. 6000 mm ± 100 mm
- Material	Example: 1.4404
- Documentation	Example: 3.1
- Test class acc. to DIN EN 10217-7	Example: TC1 or TC2

The pipes are marked at least at one end of the supplied pipe.

Surface Properties

	Inner surface	Outer surface
CC	pickled W2(b) and passivated Ra < 0.8 µm welded seam area Ra < 1.6 µm	pickled W2(b) and passivated
CD	pickled W2(b) and passivated Ra < 0.8 µm welded seam area Ra < 1.6 µm	ground, Ra < 1.0 µm
BC	annealed and pickled, or bright annealed, W2A(b), W2R(b), I1g* or I2g* Ra < 0.8 µm welded seam area Ra < 1.6 µm	pickled and passivated or bright annealed W2A(b), W2R(b), I1g* or I2g*
BD	annealed and pickled, or bright annealed, W2A(b), W2R(b), I1g* or I2g* Ra < 0.8 µm welded seam area Ra < 1.6 µm	ground Ra < 1.0 µm

A distinction is made between the surface quality on the inner surface and the outer surface. It is essentially evaluated acc. to DIN EN 10217-7.

Tube acc. to DIN EN 10357 Series A

Tube acc. to DIN EN 10357 Series A - Quality CC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19 x 1.5	45113	55113			0.64
23 x 1.5	45114	55114			0.81
29 x 1.5	45115	55115			1.03
35 x 1.5	45116	55116			1.25
41 x 1.5	45117	55117			1.48
53 x 1.5	45118	55118			1.93
70 x 2	45119	55119			3.40
85 x 2	45120	55120			4.15
104 x 2	45121	55121			5.10
129 x 2	45122	55122			6.36
154 x 2	45123	55123			7.61
204 x 2	45124	55124			10.11

- not heat-treated
- pickled inside
- pickled outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series A - Quality CD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19 x 1.5	45125	55125			0.64
23 x 1.5	45126	55126			0.81
29 x 1.5	45127	55127			1.03
35 x 1.5	45128	55128			1.25
41 x 1.5	45129	55129			1.48
53 x 1.5	45130	55130			1.93
70 x 2	45131	55131			3.40
85 x 2	45132	55132			4.15
104 x 2	45133	55133			5.10
129 x 2	45134	55134			6.36
154 x 2	45135	55135			7.61
204 x 2	45136	55136			10.11

- not heat-treated
- pickled inside
- satin polish outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series A - Quality BC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19 x 1.5	45137	55137			0.64
23 x 1.5	45138	55138			0.81
29 x 1.5	45139	55139			1.03
35 x 1.5	45140	55140			1.25
41 x 1.5	45141	55141			1.48
53 x 1.5	45142	55142			1.93
70 x 2	45143	55143			3.40
85 x 2	45144	55144			4.15
104 x 2	45145	55145			5.10
129 x 2	45146	55146			6.36
154 x 2	45147	55147			7.61

- annealed
- pickled inside
- pickled outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series A - Quality BD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19 x 1.5	45148	55148			0.64
23 x 1.5	45149	55149			0.81
29 x 1.5	45150	55150			1.03
35 x 1.5	45151	55151			1.25
41 x 1.5	45152	55152			1.48
53 x 1.5	45153	55153			1.93
70 x 2	45154	55154			3.40
85 x 2	45155	55155			4.15
104 x 2	45156	55156			5.10
129 x 2	45157	55157			6.36
154 x 2	45158	55158			7.61

- annealed
- pickled inside
- satin polish outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series B

- not heat-treated
- pickled inside
- pickled outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series B - Quality CC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1	45000	55000			0.42
22 x 1	45001	55001			0.53
28 x 1	45002	55002			0.67
34 x 1	45003	55003			0.83
40 x 1	45004	55004			0.98
52 x 1	45005	55005			1.28

- not heat-treated
- pickled inside
- dull polish outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series B - Quality CD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1	45006	55006			0.42
22 x 1	45007	55007			0.53
28 x 1	45008	55008			0.67
34 x 1	45009	55009			0.83
40 x 1	45010	55010			0.98
52 x 1	45011	55011			1.28

- annealed
- pickled inside
- pickled outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series B - Quality BC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1	45012	55012			0.42
22 x 1	45013	55013			0.53
28 x 1	45014	55014			0.67
34 x 1	45015	55015			0.83
40 x 1	45016	55016			0.98
52 x 1	45017	55017			1.28

- annealed
- pickled inside
- dull polish outside

- formerly DIN 11850

Tube acc. to DIN EN 10357 Series B - Quality BD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1	45018	55018			0.42
22 x 1	45019	55019			0.53
28 x 1	45020	55020			0.67
34 x 1	45021	55021			0.83
40 x 1	45022	55022			0.98
52 x 1	45023	55023			1.28

"Old Series" Tube similar to DIN 11850

"Old Series" Tube similar to DIN 11850 - Quality CC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1.5	45023	55023			0.62
22 x 1.5	45024	55024			0.77
28 x 1.5	45025	55025			0.99
34 x 1.5	45026	55026			0.83
40 x 1.5	45027	55027			1.45
52 x 1.5	45028	55028			1.90

- not heat-treated
- pickled inside
- pickled outside

"Old Series" Tube similar to DIN 11850 - Quality CD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1.5	45029	55029			0.62
22 x 1.5	45030	55030			0.77
28 x 1.5	45031	55031			0.99
34 x 1.5	45032	55032			0.83
40 x 1.5	45033	55033			1.45
52 x 1.5	45034	55034			1.90

- not heat-treated
- pickled inside
- dull polish outside

"Old Series" Tube similar to DIN 11850 - Quality BC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1.5	45035	55035			0.62
22 x 1.5	45036	55036			0.77
28 x 1.5	45037	55037			0.99
34 x 1.5	45038	55038			0.83
40 x 1.5	45039	55039			1.45
52 x 1.5	45040	55040			1.90

- annealed
- pickled inside
- pickled outside

"Old Series" Tube similar to DIN 11850 - Quality BD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
18 x 1.5	45041	55041			0.62
22 x 1.5	45042	55042			0.77
28 x 1.5	45043	55043			0.99
34 x 1.5	45044	55044			0.83
40 x 1.5	45045	55045			1.45
52 x 1.5	45046	55046			1.90

- annealed
- pickled inside
- dull polish outside

Tube acc. to DIN EN 10357 Series D

- not heat-treated
- pickled inside
- pickled outside

Tube acc. to DIN EN 10357 Series D - Quality CC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19.05 x 1.5	45047	55047			0.64
25 x 1.2	45048	55048			0.71
25.4 x 1.5	45049	55049			0.88
38 x 1.2	45050	55050			1.11
38.1 x 1.5	45051	55051			1.37
50.8 x 1.5	45052	55052			1.85
51 x 1.2	45053	55053			1.50
63.5 x 1.5	45054	55054			2.32
76.1 x 1.5	45055	55055			2.80
76.1 x 2.0	45056	55056			3.71
101.6 x 1.5	45057	55057			3.75
101.6 x 2.0	45058	55058			4.98

- not heat-treated
- pickled inside
- dull polish outside

Tube acc. to DIN EN 10357 Series D - Quality CD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19.05 x 1.5	45059	55059			0.00
25 x 1.2	45060	55060			0.71
25.4 x 1.5	45061	55061			0.88
38 x 1.2	45062	55062			1.11
38.1 x 1.5	45063	55063			1.37
50.8 x 1.5	45064	55064			1.85
51 x 1.2	45065	55065			1.50
63.5 x 1.5	45066	55066			2.32
76.1 x 1.5	45067	55067			2.80
76.1 x 2.0	45068	55068			3.71
101.6 x 1.5	45069	55069			3.75
101.6 x 2.0	45070	55070			4.98

- annealed
- pickled inside
- pickled outside

Tube acc. to DIN EN 10357 Series D - Quality BC

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
25 x 1.2	45073	55073			0.71
25.4 x 1.6	45074	55074			0.95
38 x 1.2	45075	55075			1.11
38.1 x 1.6	45076	55076			1.46
50.8 x 1.6	45077	55077			1.97
51 x 1.2	45078	55078			1.50
63.5 x 1.6	45079	55079			2.48
76.1 x 1.6	45080	55080			2.98
76.1 x 2.0	45081	55081			3.71
101.6 x 2.0	45082	55082			4.98

- annealed
- pickled inside
- dull polish outside

Tube acc. to DIN EN 10357 Series D - Quality BD

	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
12.7 x 1.6	N/A	55084			0.44
19.05 x 1.6	N/A	55085			0.70
25 x 1.2	45086	55086			0.71
25.4 x 1.6	45087	55087			0.95
38 x 1.2	45088	55088			1.11
38.1 x 1.6	45089	55089			1.46
50.8 x 1.6	45090	55090			1.97
51 x 1.2	45091	55091			1.50
63.5 x 1.6	45092	55092			2.48
76.1 x 1.6	45093	55093			2.98
76.1 x 2.0	45094	55094			3.71
101.6 x 2.0	45095	55095			4.98

Tube acc. to DIN 11866

General

DIN 11866 describes seamless and welded pipes for aseptics, chemicals and pharmaceuticals.
The dimensions depend on the pipe fittings and connection pieces of DIN 11864 and DIN 11865.

With regard to DIN 11866 (2008) the following normative references must be provided:
DIN 2413-1, DIN 2559-1, DIN 2609, DIN 11864-1, DIN 11864-2, DIN 11864-3, DIN 11865, DIN EN 10217-7 (techn. terms and conditions of delivery for welded pipes), DIN EN 10216-5 (techn. terms and conditions of delivery for seamless pipes), DIN EN 10088-1, DIN EN 10204, DIN EN ISO 1127, ASME-BPE 2005.

The described pipes are divided up into pipes of the series:
- A pipe dimensions acc. to DIN EN 10357 series A upgraded with DN6 + DN8
- B pipe dimensions acc. to DIN EN ISO 1127
- C pipe dimensions acc. to ASME-BPE 2005

The materials 1.4435*/1.4404 (316L) and 1.4539 (904L) are listed as the types of steel.
(The material 1.4539 is only a trade item in ISO pipe dimensions) * standard material

Stipulations for the pipes:
- annealed
- free of oil and grease residue
- metallically bright
- without dried staining substances
- pipe ends planned for joint shape 1 acc. to DIN 2559-1 (suitable for orbital welding)
- pipe ends sealed with end caps
- packaging in PE hoses (ground pipes)
- test category TC2 DIN 10217-7 - DIN 10246-5

Typical Ordering Data acc. to DIN 11866

Outer pipe diameter and wall thickness	Example: 41 x 1.5
Production lengths	Example: approx. 6000 mm
Material/material number	Example: 1.4435 (1.4404 also available)
Hygiene class	Example: H2 ...
Documentation	Example: 3.1 acc. to DIN EN 10204
Test class acc. to DIN EN 10217-7	Example: TC2
Delta ferrite content	Example: to be specified optionally for 1.4435, DF class 1 - 3

Surface Properties

Outer surface:
- without Ra specification: pickled or bright annealed
- with Ra specification: typ. ground Ra < 1.0 µm an additional "o" is added to the marking for the hygiene class (e.g. H2o)

Inner surface:

Hygiene class	Inner surface	Inner seam area	Typical production process - post-processing of the main tubes
H1	Ra < 1.6 µm	Ra < 3.2 µm	from cold strip* welded, smoothed inner seam, heat treated and pickled in a full bath
H2	Ra < 0.8 µm	Ra < 1.6 µm	or from cold strip* welded, smoothed inner seam, scale-free heat treated
H3	Ra < 0.8 µm	Ra < 0.8 µm	or from cold strip* welded, cold drawn (pull-polished), scale-free heat treated
H4	Ra < 0.4 µm	Ra < 0.4 µm	or seamless, cold drawn (pull-polished), scale-free heat treated
H5	Ra < 0.25 µm	Ra < 0.25 µm	or only with additional rework by means of grinding and/or honing

* Cold strip acc. to DIN EN 10088-2:2005-09,Table 6, 2B or 2R.

The DF class (delta ferrite class) also provides additional information of the delta ferrite content of 1.4435.
The specified content always refers to the delivery condition and a distinction is made between three classes:
DF class 1 < 3.0 % in delivery condition, DF class 2 < 1.0 % in delivery condition and DF class 3 < 0.5 % in delivery condition.

The surface quality of hygiene class 2 complies with standard DIN EN 10357.
Note that AWH supplies pipes with outer surfaces which are pickled and ground.

Tube acc. to DIN 11866

Permissible max. Operating Pressures

This data up to the max. permissible operating pressures refer to the pipe only in accordance with standard DIN 11866.
This data must not be used for welded constructions or pipe fittings. In this case the AD 2000 rules or other applicable standards must be applied.

Table C.1 - acc. to DIN 11866 permissible max. Operating Pressures at a Temperature of 20 °C

Nominal diameters															
DN	6	8	10	15	20	25	32	40	50	65	80	100	125	150	200
Permissible operating pressures in bar for pipes															
Series A	400	320	369	253	209	165	137	117	90	91	75	61	49	41	31
Series B	502	379	298	240	190	190	151	132	106	84	82	64	59	49	38
Series C	449	299	416	277	208		138	104	83	69		66		58	

The permissible operating pressures have been calculated for seamless and welded pipes (v=1) with the calculation value for material number 1.4404 acc. to DIN EN 10088-2:2005-09, table 10 - product shape C (cold strip) taking into consideration utilisation of the permissible calculation voltage of 100 % in the welded seam.

Table C.2 - acc. to DIN 11866 permissible max. Operating Pressures at a Temperature of 150 °C

Nominal diameters															
DN	6	8	10	15	20	25	32	40	50	65	80	100	125	150	200
Permissible operating pressures in bar for pipes															
Series A	254	203	234	160	132	105	87	74	57	58	47	39	31	26	19
Series B	318	240	189	152	120	120	95	84	67	53	52	40	37	31	24
Series C	284	189	264	176	132		88	66	52	44		42		36	

The permissible operating pressures have been calculated for seamless and welded pipes (v=1) with the calculation value for material number 1.4404 acc. to DIN EN 10088-2:2005-09, table 15 - taking into consideration utilisation of the permissible calculation voltage of 100 % in the welded seam.

- **H2**
inner Ra < 0.8 / 1.6 µm
outside standard acc. to DIN H2

Tube acc. to DIN 11866 Series A - Quality H2

	1.4404 (316L) / TC1	1.4404 (304L) / TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19 x 1.5	POA	POA			0.657
23 x 1.5	POA	POA			0.808
29 x 1.5	POA	POA			1.033
35 x 1.5	POA	POA			1.258
41 x 1.5	POA	POA			1.484
53 x 1.5	POA	POA			1.934
70 x 2	POA	POA			3.405
85 x 2	POA	POA			4.157
104 x 2	POA	POA			5.108
129 x 2	POA	POA			6.360

- **H3**
inner Ra < 0.8 / 0.8 µm
outside standard acc. to DIN H3

Tube acc. to DIN 11866 Series A - Quality H3

	1.4404 (316L) / TC1	1.4404 (304L) / TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19 x 1.5	POA	POA			0.657
23 x 1.5	POA	POA			0.808
29 x 1.5	POA	POA			1.033
35 x 1.5	POA	POA			1.258
41 x 1.5	POA	POA			1.484
53 x 1.5	POA	POA			1.934
70 x 2	POA	POA			3.405
85 x 2	POA	POA			4.157
104 x 2	POA	POA			5.108
129 x 2	POA	POA			6.360

DIN EN ISO 1127 Stainless Steel Pipes and OD Tube ASTM A269/270

DIN EN ISO 1127 Steinless Steel Pipes

The dimensions of ISO pipes are described in the standard "DIN EN ISO 1127 Stainless steel pipes" (purchased BEUTH Verlag GmbH, 10722 Berlin). This standard was developed from standards DIN 2462 (dimensions of seamless pipes) and DIN 2463 (dimensions of welded pipes).

It defines dimensions, limit allowances and length dimensions. Compared to the old DIN 2462 and 2463 specifications for seamless and welded pipes are now combined in one standard. Thus the differences between the two standards no longer apply.

The limit dimensions are defined as follows:

a. for the outer diameter in tolerance classes
D1 (± 1.5 % with min. ± 0.75 mm)
D2 (± 1 % with min. ± 0.5 mm)
D3 (0.75 % with min. ± 0.3 mm)
D4 (± 0.5 % with min. ± 0.1 mm)

b. for the wall thickness
T1 (± 15 % with min. ± 0.6 mm)
T2 (± 12.5 % with min. ± 0.4 mm)
T3 (± 10 % with min. ± 0.2 mm)
T4 (± 7.5 % with min. ± 0.15 mm)
T5 (± 5 % with min. ± 0.1 mm)

ISO pipes are produced from hot-rolled sheet metal. Unlike qualities acc. to pipe standard DIN EN 10357 (cold strip raw material), the surface quality specific to the raw material, described as "orange peel", cannot be improved by polishing.

Further definitions of the quality of the surface (roughness etc.) and ferrite content are not included for ISO pipes.

Do you require DIN EN ISO 1127 type pipes? Send your enquiry to our staff and we will be happy to help.

OD Tube ASTM A269/270

The standards ASTM A269/A270 describe seamless and welded pipes made from austenitic and ferritic/austenitic stainless steel for general and hygienic applications.

They describe the dimensions, limit allowances, type of heat treatment, permissible steel types and the tests which have to be carried out on the pipe.

OD Tube ASTM A269/270 (US standard) annealed

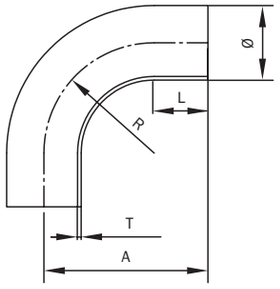
	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
19.05 x 1.65	45098	55098			0.72
25.4 x 1.65	45099	55099			0.98
38.1 x 1.65	45100	55100			1.51
50.8 x 1.65	45101	55101			2.03
63.5 x 1.65	45102	55102			2.56
76.1 x 1.65	45103	55103			3.08
101.6 x 2.11	45104	55104			5.26

- annealed
- pickled inside
- pickled outside

OD Tube ASTM A269/270 (US standard) annealed/dull polish 240 grit

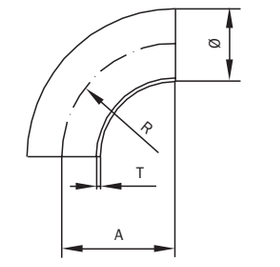
	1.4307 (304L) TC1	1.4404 (316L) TC1			
Dimensions	Article No.	Article No.			Weight [kg/m]
12.7 x 1.65	N/A	55084			0.46
19.05 x 1.65	N/A	55085			0.72
25.4 x 1.65	45107	55107			0.98
38.1 x 1.65	45108	55108			1.51
50.8 x 1.65	45109	55109			2.03
63.5 x 1.65	45110	55110			2.56
76.1 x 1.65	45111	55111			3.08
101.6 x 2.11	45112	55112			5.26

- annealed
- pickled inside
- satin polish outside



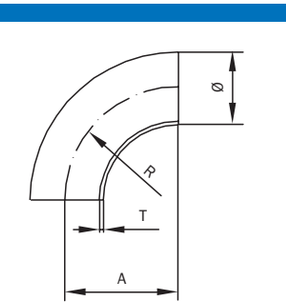
BS 90° Bend long

Size mm (inch)	Ø	T	R	A	L	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
							Article No.	Article No.	Article No.	Article No.
12.7	12.7	1.6	19.05	45	22	0.03				51000
19.05	19.05	1.6	28.58	60	30	0.04				51001
25.4	25.4	1.6	37.5	65	27.5	0.11	40002	41002	50002	51002
31.8	31.8	1.6	47.7	75	25	0.15	40003	41003	50003	51003
38.1	38.1	1.6	57	85	28	0.21	40004	41004	50004	51004
50.8	50.8	1,6	76.5	110	33.5	0.36	40005	41005	50005	51005
63.5	63.5	1.6	95.3	135	39.7	0.55	40006	41006	50006	51006
76.2	76.2	1.6	114	155	40.8	0.78	40007	41007	50007	51007
101.6	101.6	2	153	195	42.5	1,6	40008	41008	50008	51008



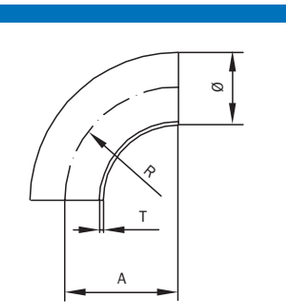
BS 90° Bend short

Size mm (inch)	Ø	T	R	A	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
25.4	25.4	1.6	37.5	44	0.07	40009	41009	50009	51009
38.1	38.1	1.6	57	64	0.13	40010	41010	50010	51010
50.8	50.8	1.6	76.5	89	0.29	40011	41011	50011	51011
63.5	63.5	1.6	95.3	114	0.59	40012	41012	50012	51012
76,2	76.2	1.6	114	134	0.73	40013	41013	50013	51013
101.6	101.6	2	153	174	1.13	40014	41014	50014	51014



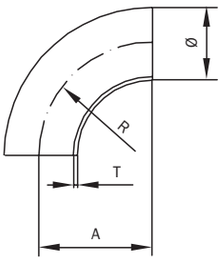
BS 90° Bend 1XD

Size mm (inch)	Ø	T	R	A	Weight [kg]		AISI 304L satin		AISI 316L satin
							Article No.		Article No.
25.4	25.4	1.6	25	55	0.06		41015		51015
38.1	38.1	1.6	38	70	0.14		41016		51016
50.8	50.8	1.6	51	82	0.19		41017		51017
63.5	63.5	1.6	64	105	0.41		41018		51018
76.2	76.2	1.6	76	110	0.64		41019		51019
101.6	101.6	2	110	150	1.15		41020		51020



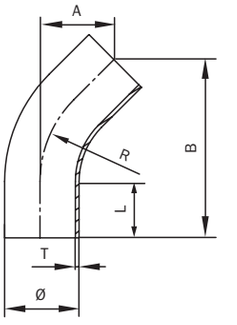
BS 90° Bend 2XD

Size mm (inch)	Ø	T	R	A	Weight [kg]				AISI 316L satin
									Article No.
25.4	25.4	1.6	50.8	80	0.13				51021
38.1	38.1	1.6	76.2	105	0.26				51022
50.8	50.8	1.6	101.6	130	0.43				51023
63.5	63.5	1.6	127	160	0.63				51024
76.2	76.2	1.6	152.4	215	1.09				51025
101.6	101.6	2	203.2	213.2	1.57				51026



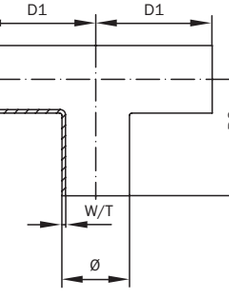
BS 90° Bend 3XD

Size mm (inch)	Ø	T	R	A	Weight [kg]				AISI 316L satin
									Article No.
25.4	25.4	1.6	75.9	115	0.18				51027
38.1	38.1	1.6	114.3	140	0.33				51028
50.8	50.8	1.6	153	225	0.77				51029
63.5	63.5	1.6	190.5	230	0.95				51030
76.2	76.2	1.6	228.6	240	1.16				51031
101.6	101.6	2	304.8	365.5	3.13				51032



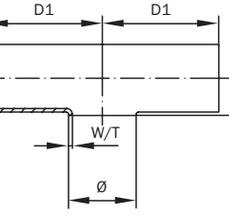
BS 45° Bend long

Size mm (inch)	Ø	T	R	A	L	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
							Article No.	Article No.	Article No.	Article No.
25.4	25.4	1.6	37.5	21.3	14.6	0.07	40076	41076	50076	51076
38.1	38.1	1.6	57	29.2	17.7	0.15	40077	41077	50077	51077
50.8	50.8	1.6	76.5	41.5	27	0.23	40078	41078	50078	51078
63.5	63.5	1.6	95.3	53.8	36.7	0.40	40079	41079	50079	51079
76.2	76.2	1.6	114	63.8	42.9	0.60	40080	41080	50080	51080
101.6	101.6	2	153	86.4	59.2	1.10	40081	41081	50081	51081



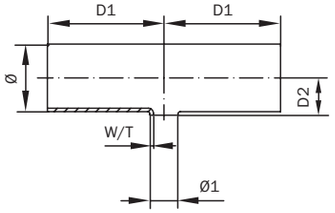
BS Equal Tee

Size mm (inch)	Ø	W/T	D1	D2	Weight [kg]		AISI 304L satin	AISI 316L matt	AISI 316L satin
							Article No.	Article No.	Article No.
12.7	12.7	1.6	35	35	0.04				53000
19.05	19.05	1.6	35	35	0.05				53001
25.4	25.4	1.6	44	44	0.13		43002	52002	53002
38.1	38.1	1.6	64	64	0.25		43003	52003	53003
50.8	50.8	1.6	89	89	0.40		43004	52004	53004
63.5	63.5	1.6	114	114	0.68		43005	52005	53005
76.2	76.2	1.6	134	134	1.02		43006	52006	53006
101.6	101.6	2	174	174	2.20		43007	52007	53007



BS Equal Tee short (pulled)

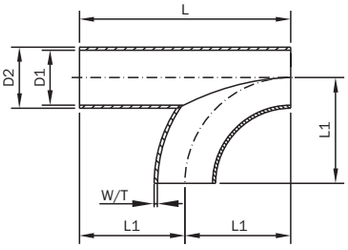
Size mm (inch)	Ø	W/T	D1	D2	Weight [kg]		AISI 304L satin	AISI 316L matt	AISI 316L satin
							Article No.	Article No.	Article No.
25.4	25.4	1,6	44	14	0.11		43008	52008	53008
38.1	38.1	1,6	64	19.9/22	0.25		43009	52009	53009
50.8	50.8	1,6	89	27.6/29	0.35		43010	52010	53010
63.5	63.5	1,6	114	34.9	0.46		43011	52011	53011
76.2	76.2	1,6	134	40.9	0.92		43012	52012	53012
101.6	101.6	2	174	54.7	1.85		43013	52013	53013



* not dairy

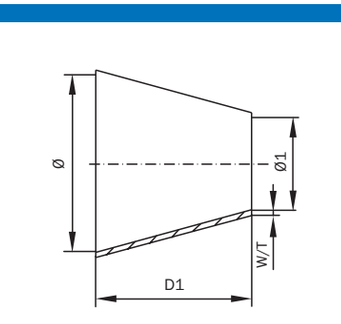
BS Reducing Tee short (pulled)

Size mm (inch)	Ø	Ø1	W/T	D1	D2	Weight [kg]				AISI 316L satin
										Article No.
25.4/12.7	25.4	12.7	1.6	44	27	0.11				53218
25.4/19.05	25.4	19.05	1.6	44	27	0.11				53219
38.1/25.4	38.1	25.4	1.6	64	22	0.25				53014
50.8/25.4	50.8	25.4	1.6	89	29	0.35				53015
50.8/38.1	50.8	38.1	1.6	89	29	0.35				53016
63.5/25.4	63.5	25.4	1.6	114	35	0.76				53017
63.5/38.1	63.5	38.1	1.6	114	35	0.76				53018
63.5/50.8	63.5	50.8	1.6	114	35	0.76				53019
76.1/25.4	76.1	25.4	1.6	134	41	0.92				53020
76.1/38.1	76.1	38.1	1.6	134	41	0.92				53021
76.1/50.8	76.1	50.8	1.6	134	41	0.92				53022
76.1/63.5	76.1	63.5	1.6	134	41	0.92				53023
101.6/25.4	101.6	25.4	2	174	55	1.85				53024
101.6/38.1	101.6	38.1	2	174	55	1.85				53025
101.6/50.8	101.6	50.8	2	174	55	1.85				53026
101.6/63.5	101.6	63.5	2	174	55	1.85				53027
101.6/76.1	101.6	76.1	2	174	55	1.85				53028
*154/76.1	154	76.1	2	143	84	2.00				53029
*154/101.6	154	101.6	2	143	84	2.00				53030



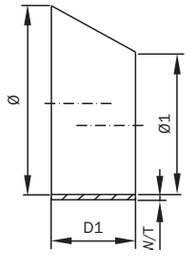
BS Swept Tee

Size mm (inch)	D1	D2	W/T	L	L1	Weight [kg]		AISI 304L satin		AISI 316L satin
								Article No.		Article No.
25.4	22.22	25.4	1.6	88	44	0.11				53200
38.1	34.9	38.1	1.6	128	64	0.25				53201
50.8	47.6	50.8	1.6	178	89	0.48				53202
63.5	60.3	63.5	1.6	228	114	0.76				53203
76.1	72.9	76.1	1.6	268	134	1.08				53204
101.6	97,6	101.6	2	348	174	2.24				53205
104	100	104	2	348	174	2.24		43200		53206
154	150	154	2	450	225	4.29		43201		53207
204	200	204	2	600	300	8.71		43202		53208



BS Reducer concentric

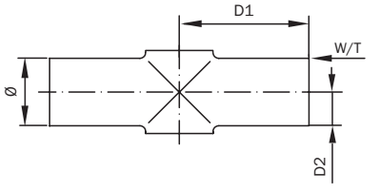
Size mm (inch)	Ø	Ø1	W/T	D1	Weight [kg]			AISI 316L matt	AISI 316L satin
								Article No.	Article No.
25.4/12.7	25.4	12.7	1.6	21	0.02			52121	53121
25.4/19.05	25.4	19.05	1.6	15	0.02			52122	53122
38.1/25.4	38.1	25.4	1.6	29	0.04			52123	53123
50.8/25.4	50.8	25.4	1.6	53	0.08			52124	53124
50.8/38.1	50.8	38.1	1.6	41	0.07			52125	53125
63.5/25.4	63.5	25.4	1.6	82	0.14			52126	53126
63.5/38.1	63.5	38.1	1.6	64	0.13			52127	53127
63.5/50.8	63.5	50.8	1.6	40	0.09			52128	53128
76.1/25.4	76.1	25.4	1.6	110	0.22			52129	53129
76.1/38.1	76.1	38.1	1.6	81	0.19			52130	53130
76.1/50.8	76.1	50.8	1.6	55	0.14			52131	53131
76.1/63.5	76.1	63.5	1.6	41	0.12			52132	53132
101.6/25.4	101.6	25.4	2	160	0.51			52133	53133
101.6/38.1	101.6	38.1	2	135	0.48			52134	53134
101.6/50.8	101.6	50.8	2	106	0.41			52135	53135
101.6/63.5	101.6	63.5	2	76	0.32			52136	53136
101.6/76.1	101.6	76.1	2	53	0.24			52137	53137
129/101.6	129	101.6	2	82.2	0.45			52138	53138
154/76.1	154	76.1	2	233.7	1.56			52139	53139
154/101.6	154	101.6	2	157.2	1.28			52140	53140



* not dairy

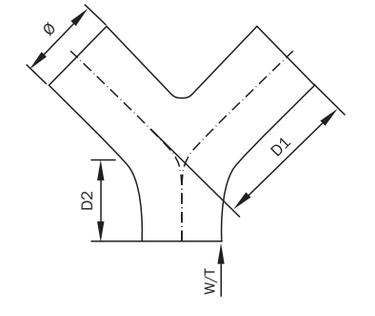
BS Reducer eccentric

Size mm (inch)	Ø	Ø1	W/T	D1	Weight [kg]			AISI 316L Matt	AISI 316L Satin
								Article No.	Article No.
25.4/12.7	25.4	12.7	1.6	23	0.02			52141	53141
25.4/19.05	25.4	19.05	1.6	22	0.01			52142	53142
38.1/25.4	38.1	25.4	1.6	35	0.08			52143	53143
50.8/25.4	50.8	25.4	1.6	54	0.07			52144	53144
50.8/38.1	50.8	38.1	1.6	36	0.06			52145	53145
63.5/25.4	63.5	25.4	1.6	76	0.11			52146	53146
63.5/38.1	63.5	38.1	1.6	66	0.13			52147	53147
63.5/50.8	63.5	50.8	1.6	35	0.08			52148	53148
76.1/25.4	76.1	25.4	1.6	112	0.15			52149	53149
76.1/38.1	76.1	38.1	1.6	78	0.17			52150	53150
76.1/50.8	76.1	50.8	1.6	66	0.17			52151	53151
76.1/63.5	76.1	63.5	1.6	44	0.12			52152	53152
101.6/25.4	101.6	25.4	2	155	0.45			52153	53153
101.6/38.1	101.6	38.1	2	122	0.40			52154	53154
101.6/50.8	101.6	50.8	2	97	0.36			52155	53155
101.6/63.5	101.6	63.5	2	73	0.30			52156	53156
101.6/76.1	101.6	76.1	2	77	0.34			52157	53157
*154/76.1	154	76.1	2	233.7	1.48			52158	53158
*154/101.6	154	101.6	2	157.2	1.36			52159	53159



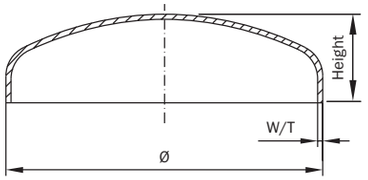
Crosses pulled

Size mm (inch)	Ø	W/T	D1	D2	Weight [kg]				AISI 316L Satin
									Article No.
25.4	25.4	1.6	44	15	0.06				53400
38.1	38.1	1.6	64	22	0.17				53401
50,8	50.8	1.6	89	28	0.33				53402
63.5	63.5	1.6	114	35	0.55				53403
76.1	76.1	1.6	134	41	0.77				53404
101.6	101.6	2	174	54	1.56				53405



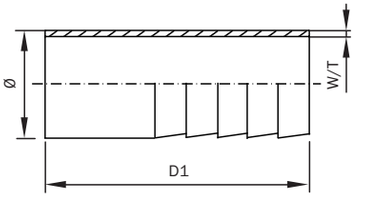
Y Pieces

Size mm (inch)	Ø	W/T	D1	D2	Weight [kg]				AISI 316L Satin
									Article No.
25.4	25.4	1.6	44	22	0.09				53300
38.1	38.1	1.6	64	31	0.21				53301
50.8	50.8	1.6	89	44	0.40				53302
63.5	63.5	1.6	114	58	0.64				53303
76.1	76.1	1.6	134	67	0.89				53304
101.6	101.6	2	174	85	1.92				53305



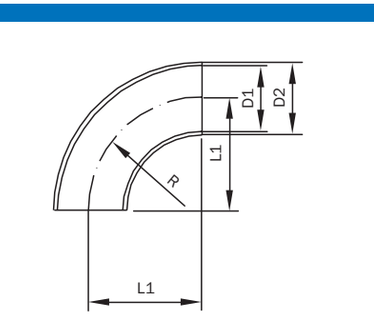
End Caps

Size mm (inch)	Ø	W/T	Height	Weight [kg]			AISI 316L Matt	AISI 316L Satin
							Article No.	Article No.
25.4	25.4	1.6	12	0.015				34565
38.1	38.1	1.6	15	0.029				34566
50.8	50.8	1.6	19	0.055				34567
63.5	63.5	1.6	19	0.076				34568
76.1	76.1	1.6	27	0.097				34569
101.6	101.6	2	24	0.187				34570
104	104	2	24	0.187			18252	
129	129	2	34	0.314			18253	
154	154	2	41	0.444			18254	
204	204	2	50	0.754			18255	



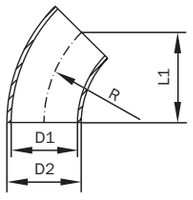
Weld Hose Tail

Size mm (inch)	Ø	W/T	Lenght	Weight [kg]				AISI 316L Satin
								Article No.
25.4	25.4	1.6	30	0.03				53412
38.1	38.1	1.6	30	0.04				53413
50.8	50.8	1.6	36	0.07				53414
63.5	63.5	1.6	37	0.09				53415
76.1	76.1	1.6	56	0.17				53416
101.6	101.6	2	63	0.32				53417



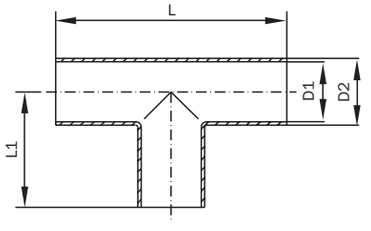
Bend 90° DIN 11852

Size mm DN	D1	D2	L1	R	Weight [kg]	AISI 304L Matt	AISI 304L Satin	AISI 316L Matt	AISI 316L Satin
						Article No.	Article No.	Article No.	Article No.
10	9	12	26	26	0.01	40033	41033	50033	51033
10	10	13	26	26	0.01	40034	41034	50034	51034
15	15	18	35	35	0.02	40035	41035	50035	51035
15	16	19	35	35	0.02	40036	41036	50036	51036
20	19	22	40	40	0.04	40037	41037	50037	51037
20	20	23	40	40	0.04	40038	41038	50038	51038
25	25	28	50	50	0.05	40039	41039	50039	51039
25	26	29	50	50	0.05	40040	41040	50040	51040
32	31	34	55	55	0.08	40041	41041	50041	51041
32	32	35	55	55	0.08	40042	41042	50042	51042
40	37	40	60	60	0.10	40043	41043	50043	51043
40	38	41	60	60	0.10	40044	41044	50044	51044
50	49	52	70	70	0.17	40045	41045	50045	51045
50	50	53	70	70	0.17	40046	41046	50046	51046
65	66	70	80	80	0.39	40047	41047	50047	51047
80	81	85	90	90	0.57	40048	41048	50048	51048
100	100	104	100	100	1.17	40049	41049	50049	51049
125	125	129	187.5	187.5	1.90	40050	41050	50050	51050
150	150	154	225	225	2.72	40051	41051	50051	51051
200	200	204	300	300	4.75	40052	41052	50052	51052



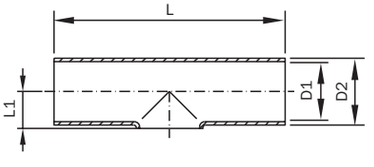
Bend 45° DIN 11852

Size mm DN	D1	D2	L1	R	Weight [kg]	AISI 304L Matt	AISI 304L Satin	AISI 316L Matt	AISI 316L Satin
						Article No.	Article No.	Article No.	Article No.
10	9	12	17	26	0.01	40053	41053	50053	51053
10	10	13	17	26	0.01	40054	41054	50054	51054
15	15	18	23	35	0.01	40055	41055	50055	51055
15	16	19	23	35	0.01	40056	41056	50056	51056
20	19	22	27	40	0.02	40057	41057	50057	51057
20	20	23	27	40	0.02	40058	41058	50058	51058
25	25	28	34	50	0.03	40059	41059	50059	51059
25	26	29	34	50	0.03	40060	41060	50060	51060
32	31	34	37	55	0.04	40061	41061	50061	51061
32	32	35	37	55	0.04	40062	41062	50062	51062
40	37	40	41	60	0.05	40063	41063	50063	51063
40	38	41	41	60	0.05	40064	41064	50064	51064
50	49	52	48	70	0.09	40065	41065	50065	51065
50	50	53	48	70	0.09	40066	41066	50066	51066
65	66	70	55	80	0.19	40067	41067	50067	51067
80	81	85	62	90	0.26	40068	41068	50068	51068
100	100	104	69	100	0.58	40069	41069	50069	51069
125	125	129	131	187.5	0.99	40070	41070	50070	51070
150	150	154	157	225	1.36	40071	41071	50071	51071
200	200	204	212	300	2.38	40072	41072	50072	51072



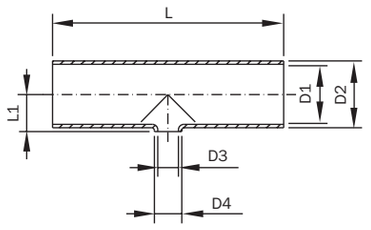
Tee long DIN 11852

Size mm DN	D1	D2	L	L1	Weight [kg]	AISI 304L Matt	AISI 304L Satin	AISI 316L Matt	AISI 316L Satin
						Article No.	Article No.	Article No.	Article No.
40	37	40	120	22	0.15	42031	43031	52031	53031
40	38	41	120	23	0.15	42032	43032	52032	53032
50	49	52	140	29	0.24	42033	43033	52033	53033
50	50	53	140	30	0.24	42034	43034	52034	53034
65	66	70	160	40	0.46	42035	43035	52035	53035
80	81	85	180	47.5	0.68	42036	43036	52036	53036
100	100	104	200	58.5	0.92	42037	43037	52037	53037
125	125	129	375	74	1.97	42038	43038	52038	53038
150	150	154	450	90	2.89	42039	43039	52039	53039
200	200	204	600	115	5.46	42040	43040	52040	53040



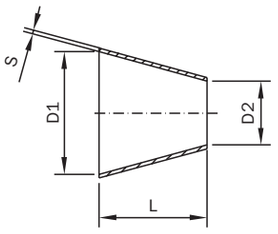
Tee short DIN 11852

Size mm DN	D1	D2	L	L1	Weight [kg]	AISI 304L Matt	AISI 304L Satin	AISI 316L Matt	AISI 316L Satin
						Article No.	Article No.	Article No.	Article No.
25	25	28	100	50	0.10	42041	43041	52041	53041
25	26	29	100	50	0.10	42042	43042	52042	53042
32	31	34	110	55	0.13	42043	43043	52043	53043
32	32	35	110	55	0.13	42044	43044	52044	53044
40	37	40	120	60	0.21	42045	43045	52045	53045
40	38	41	120	60	0.21	42046	43046	52046	53046
50	49	52	140	70	0.29	42047	43047	52047	53047
50	50	53	140	70	0.29	42048	43048	52048	53048
65	66	70	160	80	0.62	42049	43049	52049	53049
80	81	85	180	90	0.85	42050	43050	52050	53050
100	100	104	200	100	1.62	42051	43051	52051	53051
125	125	129	375	187.5	2.71	42052	43052	52052	53052
150	150	154	450	225	3.88	42053	43053	52053	53053
200	200	204	600	300	7.10	42054	43054	52054	53054



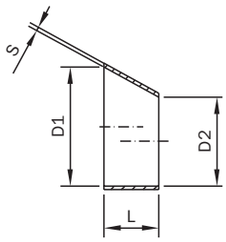
Tee reducing DIN 11852

Size mm DN	D1	D2	D3	D4	L	L1	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
								Article No.	Article No.	Article No.	Article No.
25/20	25	28	19	22	100	16.5	0.09	42055	43055	52055	53055
25/20	26	29	20	23	100	17	0.09	42056	43056	52056	53056
32/25	31	34	25	28	110	19	0.12	42057	43057	52057	53057
32/25	32	35	26	29	110	19.5	0.12	42058	43058	52058	53058
40/25	37	40	25	28	120	22	0.15	42059	43059	52059	53059
40/25	38	41	26	29	120	22.5	0.15	42060	43060	52060	53060
40/32	37	40	31	34	120	22	0.15	42061	43061	52061	53061
40/32	38	41	32	35	120	22.5	0.15	42062	43062	52062	53062
50/25	49	52	25	28	140	29	0.24	42063	43063	52063	53063
50/25	50	53	26	29	140	29.5	0.24	42064	43064	52064	53064
50/40	49	52	37	40	140	29	0.24	42065	43065	52065	53065
50/40	50	53	38	41	140	29.5	0.24	42066	43066	52066	53066
65/25	66	70	25	28	160	39	0.47	42067	43067	52067	53067
65/25	66	70	26	29	160	39	0.47	42068	43068	52068	53068
65/40	66	70	37	40	160	39	0.46	42069	43069	52069	53069
65/40	66	70	38	41	160	39	0.46	42070	43070	52070	53070
65/50	66	70	49	52	160	39	0.46	42071	43071	52071	53071
65/50	66	70	50	53	160	39	0.46	42072	43072	52072	53072
80/25	81	85	25	28	180	46.5	0.70	42073	43073	52073	53073
80/25	81	85	26	29	180	46.5	0.70	42074	43074	52074	53074
80/40	81	85	37	40	180	46.5	0.70	42075	43075	52075	53075
80/40	81	85	38	41	180	46.5	0.70	42076	43076	52076	53076
80/50	81	85	49	52	180	46.5	0.68	42077	43077	52077	53077
80/50	81	85	50	53	180	46.5	0.68	42078	43078	52078	53078
80/65	81	85	66	70	180	46.5	0.68	42079	43079	52079	53079
100/25	100	104	25	28	200	56	1.00	42080	43080	52080	53080
100/25	100	104	26	29	200	56	1.00	42081	43081	52081	53081
100/40	100	104	37	40	200	56	1.00	42082	43082	52082	53082
100/40	100	104	38	41	200	56	1.00	42083	43083	52083	53083
100/50	100	104	49	52	200	56	1.00	42084	43084	52084	53084
100/50	100	104	50	53	200	56	1.00	42085	43085	52085	53085
100/65	100	104	66	70	200	56	0.97	42086	43086	52086	53086
100/80	100	104	81	85	200	56	0.97	42087	43087	52087	53087
125/25	125	129	25	28	374	68.5	2.00	42088	43088	52088	53088
125/25	125	129	26	29	374	68.5	2.00	42089	43089	52089	53089
125/40	125	129	37	40	374	68.5	2.00	42090	43090	52090	53090
125/40	125	129	38	41	374	68.5	2.00	42091	43091	52091	53091
125/50	125	129	49	52	374	68.5	2.00	42092	43092	52092	53092
125/50	125	129	50	53	374	68.5	2.00	42093	43093	52093	53093
125/65	125	129	66	70	374	68.5	1.97	42094	43094	52094	53094
125/80	125	129	81	85	374	68.5	1.97	42095	43095	52095	53095
125/100	125	129	100	104	374	68.5	1.97	42096	43096	52096	53096
150/25	150	154	25	28	450	81	2.95	42097	43097	52097	53097
150/25	150	154	26	29	450	81	2.95	42098	43098	52098	53098
150/40	150	154	37	40	450	81	2.95	42099	43099	52099	53099
150/40	150	154	38	41	450	81	2.95	42100	43100	52100	53100
150/50	150	154	49	52	450	81	2.95	42101	43101	52101	53101
150/50	150	154	50	53	450	81	2.95	42102	43102	52102	53102
150/65	150	154	66	70	450	81	2.89	42103	43103	52103	53103
150/80	150	154	81	85	450	81	2.89	42104	43104	52104	53104
150/100	150	154	100	104	450	81	2.89	42105	43105	52105	53105
150/125	150	154	125	129	450	81	2.89	42106	43106	52106	53106



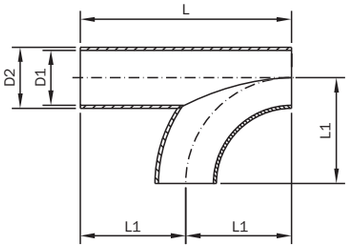
Reducer concentric DIN 11852

Size mm DN	D1	D2	S	L	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
15/10	16	10	1.5	11	0.01	42160	43160	52160	53160
20/10	20	10	1.5	18	0.02	42161	43161	52161	53161
20/15	20	16	1.5	7	0.01	42162	43162	52162	53162
25/10	26	10	1.5	28	0.02	42163	43163	52163	53163
25/15	26	16	1.5	18	0.02	42164	43164	52164	53164
25/20	26	20	1.5	11	0.01	42165	43165	52165	53165
32/15	32	16	1.5	28	0.03	42166	43166	52166	53166
32/20	32	20	1.5	22	0.02	42167	43167	52167	53167
32/25	32	26	1.5	11	0.02	42168	43168	52168	53168
40/20	38	20	1.5	33	0.04	42169	43169	52169	53169
40/25	38	26	1.5	22	0.03	42170	43170	52170	53170
40/32	38	32	1.5	11	0.04	42171	43171	52171	53171
50/25	50	26	1.5	44	0.08	42172	43172	52172	53172
50/32	50	32	1.5	33	0.08	42173	43173	52173	53173
50/40	50	38	1.5	22	0.09	42174	43174	52174	53174
65/32	66	32	2	62	0.12	42175	43175	52175	53175
65/40	66	38	2	51	0.11	42176	43176	52176	53176
65/50	66	50	2	29	0.09	42177	43177	52177	53177
80/40	81	38	2	78	0.16	42178	43178	52178	53178
80/50	81	50	2	56	0.12	42179	43179	52179	53179
80/65	81	66	2	27	0.11	42180	43180	52180	53180
100/50	100	50	2	90	0.29	42181	43181	52181	53181
100/65	100	66	2	61	0.28	42182	43182	52182	53182
100/80	100	81	2	34	0.17	42183	43183	52183	53183
125/65	125	66	2	106	0.44	42184	43184	52184	53184
125/80	125	81	2	79	0.41	42185	43185	52185	53185
125/100	125	100	2	45	0.55	42186	43186	52186	53186
150/80	150	81	2	124	0.50	42187	43187	52187	53187
150/100	150	100	2	90	0.45	42188	43188	52188	53188
150/125	150	125	2	45	0.40	42189	43189	52189	53189
200/150	200	150	2	90	0.79	42190	43190	52190	53190



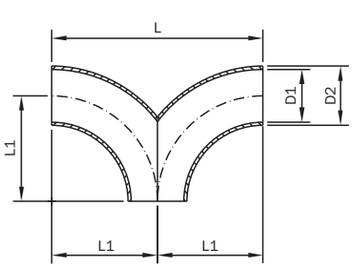
Reducer eccentric DIN 11852

Size mm DN	D1	D2	S	L	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
15/10	16	10	1.5	16.5	0.01	42191	43191	52191	53191
20/10	20	10	1.5	27.5	0.02	42192	43192	52192	53192
20/15	20	16	1.5	11	0.01	42193	43193	52193	53193
25/10	26	10	1.5	44	0.01	42194	43194	52194	53194
25/15	26	16	1.5	27.5	0.02	42195	43195	52195	53195
25/20	26	20	1.5	16.5	0.03	42196	43196	52196	53196
32/15	32	16	1.5	44	0.03	42197	43197	52197	53197
32/20	32	20	1.5	33	0.03	42198	43198	52198	53198
32/25	32	26	1.5	16.5	0.04	42199	43199	52199	53199
40/15	38	16	1.5	66	0.05	42200	43200	52200	53200
40/20	38	20	1.5	49.5	0.04	42201	43201	52201	53201
40/25	38	26	1.5	33	0.05	42202	43202	52202	53202
40/32	38	32	1.5	16.5	0.07	42203	43203	52203	53203
50/25	50	26	1.5	66	0.08	42204	43204	52204	53204
50/32	50	32	1.5	49.5	0.11	42205	43205	52205	53205
50/40	50	38	1.5	33	0.07	42206	43206	52206	53206
65/40	66	38	2	77	0.17	42207	43207	52207	53207
65/50	66	50	2	44	0.11	42208	43208	52208	53208
80/50	81	50	2	85	0.21	42209	43209	52209	53209
80/65	81	66	2	41.2	0.14	42210	43210	52210	53210
100/50	100	50	2	137.5	0.80	42211	43211	52211	53211
100/65	100	66	2	93.5	0.34	42212	43212	52212	53212
100/80	100	81	2	52.5	0.20	42213	43213	52213	53213
125/80	125	81	2	121	0.38	42214	43214	52214	53214
125/100	125	100	2	68.5	0.28	42215	43215	52215	53215
150/100	150	100	2	137.5	0.53	42216	43216	52216	53216
150/125	150	125	2	68.5	0.29	42217	43217	52217	53217



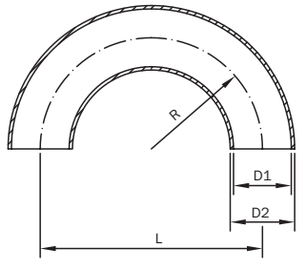
Swept Tee

Size mm DN	D1	D2	L	L1	Weight [kg]	AISI 304L matt	AISI 304L polish	AISI 316L matt	AISI 316L polish
						Article No.	Article No.	Article No.	Article No.
25	25	28	100	50	0.10	20036000 02520	20036000 02510	20036000 02540	20036000 02540
25	26	29	100	50	0.10	20036000 02521	20036000 02511	20036000 02541	20036000 02541
32	31	34	110	55	0.13	20036000 03220	20036000 03210	20036000 03240	20036000 03240
32	32	35	110	55	0.13	20036000 03221	20036000 03211	20036000 03241	20036000 03241
40	37	40	120	60	0.21	20036000 04020	20036000 04010	20036000 04040	20036000 04040
40	38	41	120	60	0.21	20036000 04021	20036000 04011	20036000 04041	20036000 04041
50	49	52	140	70	0.29	20036000 05020	20036000 05010	20036000 05040	20036000 05040
50	50	53	140	70	0.29	20036000 05021	20036000 05011	20036000 05041	20036000 05041
65	66	70	160	80	0.62	20036000 06520	20036000 06510	20036000 06540	20036000 06540
80	81	85	180	90	0.85	20036000 08020	20036000 08010	20036000 08040	20036000 08040
100	100	104	200	100	1.62	20036000 10020	20036000 10010	20036000 10040	20036000 10040



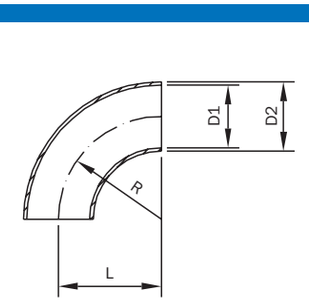
Seagull Tee

Size mm (inch)	D1	D2	L	L1	Weight [kg]	AISI 304L matt	AISI 304L polish	AISI 316L matt	AISI 316L polish
						Article No.	Article No.	Article No.	Article No.
25	25	28	100	50	0.10	20041000 02520	20041000 02510	20041000 02540	20041000 02530
25	26	29	100	50	0.10	20041000 02521	20041000 02511	20041000 02541	20041000 02531
32	31	34	110	55	0.13	20041000 03220	20041000 03210	20041000 03240	20041000 03230
32	32	35	110	55	0.13	20041000 03221	20041000 03211	20041000 03241	20041000 03231
40	37	40	120	60	0.21	20041000 04020	20041000 04010	20041000 04040	20041000 04030
40	38	41	120	60	0.21	20041000 04021	20041000 04011	20041000 04041	20041000 04031
50	49	52	140	70	0.29	20041000 05020	20041000 05010	20041000 05040	20041000 05030
50	50	53	140	70	0.29	20041000 05021	20041000 05011	20041000 05041	20041000 05031
65	66	70	160	80	0.62	20041000 06520	20041000 06510	20041000 06540	20041000 06530
80	81	85	180	90	0.85	20041000 08020	20041000 08010	20041000 08040	20041000 08030
100	100	104	200	100	1.62	20041000 10020	20041000 10010	20041000 10040	20041000 10030



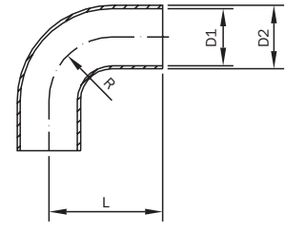
Bend 180°

Size mm (inch)	D1	D2	L	L1	Weight [kg]	AISI 304L matt	AISI 304L polish	AISI 316L matt	AISI 316L polish
						Article No.	Article No.	Article No.	Article No.
10	9	12	52	26	0.01	20025000 01020	20025000 01010	20025000 01040	20025000 01030
10	10	13	52	26	0.01			20025000 01340	20025000 01330
15	15	18	70	35	0.03	20025000 01520	20025000 01510	20025000 01540	20025000 01530
15	16	19	70	35	0.03	20025000 01920	20025000 01910	20025000 01940	20025000 01930
20	19	22	80	40	0.06	20025000 02020	20025000 02010	20025000 02040	20025000 02030
20	20	23	80	40	0.06	20025000 02320	20025000 02310	20025000 02340	20025000 02330
25	25	28	100	50	0.10	20025000 02520	20025000 02510	20025000 02540	20025000 02530
25	26	29	100	50	0.10	20025000 02920	20025000 02910	20025000 02940	20025000 02930
32	31	34	110	55	0.16	20025000 03220	20025000 03210	20025000 03240	20025000 03230
32	32	35	110	55	0.16	20025000 03520	20025000 03510	20025000 03540	20025000 03530
40	37	40	120	60	0.23	20025000 04020	20025000 04010	20025000 04040	20025000 04030
40	38	41	120	60	0.23	20025000 04120	20025000 04110	20025000 04140	20025000 04130
50	49	52	140	70	0.24	20025000 05020	20025000 05010	20025000 05040	20025000 05030
50	50	53	140	70	0.24	20025000 05320	20025000 05310	20025000 05340	20025000 05330
65	66	70	160	80	0.97	20025000 06520	20025000 06510	20025000 06540	20025000 06530
80	81	85	180	90	1.13	20025000 08020	20025000 08010	20025000 08040	20025000 08030
100	100	104	200	100	2.34	20025000 10020	20025000 10010	20025000 10040	20025000 10030
125	125	129	375	187.5	3.80	20025000 12520	20025000 12510	20025000 12540	20025000 12530
150	150	154	450	225	5.44	20025000 15020	20025000 15010	20025000 15040	20025000 15030



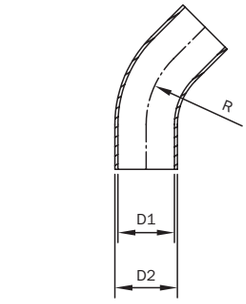
Bend 90° short SMS/ISO

Size mm DN	D1	D2	L	R	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
1"	22.6	25	37	37	0.05	44000	44100	54000	54100
1 1/2"	35.6	38	52	52	0.10	44001	44101	54001	54101
2"	48.6	51	75	75	0.17	44002	44102	54002	54102
2 1/2"	60.3	63.5	90	90	0.39	44003	44103	54003	54103
3"	72.9	76.1	95	95	0.57	44004	44104	54004	54104
4"	97.6	101.6	150	150	1.17	44005	44105	54005	54105



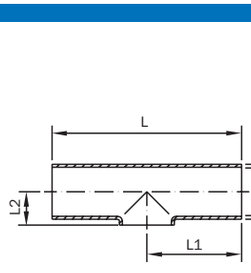
Bend 90° long SMS/ISO

Size mm DN	D1	D2	L	R	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
1"	22.6	25	55	25	0.07	44006	44106	54006	54106
1 1/2"	35.6	38	70	38	0.13	44007	44107	54007	54107
2"	48.6	51	82	51	0.21	44008	44108	54008	54108
2 1/2"	60.3	63.5	105	63.5	0.42	44009	41018	54009	51018
3"	72.9	76.1	110	76.1	0.55	44010	41019	54010	51019



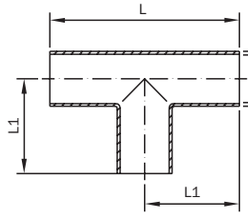
Bend 45° long SMS/ISO

Size mm DN	D1	D2	R	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
					Article No.	Article No.	Article No.	Article No.
1"	25	22.6	25	0.049	44011	44111	54011	54111
1 1/2"	38	15.83	38	0.089	44012	44112	54012	54112
2"	51	48.6	51	0.162	44013	44113	54013	54113
2 1/2"	63.5	60.3	64	0.301	44014	44114	54014	54114
3"	76.1	72.1	76	0.524	44015	44115	54015	54115
4"	101.6	97.6	150	1.045	44016	44116	54016	54116



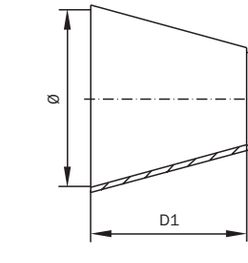
Tee short SMS/ISO

Size mm DN	D1	D2	L	L1	L2	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
							Article No.	Article No.	Article No.	Article No.
1"	22.6	25	110	55	14	0.07	44017	44117	54017	54117
1 1/4"	29.6	32	128	64	18	0.13	44018	44118	54018	54118
1 1/2"	35.6	38	140	70	22	0.15	44019	44119	54019	54119
2"	48.6	51	164	82	29	0.24	44020	44120	54020	54120
2 1/2"	60.3	63.5	210	105	35	0.46	44021	44121	54021	54121
3"	72.8	76	220	110	41	0.72	44022	54122	54022	54122
4"	97.6	101.6	300	150	55	1.52	44023	44123	54023	54123



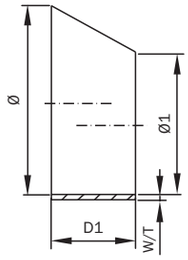
Tee long SMS/ISO

Size mm DN	D1	D2	L	L1	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
1"	22.6	25	110	55	0.09	44024	44124	54024	54124
1 1/4"	29.6	32	128	64	0.17	44025	44125	54025	54125
1 1/2"	35.6	38	140	70	0.18	44026	44126	54026	54126
2"	48.6	51	164	82	0.30	44027	44127	54027	54127
2 1/2"	60.3	63.5	210	105	0.61	44028	44128	54028	54128
3"	72.8	76	220	110	1.07	44029	44129	54029	54129
4"	97.6	101.6	300	150	1.97	44030	44130	54030	54130



Reducer concentric SMS/ISO

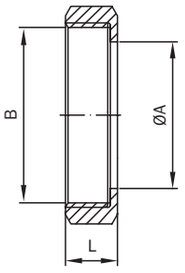
Size mm (inch)	Ø	Ø1	W/T	D1	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
38/25	38	25	1.2	44	0.05	44031	44131	54031	54131
51/25	51	25	1.2	86	0.10	44032	44132	54032	54132
51/38	51	38	1.2	42	0.07	44033	44133	54033	54133
63.5/38	63.5	38	1.2	82	0.12	44034	44134	54034	54134
63.5/51	63.5	51	1.2	40	0.08	44035	44135	54035	54135
76.1/38	76.1	38	1.2	71	0.20	44036	44136	54036	54136
76.1/51	76.1	51	1.6	79	0.21	44037	44137	54037	54137
76.1/63.5	76.1	63.5	2	39	0.11	44038	44138	54038	54138
101.6/51	101.6	51	2	95	0.35	44039	44139	54039	54139
101.6/63.5	101.6	63.5	2	120	0.40	44040	44140	54040	54140
101.6/76.1	101.6	76.1	2	81	0.35	44041	44141	54041	54141



Reducer eccentric SMS/ISO

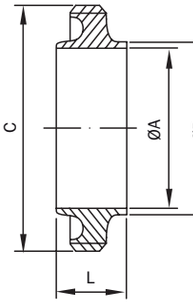
Size mm (inch)	Ø	Ø1	W/T	D1	Weight [kg]	AISI 304L matt	AISI 304L satin	AISI 316L matt	AISI 316L satin
						Article No.	Article No.	Article No.	Article No.
38/25	38	25	1.2	44	0.05	44042	44142	54042	54142
51/25	51	25	1.2	86	0.10	44043	44143	54043	54143
51/38	51	38	1.2	42	0.07	44044	44144	54044	54144
63.5/38	63.5	38	1.2	82	0.12	44045	44145	54045	54145
63.5/51	63.5	51	1.2	40	0.08	44046	44146	54046	54146
76.1/38	76.1	38	1.2	71	0.20	44047	44147	54047	54147
76.1/51	76.1	51	1.2	79	0.21	44048	44148	54048	54148
76.1/63.5	76.1	63.5	1.5	39	0.11	44049	44149	54049	54149
101.6/51	101.6	51	2	95	0.35	44050	44150	54050	54150
101.6/63.5	101.6	63.5	2	120	0.40	44051	44151	54051	54151
101.6/76.1	101.6	76.1	2	81	0.35	44052	44152	54052	54152

RJT Union



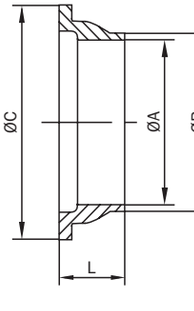
Hex Nut - BS4825: PART 5 RJT

Size mm DN	A	B	L	Weight [kg]	AISI 304
					Article No.
1"	33.45	42.26 X 8	22.2	0.13	26373
1 1/2"	46	54.96 X 8	22.2	0.18	26410
2"	58.67	67.92 X 6	22.2	0.27	26411
2 1/2"	71.4	80.62 X 6	22.2	0.33	26194
3"	84.1	93.32 X 6	22.2	0.39	26195
4"	109.7	118.72 X 6	22.2	0.50	26196



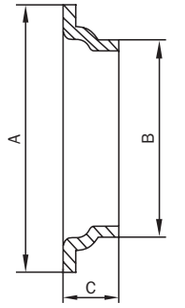
Male - BS4825: PART 5 RJT

Size mm DN	A	B	C	L	Weight [kg]	AISI 316L
						Article No.
1"	22.1	25.4	45.72 X 8	27	0.12	26215
1 1/2"	34.8	38.1	58.42 X 8	27	0.17	26216
2"	47.5	50.8	72.72 X 6	27	0.25	26217
2 1/2"	60.2	63.5	85.42 X 6	27	0.28	26218
3"	72.9	76.2	98.12 X 6	27	0.33	26219
4"	97.6	101.6	123.52 X 6	27	0.45	26220



Liner (machined) - BS4825: PART 5 RJT

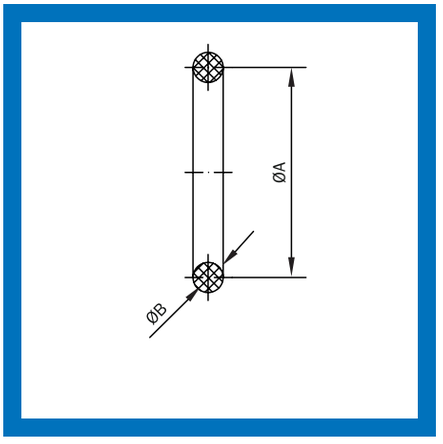
Size mm DN	A	B	C	L	Weight [kg]	AISI 316L
						Article No.
1"	22.2	25.4	41.3	19.5	0.01	60001
1 1/2"	34.8	38.1	54	19.5	0.04	60002
2"	47.5	50.8	66.7	19.5	0.05	60003
2 1/2"	60.2	63.5	79.4	19.5	0.07	60004
3"	72.9	76.2	92.1	19.5	0.08	60005
4"	97.6	101.6	117.5	19.5	0.10	60006



Liner (pressed from sheet) RJT

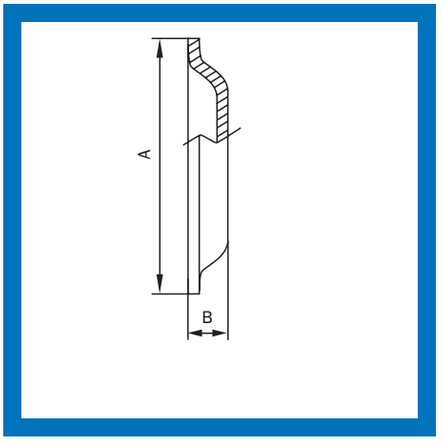
Size mm DN	A	B	C	Weight [kg]	AISI 316L
					Article No.
1"	41.3	32.5	12.7	0.01	26197
1 1/2"	54	45.2	12.7	0.04	26198
2"	66.7	58	12.7	0.05	26199
2 1/2"	79.4	70.6	12.7	0.07	26200
3"	92.1	83.5	12.7	0.08	26201
4"	117.5	108.3	12.7	0.10	26202

RJT Union



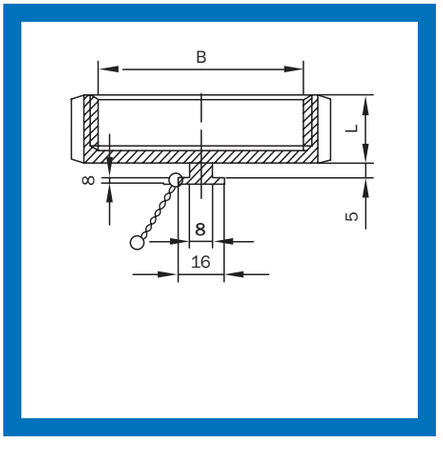
Seal Ring RJT

Size mm DN	A	B	Weight [kg]	EPDM	NITRILE	VITON®
				Article No.	NBR	Article No.
1"	33.3	6.6		26209	26203	33434
1 1/2"	46	6.6		26210	26204	33435
2"	58.7	6.6		26211	26205	33436
2 1/2"	71.4	6.6		26212	26206	33437
3"	84.1	6.6		26213	26207	33438
4"	109.5	6.6		26214	26208	33439



Blank Liner (pressed from sheet) RJT

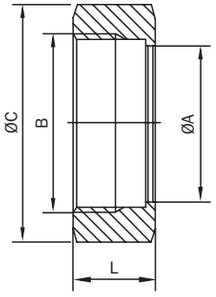
Size mm DN	A	B	Weight [kg]	AISI 316L
				Article No.
1"	41.3	8.7		26221
1 1/2"	54	8.7		26222
2"	66.7	8.7		26223
2 1/2"	79.4	8.7		26224
3"	92.1	8.7		26225
4"	117.5	8.7		26226



Blank Nut and Chain RJT

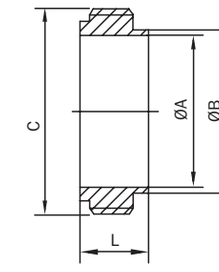
Size mm DN	B	L1	Weight [kg]	AISI 316L
				Article No.
1"	42.26 X 8	23.5	0.13	26227
1 1/2"	54.96 X 8	23.5	0.20	26228
2"	67.92 X 6	23.5	0.30	26229
2 1/2"	80.62 X 6	23.5	0.33	26230
3"	93.32 X 6	23.5	0.42	26231
4"	118.72 X 6	23.5	0.48	26232

IDF Union



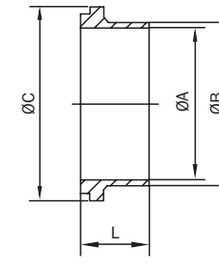
Hex Nut - BS4825:Part 4 IDF

Size mm DN	A	B	C	L	Weight [kg]	AISI 304
						Article No.
1"	30.5	34 X 8	46	30	0.13	26245
1 1/2"	43.5	47 X 8	60	30	0.20	26246
2"	57	61 X 8	75	30	0.25	26247
2 1/2"	70.7	75 X 8	90	30	0.34	26248
3"	83.3	88 X 8	106	30	0.41	26249
4"	112	122 x 6	133	34.9	0.50	26250



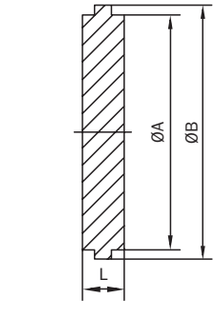
Male - BS4825:Part 4 IDF

Size mm DN	A	C	B	L	Weight [kg]	AISI 316L
						Article No.
1"	22.1	37.1 x 8T	25.4	21.5	0.08	26275
1 1/2"	34.8	50.65 x 8T	38	21.5	0.13	26276
2"	47.5	64.1 x 8T	51	21.5	0.16	26277
2 1/2"	60.2	77.7 x 8T	63.5	21.5	0.21	26278
3"	72.9	91.1 x 8T	76.2	21.5	0.26	26279
4"	97.6	125.69 x 6T	101.6	30	0.68	26280



Liner - BS4825:Part 4 IDF

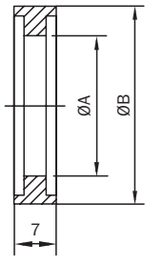
Size mm DN	A	B	C	L	Weight [kg]	AISI 316L
						Article No.
1"	22.6	25.4	33.8	21.5	0.05	26250
1 1/2"	35.6	38.1	47	21.5	0.08	26252
2"	48.6	51	60.5	21.5	0.11	26253
2 1/2"	60.3	63.5	74	21.5	0.15	26254
3"	72.9	76.2	87.5	21.5	0.18	26255
4"	97.6	101.6	120.6	30	0.33	26256



Blank Liner - BS4825:Part 4 IDF

Size mm DN	A	B	L	Weight [kg]	AISI 316L
					Article No.
1"	29.2	33.8	10.5	0.13	26281
1 1/2"	42.7	47	10.5	0.22	26282
2"	56.2	60.5	10.5	0.35	26283
2 1/2"	69.9	74	10.5	0.67	26412
3"	82.6	87.5	10.5	0.85	26284
4"	111.1	120.6	12.6	1.10	26285

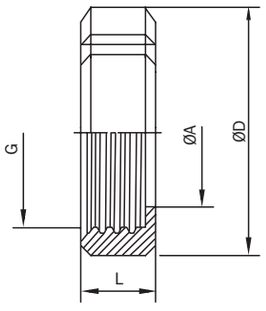
IDF Union



Seal Ring IDF

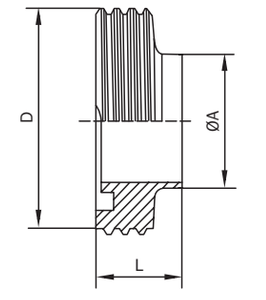
Size mm DN	A	B	Weight [kg]	EPDM	NITRILE	VITON®
				Article No.	Article No.	Article No.
1"	23	32.5		26263	26257	32044
1 1/2"	36	46		26264	26258	32045
2"	49	59.5		26265	26259	32046
2 1/2"	60.7	73.2		26266	26260	32047
3"	73.2	86.5		26267	26261	32048
4"	98	119.6		26268	26262	32049

SMS Union



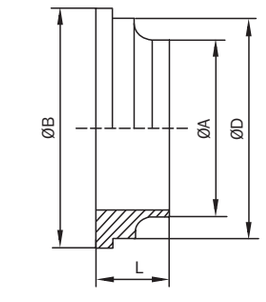
Round Nut SMS 6 Slots

Size mm DN	A	B	D	L	Weight [kg]	AISI 304
						Article No.
1"	32	40 x 1/6	51	19	0.12	26296
1 1/2"	48	60 x 1/6	74	23	0.26	26297
2"	60.5	70 x 1/6	84	24	0.28	26298
2 1/2"	74	85 x 1/6	100	28	0.43	26299
3"	87	98 x 1/6	114	30	0.58	26300
4"	113	125 x 1/4	138	31	0.90	26301
4"	117	132 X 1/6	154	45	1.20	10203 000400 10



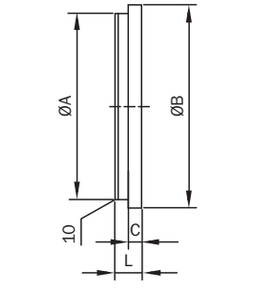
Male SMS

Size mm DN	A	D	B	L	Weight [kg]	AISI 316L
						Article No.
1"	22.5	40 X 1/6	25	19	0.06	26320
1 1/2"	35.5	60 X 1/6	38	23	0.16	26321
2"	48.5	70 X 1/6	51	23	0.18	26322
2 1/2"	60.5	85 X 1/6	63.5	27	0.34	26323
3"	72.9	98 X 1/6	76.1	27	0.45	26324
4"	97.6	125 X 1/4	101.6	30	0.90	26325
4"	97.6	132 X 1/6	101.6	35	1.31	10206 000 400 30



Liner SMS

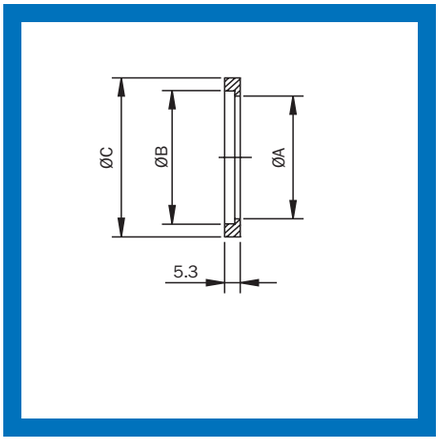
Size mm DN	A	B	D	L	Weight [kg]	AISI 316L
						Article No.
1"	22.5	25	35.5	15.5	0.03	26302
1 1/2"	35.5	38	55	16	0.07	26303
2"	48.5	51	65	17	0.08	26304
2 1/2"	60.5	63.5	80	17	0.15	26305
3"	72.9	76.1	93	19	0.22	26306
4"	97.6	101.6	118	19	0.30	26307
4"	97.6	101.6	127	12	0.27	10207 000 400 30



Blank Liner SMS

Size mm DN	A	B	C	L	Weight [kg]	AISI 316L
						Article No.
1"	32	35.5	3.5	7.5	0.13	26332
1 1/2"	48	55	5	9	0.22	26333
2"	60	65	5	10	0.35	26334
2 1/2"	73.5	80	5	10	0.67	26335
3"	86	93	5	11	0.85	26336
4"	112	118	6	11	1.10	27455

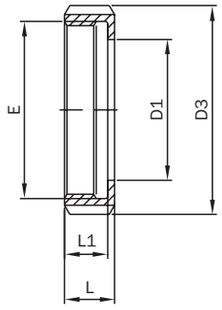
SMS Union



Seal Ring SMS

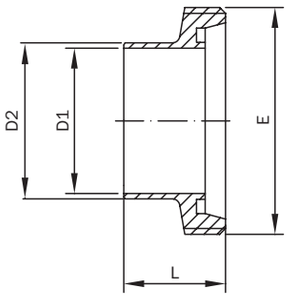
Size mm DN	A	B	C	Weight [kg]	EPDM	NITRILE	VITON®
					Article No.	Article No.	Article No.
1"	22.8	25.1	38.1		26314	27420	POA
1 1/2"	35.8	38.1	47.8		26315	27421	POA
2"	48.8	51.1	60.8		26316	27422	POA
2 1/2"	61	63.6	73.3		26317	27423	POA
3"	73.4	76.1	85.8		26318	27424	POA
4"	100.5	104	115.7		26319	27425	POA
4"	101.4		114		10204 000 400 56	10204 000 400 54	

DIN 11851 Union Imperial



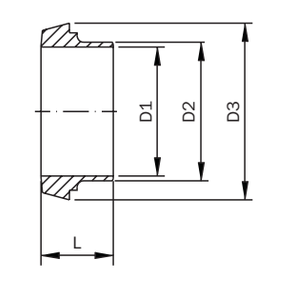
Nut

Size mm DN	D1	D3	E	L	L1	Weight [kg]	AISI 304L satin
							Article No.
1"	36	63	Rd 52 x 1/6"	21	18	0.18	56003
1 1/2"	49	78	Rd 65 x 1/6"	21	18	0.25	56005
2"	62	92	Rd 78 x 1/6"	22	19	0.33	56006
2 1/2"	80	112	Rd 95 x 1/6"	25	21	0.55	56007
3"	86.5	120	Rd 104 x 1/6"	26	21	0.65	56013
4"	115	148	Rd 130 x 1/4"	31	26	1.08	56009



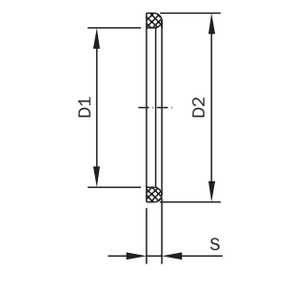
Male

Size mm DN	D1	D2	E	L	Weight [kg]	AISI 316L Satin
						Article No.
1"	22.1	25.4	Rd 52 x 1/6"	29	0.15	56112
1 1/2"	34.8	38.1	Rd 65 x 1/6"	33	0.25	56113
2"	47.5	50.8	Rd 78 x 1/6"	35	0.34	56114
2 1/2"	60.2	63.5	Rd 95 x 1/6"	40	0.56	56115
3"	72.9	76.2	Rd 104 x 1/6"	40	0.42	56116
4"	97.6	101.6	Rd 130 x 1/4"	54	1.16	56117



Liner

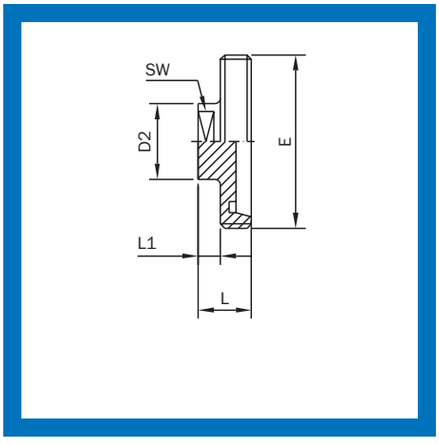
Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 316L satin
						Article No.
1"	22.1	25.4	44	22	0.10	56212
1 1/2"	34.8	38.1	56	26	0.15	56213
2"	47.5	50.8	68.5	28	0.21	56214
2 1/2"	60.2	63.5	86	32	0.37	56215
3"	72.9	76.2	93	32	0.34	56216
4"	97.6	101.6	121	44	0.82	56217



Seal

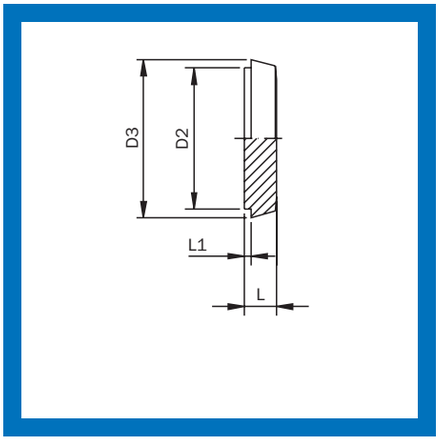
Size mm DN	D1	D2	S	EPDM	NITRILE	VITON®
				Article No.	Article No.	Article No.
1"	30	40	5	56303	56403	56503
1 1/2"	42	52	5	56305	56405	56505
2"	54	64	5	56306	56406	56506
2 1/2"	71	81	5	56307	56407	56507
3"	78	88	5	56313	56413	56513
4"	104	114	6	56309	56409	56409

DIN 11851 Union Imperial



Blank Male

Size mm DN	D2	E	L	L1	SW	Weight [kg]	AISI 316L satin
							Article No.
1"	34	Rd 52 x 1/6"	24	10	27	0.19	11037 000 025 30
1 1/2"	34	Rd 65 x 1/6"	24	10	27	0.25	11037 000 040 30
2"	34	Rd 78 x 1/6"	24	10	27	0.35	11037 000 050 30
2 1/2"	34	Rd 95 x 1/6"	26	10	27	0.64	11037 000 065 30
3"	34	Rd 110 x 1/4"	30	10	27	1.30	11037 000 080 30
4"	34	Rd 130 x 1/4"	30	10	27	2.10	11037 000 100 30



Blank Liner

Size mm DN	D2	D3	L	L1	Weight [kg]	AISI 316L satin
						Article No.
1"	35	44	13	3	0.13	56603
1 1/2"	48	56	13	3	0.22	56605
2"	61	68.5	14	3	0.35	56606
2 1/2"	79	86	16	4	0.67	56607
3"	86	93	15	5	0.92	56608
4"	114	121	20	5	1.34	56609

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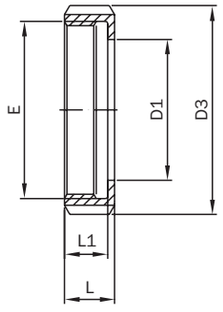
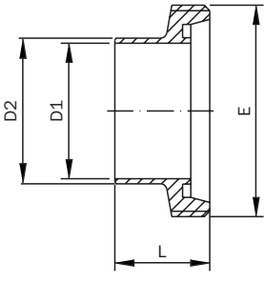
DIN11851 Union Metric



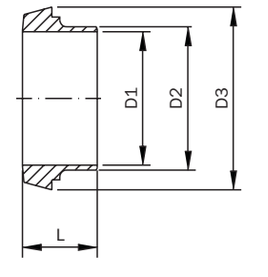
Nut

Size mm DN	D1	D3	E	L	L1	Weight [kg]	AISI 304L satin
							Article No.
10	19	38	Rd 28 x 1/8"	18	15	0.07	56000
15	25	44	Rd 34 x 1/8"	18	15	0.08	56001
20	31	54	Rd 44 x 1/6"	20	17	0.13	56002
25	36	63	Rd 52 x 1/6"	21	18	0.18	56003
32	42.5	70	Rd 58 x 1/6"	21	18	0.22	56004
40	49	78	Rd 65 x 1/6"	21	18	0.25	56005
50	62	92	Rd 78 x 1/6"	22	19	0.33	56006
65	80	112	Rd 95 x 1/6"	25	21	0.55	56007
80	94	127	Rd 110 x 1/4"	29	25	0.80	56008
100	115	148	Rd 130 x 1/4"	31	26	1.08	56009
125	138	178	Rd 160 x 1/4"	35	30	1.45	56010
150	164	210	Rd 190 x 1/4"	40	34	1.88	56011
200	215	260	Rd 240 x 1/4"	44	38	3.97	56012



Male long

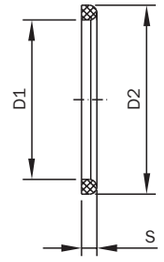
Size mm DN	D1	D2	E	L	Weight [kg]	AISI 316L satin
						Article No.
10	10	13	Rd 28 x 1/8"	21	0.04	56100
15	16	19	Rd 34 x 1/8"	21	0.05	56101
20	20	23	Rd 44 x 1/6"	24	0.09	56102
25	26	29	Rd 52 x 1/6"	29	0.11	56103
32	32	35	Rd 58 x 1/6"	32	0.13	56104
40	38	41	Rd 65 x 1/6"	33	0.16	56105
50	50	53	Rd 78 x 1/6"	35	0.22	56106
65	66	70	Rd 95 x 1/6"	40	0.35	56107
80	81	85	Rd 110 x 1/4"	45	0.52	56108
100	100	104	Rd 130 x 1/4"	54	0.67	56109
125	125	129	Rd 160 x 1/4"	46	0.99	56110
150	150	154	Rd 190 x 1/4"	50	1.71	56111



Liner long

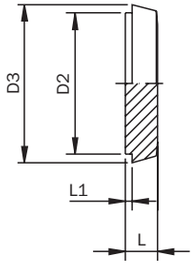
Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 316L satin
						Article No.
10	10	13	22.5	17	0.02	56200
15	16	19	28.5	17	0.03	56201
20	20	23	36.5	18	0.06	56202
25	26	29	44	22	0.08	56203
32	32	35	50	25	0.10	56204
40	38	41	56	26	0.12	56205
50	50	53	68.5	28	0.17	56206
65	66	70	86	32	0.29	56207
80	81	85	100	37	0.35	56208
100	100	104	121	44	0.57	56209
125	125	129	150	34	0.77	56210
150	150	154	176	37	1.01	56211

DIN11851 Union Metric



Seal Ring

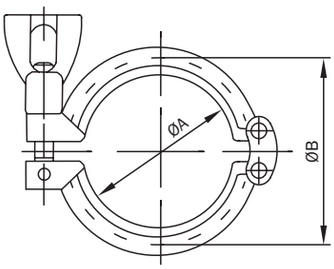
Size mm DN	D1	D2	S	EPDM	NITRILE	VITON®
				Article No.	NBR	Article No.
10	12	20	4.5	56300	56400	56500
15	18	26	4.5	56301	56401	56501
20	23	33	4.5	56302	56402	56502
25	30	40	5	56303	56403	56503
32	36	46	5	56304	56404	56504
40	42	52	5	56305	56405	56505
50	54	64	5	56306	56406	56506
65	71	81	5	56307	56407	56507
80	85	95	5	56308	56408	56508
100	104	114	6	56309	56409	56509
125	130	142	7	56310	56410	56510
150	155	167	7	56311	56411	56511
200	204	216	7	56312	56412	56512



Blank Liner

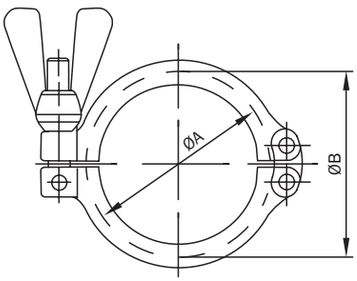
Size mm DN	D2	D3	L	L1	Weight [kg]	AISI 316L satin
						Article No.
10	18	22.5	9	3	0.02	56600
15	24	28.5	9	3	0.04	56601
20	30	36.5	11	3	0.07	56602
25	35	44	13	3	0.13	56603
32	41	50	13	3	0.17	56604
40	48	56	13	3	0.22	56605
50	61	68.5	14	3	0.35	56606
65	79	86	16	4	0.67	56607
80	93	100	16	4	0.92	56612
100	114	121	20	5	1.34	56609
125	137	150	22	5	1.68	56610
150	163	176	24	6	4.30	56611

Clamps



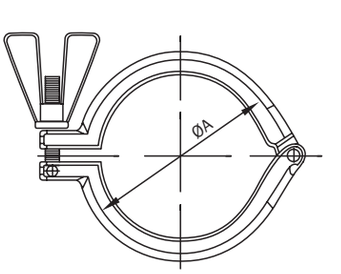
Clamp BS4825 Part 3 - Double Hinge

Size DN	A	B	Weight [kg]	AISI 304
				Article No.
1/2" - 3/4"	20	28	0.15	34303
1" - 1 1/2"	45	53.6	0.25	34304
2"	59	72	0.33	34305
2 1/2"	67	84	0.38	34306
3"	85	98	0.44	34307
4"	114	127	0.57	34308



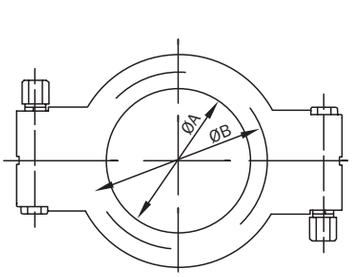
Clamp BS4825 Part 3 - Double Hinge

Size mm DN	A	B	Weight [kg]	AISI 304
				Article No.
129	144	159	1.22	34309
154	157.6	175.1	1.38	34310
204	207.4	225.9	2.11	34311
254	257	272	2.78	34312
304	308	323		



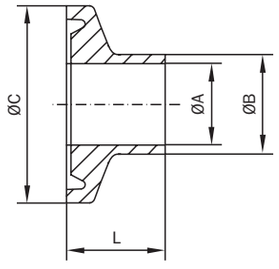
Clamp BS4825 Part 3 - Single Hinge

Size DN	A	Weight [kg]	AISI 304
			Article No.
1/2" - 3/4"	25.4	0.13	26800
10 - 20	34	0.13	32623
1" - 1 1/2"	50.5	0.21	26801
2"	64	0.25	26802
2 1/2"	77.5	0.35	26803
3"	91	0.42	26696
80	106	0.44	32634
4"	119	0.51	26697



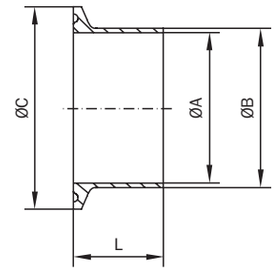
Clamp BS4825 Part 3 - High Pressure T304 with Brass Nuts

Size DN	A	B	Weight [kg]	AISI 304
				Article No.
1/2" - 3/4"	20	28	0.16	34296
1" - 1 1/2"	43.3	52	0.66	34297
2"	56.4	65.5	0.82	34298
2 1/2"	69.5	79	0.94	34299
3"	77.5	92.5	1.02	34300
4"	108.8	120.5	1.27	34301
6"	158	170	1.93	34302



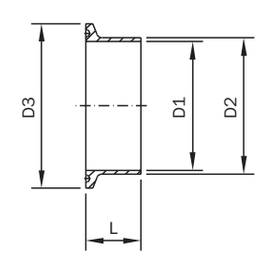
Welding Ferrule - BS4825 Part 3

Size mm DN	A	B	C	L	Weight [kg]	AISI 316L
						Article No.
1/2"	9.4	12.7	25	21.5	0.02	26698
3/4"	15.75	19.05	25	21.5	0.02	32062



Welding Ferrule - BS4825 Part 3

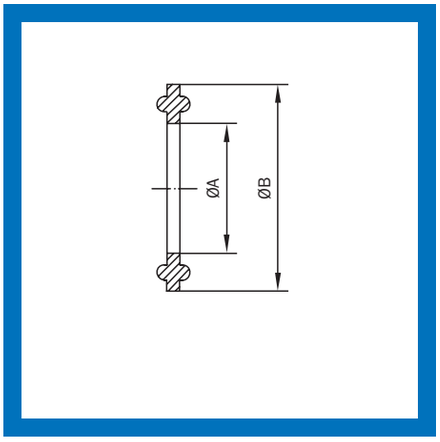
Size mm DN	A	B	C	L	Weight [kg]	AISI 316L
						Article No.
1"	22.1	25.4	50.5	21.5	0.08	26699
1 1/2"	34.8	38.1	50.5	21.5	0.06	26700
2"	47.5	50.8	64	21.5	0.08	26701
2 1/2"	60.2	63.5	77.5	21.5	0.10	26702
3"	72.9	76.2	91	21.5	0.13	26703
4"	97.4	101.6	119	21.5	0.21	26704
125	125	129	144	28	0.41	32637
150	150	154	166.8	28	0.38	32638
200	200	204	217.6	28	0.52	32639
250	250	254	268.4	28	0.65	32640
300	300	304	319.2	28	0.81	32641



Welding Ferrule DIN 32676

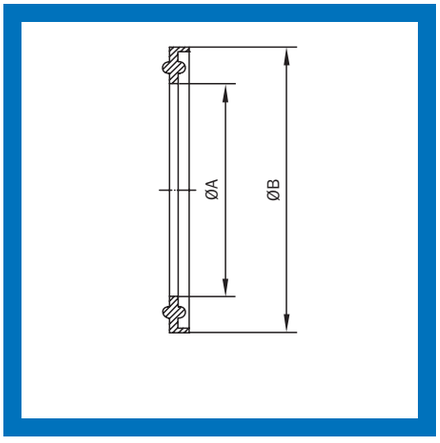
Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 316L
						Article No.
6	6	8	25	12.7	0.02	10508 000 006 30
8	8	10	25	12.7	0.02	10508 000 008 30
10	10	13	34	18	0.03	10508 000 010 31
15	16	19	34	18	0.03	10508 000 015 31
20	20	23	34	18	0.03	10508 000 020 31
25	26	29	50.5	21.5	0.07	10508 000 025 31
32	32	35	50.5	21.5	0.06	10508 000 032 31
40	38	41	50.5	21.5	0.05	10508 000 040 31
50	50	53	64	21.5	0.07	10508 000 050 31
65	66	70	91	28	0.18	10508 000 065 30
80	81	85	106	28	0.22	10508 000 080 30
100	100	104	119	28	0.22	10508 000 100 30
125	125	129	155	28	0.52	10508 000 125 30
150	150	154	183	28	0.69	10508 000 150 30
200	200	204	233.5	28	0.92	10508 000 200 30

Clamps



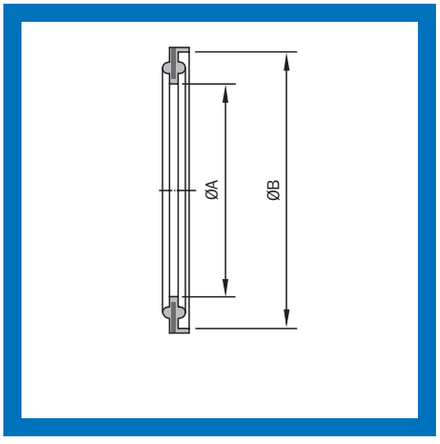
Clamp Seal Ring un-lipped

Size mm DN	A	B	Weight [kg]	EPDM	VITON®
				Article No.	Article No.
1/2"	9.9	21.8		26706	34333
3/4"	16.3	21.8		32058	34334



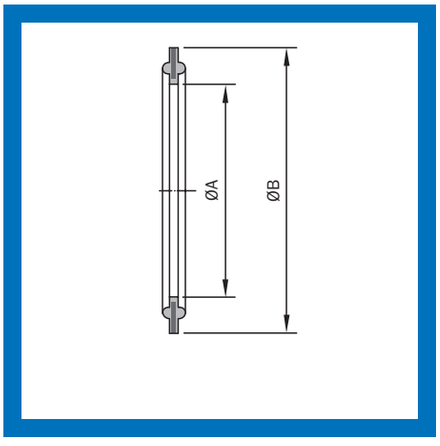
Clamp Seal Ring lipped

Size mm DN	A	B	Weight [kg]	EPDM	VITON®
				Article No.	Article No.
1"	22.8	52.7			
11/2"	35.8	52.7		26708	26379
2"	48.8	66.2		26709	26740
21/2"	60.5	79.7		26701	26741
3"	73.1	93.2		26711	26742
4"	97.8	121.2		26712	26743
129	123	144.4		26713	26745
154	150	169.1		32694	26746
204	200	219.1		32695	26748
254	250	270.7		32696	26749
304	300.8	321.5		32697	26750



Clamp Seal enveloped - PTFE outer

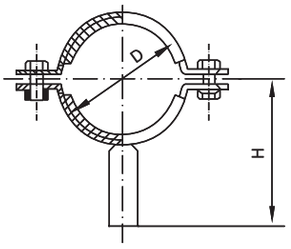
Size mm DN	A	B	Weight [kg]	inner EPDM	inner VITON®
				Article No.	Article No.
1/2"	9.9	21.8		34325	26730
3/4"	16.3	21.8		34326	34368



Clamp Seal enveloped - PTFE outer

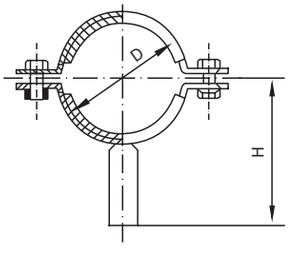
Size mm DN	A	B	Weight [kg]	inner EPDM	inner VITON®
				Article No.	Article No.
1	22.8	50.5		34327	26731
11/2"	35.8	50.5		34328	26732
2"	48.8	64		34329	26733
21/2"	60.5	77.5		34330	26734
3"	73.1	91		34331	26735
4"	97.8	119		34332	26736
129	123	144.5		POA	POA
154	150	167		POA	POA
204	200	217.4		POA	POA
254	250	268		POA	POA
300	300.8	319		POA	POA

Pipe Clips



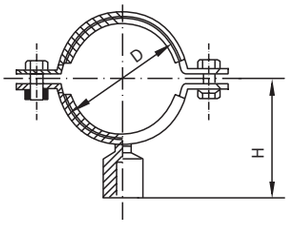
Pipe Clips blue lined with 19 mm Plain Stem

Size mm DN	D	H	Weight [kg]	AISI 304L
				Article No.
12.7	12.7	90	0.17	26666
19.05	19.05	90	0.17	26667
25.4	25.4	90	0.26	26668
38.1	38.1	90	0.28	26669
50.8	50.8	90	0.30	26670
63.5	63.5	90	0.32	26671
76.1	76.1	90	0.34	26672
101.6	101.6	90	0.38	26673
129	129	117	0.42	26674
154	154	130	0.48	26675
204	204	155	0.53	26676



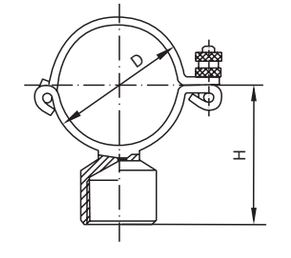
Pipe Clips Tight (no insert) Plain Stem

Size mm DN	D	H	Weight [kg]	AISI 304L
				Article No.
12.7	12.7	90		32942
19.05	19.05	90		32943
25.4	25.4	90	0.26	32944
38.1	38.1	90	0.28	32945
50.8	50.8	90	0.30	32946
63.5	63.5	90	0.32	32947
76.1	76.1	90	0.34	32948
101.6	101.6	90	0.38	32949



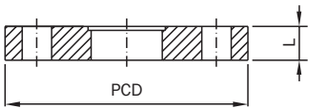
Pipe Clips blue lined with 10 mm Boss

Size mm DN	D	H	Weight [kg]	AISI 304L
				Article No.
12.7	12.7	40	0.17	32959
19.05	19.05	45	0.17	32950
25.4	25.4	48	0.26	32951
38.1	38.1	54	0.28	32952
50.8	50.8	61	0.30	32953
63.5	63.5	67	0.32	32954
76.1	76.1	73	0.34	32955
101.6	101.6	86	0.38	32956
129	129	100	0.42	32957
154	154	94	0.48	32958



Pipe Clips hinged with 1/2" BSP Boss

Size mm DN	D	H	Weight [kg]	AISI 304L
				Article No.
12.7	12.7	36	0.17	26685
19.05	19.05	39	0.17	26686
25.4	25.4	42	0.26	26687
38.1	38.1	49	0.28	26688
50.8	50.8	55	0.30	26689
63.5	63.5	62	0.32	26690
76.1	76.1	68	0.34	26691
101.6	101.6	82	0.38	26692

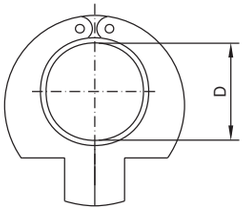


suitable for Inch OD tube dimensions

Flange PN6, 3 Dims/Reduced, Thickness/Flat Face

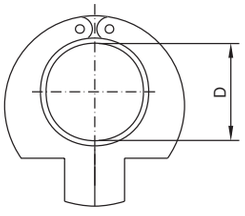
Size O/D Tube size	PCD	Thickness L	No.holes	Hole size	Weight [kg]	AISI 316L
						Article No.
1"	85	10	4	14	1.10	32070
1 1/2"	110	10	4	18	2.00	32071
2"	125	10	4	18	2.60	32072
2 1/2"	145	10	4	18	3.20	32073
3"	160	10	8	18	4.10	32074
4"	180	10	8	18	4.40	32075
6"	285	12	8	22	5.50	32076
8"	340	12	12	22	7.60	32077
10"	405	16	12	26	9.07	32078

Cutting Block



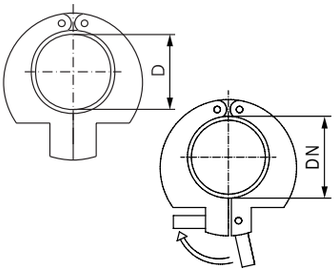
Pipe Saw Tool for ISO Pipe

Size mm DN	D	Weight [kg]	
			Article No.
10	17.2	0.55	70037 000 010 95
15	21.3	0.52	70037 000 015 95
20	26.9	0.71	70037 000 020 95
25	33.7	0.63	70037 000 025 95
32	42.4	1.14	70037 000 032 95
40	48.3	1.04	70037 000 040 95
50	60.3	1.58	70037 000 050 95
65	76	2.50	70037 000 065 95
80	88.9	2.65	70037 000 080 95
100	114.3	3.20	70037 000 100 95



Pipe Saw Tool for Inch Pipe

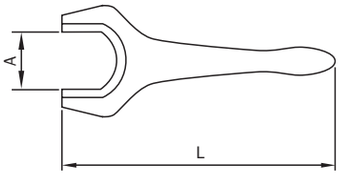
Size mm DN	D	Weight [kg]	
			Article No.
1"	25.4	0.72	70038 000 100 94
1 1/4"	31.8	0.65	70038 000 114 94
1 1/2"	38.1	0.85	70038 000 112 94
2"	50.8	0.99	70038 000 200 94
2 1/2"	63.5	2.15	70038 000 212 94
3"	76.2	2.50	70038 000 300 94
4"	101.6	2.75	70038 000 400 94



Standard Quick Lock

Pipe Saw Tool for DIN Pipe

Size mm DN	D	Weight [kg]	Standard	with Quick Lock System
				Article No.
10	12	0.60	70037 000 010 94	70037 000 012 97
10	13	0.58	70037 000 010 96	70037 000 013 97
15	18	0.55	70037 000 015 94	70037 000 015 97
15	19	0.55	70037 000 015 96	70037 000 019 97
20	22	0.53	70037 000 020 94	70037 000 020 97
20	23	0.50	70037 000 020 96	70037 000 023 97
25	28	0.70	70037 000 025 94	70037 000 025 97
25	29	0.63	70037 000 025 96	70037 000 029 97
32	34	0.63	70037 000 032 94	70037 000 032 97
32	35	0.92	70037 000 032 96	70037 000 035 97
40	40	0.83	70037 000 040 94	70037 000 040 97
40	41	0.82	70037 000 040 96	70037 000 041 97
50	52	0.97	70037 000 050 94	70037 000 050 97
50	53	1.32	70037 000 050 96	70037 000 053 97
65	70	2.00	70037 000 065 94	70037 000 065 97
80	85	2.15	70037 000 080 94	70037 000 080 97
100	104	2.65	70037 000 100 94	70037 000 100 97
125	129	4.30		70037 000 125 97
150	154	4.78		70037 000 150 97
200	204	6.20		70037 000 200 97



Spanner RJT

Size mm DN	A	L	Weight [kg]	Aluminium
				Article No.
1"	51.8	240	0.50	26239
1 1/2"	66	288	0.50	26240
2"	80.4	300	0.50	26241
2 1/2"	93.2	326	0.53	26242
3"	106.3	440	0.56	26243
4"	121.5	448	0.56	26244

NEUMO

Valve Technology

A member of NEUMO Ehrenberg Group

Valve Technology

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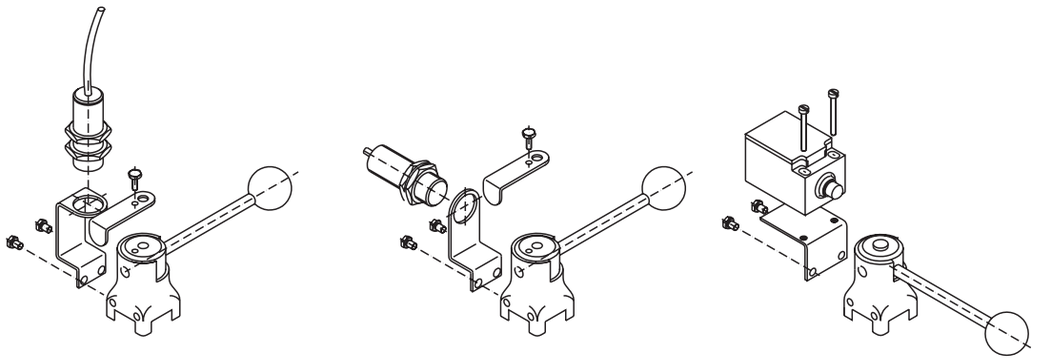
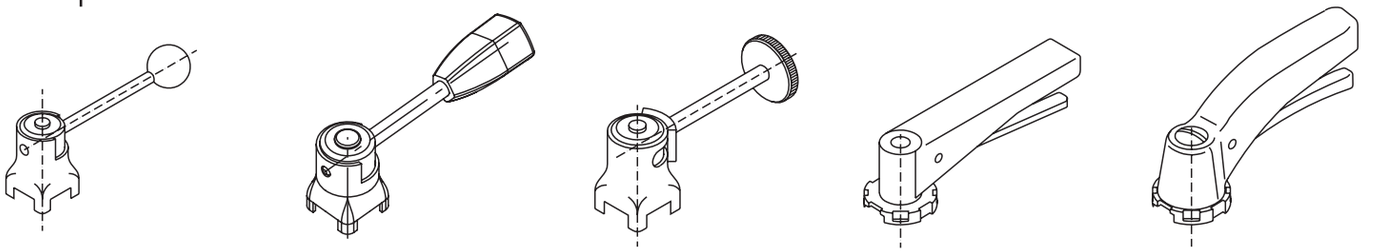
Overview Handles and Equipment





BV-Handle standard

BV-Handle pentagon handle

BV-Handle stepless

Scissor handle

Plastic handles

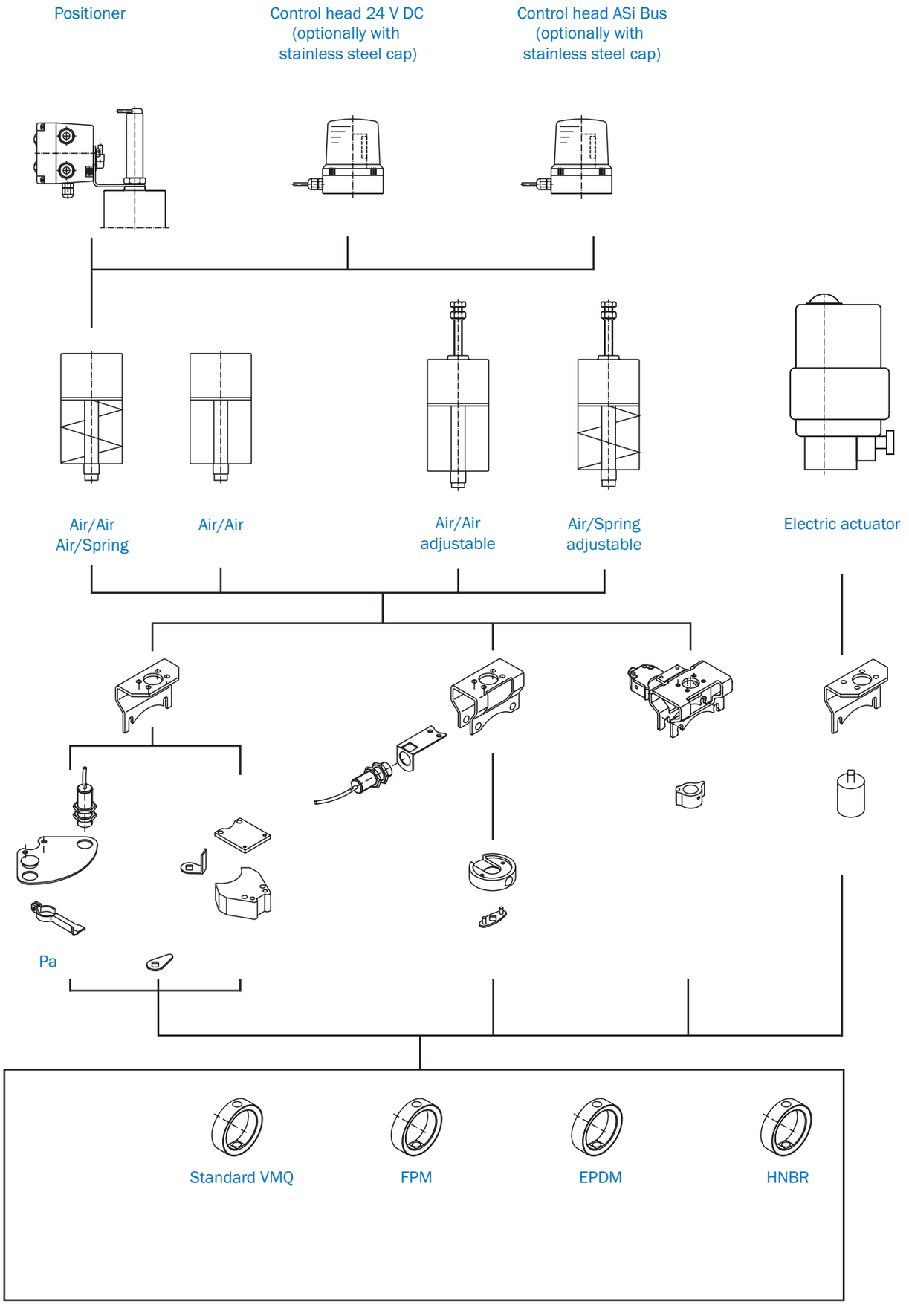
Standard VMQ

FPM

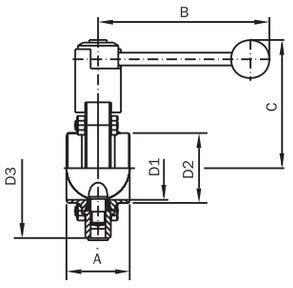
EPDM

HNBR

Overview Actuators and Equipment



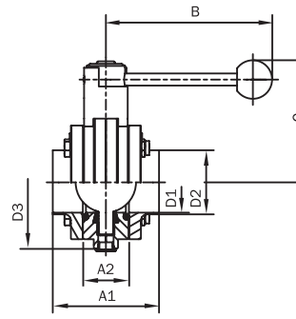
Butterfly Valves



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Welding Ends DIN

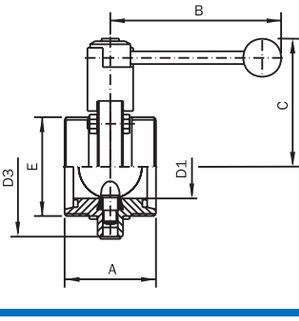
DN	A	B	C	D1	D2	D3	Weight [kg]
10	40	105	79	10	13	58	0.6
15	40	105	79	16	19	58	0.6
20	40	105	79	20	23	58	0.6
25	40	107	90	26	29	87	1.3
32	42	107	92	32	35	92	1.4
40	50	137	94	38	41	97	1.5
50	50	137	101	50	53	110	1.8
65	50	137	110	66	70	127	2.2
80	60	167	123	81	85	142	4.0
100	64	167	134	100	104	162	4.8
125	112	248	168	125	129	200	8.1
150	124	248	183	150	154	230	10.3



Attention: DN10 to DN20
only with plastic handle

Compact Butterfly Valve Intermediate Flange DIN

DN	A1	A2	B	C	D1	D2	D3	Gew. [kg]
10	80	40	105	79,5	10	13	58	1,1
15	80	40	105	79,5	16	19	58	1,0
20	80	40	105	79,5	20	23	58	0,9
25	78	38	107,5	90	26	29	78	2,4
32	78	38	107,5	92,5	32	35	78	2,5
40	88	38	137,5	94,5	38	41	97	2,6
50	88	38	137,5	101	50	53	110	3,1
65	88	38	137,5	110	66	70	127	3,7
80	105	45	171	124,5	81	85	142	6,1
100	105	45	171	135	100	104	162	7,6
125	168	88	217	161	125	129	200	16,4
150	168	88	217	175	150	154	230	19,9
200	112	56	277	220	200	204	316	28,5



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Male DIN

DN	A	B	C	D1	D3	E	Weight [kg]
10	78	105	79	10	58	28 x 1/8"	0.8
15	78	105	79	16	58	34 x 1/8"	0.8
20	78	105	79	20	58	44 x 1/6"	0.8
25	64	107	90	26	87	52 x 1/6"	1.7
32	64	107	92	32	92	58 x 1/6"	1.8
40	72	137	94	38	97	65 x 1/6"	2.0
50	72	137	101	50	110	78 x 1/6"	2.4
65	76	137	110	66	127	95 x 1/6"	3.1
80	100	167	123	81	142	110 x 1/4"	5.2
100	104	167	134	100	162	130 x 1/4"	6.5
125	112	248	168	125	200	160 x 1/4"	10.2
150	124	248	183	150	230	190 x 1/4"	13.9

Butterfly Valves

Butterfly Valve Welding Ends DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
10	3002 0106 1	3002 0106 2	3002 0130 1	3002 0130 2		
15	3002 0306 1	3002 0306 2	3002 0330 1	3002 0330 2		
20	3002 0406 1	3002 0406 2	3002 0430 1	3002 0430 2		
25	3002 0501 1	3002 0501 2	3002 0530 1	3002 0530 2	3002 0520 1	3002 0520 2
32	3002 0601 1	3002 0601 2	3002 0630 1	3002 0630 2	3002 0620 1	3002 0620 2
40	3002 0701 1	3002 0701 2	3002 0730 1	3002 0730 2	3002 0720 1	3002 0720 2
50	3002 0801 1	3002 0801 2	3002 0830 1	3002 0830 2	3002 0820 1	3002 0820 2
65	3002 0901 1	3002 0901 2	3002 0930 1	3002 0930 2	3002 0920 1	3002 0920 2
80	3002 1001 1	3002 1001 2	3002 1030 1	3002 1030 2	3002 1020 1	3002 1020 2
100	3002 1201 1	3002 1201 2	3002 1230 1	3002 1230 2	3002 1220 1	3002 1220 2
125	3002 1301 1	3002 1301 2	3002 1330 1	3002 1330 2	3002 1320 1	3002 1320 2
150	3002 1501 1	3002 1501 2	3002 1530 1	3002 1530 2	3002 1520 1	3002 1520 2

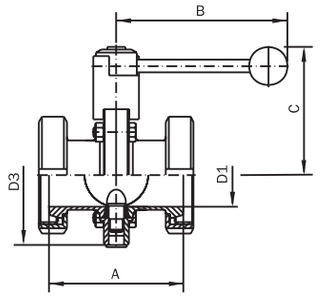
Compact Butterfly Valve Intermediate Flange DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	
DN	Article No.	Article No.	Article No.	Article No.	
10	3255 1100 010 10	3255 1100 010 30	3255 2100 010 10	3255 2100 010 30	
15	3255 1100 015 10	3255 1100 015 30	3255 2100 015 10	3255 2100 015 30	
20	3255 1100 020 10	3255 1100 020 30	3255 2100 020 10	3255 2100 020 30	
25	3255 1100 025 10	3255 1100 025 30	3255 2100 025 10	3255 2100 025 30	
32	3255 1100 032 10	3255 1100 032 30	3255 2100 032 10	3255 2100 032 30	
40	3255 1100 040 10	3255 1100 040 30	3255 2100 040 10	3255 2100 040 30	
50	3255 1100 050 10	3255 1100 050 30	3255 2100 050 10	3255 2100 050 30	
65	3255 1100 065 10	3255 1100 065 30	3255 2100 065 10	3255 2100 065 30	
80	3255 1100 080 10	3255 1100 080 30	3255 2100 080 10	3255 2100 080 30	
100	3255 1100 100 10	3255 1100 100 30	3255 2100 100 10	3255 2100 100 30	
125	3255 1100 125 10	3255 1100 125 30	3255 2100 125 10	3255 2100 125 30	
150	3255 1100 150 10	3255 1100 150 30	3255 2100 150 10	3255 2100 150 30	
200	3255 1100 200 10	3255 1100 200 30	3255 2100 200 10	3255 2100 200 30	

Butterfly Valve Male DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
10	3003 0106 1	3003 0106 2	3003 0130 1	3003 0130 2		
15	3003 0306 1	3003 0306 2	3003 0330 1	3003 0330 2		
20	3003 0406 1	3003 0406 2	3003 0430 1	3003 0430 2		
25	3003 0501 1	3003 0501 2	3003 0530 1	3003 0530 2	3003 0520 1	3003 0520 2
32	3003 0601 1	3003 0601 2	3003 0630 1	3003 0630 2	3003 0620 1	3003 0620 2
40	3003 0701 1	3003 0701 2	3003 0730 1	3003 0730 2	3003 0720 1	3003 0720 2
50	3003 0801 1	3003 0801 2	3003 0830 1	3003 0830 2	3003 0820 1	3003 0820 2
65	3003 0901 1	3003 0901 2	3003 0930 1	3003 0930 2	3003 0920 1	3003 0920 2
80	3003 1001 1	3003 1001 2	3003 1030 1	3003 1030 2	3003 1020 1	3003 1020 2
100	3003 1201 1	3003 1201 2	3003 1230 1	3003 1230 2	3003 1220 1	3003 1220 2
125	3003 1301 1	3003 1301 2	3003 1330 1	3003 1330 2	3003 1320 1	3003 1320 2
150	3003 1501 1	3003 1501 2	3003 1530 1	3003 1530 2	3003 1520 1	3003 1520 2

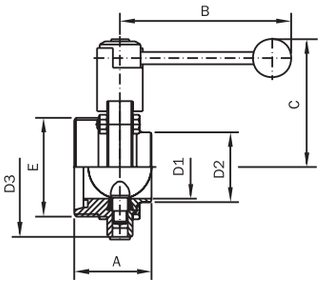
Butterfly Valves



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Liner DIN

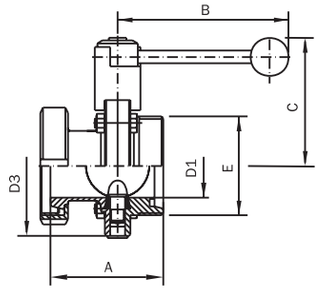
DN	A	B	C	D1	D3	Weight [kg]
10	74	105	79	10	58	0.6
15	74	105	79	16	58	0.6
20	76	105	79	20	58	0.6
25	84	107	90	26	87	2.0
32	92	107	92	32	92	2.2
40	102	137	94	38	97	2.6
50	106	137	101	50	110	3.5
65	114	137	110	66	127	4.3
80	134	167	123	81	142	7.3
100	152	167	134	100	162	9.9
125	180	248	168	125	200	11.8
150	198	248	183	150	230	15.2



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Male/Welding End DIN

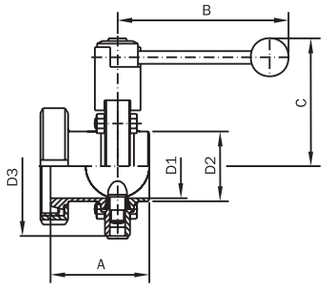
DN	A	B	C	D1	D2	D3	E	Weight [kg]
25	52	107	90	26	29	87	52 x 1/6"	1.5
32	53	107	92	32	35	92	58 x 1/6"	1.6
40	61	137	94	38	41	97	65 x 1/6"	1.8
50	61	137	101	50	53	110	78 x 1/6"	2.1
65	63	137	110	66	70	127	95 x 1/6"	2.6
80	80	167	123	81	85	142	110 x 1/4"	4.6
100	84	167	134	100	104	162	130 x 1/4"	5.6
125	112	248	168	125	129	200	160 x 1/4"	9.2
150	124	248	183	150	154	230	190 x 1/4"	12.2



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Male/Liner DIN

DN	A	B	C	D1	D3	E	Weight [kg]
25	74	107	90	26	87	52 x 1/6"	1.8
32	78	107	92	32	92	58 x 1/6"	1.9
40	87	137	94	38	97	65 x 1/6"	2.2
50	89	137	101	50	110	78 x 1/6"	2.7
65	95	137	110	66	127	95 x 1/6"	3.4
80	117	167	123	81	142	110 x 1/4"	5.6
100	128	167	134	100	162	130 x 1/4"	7.1
125	146	248	168	125	200	160 x 1/4"	11.4
150	161	248	183	150	230	190 x 1/4"	15.6



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Liner/Welding End DIN

DN	A	B	C	D1	D2	D3	Weight [kg]
25	62	107	90	26	31	87	1.6
32	67	107	92	32	37	92	1.8
40	76	137	94	38	43	97	2.1
50	78	137	101	50	55	110	2.7
65	82	137	110	66	70	127	3.2
80	97	167	123	81	85	142	5.6
100	108	167	134	100	104	162	7.4
125	146	248	168	125	129	200	10.7
150	161	248	183	150	154	230	13.3

Butterfly Valves

Butterfly Valve Liner DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
10	3004 0106 1	3004 0106 2	3004 0130 1	3004 0130 2		
15	3004 0306 1	3004 0306 2	3004 0330 1	3004 0330 2		
20	3004 0406 1	3004 0406 2	3004 0430 1	3004 0430 2		
25	3004 0501 1	3004 0501 2	3004 0530 1	3004 0530 2	3004 0520 1	3004 0520 2
32	3004 0601 1	3004 0601 2	3004 0630 1	3004 0630 2	3004 0620 1	3004 0620 2
40	3004 0701 1	3004 0701 2	3004 0730 1	3004 0730 2	3004 0720 1	3004 0720 2
50	3004 0801 1	3004 0801 2	3004 0830 1	3004 0830 2	3004 0820 1	3004 0820 2
65	3004 0901 1	3004 0901 2	3004 0930 1	3004 0930 2	3004 0920 1	3004 0920 2
80	3004 1001 1	3004 1001 2	3004 1030 1	3004 1030 2	3004 1020 1	3004 1020 2
100	3004 1201 1	3004 1201 2	3004 1230 1	3004 1230 2	3004 1220 1	3004 1220 2
125	3004 1301 1	3004 1301 2	3004 1330 1	3004 1330 2	3004 1320 1	3004 1320 2
150	3004 1501 1	3004 1501 2	3004 1530 1	3004 1530 2	3004 1520 1	3004 1520 2

Butterfly Valve Male/Welding End DIN

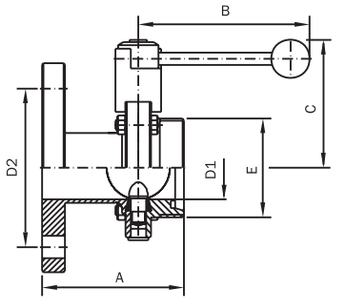
	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
25	3006 0501 1	3006 0501 2	3006 0530 1	3006 0530 2	3006 0520 1	3006 0520 2
32	3006 0601 1	3006 0601 2	3006 0630 1	3006 0630 2	3006 0620 1	3006 0620 2
40	3006 0701 1	3006 0701 2	3006 0730 1	3006 0730 2	3006 0720 1	3006 0720 2
50	3006 0801 1	3006 0801 2	3006 0830 1	3006 0830 2	3006 0820 1	3006 0820 2
65	3006 0901 1	3006 0901 2	3006 0930 1	3006 0930 2	3006 0920 1	3006 0920 2
80	3006 1001 1	3006 1001 2	3006 1030 1	3006 1030 2	3006 1020 1	3006 1020 2
100	3006 1201 1	3006 1201 2	3006 1230 1	3006 1230 2	3006 1220 1	3006 1220 2
125	3006 1301 1	3006 1301 2	3006 1330 1	3006 1330 2	3006 1320 1	3006 1320 2
150	3006 1501 1	3006 1501 2	3006 1530 1	3006 1530 2	3006 1520 1	3006 1520 2

Butterfly Valve Male/Liner DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
25	3005 0501 1	3005 0501 2	3005 0530 1	3005 0530 2	3005 0520 1	3005 0520 2
32	3005 0601 1	3005 0601 2	3005 0630 1	3005 0630 2	3005 0620 1	3005 0620 2
40	3005 0701 1	3005 0701 2	3005 0730 1	3005 0730 2	3005 0720 1	3005 0720 2
50	3005 0801 1	3005 0801 2	3005 0830 1	3005 0830 2	3005 0820 1	3005 0820 2
65	3005 0901 1	3005 0901 2	3005 0930 1	3005 0930 2	3005 0920 1	3005 0920 2
80	3005 1001 1	3005 1001 2	3005 1030 1	3005 1030 2	3005 1020 1	3005 1020 2
100	3005 1201 1	3005 1201 2	3005 1230 1	3005 1230 2	3005 1220 1	3005 1220 2
125	3005 1301 1	3005 1301 2	3005 1330 1	3005 1330 2	3005 1320 1	3005 1320 2
150	3005 1501 1	3005 1501 2	3005 1530 1	3005 1530 2	3005 1520 1	3005 1520 2

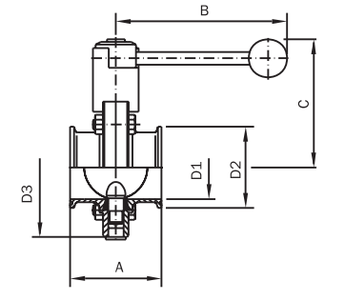
Butterfly Valve Liner/Welding End DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
25	3007 0501 1	3007 0501 2	3007 0530 1	3007 0530 2	3007 0520 1	3007 0520 2
32	3007 0601 1	3007 0601 2	3007 0630 1	3007 0630 2	3007 0620 1	3007 0620 2
40	3007 0701 1	3007 0701 2	3007 0730 1	3007 0730 2	3007 0720 1	3007 0720 2
50	3007 0801 1	3007 0801 2	3007 0830 1	3007 0830 2	3007 0820 1	3007 0820 2
65	3007 0901 1	3007 0901 2	3007 0930 1	3007 0930 2	3007 0920 1	3007 0920 2
80	3007 1001 1	3007 1001 2	3007 1030 1	3007 1030 2	3007 1020 1	3007 1020 2
100	3007 1201 1	3007 1201 2	3007 1230 1	3007 1230 2	3007 1220 1	3007 1220 2
125	3007 1301 1	3007 1301 2	3007 1330 1	3007 1330 2	3007 1320 1	3007 1320 2
150	3007 1501 1	3007 1501 2	3007 1530 1	3007 1530 2	3007 1520 1	3007 1520 2



Butterfly Valve Male/Flange PN 10 DIN

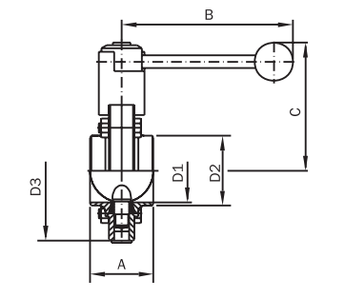
DN	A	B	C	D1	D2	E	Weight [kg]
25	106	107	90	26	85	52 x 1/6"	2.6
32	106	107	92	32	100	58 x 1/6"	3.2
40	110	137	94	38	110	65 x 1/6"	3.6
50	112	137	101	50	125	78 x 1/6"	4.6
65	122	137	110	66	145	95 x 1/6"	5.6
80	135	167	123	81	160	110 x 1/4"	8.0
100	140	167	134	100	180	130 x 1/4"	9.6
125	167	248	168	125	210	160 x 1/4"	15.5
150	182	248	183	150	240	190 x 1/4"	20.0



Attention: DN10 to DN20
only with plastic handle

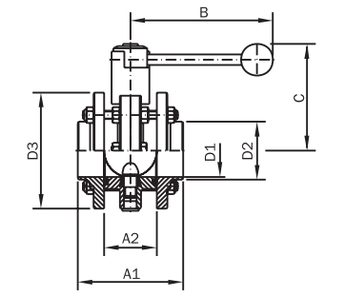
Butterfly Valve Clamp DIN

DN	A	B	C	D1	D2	D3	Weight [kg]
10	76	105	79	10	34	58	0.6
15	76	105	79	16	34	58	0.6
20	76	105	79	20	34	58	0.6
25	64	107	90	26	50.5	87	1.5
32	72	107	92	32	50.5	92	1.5
40	72	137	94	38	50.5	97	1.7
50	72	137	101	50	64	110	1.9
65	76	137	110	66	91	127	2.4
80	90	167	123	81	106	142	4.4
100	104	167	134	100	119	162	5.2



Butterfly Valve Welding Ends DIN-ISO

DN	A	B	C	D1	D2	D3	Weight [kg]
25	40	107	90	28.5	33.7	87	1.3
32	42	107	92	37.2	42	92	1.4
40	50	137	94	43.1	48.3	97	1.5
50	50	137	101	55.1	60.3	110	1.8
65	50	137	110	70.9	76.1	127	2.2
80	60	167	123	83.7	88.9	142	4.0
100	64	167	134	109.1	114.3	162	4.8



Butterfly Valve Intermediate Flange ISO

DN	A	A2	B	C	D1	D2	D3	Weight [kg]
25	90	50	107	90	29.7	33.7	87	1.3
32	90	50	107	92	38.4	42.4	92	1.4
40	100	50	137	94	44.3	48.3	97	1.5
50	100	50	137	101	56.3	60.3	110	1.8
65	100	50	137	110	71.5	76.1	127	2.2
80	136	76	167	123	84.3	88.9	142	4.0
100	139	76	167	134	109.1	114.3	162	4.8

Butterfly Valves

Butterfly Valve Male/Flange PN 10 DIN

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
25	3012 0501 1	3012 0501 2	3012 0530 1	3012 0530 2	3012 0520 1	3012 0520 1
32	3012 0601 1	3012 0601 2	3012 0630 1	3012 0630 2	3012 0620 1	3012 0620 1
40	3012 0701 1	3012 0701 2	3012 0730 1	3012 0730 2	3012 0720 1	3012 0720 1
50	3012 0801 1	3012 0801 2	3012 0830 1	3012 0830 2	3012 0820 1	3012 0820 1
65	3012 0901 1	3012 0901 2	3012 0930 1	3012 0930 2	3012 0920 1	3012 0920 1
80	3012 1001 1	3012 1001 2	3012 1030 1	3012 1030 2	3012 1020 1	3012 1020 1
100	3012 1201 1	3012 1201 2	3012 1230 1	3012 1230 2	3012 1220 1	3012 1220 1
125	3012 1301 1	3012 1301 2	3012 1330 1	3012 1330 2	3012 1320 1	3012 1320 1
150	3012 1501 1	3012 1501 2	3012 1530 1	3012 1530 2	3012 1520 1	3012 1520 1

Butterfly Valve Clamp DIN

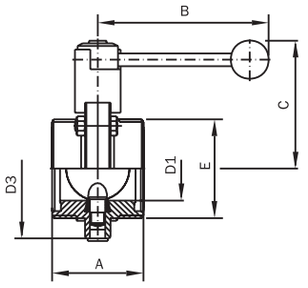
	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
10	3009 0106 1	3009 0106 2	3009 0130 1	3009 0130 2		
15	3009 0306 1	3009 0306 2	3009 0330 1	3009 0330 2		
20	3009 0406 1	3009 0406 2	3009 0430 1	3009 0430 2		
25	3009 0501 1	3009 0501 2	3009 0530 1	3009 0530 2	3009 0520 1	3009 0520 2
32	3009 0601 1	3009 0601 2	3009 0630 1	3009 0630 2	3009 0620 1	3009 0620 2
40	3009 0701 1	3009 0701 2	3009 0730 1	3009 0730 2	3009 0720 1	3009 0720 2
50	3009 0801 1	3009 0801 2	3009 0830 1	3009 0830 2	3009 0820 1	3009 0820 2
65	3009 0901 1	3009 0901 2	3009 0930 1	3009 0930 2	3009 0920 1	3009 0920 2
80	3009 1001 1	3009 1001 2	3009 1030 1	3009 1030 2	3009 1020 1	3009 1020 2
100	3009 1201 1	3009 1201 2	3009 1230 1	3009 1230 2	3009 1220 1	3009 1220 2

Butterfly Valve Welding Ends DIN-ISO

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
25	3002 7901 1	3002 7901 2	3002 7930 1	3002 7930 2	3002 7920 1	3002 7920 2
32	3002 8001 1	3002 8001 2	3002 8030 1	3002 8030 2	3002 8020 1	3002 8020 2
40	3002 8101 1	3002 8101 2	3002 8130 1	3002 8130 2	3002 8120 1	3002 8120 2
50	3002 8201 1	3002 8201 2	3002 8230 1	3002 8230 2	3002 8220 1	3002 8220 2
65	3002 8301 1	3002 8301 2	3002 8330 1	3002 8330 2	3002 8320 1	3002 8320 2
80	3002 8401 1	3002 8401 2	3002 8430 1	3002 8430 2	3002 8420 1	3002 8420 2
100	3002 8501 1	3002 8501 2	3002 8530 1	3002 8530 2	3002 8520 1	3002 8520 2

Butterfly Valve Intermediate Flange ISO

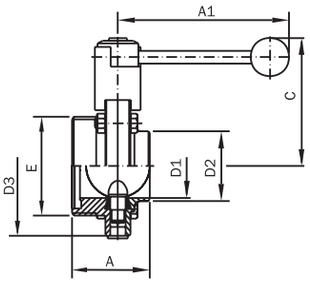
	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
25	3202 7901 1	3202 7901 2	3202 7930 1	3202 7930 2	3202 7920 1	3202 7920 2
32	3202 8001 1	3202 8001 2	3202 8030 1	3202 8030 2	3202 8020 1	3202 8020 2
40	3202 8101 1	3202 8101 2	3202 8130 1	3202 8130 2	3202 8120 1	3202 8120 2
50	3202 8201 1	3202 8201 2	3202 8230 1	3202 8230 2	3202 8220 1	3202 8220 2
65	3202 8301 1	3202 8301 2	3202 8330 1	3202 8330 2	3202 8320 1	3202 8320 2
80	3202 8401 1	3202 8401 2	3202 8430 1	3202 8430 2	3202 8420 1	3202 8420 2
100	3002 8501 1	3002 8501 2	3202 8530 1	3202 8530 2	32202 8520 1	3202 8520 2



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Male Aseptic Connection DIN 11864/1

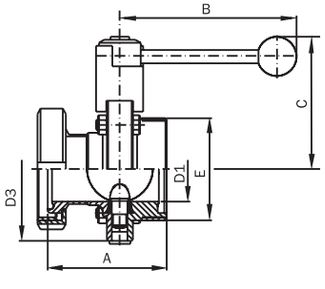
DN	A	B	C	D1	D3	E	Weight [kg]
10	78	105	79	10	58	28 x 1/8"	0.6
15	78	105	79	16	58	34 x 1/8"	0.6
20	82	105	79	20	58	44 x 1/8"	0.6
25	64	107	90	26	87	52 x 1/6"	1.7
32	64	107	92	32	92	58 x 1/6"	1.8
40	72	137	94	38	97	65 x 1/6"	2.0
50	72	137	101	50	110	78 x 1/6"	2.4
65	76	137	110	66	127	95 x 1/6"	3.1
80	100	167	123	81	142	110 x 1/4"	5.2
100	104	167	134	100	162	130 x 1/4"	6.5



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Male/Welding End Aseptic Connection DIN 11864/1

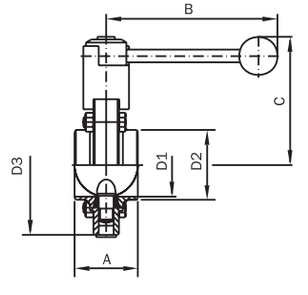
DN	A	B	C	D1	D2	D3	E	Weight [kg]
10	59	105	79	10	13	58	28 x 1/8"	0.6
15	59	105	79	16	19	58	34 x 1/8"	0.6
20	61	105	79	20	23	58	44 x 1/8"	0.6
25	52	107	90	26	31	87	52 x 1/6"	1.5
32	53	107	92	32	37	92	58 x 1/6"	1.6
40	61	137	94	38	43	97	65 x 1/6"	1.8
50	61	137	101	50	55	110	78 x 1/6"	2.1
65	63	137	110	66	70	127	95 x 1/6"	2.6
80	80	167	123	81	85	142	110 x 1/4"	4.6
100	84	167	134	100	104	162	130 x 1/4"	5.6



Attention: DN10 to DN20
only with plastic handle

Butterfly Valve Male/Liner Aseptic Connection DIN 11864/1

DN	A	B	C	D1	D3	E	Weight [kg]
10	76	105	79	10	58	28 x 1/8"	0.6
15	76	105	79	16	58	34 x 1/8"	0.6
20	79	105	79	20	58	44 x 1/8"	0.6
25	74	107	90	26	87	52 x 1/6"	1.8
32	78	107	92	32	92	58 x 1/6"	1.9
40	87	137	94	38	97	65 x 1/6"	2.2
50	91	137	101	50	110	78 x 1/6"	2.7
65	97	137	110	66	127	95 x 1/6"	3.4
80	118	167	123	81	142	110 x 1/4"	5.6
100	130	167	134	100	162	130 x 1/4"	7.1



Butterfly Valve Welding Ends Inch (Series B)

DN	A	B	C	D1	D2	D3	Weight [kg]
1"	38	107.5	90.5	22.1	25.4	87	1.3
1 1/2"	48	137.5	94.5	34.8	38.1	97	1.5
2"	48	137.5	101	47.5	50.8	110	1.8
2 1/2"	47	137.5	110	60.2	63.5	127	2.2
3"	60	167	123	72.1	76.1	142	4.2
4"	64	167	136	97.38	101.6	162	4.8

Butterfly Valves

Butterfly Valve Male Aseptic Connection DIN 11864/1

	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 316L	
DN	Article No.	Article No.	Article No.	
10	3020 0106 2	3020 0130 2		
15	3020 0306 2	3020 0330 2		
20	3020 0406 2	3020 0430 2		
25	3020 0501 2	3020 0530 2	3020 0520 2	
32	3020 0601 2	3020 0630 2	3020 0620 2	
40	3020 0701 2	3020 0730 2	3020 0720 2	
50	3020 0801 2	3020 0830 2	3020 0820 2	
65	3020 0901 2	3020 0930 2	3020 0920 2	
80	3020 1001 2	3020 1030 2	3020 1020 2	
100	3020 1201 2	3020 1230 2	3020 1220 2	

Butterfly Valve Male/Welding End Aseptic Connection DIN 11864/1

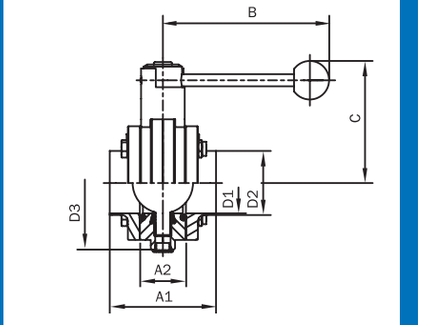
	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 316L	
DN	Article No.	Article No.	Article No.	
10	3021 0106 2	3021 0130 2		
15	3021 0306 2	3021 0330 2		
20	3021 0406 2	3021 0430 2		
25	3021 0501 2	3021 0530 2	3021 0520 2	
32	3021 0601 2	3021 0630 2	3021 0620 2	
40	3021 0701 2	3021 0730 2	3021 0720 2	
50	3021 0801 2	3021 0830 2	3021 0820 2	
65	3021 0901 2	3021 0930 2	3021 0920 2	
80	3021 1001 2	3021 1030 2	3021 1020 2	
100	3021 1201 2	3021 1230 2	3021 1220 2	

Butterfly Valve Male/Liner Aseptic Connection DIN 11864/1

	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 316L	
DN	Article No.	Article No.	Article No.	
10	3022 0106 2	3022 0130 2		
15	3022 0306 2	3021 0330 2		
20	3022 0406 2	3022 0430 2		
25	3022 0501 2	3022 0530 2	3022 0520 2	
32	3022 0601 2	3022 0630 2	3022 0620 2	
40	3022 0701 2	3021 0730 2	3022 0720 2	
50	3022 0801 2	3022 0830 2	3022 0820 2	
65	3022 0901 2	3022 0930 2	3022 0920 2	
80	3022 1001 2	3022 1030 2	3022 1020 2	
100	3022 1201 2	3022 1230 2	3022 1220 2	

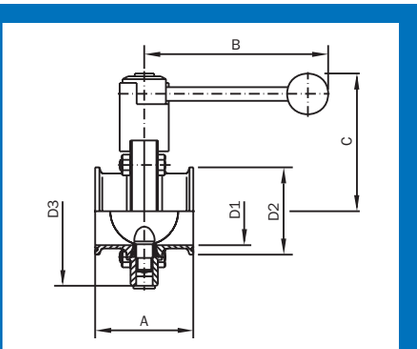
Butterfly Valve Welding Ends Inch (Series B)

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
1"	360254011/0	360254012/0	360254301/0	360254302/0	360254201/0	360254202/0
1 1/2"	360257011/0	360257012/0	360257301/0	360257302/0	360257201/0	360257202/0
2"	360258011/0	360258012/0	360258301/0	360258302/0	360258201/0	360258202/0
2 1/2"	360259011/0	360259012/0	360259301/0	360259302/0	360259201/0	360259202/0
3"	360260011/0	360260012/0	360260301/0	360260302/0	360260201/0	360260202/0
4"	360262011/0	360262012/0	360262301/0	360262302/0	360262201/0	360262202/0



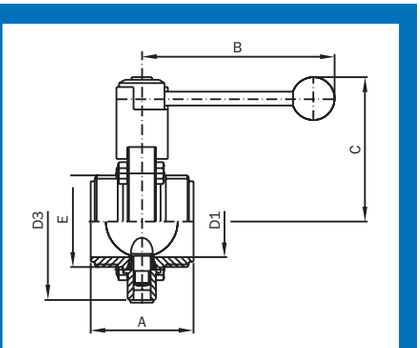
Compact Butterfly Valve Intermediate Flange Inch (Series B)

DN	A1	A2	B	C	D1	D2	D3	Gew. [kg]
1"	78	38	107,5	90	22,1	25,4	87	2,4
1 1/2"	88	38	137,5	94,5	34,8	38,1	97	2,6
2"	88	38	137,5	101	47,5	50,8	110	3,1
2 1/2"	88	38	137,5	110	60,2	63,5	127	3,6
3"	105	45	171	124,5	72,9	76,2	142	6,7
4"	105	45	171	135,5	97,38	101,6	162	7,6



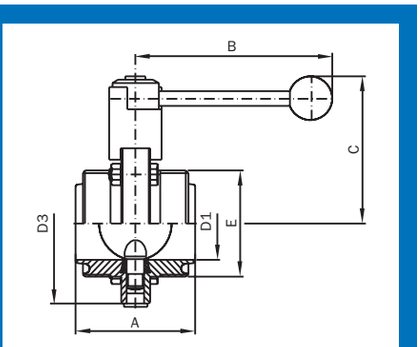
Butterfly Valve Clamp Inch (Series B)

DN	A	B	C	D1	D2	D3	Weight [kg]
1"	64	107.5	90.5	22.1	50.5	87	1.5
1 1/2"	72	137.5	94.5	34.8	50.5	97	1.6
2"	72	137.5	101	47.5	64	110	1.9
2 1/2"	76	137.5	110	60.2	77.5	127	2.4
3"	90	167	123	72.1	91	142	4.2
4"	104	167	136	97.38	119	162	5.2



Butterfly Valve IDF Male Inch (Series B)

DN	A	B	C	D1	D3	E	Weight [kg]
1"	72	107.5	90.5	22.1	87	1"	1.5
1 1/2"	72	137.5	94.5	34.8	97	1 1/2"	1.8
2"	72	137.5	101	47.5	110	2"	2.1
2 1/2"	76	137.5	110	60.2	127	2 1/2"	2.7
3"	90	167	123	72.1	142	3"	4.8
4"	104	167	136	97.38	162	4"	7.1



Butterfly Valve RJT Male Inch (Series B)

DN	A	B	C	D1	D3	E	Weight [kg]
1"	74	107.5	90.5	22.1	87	46 x 1/8"	1.2
1 1/2"	82	137.5	94.5	34.8	97	58.7 x 1/8"	2.0
2"	82	137.5	101	47.5	110	73 x 1/6"	2.3
2 1/2"	86	137.5	110	60.2	127	85.7 x 1/6"	3.0
3"	100	167	123	72.1	142	98.4 x 1/6"	4.8
4"	100	167	136	97.38	162	132.5 x 1/6"	7.1

Butterfly Valves

Compact Butterfly Valve Intermediate Flange Inch (Series B)

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	
DN	Article No.	Article No.	Article No.	Article No.	
1"	3255 1100 054 10	3255 1100 054 30	3255 2100 054 10	3255 2100 054 30	
1 1/2"	3255 1100 057 10	3255 1100 057 30	3255 2100 057 10	3255 2100 057 30	
2"	3255 1100 058 10	3255 1100 058 30	3255 2100 058 10	3255 2100 058 30	
2 1/2"	3255 1100 059 10	3255 1100 059 30	3255 2100 059 10	3255 2100 059 30	
3"	3255 1100 060 10	3255 1100 060 30	3255 2100 060 10	3255 2100 060 30	
4"	3255 1100 062 10	3255 1100 062 30	3255 2100 062 10	3255 2100 062 30	

Butterfly Valve Clamp Inch (Series B)

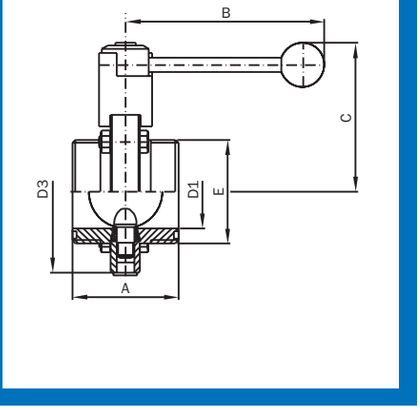
	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
1"	360654011/0	360654012/0	360654301/0	360654302/0	360654201/0	360654202/0
1 1/2"	360657011/0	360657012/0	360657301/0	360657302/0	360657201/0	360657202/0
2"	360658011/0	360658012/0	360658301/0	360658302/0	360658201/0	360658202/0
2 1/2"	360659011/0	360659012/0	360659301/0	360659302/0	360659201/0	360659202/0
3"	360660011/0	360660012/0	360660301/0	360660302/0	360660201/0	360660202/0
4"	360662011/0	360662012/0	360662301/0	360662302/0	360662201/0	360662202/0

Butterfly Valve IDF Male Inch (Series B)

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
1"	361454011/0	361454012/0	361454301/0	361454302/0	361454201/0	361454202/0
1 1/2"	361457011/0	361457012/0	361457301/0	361457302/0	361457201/0	361457202/0
2"	361458011/0	361458012/0	361458301/0	361458302/0	361458201/0	361458202/0
2 1/2"	361459011/0	361459012/0	361459301/0	361459302/0	361459201/0	361459202/0
3"	361460011/0	361460012/0	361460301/0	361460302/0	361460201/0	361460202/0
4"	361462011/0	361462012/0	361462301/0	361462302/0	361462201/0	361462202/0

Butterfly Valve RJT Male Inch (Series B)

	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
1"	361554011/0	361554012/0	361554301/0	361554302/0	361554201/0	361554202/0
1 1/2"	361557011/0	361557012/0	361557301/0	361557302/0	361557201/0	361557202/0
2"	361558011/0	361558012/0	361558301/0	361558302/0	361558201/0	361558202/0
2 1/2"	361559011/0	361559012/0	361559301/0	361559302/0	361559201/0	361559202/0
3"	361560011/0	361560012/0	361560301/0	361560302/0	361560201/0	361560202/0
4"	361562011/0	361562012/0	361562301/0	361562302/0	361562201/0	361562202/0



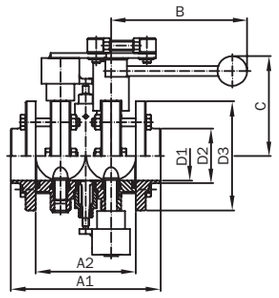
Butterfly Valve SMS Male Inch (Series B)

DN	A	B	C	D1	D3	E	Weight [kg]
1"	64	107.5	90.5	22.1	87	40 x 1/6"	1.5
1 1/2"	72	137.5	94.5	34.8	97	60 x 1/6"	2.0
2"	72	137.5	101	47.5	110	70 x 1/6"	2.3
2 1/2"	76	137.5	110	60.2	127	85 x 1/6"	3.0
3"	90	167	123	72.1	142	98 x 1/6"	5.0
4"	104	167	136	97,38	162	132 x 1/6"	7.3

Butterfly Valve SMS Male Inch (Series B)

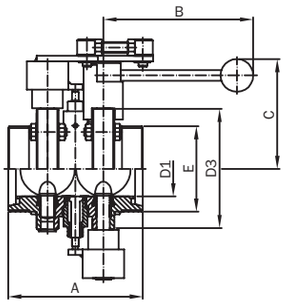
	Manual Operation AISI 304L Silicon	Manual Operation AISI 316L	Pneu. Actuator Air/Spring AISI 304L Silicon	Pneu. Actuator Air/Spring AISI 316L	Pneu. Actuator Air/Air AISI 304L Silicon	Pneu. Actuator Air/Air AISI 316L
DN	Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
1"	361654011/0	361654012/0	361654301/0	361654302/0	361654201/0	361654202/0
1 1/2"	361657011/0	361657012/0	361657301/0	361657302/0	361657201/0	361657202/0
2"	361658011/0	361658012/0	361658301/0	361658302/0	361658201/0	361658202/0
2 1/2"	361659011/0	361659012/0	361659301/0	361659302/0	361659201/0	361659202/0
3"	361660011/0	361660012/0	361660301/0	361660302/0	361660201/0	361660202/0
4"	361662011/0	361662012/0	361662301/0	361662302/0	361662201/0	361662202/0

Leakage Butterfly Valves



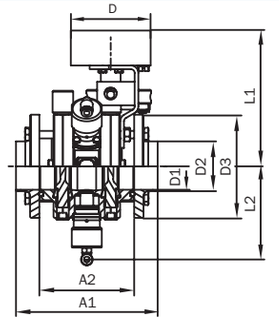
Leakage Butterfly Valve Intermediate Flange DIN

Size mm DN	A1	A2	B	C	D1	D2	D3	Weight [kg]
25	138	98	107	90	26	29	87	4.51
32	138	98	107	92	32	35	92	4.82
40	148	98	137	94	38	41	97	5.11
50	151	101	137	101	50	53	110	6.01
65	167	117	137	110	66	70	127	7.72
80	194	134	167	123	81	85	142	11.20
100	194	134	167	134	100	104	162	13.50



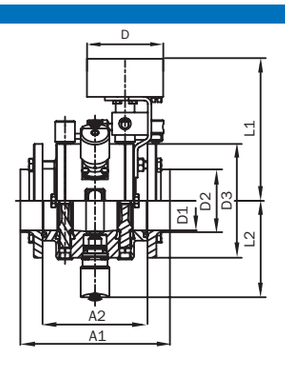
Leakage Butterfly Valve Male DIN

Size mm DN	A1	A2	B	C	D1	D2	D3	Weight [kg]
25	112	107	90	26	87	52 x 1/6"	87	3.85
32	112	107	92	32	92	58 x 1/6"	92	4.04
40	120	137	94	38	97	65 x 1/6"	97	4.39
50	123	137	101	50	110	78 x 1/6"	110	5.15
65	143	137	110	66	127	95 x 1/6"	127	6.76
80	158	167	123	81	142	110 x 1/4"	142	11.90
100	162	167	134	100	162	130 x 1/4"	162	11.18



Intermediate Flange without Preparation for Sensor for Auxiliary Valves

Size mm DN	A1	A2	D1	D2	D3	L1	L2	D	Weight [kg]
25	138	98	26	29	87	253	87.5	89	8.09
32	138	98	32	35	92	255	90	89	8.70
40	148	98	38	41	97	258	93	89	8.89
50	151	101	50	53	110	264	99.5	89	10.02
65	167	117	66	70	127	273	102.5	89	12.53
80	194	134	81	85	142	322	115	104	17.63
100	194	134	100	104	162	332	124.5	104	20.20
125	248	168	125	129	200	363	137.5	129	34.46
150	268	188	150	154	230	378	151	129	43.42



Intermediate Flange with Preparation for Sensor for Auxiliary Valves

Size mm DN	A1	A2	D1	D2	D3	L1	L2	D	Weight [kg]
25	138	98	26	29	87	253	87.5	89	8.26
32	138	98	32	35	92	255	90	89	8.84
40	148	98	38	41	97	258	93	89	9.03
50	151	101	50	53	110	264	99.5	89	10.17
65	167	117	66	70	127	273	102.5	89	12.68
80	194	134	81	85	142	322	115	104	17.76
100	194	134	100	104	162	332	124.5	104	20.34
125	248	168	125	129	200	363	137.5	129	34.60
150	268	188	150	154	230	378	151	129	43.56

Leakage Butterfly Valves

Leakage Butterfly Valve Intermediate Flange DIN

	Manual Operation AISI 316L
DN	Article No.
25	340205 012/1
32	340206 012/1
40	340207 012/1
50	340208 012/1
65	340209 012/1
80	340210 012/1
100	340212 012/1

Leakage Butterfly Valve Male DIN

	Manual Operation AISI 316L
DN	Article No.
25	340305 012/1
32	340306 012/1
40	340307 012/1
50	340308 012/1
65	340309 012/1
80	340310 012/1
100	340312 012/1

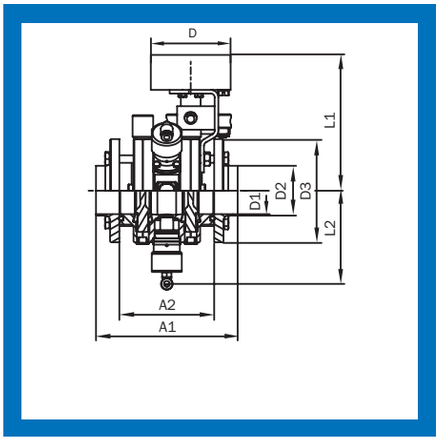
Intermediate Flange without Preparation for Sensor for Auxiliary Valves

	AISI 316L/EPDM	AISI 316L/FKM
DN	Article No.	Article No.
25	3510220102530	3510220202530
32	3510220103230	3510220203230
40	3510220104030	3510220204030
50	3510220105030	3510220205030
65	3510220106530	3510220206530
80	3510220108030	3510220208030
100	3510220110030	3510220210030
125	3510220112530	3510220212530
150	3510220115030	3510220215030

Intermediate Flange with Preparation for Sensor for Auxiliary Valves

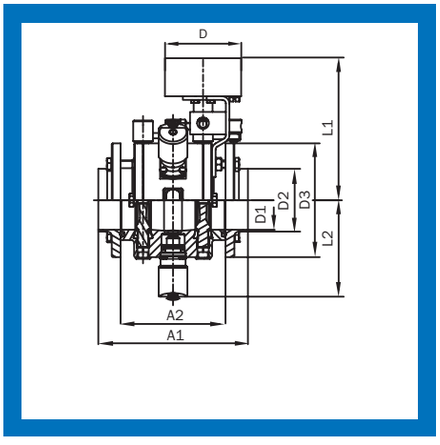
	AISI 316L/EPDM	AISI 316L/FKM
DN	Article No.	Article No.
25	3510221102530	3510221202530
32	3510221103230	3510221203230
40	3510221104030	3510221204030
50	3510221105030	3510221205030
65	3510221106530	3510221206530
80	3510221108030	3510221208030
100	3510221110030	3510221210030
125	3510221112530	3510221212530
150	3510221115030	3510221215030

Leakage Butterfly Valves



Intermediate Flange without Preparation for Sensor for Auxiliary Valves

Size mm DN	A1	A2	D1	D2	D3	L1	L2	D	Weight [kg]
1"	142	102	22.1	25.4	87	253	85.5	89	8.17
1 1/2"	149	99	34.8	38.1	97	257.5	90	89	8.95
2"	151	101	47.5	50.8	110	264	98	89	10.11
2 1/2"	167	117	60.2	63.5	127	273	104.5	89	12.97
3"	196	136	72.1	76.1	142	323	110.5	104	18.64
4"	194	134	97.4	101.6	162	334.5	123	104	20.42



Intermediate Flange with Preparation for Sensor for Auxiliary Valves

Size mm DN	A1	A2	D1	D2	D3	L1	L2	D	Weight [kg]
1"	142	102	22.1	25.4	87	253	85.5	89	8.31
1 1/2"	149	99	34.8	38.1	97	257.5	90	89	9.09
2"	151	101	47.5	50.8	110	264	98	89	10.26
2 1/2"	167	117	60.2	63.5	127	273	104.5	89	13.14
3"	196	136	72.1	76.1	142	323	110.5	104	18.77
4"	194	134	97.4	101.6	162	334.5	123	104	20.56

Leakage Butterfly Valves

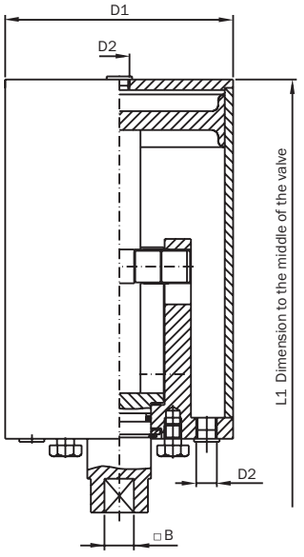
Intermediate Flange without Preparation for Sensor for Auxiliary Valves

	AISI 316L/EPDM	AISI 316L/FKM	
DN	Article No.	Article No.	
1"	3510220105430	3510220205430	
1 1/2"	3510220105730	3510220205730	
2"	3510220105830	3510220205830	
2 1/2"	3510220105930	3510220205930	
3"	3510220106030	3510220206030	
4"	3510220106230	3510220206230	

Intermediate Flange with Preparation for Sensor for Auxiliary Valves

	AISI 316L/EPDM	AISI 316L/FKM	
DN	Article No.	Article No.	
1"	3510221105430	3510221205430	
1 1/2"	3510221105730	3510221205730	
2"	3510221105830	3510221205830	
2 1/2"	3510221105930	3510221205930	
3"	3510221106030	3510221206030	
4"	3510221106230	3510221206230	

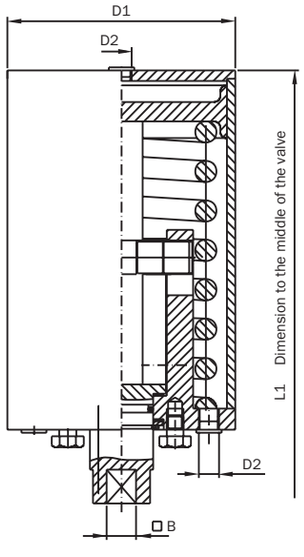
Butterfly Valve Actuator



3 - 6 bar

Pneumatic Actuator Air/Air

Size mm DN		D1	D2	B	L1	Weight [kg]
25	1"	89	G 1/8"	95	236	2.5
32		89	G 1/8"	95	238	2.5
40	1 1/2"	89	G 1/8"	95	241	2.5
50	2"	89	G 1/8"	95	247	2.5
65	2 1/2"	89	G 1/8"	95	256	2.5
80	3"	89	G 1/8"	95	263	2.5
100	4"	89	G 1/8"	95	273	2.5
125		129	G 1/8"	14	332	7.2
150		129	G 1/8"	14	347	7.2
200		129	G 1/8"	14	385	7.2



5 - 10 bar

Pneumatic Actuator Air/Spring

Size mm DN		D1	D2	B	L1	Design	Weight [kg]
25	1"	85	G 1/8"	9.5	226	standard	3.1
32		85	G 1/8"	9.5	228	standard	3.1
40	1 1/2"	85	G 1/8"	9.5	231	standard	3.1
50	2"	85	G 1/8"	9.5	237	standard	3.1
65	2 1/2"	85	G 1/8"	9.5	246	standard	3.1
80	3"	85	G 1/8"	9.5	253	standard	3.1
100	4"	85	G 1/8"	9.5	263	standard	3.1
125		129	G 1/8"	14	332	standard	9.3
150		129	G 1/8"	14	347	standard	9.3
200		129	G 1/8"	14	385	standard	9.3
25	1"	104	G 1/8"	9.5	270	supported	5.1
32		104	G 1/8"	9.5	272	supported	5.1
40	1 1/2"	104	G 1/8"	9.5	275	supported	5.1
50	2"	104	G 1/8"	9.5	281	supported	5.1
65	2 1/2"	104	G 1/8"	9.5	290	supported	5.1
80	3"	104	G 1/8"	9.5	297	supported	5.1
100	4"	104	G 1/8"	9.5	307	supported	5.1
10 - 50	1" - 2"	76	G 1/8"	9.5	205 (DN10 - 20)	mini design	2.5

Butterfly Valve Actuator

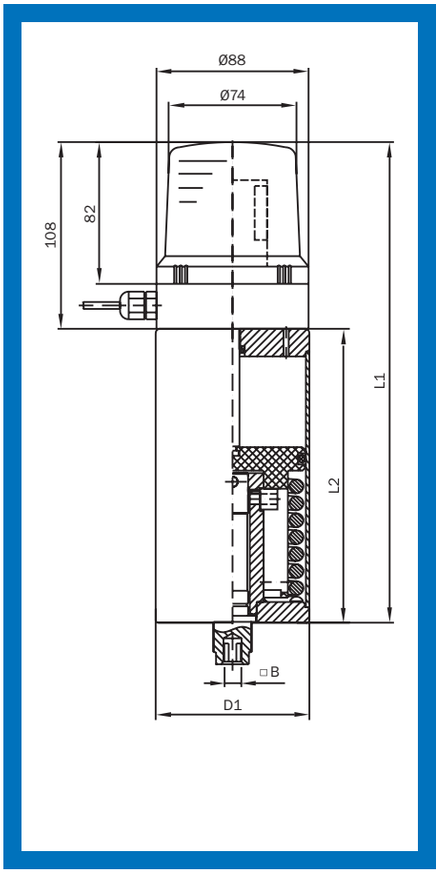
Pneumatic Actuator Air/Air

		Air/Air (clockwise rotation)	Air/Air (counter clockwise rotation)	
DN		Article No.	Article No.	
25	1"	3910 120 00	3912 120 00	
32		3910 120 00	3912 120 00	
40	1 1/2"	3910 120 00	3912 120 00	
50	2"	3910 120 00	3912 120 00	
65	2 1/2"	3910 120 00	3912 120 00	
80	3"	3910 120 00	3912 120 00	
100	4"	3910 120 00	3912 120 00	
125		3910 200 00		
150		3910 200 00		
200		3910 200 00		

Pneumatic Actuator Air/Spring

		Air/Spring	Spring/Air	Air/Spring + Spring/Air	Air/Spring (clockwise rotation)	Air/Spring (counter clockwise rotation)	
DN		Article No.	Article No.	Article No.	Article No.	Article No.	
25	1"	3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
32		3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
40	1 1/2"	3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
50	2"	3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
65	2 1/2"	3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
80	3"	3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
100	4"	3925 120 00	3928 120 00	3936 120 00	3911 120 00	3913 120 00	
125		3911 200 00					
150		3911 200 00					
200		3911 200 00					
25	1"	3925 120 01					
32		3925 120 01					
40	1 1/2"	3925 120 01					
50	2"	3925 120 01					
65	2 1/2"	3925 120 01					
80	3"	3925 120 01					
100	4"	3925 120 01					
10 - 50	1" - 2"	3927 120 01					

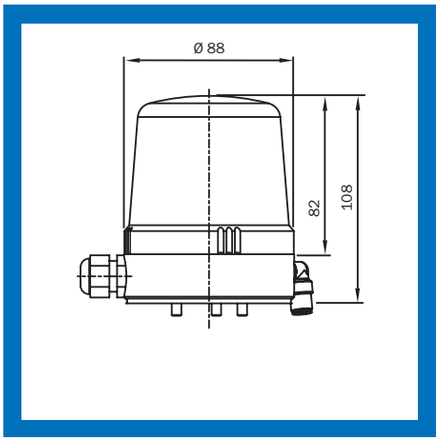
VMON-Actuator with Control Head



VMON Control Head with Actuator

Size mm DN	D1	L1	L2
25 - 100	89	278	170
125 - 200	129	316	208

Technical Data	
Connection cross section:	0.3 ... 0.75 mm²
Operating voltage:	Uv = 24 V DC
Actuation:	Ux = 24 V DC
Current capacity:	Iax = 70 mA
Ambient temperature:	- 10 °C... + 55 °C
Operating voltage UV:	yellow LED
Valve position open:	green LED
Valve position closed:	red LED
Material upper part:	PC Polycarbonate
Material base part:	PA6
Protective class:	IP 67 acc. to EN 60529
Hose diameter:	D = 6 mm
Bus connection	
Connection terminal/ M12:	+AS-i I -AS-i acc. to ASi specifications
AS-Interface specification:	3.0; 62 bus participants
AS-Interface profile:	S 7.A.E
AS-Interface voltage range:	26.5...31.6 V DC
Maximum current consumption:	≤ 150 mA
AS-Interface certificate:	ZU-76201



Spare Parts for Control Head

Spare parts
VMON-control head
Housing - upper part
Control head with stainless steel cap
Housing - stainless steel
3/2 - way magnetic valve NC complete with sealing and screws
O-ring
Filter/silencer G 1/8"
Housing - base part
Magnet D8, 5 d3, 2 H6
Moulded seal for control head AWH

VMON-Actuator with Control Head

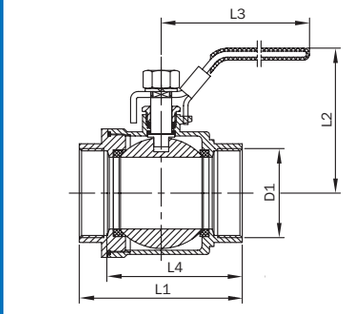
VMON Control Head with Actuator

	24V DC/Standard	ASi/Standard	24V DC with stainless steel cap	ASi with stainless steel cap	
DN	Article No.	Article No.	Article No.	Article No.	
25 - 100	3937 12 000	3939 12 000	3947 12 000	3949 12 000	
125 - 200	3937 20 000	3939 20 000	3947 20 000	3949 20 000	

Spare Parts for Control Head

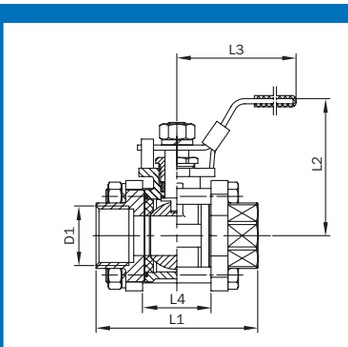
	24V DC	ASi	
	Article No.	Article No.	
	3937 12 001	3939 12 001	
	3937 12 101		
	3937 12 002	3939 12 002	
	3937 12 119		
	3937 12 102		
	3937 12 103		
	3937 12 104		
	3937 12 105		
	3937 12 106		
	3937 12 107		

Ball Cock



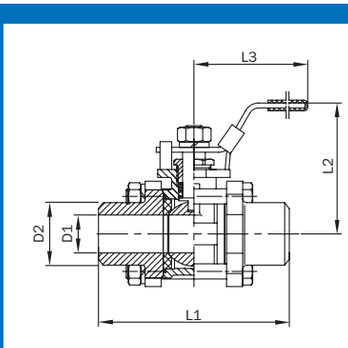
Ball Cock 2 Pieces Thread

Size mm DN	D1	L1	L2	L3	L4	Weight [kg]
1/4"	G 1/4"	48.5	52	102	37	0.26
3/8"	G 3/8"	48.5	52	102	37	0.25
1/2"	G 1/2"	52	59	117	42.3	0.31
3/4"	G 3/4"	60	62	125	47.5	0.46
1"	G 1"	72	71	133	57	0.77
1 1/4"	G 1 1/4"	87	80	147	69	1.12
1 1/2"	G 1 1/2"	96	86	179	80.3	1.74
2"	G 2"	108	99	179	90	2.65
2 1/2"	G 2 1/2"	136	135	206	114.6	5.37
3"	G 3"	164	143	240	138.5	7.43



Ball Cock 3 Pieces Thread

Size mm DN	D1	L1	L2	L3	L4	Weight [kg]
1/4"	G 1/4"	67	64	116	21	0.39
3/8"	G 3/8"	67	64	116	21	0.41
1/2"	G 1/2"	72.5	69	130	26.5	0.53
3/4"	G 3/4"	81.5	73	135	32.5	0.79
1"	G 1"	89.5	73	143	38.5	1.20
1 1/4"	G 1 1/4"	111	80	143	49	1.86
1 1/2"	G 1 1/2"	116	87	182	54	2.57
2"	G 2"	146	96	182	68.8	3.89
2 1/2"	G 2 1/2"	180	129	265	86.5	8.30
3"	G 3"	206	141	265	102	12.25



Ball Cock 2 Pieces Welding Ends

Size mm DN	D1	L1	L2	L3	L4	Weight [kg]
1/4"	12.5	18	67	64	116	0.37
3/8"	12.5	18	67	64	116	0.39
1/2"	15	22	72.5	69	130	0.53
3/4"	20	27	81	73	135	0.76
1"	25	34	94.5	73	143	1.15
1 1/4"	32	42.5	110	80	143	1.77
1 1/2"	38	49	124	87	182	2.43
2"	50	62	145	96	182	3.80
2 1/2"	65	76	190	129	265	8.20
3"	80	91.5	214	141	265	12.60
4"	98	115	265	173	315	18.50

Ball Cock

Ball Cock 2 Pieces Thread

	1.4408 matt
DN	Article No.
1/4"	4601 50 00 2
3/8"	4601 51 00 2
1/2"	4601 52 00 2
3/4"	4601 53 00 2
1"	4601 54 00 2
1 1/4"	4601 55 00 2
1 1/2"	4601 57 00 2
2"	4601 58 00 2
2 1/2"	4601 59 00 2
3"	4601 60 00 2

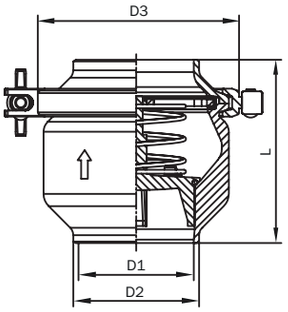
Ball Cock 3 Pieces Thread

	1.4408 matt
DN	Article No.
1/4"	4602 50 00 2
3/8"	4602 51 00 2
1/2"	4602 52 00 2
3/4"	4602 53 00 2
1"	4602 54 00 2
1 1/4"	4602 55 00 2
1 1/2"	4602 57 00 2
2"	4602 58 00 2
2 1/2"	4602 59 00 2
3"	4602 60 00 2

Ball Cock 2 Pieces Welding Ends

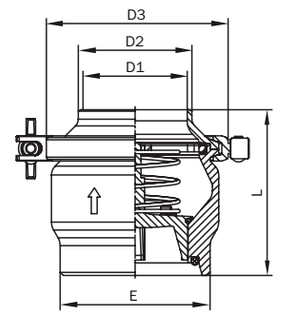
	1.4408 matt
DN	Article No.
1/4"	4603 50 00 2
3/8"	4603 51 00 2
1/2"	4603 52 00 2
3/4"	4603 53 00 2
1"	4603 54 00 2
1 1/4"	4603 55 00 2
1 1/2"	4603 57 00 2
2"	4603 58 00 2
2 1/2"	4603 59 00 2
3"	4603 60 00 2
4"	4603 62 00 2

Non-Return Valves



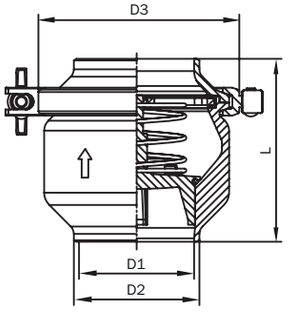
Non-Return Valve Welding Ends DIN

Size mm DN	D1	D2	D3	L	Weight [kg]
25	26	29	64	72	0.58
32	32	35	77	72	0.86
40	38	41	91	80	1.17
50	50	53	104	90	1.55
65	66	70	119	105	2.80
80	81	85	145	125	3.96
100	100	104	170	140	6.50



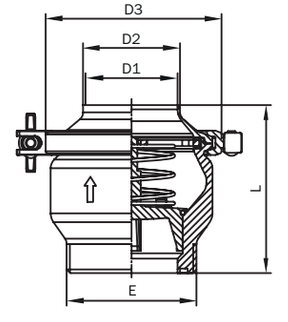
Non-Return Valve Male/Welding End DIN

Size mm DN	D1	D2	D3	E	L	Weight [kg]
10	10	13	64	52 x 1/6"	72	0.69
15	16	19	64	52 x 1/6"	72	0.69
20	20	23	64	52 x 1/6"	72	0.69
25	26	29	64	52 x 1/6"	72	0.69
32	32	35	64	58 x 1/6"	72	0.89
40	38	41	91	65 x 1/6"	83	1.37
50	50	53	104	78 x 1/6"	93	1.85
65	66	70	119	95 x 1/6"	105	2.84
80	81	85	145	110 x 1/4"	125	4.40
100	100	104	170	130 x 1/4"	140	7.30



Non-Return Valve Welding Ends SMS

Size mm DN	D1	D2	D3	L	Weight [kg]
1"	22.2	25.4	64	77	0.60
1 1/2"	34.8	38.1	77	72	0.86
2"	47.6	50.8	104	95	1.55
2 1/2"	60.3	63.5	119	110	2.80
3"	72.9	76.1	119	105	3.96
4"	97.4	101.6	170	140	6.50



Non-Return Valve Male/Welding End SMS

Size mm DN	D1	D2	D3	E	L	Weight [kg]
1"	22,.2	25.4	64	Rd 40 x 1/6"	77	0.60
1 1/2"	34.8	38.1	77	Rd 60 x 1/6"	72	0.86
2"	47,.6	50.8	104	Rd 70 x 1/6"	95	1.55
2 1/2"	60.3	63.5	119	Rd 85 x 1/6"	110	2.80
3"	72.9	76.1	119	Rd 98 x 1/6"	105	3.96
4"	97.4	101.6	170	Rd 132 x 1/6"	140	6.50
4" / 100	100	104	170	Rd 125 x 1/4"	140	6.50

Non-Return Valves

Non-Return Valve Welding Ends DIN

	AISI 304L polished	AISI 316L polished	
DN	Article No.	Article No.	
25	4202 05 001	4202 05 002	
32	4202 06 001	4202 06 002	
40	4202 07 001	4202 07 002	
50	4202 08 001	4202 08 002	
65	4202 09 001	4202 09 002	
80	4202 10 001	4202 10 002	
100	4202 12 001	4202 12 002	

Non-Return Valve Male/Welding End DIN

	AISI 304L polished	AISI 316L polished	
DN	Article No.	Article No.	
10	4201 01 001	4201 01 002	
15	4201 03 001	4201 03 002	
20	4201 04 001	4201 04 002	
25	4201 05 001	4201 05 002	
32	4201 06 001	4201 06 002	
40	4201 07 001	4201 07 002	
50	4201 08 001	4201 08 002	
65	4201 09 001	4201 09 002	
80	4201 10 001	4201 10 002	
100	4201 12 001	4201 12 002	

Non-Return Valve Welding Ends SMS

	AISI 304L polished	AISI 316L polished	
DN	Article No.	Article No.	
1"	4202 54 001/1	4202 54 002/1	
1 1/2"	4202 57 001/1	4202 57 002/1	
2"	4202 58 001/1	4202 58 002/1	
2 1/2"	4202 59 001/1	4202 59 002/1	
3"	4202 60 001/1	4202 60 002/1	
4"	4202 62 001/1	4202 62 002/1	

Non-Return Valve Male/Welding End SMS

	AISI 304L polished	AISI 316L polished	
DN	Article No.	Article No.	
1"	4201 91 001/1	4201 91 002/1	
1 1/2"	4201 92 001/1	4201 92 002/1	
2"	4201 93 001/1	4201 93 002/1	
2 1/2"	4201 94 001/1	4201 94 002/1	
3"	4201 95 001/1	4201 95 002/1	
4"	4201 96 001/1	4201 96 002/1	
4" / 100	4201 97 001/1	4201 97 002/1	

NEUMO

DIN 11864 / DIN 11853

A member of NEUMO Ehrenberg Group

DIN 11864 / DIN 11853

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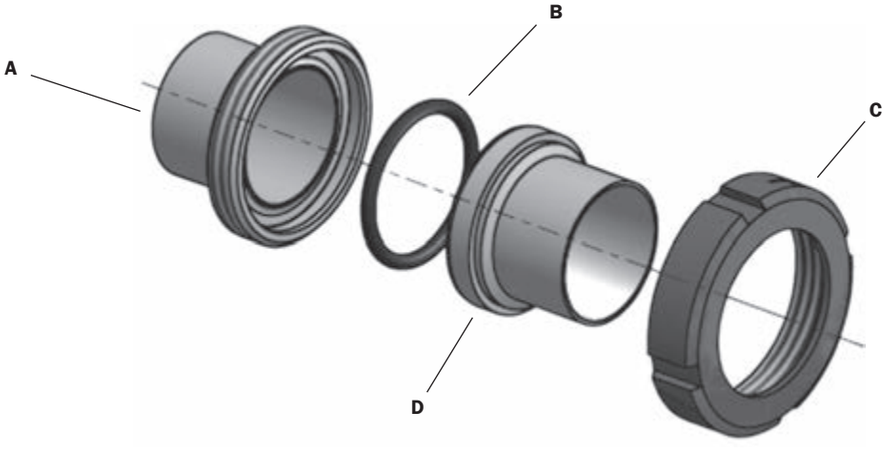
Explosion View

Unions



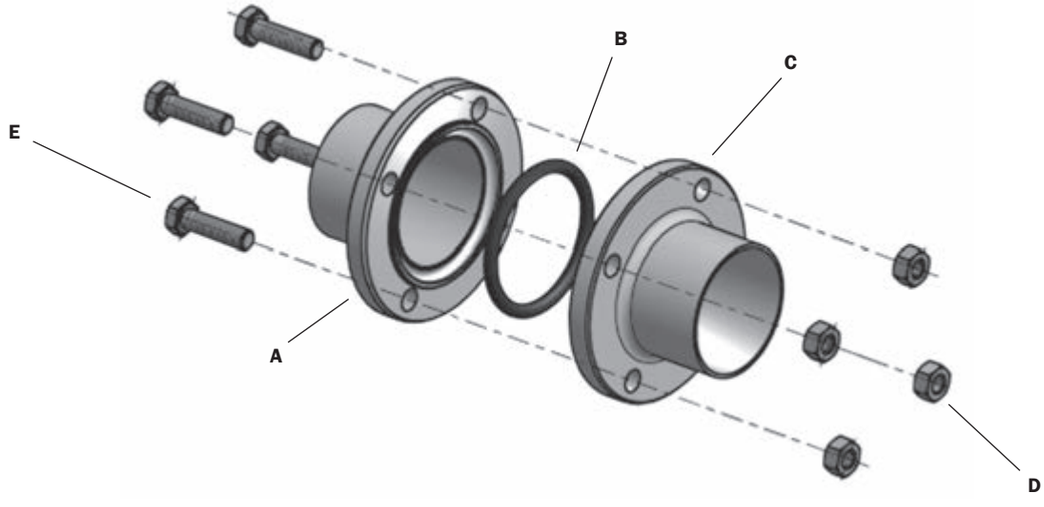
A Male

B O-Ring

C Nut

D Liner

Flange Connections



A Nut flange

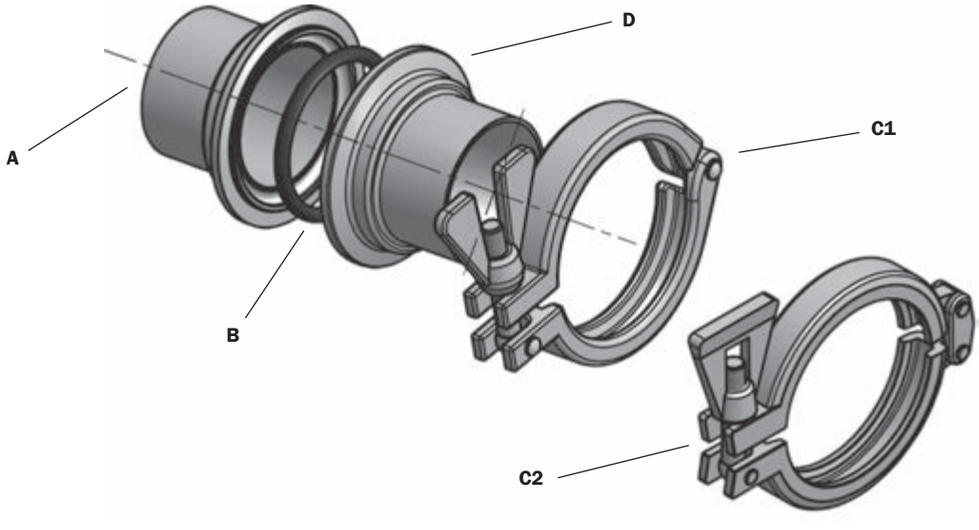
B O-Ring

C Liner flange

D Hexagon nut

E Hexagon screw

Clamp Connections



A Clamp nut

B O-Ring

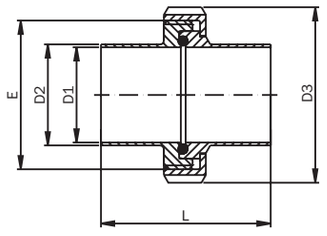
Heavy duty clamp

C1 Single pin

C2 Double pin

D Clamp liner

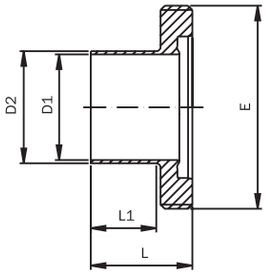
Aseptic DIN11864-1 Form A (series C) Imperial Union Connection



Is delivered in parts!

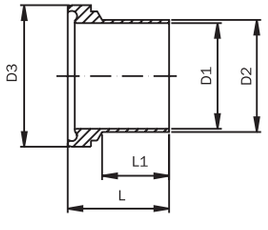
Imperial Union

Size mm DN	D1	D2	D3	E	L	Weight [kg]	AISI 316L
							Article No.
1/2"	9.4	12.7	38	Rd 28 x 1/8"	76	0.28	112L 00 89 2/1
3/4"	15.75	19.05	44	Rd 34 x 1/8"	76	0.36	112L 00 90 2/1
1"	22.1	25.4	63	Rd 52 x 1/6"	77	0.49	112L 00 91 2/1
1 1/2"	34.8	38.1	78	Rd 65 x 1/6"	88	0.63	112L 00 92 2/1
2"	47.5	50.8	92	Rd 78 x 1/6"	89	0.82	112L 00 93 2/1
2 1/2"	60.2	63.5	112	Rd 95 x 1/6"	115	1.37	112L 00 94 2/1
3"	72.9	76.2	127	Rd 110 x 1/4"	117	1.98	112L 00 95 2/1
4"	97.38	101.6	148	Rd 130 x 1/4"	119	2.52	112L 00 96 2/1



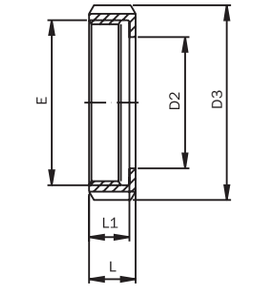
Imperial Male

Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 316L
							Article No.
1/2"	9.4	12.7	Rd 28 x 1/8"	41	27	0.05	1121 00 89 2
3/4"	15.75	19.05	Rd 34 x 1/8"	41	27	0.07	1121 00 90 2
1"	22.1	25.4	Rd 52 x 1/6"	43	26	0.17	1121 00 91 2
1 1/2"	34.8	38.1	Rd 65 x 1/6"	48.5	30	0.23	1121 00 92 2
2"	47.5	50.8	Rd 78 x 1/6"	48.5	30	0.29	1121 00 93 2
2 1/2"	60.2	63.5	Rd 95 x 1/6"	60	40	0.46	1121 00 94 2
3"	72.9	76.2	Rd 110 x 1/4"	64	40	0.73	1121 00 95 2
4"	97.38	101.6	Rd 130 x 1/4"	64	40	0.82	1121 00 96 2



Imperial Liner

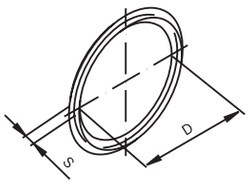
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
1/2"	9.4	12.7	21.9	39	27	0.10	1123 00 89 2
3/4"	15.75	19.05	27.9	39	27	0.11	1123 00 90 2
1"	22.1	25.4	42.9	40	26	0.10	1123 00 91 2
1 1/2"	34.8	38.1	54.9	46.5	30	0.15	1123 00 92 2
2"	47.5	50.8	66.9	47.5	30	0.21	1123 00 93 2
2 1/2"	60.2	63.5	84.9	63	40	0.36	1123 00 94 2
3"	72.9	76.2	98.9	61	40	0.45	1123 00 95 2
4"	97.38	101.6	118.9	65	40	0.62	1123 00 96 2



Imperial Nut

Size mm DN	D2	D3	E	L	L1	Weight [kg]	AISI 304
							Article No.
1/2"	19	38	Rd 28 x 1/8"	18	15	0.07	11003 000 010 10
3/4"	25	44	Rd 34 x 1/8"	18	15	0.08	11003 000 015 10
1"	36	63	Rd 52 x 1/6"	21	18	0.18	11003 000 025 10
1 1/2"	49	78	Rd 65 x 1/6"	21	18	0.25	11003 000 040 10
2"	62	92	Rd 78 x 1/6"	22	19	0.33	11003 000 050 10
2 1/2"	80	112	Rd 95 x 1/6"	25	21	0.55	11003 000 065 10
3"	94	127	Rd 110 x 1/4"	29	25	0.80	11003 000 080 10
4"	115	148	Rd 130 x 1/4"	31	26	1.08	11003 000 100 10

Aseptic DIN11864-1 Form A (series C) Imperial Union Connection



O-Ring Seal					
Size mm DN	D	S	EPDM	FKM	PTFE
			Article No.	Article No.	Article No.
1/2"	12	3.5	1129 00 40 1	1129 00 40 2	1129 00 40 4
3/4"	18	3.,5	1129 00 41 1	1129 00 41 2	1129 00 41 4
1"	24	3.5	1129 00 91 1	1129 00 91 2	1129 00 91 4
1 1/2"	37	5	1129 00 92 1	1129 00 92 2	1129 00 92 4
2"	50	5	1129 00 93 1	1129 00 93 2	1129 00 93 4
2 1/2"	62	5	1129 00 94 1	1129 00 94 2	1129 00 94 4
3"	75	5	1129 00 95 1	1129 00 95 2	1129 00 95 4
4"	100	5	1129 00 96 1	1129 00 96 2	1129 00 96 4

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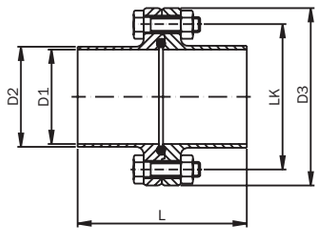
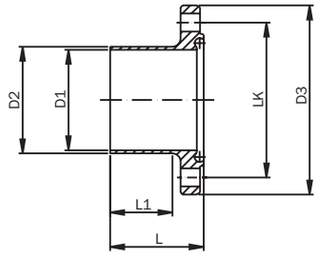
Aseptic DIN11864-2 Form A (series C) Imperial Flanged Connection



Is delivered in parts!

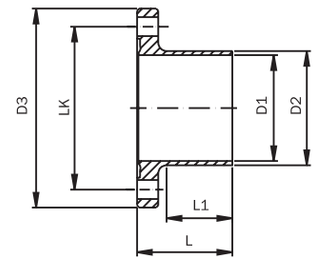
Imperial Flange

Size mm DN	D1	D2	D3	LK	L	Weight [kg]	AISI 316L
							Article No.
1/2"	9.4	12.7	54	37 4/M8 x 30	80	0.33	113L 00 89 2/1
3/4"	15.75	19.05	59	42 4/M8 x 30	80	0.39	113L 00 90 2/1
1"	22.1	25.4	66	49 4/M8 x 30	80	0.48	113L 00 91 2/1
1 1/2"	34.8	38.1	79	62 4/M8 x 30	90	0.67	113L 00 92 2/1
2"	47.5	50.8	92	75 4/M8 x 30	90	0.85	113L 00 93 2/1
2 1/2"	60.2	63.5	107	89 8/M8 x 30	108	1.08	113L 00 94 2/1
3"	72.9	76.2	125	104 8/M10 x 30	112	1.62	113L 00 95 2/1
4"	97.38	101.6	157	135 8/M10 x 35	116	2.85	113L 00 96 2/1



Imperial Nut

Size mm DN	D1	D2	D3	LK	L	L1	Weight [kg]	AISI 316L
								Article No.
1/2"	9.4	12.7	54	37 4 x Ø 9	41.5	26	0.15	1131 00 89 2
3/4"	15.75	19.05	59	42 4 x Ø 9	41.5	26	0.21	1131 00 90 2
1"	22.1	25.4	66	49 4 x Ø 9	41.5	26	0.24	1131 00 91 2
1 1/2"	34.8	38.1	79	62 4 x Ø 9	46.5	31	0.34	1131 00 92 2
2"	47.5	50.8	92	75 4 x Ø 9	46.5	31	0.44	1131 00 93 2
2 1/2"	60.2	63.5	107	89 8 x Ø 9	55.5	42	0.56	1131 00 94 2
3"	72.9	76.2	125	104 8 x Ø 11	57.5	42	0.83	1131 00 95 2
4"	97.38	101.6	157	135 8 x Ø 11	59.5	42	1.45	1131 00 96 2



Imperial Liner

Size mm DN	D1	D2	D3	LK	L	L1	Weight [kg]	AISI 316L
								Article No.
1/2"	9.4	12.7	54	37 4 x Ø 9	40	26	0.16	1133 00 89 2
3/4"	15.75	19.05	59	42 4 x Ø 9	40	26	0.20	1133 00 90 2
1"	22.1	25.4	66	49 4 x Ø 9	40	26	0.24	1133 00 91 2
1 1/2"	34.8	38.1	79	62 4 x Ø 9	45	31	0.33	1133 00 92 2
2"	47.5	50.8	92	75 4 x Ø 9	45	31	0.41	1133 00 93 2
2 1/2"	60.2	63.5	107	89 8 x Ø 9	54	42	0.53	1133 00 94 2
3"	72.9	76.2	125	104 8 x Ø 11	56	42	0.80	1133 00 95 2
4"	97.38	101.6	157	135 8 x Ø 11	58	42	1.41	1133 00 96 2

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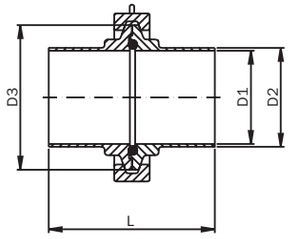
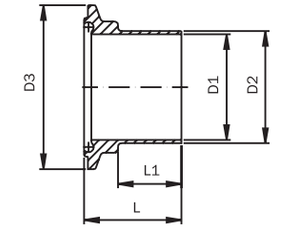
Aseptic DIN11864-3 Form A (series C) Imperial Clamp Connection



Is delivered in parts!

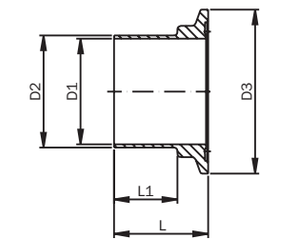
Imperial Clamp

Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 316L
						Article No.
1/2"	9.4	12.7	34	76	0.18	119L 00 89 2/1
3/4"	15.75	19.05	34	76	0.18	119L 00 90 2/1
1"	22.1	25.4	50.5	77	0.48	119L 00 91 2/1
1 1/2"	34.8	38.1	64	88	0.47	119L 00 92 2/1
2"	47.5	50.8	77.5	89	0.46	119L 00 93 2/1
2 1/2"	60.2	63.5	91	115	0.57	119L 00 94 2/1
3"	72.9	76.2	106	117	0.74	119L 00 95 2/1
4"	97.38	101.6	130	119	0.90	119L 00 96 2/1



Imperial Male

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
1/2"	9.4	12.7	34	39.5	26	0.05	1193 00 89 2
3/4"	15.75	19.05	34	39.5	26	0.05	1193 00 90 2
1"	22.1	25.4	50.5	40	28	0.09	1193 00 91 2
1 1/2"	34.8	38.1	64	45,5	30	0.14	1193 00 92 2
2"	47.5	50.8	77.5	46	30	0.17	1193 00 93 2
2 1/2"	60.2	63.5	91	59	40	0.24	1193 00 94 2
3"	72.9	76.2	106	60	40	0.30	1193 00 95 2
4"	97.38	101.6	130	61	40	0.42	1193 00 96 2



Imperial Liner

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
1/2"	9.4	12.7	34	38	26	0.04	1191 00 89 2
3/4"	15.75	19.05	34	38	26	0.04	1191 00 90 2
1"	22.1	25.4	50.5	38.5	28	0.08	1191 00 91 2
1 1/2"	34.8	38.1	64	44	30	0.12	1191 00 92 2
2"	47.5	50.8	77.5	44.5	30	0.17	1191 00 93 2
2 1/2"	60.2	63.5	91	57.5	40	0.24	1191 00 94 2
3"	72.9	76.2	106	58.5	40	0.30	1191 00 95 2
4"	97.38	101.6	130	59.5	40	0.44	1191 00 96 2

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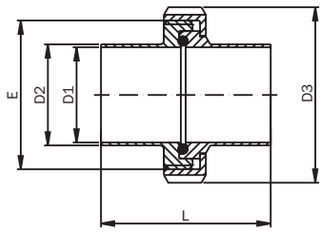
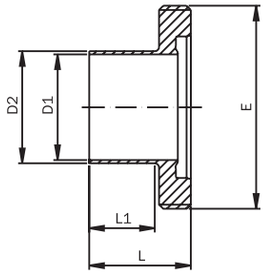
Aseptic DIN11864-1 Form A (series A) DIN Union Connection



Is delivered in parts!

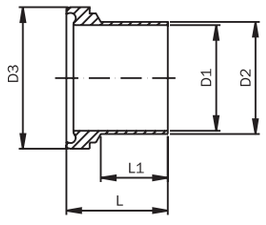
Union DIN

Size mm DN	D1	D2	D3	E	L	Weight [kg]	AISI 316L
							Article No.
10	10	13	38	Rd 28 x 1/8"	76	0.15	112L 00 40 2/1
15	16	19	44	Rd 34 x 1/8"	76	0.19	112L 00 41 2/1
20	20	23	54	Rd 44 x 1/6"	76	0.31	112L 00 42 2/1
25	26	29	63	Rd 52 x 1/6"	77	0.43	112L 00 43 2/1
32	32	35	70	Rd 58 x 1/6"	88	0.53	112L 00 44 2/1
40	38	41	78	Rd 65 x 1/6"	88	0.61	112L 00 45 2/1
50	50	53	92	Rd 78 x 1/6"	89	0.80	112L 00 46 2/1
65	66	70	112	Rd 95 x 1/6"	113	1.35	112L 00 09 2/1
80	81	85	127	Rd 110 x 1/4"	117	1.89	112L 00 10 2/1
100	100	104	148	Rd 130 x 1/4"	120	2.46	112L 00 12 2/1



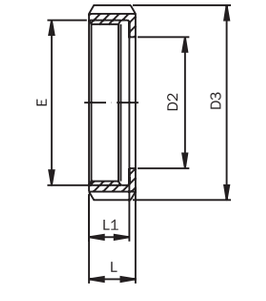
Male DIN

Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 316L
							Article No.
10	10	13	Rd 28 x 1/8"	41	27	0.05	1121 00 40 2
15	16	19	Rd 34 x 1/8"	41	27	0.07	1121 00 41 2
20	20	23	Rd 44 x 1/6"	43	26	0.13	1121 00 42 2
25	26	29	Rd 52 x 1/6"	43	26	0.16	1121 00 43 2
32	32	35	Rd 58 x 1/6"	48	32	0.18	1121 00 44 2
40	38	41	Rd 65 x 1/6"	48	31	0.22	1121 00 45 2
50	50	53	Rd 78 x 1/6"	48	30	0.28	1121 00 46 2
65	66	70	Rd 95 x 1/6"	60	40	0.45	1121 00 09 2
80	81	85	Rd 110 x 1/4"	64	40	0.69	1121 00 10 2
100	100	104	Rd 130 x 1/4"	64	40	0.80	1121 00 12 2



Liner DIN

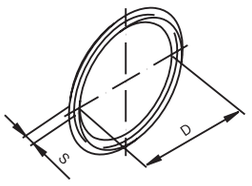
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
10	10	13	21.9	39	27	0.03	1123 00 40 2
15	16	19	27.9	39	27	0.04	1123 00 41 2
20	20	23	35.9	38	26	0.06	1123 00 42 2
25	26	29	42.9	40	26	0.09	1123 00 43 2
32	32	35	48.9	47	32	0.12	1123 00 44 2
40	38	41	54.9	47	31	0.14	1123 00 45 2
50	50	53	66.9	48	30	0.19	1123 00 46 2
65	66	70	84.9	61	40	0.35	1123 00 09 2
80	81	85	98.9	61	40	0.40	1123 00 10 2
100	100	104	118.9	66	40	0.58	1123 00 12 2



Nut DIN

Size mm DN	D2	D3	E	L	L1	Weight [kg]	AISI 304
							Article No.
10	19	38	Rd 28 x 1/8"	18	15	0.07	11003 000 010 10
15	25	44	Rd 34 x 1/8"	18	15	0.08	11003 000 015 10
20	31	54	Rd 44 x 1/6"	20	17	0.13	11003 000 020 10
25	36	63	Rd 52 x 1/6"	21	18	0.18	11003 000 025 10
32	42	70	Rd 58 x 1/6"	21	18	0.22	11003 000 032 10
40	49	78	Rd 65 x 1/6"	21	18	0.25	11003 000 040 10
50	62	92	Rd 78 x 1/6"	22	19	0.33	11003 000 050 10
65	80	112	Rd 95 x 1/6"	25	21	0.55	11003 000 065 10
80	94	127	Rd 110 x 1/4"	29	25	0.80	11003 000 080 10
100	115	148	Rd 130 x 1/4"	31	26	1.08	11003 000 100 10

Aseptic DIN11864-1 Form A (series A) DIN Union Connection



O-Ring Seal DIN					
Size mm DN	D	S	EPDM	FKM	PTFE
			Article No.	Article No.	Article No.
10	12	3.5	1129 00 40 1	1129 00 40 2	1129 00 40 4
15	18	3.5	1129 00 41 1	1129 00 41 2	1129 00 41 4
20	22	3.5	1129 00 42 1	1129 00 42 2	1129 00 42 4
25	28	3.5	1129 00 43 1	1129 00 43 2	1129 00 43 4
32	34	5	1129 00 44 1	1129 00 44 2	1129 00 44 4
40	40	5	1129 00 45 1	1129 00 45 2	1129 00 45 4
50	52	5	1129 00 46 1	1129 00 46 2	1129 00 46 4
65	68	5	1129 00 09 1	1129 00 09 2	1129 00 09 4
80	83	5	1129 00 10 1	1129 00 10 2	1129 00 10 4
100	102	5	1129 00 12 1	1129 00 12 2	1129 00 12 4
125	127	5	1129 00 13 1	1129 00 13 2	1129 00 13 4
150	152	5	1129 00 15 1	1129 00 15 2	1129 00 15 4

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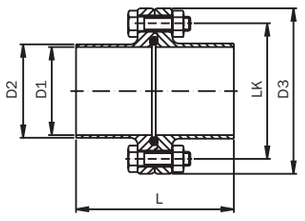
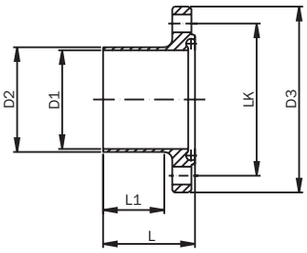
Aseptic DIN11864-2 Form A (series A) DIN Flanged Connection



Is delivered in parts!

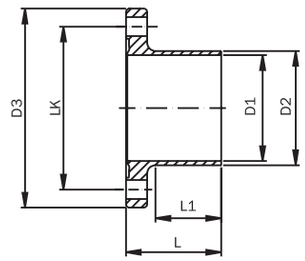
Flange DIN

Size mm DN	D1	D2	D3	LK	L	Weight [kg]	AISI 316L
							Article No.
10	10	13	54	37 4/M8 x 30	80	0.33	113L 00 40 2/1
15	16	19	59	42 4/M8 x 30	80	0.39	113L 00 41 2/1
20	20	23	64	47 4/M8 x 30	80	0.45	113L 00 42 2/1
25	26	29	70	53 4/M8 x 30	80	0.53	113L 00 43 2/1
32	32	35	76	59 4/M8 x 30	90	0.62	113L 00 44 2/1
40	38	41	82	65 4/M8 x 30	90	0.70	113L 00 45 2/1
50	50	53	94	77 4/M8 x 30	90	0.86	113L 00 46 2/1
65	66	70	113	95 8/M8 x 30	108	1.24	113L 00 09 2/1
80	81	85	133	112 8/M10 x 35	116	1.86	113L 00 10 2/1
100	100	104	159	137 8/M10 x 40	116	2.88	113L 00 12 2/1
125	125	129	183	161 8/M10 x 40	120	3.46	113L 00 13 2/1
150	150	154	213	188 8/M12 x 50	120	4.82	113L 00 15 2/1



Nut DIN

Size mm DN	D1	D2	D3	LK	L	L1	Weight [kg]	AISI 316L
								Article No.
10	10	13	54	37 4 x Ø 9	41.5	26	0.16	1131 00 40 2
15	16	19	59	42 4 x Ø 9	41.5	26	0.20	1131 00 41 2
20	20	23	64	47 4 x Ø 9	41.5	26	0.23	1131 00 42 2
25	26	29	70	53 4 x Ø 9	41.5	26	0.27	1131 00 43 2
32	32	35	76	59 4 x Ø 9	46.5	31	0.32	1131 00 44 2
40	38	41	82	65 4 x Ø 9	46.5	31	0.36	1131 00 45 2
50	50	53	94	77 4 x Ø 9	46.5	31	0.44	1131 00 46 2
65	66	70	113	95 8 x Ø 9	55.5	42	0.63	1131 00 09 2
80	81	85	133	112 8 x Ø 11	59.5	42	0.94	1131 00 10 2
100	100	104	159	137 8 x Ø 11	59.5	42	1.46	1131 00 12 2
125	125	129	183	161 8 x Ø 11	61.5	42	1.75	1131 00 13 2
150	150	154	213	188 8 x Ø 14	61.5	40	2.44	1131 00 15 2



Liner DIN

Size mm DN	D1	D2	D3	LK	L	L1	Weight [kg]	AISI 316L
								Article No.
10	10	13	54	37 4 x Ø 9	40	26	0.16	1133 00 40 2
15	16	19	59	42 4 x Ø 9	40	26	0.19	1133 00 41 2
20	20	23	64	47 4 x Ø 9	40	26	0.23	1133 00 42 2
25	26	29	70	53 4 x Ø 9	40	26	0.26	1133 00 43 2
32	32	35	76	59 4 x Ø 9	45	31	0.30	1133 00 44 2
40	38	41	82	65 4 x Ø 9	45	31	0.34	1133 00 45 2
50	50	53	94	77 4 x Ø 9	45	31	0.42	1133 00 46 2
65	66	70	113	95 8 x Ø 9	54	42	0,60	1133 00 09 2
80	81	85	133	112 8 x Ø 11	58	42	0.91	1133 00 10 2
100	100	104	159	137 8 x Ø 11	58	42	1.42	1133 00 12 2
125	125	129	183	161 8 x Ø 11	60	42	1.71	1133 00 13 2
150	150	154	213	188 8 x Ø 14	60	40	2.38	1133 00 15 2

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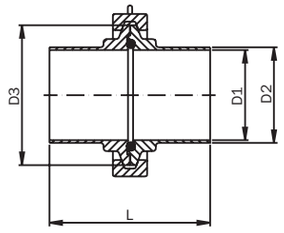
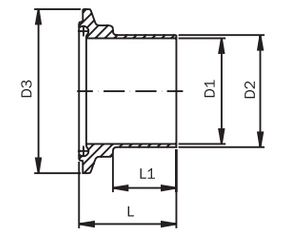
Aseptic DIN11864-3 Form A (series A) DIN Clamp Connection



Is delivered in parts!

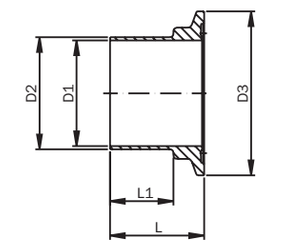
Clamp DIN

Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 316L
						Article No.
10	10	13	34	76	0.18	119L 00 40 2/1
15	16	19	34	76	0.18	119L 00 41 2/1
20	20	23	50.5	76	0.48	119L 00 42 2/1
25	26	29	50.5	77	0.47	119L 00 43 2/1
32	32	35	50.5	88	0.46	119L 00 44 2/1
40	38	41	64	88	0.57	119L 00 45 2/1
50	50	53	77.5	89	0.74	119L 00 46 2/1
65	66	70	91	113	0.99	119L 00 09 2/1
80	81	85	106	117	1.14	119L 00 10 2/1
100	100	104	130	120	1.36	119L 00 12 2/1



Male DIN

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
10	10	13	34	39.5	26	0.04	1193 00 40 2
15	16	19	34	39.5	26	0.04	1193 00 41 2
20	20	23	50.5	39.5	26	0.09	1193 00 42 2
25	26	29	50.5	40	28	0.09	1193 00 43 2
32	32	35	50.5	45.5	30	0.09	1193 00 44 2
40	38	41	64	45.5	30	0.13	1193 00 45 2
50	50	53	77.5	46	30	0.17	1193 00 46 2
65	66	70	91	58	40	0.26	1193 00 09 2
80	81	85	106	60	40	0.30	1193 00 10 2
100	100	104	130	61.5	40	0.40	1193 00 12 2



Liner DIN

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
10	10	13	34	38	26	0.04	1191 00 40 2
15	16	19	34	38	26	0.04	1191 00 41 2
20	20	23	50.5	38	26	0.08	1191 00 42 2
25	26	29	50.5	38.5	28	0.07	1191 00 43 2
32	32	35	50.5	44	30	0.06	1191 00 44 2
40	38	41	64	44	30	0.10	1191 00 45 2
50	50	53	77.5	44.5	30	0.14	1191 00 46 2
65	66	70	91	56.5	40	0.21	1191 00 09 2
80	81	85	106	58.5	40	0.25	1191 00 10 2
100	100	104	130	60	40	0.35	1191 00 12 2

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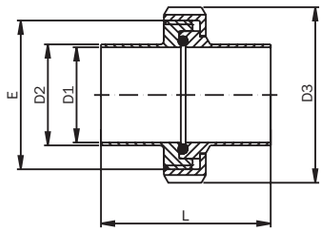
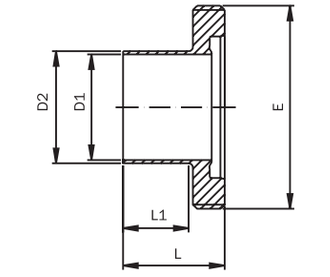
Aseptic DIN11864-1 Form A (series B) ISO Union Connection



Is delivered in parts!

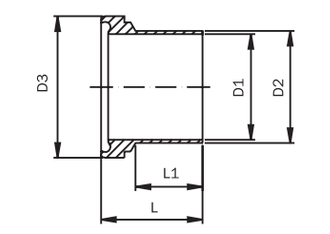
Union ISO

Size mm DN	D1	D2	D3	E	L	Weight [kg]	AISI 316L
							Article No.
8	10.3	13.5	38	Rd 28 x 1/8"	76	0.15	112L 00 75 2/1
10	14	17.2	44	Rd 34 x 1/8"	76	0.19	112L 00 76 2/1
15	18.1	21.3	54	Rd 44 x 1/6"	78	0.27	112L 00 77 2/1
20	23.7	26.9	63	Rd 52 x 1/6"	78	0.39	112L 00 78 2/1
25	29.7	33.7	70	Rd 58 x 1/6"	88	0.52	112L 00 79 2/1
32	38.4	42.4	78	Rd 65 x 1/6"	88	0.61	112L 00 80 2/1
40	44.3	48.3	92	Rd 78 x 1/6"	90	0.81	112L 00 81 2/1
50	56.3	60.3	112	Rd 95 x 1/6"	114	1.23	112L 00 82 2/1
65	72.1	76.1	127	Rd 110 x 1/4"	117	1.86	112L 00 83 2/1
80	84.3	88.9	148	Rd 130 x 1/4"	122	2.62	112L 00 84 2/1



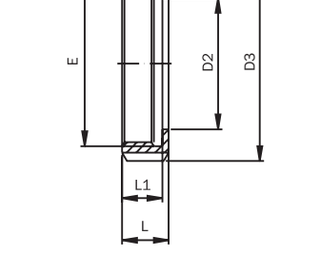
Male ISO

Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 316L
							Article No.
8	10.3	13.5	Rd 28 x 1/8"	41	27	0.05	1121 00 75 2
10	14	17.2	Rd 34 x 1/8"	41	27	0.07	1121 00 76 2
15	18.1	21.3	Rd 44 x 1/6"	43	27	0.13	1121 00 77 2
20	23.7	26.9	Rd 52 x 1/6"	43	27	0.16	1121 00 78 2
25	29.7	33.7	Rd 58 x 1/6"	48	32	0.20	1121 00 79 2
32	38.4	42.4	Rd 65 x 1/6"	48	32	0.23	1121 00 80 2
40	44.3	48.3	Rd 78 x 1/6"	49	31	0.32	1121 00 81 2
50	56.3	60.3	Rd 95 x 1/6"	60	40	0.49	1121 00 82 2
65	72.1	76.1	Rd 110 x 1/4"	64	40	0.80	1121 00 83 2
80	84.3	88.9	Rd 130 x 1/4"	64	40	0.97	1121 00 84 2



Liner ISO

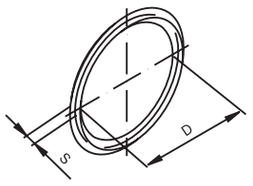
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
8	10.3	13.5	21.9	39	27	0.03	1123 00 75 2
10	14	17.2	27.9	39	27	0.04	1123 00 76 2
15	18.1	21.3	35.9	40	27	0.06	1123 00 77 2
20	23.7	26.9	42.9	41	27	0.10	1123 00 78 2
25	29.7	33.7	48.9	47	32	0.14	1123 00 79 2
32	38.4	42.4	54.9	47	32	0.16	1123 00 80 2
40	44.3	48.3	66.9	48	31	0.24	1123 00 81 2
50	56.3	60.3	84.9	62	40	0.41	1123 00 82 2
65	72.1	76.1	98.9	61	40	0.51	1123 00 83 2
80	84.3	88.9	118.9	68	40	0.85	1123 00 84 2



Nut ISO

Size mm DN	D2	D3	E	L	L1	Weight [kg]	AISI 304
							Article No.
8	19	38	Rd 28 x 1/8"	18	15	0.07	11003 000 010 10
10	25	44	Rd 34 x 1/8"	18	15	0.08	11003 000 015 10
15	31	54	Rd 44 x 1/6"	20	17	0.13	11003 000 020 10
20	36	63	Rd 52 x 1/6"	21	18	0.18	11003 000 025 10
25	42	70	Rd 58 x 1/6"	21	18	0.22	11003 000 032 10
32	49	78	Rd 65 x 1/6"	21	18	0.25	11003 000 040 10
40	62	92	Rd 78 x 1/6"	22	19	0.33	11003 000 050 10
50	80	112	Rd 95 x 1/6"	25	21	0.55	11003 000 065 10
65	94	127	Rd 110 x 1/4"	29	25	0.80	11003 000 080 10
80	115	148	Rd 130 x 1/4"	31	26	1.08	11003 000 100 10

Aseptic DIN11864-1 Form A (series B) ISO Union Connection



O-Ring Seal ISO					
Size mm DN	D	S	EPDM	FKM	PTFE
			Article No.	Article No.	Article No.
8	12	3.5	1129 00 40 1	1129 00 40 2	1129 00 40 4
10	16	3.5	1129 00 76 1	1129 00 76 2	1129 00 76 4
15	20	3.5	1129 00 77 1	1129 00 77 2	1129 00 77 4
20	26	3.5	1129 00 78 1	1129 00 78 2	1129 00 78 4
25	32	5	1129 00 79 1	1129 00 79 2	1129 00 79 4
32	40.5	5	1129 00 80 1	1129 00 80 2	1129 00 80 4
40	46.5	5	1129 00 81 1	1129 00 81 2	1129 00 81 4
50	58.5	5	1129 00 82 1	1129 00 82 2	1129 00 82 4
65	73.5	5	1129 00 83 1	1129 00 83 2	1129 00 83 4
80	85.5	5	1129 00 84 1	1129 00 84 2	1129 00 84 4
100	111	5	1129 00 85 1	1129 00 85 2	1129 00 85 4

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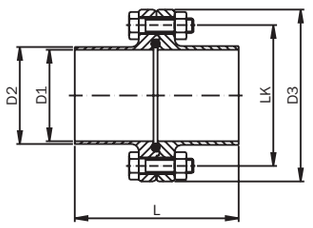
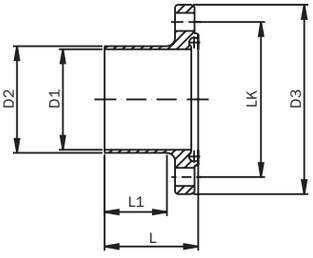
Aseptic DIN11864-2 Form A (series B) ISO Flanged Connection



Is delivered in parts!

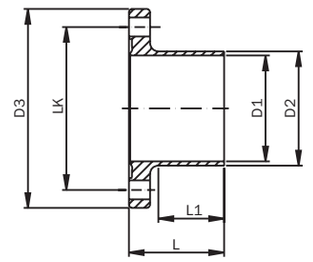
Flange ISO

Size mm DN	D1	D2	D3	LK	L	Weight [kg]	AISI 316L
							Article No.
8	10.3	13.5	54	37 4/M8 x 30	80	0.33	113L 00 75 2/1
10	14	17.2	59	42 4/M8 x 30	80	0.39	113L 00 76 2/1
15	18.1	21.3	62	45 4/M8 x 30	80	0.43	113L 00 77 2/1
20	23.7	26.9	69	52 4/M8 x 30	80	0.53	113L 00 78 2/1
25	29.7	33.7	74	57 4/M8 x 30	90	0.63	113L 00 79 2/1
32	38.4	42.4	82	65 4/M8 x 30	90	0.74	113L 00 80 2/1
40	44.3	48.3	88	71 4/M8 x 30	90	0.82	113L 00 81 2/1
50	56.3	60.3	103	85 4/M8 x 30	108	1.12	113L 00 82 2/1
65	72.1	76.1	125	104 8/M10 x 30	112	1.66	113L 00 83 2/1
80	84.3	88.9	137	116 8/M10 x 35	116	2.01	113L 00 84 2/1
100	109.7	114.3	168	146 8/M10 x 40	116	3.25	113L 00 85 2/1



Nut ISO

Size mm DN	D1	D2	D3	LK	L	L1	Weight [kg]	AISI 316L
								Article No.
8	10.3	13.5	54	37 4 x Ø 9	41.5	26	0.17	1131 00 75 2
10	14	17.2	59	42 4 x Ø 9	41.5	26	0.21	1131 00 76 2
15	18.1	21.3	62	45 4 x Ø 9	41.5	26	0.22	1131 00 77 2
20	23.7	26.9	69	52 4 x Ø 9	41.5	26	0.27	1131 00 78 2
25	29.7	33.7	74	57 4 x Ø 9	46.5	31	0.32	1131 00 79 2
32	38.4	42.4	82	65 4 x Ø 9	46.5	31	0.38	1131 00 80 2
40	44.3	48.3	88	77 4 x Ø 9	46.5	31	0.42	1131 00 81 2
50	56.3	60.3	103	85 8 x Ø 9	55.5	42	0.57	1131 00 82 2
65	72.1	76.1	125	104 8 x Ø 11	57.5	42	0.89	1131 00 83 2
80	84.3	88.9	137	116 8 x Ø 11	59.5	42	1.02	1131 00 84 2
100	109.7	114.3	168	146 8 x Ø 11	59.5	42	1.64	1131 00 85 2



Liner ISO

Size mm DN	D1	D2	D3	LK	L	L1	Weight [kg]	AISI 316L
								Article No.
8	10.3	13.5	54	37 4 x Ø 9	40	26	0.15	1133 00 75 2
10	14	17.2	59	42 4 x Ø 9	40	26	0.18	1133 00 76 2
15	18.1	21.3	62	47 4 x Ø 9	40	26	0.21	1133 00 77 2
20	23.7	26.9	69	52 4 x Ø 9	40	26	0.26	1133 00 78 2
25	29.7	33.7	74	57 4 x Ø 9	45	31	0.31	1133 00 79 2
32	38.4	42.4	82	65 4 x Ø 9	45	31	0.36	1133 00 80 2
40	44.3	48.3	88	71 4 x Ø 9	45	31	0.40	1133 00 81 2
50	56.3	60.3	103	85 8 x Ø 9	54	42	0.55	1133 00 82 2
65	72.1	76.1	125	104 8 x Ø 11	56	42	0.77	1133 00 83 2
80	84.3	88.9	137	116 8 x Ø 11	58	42	0.99	1133 00 84 2
100	109.7	114.3	168	146 8 x Ø 11	58	42	1.60	1133 00 85 2

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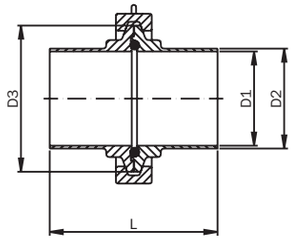
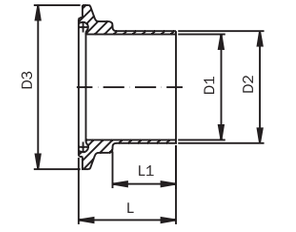
Aseptic DIN11864-3 Form A (series B) ISO Clamp Connection



Is delivered in parts!

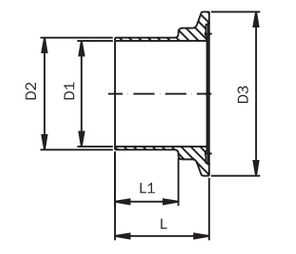
Clamp ISO

Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 316L
						Article No.
8	10.3	13.5	34	76	0.18	119L 00 75 2/1
10	14	17.2	34	76	0.18	119L 00 76 2/1
15	18.1	21.3	34	78	0.22	119L 00 77 2/1
20	23.7	26.9	50.5	78	0.47	119L 00 78 2/1
25	29.7	33.7	50.5	88	0.46	119L 00 79 2/1
32	38.4	42.4	64	88	0.50	119L 00 80 2/1
40	44.3	48.3	64	90	0.60	119L 00 81 2/1
50	56.3	60.3	91	114	1.04	119L 00 82 2/1
65	72.1	76.1	106	117	1.25	119L 00 83 2/1
80	84.3	88.9	119	122	1.33	119L 00 84 2/1



Male ISO

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
8	10.3	13.5	34	39.5	26	0.05	1193 00 75 2
10	14	17.2	34	39.5	26	0.05	1193 00 76 2
15	18.1	21.3	34	40.5	26	0.09	1193 00 77 2
20	23.7	26.9	50.5	40	30	0.09	1193 00 78 2
25	29.7	33.7	50.5	45.5	30	0.09	1193 00 79 2
32	38.4	42.4	64	45.5	30	0.14	1193 00 80 2
40	44.3	48.3	64	46.5	30	0.18	1193 00 81 2
50	56.3	60.3	91	58.5	40	0.28	1193 00 82 2
65	72.1	76.1	106	60	40	0.34	1193 00 83 2
80	84.3	88.9	119	62.5	40	0,37	1193 00 84 2



Liner ISO

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 316L
							Article No.
8	10.3	13.5	34	38	26	0.04	1191 00 75 2
10	14	17.2	34	38	26	0.04	1191 00 76 2
15	18.1	21.3	34	39	26	0.04	1191 00 77 2
20	23.7	26.9	50.5	39	30	0.08	1191 00 78 2
25	29.7	33.7	50.5	44	30	0.08	1191 00 79 2
32	38.4	42.4	64	44	30	0.12	1191 00 80 2
40	44.3	48.3	64	45	30	0.11	1191 00 81 2
50	56.3	60.3	91	57	40	0.22	1191 00 82 2
65	72.1	76.1	106	58.5	40	0.32	1191 00 83 2
80	84.3	88.9	119	61	40	0.36	1191 00 84 2

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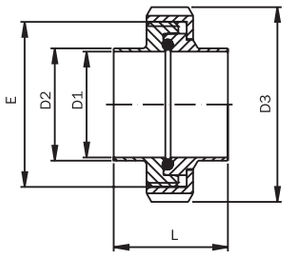
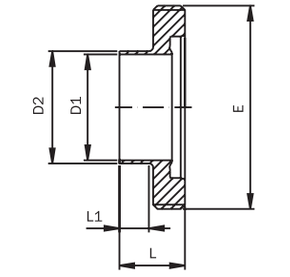
Hygienic DIN11853-1 (series C) Imperial Union Connection



Is delivered in parts!

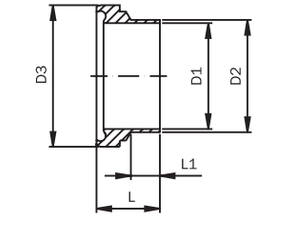
Imperial Union

Size mm DN	D1	D2	D3	E	L	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
1/2"	9.4	12.7	38	Rd 28 x 1/8"	32	0.19	112K 00 89 1/1	112K 00 89 2/1
3/4"	15.75	19.05	44	Rd 34 x 1/8"	32	0.26	112K 00 90 1/1	112K 00 90 2/1
1"	22.2	25.4	63	Rd 52 x 1/6"	42	0.41	112K 00 91 1/1	112K 00 91 2/1
1 1/2"	34.8	38.1	78	Rd 65 x 1/6"	50	0.57	112K 00 92 1/1	112K 00 92 2/1
2"	47.5	50.8	92	Rd 78 x 1/6"	54	0.76	112K 00 93 1/1	112K 00 93 2/1
2 1/2"	60.2	63.5	112	Rd 95 x 1/6"	62	1.26	112K 00 94 1/1	112K 00 94 2/1
3"	72.9	76.2	127	Rd 110 x 1/4"	72	1.85	112K 00 95 1/1	112K 00 95 2/1
4"	97.38	101.6	148	Rd 130 x 1/4"	86	2.36	112K 00 96 1/1	112K 00 96 2/1



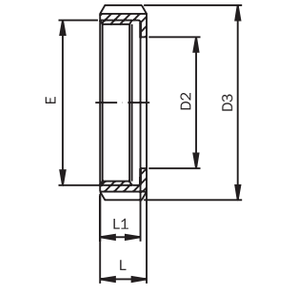
Imperial Male

Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
1/2"	9.4	12.7	Rd 28 x 1/8"	19	5	0.04	1122 00 89 1	1122 00 89 2
3/4"	15.75	19.05	Rd 34 x 1/8"	19	5	0.06	1122 00 90 1	1122 00 90 2
1"	22.2	25.4	Rd 52 x 1/6"	26	10	0.15	1122 00 91 1	1122 00 91 2
1 1/2"	34.8	38.1	Rd 65 x 1/6"	31	15	0.20	1122 00 92 1	1122 00 92 2
2"	47.5	50.8	Rd 78 x 1/6"	31	15	0.26	1122 00 93 1	1122 00 93 2
2 1/2"	60.2	63.5	Rd 95 x 1/6"	36	18	0.39	1122 00 94 1	1122 00 94 2
3"	72.9	76.2	Rd 110 x 1/4"	42	18	0.67	1122 00 95 1	1122 00 95 2
4"	97.38	101.6	Rd 130 x 1/4"	50	26	0.75	1122 00 96 1	1122 00 96 2



Imperial Liner

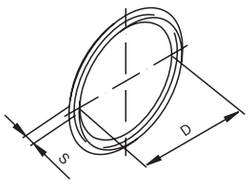
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
1/2"	9.4	12.7	21.9	17	6.5	0.02	1124 00 89 1	1124 00 89 2
3/4"	15.75	19.05	27.9	17	6.5	0.02	1124 00 90 1	1124 00 90 2
1"	22.2	25.4	42.9	22	8	0.08	1124 00 91 1	1124 00 91 2
1 1/2"	34.8	38.1	54.9	26	9.5	0.12	1124 00 92 1	1124 00 92 2
2"	47.5	50.8	66.9	30	12.5	0.17	1124 00 93 1	1124 00 93 2
2 1/2"	60.2	63.5	84.9	34	21	0.32	1124 00 94 1	1124 00 94 2
3"	72.9	76.2	98.9	38	17	0.38	1124 00 95 1	1124 00 95 2
4"	97.38	101.6	118.9	46	21	0.53	1124 00 96 1	1124 00 96 2



Imperial Nut

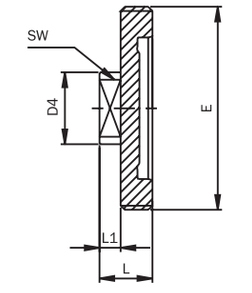
Size mm DN	D2	D3	E	L	L1	Weight [kg]	AISI 304
							Article No.
1/2"	38	19	Rd 28 x 1/8"	18	15	0.07	11003 000 010 10
3/4"	44	25	Rd 34 x 1/8"	18	15	0.08	11003 000 015 10
1"	63	36	Rd 52 x 1/6"	21	18	0.18	11003 000 025 10
1 1/2"	78	49	Rd 65 x 1/6"	21	18	0.25	11003 000 040 10
2"	92	62	Rd 78 x 1/6"	22	19	0.33	11003 000 050 10
2 1/2"	112	80	Rd 95 x 1/6"	25	21	0.55	11003 000 065 10
3"	127	94	Rd 110 x 1/4"	29	25	0.80	11003 000 080 10
4"	148	115	Rd 130 x 1/4"	31	26	1.08	11003 000 100 10

Hygienic DIN11853-1 (series C) Imperial Union Connection



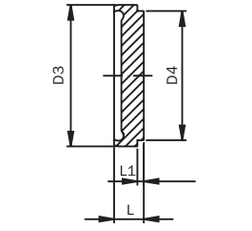
O-Ring Seal

Size mm DN	D	S	EPDM	FKM	PTFE
			Article No.	Article No.	Article No.
1/2"	12	3.5	1129 00 40 1	1129 00 40 2	1129 00 40 4
3/4"	18	3.5	1129 00 41 1	1129 00 41 2	1129 00 41 4
1"	24	3.5	1129 00 91 1	1129 00 91 2	1129 00 91 4
1 1/2"	37	5	1129 00 92 1	1129 00 92 2	1129 00 92 4
2"	50	5	1129 00 93 1	1129 00 93 2	1129 00 93 4
2 1/2"	62	5	1129 00 94 1	1129 00 94 2	1129 00 94 4
3"	75	5	1129 00 95 1	1129 00 95 2	1129 00 95 4
4"	100	5	1129 00 96 1	1129 00 96 2	1129 00 96 4



Imperial Blind Male

Size mm DN	D4	E	SW	L	L1	Weight [kg]	AISI 316L
							Article No.
1/2"	22	Rd 28 x 1/8"	17	24	12	0.07	1127 00 89 2
3/4"	22	Rd 34 x 1/8"	17	24	12	0.10	1127 00 90 2
1"	40	Rd 52 x 1/6"	27	24	10	0.23	1127 00 91 2
1 1/2"	40	Rd 65 x 1/6"	27	24	10	0.30	1127 00 92 2
2"	40	Rd 78 x 1/6"	27	24	10	0.39	1127 00 93 2
2 1/2"	48	Rd 95 x 1/6"	32	28	12	0.60	1127 00 94 2
3"	48	Rd 110 x 1/4"	32	28	12	1.07	1127 00 95 2
4"	48	Rd 130 x 1/4"	32	30	10	1.27	1127 00 96 2



Imperial Blind Liner

Size mm DN	D3	D4	L	L1	Weight [kg]	AISI 316L
						Article No.
1/2"	21.9	18	9	3	0.02	1125 00 89 2
3/4"	27.9	24	9	3	0.03	1125 00 90 2
1"	42.9	35	12	3	0.10	1125 00 91 2
1 1/2"	54.9	48	13	3	0.16	1125 00 92 2
2"	66.9	61	14	3	0.27	1125 00 93 2
2 1/2"	84.9	79	16	4	0.52	1125 00 94 2
3"	98.9	93	16	4	0.70	1125 00 95 2
4"	118.9	114	20	5	1.37	1125 00 96 2

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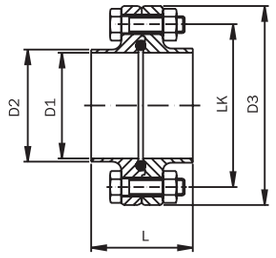
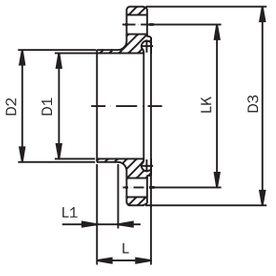
Hygienic DIN11853-2 (series C) Imperial Flanged Connection



Is delivered in parts!

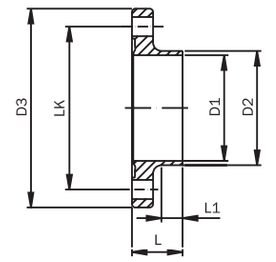
Imperial Flange

Size mm DN	D1	D2	D3	LK		L	Weight [kg]	AISI 304	AISI 316L
								Article No.	Article No.
1/2"	9.4	12.7	54	37	4/M8 x 30	48	0.31	113K 00 89 1/1	113K 00 89 2/1
3/4"	15.75	19.05	59	42	4/M8 x 30	48	0.37	113K 00 90 1/1	113K 00 90 2/1
1"	22.2	25.4	66	49	4/M8 x 30	48	0.45	113K 00 91 1/1	113K 00 91 2/1
1 1/2"	34.8	38.1	79	62	4/M8 x 30	48	0.61	113K 00 92 1/1	113K 00 92 2/1
2"	47.5	50.8	92	75	4/M8 x 30	48	0.77	113K 00 93 1/1	113K 00 93 2/1
2 1/2"	60.2	63.5	107	89	4/M8 x 30	48	0.94	113K 00 94 1/1	113K 00 94 2/1
3"	72.9	76.2	125	104	8/M10 x 30	48	1.43	113K 00 95 1/1	113K 00 95 2/1
4"	97.38	101.6	157	116	8/M10 x 35	52	2.53	113K 00 96 1/1	113K 00 96 2/1



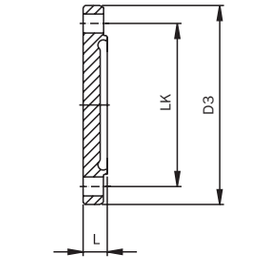
Imperial Nut

Size mm DN	D1	D2	D3	LK		L	L1	Weight [kg]	AISI 304	AISI 316L
									Article No.	Article No.
1/2"	9.4	12.7	54	37	4 x Ø 9	25.5	10	0.16	1132 00 89 1	1132 00 89 2
3/4"	15.75	19.05	59	42	4 x Ø 9	25.5	10	0.19	1132 00 90 1	1132 00 90 2
1"	22.2	25.4	66	49	4 x Ø 9	25.5	10	0.23	1132 00 91 1	1132 00 91 2
1 1/2"	34.8	38.1	79	62	4 x Ø 9	25.5	10	0.31	1132 00 92 1	1132 00 92 2
2"	47.5	50.8	92	75	4 x Ø 9	25.5	10	0.39	1132 00 93 1	1132 00 93 2
2 1/2"	60.2	63.5	107	89	4 x Ø 9	25.5	10	0.48	1132 00 94 1	1132 00 94 2
3"	72.9	76.2	125	104	8 x Ø 11	25.5	8	0.73	1132 00 95 1	1132 00 95 2
4"	97.38	101.6	157	135	8 x Ø 11	27.5	8	1.28	1132 00 96 1	1132 00 96 2



Imperial Liner

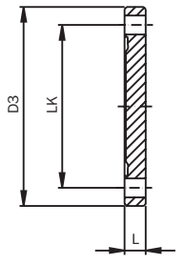
Size mm DN	D1	D2	D3	LK		L	L1	Weight [kg]	AISI 304	AISI 316L
									Article No.	Article No.
1/2"	9.4	12.7	54	37	4 x Ø 9	24	10	0.15	1134 00 89 1	1134 00 89 2
3/4"	15.75	19.05	59	42	4 x Ø 9	24	10	0.18	1134 00 90 1	1134 00 90 2
1"	22.2	25.4	66	49	4 x Ø 9	24	10	0.22	1134 00 91 1	1134 00 91 2
1 1/2"	34.8	38.1	79	62	4 x Ø 9	24	10	0.30	1134 00 92 1	1134 00 92 2
2"	47.5	50.8	92	75	4 x Ø 9	24	10	0.37	1134 00 93 1	1134 00 93 2
2 1/2"	60.2	63.5	107	89	4 x Ø 9	24	10	0.46	1134 00 94 1	1134 00 94 2
3"	72.9	76.2	125	104	8 x Ø 11	24	8	0.70	1134 00 95 1	1134 00 95 2
4"	97.38	101.6	157	116	8 x Ø 11	26	8	1.25	1134 00 96 1	1134 00 96 2



Imperial Blind Nut

Size mm DN	D3	LK		L	Weight [kg]	AISI 316L
						Article No.
1/2"	54	37	4 x Ø 9	11.5	0.18	1135 00 89 2
3/4"	59	42	4 x Ø 9	11.5	0.22	1135 00 90 2
1"	66	49	4 x Ø 9	11.5	0.24	1135 00 91 2
1 1/2"	79	62	4 x Ø 9	11.5	0.34	1135 00 92 2
2"	92	75	4 x Ø 9	11.5	0.46	1135 00 93 2
2 1/2"	107	89	4 x Ø 9	11.5	0.60	1135 00 94 2
3"	125	104	8 x Ø 11	13.5	1.00	1135 00 95 2
4"	157	135	8 x Ø 11	15.5	1.90	1135 00 96 2

Hygienic DIN11853-2 (series C) Imperial Flanged Connection



Imperial Blind Liner						
Size mm DN	D3	LK		L	Weight [kg]	AISI 316L
						Article No.
1/2"	54	37	4 x Ø 9	10	0.16	1137 00 89 2
3/4"	59	42	4 x Ø 9	10	0.19	1137 00 90 2
1"	66	49	4 x Ø 9	10	0.24	1137 00 91 2
1 1/2"	79	62	4 x Ø 9	10	0.34	1137 00 92 2
2"	92	75	4 x Ø 9	10	0.46	1137 00 93 2
2 1/2"	107	89	4 x Ø 9	10	0.61	1137 00 94 2
3"	125	104	8 x Ø 11	12	1.01	1137 00 95 2
4"	157	135	8 x Ø 11	14	1.92	1137 00 96 2

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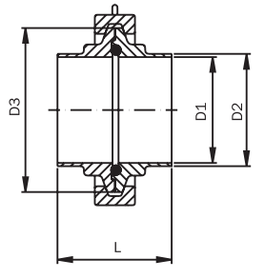
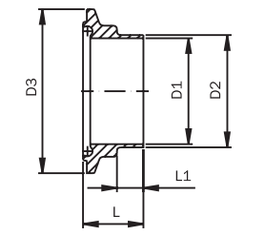
Hygienic DIN11853-3 (series C) Imperial Clamp Connection



Is delivered in parts!

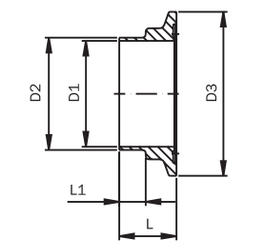
Imperial Clamp

Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 304	AISI 316L
						Article No.	Article No.
1/2"	9.4	12.7	34	44	0.18	119K 00 89 1/1	119K 00 89 2/1
3/4"	15.75	19.05	34	44	0.18	119K 00 90 1/1	119K 00 90 2/1
1"	22.1	25.4	50.5	44	0.48	119K 00 91 1/1	119K 00 91 2/1
1 1/2"	34.8	38.1	64	48	0.47	119K 00 92 1/1	119K 00 92 2/1
2"	47.5	50.8	77.5	49	0.46	119K 00 93 1/1	119K 00 93 2/1
2 1/2"	60.2	63.5	91	55	0.57	119K 00 94 1/1	119K 00 94 2/1
3"	72.9	76.2	106	57	0.74	119K 00 95 1/1	119K 00 95 2/1
4"	97.38	101.6	130	59	0.99	119K 00 96 1/1	119K 00 96 2/1



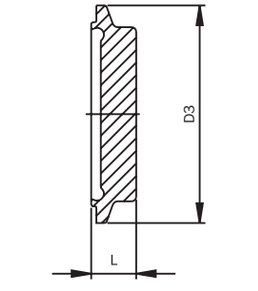
Imperial Nut

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
1/2"	9.4	12.7	34	23.5	10	0.04	1194 00 89 1	1194 00 89 2
3/4"	15.75	19.05	34	23.5	10	0.03	1194 00 90 1	1194 00 90 2
1"	22.1	25.4	50.5	23.5	10	0.08	1194 00 91 1	1194 00 91 2
1 1/2"	34.8	38.1	64	25.5	10	0.11	1194 00 92 1	1194 00 92 2
2"	47.5	50.8	77.5	26	10	0.14	1194 00 93 1	1194 00 93 2
2 1/2"	60.2	63.5	91	29	10	0.19	1194 00 94 1	1194 00 94 2
3"	72.9	76.2	106	30	10	0.27	1194 00 95 1	1194 00 95 2
4"	97.38	101.6	130	31	10	0.34	1194 00 96 1	1194 00 96 2



Imperial Liner

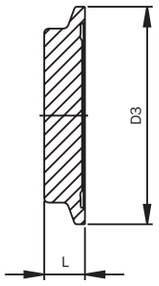
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
1/2"	9.4	12.7	34	22	10	0.03	1192 00 89 1	1192 00 89 2
3/4"	15.75	19.05	34	22	10	0.02	1192 00 90 1	1192 00 90 2
1"	22.1	25.4	50.5	22	10	0.06	1192 00 91 1	1192 00 91 2
1 1/2"	34.8	38.1	64	24	10	0.09	1192 00 92 1	1192 00 92 2
2"	47.5	50.8	77.5	24.5	10	0.13	1192 00 93 1	1192 00 93 2
2 1/2"	60.2	63.5	91	27.5	10	0.18	1192 00 94 1	1192 00 94 2
3"	72.9	76.2	106	28.5	10	0.24	1192 00 95 1	1192 00 95 2
4"	97.38	101.6	130	29.5	10	0.35	1192 00 96 1	1192 00 96 2



Imperial Blind Nut

Size mm DN	D3	L	Weight [kg]	AISI 316L
				Article No.
1/2"	34	13	0.04	1196 00 89 2
3/4"	34	13	0.04	1196 00 90 2
1"	50.5	13	0.10	1196 00 91 2
1 1/2"	64	13	0.10	1196 00 92 2
2"	77.5	15	0.10	1196 00 93 2
2 1/2"	91	15	0.15	1196 00 94 2
3"	106	15	0.22	1196 00 95 2
4"	130	15	0.29	1196 00 96 2

Hygienic DIN11853-3 (series C) Imperial Clamp Connection



Imperial Blind Liner

Size mm DN	D3	L	Weight [kg]	AISI 316L
				Article No.
1/2"	34	11.5	0.04	1195 00 89 2
3/4"	34	11.5	0.04	1195 00 90 2
1"	50.5	11.5	0.10	1195 00 91 2
1 1/2"	64	11.5	0.10	1195 00 92 2
2"	77.5	13.5	0.10	1195 00 93 2
2 1/2"	91	13.5	0.15	1195 00 94 2
3"	106	13.5	0.22	1195 00 95 2
4"	130	13.5	0.29	1195 00 96 2

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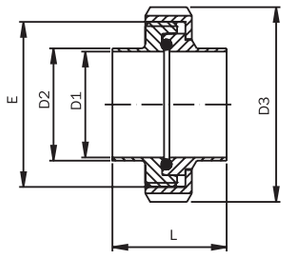
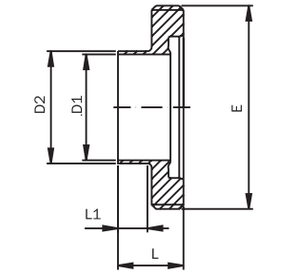
Hygienic DIN11853-1 (series A) DIN Union Connection



Is delivered in parts!

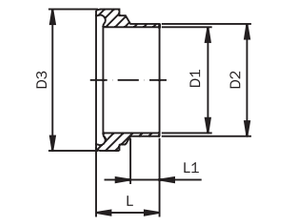
Imperial Union

Size mm DN	D1	D2	D3	E	L	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
10	10	13	38	Rd 28 x 1/8"	32	0.13	112K 00 40 1/1	112K 00 40 2/1
15	16	19	44	Rd 34 x 1/8"	32	0.16	112K 00 41 1/1	112K 00 41 2/1
20	20	23	54	Rd 44 x 1/6"	34	0.28	112K 00 42 1/1	112K 00 42 2/1
25	26	29	63	Rd 52 x 1/6"	42	0.39	112K 00 43 1/1	112K 00 43 2/1
32	32	35	70	Rd 58 x 1/6"	48	0.47	112K 00 44 1/1	112K 00 44 2/1
40	38	41	78	Rd 65 x 1/6"	50	0.55	112K 00 45 1/1	112K 00 45 2/1
50	50	53	92	Rd 78 x 1/6"	54	0.73	112K 00 46 1/1	112K 00 46 2/1
65	66	70	112	Rd 95 x 1/6"	62	1.18	112K 00 09 1/1	112K 00 09 2/1
80	81	85	127	Rd 110 x 1/4"	72	1.68	112K 00 10 1/1	112K 00 10 2/1
100	100	104	148	Rd 130 x 1/4"	86	2.29	112K 00 12 1/1	112K 00 12 2/1



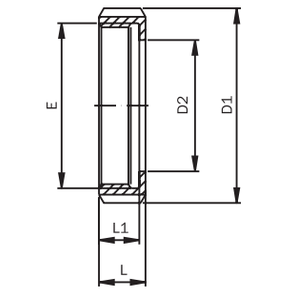
Imperial Male

Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
10	10	13	Rd 28 x 1/8"	19	5	0.04	1122 00 40 1	1122 00 40 2
15	16	19	Rd 34 x 1/8"	19	5	0.06	1122 00 41 1	1122 00 41 2
20	20	23	Rd 44 x 1/6"	21	5	0.11	1122 00 42 1	1122 00 42 2
25	26	29	Rd 52 x 1/6"	26	10	0.14	1122 00 43 1	1122 00 43 2
32	32	35	Rd 58 x 1/6"	30	14	0.15	1122 00 44 1	1122 00 44 2
40	38	41	Rd 65 x 1/6"	31	15	0.19	1122 00 45 1	1122 00 45 2
50	50	53	Rd 78 x 1/6"	31	15	0.25	1122 00 46 1	1122 00 46 2
65	66	70	Rd 95 x 1/6"	36	16	0.37	1122 00 09 1	1122 00 09 2
80	81	85	Rd 110 x 1/4"	42	18	0.58	1122 00 10 1	1122 00 10 2
100	100	104	Rd 130 x 1/4"	50	26	0.71	1122 00 12 1	1122 00 12 2



Imperial Liner

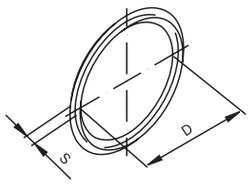
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
10	10	13	21.9	17	5	0.02	1124 00 40 1	1124 00 40 2
15	16	19	27.9	17	5	0.02	1124 00 41 1	1124 00 41 2
20	20	23	35.9	18	5	0.04	1124 00 42 1	1124 00 42 2
25	26	29	42.9	22	8	0.07	1124 00 43 1	1124 00 43 2
32	32	35	48.9	25	10	0.10	1124 00 44 1	1124 00 44 2
40	38	41	54.9	26	10	0.11	1124 00 45 1	1124 00 45 2
50	50	53	66.9	30	13	0.16	1124 00 46 1	1124 00 46 2
65	66	70	84.9	34	15	0.26	1124 00 09 1	1124 00 09 2
80	81	85	98.9	38	15	0.30	1124 00 10 1	1124 00 10 2
100	100	104	118.9	46	23	0.50	1124 00 12 1	1124 00 12 2



Imperial Nut

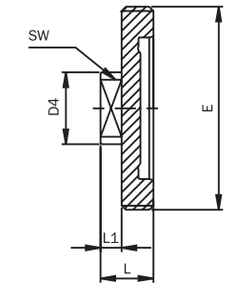
Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 304
							Article No.
10	38	19	Rd 28 x 1/8"	18	15	0.07	11003 000 010 10
15	44	25	Rd 34 x 1/8"	18	15	0.08	11003 000 015 10
20	54	31	Rd 44 x 1/6"	20	17	0.13	11003 000 020 10
25	63	36	Rd 52 x 1/6"	21	18	0.18	11003 000 025 10
32	70	42	Rd 58 x 1/6"	21	18	0.22	11003 000 032 10
40	78	49	Rd 65 x 1/6"	21	18	0.25	11003 000 040 10
50	92	62	Rd 78 x 1/6"	22	19	0.33	11003 000 050 10
65	112	80	Rd 95 x 1/6"	25	21	0.55	11003 000 065 10
80	127	94	Rd 110 x 1/4"	29	25	0.80	11003 000 080 10
100	148	115	Rd 130 x 1/4"	31	26	1.08	11003 000 100 10

Hygienic DIN11853-1 (series A) DIN Union Connection



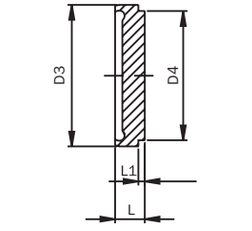
O-Ring Seal

Size mm DN	D	S	EPDM	FKM	PTFE
			Article No.	Article No.	Article No.
10	12	3.5	1129 00 40 1	1129 00 40 2	1129 00 40 4
15	18	3.5	1129 00 41 1	1129 00 41 2	1129 00 41 4
20	22	3.5	1129 00 42 1	1129 00 42 2	1129 00 42 4
25	28	3.5	1129 00 43 1	1129 00 43 2	1129 00 43 4
32	34	5	1129 00 44 1	1129 00 44 2	1129 00 44 4
40	40	5	1129 00 45 1	1129 00 45 2	1129 00 45 4
50	52	5	1129 00 46 1	1129 00 46 2	1129 00 46 4
65	68	5	1129 00 09 1	1129 00 09 2	1129 00 09 4
80	83	5	1129 00 10 1	1129 00 10 2	1129 00 10 4
100	102	5	1129 00 12 1	1129 00 12 2	1129 00 12 4
125	127	5	1129 00 13 1	1129 00 13 2	1129 00 13 4
150	152	5	1129 00 15 1	1129 00 15 2	1129 00 15 4



Imperial Blind Male

Size mm DN	D4	E	SW	L	L1	Weight [kg]	AISI 316L
							Article No.
1/2"	22	Rd 28 x 1/8"	17	24	12	0.07	1127 00 89 2
3/4"	22	Rd 34 x 1/8"	17	24	12	0.10	1127 00 90 2
1"	40	Rd 52 x 1/6"	27	24	10	0.23	1127 00 91 2
1 1/2"	40	Rd 65 x 1/6"	27	24	10	0.30	1127 00 92 2
2"	40	Rd 78 x 1/6"	27	24	10	0.39	1127 00 93 2
2 1/2"	48	Rd 95 x 1/6"	32	28	12	0.60	1127 00 94 2
3"	48	Rd 110 x 1/4"	32	28	12	1.07	1127 00 95 2
4"	48	Rd 130 x 1/4"	32	30	10	1.27	1127 00 96 2



Imperial Blind Liner

Size mm DN	D3	D4	L	L1	Weight [kg]	AISI 316L
						Article No.
1/2"	21.9	18	9	3	0.02	1125 00 89 2
3/4"	27.9	24	9	3	0.03	1125 00 90 2
1"	42.9	35	12	3	0.10	1125 00 91 2
1 1/2"	54.9	48	13	3	0.16	1125 00 92 2
2"	66.9	61	14	3	0.27	1125 00 93 2
2 1/2"	84.9	79	16	4	0.52	1125 00 94 2
3"	98.9	93	16	4	0.70	1125 00 95 2
4"	118.9	114	20	5	1.37	1125 00 96 2

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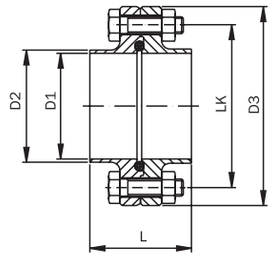
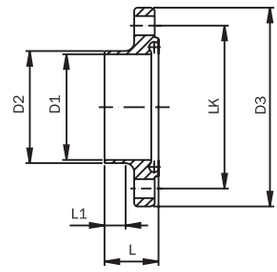
Hygienic DIN11853-2 (series A) DIN Flanged Connection



Is delivered in parts!

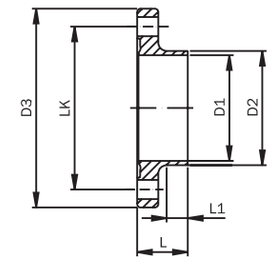
DIN Flange

Size mm DN	D1	D2	D3	LK		L	Weight [kg]	AISI 304	AISI 316L
								Article No.	Article No.
10	10	13	54	37	4/M8 x 30	48	0.31	113K 00 40 1/1	113K 00 40 2/1
15	16	19	59	42	4/M8 x 30	48	0.37	113K 00 41 1/1	113K 00 41 2/1
20	20	23	64	47	4/M8 x 30	48	0.43	113K 00 42 1/1	113K 00 42 2/1
25	26	29	70	53	4/M8 x 30	48	0.50	113K 00 43 1/1	113K 00 43 2/1
32	32	35	76	59	4/M8 x 30	48	0.57	113K 00 44 1/1	113K 00 44 2/1
40	38	41	82	65	4/M8 x 30	48	0.64	113K 00 45 1/1	113K 00 45 2/1
50	50	53	94	77	4/M8 x 30	48	0.78	113K 00 46 1/1	113K 00 46 2/1
65	66	70	113	95	8/M8 x 30	48	1.03	113K 00 09 1/1	113K 00 09 2/1
80	81	85	133	112	8/M10 x 35	52	1.59	113K 00 10 1/1	113K 00 10 2/1
100	100	104	159	137	8/M10 x 40	52	2.56	113K 00 12 1/1	113K 00 12 2/1
125	125	129	183	161	8/M10 x 40	56	3.06	113K 00 13 1/1	113K 00 13 2/1
150	150	154	213	188	8/M12 x 50	56	4.34	113K 00 15 1/1	113K 00 15 2/1



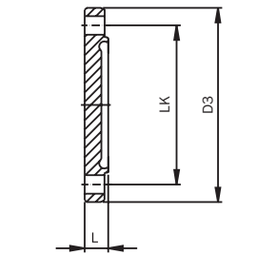
DIN Nut

Size mm DN	D1	D2	D3	LK		L	L1	Weight [kg]	AISI 304	AISI 316L
									Article No.	Article No.
10	10	13	54	37	4 x Ø 9	25.5	10	0.16	1132 00 40 1	1132 00 40 2
15	16	19	59	42	4 x Ø 9	25.5	10	0.19	1132 00 41 1	1132 00 41 2
20	20	23	64	47	4 x Ø 9	25.5	10	0.22	1132 00 42 1	1132 00 42 2
25	26	29	70	53	4 x Ø 9	25.5	10	0.25	1132 00 43 1	1132 00 43 2
32	32	35	76	59	4 x Ø 9	25.5	10	0.29	1132 00 44 1	1132 00 44 2
40	38	41	82	65	4 x Ø 9	25.5	10	0.33	1132 00 45 1	1132 00 45 2
50	50	53	94	77	4 x Ø 9	25.5	10	0.40	1132 00 46 1	1132 00 46 2
65	66	70	113	95	4 x Ø 9	25.5	10	0.53	1132 00 09 1	1132 00 09 2
80	81	85	133	112	8 x Ø 11	27.5	10	0.81	1132 00 10 1	1132 00 10 2
100	100	104	159	137	8 x Ø 11	27.5	10	1.30	1132 00 12 1	1132 00 12 2
125	125	129	183	161	8 x Ø 11	29.5	10	1.55	1132 00 13 1	1132 00 13 2
150	150	154	213	188	8 x Ø 14	29.5	8	2.20	1132 00 15 1	1132 00 15 2



DIN Liner

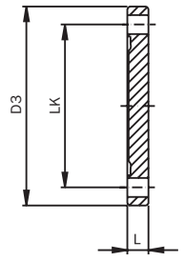
Size mm DN	D1	D2	D3	LK		L	L1	Weight [kg]	AISI 304	AISI 316L
									Article No.	Article No.
10	10	13	54	37	4 x Ø 9	24	10	0.16	1134 00 40 1	1134 00 40 2
15	16	19	59	42	4 x Ø 9	24	10	0.18	1134 00 41 1	1134 00 41 2
20	20	23	64	47	4 x Ø 9	24	10	0.21	1134 00 42 1	1134 00 42 2
25	26	29	70	53	4 x Ø 9	24	10	0.25	1134 00 43 1	1134 00 43 2
32	32	35	76	59	4 x Ø 9	24	10	0.28	1134 00 44 1	1134 00 44 2
40	38	41	82	65	4 x Ø 9	24	10	0.31	1134 00 45 1	1134 00 45 2
50	50	53	94	77	4 x Ø 9	24	10	0.38	1134 00 46 1	1134 00 46 2
65	66	70	113	95	4 x Ø 9	24	10	0.50	1134 00 09 1	1134 00 09 2
80	81	85	133	112	8 x Ø 11	26	10	0.78	1134 00 10 1	1134 00 10 2
100	100	104	159	137	8 x Ø 11	26	10	1.26	1134 00 12 1	1134 00 12 2
125	125	129	183	161	8 x Ø 11	28	10	1.50	1134 00 13 1	1134 00 13 2
150	150	154	213	188	8 x Ø 14	28	8	2.14	1134 00 15 1	1134 00 15 2



DIN Blind Nut

Size mm DN	D3	LK		L	Weight [kg]	AISI 316L
						Article No.
10	54	37	4 x Ø 9	11.5	0.04	1135 00 40 2
15	59	42	4 x Ø 9	11.5	0.06	1135 00 41 2
20	64	47	4 x Ø 9	11.5	0.08	1135 00 42 2
25	70	53	4 x Ø 9	11.5	0.11	1135 00 43 2
32	76	59	4 x Ø 9	11.5	0.14	1135 00 44 2
40	82	65	4 x Ø 9	11.5	0.18	1135 00 45 2
50	94	77	4 x Ø 9	11.5	0.26	1135 00 46 2
65	113	95	4 x Ø 9	11.5	0.38	1135 00 09 2
80	133	112	8 x Ø 11	13.5	0.63	1135 00 10 2
100	159	137	8 x Ø 11	15.5	1.09	1135 00 12 2
125	183	161	8 x Ø 11	15.5	1.59	1135 00 13 2
150	213	188	8 x Ø 14	17.5	2.52	1135 00 15 2

Hygienic DIN11853-2 (series A) DIN Flanged Connection



DIN Blind Male						
Size mm DN	D3	LK		L	Weight [kg]	AISI 316L
						Article No.
10	54	37	4 x Ø 9	10	0.16	1137 00 40 2
15	59	42	4 x Ø 9	10	0.19	1137 00 41 2
20	64	47	4 x Ø 9	10	0.22	1137 00 42 2
25	70	53	4 x Ø 9	10	0.27	1137 00 43 2
32	76	59	4 x Ø 9	10	0.32	1137 00 44 2
40	82	65	4 x Ø 9	10	0.37	1137 00 45 2
50	94	77	4 x Ø 9	10	0.48	1137 00 46 2
65	113	95	4 x Ø 9	10	0.69	1137 00 09 2
80	133	112	8 x Ø 11	12	1.15	1137 00 10 2
100	159	137	8 x Ø 11	14	1.97	1137 00 12 2
125	183	161	8 x Ø 11	14	2.62	1137 00 13 2
150	213	188	8 x Ø 14	16	4.12	1137 00 15 2

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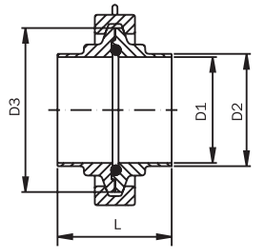
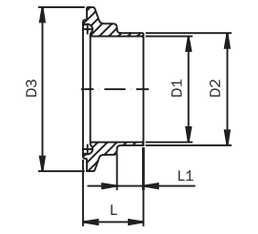
Hygienic DIN11853-3 (series A) DIN Clamp Connection



Is delivered in parts!

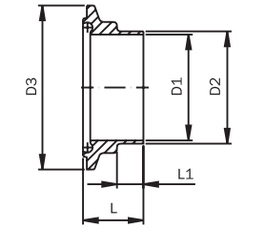
Clamp DIN

Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 304	AISI 316L
						Article No.	Article No.
10	10	13	34	44	0.17	119K 00 40 1/1	119K 00 40 2/1
15	16	19	34	44	0.16	119K 00 41 1/1	119K 00 41 2/1
20	20	23	50.5	44	0.45	119K 00 42 1/1	119K 00 42 2/1
25	26	29	50.5	44	0.45	119K 00 43 1/1	119K 00 43 2/1
32	32	35	50.5	48	0.43	119K 00 44 1/1	119K 00 44 2/1
40	38	41	64	48	0.54	119K 00 45 1/1	119K 00 45 2/1
50	50	53	77.5	49	0.71	119K 00 46 1/1	119K 00 46 2/1
65	66	70	91	53	0.88	119K 00 09 1/1	119K 00 09 2/1
80	81	85	106	57	1.04	119K 00 10 1/1	119K 00 10 2/1
100	100	104	130	60	1.11	119K 00 12 1/1	119K 00 12 2/1



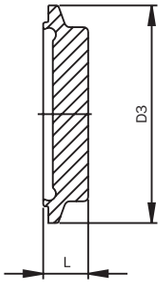
Nut DIN

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
10	10	13	34	23.5	10	0.04	1194 00 40 1	1194 00 40 2
15	16	19	34	23.5	10	0.03	1194 00 41 1	1194 00 41 2
20	20	23	50.5	23.5	10	0.07	1194 00 42 1	1194 00 42 2
25	26	29	50.5	23.5	10	0.07	1194 00 43 1	1194 00 43 2
32	32	35	50.5	25.5	10	0.06	1194 00 44 1	1194 00 44 2
40	38	41	64	25.5	10	0.10	1194 00 45 1	1194 00 45 2
50	50	53	77.5	26	10	0.14	1194 00 46 1	1194 00 46 2
65	66	70	91	28	10	0.17	1194 00 09 1	1194 00 09 2
80	81	85	106	30	10	0.21	1194 00 10 1	1194 00 10 2
100	100	104	130	31.5	10	0.23	1194 00 12 1	1194 00 12 2



Liner DIN

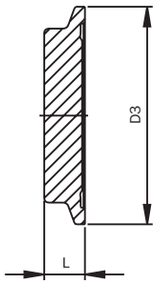
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
10	10	13	34	22	10	0.03	1192 00 40 1	1192 00 40 2
15	16	19	34	22	10	0.03	1192 00 41 1	1192 00 41 2
20	20	23	50.5	22	10	0.07	1192 00 42 1	1192 00 42 2
25	26	29	50.5	22	10	0.06	1192 00 43 1	1192 00 43 2
32	32	35	50.5	24	10	0.05	1192 00 44 1	1192 00 44 2
40	38	41	64	24	10	0.09	1192 00 45 1	1192 00 45 2
50	50	53	77.5	24.5	10	0.13	1192 00 46 1	1192 00 46 2
65	66	70	91	26.5	10	0.18	1192 00 09 1	1192 00 09 2
80	81	85	106	28.5	10	0.23	1192 00 10 1	1192 00 10 2
100	100	104	130	30	10	0.28	1192 00 12 1	1192 00 12 2



Blind Nut DIN

Size mm DN	D3	L	Weight [kg]	AISI 316L
				Article No.
10	34	13	0.04	1196 00 40 2
15	34	13	0.04	1196 00 41 2
20	50.5	13	0.10	1196 00 42 2
25	50.5	13	0.10	1196 00 43 2
32	50.5	13	0.10	1196 00 44 2
40	64	13	0.15	1196 00 45 2
50	77.5	15	0.22	1196 00 46 2
65	91	15	0.29	1196 00 09 2
80	106	15	0.41	1196 00 10 2
100	130	15	0.53	1196 00 12 2

Hygienic DIN11853-3 (series A) DIN Clamp Connection



Blind Liner DIN				
Size mm DN	D3	L	Weight [kg]	AISI 316L
				Article No.
10	34	11.5	0.04	1195 00 40 2
15	34	11.5	0.04	1195 00 41 2
20	50.5	11.5	0.10	1195 00 42 2
25	50.5	11.5	0.10	1195 00 43 2
32	50.5	11.5	0.10	1195 00 44 2
40	64	11.5	0.15	1195 00 45 2
50	77.5	13.5	0.22	1195 00 46 2
65	91	13.5	0.29	1195 00 09 2
80	106	13.5	0.41	1195 00 10 2
100	130	13.5	0.53	1195 00 12 2

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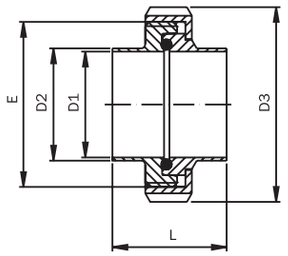
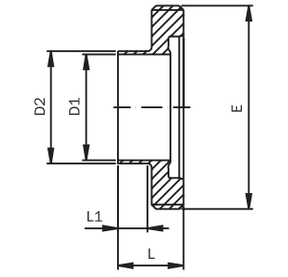
Hygienic DIN11853-1 (series B) ISO Union Connection



Is delivered in parts!

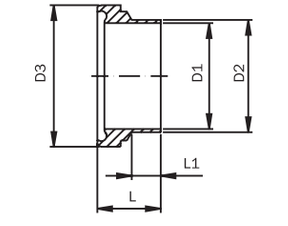
Union ISO

Size mm DN	D1	D2	D3	E	L	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
8	10.3	13.5	38	Rd 28 x 1/8"	32	0.13	112K 00 75 1/1	112K 00 75 2/1
10	14	17.2	44	Rd 34 x 1/8"	32	0.16	112K 00 76 1/1	112K 00 76 2/1
15	18.1	21.3	54	Rd 44 x 1/6"	34	0.24	112K 00 77 1/1	112K 00 77 2/1
20	23.7	26.9	63	Rd 52 x 1/6"	42	0.35	112K 00 78 1/1	112K 00 78 2/1
25	29.7	33.7	70	Rd 58 x 1/6"	48	0.45	112K 00 79 1/1	112K 00 79 2/1
32	38.4	42.4	78	Rd 65 x 1/6"	50	0.53	112K 00 80 1/1	112K 00 80 2/1
40	44.3	48.3	92	Rd 78 x 1/6"	54	0.72	112K 00 81 1/1	112K 00 81 2/1
50	56.3	60.3	112	Rd 95 x 1/6"	62	1.07	112K 00 82 1/1	112K 00 82 2/1
65	72.1	76.1	127	Rd 110 x 1/4"	72	1.67	112K 00 83 1/1	112K 00 83 2/1
80	84.3	88.9	148	Rd 130 x 1/4"	86	2.40	112K 00 84 1/1	112K 00 84 2/1



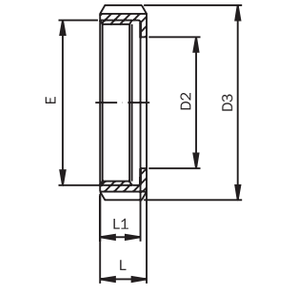
Male ISO

Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
8	10.3	13.5	Rd 28 x 1/8"	19	5	0.04	1122 00 75 1	1122 00 75 2
10	14	17.2	Rd 34 x 1/8"	19	5	0.06	1122 00 76 1	1122 00 76 2
15	18.1	21.3	Rd 44 x 1/6"	21	5	0.11	1122 00 77 1	1122 00 77 2
20	23.7	26.9	Rd 52 x 1/6"	26	7	0.14	1122 00 78 1	1122 00 78 2
25	29.7	33.7	Rd 58 x 1/6"	30	9	0.16	1122 00 79 1	1122 00 79 2
32	38.4	42.4	Rd 65 x 1/6"	31	11	0.19	1122 00 80 1	1122 00 80 2
40	44.3	48.3	Rd 78 x 1/6"	31	12	0.27	1122 00 81 1	1122 00 81 2
50	56.3	60.3	Rd 95 x 1/6"	36	12	0.41	1122 00 82 1	1122 00 82 2
65	72.1	76.1	Rd 110 x 1/4"	42	17	0.70	1122 00 83 1	1122 00 83 2
80	84.3	88.9	Rd 130 x 1/4"	50	18	0.86	1122 00 84 1	1122 00 84 2



Liner ISO

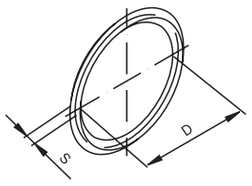
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
8	10.3	13.5	21.9	17	5	0.02	1124 00 75 1	1124 00 75 2
10	14	17.2	27.9	17	5	0.02	1124 00 76 1	1124 00 76 2
15	18.1	21.3	35.9	18	5	0.05	1124 00 77 1	1124 00 77 2
20	23.7	26.9	42.9	22	7	0.08	1124 00 78 1	1124 00 78 2
25	29.7	33.7	48.9	25	9	0.11	1124 00 79 1	1124 00 79 2
32	38.4	42.4	54.9	26	11	0.12	1124 00 80 1	1124 00 80 2
40	44.3	48.3	66.9	30	12	0.20	1124 00 81 1	1124 00 81 2
50	56.3	60.3	84.9	34	12	0.33	1124 00 82 1	1124 00 82 2
65	72.1	76.1	98.9	38	17	0.42	1124 00 83 1	1124 00 83 2
80	84.3	88.9	118.9	46	18	0.74	1124 00 84 1	1124 00 84 2



Nut ISO

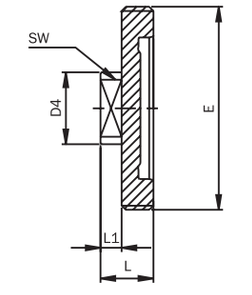
Size mm DN	D1	D2	E	L	L1	Weight [kg]	AISI 316L
							Article No.
8	38	19	Rd 28 x 1/8"	18	15	0.07	11003 000 010 10
10	44	25	Rd 34 x 1/8"	18	15	0.08	11003 000 015 10
15	54	31	Rd 44 x 1/6"	20	17	0.13	11003 000 020 10
20	63	36	Rd 52 x 1/6"	21	18	0.18	11003 000 025 10
25	70	42	Rd 58 x 1/6"	21	18	0.22	11003 000 032 10
32	78	49	Rd 65 x 1/6"	21	18	0.25	11003 000 040 10
40	92	62	Rd 78 x 1/6"	22	19	0.33	11003 000 050 10
50	112	80	Rd 95 x 1/6"	25	21	0.55	11003 000 065 10
65	127	94	Rd 110 x 1/4"	29	25	0.80	11003 000 080 10
80	148	115	Rd 130 x 1/4"	31	26	1.08	11003 000 100 10

Hygienic DIN11853-1 (series B) ISO Union Connection



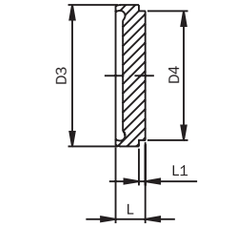
O-Ring Seal ISO

Size mm DN	D	S	EPDM	FKM	PTFE
			Article No.	Article No.	Article No.
8	12	3.5	1129 00 40 1	1129 00 40 2	1129 00 40 4
10	16	3.5	1129 00 76 1	1129 00 76 2	1129 00 76 4
15	20	3.5	1129 00 77 1	1129 00 77 2	1129 00 77 4
20	26	3.5	1129 00 78 1	1129 00 78 2	1129 00 78 4
25	32	5	1129 00 79 1	1129 00 79 2	1129 00 79 4
32	40.5	5	1129 00 80 1	1129 00 80 2	1129 00 80 4
40	46.5	5	1129 00 81 1	1129 00 81 2	1129 00 81 4
50	58.5	5	1129 00 82 1	1129 00 82 2	1129 00 82 4
65	73.5	5	1129 00 83 1	1129 00 83 2	1129 00 83 4
80	85.5	5	1129 00 84 1	1129 00 84 2	1129 00 84 4
100	111	5	1129 00 85 1	1129 00 85 2	1129 00 85 4



Blind Male ISO

Size mm DN	D4	E	SW	L	L1	Weight [kg]	AISI 316L
							Article No.
8	22	Rd 28 x 1/8"	17	24	12	0.07	1127 00 75 2
10	22	Rd 34 x 1/8"	17	24	12	0.10	1127 00 76 2
15	22	Rd 44 x 1/6"	17	24	10	0.16	1127 00 77 2
20	40	Rd 52 x 1/6"	27	24	10	0.23	1127 00 78 2
25	40	Rd 58 x 1/6"	27	24	10	0.25	1127 00 79 2
32	40	Rd 65 x 1/6"	27	24	10	0.30	1127 00 80 2
40	40	Rd 78 x 1/6"	27	24	10	0.39	1127 00 81 2
50	48	Rd 95 x 1/6"	32	28	12	0.60	1127 00 82 2
65	48	Rd 110 x 1/4"	32	28	8	1.07	1127 00 83 2
80	48	Rd 130 x 1/4"	32	30	10	1.27	1127 00 84 2



Blind Liner ISO

Size mm DN	D3	D4	L	L1	Weight [kg]	AISI 316L
						Article No.
8	21.9	18	9	3	0.02	1125 00 75 2
10	27.9	24	9	3	0.03	1125 00 76 2
15	35.9	30	10	3	0.06	1125 00 77 2
20	42.9	35	12	3	0.10	1125 00 78 2
25	48.9	41	13	3	0.13	1125 00 79 2
32	54.9	48	13	3	0.16	1125 00 80 2
40	66.9	61	14	3	0.27	1125 00 81 2
50	84.9	79	16	4	0.52	1125 00 82 2
65	98.9	93	16	4	0.70	1125 00 83 2
80	118.9	114	20	5	1.37	1125 00 84 2

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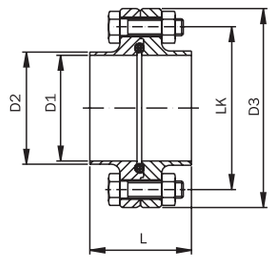
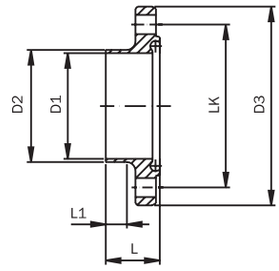
Hygienic DIN11853-2 (series B) ISO Flanged Connection



Is delivered in parts!

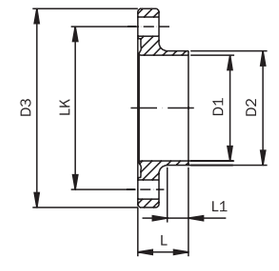
Flange ISO

Size mm DN	D1	D2	D3	LK		L	Weight [kg]	AISI 304	AISI 316L
								Article No.	Article No.
8	10.3	13.5	54	37	4/M8 x 30	48	0.31	113K 00 75 1/1	113K 00 75 2/1
10	14	17.2	59	42	4/M8 x 30	48	0.37	113K 00 76 1/1	113K 00 76 2/1
15	18.1	21.3	62	45	4/M8 x 30	48	0.41	113K 00 77 1/1	113K 00 77 2/1
20	23.7	26.9	69	52	4/M8 x 30	48	0.50	113K 00 78 1/1	113K 00 78 2/1
25	29.7	33.7	74	57	4/M8 x 30	48	0.56	113K 00 79 1/1	113K 00 79 2/1
32	38.4	42.4	82	65	4/M8 x 30	48	0.65	113K 00 80 1/1	113K 00 80 2/1
40	44.3	48.3	88	71	4/M8 x 30	48	0.73	113K 00 81 1/1	113K 00 81 2/1
50	56.3	60.3	103	85	8/M8 x 30	48	0.94	113K 00 82 1/1	113K 00 82 2/1
65	72.1	76.1	125	104	8/M10 x 30	48	1.40	113K 00 83 1/1	113K 00 83 2/1
80	84.3	88.9	137	116	8/M10 x 35	52	1.69	113K 00 84 1/1	113K 00 84 2/1
100	109.7	114.3	168	146	8/M10 x 40	52	2.79	113K 00 85 1/1	113K 00 85 2/1



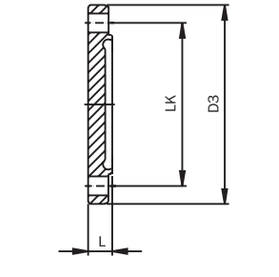
Nut ISO

Size mm DN	D1	D2	D3	LK		L	L1	Weight [kg]	AISI 304	AISI 316L
									Article No.	Article No.
8	10.3	13.5	54	37	4 x Ø 9	25.5	10	0.16	1132 00 75 1	1132 00 75 2
10	14	17.2	59	42	4 x Ø 9	25.5	10	0.19	1132 00 76 1	1132 00 76 2
15	18.1	21.3	62	45	4 x Ø 9	25.5	10	0.20	1132 00 77 1	1132 00 77 2
20	23.7	26.9	69	52	4 x Ø 9	25.5	10	0.25	1132 00 78 1	1132 00 78 2
25	29.7	33.7	74	57	4 x Ø 9	25.5	10	0.29	1132 00 79 1	1132 00 79 2
32	38.4	42.4	82	69	4 x Ø 9	25.5	10	0.33	1132 00 80 1	1132 00 80 2
40	44.3	48.3	88	71	4 x Ø 9	25.5	10	0.37	1132 00 81 1	1132 00 81 2
50	56.3	60.3	103	85	4 x Ø 9	25.5	10	0.48	1132 00 82 1	1132 00 82 2
65	72.1	76.1	125	104	8 x Ø 11	25.5	8	0.76	1132 00 83 1	1132 00 83 2
80	84.3	88.9	137	116	8 x Ø 11	27.5	10	0.86	1132 00 84 1	1132 00 84 2
100	109.7	114.3	168	146	8 x Ø 11	27.5	8	1.39	1132 00 85 1	1132 00 85 2



Liner ISO

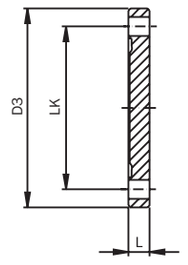
Size mm DN	D1	D2	D3	LK		L	L1	Weight [kg]	AISI 304	AISI 316L
									Article No.	Article No.
8	10.3	13.5	54	37	4 x Ø 9	24	10	0.15	1134 00 75 1	1134 00 75 2
10	14	17.2	59	42	4 x Ø 9	24	10	0.18	1134 00 76 1	1134 00 76 2
15	18.1	21.3	62	45	4 x Ø 9	24	10	0.20	1134 00 77 1	1134 00 77 2
20	23.7	26.9	69	52	4 x Ø 9	24	10	0.25	1134 00 78 1	1134 00 78 2
25	29.7	33.7	74	57	4 x Ø 9	24	10	0.27	1134 00 79 1	1134 00 79 2
32	38.4	42.4	82	69	4 x Ø 9	24	10	0.32	1134 00 80 1	1134 00 80 2
40	44.3	48.3	88	71	4 x Ø 9	24	10	0.35	1134 00 81 1	1134 00 81 2
50	56.3	60.3	103	85	4 x Ø 9	24	10	0.46	1134 00 82 1	1134 00 82 2
65	72.1	76.1	125	104	8 x Ø 11	24	8	0.64	1134 00 83 1	1134 00 83 2
80	84.3	88.9	137	116	8 x Ø 11	26	10	0.83	1134 00 84 1	1134 00 84 2
100	109.7	114.3	168	146	8 x Ø 11	26	8	1.36	1134 00 85 1	1134 00 85 2



Blind Nut ISO

Size mm DN	D3	LK		L	Weight [kg]	AISI 316L
						Article No.
8	54	37	4 x Ø 9	11.5	0.16	1135 00 75 2
10	59	42	4 x Ø 9	11.5	0.19	1135 00 76 2
15	62	45	4 x Ø 9	11.5	0.21	1135 00 77 2
20	69	52	4 x Ø 9	11.5	0.27	1135 00 78 2
25	74	57	4 x Ø 9	11.5	0.30	1135 00 79 2
32	82	65	4 x Ø 9	11.5	0.36	1135 00 80 2
40	88	71	4 x Ø 9	11.5	0.42	1135 00 81 2
50	103	95	4 x Ø 9	11.5	0.58	1135 00 82 2
65	125	104	8 x Ø 11	13.5	1.00	1135 00 83 2
80	137	116	8 x Ø 11	13.5	1.20	1135 00 84 2
100	168	146	8 x Ø 11	15.5	2.17	1135 00 85 2

Hygienic DIN11853-2 (series B) ISO Flanged Connection



Blind Male ISO

Size mm DN	D3	LK		L	Weight [kg]	AISI 316L
						Article No.
8	54	37	4 x Ø 9	10	0.16	1137 00 75 2
10	59	42	4 x Ø 9	10	0.19	1137 00 76 2
15	62	45	4 x Ø 9	10	0.21	1137 00 77 2
20	69	52	4 x Ø 9	10	0.26	1137 00 78 2
25	74	57	4 x Ø 9	10	0.30	1137 00 79 2
32	82	65	4 x Ø 9	10	0.37	1137 00 80 2
40	88	71	4 x Ø 9	10	0.42	1137 00 81 2
50	103	95	4 x Ø 9	10	0.59	1137 00 82 2
65	125	104	8 x Ø 11	12	1.01	1137 00 83 2
80	137	116	8 x Ø 11	12	1.22	1137 00 84 2
100	168	146	8 x Ø 11	14	2.21	1137 00 85 2

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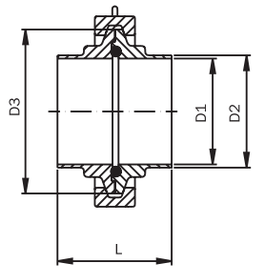
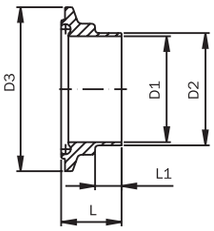
Hygienic DIN11853-2 (series B) ISO Clamp Connection



Is delivered in parts!

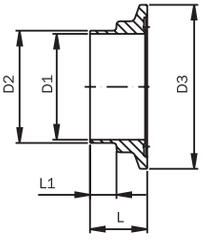
Clamp ISO

Size mm DN	D1	D2	D3	L	Weight [kg]	AISI 304	AISI 316L
						Article No.	Article No.
8	10.3	13.5	34	44	0.04	119K 00 75 1/1	119K 00 75 2/1
10	14	17.2	34	44	0.18	119K 00 76 1/1	119K 00 76 2/1
15	18.1	21.3	34	44	0.22	119K 00 77 1/1	119K 00 77 2/1
20	23.7	26.9	50.5	44	0.47	119K 00 78 1/1	119K 00 78 2/1
25	29.7	33.7	50.5	48	0.46	119K 00 79 1/1	119K 00 79 2/1
32	38.4	42.4	64	48	0.50	119K 00 80 1/1	119K 00 80 2/1
40	44.3	48.3	64	50	0.60	119K 00 81 1/1	119K 00 81 2/1
50	56.3	60.3	91	54	0.81	119K 00 82 1/1	119K 00 82 2/1
65	72.1	76.1	106	57	1.04	119K 00 83 1/1	119K 00 83 2/1
80	84.3	88.9	119	62	1.25	119K 00 84 1/1	119K 00 84 2/1



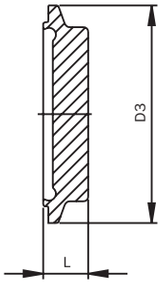
Nut ISO

Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
8	10.3	13.5	34	23.5	10	0.04	1194 00 75 1	1194 00 75 2
10	14	17.2	34	23.5	10	0.04	1194 00 76 1	1194 00 76 2
15	18.1	21.3	34	23.5	10	0.08	1194 00 77 1	1194 00 77 2
20	23.7	26.9	50.5	23.5	10	0.08	1194 00 78 1	1194 00 78 2
25	29.7	33.7	50.5	25.5	10	0.07	1194 00 79 1	1194 00 79 2
32	38.4	42.4	64	25.5	10	0.11	1194 00 80 1	1194 00 80 2
40	44.3	48.3	64	26.5	10	0.14	1194 00 81 1	1194 00 81 2
50	56.3	60.3	91	28.5	10	0.19	1194 00 82 1	1194 00 82 2
65	72.1	76.1	106	30	10	0.24	1194 00 83 1	1194 00 83 2
80	84.3	88.9	119	32.5	10	0.29	1194 00 84 1	1194 00 84 2



Liner ISO

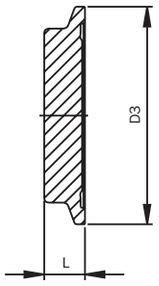
Size mm DN	D1	D2	D3	L	L1	Weight [kg]	AISI 304	AISI 316L
							Article No.	Article No.
8	10.3	13.5	34	22	10	0.03	1192 00 75 1	1192 00 75 2
10	14	17.2	34	22	10	0.03	1192 00 76 1	1192 00 76 2
15	18.1	21.3	34	22	10	0.02	1192 00 77 1	1192 00 77 2
20	23.7	26.9	50.5	22	10	0.06	1192 00 78 1	1192 00 78 2
25	29.7	33.7	50.5	24	10	0.05	1192 00 79 1	1192 00 79 2
32	38.4	42.4	64	24	10	0.08	1192 00 80 1	1192 00 80 2
40	44.3	48.3	64	25	10	0.07	1192 00 81 1	1192 00 81 2
50	56.3	60.3	91	27	10	0.17	1192 00 82 1	1192 00 82 2
65	72.1	76.1	106	28.5	10	0.22	1192 00 83 1	1192 00 83 2
80	84.3	88.9	119	31	10	0.28	1192 00 84 1	1192 00 84 2



Blind Nut ISO

Size mm DN	D3	L	Weight [kg]	AISI 316L
				Article No.
8	34	13	0.04	1196 00 75 2
10	34	13	0.04	1196 00 76 2
15	34	13	0.10	1196 00 77 2
20	50.5	13	0.10	1196 00 78 2
25	50.5	13	0.10	1196 00 79 2
32	64	13	0.15	1196 00 80 2
40	64	13	0.22	1196 00 81 2
50	91	15	0.29	1196 00 82 2
65	106	15	0.41	1196 00 83 2
80	119	15	0.53	1196 00 84 2

Hygienic DIN11853-2 (series B) ISO Clamp Connection



Blind Liner ISO

Size mm DN	D3	L	Weight [kg]	AISI 316L
				Article No.
8	34	11.5	0.04	1195 00 75 2
10	34	11.5	0.04	1195 00 76 2
15	34	11.5	0.10	1195 00 77 2
20	50.5	11.5	0.10	1195 00 78 2
25	50.5	11.5	0.10	1195 00 79 2
32	64	11.5	0.15	1195 00 80 2
40	64	11.5	0.22	1195 00 81 2
50	91	13.5	0.29	1195 00 82 2
65	106	13.5	0.41	1195 00 83 2
80	119	13.5	0.53	1195 00 84 2

WE CAN OFFER A FULL RANGE OF UNION PARTS VIA AWH - PLEASE CONTACT OUR SALES DEPARTMENT ON (0044) 1952 583999 or Email sales@neumo.co.uk

Name	EPDM (Ethylene-Propylene-Dienemonomers)	FKM (Viton®)	PTFE (Polytetrafluorethylene)
Material description	propylene and a minor share of diene	polymer from vinylidenefluoride	Thermoplastic polymer made of tetrafluorethylene
Application temperature	permanent application at minus 40 °C to 140 °C	permanent application at minus 20 °C to 200 °C	Physiologically harmless up to 200 °C, applicable from -200 °C up to +260 °C
other upon request	in situations of mechanical strain: steam sterilizable up to 140 °C strain up 0 °C to 140 °C	in situations of mechanical strain: steam sterilizable shortly up to 130 °C strain up 0 °C to 150 °C	in situations of mechanical strain: strain up 0 °C to 140 °C
typical fields of application	good swelling resistance at:	good swelling resistance at:	good swelling resistance for nearly all parts
	• diluted inorganic and organic acids, bases, polar organic media, media with oxidizing effects, alkaline solutions and ketones	• mineral oils • vegetable and animal oils	Smooth surface and repellent, thus no adherence of residues
	• in hot water and steam up to 130 °C	• fats (also particular additives)	chemical resistance better than with all other elastomers
	good resistance to ozone, ageing and weathering	• aliphatic and aromatic hydrocarbons • fuels	very good friction values compared to counterface materials • hardly flammable
application limits	not applicable for: • vegetable and animal oils	strong swelling with: • polar solvents such as acetone, methylketone, ethyl acetate, diethylether	not resistant to: • liquid alkali metals and some fluorine compounds in connection with high pressure and temperature
	• aliphatic, aromatic and chlorinated hydrocarbons	• low-molecular organic acids (formic and acetic acids)	very high differences regarding thermal expansion compared to metallic materials
	• mineral oils	• ammonia gases, amines	special constructions required
		• alkalines	low abrasion resistance
		• dioxanes	no elastomer
		• superheated steam	
Approval for material	EG VO 1935/2004	EG VO 1935/2004	EG VO 1935/2004
	FDA	FDA	FDA
	3-A	3-A	3-A
	USP Class VI	USP Class VI	USP Class VI

Technical Information

Pressure Ranges

Unions acc. to DIN 11864-1/DIN 11853-1 are designed for the following pressure values:

for tubes acc. to DIN 11866, series A to C	
Outer pipe diameter	Pressure
12,7 mm - 41 mm	4,0 MPa (40 bar)
42,4 mm - 104 mm	2,5 MPa (25 bar)

Flange connections acc. to DIN 11864-2/DIN 11853-2 are designed for the following pressure values:

for tubes acc. to DIN 11866, series A to C	
Outer pipe diameter	Pressure
12,7 mm - 41 mm	2,5 MPa (25 bar)
42,4 mm - 104 mm	1,6 MPa (16 bar)
114,3 mm - 154 mm	1,0 MPa (10 bar)

Clamp connections acc. to DIN 11864-3/DIN 11853-3 are designed for the following pressure values:

for tubes acc. to DIN 11866, series A to C	
Outer pipe diameter	Pressure
12,7 mm - 41 mm	4,0 MPa (40 bar)
42,4 mm - 70 mm	2,5 MPa (25 bar)
76,1 mm - 104 mm	1,6 MPa (16 bar)

These pressure values in Mpa (bar) serve as limit values for suitable sealing materials up to 140 °C.

Design Lengths acc. to DIN 11864 and DIN 11853

AWH offers two lengths:

- the long version acc. to DIN 11864: with pipe connection for orbital welding
- the short version acc. to DIN 11853: for compact system concepts, orbital weldable, but only with special equipment

Material from DIN 11864 and DIN 11853 acc. to DIN EN 10088-1 and -3

AWH manufactures components of DIN 11864 as a standard in grade 1.4404 acc. to DIN EN 10088-1 and -3.
Components of DIN 11853 are manufactured in grades 1.4301 and 1.4404 acc. to DIN EN 10088-1 and -3.
Further grades, as indicated in DIN 11864 and DIN 11853, are available upon request.

Surfaces

Surfaces are manufactured according to DIN 11864 and DIN 11853 Standard hygienic class H3 (media-affected inner surfaces average surface finish RA ≤ 0,8 µm, external surfaces average surface finish RA ≤ 1,6 µm). The welding areas of the edges of a workpiece are manufactured according to DIN ISO 13715. Further hygienic classes can be arranged separately according to DIN 11864 table 14 and DIN 11853 table 11. Other surfaces, such as electro-polished, blasted or veiled surfaces can be manufactured upon request.

Pipe Connections according to:

1. DIN EN 10357:2013:	Austenitic, austenitic-ferritic and ferritic longitudinally welded stainless steel tubes for the food and chemical industry
2. DIN EN ISO 1127:	Stainless steel pipes
3. ISO 2037:	Metal pipes and fittings - Stainless steel tubes for the food industry
4. ASME BPE 2009:	Bioprocessing equipment
5. DIN 11866:	Pipes made of stainless steel for the aseptic, chemical and pharmaceutical industry

NEUMO

Cleaning Technology

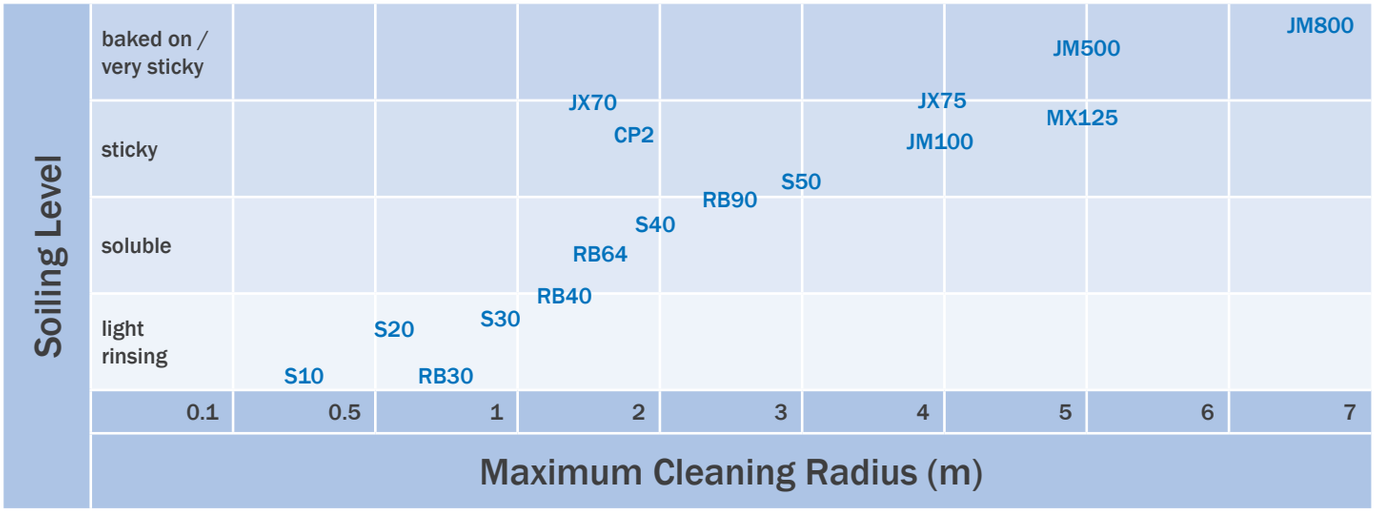
A member of NEUMO Ehrenberg Group

Information Requirements for Choosing a Cleaning Device

Vessel characteristics (height, length, diameter)
Vessel internals (mixers, hoppers, etc.)
Properties of the product in the vessel to be cleaned
CIP fluid and CIP cycle
Flow rate and pressure at point of use
Pressurised or vacuumed vessel

Certificates and Approvals

	TANKO-MX125	TANKO-JM	TANKO-JX	TANKO-CP2	TANKO-S	TANKO-RB	Static B	TANKO-RT	TANKO-SF	TANKO-RTF	CIPGuard
3.1	X	X	X	X	X	X	X	X	X	X	X
ATEX			X		X	X		X			
3-A Sanitary Standard									X	X	
FDA	X	X	X	X	not required			X	X	X	X



TANKO® MX125

Medium driven 360° jet cleaner

- operating pressure: cleansing medium 3 - 10 bar / 43.5 - 145 psi
- volume flow rate: 3.9 - 10 m³/h / 17 - 44 gpm (US) *
- cleaning radius max. 4 m, wetting radius max. 5 m
- insertation opening: min. 125 Ø mm

*depending on model and cleansing medium

TANKO® JM800

Medium driven 360° jet cleaner

- operating pressure: cleansing medium 5 - 13 bar / 73 - 189 psi
- volume flow rate: 14.3 - 27.6 m³/h / 63 - 122 gpm (US) *
- cleaning radius max. 3.5 m
- wetting radius max. 7 m

*depending on model and cleansing medium

TANKO® JM500

Medium driven 360° jet cleaner

- operating pressure: cleansing medium 3.5 - 13 bar / 51 - 189 psi
- volume flow rate: 8.1 - 29.4 m³/h / 36 - 129 gpm (US) *
- cleaning radius max. 2.5 m
- wetting radius max. 5 m

*depending on model and cleansing medium

TANKO® JM100

Medium driven 360° jet cleaner

- operating pressure: cleansing medium 3 - 20 bar / 43.5 - 290 psi
- volume flow rate: 2.2 - 6.5 m³/h / 10 - 29 gpm (US) *
- cleaning radius max. 2 m
- wetting radius max. 4 m

*depending on model and cleansing medium

TANKO® JX75

360° jet cleaner with external drive

- operating pressure: cleansing medium 2 - 20 bar / 29 - 290 psi
- volume flow rate: 0.6 - 7.2 m³/h / 3 - 32 gpm (US)
- cleaning radius max. 1.5 m
- wetting radius max. 4 m
- slow and constant rotation

TANKO® JX70

360° jet cleaner with external drive

- operating pressure: cleansing medium 2 - 20 bar / 29 - 290 psi
- volume flow rate: 0.2 - 2.5 m³/h / 1 - 11 gpm (US)
- cleaning radius max. 0.5 m
- wetting radius max. 1.5 m
- slow and constant rotation

TANKO® CP2

Slowly rotating jet cleaner

- operating pressure: cleansing medium 3 - 12 bar / 43.5 - 174 psi
- volume flow rate: 2.5 - 6.5 m³/h / 11 - 29 gpm (US)
- cleaning radius max. 2 m
- rotation: 2 - 30 U/min (RPM)
- connection: thread and clipon

TANKO® S

Spate cleaner

- operating pressure: cleansing medium 1.5 - 3 bar / 22 - 43.5 psi *
- volume flow rate: 0.25 - 18 m³/h / 1 - 79 gpm (US) *
- cleaning radius max. 0.1 - 3 m *
- double ball-bearing

*depending on model and cleansing medium

TANKO® RB

Rotating spray ball

- operating pressure: cleansing medium 1.5 - 3 bar / 22 - 43.5 psi *
- volume flow rate: 2.4 - 28.9 m³/h / 11 - 127 gpm (US)*
- cleaning radius max. 0.5 - 2.5 m *
- spray ball supported in double ball-bearing

*depending on model and cleansing medium

Static B

Static spray ball

- operating pressure: cleansing medium 0.5 - 2.5 bar / 7 - 36 psi *
- volume flow rate: 0.6 - 78.7 m³/h / 2.6 - 346 gpm (US) *
- cleaning radius max. 0.25 - 3 m *
- connection: clipon, thread and weldon

*depending on model and cleansing medium

TANKO® RT

Dynamic retractor

- operating pressure: cleansing medium 1 - 3 bar / 14.5 - 43.5 psi *
- volume flow rate: 2 - 6.5 m³/h / 8.8 - 28.6 gpm (US) *
- stroke length: 100, 150, 250 and 500 mm
- process connection: in clamp and welding version available

*depending on model and cleansing medium

TANKO® SF / TANKO® RTF

Spate cleaner and retractor

- 3-A designed
- connection TANKO® SF: clipon or weldon
- connection TANKO® RTF: combination adapter or weldon
- low wear PEEK body
- hydrodynamic bearing, drainable

CIPGuard (TCG-ZR)

Sensor for monitoring

- material: 316L (1.4404), PEEK, 304 (1.4301), 303 (1.4305), EPDM
- supply voltage: Ub = 24 V +/-20 % (18 to 32 VDC)
- power requirement: < 20 mA
- output signal: PNP; 50 mA, short circuit-proof
- start-up delay: < 0.3 sec, connection: G1/2"

TANKO® RPB35

- operating pressure: cleansing medium 1 - 3 bar / 15 - 43.5 psi *
- flow rate: 1.3 - 2.5 m³/h / 6 - 11 gpm (US) *
- ball bearing (1.4401) or plain bearing (PEEK)
- reduces the spray shadows to a minimum
- spray angle: 360°, optional with downpipe rinsing

*depending on model and cleansing medium

TANKO® AN and Downpipes

Weldon nipple and downpipes

Various solutions are available:

- threaded connection acc. to DIN 11851 with weldon nozzle
- TriClamp with weldon nozzle
- welding neck flange of various types with weldon nozzle etc.
- DIN 11864 connection with weldon nozzle
- etc.

TANKO® R64T

- material: 316L (1.4435)
- ball bearing (1.4401)
- connection of 2 pcs. TANKO® S30 3/8" BSP is possible
- supply connection 3/4" BSP
- rotates around its vertical axis, is combined with two cleaners and can clean hard to reach places

JM-C1

Tank cleaning trolly

- material: 1.4404 (316L)
- connection jet cleaner: 1 1/2" BSP
- reducing flange: 1.4436
- locking pin: 1.4430
- wheels: PP, FDA-conform
- surface: metal-brigth or hand-polished

NEUMO

Strainers and Sight Glasses

A member of NEUMO Ehrenberg Group

Strainers and Sight Glasses

Table of Contents

Angle Type Strainers and Accessories

As one of the most important system components, AWH strainers protect plants and production machines from mechanical damage, keep undesirable particles away from your product and help to prevent production downtimes. AWH strainers are easy to install, have minimal space requirements, and can be used fl exibly due to the large number of different fi lter inserts.

Technical Parameter

Material:	in contact with the product: 1.4301 (304) /1.4307 (304L), 1.4404 (316L) not in contact with the product: 1.4301 (304) /1.4307 (304L) strainer: 1.4404 (316L)
Surface:	inside: Ra ≤ 0,8 µm (strainer and welding seam higher) outside: electro polished
Sealing:	grooved ring, seal ring: EPDM (other materials on request)
Compressive strength:	nominal pressure DN25 - DN100: PN10 nominal pressure DN125 - DN150: PN6
Connections:	standard: welding ends DIN EN 10357 alternative: male ends DIN 11851/SMS alternative: liner ends DIN 11851 alternative: clamp ends DIN 32676 (other variants on request)

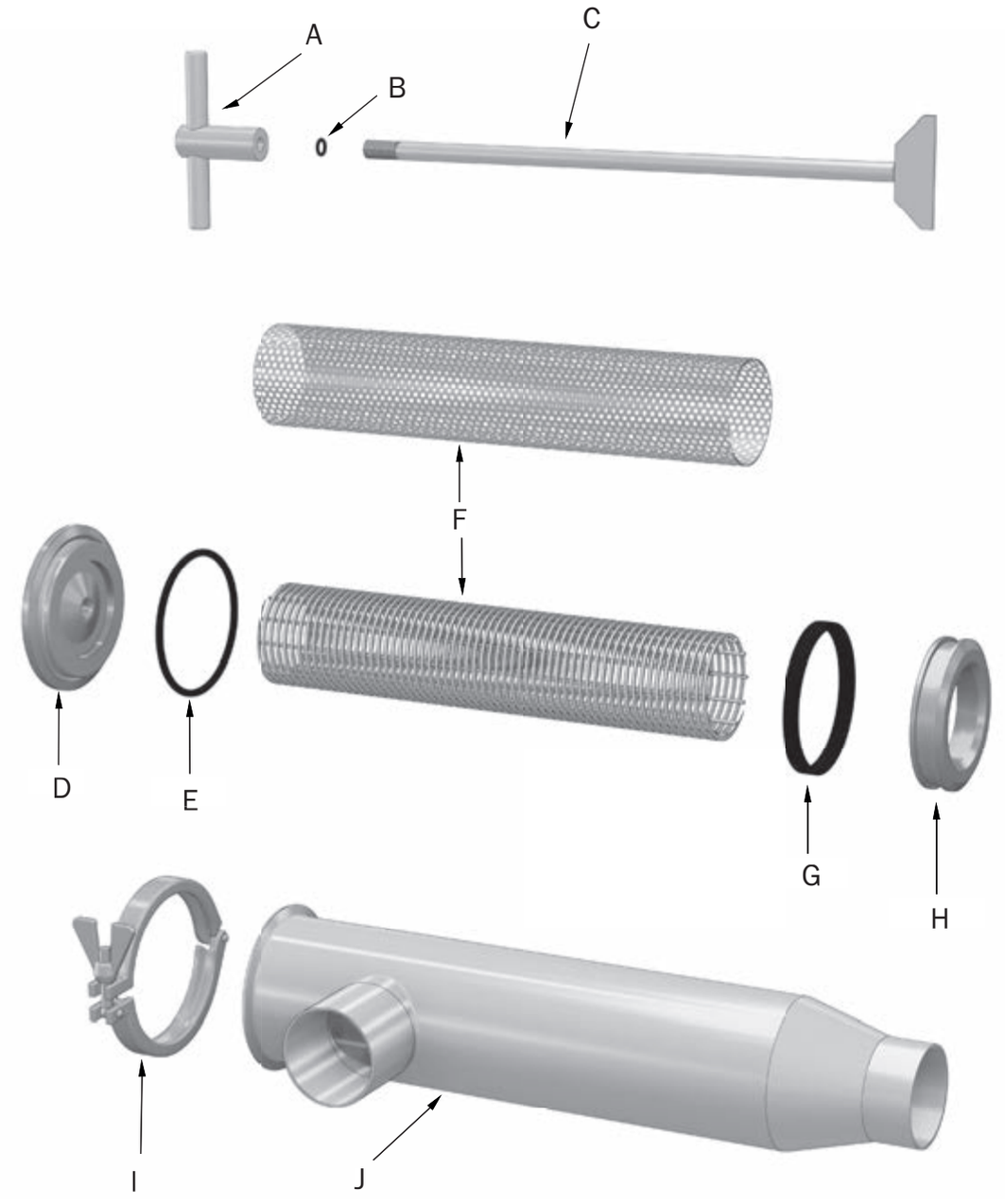
Features

1. The gap width and perforation can be easily adjusted to specific requirements by replacing the strainer insert.
2. Thanks to the built-in heavy duty clamp, no tools are required for assembling and disassembling strainers with nominal diameters up to DN100. This makes replacing the strainer insert quick and easy. DN125 - DN150 feature a DIN 11851 grooved nut.
3. During disassembly of the strainer insert, the gap between the tube and the casing is automatically cleaned by the scraper ring. The slotted tube used has the same dimensions, but features a larger strainer area than conventional perforated sheets.
4. Direction of flow is from the outside to the inside
5. Determination of the nominal pressure is made on the basis of fluids from Group 1 and for gases from Group 2.
6. Cost-effective production was another important factor in designing this product. Compare us to our competitors. Our prices will impress you.

Not all versions could be included in this catalogue.
Further strainer insert are available.
We will be happy to tailor our angle type strainer to meet your needs. For example, with heating.

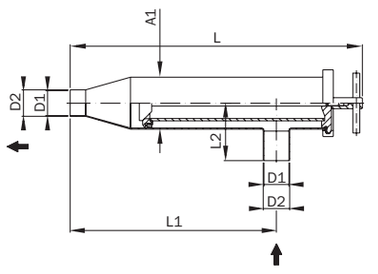
Angle Type Strainer and Accessories

Explosion View



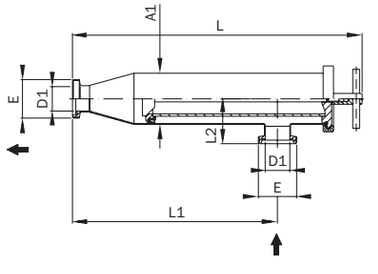
A Locking handle
B Seal ring
C Tie rod
D Cap
E Seal ring
F Strainer insert
G Grooved ring
H Scraper ring
I Heavy duty clamp
J Casing

Angle Type Strainers and Accessories



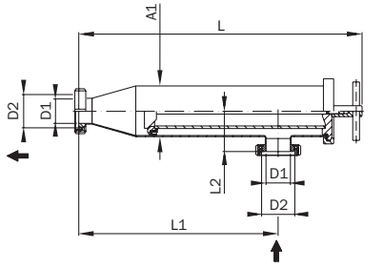
Angle Type Strainer Weld/Weld DIN

DN DIN	D1	D2	A1	L	L1	L2	Weight [kg]
25	26	29	70	554	406	82	3.3
32	32	35	70	549	401	77	3.2
40	38	41	70	534	386	85	3.2
50	50	53	104	585	413	115	5.0
65	66	70	104	558	386	113	5.2
80	81	85	154	771	563	150	12.2
100	100	104	154	726	517	167	12.8
125	125	129	204	923	650	160	25.2
150	150	154	204	923	650	165	24.4



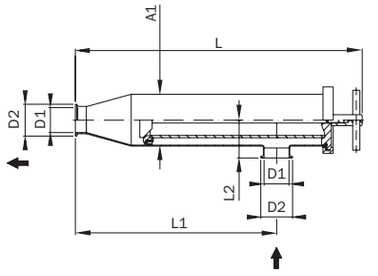
Angle Type Strainer Male/Male DIN

DN DIN	D1	A1	E	L	L1	L2	Weight [kg]
25	26	70	Rd 52 x 1/6"	561	413	67	3.4
32	32	70	Rd 58 x 1/6"	552	404	70	3.4
40	38	70	Rd 65 x 1/6"	543	395	70	3.5
50	50	104	Rd 78 x 1/6"	589	417	90	5.2
65	66	104	Rd 95 x 1/6"	565	393	95	5.4
80	81	154	Rd 110 x 1/4"	777	573	125	13.5
100	100	154	Rd 130 x 1/4"	750	546	134	13.6
125	125	204	Rd 160 x 1/4"	927	654	161	26.6
150	150	204	Rd 190 x 1/4"	931	658	160	27.9



Angle Type Strainer Liner/Liner DIN

DN DIN	D1	D2	A1	L	L1	L2	Weight [kg]
25	26	44	70	554	406	60	3.7
32	32	50	70	545	397	63	3.8
40	38	56	70	536	388	64	3.9
50	50	68.5	104	582	410	83	6.1
65	66	86	104	557	385	87	6.8
80	81	100	154	772	565	114	14.6
100	100	121	154	745	536	124	15.3
125	125	150	204	915	642	149	29.1
150	150	176	204	918	645	152	31.0



Angle Type Strainer Clamp/Clamp DIN

DN DIN	D1	D2	A1	L	L1	L2	Weight [kg]
25	26	50.5	70	554	406	60	3.3
32	32	50.5	70	542	394	60	3.3
40	38	50.5	70	532	384	60	3.3
50	50	64	104	576	404	76	5.4
65	66	91	104	553	381	83	5.6
80	81	106	154	760	556	108	12.9
100	100	119	154	724	520	108	12.7
125	125	155	204	909	636	143	25.6
150	150	183	204	909	636	143	26.0

Angle Type Strainers and Accessories

Angle Type Strainer Weld/Weld DIN

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM		
DN DIN		Article No.		Article No.	
25		61019 211 025 10		61019 211 025 30	
32		61019 211 032 10		61019 211 032 30	
40		61019 211 040 10		61019 211 040 30	
50		61019 211 050 10		61019 211 050 30	
65		61019 211 065 10		61019 211 065 30	
80		61019 211 080 10		61019 211 080 30	
100		61019 211 100 10		61019 211 100 30	
125		61019 211 125 10		61019 211 125 30	
150		61019 211 150 10		61019 211 150 30	

Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer Male/Male DIN

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM		
DN DIN		Article No.		Article No.	
25		61019 111 025 10		61019 111 025 30	
32		61019 111 032 10		61019 111 032 30	
40		61019 111 040 10		61019 111 040 30	
50		61019 111 050 10		61019 111 050 30	
65		61019 111 065 10		61019 111 065 30	
80		61019 111 080 10		61019 111 080 30	
100		61019 111 100 10		61019 111 100 30	
125		61019 111 125 10		61019 111 125 30	
150		61019 111 150 10		61019 111 150 30	

Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer Liner/Liner DIN

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM		
DN DIN		Article No.		Article No.	
25		61019 311 025 10		61019 311 025 30	
32		61019 311 032 10		61019 311 032 30	
40		61019 311 040 10		61019 311 040 30	
50		61019 311 050 10		61019 311 050 30	
65		61019 311 065 10		61019 311 065 30	
80		61019 311 080 10		61019 311 080 30	
100		61019 311 100 10		61019 311 100 30	
125		61019 311 125 10		61019 311 125 30	
150		61019 311 150 10		61019 311 150 30	

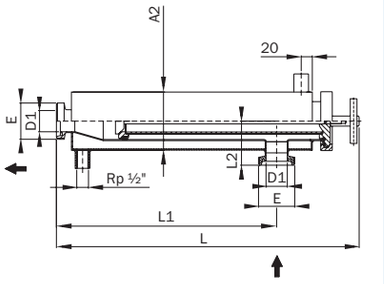
Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer Clamp/Clamp DIN

	1.4301 (304)/EPDM			1.4404 (316L)/EPDM		
DN DIN	Price/EUR		Article No.		Article No.	
25			61019 411 025 10		61019 411 025 30	
32			61019 411 032 10		61019 411 032 30	
40			61019 411 040 10		61019 411 040 30	
50			61019 411 050 10		61019 411 050 30	
65			61019 411 065 10		61019 411 065 30	
80			61019 411 080 10		61019 411 080 30	
100			61019 411 100 10		61019 411 100 30	
125			61019 411 125 10		61019 411 125 30	
150			61019 411 150 10		61019 411 150 30	

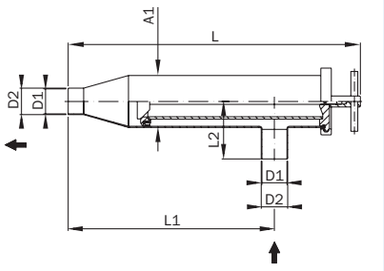
Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer and Accessories



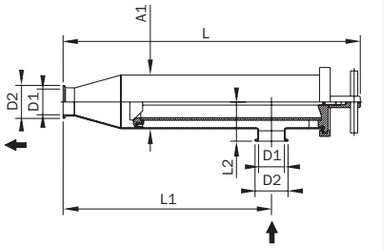
Angle Type Strainer heatable Male/Male DIN

DN DIN	D1	E	L	L1	L2	A2 - Heating jacket	Weight [kg]
25	26	Rd 52 x 1/6"	561	413	86	104 x 2	6.0
40	38	Rd 65 x 1/6"	543	395	79	104 x 2	6.2
50	50	Rd 78 x 1/6"	589	417	90	129 x 2	8.9
65	66	Rd 95 x 1/6"	565	393	95	129 x 2	9.1
80	81	Rd 110 x 1/4"	777	572	135	204 x 2	20.5
100	100	Rd 130 x 1/4"	755	546	154	204 x 2	20.2



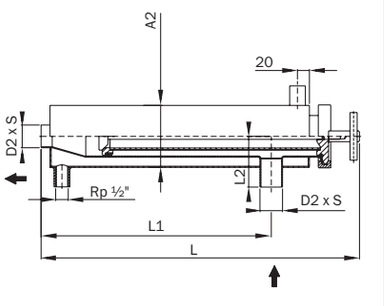
Angle Type Strainer Inch Weld/Weld

DN Inch	D1	D2	A1	L	L1	L2	Weight [kg]
1"	22.2	25.4	70	553	407	82	3.2
1 1/2"	34.9	38.1	70	535	388	85	3.3
2"	47.6	50.8	104	585	413	115	5.4
2 1/2"	60.3	63.5	104	558	387	115	5.4
3"	72.9	76.1	154	769	563	150	12.9
4"	97.6	101.6	154	724	515	167	12.8



Angle Type Strainer Clamp/Clamp Inch

DN Inch	D1	D2	A1	L	L1	L2	Weight [kg]
1"	22.1	50.5	70	561	412	66	3.3
1 1/2"	34.8	50.5	70	545	398	66	3.3
2"	47.5	64	104	588	417	82	5.4
2 1/2"	60.2	77,5	104	553	381	83	5.4
3"	72.9	91	154	776	570	108	13.0
4"	97.4	119	154	732	526	108	12.9



Angle Type Strainer heatable Weld/Weld Inch

DN Inch	D2 x S	L	L1	L2	A2 - Heating jacket	Weight [kg]
1"	25.4 x 1.6	554	406	82	104 x 2	5.8
1 1/2"	38.1 x 1.6	534	389	85	104 x 2	5.8
2"	50.8 x 1.6	585	413	115	129 x 2	8.7
2 1/2"	63.5 x 1.6	558	389	113	129 x 2	8.9
3"	76.1 x 1.6	787	583	150	204 x 2	20.3
4"	101.1 x 2	750	546	167	204 x 2	20.1

Angle Type Strainer and Accessories

Angle Type Strainer heatable Male/Male DIN

1.4301 (304)/EPDM		1.4404 (316L)/EPDM	
DN DIN	Article No.	Article No.	
25	62019 111 025 10	62019 111 025 30	
40	62019 111 040 10	62019 111 040 30	
50	62019 111 050 10	62019 111 050 30	
65	62019 111 065 10	62019 111 065 30	
80	62019 111 080 10	62019 111 080 30	
100	62019 111 100 10	62019 111 100 30	

Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer Inch Weld/Weld

1.4301 (304)/EPDM		1.4404 (316L)/EPDM	
DN Inch	Article No.	Article No.	
1"	61019 711 100 10	61019 711 100 30	
1 1/2"	61019 711 112 10	61019 711 112 30	
2"	61019 711 200 10	61019 711 200 30	
2 1/2"	61019 711 212 10	61019 711 212 30	
3"	61019 711 300 10	61019 711 300 30	
4"	61019 711 400 10	61019 711 400 30	

Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer Clamp/Clamp Inch

1.4301 (304)/EPDM		1.4404 (316L)/EPDM	
DN Inch	Article No.	Article No.	
1"	61019 A11 100 10	61019 A11 100 30	
1 1/2"	61019 A11 112 10	61019 A11 112 30	
2"	61019 A11 200 10	61019 A11 200 30	
2 1/2"	61019 A11 212 10	61019 A11 212 30	
3"	61019 A11 300 10	61019 A11 300 30	
4"	61019 A11 400 10	61019 A11 400 30	

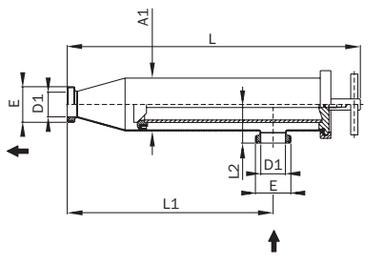
Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer heatable Weld/Weld Inch

1.4301 (304)/EPDM		1.4404 (316L)/EPDM	
DN Inch	Article No.	Article No.	
1"	62019 711 100 10	62019 711 100 30	
1 1/2"	62019 711 112 10	62019 711 112 30	
2"	62019 711 200 10	62019 711 200 30	
2 1/2"	62019 711 212 10	62019 711 212 30	
3"	62019 711 300 10	62019 711 300 30	
4"	62019 711 400 10	62019 711 400 30	

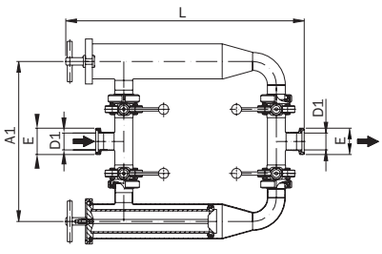
Price incl. 0.5 mm slotted strainer tube

Angle Type Strainers and Accessories



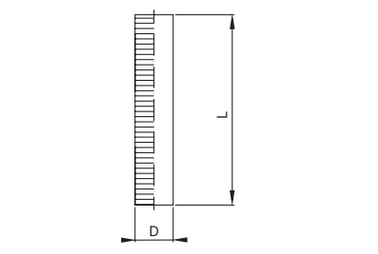
Angle Type Strainer Male/Male SMS

DN SMS	D1	A1	E	L	L1	L2	Weight [kg]
25	22.6	70	Rd 40 x 1/6"	547	407	52	3.3
38	35.6	70	Rd 60 x 1/6"	537	390	57	3.3
51	48.6	104	Rd 70 x 1/6"	578	407	75	5.6
63.5	60.3	104	Rd 85 x 1/6"	549	377	79	5.9
76.1	72.9	154	Rd 98 x 1/6"	756	552	104	13.5
101.6	97.6	154	Rd 132 x 1/6"	738	531	125	13.7



Angle Type Strainer Combination

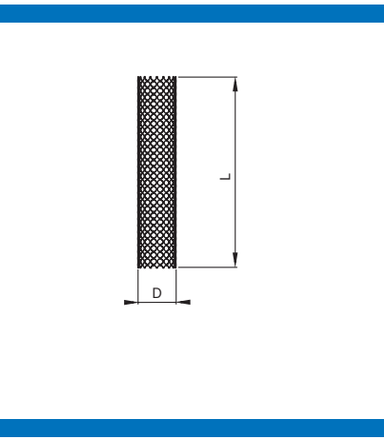
DN DIN	D1	E	A1	L	L1	Weight [kg]
25	26	Rd 52 x 1/6"	350	643	558	13.4
32	32	Rd 58 x 1/6"	342	641	560	13.8
40	38	Rd 65 x 1/6"	378	646	575	16.0
50	50	Rd 78 x 1/6"	474	707	620	22.6
65	66	Rd 95 x 1/6"	464	704	630	26.8
80	81	Rd 110 x 1/4"	617	940	847	51.4
100	100	Rd 130 x 1/4"	588	930	853	56.6



Other gap width
on request from 0.05 mm.

Slotted Strainer Tube

DN DIN	D	L	Free screening area (cm^2)	Free screening area (cm^2)	Weight [kg]
			0.5 mm	1 mm	
25 - 40	45	353	161	241	ca. 0.5
50 - 65	70	350	248	372	ca. 0,8
80 - 100	110	470	527	791	ca. 1.3
125 - 150	164	750	1139	1574	ca. 6.1



Perforated Strainer

DN DIN	D	L	Free screening area (cm^2)	Free screening area (cm^2)	Free screening area (cm^2)	Free screening area (cm^2)	Weight [kg]
			1 mm	1.5 mm	2.5 mm	8 mm	
25 - 40	45	353	126.76	152.71	166.68	191.13	ca. 0.3
50 - 65	70	350	195.5	235.53	257.08	294.79	ca. 0.4
80 - 100	110	470	412.55	497.01	542.48	622.07	ca. 0.8
125 - 150	164	750		1182.38	1290.58	1479.91	ca. 2.0

Angle Type Strainers and Accessories

Angle Type Strainer Male/Male SMS

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM	
DN SMS		Article No.		Article No.
25		61019 F11 100 10		61019 F11 100 30
38		61019 F11 112 10		61019 F11 112 30
51		61019 F11 200 10		61019 F11 200 30
63.5		61019 F11 212 10		61019 F11 212 30
76.1		61019 F11 300 10		61019 F11 300 30
101.6		61019 F11 400 10		61019 F11 400 30

Price incl. 0.5 mm slotted strainer tube

Angle Type Strainer Combination

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM	
DN DIN		Article No.		Article No.
25		61019 811 025 10		61019 811 025 30
32		61019 811 032 10		61019 811 032 30
40		61019 811 040 10		61019 811 040 30
50		61019 811 050 10		61019 811 050 30
65		61019 811 065 10		61019 811 065 30
80		61019 811 080 10		61019 811 080 30
100		61019 811 100 10		61019 811 100 30

Price incl. 0.5 mm slotted strainer tube

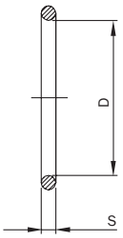
Slotted Strainer Tube

	1.4404 (316L) / Gap width 0.5 mm		1.4404 (316L) / Gap width 1 mm	
DN DIN		Article No.		Article No.
25 - 40		61020 010 040 70		61020 020 040 70
50 - 65		61020 010 065 70		61020 020 065 70
80 - 100		61020 010 100 70		61020 020 100 70
125 - 150		61020 010 150 70		61020 020 150 70

Perforated Strainer

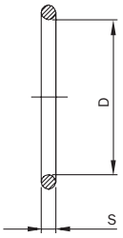
	1.4404 (316L) / Perforation 1 mm		1.4404 (316L) / Perforation 1.5 mm		1.4404 (316L) / Perforation 2.5 mm		1.4404 (316L) / Perforation 8 mm	
DN DIN		Article No.		Article No.		Article No.		Article No.
25 - 40		61022 020 040 30		61022 040 040 30		61022 050 040 30		61022 060 040 30
50 - 65		61022 020 065 30		61022 040 065 30		61022 050 065 30		61022 060 065 30
80 - 100		61022 020 100 30		61022 040 100 30		61022 050 100 30		61022 060 100 30
125 - 150				61022 040 150 30		61022 050 150 30		61022 060 150 30

Angle Type Strainers and Accessories



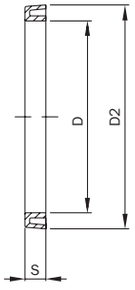
Seal Ring for Tie Rod

DN DIN	D	S	Weight [kg]
25 - 40	6	2	0.01
50 - 65	8	2	0.01
80 - 150	12	2	0.01

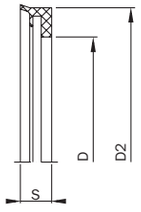


Seal Ring for Cap

DN DIN	D	S	Weight [kg]
25 - 40	53.34	5.33	0.020
50 - 65	86.5	5	0.030
80 - 100	see grooved ring		
125 - 150	204	7	0.036



DN25 - DN65
DN125 - DN150



DN80 - DN100

Grooved Ring

DN DIN	D	D2	S	Weight [kg]
25 - 40	50	65	11	0.01
50 - 65	92	100	10	0.01
80 - 100	120	148	15	0.07
125 - 150	190	200	12.5	0.07

Angle Type Strainers and Accessories

Seal Ring for Tie Rod

EPDM		NBR		FKM	
DN DIN	Article No.	Article No.		Article No.	
25 - 40	10605 000 006 54	10605 000 006 55		10605 000 006 56	
50 - 65	10605 000 008 54	10605 000 008 55		10605 000 008 56	
80 - 150	10605 000 012 04	10605 000 012 05		10605 000 012 06	

Seal Ring for Cap

EPDM		NBR		FKM	
DN DIN	Article No.	Article No.		Article No.	
25 - 40	10605 000 053 31	10605 000 053 30		10605 000 053 32	
50 - 65	1129 00 84 1	1129 00 84 3		1129 00 84 2	
80 - 100	61019 010 004 1	61019 010 004 3		61019 010 004 2	
125 - 150	10008 000 200 54	10004 000 200 54		10006 000 200 54	

Grooved Ring

EPDM		NBR		FKM	
DN DIN	Article No.	Article No.		Article No.	
25 - 40	37503	37508		37521	
50 - 65	37502	37507		37522	
80 - 100	61019 010 004 1	61019 010 004 3		61019 010 004 2	
125 - 150	37509	37510		37531	

Dirt Traps and Accessories

AWH dirt traps protect your product and plant components, pumps, heat exchangers etc., from foreign objects that cancause malfunctions. Our dirt traps are Y-shaped (Y fi lter). The direction of fl ow is always from the inside to the outside. The trap should be installed so that the fi lter insert is removed from below. Its streamlined shape ensures reliable processes in a simple and cost-effective way.

We offer gap fi lters with gap widths of 1.0 mm, 0.5 mm and 0.25 mm. Compared to conventional perforated sheets, slotted tubes offer much greater pressure stability and a larger screening area.

Technical Parameter

Material: in contact with the product: 1.4301 (304) /1.4307 (304L), 1.4404 (316L)
not in contact with the product: 1.4301 (304) /1.4307 (304L)
strainer: 1.4435 (316L)

Surface: inside: Ra ≤ 0,8 µm (strainer and welding seam higher)
outside: electro polished

Sealing: clamp seal ring DIN 32676: (other materials on request)

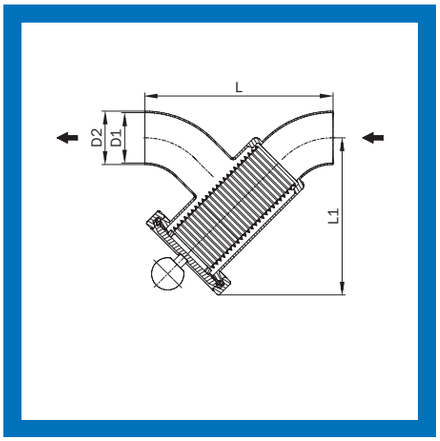
Compressive strength: nominal pressure: PN10

Connections: standard: welding ends DIN EN 10357
alternative: male ends DIN 11851
alternativ:e clamp ends DIN 32676
(other variants on request)

Overview Kv-Value

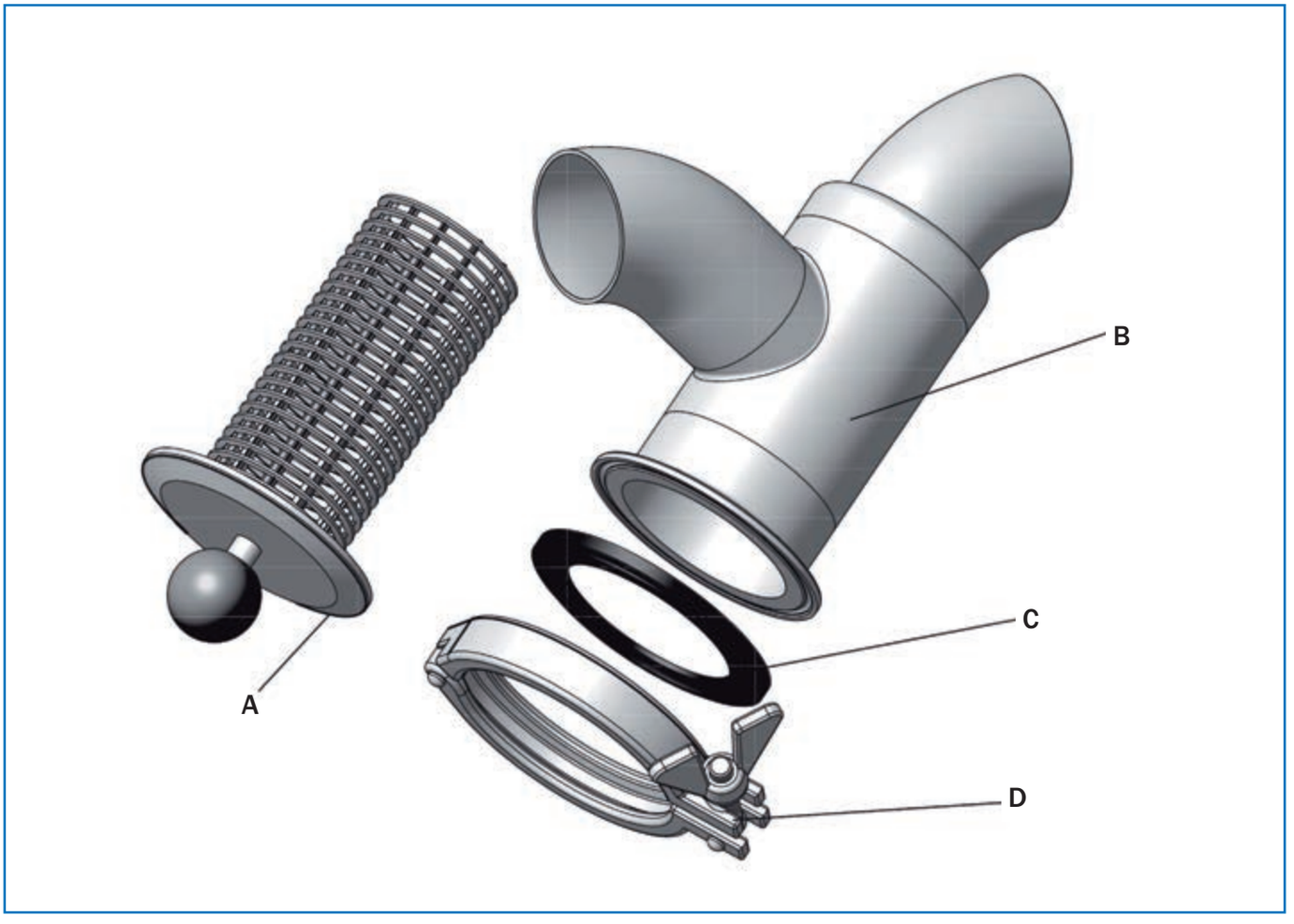
The Kv-value describes the rate of flow in m^3/h of water up to 15 °C with a pressure loss of 1 bar (=Δp)

Kv-Value							
Gap width in mm	**DN**	**25**	**40**	**50**	**65**	**80**	**100**
1	Kv	16.7	33.5	51.5	86.7	127.6	192.3
0.5	Kv	15.1	28.6	43	69.2	103.1	155.2
0.25	Kv	13.6	24.8	36.5	56.2	83.6	127.9



Dirt Trap Weld/Weld DIN					
DN DIN	**D1**	**D2**	**L**	**L1**	**Weight [kg]**
25	26	29	147	123	1.61
40	38	41	172.5	153	2.44
50	50	53	187	156	2.50
65	66	70	215.5	179	3.39
80	81	85	240.5	197	4.13
100	100	104	269.5	235	6.37

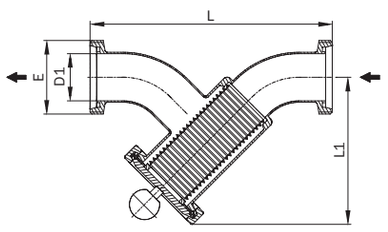
Explosion View



A Strainer insert
B Casing
C Clamp seal ring
D Heavy duty clamp

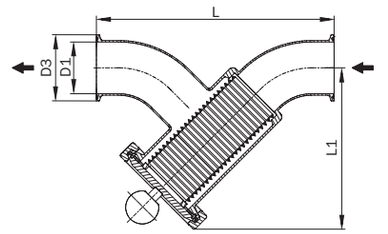
Dirt Trap Weld/Weld DIN					
1.4301 (304)/EPDM			1.4404 (316L)/EPDM		
DN DIN		Article No.		Article No.	
25		61025 221 025 10		61025 221 025 30	
40		61025 221 040 10		61025 221 040 30	
50		61025 221 050 10		61025 221 050 30	
65		61025 221 065 10		61025 221 065 30	
80		61025 221 080 10		61025 221 080 30	
100		61025 221 100 10		61025 221 100 30	

Price incl. 1 mm slotted strainer tube



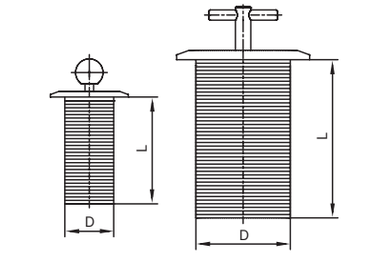
Dirt Trap Male/Male DIN

DN DIN	D1	E	L	L1	Weight [kg]
25	26	Rd 52 x 1/6"	205	123	1.89
40	38	Rd 65 x 1/6"	237.5	153	2.58
50	50	Rd 78 x 1/6"	256	156	3.03
65	66	Rd 95 x 1/6"	294.5	179	4.20
80	81	Rd 110 x 1/4"	329.5	197	5.39
100	100	Rd 130 x 1/4"	377.5	235	7.94



Dirt Trap Clamp/Clamp DIN

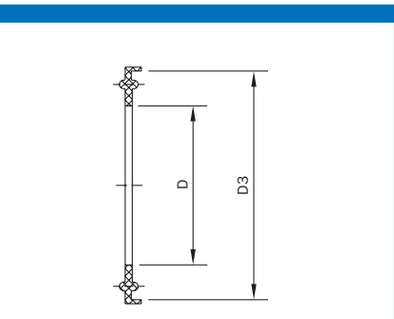
DN DIN	D1	D3	L	L1	Weight [kg]
25	26	50.5	147	189	1.75
40	38	50.5	172.5	214.5	2.54
50	50	64	187	229	2.63
65	66	91	215.5	270.5	3.75
80	81	106	240.5	295.5	4.58
100	100	119	269.5	325.5	6.81



DN25 - DN50 DN65 - DN100

Strainer Insert for Dirt Trap

DN DIN	D	L	Free screening area (cm2)	Free screening area (cm2)	Free screening area (cm2)	Weight [kg]
			0.25 mm	0.5 mm	1.0 mm	
25	38	100	21	37	91	0.87
40 - 50	57	125	40	71	172	1.24
65	73	145	61	106	257	1.56
80	85	160	79	137	331	1.86
100	110	185	119	205	498	2.34



Clamp Seal Ring

DN DIN	D	D3
25	50.2	64
40 - 50	66.2	91
65	81.2	106
80	100.2	119
100	125.2	155

Dirt Traps and Accessories

Dirt Trap Male/Male DIN

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM		
DN DIN		Article No.		Article No.	
25		61025 121 025 10		61025 121 025 30	
40		61025 121 040 10		61025 121 040 30	
50		61025 121 050 10		61025 121 050 30	
65		61025 121 065 10		61025 121 065 30	
80		61025 121 080 10		61025 121 080 30	
100		61025 121 100 10		61025 121 100 30	

Price incl. 1 mm slotted strainer tube

Dirt Trap Clamp/Clamp DIN

	1.4301 (304)/EPDM		1.4404 (316L)/EPDM		
DN DIN		Article No.		Article No.	
25		61025 421 025 10		61025 421 025 30	
40		61025 421 040 10		61025 421 040 30	
50		61025 421 050 10		61025 421 050 30	
65		61025 421 065 10		61025 421 065 30	
80		61025 421 080 10		61025 421 080 30	
100		61025 421 100 10		61025 421 100 30	

Price incl. 1 mm slotted strainer tube

Strainer Insert for Dirt Trap

	1.4404 (316L) / Gap width 0.25 mm		1.4404 (316L) / Gap width 0.5 mm		1.4404 (316L) / Gap width 1.0 mm		
DN DIN		Article No.		Article No.		Article No.	
25		61026 090 025 30		61026 010 025 30		61026 020 025 30	
40 - 50		61026 090 050 30		61026 010 050 30		61026 020 050 30	
65		61026 090 065 30		61026 010 065 30		61026 020 065 30	
80		61026 090 080 30		61026 010 080 30		61026 020 080 30	
100		61026 090 100 30		61026 010 100 30		61026 020 100 30	

Clamp Seal Ring

	EPDM		NBR		Silikon		FKM	
DN DIN		Article No.		Article No.		Article No.		Article No.
25		10514 000 050 55		10515 000 050 54		10515 000 050 55		10516 000 050 55
40 - 50		10514 000 065 55		10515 000 065 54		10515 000 065 55		10516 000 065 55
65		10514 000 080 55		10515 000 080 54		10515 000 080 55		10516 000 080 55
80		10514 000 100 55		10515 000 100 54		10515 000 100 55		10516 000 100 55
100		10514 000 125 55		10515 000 125 54		10515 000 125 55		10516 000 125 55

Inline Sight Glasses and Accessories

The AWH inline sight glass presented in this catalogue offers a range of advantages over conventional products:

1. Its design prevents incorrect assembly thanks to the following:
   - stud bolt with stop collar, which also increases resistance to fracture
   - predefined pre-compression of the seal ring on the glasscylinder
   - use of standard components from the catalogue
   - self-locking nuts
2. Optimum visibility thanks to easy-to-clean safety screen made of shock-resistant plastic. Does not restrict visibility like stamped sheet metal.
3. Available in nominal diameters of DN10 - DN150.
4. The pressure specifications for inline sight glasses can be found in the table on glass cylinders for inline sight glasses.

Technical Parameter

Material:	in contact with the product: 1.4301 (304) /1.4307 (304L), 1.4404 (316L) not in contact with the product: 1.4301 (304) /1.4307 (304L) Glass cylinder: Borosilicat
Surface:	inside: Ra ≤ 0,8 µm
Compressive strength:	nominal pressure: PN10 up to DN65, larger dimensions see table glass cylinders for inline sight glasses
Connections:	standard: welding ends DIN EN 10357 alternative: male ends DIN 11851 alternative: liner ends DIN 11851 (other variants on request)

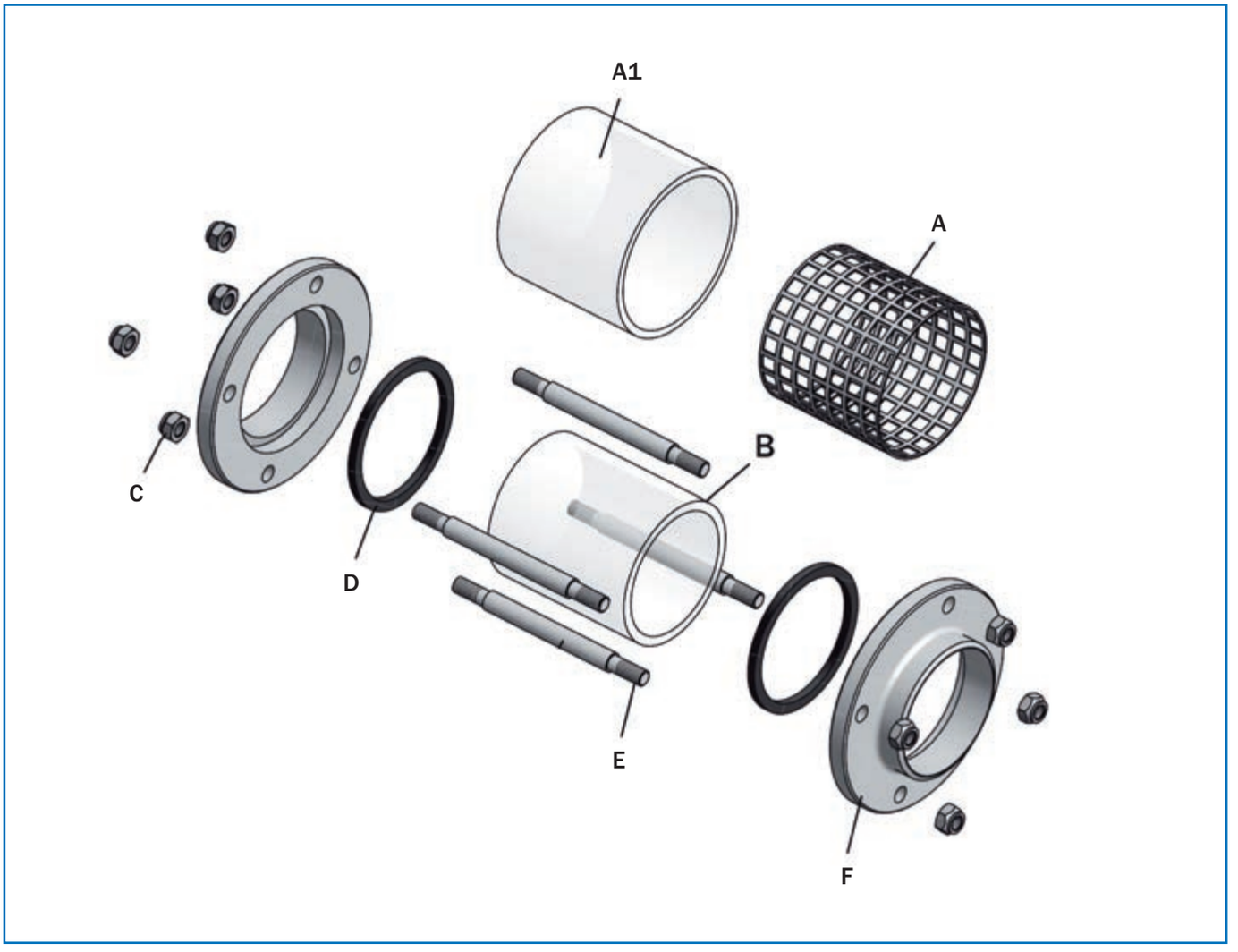
Technical Parameter Polycarbonat (safety screen for inline sight glass)

Color:	transparent (translucency > 86%)
Material:	thermoplastic polymer
Operating temperature:	up to about 120 °C, for short duration during cleaning
Typical field of use:	highly fracture-resistant and shock-resistant, excellent translucency resistant to mineral acids, many organic acids, oxidation and reducing agents, neutral and acidic salinesolutions, many different fats, waxes and oils
Limitations of use:	not very scratch-resistant, not intended for parts that come into contact with the product not resistant to aqueous or alcoholic alkalis, ammonia gas or solutions and amines of these heavy swelling with benzene, chlorobenzene, tetralin, acetone, ethyl acetate, acetonitrile and carbon tetrachloride
Recommended cleaning agent:	company WIGOL: 30 20 04, 30 20 00, 1085, 60 80 25; company WEBCO: „alcip“

Installation Instructions

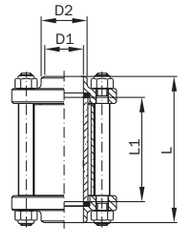
During assembly, ensure that a suitable gasket is installed on both sides of the glass cylinder. The surfaces of the gaskets must be free of impurities and undamaged. Nuts must be tightened in a criss-cross fashion and in several increments.

Explosion View



A Safety screen perforated plate
A1 Safety screen polycarbonat
B Glass cylinder
C Hexagonal nut
D Seal ring
E Studbolt
F Flange

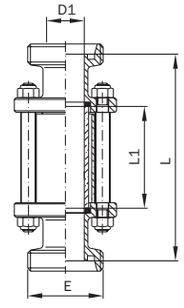
Inline Sight Glasses and Accessories



Delivery only with safety screen.

Inline Sight Glass Weld/Weld DIN

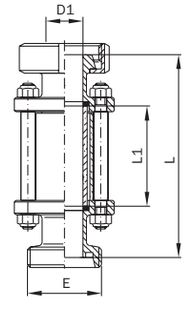
DN DIN	D1	D2	L	L1	Weight [kg]
10	10	15	88	60	0.25
15	16	21	88	60	0.30
20	20	25	88	60	0.73
25	26	31	98	70	0.75
32	32	37	104	70	0.76
40	38	43	112	70	1.08
50	50	55	112	70	1.34
65	66	72	127	85	1.90
80	81	87	135	85	2.35
100	100	106	169	115	2.80
125	125	132	202	160	6.35
150	150	157	216	170	7.11



Delivery only with safety screen.

Inline Sight Glass Male/Male DIN

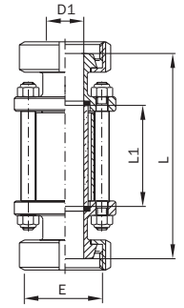
DN DIN	D1	E	L	L1	Weight [kg]
10	10	Rd 28 x 1/8"	122	60	0.32
15	16	Rd 34 x 1/8"	122	60	0.39
20	20	Rd 44 x 1/6"	124	60	0.90
25	26	Rd 52 x 1/6"	142	70	1.00
32	32	Rd 58 x 1/6"	154	70	1.08
40	38	Rd 65 x 1/6"	164	70	1.50
50	50	Rd 78 x 1/6"	168	70	1.94
65	66	Rd 95 x 1/6"	191	85	2.80
80	81	Rd 110 x 1/4"	209	85	3.10
100	100	Rd 130 x 1/4"	257	115	4.36
125	125	Rd 160 x 1/4"	270	160	8.80
150	150	Rd 190 x 1/4"	290	170	10.50



Delivery only with safety screen.

Inline Sight Glass Male/Liner DIN

DN DIN	D1	E	L	L1	Weight [kg]
10	10	Rd 28 x 1/8"	122	60	0.38
15	16	Rd 34 x 1/8"	122	60	0.45
20	20	Rd 44 x 1/6"	124	60	0.69
25	26	Rd 52 x 1/6"	142	70	1.02
32	32	Rd 58 x 1/6"	154	70	1.25
40	38	Rd 65 x 1/6"	164	70	1.67
50	50	Rd 78 x 1/6"	168	70	2.17
65	66	Rd 95 x 1/6"	191	85	3.26
80	81	Rd 110 x 1/4"	209	85	3.71
100	100	Rd 130 x 1/4"	257	115	5.10
125	125	Rd 160 x 1/4"	270	160	9.50
150	150	Rd 190 x 1/4"	290	170	11.30



Delivery only with safety screen.

Inline Sight Glass Liner/Liner DIN

DN DIN	D1	E	L	L1	Weight [kg]
10	10	Rd 28 x 1/8"	122	60	0.44
15	16	Rd 34 x 1/8"	122	60	0.52
20	20	Rd 44 x 1/6"	124	60	1.08
25	26	Rd 52 x 1/6"	142	70	1.20
32	32	Rd 58 x 1/6"	154	70	1.41
40	38	Rd 65 x 1/6"	164	70	1.89
50	50	Rd 78 x 1/6"	168	70	2.50
65	66	Rd 95 x 1/6"	191	85	3.64
80	81	Rd 110 x 1/4"	209	85	4.27
100	100	Rd 130 x 1/4"	257	115	6.13
125	125	Rd 160 x 1/4"	270	160	10.20
150	150	Rd 190 x 1/4"	290	170	11.79

Inline Sight Glasses and Accessories

Inline Sight Glass Weld/Weld DIN

	1.4301 (304)/NBR without safety screen	1.4404 (316L)/NBR without safety screen	
DN DIN	Article No.	Article No.	
10	6000 01 00 1/3	6000 01 00 2/3	
15	6000 03 00 1/3	6000 03 00 2/3	
20	6000 04 00 1/3	6000 04 00 2/3	
25	6000 05 00 1/3	6000 05 00 2/3	
32	6000 06 00 1/3	6000 06 00 2/3	
40	6000 07 00 1/3	6000 07 00 2/3	
50	6000 08 00 1/3	6000 08 00 2/3	
65	6000 09 00 1/3	6000 09 00 2/3	
80	6000 10 00 1/3	6000 10 00 2/3	
100	6000 12 00 1/3	6000 12 00 2/3	
125	6000 13 00 1/3	6000 13 00 2/3	
150	6000 15 00 1/3	6000 15 00 2/3	

Inline Sight Glass Male/Male DIN

	1.4301 (304)/NBR without safety screen	1.4404 (316L)/NBR without safety screen	
DN DIN	Article No.	Article No.	
10	6001 01 00 1/3	6001 01 00 2/3	
15	6001 03 00 1/3	6001 03 00 2/3	
20	6001 04 00 1/3	6001 04 00 2/3	
25	6001 05 00 1/3	6001 05 00 2/3	
32	6001 06 00 1/3	6001 06 00 2/3	
40	6001 07 00 1/3	6001 07 00 2/3	
50	6001 08 00 1/3	6001 08 00 2/3	
65	6001 09 00 1/3	6001 09 00 2/3	
80	6001 10 00 1/3	6001 10 00 2/3	
100	6001 12 00 1/3	6001 12 00 2/3	
125	6001 13 00 1/3	6001 13 00 2/3	
150	6001 15 00 1/3	6001 15 00 2/3	

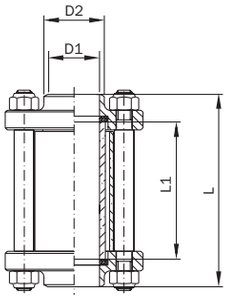
Inline Sight Glass Male/Liner DIN

	1.4301 (304)/NBR without safety screen	1.4404 (316L)/NBR without safety screen	
DN DIN	Article No.	Article No.	
10	6003 01 00 1/3	6003 01 00 2/3	
15	6003 03 00 1/3	6003 03 00 2/3	
20	6003 04 00 1/3	6003 04 00 2/3	
25	6003 05 00 1/3	6003 05 00 2/3	
32	6003 06 00 1/3	6003 06 00 2/3	
40	6003 07 00 1/3	6003 07 00 2/3	
50	6003 08 00 1/3	6003 08 00 2/3	
65	6003 09 00 1/3	6003 09 00 2/3	
80	6003 10 00 1/3	6003 10 00 2/3	
100	6003 12 00 1/3	6003 12 00 2/3	
125	6003 13 00 1/3	6003 13 00 2/3	
150	6003 15 00 1/3	6003 15 00 2/3	

Inline Sight Glass Liner/Liner DIN

	1.4301 (304)/NBR without safety screen	1.4404 (316L)/NBR without safety screen	
DN DIN	Article No.	Article No.	
10	6002 01 00 1/3	6002 01 00 2/3	
15	6002 03 00 1/3	6002 03 00 2/3	
20	6002 04 00 1/3	6002 04 00 2/3	
25	6002 05 00 1/3	6002 05 00 2/3	
32	6002 06 00 1/3	6002 06 00 2/3	
40	6002 07 00 1/3	6002 07 00 2/3	
50	6002 08 00 1/3	6002 08 00 2/3	
65	6002 09 00 1/3	6002 09 00 2/3	
80	6002 10 00 1/3	6002 10 00 2/3	
100	6002 12 00 1/3	6002 12 00 2/3	
125	6002 13 00 1/3	6002 13 00 2/3	
150	6002 15 00 1/3	6002 15 00 2/3	

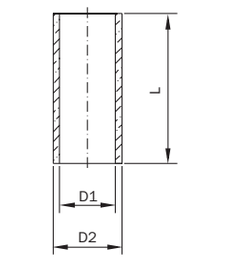
Inline Sight Glasses and Accessories



Delivery only with safety screen.

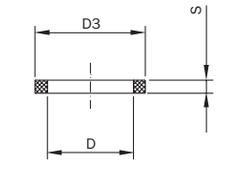
Inline Sight Glass Weld/Weld Inch

DN Inch	D1	D2	L	L1	Weight [kg]
1"	22.1	25.4	96	70	0.72
1 1/2"	34.8	38.1	110	70	1.12
2"	47.5	50.8	110	70	1.38
2 1/2"	60.2	63.5	124	85	1.90
3"	72.9	76.2	132	85	2.35
4"	97.38	101.6	167	115	2.80



Borosilicate Glass Cylinder

DN DIN	DN Inch	D1	D2	L	Max. working pressure (bar)	Weight [kg]
10		10	15	60	10	0.02
15		17	22	60	10	0.02
20		20	26	60	10	0.03
25	1"	26	32	70	10	0.04
32		34	40	70	10	0.06
40	1 1/2"	40	50	70	10	0.11
50	2"	50	60	70	10	0.14
	2 1/2"	60	70	85	10	0.18
65		65	75	85	10	0.21
	3"	75	85	90	9	0.27
80		80	90	85	8	0.30
100	4"	100	110	115	7	0.43
125		126	140	160	7	1.12
150		152	170	170	7	1.80



Seal Ring

DN DIN	DN Inch	D	D3	S
10		10	16	3
15		16	23	3
20		20	27	3
25	1"	26	33	3
32		32	39	3
40	1 1/2"	38	51	3
50	2"	50	61	3
	2 1/2"	61	72	3
65		66	76	3
	3"	76	87	4
80		81	91	4
100	4"	100	11	4
125		125	141	4
150		150	171	4

Inline Sight Glasses and Accessories

Inline Sight Glass Weld/Weld Inch

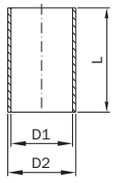
1.4301 (304)/NBR without safety screen			1.4404 (316L)/NBR without safety screen		
DN Inch		Article No.		Article No.	
1"		6000 54 00 1/3		6000 54 00 2/3	
1 1/2"		6000 57 00 1/3		6000 57 00 2/3	
2"		6000 58 00 1/3		6000 58 00 2/3	
2 1/2"		6000 59 00 1/3		6000 59 00 2/3	
3"		6000 60 00 1/3		6000 60 00 2/3	
4"		6000 62 00 1/3		6000 62 00 2/3	

Borosilicate Glass Cylinder

DN DIN	DN Inch		Article No.
10			6000 01 03 9
15			6000 03 03 9
20			6000 04 03 9
25	1"		6000 05 03 9
32			6000 06 03 9
40	1 1/2"		6000 07 03 9
50	2"		6000 08 03 9
	2 1/2"		6000 59 03 9
65			6000 09 03 9
	3"		6000 60 03 9
80			6000 10 03 9
100	4"		6000 12 03 9
125			6000 13 03 9
150			6000 15 03 9

Seal Ring

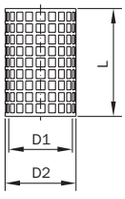
NBR				EPDM			
DN DIN	DN Inch		Article No.		Article No.		
10			6000 01 05 3		6000 01 05 1		
15			6000 03 05 3		6000 03 05 1		
20			6000 04 05 3		6000 04 05 1		
25	1"		6000 05 05 3		6000 05 05 1		
32			6000 06 05 3		6000 06 05 1		
40	1 1/2"		6000 07 05 3		6000 07 05 1		
50	2"		6000 08 05 3		6000 08 05 1		
	2 1/2"		6000 59 05 3		6000 59 05 1		
65			6000 09 05 3		6000 09 05 1		
	3"		6000 60 05 3		6000 60 05 1		
80			6000 10 05 3		6000 10 05 1		
100	4"		6000 12 05 3		6000 12 05 1		
125			6000 13 05 3		6000 13 05 1		
150			6000 15 05 3		6000 15 05 1		



According to risk assessment AWH inline sight glasses are supplied with safety screen.

Safety Screen (Polycarbonat)

DN DIN	DN Inch	D1	D2	L	Weight [kg]
10		20	24	50	0.01
15		27	30	50	0.01
20		35	38	50	0.01
25	1"	36	40	61	0.01
32		42	45	61	0.02
40	1 1/2"	54	60	61	0.02
50	2"	66	70	61	0.03
80	3"	95	100	77	0.04
100	4"	128	133	103	0.07
150		194	200	158	0.17



According to risk assessment AWH inline sight glasses are supplied with safety screen.

Safety Screen (perforated plate)

DN DIN	DN Inch	D1	D2	L	Weight [kg]
10		19	21	46	0.01
15		25	27	46	0.01
20		29	31	46	0.01
25	1"	34	36	60	0.01
32		41	43	60	0.02
40	1 1/2"	52	54	60	0.02
50	2"	63	65	60	0.03
65	2 1/2"	78	80	74	0.04
80	3"	94	96	74	0.04
100	4"	113	115	102	0.07
125		143	145	144	0.12
150		173	175	158	0.17

Inline Sight Glasses and Accessories

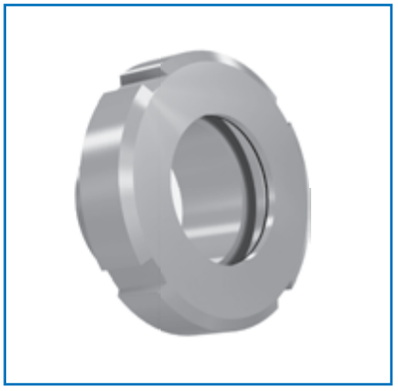
Safety Screen (Polycarbonat)

DN DIN	DN Inch		Article No.
10			6000 01 04 9
15			6000 03 04 9
20			6000 04 04 9
25	1"		6000 05 04 9
32			6000 06 04 9
40	1 1/2"		6000 07 04 9
50	2"		6000 08 04 9
80	3"		6000 10 04 9
100	4"		6000 12 04 9
150			6000 15 04 9

Safety Screen (perforated plate)

		1.4301 (304)	
DN DIN	DN Inch		Article No.
10			6000 01 06 1
15			6000 03 06 1
20			6000 04 06 1
25	1"		6000 05 06 1
32			6000 06 06 1
40	1 1/2"		6000 07 06 1
50	2"		6000 08 06 1
65	2 1/2"		6000 09 06 1
80	3"		6000 10 06 1
100	4"		6000 12 06 1
125			6000 13 06 1
150			6000 15 06 1

Sight Glasses and Accessories



1. In the standard sight glass, a pane of tempered glass is screwed in to a male with a welded end using a seal ring and a grooved nut. The sight glass is made of Borosilicate glass, which offers excellent strength and thermal stability. The maximum temperature is 280 °C (acc. to DIN 7080). The change in temperature from 230 °C to 20 °C must take at least 1 minute.
2. The sight glass with a wiper blade is used for liquids with large amounts of solid particles that can leave deposits on the Borosilicate pane.
3. The light for the sight glass comes in two different versions:
   - For the sight glass unit DIN welding ends. With this version, the medium is transilluminated.
   - For the sight glass DIN welding. In this case, the medium is illuminated.

When properly installed, a protective rating of IP65 in compliance with EN 60529 / DIN VDE 0470 Part 1 (dust tight and protected against low pressure jets of water) is achieved.

The lights are not suited for use in explosion-prone operating environments.

Technical Parameter

Material:	in contact with the product: 1.4301 (304) /1.4307 (304L), 1.4404 (316L) not in contact with the product: 1.4301 (304) /1.4307 (304L) Sight glass: Borosilicate
Surface:	inside: Ra ≤ 0,8 µm outside: fine turned
Anschlüsse:	standard: welding ends DIN EN 10357

Installation Instructions

When welding the male, ensure that the unit is not deformed during the welding process. This must be done by trained and authorised personnel.

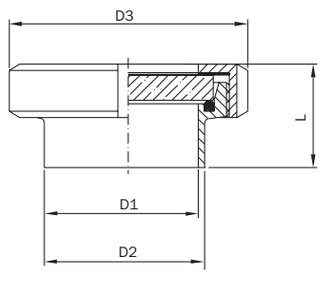
Additional Installation Instructions for the Sight Glass with Light

- The light must be installed by trained, authorised personnel with the voltage specified on the identification plate.
- Sight glass lights have a dedicated purpose and are designed exclusively for the intended application.
- Inline sight glasses with a built-in pushbutton are designed for pushbutton mode only.
- Inline sight glasses intended for continuous operation must be operated using an external switch. This must always be specified in the order.
- The lights are not suitable for explosion-prone operating environments.

Attention: Continuous operation is only permitted for some lights. Please be aware of this when ordering and always specify this in your order!

Additional Installation Instructions for the Sight Glass with Wiper Blade

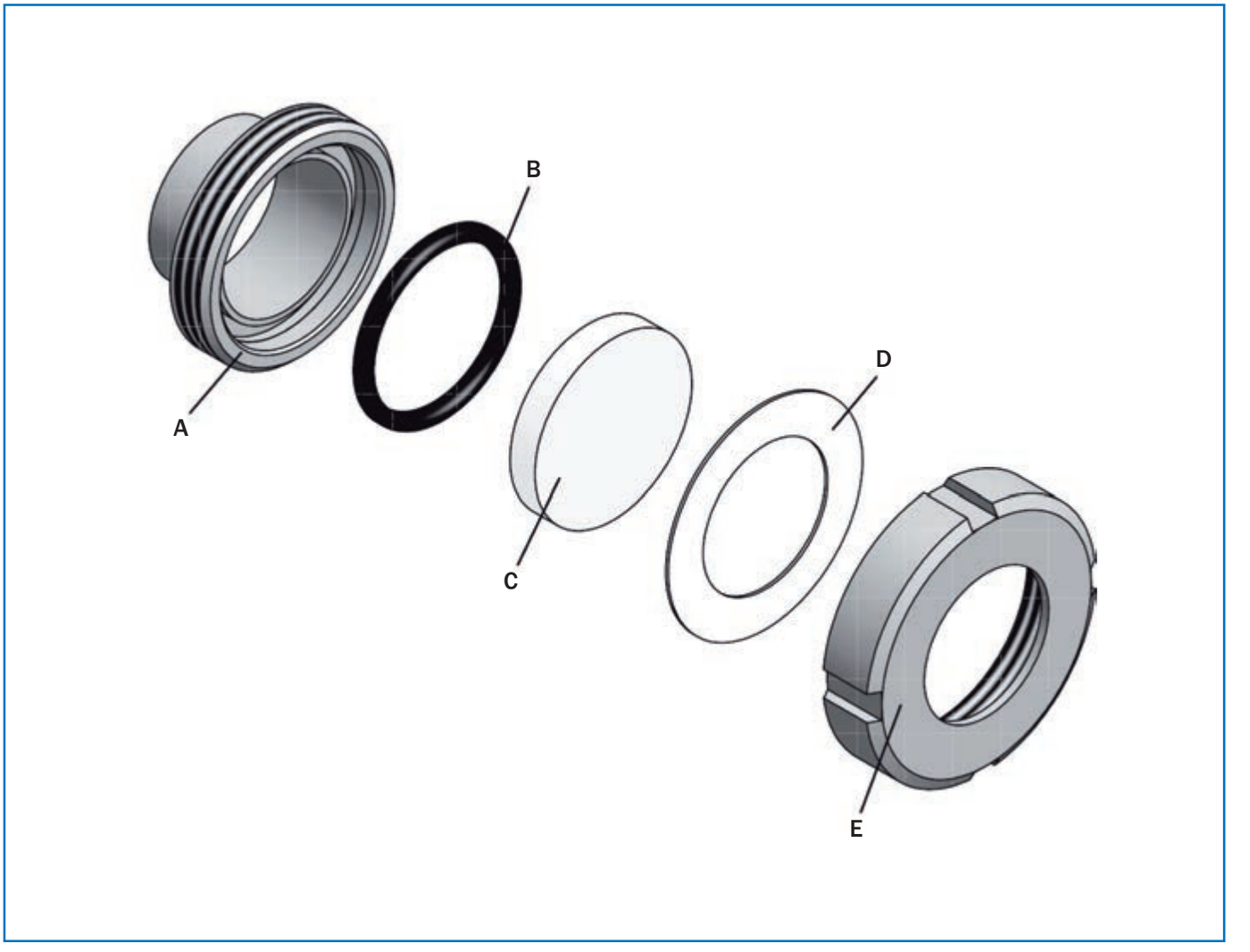
- The wiper blade may only be used in a temperature range of -40 °C to 140 °C.
- The maximum nominal pressure of the unit is 6 bar.
- The wiper screw must be regularly checked for tightness and re-tightened as necessary.



Sight Glass with Borosilicate Glass for Pipe Dimensions acc. to DIN EN 10357

DN DIN	D1	D2	D3	L	Weight [kg]
25	26	29	63	37	0.31
32	32	35	70	40	0.40
40	38	41	78	41	0.48
50	50	53	92	43	0.69
65	66	70	112	48	1.10
80	81	85	127	54	1.61
100	100	104	148	64	2.27
125	125	129	178	58	3.08
150	150	154	210	60	5.28

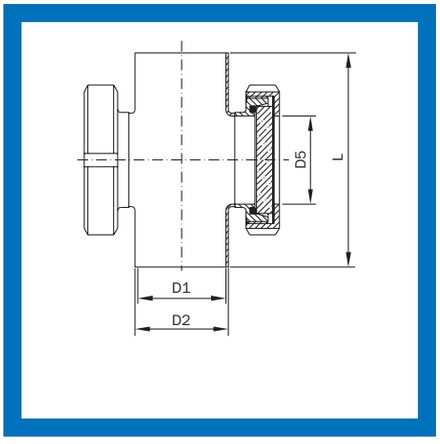
Explosion View



A Male
B Seal ring
C Borosilicate glass
D Disc
E Nut

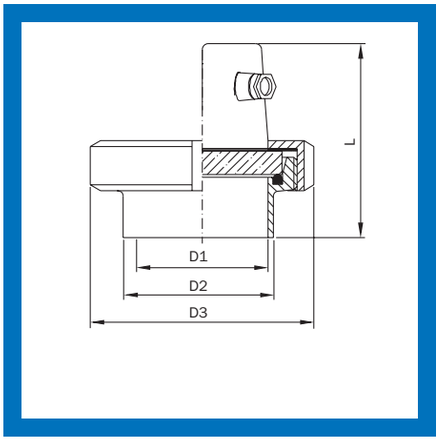
Sight Glass with Borosilicate Glass for Pipe Dimensions acc. to DIN EN 10357

	1.4301 (304)/NBR		1.4404 (316L)/NBR		
DN DIN		Article No.		Article No.	
25		6020 05 00 1/3		6020 05 00 2/3	
32		6020 06 00 1/3		6020 06 00 2/3	
40		6020 07 00 1/3		6020 07 00 2/3	
50		6020 08 00 1/3		6020 08 00 2/3	
65		6020 09 00 1/3		6020 09 00 2/3	
80		6020 10 00 1/3		6020 10 00 2/3	
100		6020 12 00 1/3		6020 12 00 2/3	
125		6020 13 00 1/3		6020 13 00 2/3	
150		6020 15 00 1/3		6020 15 00 2/3	



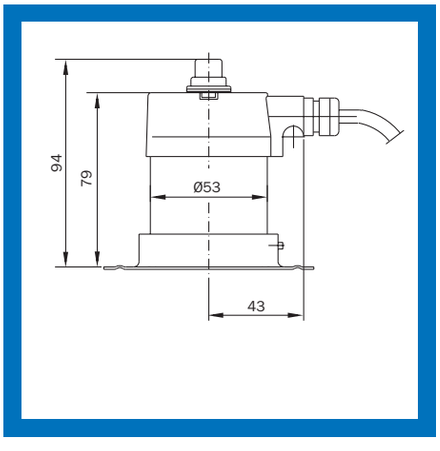
Inline Sight Glass Unit for Pipe Dimensions acc. to DIN EN 10357 Weld/Weld DIN

DN	D1	D2	D5	L	Weight [kg]
25	25	28	26	100	0.85
25	26	29	26	100	0.85
32	31	34	32	110	0.90
32	32	35	32	110	0.90
40	37	40	38	120	1.10
40	38	41	38	120	1.10
50	49	52	50	140	1.50
50	50	53	50	140	1.50
65	66	70	66	160	1.80
80/65	81	85	66	180	2.80
100/65	100	104	66	200	3.00
125/100	125	129	100	375	6.20
150/100	150	154	100	450	6.50



Sight Glass with Light

DN DIN	D1	D2	D3	L	Weight [kg]
65	66	70	112	110	1.40
80	81	85	127	135	2.10
100	100	104	148	153	2.70
125	125	129	178	150	3.60



Light for Inline Sight Glass Unit Weld/Weld DIN

DN DIN
65
100

Sight Glasses and Accessories

Inline Sight Glass Unit for Pipe Dimensions acc. to DIN EN 10357 Weld/Weld DIN

1.4301 (304)/NBR		1.4404 (316L)/NBR	
DN	Article No.		Article No.
25	6021 05 00 1/3		6021 05 00 2/3
25	6021 43 00 1/3		6021 43 00 2/3
32	6021 06 00 1/3		6021 06 00 2/3
32	6021 44 00 1/3		6021 44 00 2/3
40	6021 07 00 1/3		6021 07 00 2/3
40	6021 45 00 1/3		6021 45 00 2/3
50	6021 08 00 1/3		6021 08 00 2/3
50	6021 46 00 1/3		6021 46 00 2/3
65	6021 09 00 1/3		6021 09 00 2/3
80/65	6021 10 00 1/3		6021 10 00 2/3
100/65	6021 12 00 1/3		6021 12 00 2/3
125/100	6021 13 00 1/3		6021 13 00 2/3
150/100	6021 15 00 1/3		6021 15 00 2/3

Sight Glass with Light

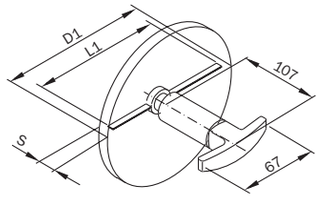
1.4301 (304)/NBR	
DN DIN	Article No.
65	6022 09 00
80	6022 10 00
100	6022 12 00
125	6022 13 00

Protection class:	IP65
Electrical data	
Operating voltage:	24 V (12 V also possible)
Bulb:	2 pin halogen bulb 20 W and 50 W, depending on the type

Light for Inline Sight Glass Unit Weld/Weld DIN

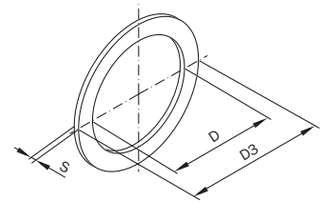
DN DIN	Article No.
65	6023 09 00 0
100	6023 12 00 0

Protection class:	IP65
Operating conditions:	maximum permitted ambient temperature at the cable gland is 55 °C
Electrical data	
Operating voltage:	without built-in pushbutton: 24 V, 20 W halogen bulb with built-in pushbutton: 24 V, 50 W halogen bulb



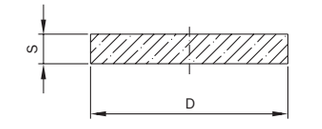
Wiper Blade with Sight Glass Plate

DN DIN	D1	S	L1	Weight [kg]
65	80	12	63	0.20
80	100	15	77	0.48
100	113	15	97	0.53



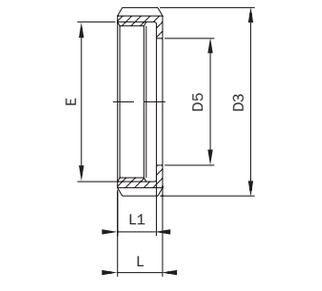
Disc

DN DIN	D	D3	S	Weight [kg]
25	26	52	1	0.00
32	32	58	1	0.01
40	38	65	1	0.01
50	50	78	1	0.01
65	66	95	1	0.01
80	81	110	1	0.01
100	100	130	1	0.02
125	125	160	1	0.04
150	150	190	1	0.05



Borosilicate Glass

DN DIN	D	S	Weight [kg]
25	45	10	0.03
32	50	10	0.04
40	55	10	0.06
50	63	10	0.08
65	80	12	0.14
80	100	15	0.29
100	117	15	0.33
125	150	20	0.66
150	175	20	1.18



Nut for Sight Glass

DN	D3	D5	E	L	L1	Weight [kg]
25	63	26	Rd 52 x 1/6"	21	18	0.18
32	70	32	Rd 58 x 1/6"	21	18	0.22
40	78	38	Rd 65 x 1/6"	21	18	0.25
50	92	50	Rd 78 x 1/6"	22	19	0.33
65	112	66	Rd 95 x 1/6"	25	21	0.55
80	127	81	Rd 110 x 1/4"	29	25	0.80
100	148	100	Rd 130 x 1/4"	31	26	1.08
125	178	125	Rd 160 x 1/4"	35	30	1.45
150	210	150	Rd 190 x 1/4"	40	34	1.88

Sight Glasses and Accessories

Wiper Blade with Sight Glass Plate

DN DIN	Article No.
65	6024 09 00
80	6024 10 00
100	6024 12 00

For optional manual cleaning of glass plates in inline sight glass units
Operating conditions: vacuum-tight; pressure-resistant up to at least 2 bar
6 bar depending on the dimensions of the sight glass plate
max. permitted temperature: 220 °C
(depending on the sight glass plate used)

Disc

PTFE	
DN DIN	Article No.
25	6020 05 04 4
32	6020 06 04 4
40	6020 07 04 4
50	6020 08 04 4
65	6020 09 04 4
80	6020 10 04 4
100	6020 12 04 4
125	6020 13 04 4
150	6020 15 04 4

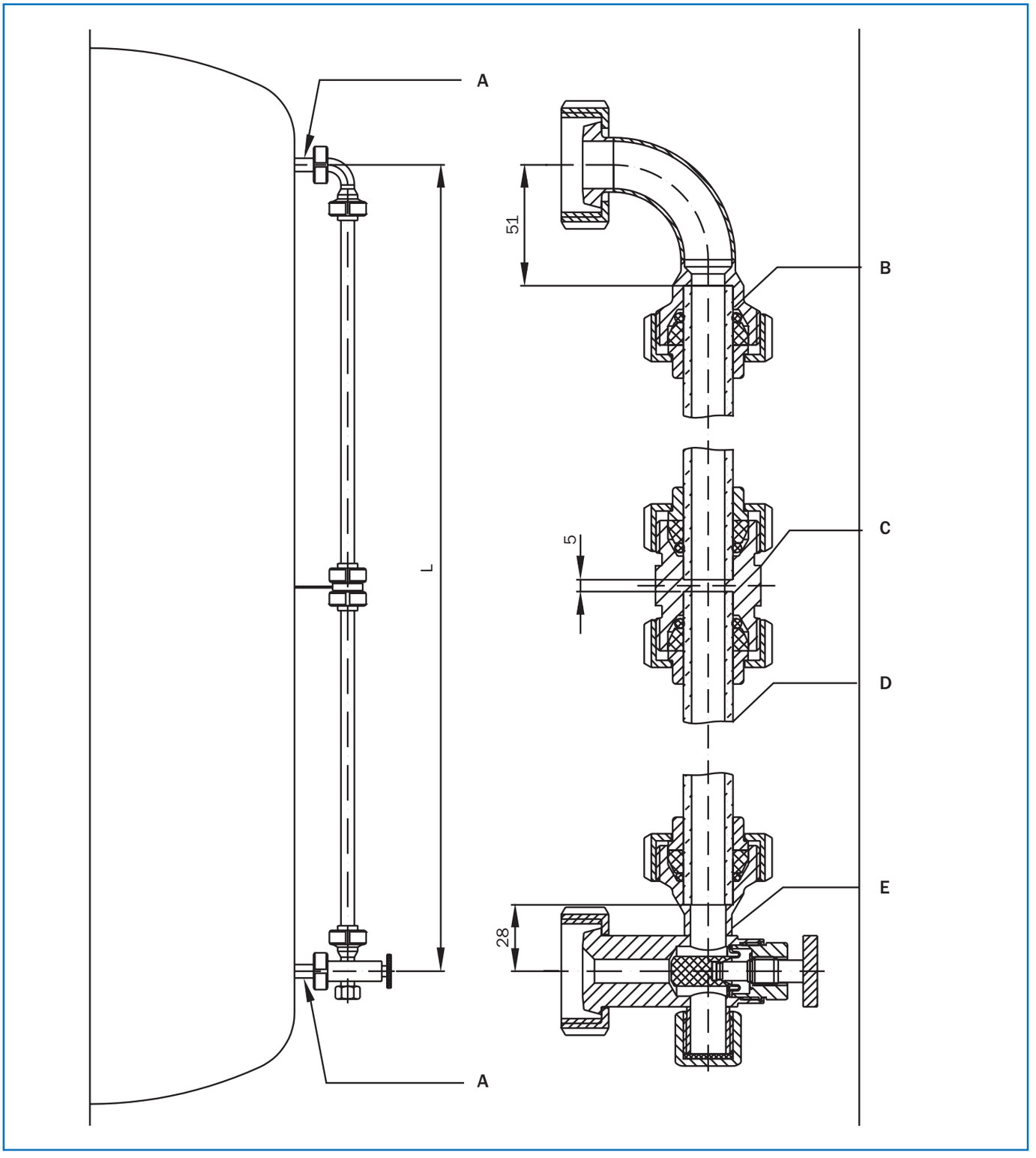
Borosilicate Glass

DN DIN	Article No.
25	6020 05 03 9
32	6020 06 03 9
40	6020 07 03 9
50	6020 08 03 9
65	6020 09 03 9
80	6020 10 03 9
100	6020 12 03 9
125	6020 13 03 9
150	6020 15 03 9

Nut for Sight Glass

	1.4301 (304)/pol	1.4404 (316L)/pol
DN	Article No.	Article No.
25	60015 000 025 10	60015 000 025 30
32	60015 000 032 10	60015 000 032 30
40	60015 000 040 10	60015 000 040 30
50	60015 000 050 10	60015 000 050 30
65	60015 000 065 10	60015 000 065 30
80	60015 000 080 10	60015 000 080 30
100	60015 000 100 10	60015 000 100 30
125	60015 000 125 10	60015 000 125 30
150	60015 000 150 10	60015 000 150 30

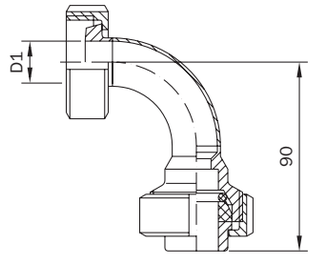
20 Level Indicator



A Male DN20
B Upper part
C Coupling
D Glass tube
E Valve

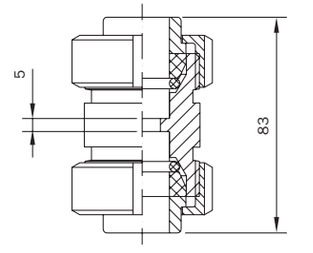
A coupling has to be used for level indicator lengths over 3000 mm.

Level Indicator



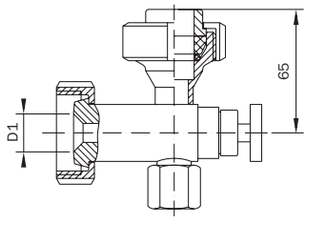
Upper Part for Level Indicator

DN DIN	D1	1.4404 (316L)
		Article No.
20	20	6310 04 00 2



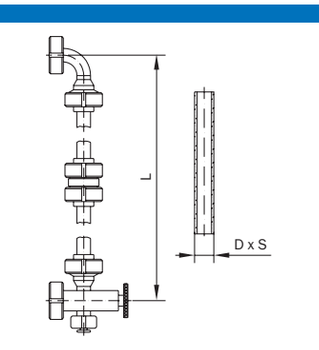
Coupling for Level Indicator

DN DIN	1.4404 (316L)
	Article No.
20	6320 04 00 2



Valve for Level Indicator

DN DIN	DN Inch	D1	Description	1.4404 (316L)
				Article No.
20		20	with DN10 male and cover cap	6330 04 00 2
	1/2"		with G 1/2" connecting nipple and cover cap or with drain cock	6331 04 00 2
	1/2"		Ball cock	4601 52 00 2



Glass Tube for Level Indicator

L	D x S	1.4404 (316L)
		Article No.
Specify in order	20 x 2.5	60005 000 020 66

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