DOCKWEILER
connecting flow to purity

ASME BPE 표준

ASME BPE COMPONENTS

인증
품질

ASME BPE 표준에 따른 튜브 및 피팅의 사양 및 치수

Specifications and Dimensions for Tubes and Fittings according to ASME BPE Standard

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connecting flow to purity

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6			**사양** Specification

	bpe-direct	ASME BPE (ASME BPE 2009)	ASME BPE-2019에 따른 명칭 Designations according to ASME BPE
10		DT-4-1 DT-1	**튜브** Tube
11		DT-4.1.1-1 DT-7	**자동 튜브 용접: 90° 엘보** Automatic Tube Weld: 90° Elbow
12		DT-4.1.1-9	**자동 튜브 용접: 88° 엘보** Automatic Tube Weld: 88° Elbow
13		DT-4.1.1-10	**자동 튜브 용접: 92° 엘보** Automatic Tube Weld: 92° Elbow
14		DT-4.1.1-2 DT-12	**자동 튜브 용접: 위생 클램프 조인트(Hygienic clamp joint), 90° 엘보** Automatic Tube Weld: Hygienic Clamp Joint, 90° Elbow
15		DT-4.1.1-3 DT-16	**위생 클램프 조인트(Hygienic clamp joint): 90° 엘보** Hygienic Clamp Joint: 90° Elbow
16		DT-4.1.1-4 DT-8	**자동 튜브 용접: 45° 엘보** Automatic Tube Weld: 45° Elbow
17		DT-4.1.1-5 DT-13	**자동 튜브 용접: 위생 클램프 조인트(Hygienic clamp joint), 45° 엘보** Automatic Tube Weld: Hygienic Clamp Joint, 45° Elbow
18		DT-4.1.1-6 DT-17	**위생 클램프 조인트(Hygienic clamp joint): 45° 엘보** Hygienic Clamp Joint: 45° Elbow
19		DT-4.1.1-7 DT-23	**자동 튜브 용접: 180° 리턴 벤드** Automatic Tube Weld: 180° Return Bend
20		DT-4.1.1-8 DT-24	**위생 클램프 조인트(Hygienic clamp joint): 180° 리턴 벤드** Hygienic Clamp Joint: 180° Return Bend
22		DT-4.1.2-1 DT-9	**자동 튜브 용접: 스트레이트 티** Automatic Tube Weld: Straight Tee
23		DT-4.1.2-1 DT-9	**자동 튜브 용접: 스트레이트 크로스(Straight Cross)** Automatic Tube Weld: Straight Cross
24		DT-4.1.2-2 DT-15	**자동 튜브 용접: 쇼트 아웃렛 위생 클램프 조인트 티** **(Short Outlet Hygienic Clamp Joint Tee)** Automatic Tube Weld: Short Outlet Hygienic Clamp Joint Tee
25		DT-4.1.2-3 DT-25	**위생 메커니컬 조인트(Hygienic Mechanical Joint):** **쇼트 아웃렛 런 티(Short Outlet Run Tee)** Hygienic Mechanical Joint: Short Outlet Run Tee
26		DT-4.1.2-4 DT-18	**위생 클램프 조인트(Hygienic clamp joint): 스트레이트 티** Hygienic Clamp Joint: Straight Tee
27		DT-4.1.2-4 DT-18	**위생 클램프 조인트(Hygienic clamp joint): 스트레이트 크로스(Straight Cross)** Hygienic Clamp Joint: Straight Cross
28		DT-4.1.2-5 DT-27	**위생 클램프 조인트(Hygienic clamp joint): 쇼트 아웃렛 티(Short Outlet Tee)** Hygienic Clamp Joint: Short Outlet Tee
30		DT-4.1.2-6 DT-10	**자동 튜브 용접: 리듀싱 티(Reducing Tee)** Automatic Tube Weld: Reducing Tee
32		DT-4.1.2-7 DT-14	**자동 튜브 용접: 쇼트 아웃렛 위생 클램프, 조인트 리듀싱 티** **(Short Outlet Hygienic Clamp, Joint Reducing Tee)** Automatic Tube Weld: Short Outlet Hygienic Clamp, Joint Reducing Tee
34		DT-4.1.2-8 DT-19	**위생 클램프 조인트(Hygienic clamp joint): 리듀싱 티(Reducing Tee)** Hygienic Clamp Joint: Reducing Tee
36		DT-4.1.2-9 DT-20	**자동 튜브 용접: 쇼트 아웃렛 위생 클램프, 조인트 리듀싱 티 (Short Outlet Reducing Tee)** Hygienic Clamp Joint: Short Outlet Reducing Tee
38		DT-4.1.2-10 DT-28	**자동 튜브 용접: 인스트루먼트 티(Instrument Tee)** Automatic Tube Weld: Instrument Tee
39		DT-4.1.2-11 DT-29	**위생 클램프 조인트(Hygienic clamp joint): 인스트루먼트 티(Instrument Tee)** Hygienic Clamp Joint: Instrument Tee
42		DT-4.1.3-1	**자동 튜브 용접: 콘센트릭 리듀서 (Concentric Reducer)** Automatic Tube Weld: Concentric Reducer
43		DT-4.1.3-1	**자동 튜브 용접: 에센트릭 리듀서 (Eccentric Reducer)** Automatic Tube Weld: Eccentric Reducer
44		DT-4.1.3-2	**위생 클램프 조인트(Hygienic clamp joint): 튜브 용접 콘센트릭 리듀서** **(Concentric Reducer)** Hygienic Clamp Joint: Tube Weld Concentric Reducer
45		DT-4.1.3-2	**위생 클램프 조인트(Hygienic clamp joint): 튜브 용접 에센트릭 레듀서** **(Eccentric Reducer)** Hygienic Clamp Joint: Tube Weld Eccentric Reducer
46		DT-4.1.3-3	**생 클램프 조인트(Hygienic clamp joint): 콘센트릭 리듀서 (Concentric Reducer)** Hygienic Clamp Joint: Concentric Reducer
47		DT-4.1.3-3	**위생 클램프 조인트(Hygienic clamp joint): 에센트릭 리듀서 (Eccentric Reducer)** Hygienic Clamp Joint: Eccentric Reducer
50		DT-4.1.4-1 DT-22	**자동 튜브 용접: 페럴** Automatic Tube Weld: Ferrule
52		DT-4.1.5-1 DT-30	**자동 튜브 용접: 캡** Automatic Tube Weld: Cap
53		DT-4.1.5-2 DT-31	**위생 클램프 조인트(Hygienic clamp joint): 솔리드 엔드 캡(Solid End Cap)** Hygienic Clamp Joint: Solid End Cap

57			**추가 제품** Additional Products
63			**정보** General Information

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CERTIFIED
QUALITY
인증
품질

최신 ASME-BPE 제품: 수년 동안 Dockweiler의 표준

American Society of Mechanical Engineers는 1997년에 생물공정 장비에 대한 이 표준을 처음 발표했으며 생명공학 및 제약 산업을 위한 전 세계 표준 사양이 되었습니다. 그 이후로 ASME BPE는 생명 공학 및 제약 산업에서 액체 매체 운송을 위한 세계적으로 인정받는 표준 사양이 되었습니다. bpe-direct는 ASME BPE에 따른 Dockweiler 튜브 및 피팅입니다. 모든 구성 요소에는 세계 최고의 스테인리스 스틸 튜브 시스템 제조업체 중 하나인 당사의 경험이 통합되어 있습니다. 이것은 Dockweiler에서 오랫동안 표준이었던 새로운 티피스와 88° 및 92° 엘보우에도 적용됩니다.

Latest ASME-BPE products: Standard at Dockweiler for many years

The American Society of Mechanical Engineers first published this standard in 1997 for Bioprocessing Equipment and it has become a standard specification worldwide for the biotechnological and pharmaceutical industries. Since then, ASME BPE has become a globally recognized standard specification for the transport of liquid media in the biotechnology and pharmaceutical industries. bpe-direct are Dockweiler tubes and fittings according to ASME BPE. Every component incorporates our experience as one of the world's leading manufacturers of stainless steel tube systems. This also applies to the new tee-pieces and the 88° and 92° elbows, which have long been standard at Dockweiler.

bpe-direct

제약 산업 및 생명 공학 분야의 신뢰할 수 있는 공정용.

For reliable processes in the pharmaceutical industry and biotechnology.

유럽과 아시아의 광범위한 재고를 통하여 빠르고 안정적인 공급

Fast and reliable delivery through extensive stock in Europe and Asia

다음에 따른 전해 연마 버전 ASME BPE 클래스 SF4 ~ SF6

Electropolished versions according to ASME BPE classes SF4 to SF6

전 세계 고유: 특수 소재 인증 C22 및 AL-6XN과 같은

Worldwide unique: certified for special materials such as C22 and AL-6XN

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치수 / Dimensions

OD 튜빙 / OD TUBING
ASME BPE의DT 부분 / acc. to ASME BPE, Part DT

1/4" to 6" (0,250 x 0,035 inch to 6,000 x 0,109 inch)
6,35 x 0,89 mm to 152,40 x 2,77 mm

소재 / Materials

UNS S31603 (316L)
UNS S31603 (316L) / 1.4404*
UNS S31603 (316L) / 1.4435*
UNS N08904 (904L) / 1.4539
UNS N06022 (C22) / 2.4602
UNS N08367 (AL-6XN)

*유황은 0.005 - 0.017% 농도로 제한
Defined sulphur of 0.005 - 0.017%

경도 / Hardness equivalent to:

max. 180 HV
max. 90 HRB

표면 / Surfaces

튜브 및 튜브 피팅 / TUBE AND TUBE FITTINGS
ASME BPE MM & SF에 따름 / acc. to ASME BPE MM & SF

기계적 폴리싱*: / Mechanically polished*:

SF0: No finish requirement/SFO: 마감 요건 없음
SF1: Ra max. ≤ 20 µin (0,51 µm) - Standard
SF2: Ra max. ≤ 25 µin (0,64 µm)
SF3: Ra max. ≤ 30 µin (0,76 µm)

*** 또는 Ra(최대)를 충족하는 기타 모든 마감 방법**
Or any other finishing method that meets the Ra(max)

전해연마(ep) / Electropolished

SF4: Ra max. ≤ 15 µin (0,38 µm) - Standard
SF5: Ra max. ≤ 20 µin (0,51 µm)
SF6: Ra max. ≤ 25 µin (0,64 µm)

표면 처리 / Surface treatment:
- 기계적 폴리싱*: / Mechanically polished*:
Cleaning and test procedure ASTM A 632, S3
ASTM A 632, S3에 따르는 세척 및 시험 절차
- 전해연마(ep) / Electropolished.
Procedure acc. to Spec. Doc. 8.4-40/3.2/3.3.2
Free of oil and grease acc. to CGA G-4.1-2018 and ASTM G93
CGA G-4.1–2018에 따른 오일 및 윤활유 접촉 방지 8.4-40/3.1/3.3.2 사양 문서에 따른 절차

품질 및 테스트 절차 / Quality and test procedures

기본 테스트 인증서 확인 / Verification of basic test certificate	■
치수 확인 / Visual inspection	■
광택 마감 처리 튜브의 내시경 검사 / Endoscopic inspection of bright finished tubes	■
치수 확인 / Verification of dimensions	■
거칠기 측정 / Roughness measurements	■

기술적 인도 조건 / Technical terms of delivery

기술적 인도 조건	Technical terms of delivery
제조 및 테스트	**Manufacture and testing**
ASTM A 269 / A 632 / A 312 (파이프) DIN EN 10217-7 / 10216-5 길이: 5900 - 6090 mm, 최소 3000mm의 최대 10% 짧은 길이	ASTM A 269 / A 632 / A 312 (Pipe), DIN EN 10217-7 / 10216-5 Length 5900 - 6090 mm, max. 10% short lengths of min. 3000 mm
전해 연마된 튜브 OD ≤ 5.00mm의 길이2950 ± 50mm	Length for electropolished tubes OD ≤ 5,00 mm will be 2950 ± 50 mm
최종 준비	**End preparation**
오비탈 용접용으로 준비됨	prepared for orbital welding
상시 표시 내용	**Marking always with**
DOCKWEILER | DW-번호 치수 | 소재 | 열처리 번호	DOCKWEILER | DW-Number Dimension | Material | Heat number
튜브 및 피팅은 영구 표시됩니다. 피팅은 타각 또는 레이저 마킹 표시 됩니다.	Tubes and fittings are permanently marked. Fittings are needle or laser marked.

문서화, 포장 및 발송 / Documentation, Packaging and Shipping

문서화 / Documentation	
EN 10204 기준 Dockweiler 검사 인증서 3.1 Dockweiler Inspection Certificate 3.1 according to EN 10204	■
WebCert 온라인 문서 선택 가능 WebCert online documentation optional	■
포장 / Packaging	
포장 라벨에는 상세 품질 정보가 포함되어 있습니다 Batch label on the foil contains the detailed quality information	■
광택 마감 처리 튜브 및 피팅은 투명 PE 캡으로 닫습니다 Bright finished tubes and fittings are closed with transparent PE caps	■
PA/PE 정사각형 및 노란색 PE 캡으로 닫고 PE 슬리브 및 포장 처리 Closed with PA/PE squares and yellow PE caps, sleeved and sealed in PE	**EP only**
튜브 및 피팅은 PE 포장지로 개별 포장 Tubes and fittings individually sealed in PE foil	**EP only**
발송 / Shipping	
튜브는 튜브형 용기 또는 목재 상자에 넣어 인도됨 Delivery of tubes in tubular container or wooden crate	■
피팅은 진동 흡수 충진재가 포함된 강한 판지 박스에 포장 Fittings in strong cardboard box with shock-absorbing filler	■

튜브 및 엘보
TUBES AND ELBOWS

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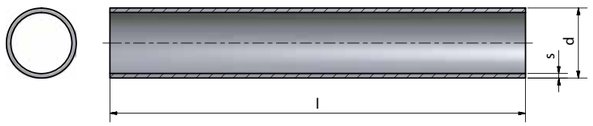
튜브
Tube



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통상 치수 (d) Nominal Size		벽 두께 (s) Wall Thickness		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	0.035	0.89	SF1-04	SF4-04
3/8	9.53	0.035	0.89	SF1-06	SF4-06
1/2	12.70	0.065	1.65	SF1-08	SF4-08
3/4	19.05	0.065	1.65	SF1-12	SF4-12
1	25.40	0.065	1.65	SF1-16	SF4-16
1 1/2	38.10	0.065	1.65	SF1-24	SF4-24
2	50.80	0.065	1.65	SF1-32	SF4-32
2 1/2	63.50	0.065	1.65	SF1-40	SF4-40
3	76.20	0.065	1.65	SF1-48	SF4-48
4	101.60	0.083	2.11	SF1-64	SF4-64
6	152.40	0.109	2.77	SF1-96	SF4-96

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

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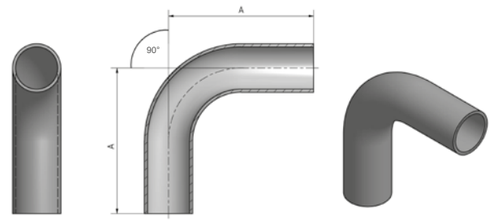
자동 튜브 용접: 90° 엘보
Automatic Tube Weld: 90° Elbow



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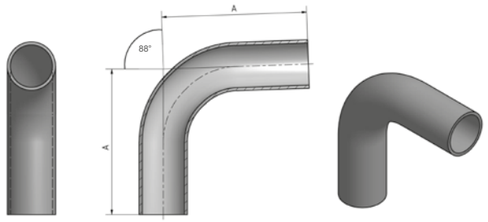
통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	2.625	66.7	SF1-9L-04-1-1	SF4-9L-04-1-1
3/8	9.53	2.625	66.7	SF1-9L-06-1-1	SF4-9L-06-1-1
1/2	12.70	3.000	76.2	SF1-9L-08-1-1	SF4-9L-08-1-1
3/4	19.05	3.000	76.2	SF1-9L-12-1-1	SF4-9L-12-1-1
1	25.40	3.000	76.2	SF1-9L-16-1-1	SF4-9L-16-1-1
1 1/2	38.10	3.750	95.3	SF1-9L-24-1-1	SF4-9L-24-1-1
2	50.80	4.750	120.7	SF1-9L-32-1-1	SF4-9L-32-1-1
2 1/2	63.50	5.500	139.7	SF1-9L-40-1-1	SF4-9L-40-1-1
3	76.20	6.250	158.8	SF1-9L-48-1-1	SF4-9L-48-1-1
4	101.60	8.000	203.2	SF1-9L-64-1-1	SF4-9L-64-1-1
6	152.40	11.500	292.1	SF1-9L-96-1-1	SF4-9L-96-1-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

자동 튜브 용접: 88° 엘보
Automatic Tube Weld: 88° Elbow



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통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6,35	2,700	68,58	SF1-8L-04-1-9	SF4-8L-04-1-9
3/8	9,53	2,700	68,58	SF1-8L-06-1-9	SF4-8L-06-1-9
1/2	12,7	3,065	77,85	SF1-8L-08-1-9	SF4-8L-08-1-9
3/4	19,05	3,065	77,85	SF1-8L-12-1-9	SF4-8L-12-1-9
1	25,4	3,050	77,47	SF1-8L-16-1-9	SF4-8L-16-1-9
1 1/2	38,1	3,800	96,52	SF1-8L-24-1-9	SF4-8L-24-1-9
2	50,8	4,810	122,17	SF1-8L-32-1-9	SF4-8L-32-1-9
2 1/2	63,5	5,560	141,22	SF1-8L-40-1-9	SF4-8L-40-1-9
3	76,2	6,310	160,27	SF1-8L-48-1-9	SF4-8L-48-1-9
4	101,6	8,065	204,85	SF1-8L-64-1-9	SF4-8L-64-1-9
6	152,4	11,580	294,13	SF1-8L-96-1-9	SF4-8L-96-1-9

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

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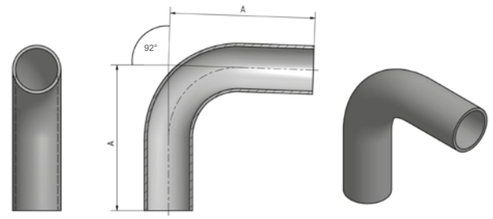
자동 튜브 용접: 92° 엘보
Automatic Tube Weld: 92° Elbow

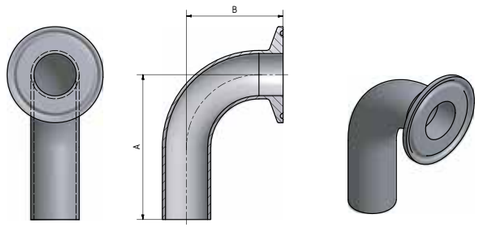


bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6,35	2,700	68,58	SF1-2L-04-1-10	SF4-2L-04-1-10
3/8	9,53	2,700	68,58	SF1-2L-06-1-10	SF4-2L-06-1-10
1/2	12,7	3,065	77,85	SF1-2L-08-1-10	SF4-2L-08-1-10
3/4	19,05	3,065	77,85	SF1-2L-12-1-10	SF4-2L-12-1-10
1	25,4	3,050	77,47	SF1-2L-16-1-10	SF4-2L-16-1-10
1 1/2	38,1	3,800	96,52	SF1-2L-24-1-10	SF4-2L-24-1-10
2	50,8	4,810	122,17	SF1-2L-32-1-10	SF4-2L-32-1-10
2 1/2	63,5	5,560	141,22	SF1-2L-40-1-10	SF4-2L-40-1-10
3	76,2	6,310	160,27	SF1-2L-48-1-10	SF4-2L-48-1-10
4	101,6	8,065	204,85	SF1-2L-64-1-10	SF4-2L-64-1-10
6	152,4	11,580	294,13	SF1-2L-96-1-10	SF4-2L-96-1-10

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

자동 튜브 용접: 위생 클램프 조인트(Hygienic clamp joint), 90° 엘보
Automatic Tube Weld: Hygienic Clamp Joint, 90° Elbow



bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	2.625	66.7	1.625	41.3	SF1-9L-04-1-2	SF4-9L-04-1-2
3/8	9.53	2.625	66.7	1.625	41.3	SF1-9L-06-1-2	SF4-9L-06-1-2
1/2	12.70	3.000	76.2	1.625	41.3	SF1-9L-08-1-2	SF4-9L-08-1-2
3/4	19.05	3.000	76.2	1.625	41.3	SF1-9L-12-1-2	SF4-9L-12-1-2
1	25.40	3.000	76.2	2.000	50.8	SF1-9L-16-1-	SF4-9L-16-1-2
1 1/2	38.10	3.750	95.3	2.750	69.9	SF1-9L-24-1-2	SF4-9L-24-1-2
2	50.80	4.750	120.7	3.500	88.9	SF1-9L-32-1-2	SF4-9L-32-1-2
2 1/2	63.50	5.500	139.7	4.250	108.0	SF1-9L-40-1-2	SF4-9L-40-1-2
3	76.20	6.250	158.8	5.000	127.0	SF1-9L-48-1-2	SF4-9L-48-1-2
4	101.60	8.000	203.2	6.625	168.3	SF1-9L-64-1-2	SF4-9L-64-1-2
6	152.40	11.500	292.1	10.500	266.7	SF1-9L-96-1-2	SF4-9L-96-1-2

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

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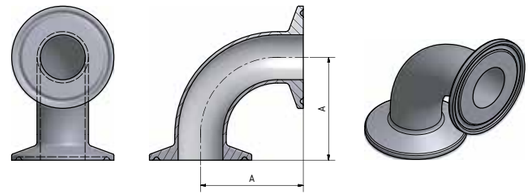
위생 클램프 조인트(Hygienic clamp joint): 90° 엘보
Hygienic Clamp Joint: 90° Elbow

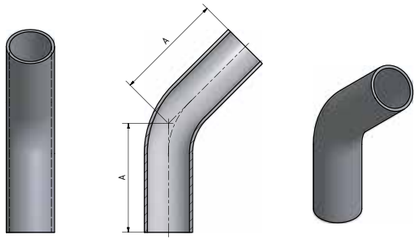


bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.625	41.3	SF1-9L-04-1-3	SF4-9L-04-1-3
3/8	9.53	1.625	41.3	SF1-9L-06-1-3	SF4-9L-06-1-3
1/2	12.70	1.625	41.3	SF1-9L-08-1-3	SF4-9L-08-1-3
3/4	19.05	1.625	41.3	SF1-9L-12-1-3	SF4-9L-12-1-3
1	25.40	2.000	50.8	SF1-9L-16-1-3	SF4-9L-16-1-3
1 1/2	38.10	2.750	69.9	SF1-9L-24-1-3	SF4-9L-24-1-3
2	50.80	3.500	88.9	SF1-9L-32-1-3	SF4-9L-32-1-3
2 1/2	63.50	4.250	108.0	SF1-9L-40-1-3	SF4-9L-40-1-3
3	76.20	5.000	127.0	SF1-9L-48-1-3	SF4-9L-48-1-3
4	101.60	6.625	168.3	SF1-9L-64-1-3	SF4-9L-64-1-3
6	152.40	10.500	266.7	SF1-9L-96-1-3	SF4-9L-96-1-3

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

자동 튜브 용접: 45° 엘보
Automatic Tube Weld: 45° Elbow



bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	2.000	50.8	SF1-4L-04-1-4	SF4-4L-04-1-4
3/8	9.53	2.000	50.8	SF1-4L-06-1-4	SF4-4L-06-1-4
1/2	12.70	2.250	57.2	SF1-4L-08-1-4	SF4-4L-08-1-4
3/4	19.05	2.250	57.2	SF1-4L-12-1-4	SF4-4L-12-1-4
1	25.40	2.250	57.2	SF1-4L-16-1-4	SF4-4L-16-1-4
1 1/2	38.10	2.500	63.5	SF1-4L-24-1-4	SF4-4L-24-1-4
2	50.80	3.000	76.2	SF1-4L-32-1-4	SF4-4L-32-1-4
2 1/2	63.50	3.375	85.7	SF1-4L-40-1-4	SF4-4L-40-1-4
3	76.20	3.625	92.1	SF1-4L-48-1-4	SF4-4L-48-1-4
4	101.60	4.500	114.3	SF1-4L-64-1-4	SF4-4L-64-1-4
6	152.40	6.250	158.8	SF1-4L-96-1-4	SF4-4L-96-1-4

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

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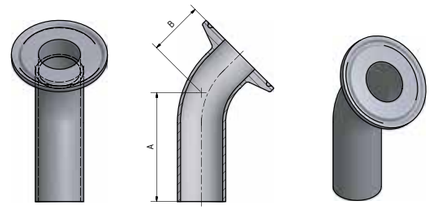
자동 튜브 용접: 위생 클램프 조인트(Hygienic clamp joint), 45° 엘보
Automatic Tube Weld: Hygienic Clamp Joint, 45° Elbow

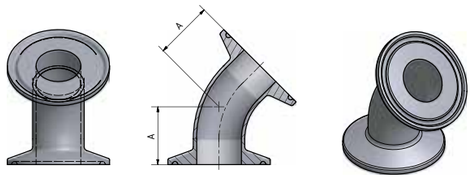


bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	2.000	50.8	1.000	25.4	SF1-4L-04-1-5	SF4-4L-04-1-5
3/8	9.53	2.000	50.8	1.000	25.4	SF1-4L-06-1-5	SF4-4L-06-1-5
1/2	12.70	2.250	57.2	1.000	25.4	SF1-4L-08-1-5	SF4-4L-08-1-5
3/4	19.05	2.250	57.2	1.000	25.4	SF1-4L-12-1-5	SF4-4L-12-1-5
1	25.40	2.250	57.2	1.125	28.6	SF1-4L-16-1-5	SF4-4L-16-1-5
1 1/2	38.10	2.500	63.5	1.438	36.5	SF1-4L-24-1-5	SF4-4L-24-1-5
2	50.80	3.000	76.2	1.750	44.5	SF1-4L-32-1-5	SF4-4L-32-1-5
2 1/2	63.50	3.375	85.7	2.063	52.4	SF1-4L-40-1-5	SF4-4L-40-1-5
3	76.20	3.625	92.1	2.375	60.3	SF1-4L-48-1-5	SF4-4L-48-1-5
4	101.60	4.500	114.3	3.125	79.4	SF1-4L-64-1-5	SF4-4L-64-1-5
6	152.40	6.250	158.8	5.250	133.4	SF1-4L-96-1-5	SF4-4L-96-1-5

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 45° 엘보
Hygienic Clamp Joint: 45° Elbow

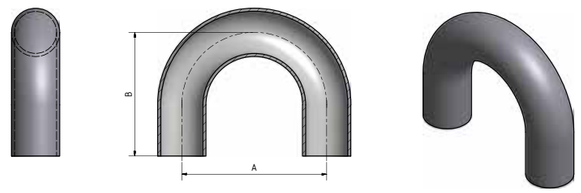


bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.000	25.4	SF1-4L-04-1-6	SF4-4L-04-1-6
3/8	9.53	1.000	25.4	SF1-4L-06-1-6	SF4-4L-06-1-6
1/2	12.70	1.000	25.4	SF1-4L-08-1-6	SF4-4L-08-1-6
3/4	19.05	1.000	25.4	SF1-4L-12-1-6	SF4-4L-12-1-6
1	25.40	1.125	28.6	SF1-4L-16-1-6	SF4-4L-16-1-6
1 1/2	38.10	1.438	36.5	SF1-4L-24-1-6	SF4-4L-24-1-6
2	50.80	1.750	44.5	SF1-4L-32-1-6	SF4-4L-32-1-6
2 1/2	63.50	2.063	52.4	SF1-4L-40-1-6	SF4-4L-40-1-6
3	76.20	2.375	60.3	SF1-4L-48-1-6	SF4-4L-48-1-6
4	101.60	3.125	79.4	SF1-4L-64-1-6	SF4-4L-64-1-6
6	152.40	5.250	133.4	SF1-4L-96-1-6	SF4-4L-96-1-6

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

자동 튜브 용접: 180° 리턴 벤드
Automatic Tube Weld: 180° Return Bend

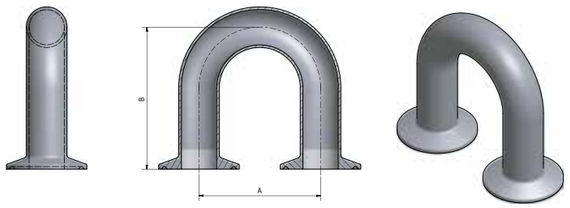


bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	4.500	114.3	2.625	66.7	SF1-UL-04-1-7	SF4-UL-04-1-7
3/8	9.53	4.500	114.3	2.625	66.7	SF1-UL-06-1-7	SF4-UL-06-1-7
1/2	12.70	4.500	114.3	3.000	76.2	SF1-UL-08-1-7	SF4-UL-08-1-7
3/4	19.05	4.500	114.3	3.000	76.2	SF1-UL-12-1-7	SF4-UL-12-1-7
1	25.40	3.000	76.2	3.000	76.2	SF1-UL-16-1-7	SF4-UL-16-1-7
1 1/2	38.10	4.500	114.3	4.500	114.3	SF1-UL-24-1-7	SF4-UL-24-1-7
2	50.80	6.000	152.4	5.000	127.0	SF1-UL-32-1-7	SF4-UL-32-1-7
2 1/2	63.50	7.500	190.5	5.750	146.1	SF1-UL-40-1-7	SF4-UL-40-1-7
3	76.20	9.000	228.6	6.500	165.1	SF1-UL-48-1-7	SF4-UL-48-1-7
4	101.60	12.000	304.8	8.500	215.9	SF1-UL-64-1-7	SF4-UL-64-1-7
6	152.40	18.000	457.2	11.500	292.1	SF1-UL-96-1-7	SF4-UL-96-1-7

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

위생 클램프 조인트(Hygienic clamp joint): 180° 리턴 벤드
Hygienic Clamp Joint: 180° Return Bend



bpe-direct

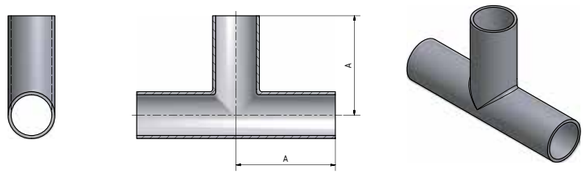
통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	4.500	114.3	3.125	79.4	SF1-UL-04-1-8	SF4-UL-04-1-8
3/8	9.53	4.500	114.3	3.125	79.4	SF1-UL-06-1-8	SF4-UL-06-1-8
1/2	12.70	4.500	114.3	3.500	88.9	SF1-UL-08-1-8	SF4-UL-08-1-8
3/4	19.05	4.500	114.3	3.500	88.9	SF1-UL-12-1-8	SF4-UL-12-1-8
1	25.40	3.000	76.2	3.500	88.9	SF1-UL-16-1-8	SF4-UL-16-1-8
1 1/2	38.10	4.500	114.3	5.000	127.0	SF1-UL-24-1-8	SF4-UL-24-1-8
2	50.80	6.000	152.4	5.500	139.7	SF1-UL-32-1-8	SF4-UL-32-1-8
2 1/2	63.50	7.500	190.5	6.250	158.8	SF1-UL-40-1-8	SF4-UL-40-1-8
3	76.20	9.000	228.6	7.000	177.8	SF1-UL-48-1-8	SF4-UL-48-1-8
4	101.60	12.000	304.8	9.125	231.8	SF1-UL-64-1-8	SF4-UL-64-1-8
6	152.40	18.000	457.2	13.000	330.2	SF1-UL-96-1-8	SF4-UL-96-1-8

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

T-부품
T-PIECES

bpe-direct

자동 튜브 용접: 스트레이트 티
Automatic Tube Weld: Straight Tee

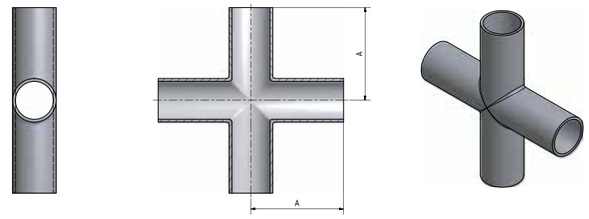


bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.750	44.5	SF1-TE-04-2-1	SF4-TE-04-2-1
3/8	9.53	1.750	44.5	SF1-TE-06-2-1	SF4-TE-06-2-1
1/2	12.70	1.875	47.6	SF1-TE-08-2-1	SF4-TE-08-2-1
3/4	19.05	2.000	50.8	SF1-TE-12-2-1	SF4-TE-12-2-1
1	25.40	2.125	54.0	SF1-TE-16-2-1	SF4-TE-16-2-1
1 1/2	38.10	2.375	60.3	SF1-TE-24-2-1	SF4-TE-24-2-1
2	50.80	2.875	73.0	SF1-TE-32-2-1	SF4-TE-32-2-1
2 1/2	63.50	3.125	79.4	SF1-TE-40-2-1	SF4-TE-40-2-1
3	76.20	3.375	85.7	SF1-TE-48-2-1	SF4-TE-48-2-1
4	101.60	4.125	104.8	SF1-TE-64-2-1	SF4-TE-64-2-1
6	152.40	5.625	142.9	SF1-TE-96-2-1	SF4-TE-96-2-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

자동 튜브 용접: 스트레이트 크로스(Straight Cross)
Automatic Tube Weld: Straight Cross



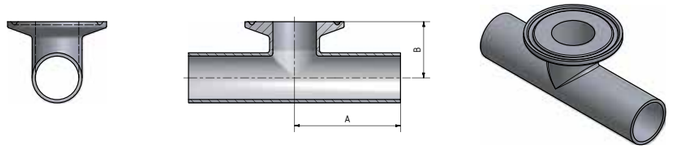
bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.750	44.5	SF1-CE-04-2-1	SF4-CE-04-2-1
3/8	9.53	1.750	44.5	SF1-CE-06-2-1	SF4-CE-06-2-1
1/2	12.70	1.875	47.6	SF1-CE-08-2-1	SF4-CE-08-2-1
3/4	19.05	2.000	50.8	SF1-CE-12-2-1	SF4-CE-12-2-1
1	25.40	2.125	54.0	SF1-CE-16-2-1	SF4-CE-16-2-1
1 1/2	38.10	2.375	60.3	SF1-CE-24-2-1	SF4-CE-24-2-1
2	50.80	2.875	73.0	SF1-CE-32-2-1	SF4-CE-32-2-1
2 1/2	63.50	3.125	79.4	SF1-CE-40-2-1	SF4-CE-40-2-1
3	76.20	3.375	85.7	SF1-CE-48-2-1	SF4-CE-48-2-1
4	101.60	4.125	104.8	SF1-CE-64-2-1	SF4-CE-64-2-1
6	152.40	5.625	142.9	SF1-CE-96-2-1	SF4-CE-96-2-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

자동 튜브 용접: 쇼트 아울렛 위생 클램프 조인트 티(Short Outlet Hygienic Clamp Joint Tee)

Automatic Tube Weld: Short Outlet Hygienic Clamp Joint Tee



bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.750	44.5	1.000	25.4	SF1-TE-04-2-2	SF4-TE-04-2-2
3/8	9.53	1.750	44.5	1.000	25.4	SF1-TE-06-2-2	SF4-TE-06-2-2
1/2	12.70	1.875	47.6	1.000	25.4	SF1-TE-08-2-2	SF4-TE-08-2-2
3/4	19.05	2.000	50.8	1.125	28.6	SF1-TE-12-2-2	SF4-TE-12-2-2
1	25.40	2.125	54.0	1.125	28.6	SF1-TE-16-2-2	SF4-TE-16-2-2
1 1/2	38.10	2.375	60.3	1.375	34.9	SF1-TE-24-2-2	SF4-TE-24-2-2
2	50.80	2.875	73.0	1.625	41.3	SF1-TE-32-2-2	SF4-TE-32-2-2
2 1/2	63.50	3.125	79.4	1.875	47.6	SF1-TE-40-2-2	SF4-TE-40-2-2
3	76.20	3.375	85.7	2.125	54.0	SF1-TE-48-2-2	SF4-TE-48-2-2
4	101.60	4.125	104.8	2.750	69.9	SF1-TE-64-2-2	SF4-TE-64-2-2
6	152.40	5.625	142.9	4.625	117.5	SF1-TE-96-2-2	SF4-TE-96-2-2

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

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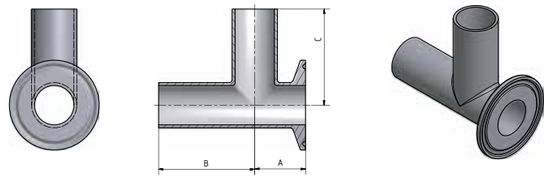
L위생 메커니컬 조인트(Hygienic Mechanical Joint): 쇼트 아울렛 런 티(Short Outlet Run Tee)

Hygienic Mechanical Joint: Short Outlet Run Tee

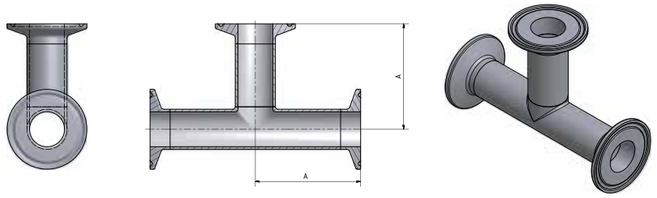


bpe-direct

통상 치수 (d) Nominal Size		A		B		C		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	0.875	22.2	1.750	44.5	1.750	44.5	SF1-TE-04-2-3	SF4-TE-04-2-3
3/8	9.53	0.875	22.2	1.750	44.5	1.750	44.5	SF1-TE-06-2-3	SF4-TE-06-2-3
1/2	12.70	0.875	22.2	1.875	47.6	1.875	47.6	SF1-TE-08-2-3	SF4-TE-08-2-3
3/4	19.05	1.000	25.4	2.000	50.8	2.000	50.8	SF1-TE-12-2-3	SF4-TE-12-2-3
1	25.40	1.125	28.6	2.125	54.0	2.125	54.0	SF1-TE-16-2-3	SF4-TE-16-2-3
1 1/2	38.10	1.375	34.9	2.375	60.3	2.375	60.3	SF1-TE-24-2-3	SF4-TE-24-2-3
2	50.80	1.625	41.3	2.875	73.0	2.875	73.0	SF1-TE-32-2-3	SF4-TE-32-2-3
2 1/2	63.50	1.875	47.6	3.125	79.4	3.125	79.4	SF1-TE-40-2-3	SF4-TE-40-2-3
3	76.20	2.125	54.0	3.375	85.7	3.375	85.7	SF1-TE-48-2-3	SF4-TE-48-2-3
4	101.60	2.750	69.9	4.125	104.8	4.125	104.8	SF1-TE-64-2-3	SF4-TE-64-2-3
6	152.40	4.625	117.5	5.625	142.9	5.625	142.9	SF1-TE-96-2-3	SF4-TE-96-2-3

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 스트레이트 티
Hygienic Clamp Joint: Straight Tee

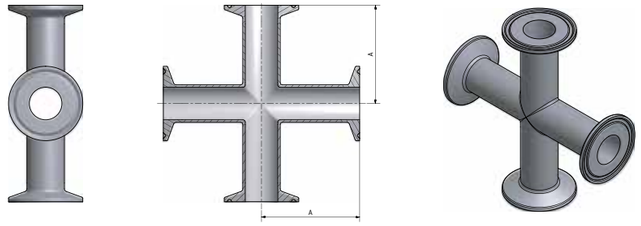


bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	2.250	57.2	SF1-TE-04-2-4	SF4-TE-04-2-4
3/8	9.53	2.250	57.2	SF1-TE-06-2-4	SF4-TE-06-2-4
1/2	12.70	2.375	60.3	SF1-TE-08-2-4	SF4-TE-08-2-4
3/4	19.05	2.500	63.5	SF1-TE-12-2-4	SF4-TE-12-2-4
1	25.40	2.625	66.7	SF1-TE-16-2-4	SF4-TE-16-2-4
1 1/2	38.10	2.875	73.0	SF1-TE-24-2-4	SF4-TE-24-2-4
2	50.80	3.375	85.7	SF1-TE-32-2-4	SF4-TE-32-2-4
2 1/2	63.50	3.625	92.1	SF1-TE-40-2-4	SF4-TE-40-2-4
3	76.20	3.875	98.4	SF1-TE-48-2-4	SF4-TE-48-2-4
4	101.60	4.750	120.7	SF1-TE-64-2-4	SF4-TE-64-2-4
6	152.40	7.125	181.0	SF1-TE-96-2-4	SF4-TE-96-2-4

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 스트레이트 크로스(Straight Cross)
Hygienic Clamp Joint: Straight Cross



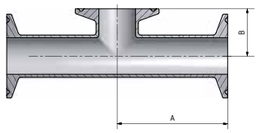
bpe-direct

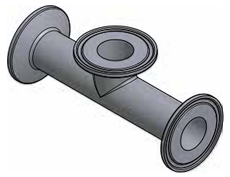
통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	2.250	57.2	SF1-CE-04-2-4	SF4-CE-04-2-4
3/8	9.53	2.250	57.2	SF1-CE-06-2-4	SF4-CE-06-2-4
1/2	12.70	2.375	60.3	SF1-CE-08-2-4	SF4-CE-08-2-4
3/4	19.05	2.500	63.5	SF1-CE-12-2-4	SF4-CE-12-2-4
1	25.40	2.625	66.7	SF1-CE-16-2-4	SF4-CE-16-2-4
1 1/2	38.10	2.875	73.0	SF1-CE-24-2-4	SF4-CE-24-2-4
2	50.80	3.375	85.7	SF1-CE-32-2-4	SF4-CE-32-2-4
2 1/2	63.50	3.625	92.1	SF1-CE-40-2-4	SF4-CE-40-2-4
3	76.20	3.875	98.4	SF1-CE-48-2-4	SF4-CE-48-2-4
4	101.60	4.750	120.7	SF1-CE-64-2-4	SF4-CE-64-2-4
6	152.40	7.125	181.0	SF1-CE-96-2-4	SF4-CE-96-2-4

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 쇼트 아울렛 티(Short Outlet Tee)

Hygienic Clamp Joint: Short Outlet Tee



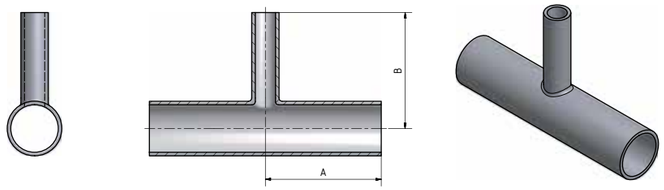


bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/2	12.70	2.375	60.3	1.000	25.4	SF1-TE-08-2-5	SF4-TE-08-2-5
3/4	19.05	2.500	63.5	1.125	28.6	SF1-TE-12-2-5	SF4-TE-12-2-5
1	25.40	2.625	66.7	1.125	28.6	SF1-TE-16-2-5	SF4-TE-16-2-5
1 1/2	38.10	2.875	73.0	1.375	34.9	SF1-TE-24-2-5	SF4-TE-24-2-5
2	50.80	3.375	85.7	1.625	41.3	SF1-TE-32-2-5	SF4-TE-32-2-5
2 1/2	63.50	3.625	92.1	1.875	47.6	SF1-TE-40-2-5	SF4-TE-40-2-5
3	76.20	3.875	98.4	2.125	54.0	SF1-TE-48-2-5	SF4-TE-48-2-5
4	101.60	4.750	120.7	2.750	69.9	SF1-TE-64-2-5	SF4-TE-64-2-5
6	152.40	7.125	181.0	4.625	117.5	SF1-TE-96-2-5	SF4-TE-96-2-5

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

자동 튜브 용접: 리듀싱 티(Reducing Tee)
Automatic Tube Weld: Reducing Tee



bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9,53 x 6,35	1,750	44,5	1,750	44,5	SF1-RT-06-04-2-6	SF4-RT-06-04-2-6
1/2 x 1/4	12,70 x 6,35	1,875	47,6	1,875	47,6	SF1-RT-08-04-2-6	SF4-RT-08-04-2-6
1/2 x 3/8	12,70 x 9,53	1,875	47,6	1,875	47,6	SF1-RT-08-06-2-6	SF4-RT-08-06-2-6
3/4 x 1/4	19,05 x 6,35	2,000	50,8	2,000	50,8	SF1-RT-12-04-2-6	SF4-RT-12-04-2-6
3/4 x 3/8	19,05 x 9,53	2,000	50,8	2,000	50,8	SF1-RT-12-06-2-6	SF4-RT-12-06-2-6
3/4 x 1/2	19,05 x 12,70	2,000	50,8	2,000	50,8	SF1-RT-12-08-2-6	SF4-RT-12-08-2-6
1 x 1/4	25,40 x 6,35	2,125	54,0	2,125	54,0	SF1-RT-16-04-2-6	SF4-RT-16-04-2-6
1 x 3/8	25,40 x 9,53	2,125	54,0	2,125	54,0	SF1-RT-16-06-2-6	SF4-RT-16-06-2-6
1 x 1/2	25,40 x 12,70	2,125	54,0	2,125	54,0	SF1-RT-16-08-2-6	SF4-RT-16-08-2-6
1 x 3/4	25,40 x 19,05	2,125	54,0	2,125	54,0	SF1-RT-16-12-2-6	SF4-RT-16-12-2-6
1 1/2 x 1/2	38,10 x 12,70	2,375	60,3	2,375	60,3	SF1-RT-24-08-2-6	SF4-RT-24-08-2-6
1 1/2 x 3/4	38,10 x 19,05	2,375	60,3	2,375	60,3	SF1-RT-24-12-2-6	SF4-RT-24-12-2-6
1 1/2 x 1	38,10 x 25,40	2,375	60,3	2,375	60,3	SF1-RT-24-16-2-6	SF4-RT-24-16-2-6
2 x 1/2	50,80 x 12,70	2,875	73,0	2,625	66,7	SF1-RT-32-08-2-6	SF4-RT-32-08-2-6
2 x 3/4	50,80 x 19,05	2,875	73,0	2,625	66,7	SF1-RT-32-12-2-6	SF4-RT-32-12-2-6
2 x 1	50,80 x 25,40	2,875	73,0	2,625	66,7	SF1-RT-32-16-2-6	SF4-RT-32-16-2-6
2 x 1 1/2	50,80 x 38,10	2,875	73,0	2,625	66,7	SF1-RT-32-24-2-6	SF4-RT-32-24-2-6
2 1/2 x 1/2	63,50 x 12,70	3,125	79,4	2,875	73,0	SF1-RT-40-08-2-6	SF4-RT-40-08-2-6
2 1/2 x 3/4	63,50 x 19,05	3,125	79,4	2,875	73,0	SF1-RT-40-12-2-6	SF4-RT-40-12-2-6
2 1/2 x 1	63,50 x 25,40	3,125	79,4	2,875	73,0	SF1-RT-40-16-2-6	SF4-RT-40-16-2-6

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

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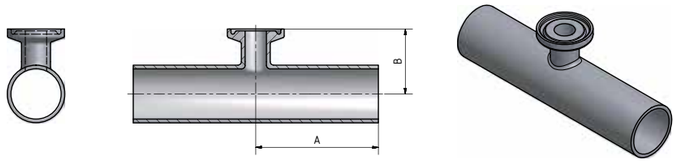
자동 튜브 용접: 리듀싱 티(Reducing Tee)
Automatic Tube Weld: Reducing Tee

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
2 1/2 x 1 1/2	63,50 x 38,10	3,125	79,4	2,875	73,0	SF1-RT-40-24-2-6	SF4-RT-40-24-2-6
2 1/2 x 2	63,50 x 50,80	3,125	79,4	2,875	73,0	SF1-RT-40-32-2-6	SF4-RT-40-32-2-6
3 x 1/2	76,20 x 12,70	3,375	85,7	3,125	79,4	SF1-RT-48-08-2-6	SF4-RT-48-08-2-6
3 x 3/4	76,20 x 19,05	3,375	85,7	3,125	79,4	SF1-RT-48-12-2-6	SF4-RT-48-12-2-6
3 x 1	76,20 x 25,40	3,375	85,7	3,125	79,4	SF1-RT-48-16-2-6	SF4-RT-48-16-2-6
3 x 1 1/2	76,20 x 38,10	3,375	85,7	3,125	79,4	SF1-RT-48-24-2-6	SF4-RT-48-24-2-6
3 x 2	76,20 x 50,80	3,375	85,7	3,125	79,4	SF1-RT-48-32-2-6	SF4-RT-48-32-2-6
3 x 2 1/2	76,20 x 63,50	3,375	85,7	3,125	79,4	SF1-RT-48-40-2-6	SF4-RT-48-40-2-6
4 x 1/2	101,60 x 12,70	4,125	104,8	3,625	92,1	SF1-RT-64-08-2-6	SF4-RT-64-08-2-6
4 x 3/4	101,60 x 19,05	4,125	104,8	3,625	92,1	SF1-RT-64-12-2-6	SF4-RT-64-12-2-6
4 x 1	101,60 x 25,40	4,125	104,8	3,625	92,1	SF1-RT-64-16-2-6	SF4-RT-64-16-2-6
4 x 1 1/2	101,60 x 38,10	4,125	104,8	3,625	92,1	SF1-RT-64-24-2-6	SF4-RT-64-24-2-6
4 x 2	101,60 x 50,80	4,125	104,8	3,875	98,4	SF1-RT-64-32-2-6	SF4-RT-64-32-2-6
4 x 2 1/2	101,60 x 63,50	4,125	104,8	3,875	98,4	SF1-RT-64-40-2-6	SF4-RT-64-40-2-6
4 x 3	101,60 x 76,20	4,125	104,8	3,875	98,4	SF1-RT-64-48-2-6	SF4-RT-64-48-2-6
6 x 1/2	152,40 x 12,70	5.625	142.88	4.625	117.48	SF1-RT-96-08-2-6	SF4-RT-96-08-2-6
6 x 3/4	152,40 x 19,05	5.625	142.88	4.625	117.48	SF1-RT-96-12-2-6	SF4-RT-96-12-2-6
6 x 1	152,40 x 25,40	5.625	142.88	4.625	117.48	SF1-RT-96-16-2-6	SF4-RT-96-16-2-6
6 x 1 1/2	152,40 x 38,10	5.625	142.88	4.625	117.48	SF1-RT-96-24-2-6	SF4-RT-96-24-2-6
6 x 2	152,40 x 50,80	5.625	142.88	4.625	117.48	SF1-RT-96-32-2-6	SF4-RT-96-32-2-6
6 x 2 1/2	152,40 x 63,50	5.625	142.88	4.625	117.48	SF1-RT-96-40-2-6	SF4-RT-96-40-2-6
6 x 3	152,40 x 76,20	5,625	142,9	4,875	123,8	SF1-RT-96-48-2-6	SF4-RT-96-48-2-6
6 x 4	152,40 x 101,60	5,625	142,9	5,125	130,2	SF1-RT-96-64-2-6	SF4-RT-96-64-2-6

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

자동 튜브 용접: 쇼트 아웃렛 위생 클램프, 조인트 리듀싱 티
(Short Outlet Hygienic Clamp, Joint Reducing Tee)

Automatic Tube Weld: Short Outlet Hygienic Clamp, Joint Reducing Tee



bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9,53 x 6,35	1,750	44,5	1,000	25,4	SF1-RT-06-04-2-7	SF4-RT-06-04-2-7
1/2 x 1/4	12,70 x 6,35	1,875	47,6	1,000	25,4	SF1-RT-08-04-2-7	SF4-RT-08-04-2-7
1/2 x 3/8	12,70 x 9,53	1,875	47,6	1,000	25,4	SF1-RT-08-06-2-7	SF4-RT-08-06-2-7
3/4 x 1/4	19,05 x 6,35	2,000	50,8	1,000	25,4	SF1-RT-12-04-2-7	SF4-RT-12-04-2-7
3/4 x 3/8	19,05 x 9,53	2,000	50,8	1,000	25,4	SF1-RT-12-06-2-7	SF4-RT-12-06-2-7
3/4 x 1/2	19,05 x 12,70	2,000	50,8	1,000	25,4	SF1-RT-12-08-2-7	SF4-RT-12-08-2-7
1 x 1/4	25,40 x 6,35	2,125	54,0	1,125	28,6	SF1-RT-16-04-2-7	SF4-RT-16-04-2-7
1 x 3/8	25,40 x 9,53	2,125	54,0	1,125	28,6	SF1-RT-16-06-2-7	SF4-RT-16-06-2-7
1 x 1/2	25,40 x 12,70	2,125	54,0	1,125	28,6	SF1-RT-16-08-2-7	SF4-RT-16-08-2-7
1 x 3/4	25,40 x 19,05	2,125	54,0	1,125	28,6	SF1-RT-16-12-2-7	SF4-RT-16-12-2-7
1 1/2 x 1/2	38,10 x 12,70	2,375	60,3	1,375	34,9	SF1-RT-24-08-2-7	SF4-RT-24-08-2-7
1 1/2 x 3/4	38,10 x 19,05	2,375	60,3	1,375	34,9	SF1-RT-24-12-2-7	SF4-RT-24-12-2-7
1 1/2 x 1	38,10 x 25,40	2,375	60,3	1,375	34,9	SF1-RT-24-16-2-7	SF4-RT-24-16-2-7
2 x 1/2	50,80 x 12,70	2,875	73,0	1,625	41,3	SF1-RT-32-08-2-7	SF4-RT-32-08-2-7
2 x 3/4	50,80 x 19,05	2,875	73,0	1,625	41,3	SF1-RT-32-12-2-7	SF4-RT-32-12-2-7
2 x 1	50,80 x 25,40	2,875	73,0	1,625	41,3	SF1-RT-32-16-2-7	SF4-RT-32-16-2-7
2 x 1 1/2	50,80 x 38,10	2,875	73,0	1,625	41,3	SF1-RT-32-24-2-7	SF4-RT-32-16-2-7
2 1/2 x 1/2	63,50 x 12,70	3,125	79,4	1,875	47,6	SF1-RT-40-08-2-7	SF4-RT-40-08-2-7

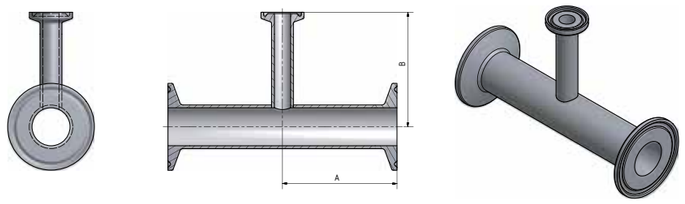
요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

DOCKWEILER connecting flow to purity

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
2 1/2 x 3/4	63,50 x 19,05	3,125	79,4	1,875	47,6	SF1-RT-40-12-2-7	SF4-RT-40-12-2-7
2 1/2 x 1	63,50 x 25,40	3,125	79,4	1,875	47,6	SF1-RT-40-16-2-7	SF4-RT-40-16-2-7
2 1/2 x 1 1/2	63,50 x 38,10	3,125	79,4	1,875	47,6	SF1-RT-40-24-2-7	SF4-RT-40-24-2-7
2 1/2 x 2	63,50 x 50,80	3,125	79,4	1,875	47,6	SF1-RT-40-32-2-7	SF4-RT-40-32-2-7
3 x 1/2	76,20 x 12,70	3,375	85,7	2,125	54,0	SF1-RT-48-08-2-7	SF4-RT-48-08-2-7
3 x 3/4	76,20 x 19,05	3,375	85,7	2,125	54,0	SF1-RT-48-12-2-7	SF4-RT-48-12-2-7
3 x 1	76,20 x 25,40	3,375	85,7	2,125	54,0	SF1-RT-48-16-2-7	SF4-RT-48-16-2-7
3 x 1 1/2	76,20 x 38,10	3,375	85,7	2,125	54,0	SF1-RT-48-24-2-7	SF4-RT-48-24-2-7
3 x 2	76,20 x 50,80	3,375	85,7	2,125	54,0	SF1-RT-48-32-2-7	SF4-RT-48-32-2-7
3 x 2 1/2	76,20 x 63,50	3,375	85,7	2,125	54,0	SF1-RT-48-40-2-7	SF4-RT-48-40-2-7
4 x 1/2	101,60 x 12,70	4,125	104,8	2,625	66,7	SF1-RT-64-08-2-7	SF4-RT-64-08-2-7
4 x 3/4	101,60 x 19,05	4,125	104,8	2,625	66,7	SF1-RT-64-12-2-7	SF4-RT-64-12-2-7
4 x 1	101,60 x 25,40	4,125	104,8	2,625	66,7	SF1-RT-64-16-2-7	SF4-RT-64-16-2-7
4 x 1 1/2	101,60 x 38,10	4,125	104,8	2,625	66,7	SF1-RT-64-24-2-7	SF4-RT-64-24-2-7
4 x 2	101,60 x 50,80	4,125	104,8	2,625	66,7	SF1-RT-64-32-2-7	SF4-RT-64-32-2-7
4 x 2 1/2	101,60 x 63,50	4,125	104,8	2,625	66,7	SF1-RT-64-40-2-7	SF4-RT-64-40-2-7
4 x 3	101,60 x 76,20	4,125	104,8	2,625	66,7	SF1-RT-64-48-2-7	SF4-RT-64-48-2-7
6 x 1/2	152,40 x 12,70	5,625	142,9	3,625	92,1	SF1-RT-96-08-2-7	SF4-RT-96-08-2-7
6 x 3/4	152,40 x 19,05	5,625	142,9	3,625	92,1	SF1-RT-96-12-2-7	SF4-RT-96-12-2-7
6 x 1	152,40 x 25,40	5,625	142,9	3,625	92,1	SF1-RT-96-16-2-7	SF4-RT-96-16-2-7
6 x 1 1/2	152,40 x 38,10	5,625	142,9	3,625	92,1	SF1-RT-96-24-2-7	SF4-RT-96-24-2-7
6 x 2	152,40 x 50,80	5,625	142,9	3,625	92,1	SF1-RT-96-32-2-7	SF4-RT-96-32-2-7
6 x 2 1/2	152,40 x 63,50	5,625	142,9	3,625	92,1	SF1-RT-96-40-2-7	SF4-RT-96-40-2-7
6 x 3	152,40 x 76,20	5,625	142,9	3,625	92,1	SF1-RT-96-48-2-7	SF4-RT-96-48-2-7
6 x 4	152,40 x 101,60	5,625	142,9	3,750	95,3	SF1-RT-96-64-2-7	SF4-RT-96-64-2-7

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 리듀싱 티(Reducing Tee)
Hygienic Clamp Joint: Reducing Tee



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통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9,53 x 6,35	2,250	57,2	2,250	57,2	SF1-RT-06-04-2-8	SF4-RT-06-04-2-8
1/2 x 1/4	12,70 x 6,35	2,375	60,3	2,375	60,3	SF1-RT-08-04-2-8	SF4-RT-08-04-2-8
1/2 x 3/8	12,70 x 9,53	2,375	60,3	2,375	60,3	SF1-RT-08-06-2-8	SF4-RT-08-06-2-8
3/4 x 1/4	19,05 x 6,35	2,500	63,5	2,500	63,5	SF1-RT-12-04-2-8	SF4-RT-12-04-2-8
3/4 x 3/8	19,05 x 9,53	2,500	63,5	2,500	63,5	SF1-RT-12-06-2-8	SF4-RT-12-06-2-8
3/4 x 1/2	19,05 x 12,70	2,500	63,5	2,500	63,5	SF1-RT-12-08-2-8	SF4-RT-12-08-2-8
1 x 1/4	25,40 x 6,35	2,625	66,7	2,625	66,7	SF1-RT-16-04-2-8	SF4-RT-16-04-2-8
1 x 3/8	25,40 x 9,53	2,625	66,7	2,625	66,7	SF1-RT-16-06-2-8	SF4-RT-16-06-2-8
1 x 1/2	25,40 x 12,70	2,625	66,7	2,625	66,7	SF1-RT-16-08-2-8	SF4-RT-16-08-2-8
1 x 3/4	25,40 x 19,05	2,625	66,7	2,625	66,7	SF1-RT-16-12-2-8	SF4-RT-16-12-2-8
1 1/2 x 1/2	38,10 x 12,70	2,875	73,0	2,875	73,0	SF1-RT-24-08-2-8	SF4-RT-24-08-2-8
1 1/2 x 3/4	38,10 x 19,05	2,875	73,0	2,875	73,0	SF1-RT-24-12-2-8	SF4-RT-24-12-2-8
1 1/2 x 1	38,10 x 25,40	2,875	73,0	2,875	73,0	SF1-RT-24-16-2-8	SF4-RT-24-16-2-8
2 x 1/2	50,80 x 12,70	3,375	85,7	3,125	79,4	SF1-RT-32-08-2-8	SF4-RT-32-08-2-8
2 x 3/4	50,80 x 19,05	3,375	85,7	3,125	79,4	SF1-RT-32-12-2-8	SF4-RT-32-12-2-8
2 x 1	50,80 x 25,40	3,375	85,7	3,125	79,4	SF1-RT-32-16-2-8	SF4-RT-32-16-2-8
2 x 1 1/2	50,80 x 38,10	3,375	85,7	3,125	79,4	SF1-RT-32-24-2-8	SF4-RT-32-24-2-8
2 1/2 x 1/2	63,50 x 12,70	3,625	92,1	3,375	85,7	SF1-RT-40-08-2-8	SF4-RT-40-08-2-8
2 1/2 x 3/4	63,50 x 19,05	3,625	92,1	3,375	85,7	SF1-RT-40-12-2-8	SF4-RT-40-12-2-8
2 1/2 x 1	63,50 x 25,40	3,625	92,1	3,375	85,7	SF1-RT-40-16-2-8	SF4-RT-40-16-2-8
2 1/2 x 1 1/2	63,50 x 38,10	3,625	92,1	3,375	85,7	SF1-RT-40-24-2-8	SF4-RT-40-24-2-8
2 1/2 x 2	63,50 x 50,80	3,625	92,1	3,375	85,7	SF1-RT-40-32-2-8	SF4-RT-40-32-2-8

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

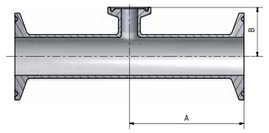
위생 클램프 조인트(Hygienic clamp joint): 리듀싱 티(Reducing Tee)
Hygienic Clamp Joint: Reducing Tee

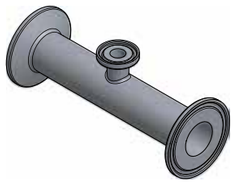
통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3 x 1/2	76,20 x 12,70	3,875	98,4	3,625	92,1	SF1-RT-48-08-2-8	SF4-RT-48-08-2-8
3 x 3/4	76,20 x 19,05	3,875	98,4	3,625	92,1	SF1-RT-48-12-2-8	SF4-RT-48-12-2-8
3 x 1	76,20 x 25,40	3,875	98,4	3,625	92,1	SF1-RT-48-16-2-8	SF4-RT-48-16-2-8
3 x 1 1/2	76,20 x 38,10	3,875	98,4	3,625	92,1	SF1-RT-48-24-2-8	SF4-RT-48-24-2-8
3 x 2	76,20 x 50,80	3,875	98,4	3,625	92,1	SF1-RT-48-32-2-8	SF4-RT-48-32-2-8
3 x 2 1/2	76,20 x 63,50	3,875	98,4	3,625	92,1	SF1-RT-48-40-2-8	SF4-RT-48-40-2-8
4 x 1/2	101,60 x 12,70	4,750	120,7	4,125	104,8	SF1-RT-64-08-2-8	SF4-RT-64-08-2-8
4 x 3/4	101,60 x 19,05	4,750	120,7	4,125	104,8	SF1-RT-64-12-2-8	SF4-RT-64-12-2-8
4 x 1	101,60 x 25,40	4,750	120,7	4,125	104,8	SF1-RT-64-16-2-8	SF4-RT-64-16-2-8
4 x 1 1/2	101,60 x 38,10	4,750	120,7	4,125	104,8	SF1-RT-64-24-2-8	SF4-RT-64-24-2-8
4 x 2	101,60 x 50,80	4,750	120,7	4,375	111,1	SF1-RT-64-32-2-8	SF4-RT-64-32-2-8
4 x 2 1/2	101,60 x 63,50	4,750	120,7	4,375	111,1	SF1-RT-64-40-2-8	SF4-RT-64-40-2-8
4 x 3	101,60 x 76,20	4,750	120,7	4,375	111,1	SF1-RT-64-48-2-8	SF4-RT-64-48-2-8
6 x 1/2	152,40 x 12,70	7,125	180,98	5,125	130,18	SF1-RT-96-08-2-8	SF4-RT-96-08-2-8
6 x 3/4	152,40 x 19,05	7,125	180,98	5,125	130,18	SF1-RT-96-12-2-8	SF4-RT-96-12-2-8
6 x 1	152,40 x 25,40	7,125	180,98	5,125	130,18	SF1-RT-96-16-2-8	SF4-RT-96-16-2-8
6 x 1 1/2	152,40 x 38,10	7,125	180,98	5,125	130,18	SF1-RT-96-24-2-8	SF4-RT-96-24-2-8
6 x 2	152,40 x 50,80	7,125	180,98	5,125	130,18	SF1-RT-96-32-2-8	SF4-RT-96-32-2-8
6 x 2 1/2	152,40 x 63,50	7,125	180,98	5,125	130,18	SF1-RT-96-40-2-8	SF4-RT-96-40-2-8
6 x 3	152,40 x 76,20	7,125	181,0	5,375	136,5	SF1-RT-96-48-2-8	SF4-RT-96-48-2-8
6 x 4	152,40 x 101,60	7,125	181,0	5,750	146,1	SF1-RT-96-64-2-8	SF4-RT-96-64-2-8

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 쇼트 아웃렛 리듀싱 티(Short Outlet Reducing Tee)

Hygienic Clamp Joint: Short Outlet Reducing Tee





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통상 치수 (d) Nominal Size		A		B		주주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	2.250	57.2	1.000	25.4	SF1-RT-06-04-2-9	SF4-RT-06-04-2-9
1/2 x 1/4	12.70 x 6.35	2.375	60.3	1.000	25.4	SF1-RT-08-04-2-9	SF4-RT-08-04-2-9
1/2 x 3/8	12.70 x 9.53	2.375	60.3	1.000	25.4	SF1-RT-08-06-2-9	SF4-RT-08-06-2-9
3/4 x 1/4	19.05 x 6.35	2.500	63.5	1.000	25.4	SF1-RT-12-04-2-9	SF4-RT-12-04-2-9
3/4 x 3/8	19.05 x 9.53	2.500	63.5	1.000	25.4	SF1-RT-12-06-2-9	SF4-RT-12-06-2-9
3/4 x 1/2	19.05 x 12.70	2.500	63.5	1.000	25.4	SF1-RT-12-08-2-9	SF4-RT-12-08-2-9
1 x 1/4	25.40 x 6.35	2.625	66.7	1.125	28.6	SF1-RT-16-04-2-9	SF4-RT-16-04-2-9
1 x 3/8	25.40 x 9.53	2.625	66.7	1.125	28.6	SF1-RT-16-06-2-9	SF4-RT-16-06-2-9
1 x 1/2	25.40 x 12.70	2.625	66.7	1.125	28.6	SF1-RT-16-08-2-9	SF4-RT-16-08-2-9
1 x 3/4	25.40 x 19.05	2.625	66.7	1.125	28.6	SF1-RT-16-12-2-9	SF4-RT-16-12-2-9
1 1/2 x 1/2	38.10 x 12.70	2.875	73.0	1.375	34.9	SF1-RT-24-08-2-9	SF4-RT-24-08-2-9
1 1/2 x 3/4	38.10 x 19.05	2.875	73.0	1.375	34.9	SF1-RT-24-12-2-9	SF4-RT-24-12-2-9
1 1/2 x 1	38.10 x 25.40	2.875	73.0	1.375	34.9	SF1-RT-24-16-2-9	SF4-RT-24-16-2-9
2 x 1/2	50.80 x 12.70	3.375	85.7	1.625	41.3	SF1-RT-32-08-2-9	SF4-RT-32-08-2-9
2 x 3/4	50.80 x 19.05	3.375	85.7	1.625	41.3	SF1-RT-32-12-2-9	SF4-RT-32-12-2-9
2 x 1	50.80 x 25.40	3.375	85.7	1.625	41.3	SF1-RT-32-16-2-9	SF4-RT-32-16-2-9
2 x 1 1/2	50.80 x 38.10	3.375	85.7	1.625	41.3	SF1-RT-32-24-2-9	SF4-RT-32-24-2-9
2 1/2 x 1/2	63.50 x 12.70	3.625	92.1	1.875	47.6	SF1-RT-40-08-2-9	SF4-RT-40-08-2-9

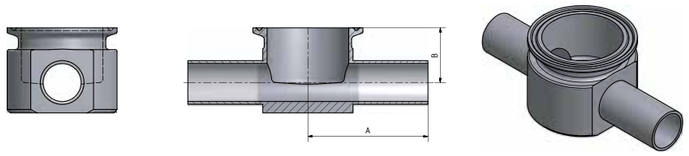
요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

DOCKWEILER
connecting flow to purity

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
2 1/2 x 3/4	63.50 x 19.05	3.625	92.1	1.875	47.6	SF1-RT-40-12-2-9	SF4-RT-40-12-2-9
2 1/2 x 1	63.50 x 25.40	3.625	92.1	1.875	47.6	SF1-RT-40-16-2-9	SF4-RT-40-16-2-9
2 1/2 x 1 1/2	63.50 x 38.10	3.625	92.1	1.875	47.6	SF1-RT-40-24-2-9	SF4-RT-40-24-2-9
2 1/2 x 2	63.50 x 50.80	3.625	92.1	1.875	47.6	SF1-RT-40-32-2-9	SF4-RT-40-32-2-9
3 x 1/2	76.20 x 12.70	3.875	98.4	2.125	54.0	SF1-RT-48-08-2-9	SF4-RT-48-08-2-9
3 x 3/4	76.20 x 19.05	3.875	98.4	2.125	54.0	SF1-RT-48-12-2-9	SF4-RT-48-12-2-9
3 x 1	76.20 x 25.40	3.875	98.4	2.125	54.0	SF1-RT-48-16-2-9	SF4-RT-48-16-2-9
3 x 1 1/2	76.20 x 38.10	3.875	98.4	2.125	54.0	SF1-RT-48-24-2-9	SF4-RT-48-24-2-9
3 x 2	76.20 x 50.80	3.875	98.4	2.125	54.0	SF1-RT-48-32-2-9	SF4-RT-48-32-2-9
3 x 2 1/2	76.20 x 63.50	3.875	98.4	2.125	54.0	SF1-RT-48-40-2-9	SF4-RT-48-40-2-9
4 x 1/2	101.60 x 12.70	4.750	120.7	2.625	66.7	SF1-RT-64-08-2-9	SF4-RT-64-08-2-9
4 x 3/4	101.60 x 19.05	4.750	120.7	2.625	66.7	SF1-RT-64-12-2-9	SF4-RT-64-12-2-9
4 x 1	101.60 x 25.40	4.750	120.7	2.625	66.7	SF1-RT-64-16-2-9	SF4-RT-64-16-2-9
4 x 1 1/2	101.60 x 38.10	4.750	120.7	2.625	66.7	SF1-RT-64-24-2-9	SF4-RT-64-24-2-9
4 x 2	101.60 x 50.80	4.750	120.7	2.625	66.7	SF1-RT-64-32-2-9	SF4-RT-64-32-2-9
4 x 2 1/2	101.60 x 63.50	4.750	120.7	2.625	66.7	SF1-RT-64-40-2-9	SF4-RT-64-40-2-9
4 x 3	101.60 x 76.20	4.750	120.7	2.625	66.7	SF1-RT-64-48-2-9	SF4-RT-64-48-2-9
6 x 1/2	152.40 x 12.70	7.125	181.0	3.625	92.1	SF1-RT-96-08-2-9	SF4-RT-96-08-2-9
6 x 3/4	152.40 x 19.05	7.125	181.0	3.625	92.1	SF1-RT-96-12-2-9	SF4-RT-96-12-2-9
6 x 1	152.40 x 25.40	7.125	181.0	3.625	92.1	SF1-RT-96-16-2-9	SF4-RT-96-16-2-9
6 x 1 1/2	152.40 x 38.10	7.125	181.0	3.625	92.1	SF1-RT-96-24-2-9	SF4-RT-96-24-2-9
6 x 2	152.40 x 50.80	7.125	181.0	3.625	92.1	SF1-RT-96-32-2-9	SF4-RT-96-32-2-9
6 x 2 1/2	152.40 x 63.50	7.125	181.0	3.625	92.1	SF1-RT-96-40-2-9	SF4-RT-96-40-2-9
6 x 3	152.40 x 76.20	7.125	181.0	3.625	92.1	SF1-RT-96-48-2-9	SF4-RT-96-48-2-9
6 x 4	152.40 x 101.60	7.125	181.0	3.750	95.3	SF1-RT-96-64-2-9	SF4-RT-96-64-2-9

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

자동 튜브 용접: 인스트루먼트 티(Instrument Tee)
Automatic Tube Weld: Instrument Tee



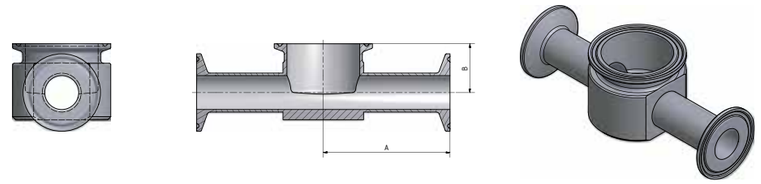
bpe-direct

통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/2 x 1 1/2	12.70 x 38.10	2.500	63.5	0.875	22.2	SF1-RT-08-24-2-10	SF4-RT-08-24-2-10
3/4 x 1 1/2	19.05 x 38.10	2.500	63.5	1.000	25.4	SF1-RT-12-24-2-10	SF4-RT-12-24-2-10
1 x 1 1/2	25.40 x 38.10	2.500	63.5	1.125	28.6	SF1-RT-16-24-2-10	SF4-RT-16-24-2-10
1/2 x 2	12.70 x 50.80	2.750	69.9	1.000	25.4	SF1-RT-08-32-2-10	SF4-RT-08-32-2-10
3/4 x 2	19.05 x 50.80	2.750	69.9	1.125	28.6	SF1-RT-12-32-2-10	SF4-RT-12-32-2-10
1 x 2	25.40 x 50.80	2.750	69.9	1.250	31.8	SF1-RT-16-32-2-10	SF4-RT-16-32-2-10
1 1/2 x 2	38.10 x 50.80	2.750	69.9	1.500	38.1	SF1-RT-24-32-2-10	SF4-RT-24-32-2-10

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

DOCKWEILER
connecting flow to purity

위생 클램프 조인트(Hygienic clamp joint): 인스트루먼트 티(Instrument Tee)
Hygienic Clamp Joint: Instrument Tee



bpe-direct

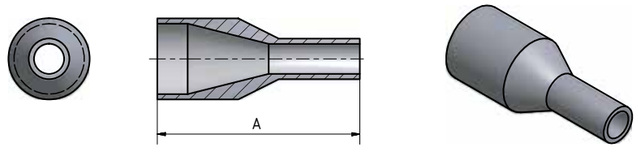
통상 치수 (d) Nominal Size		A		B		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/2 x 1 1/2	12.70 x 38.10	3.000	76.2	0.875	22.2	SF1-RT-08-24-2-11	SF4-RT-08-24-2-11
3/4 x 1 1/2	19.05 x 38.10	3.000	76.2	1.000	25.4	SF1-RT-12-24-2-11	SF4-RT-12-24-2-11
1 x 1 1/2	25.40 x 38.10	3.000	76.2	1.125	28.6	SF1-RT-16-24-2-11	SF4-RT-16-24-2-11
1/2 x 2	12.70 x 50.80	3.250	82.6	1.000	25.4	SF1-RT-08-32-2-11	SF4-RT-08-32-2-11
3/4 x 2	19.05 x 50.80	3.250	82.6	1.125	28.6	SF1-RT-12-32-2-11	SF4-RT-12-32-2-11
1 x 2	25.40 x 50.80	3.250	82.6	1.250	31.8	SF1-RT-16-32-2-11	SF4-RT-16-32-2-11
1 1/2 x 2	38.10 x 50.80	3.250	82.6	1.500	38.1	SF1-RT-24-32-2-11	SF4-RT-24-32-2-11

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

리듀서(REDUCER)
REDUCERS

bpe-direct

자동 튜브 용접: 콘센트릭 리듀서(Concentric Reducer)
Automatic Tube Weld: Concentric Reducer



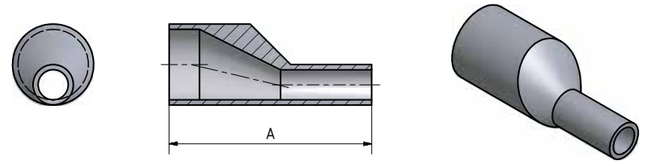
bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	1.625	41.3	SF1-CR-06-04-3-1	SF4-CR-06-04-3-1
1/2 x 1/4	12.70 x 6.35	1.875	47.6	SF1-CR-08-04-3-1	SF4-CR-08-04-3-1
1/2 x 3/8	12.70 x 9.53	1.875	47.6	SF1-CR-08-06-3-1	SF4-CR-08-06-3-1
3/4 x 3/8	19.05 x 9.53	2.000	50.8	SF1-CR-12-06-3-1	SF4-CR-12-06-3-1
3/4 x 1/2	19.05 x 12.70	2.125	54.0	SF1-CR-12-08-3-1	SF4-CR-12-08-3-1
1 x 1/2	25.40 x 12.70	2.500	63.5	SF1-CR-16-08-3-1	SF4-CR-16-08-3-1
1 x 3/4	25.40 x 19.05	2.125	54.0	SF1-CR-16-12-3-1	SF4-CR-16-12-3-1
1 1/2 x 3/4	38.10 x 19.05	3.000	76.2	SF1-CR-24-12-3-1	SF4-CR-24-12-3-1
1 1/2 x 1	38.10 x 25.40	2.500	63.5	SF1-CR-24-16-3-1	SF4-CR-24-16-3-1
2 x 1	50.80 x 25.40	3.375	85.7	SF1-CR-32-16-3-1	SF4-CR-32-16-3-1
2 x 1 1/2	50.80 x 38.10	2.500	63.5	SF1-CR-32-24-3-1	SF4-CR-32-24-3-1
2 1/2 x 1 1/2	63.50 x 38.10	3.375	85.7	SF1-CR-40-24-3-1	SF4-CR-40-24-3-1
2 1/2 x 2	63.50 x 50.80	2.500	63.5	SF1-CR-40-32-3-1	SF4-CR-40-32-3-1
3 x 1 1/2	76.20 x 38.10	4.250	108.0	SF1-CR-48-24-3-1	SF4-CR-48-24-3-1
3 x 2	76.20 x 50.80	3.375	85.7	SF1-CR-48-32-3-1	SF4-CR-48-32-3-1
3 x 2 1/2	76.20 x 63.50	2.625	66.7	SF1-CR-48-40-3-1	SF4-CR-48-40-3-1
4 x 2	101.60 x 50.80	5.125	130.2	SF1-CR-64-32-3-1	SF4-CR-64-32-3-1
4 x 2 1/2	101.60 x 63.50	4.250	108.0	SF1-CR-64-40-3-1	SF4-CR-64-40-3-1
4 x 3	101.60 x 76.20	3.875	98.4	SF1-CR-64-48-3-1	SF4-CR-64-48-3-1
6 x 3	152.40 x 76.20	7.250	184.2	SF1-CR-96-48-3-1	SF4-CR-96-48-3-1
6 x 4	152.40 x 101.60	5.625	142.9	SF1-CR-96-64-3-1	SF4-CR-96-64-3-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

DOCKWEILER connecting flow to purity

자동 튜브 용접: 에센트릭 리듀서(Eccentric Reducer)
Automatic Tube Weld: Eccentric Reducer



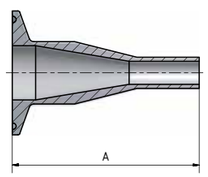
bpe-direct

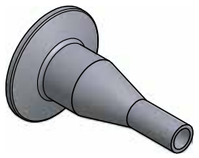
통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	1.625	41.3	SF1-ER-06-04-3-1	SF4-ER-06-04-3-1
1/2 x 1/4	12.70 x 6.35	1.875	47.6	SF1-ER-08-04-3-1	SF4-ER-08-04-3-1
1/2 x 3/8	12.70 x 9.53	1.875	47.6	SF1-ER-08-06-3-1	SF4-ER-08-06-3-1
3/4 x 3/8	19.05 x 9.53	2.000	50.8	SF1-ER-12-06-3-1	SF4-ER-12-06-3-1
3/4 x 1/2	19.05 x 12.70	2.125	54.0	SF1-ER-12-08-3-1	SF4-ER-12-08-3-1
1 x 1/2	25.40 x 12.70	2.500	63.5	SF1-ER-16-08-3-1	SF4-ER-16-08-3-1
1 x 3/4	25.40 x 19.05	2.125	54.0	SF1-ER-16-12-3-1	SF4-ER-16-12-3-1
1 1/2 x 3/4	38.10 x 19.05	3.000	76.2	SF1-ER-24-12-3-1	SF4-ER-24-12-3-1
1 1/2 x 1	38.10 x 25.40	2.500	63.5	SF1-ER-24-16-3-1	SF4-ER-24-16-3-1
2 x 1	50.80 x 25.40	3.375	85.7	SF1-ER-32-16-3-1	SF4-ER-32-16-3-1
2 x 1 1/2	50.80 x 38.10	2.500	63.5	SF1-ER-32-24-3-1	SF4-ER-32-24-3-1
2 1/2 x 1 1/2	63.50 x 38.10	3.375	85.7	SF1-ER-40-24-3-1	SF4-ER-40-24-3-1
2 1/2 x 2	63.50 x 50.80	2.500	63.5	SF1-ER-40-32-3-1	SF4-ER-40-32-3-1
3 x 1 1/2	76.20 x 38.10	4.250	108.0	SF1-ER-48-24-3-1	SF4-ER-48-24-3-1
3 x 2	76.20 x 50.80	3.375	85.7	SF1-ER-48-32-3-1	SF4-ER-48-32-3-1
3 x 2 1/2	76.20 x 63.50	2.625	66.7	SF1-ER-48-40-3-1	SF4-ER-48-40-3-1
4 x 2	101.60 x 50.80	5.125	130.2	SF1-ER-64-32-3-1	SF4-ER-64-32-3-1
4 x 2 1/2	101.60 x 63.50	4.250	108.0	SF1-ER-64-40-3-1	SF4-ER-64-40-3-1
4 x 3	101.60 x 76.20	3.875	98.4	SF1-ER-64-48-3-1	SF4-ER-64-48-3-1
6 x 3	152.40 x 76.20	7.250	184.2	SF1-ER-96-48-3-1	SF4-ER-96-48-3-1
6 x 4	152.40 x 101.60	5.625	142.9	SF1-ER-96-64-3-1	SF4-ER-96-64-3-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

위생 클램프 조인트(Hygienic clamp joint): 튜브 용접 콘센트릭 리듀서(Concentric Reducer)

Hygienic Clamp Joint: Tube Weld Concentric Reducer





bpe-direct

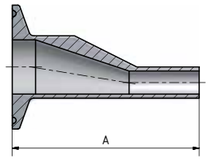
통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	2.125	54.0	SF1-CR-06-04-3-2	SF4-CR-06-04-3-2
1/2 x 1/4	12.70 x 6.35	2.375	60.3	SF1-CR-08-04-3-2	SF4-CR-08-04-3-2
1/2 x 3/8	12.70 x 9.53	2.375	60.3	SF1-CR-08-06-3-2	SF4-CR-08-06-3-2
3/4 x 3/8	19.05 x 9.53	2.500	63.5	SF1-CR-12-06-3-2	SF4-CR-12-06-3-2
3/4 x 1/2	19.05 x 12.70	2.625	66.7	SF1-CR-12-08-3-2	SF4-CR-12-08-3-2
1 x 1/2	25.40 x 12.70	3.000	76.2	SF1-CR-16-08-3-2	SF4-CR-16-08-3-2
1 x 3/4	25.40 x 19.05	2.625	66.7	SF1-CR-16-12-3-2	SF4-CR-16-12-3-2
1 1/2 x 3/4	38.10 x 19.05	3.500	88.9	SF1-CR-24-12-3-2	SF4-CR-24-12-3-2
1 1/2 x 1	38.10 x 25.40	3.000	76.2	SF1-CR-24-16-3-2	SF4-CR-24-16-3-2
2 x 1	50.80 x 25.40	3.875	98.4	SF1-CR-32-16-3-2	SF4-CR-32-16-3-2
2 x 1 1/2	50.80 x 38.10	3.000	76.2	SF1-CR-32-24-3-2	SF4-CR-32-24-3-2
2 1/2 x 1 1/2	63.50 x 38.10	3.875	98.4	SF1-CR-40-24-3-2	SF4-CR-40-24-3-2
2 1/2 x 2	63.50 x 50.80	3.000	76.2	SF1-CR-40-32-3-2	SF4-CR-40-32-3-2
3 x 1 1/2	76.20 x 38.10	4.750	120.7	SF1-CR-48-24-3-2	SF4-CR-48-24-3-2
3 x 2	76.20 x 50.80	3.875	98.4	SF1-CR-48-32-3-2	SF4-CR-48-32-3-2
3 x 2 1/2	76.20 x 63.50	3.125	79.4	SF1-CR-48-40-3-2	SF4-CR-48-40-3-2
4 x 2	101.60 x 50.80	5.750	146.0	SF1-CR-64-32-3-2	SF4-CR-64-32-3-2
4 x 2 1/2	101.60 x 63.50	4.875	123.8	SF1-CR-64-40-3-2	SF4-CR-64-40-3-2
4 x 3	101.60 x 76.20	4.500	114.3	SF1-CR-64-48-3-2	SF4-CR-64-48-3-2
6 x 3	152.40 x 76.20	8.000	203.2	SF1-CR-96-48-3-2	SF4-CR-96-48-3-2
6 x 4	152.40 x 101.60	6.375	161.9	SF1-CR-96-64-3-2	SF4-CR-96-64-3-2

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

DOCKWEILER connecting flow to purity

위생 클램프 조인트(Hygienic clamp joint): 튜브 용접 에센트릭 리듀서(Eccentric Reducer)

Hygienic Clamp Joint: Tube Weld Eccentric Reducer



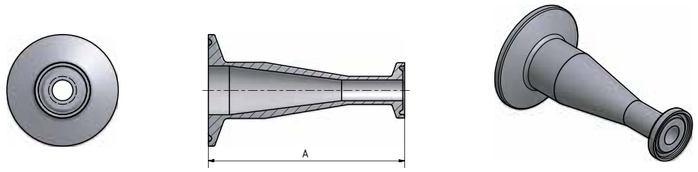
bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	2.125	54.0	SF1-ER-06-04-3-2	SF4-ER-06-04-3-2
1/2 x 1/4	12.70 x 6.35	2.375	60.3	SF1-ER-08-04-3-2	SF4-ER-08-04-3-2
1/2 x 3/8	12.70 x 9.53	2.375	60.3	SF1-ER-08-06-3-2	SF4-ER-08-06-3-2
3/4 x 3/8	19.05 x 9.53	2.500	63.5	SF1-ER-12-06-3-2	SF4-ER-12-06-3-2
3/4 x 1/2	19.05 x 12.70	2.625	66.7	SF1-ER-12-08-3-2	SF4-ER-12-08-3-2
1 x 1/2	25.40 x 12.70	3.000	76.2	SF1-ER-16-08-3-2	SF4-ER-16-08-3-2
1 x 3/4	25.40 x 19.05	2.625	66.7	SF1-ER-16-12-3-2	SF4-ER-16-12-3-2
1 1/2 x 3/4	38.10 x 19.05	3.500	88.9	SF1-ER-24-12-3-2	SF4-ER-24-12-3-2
1 1/2 x 1	38.10 x 25.40	3.000	76.2	SF1-ER-24-16-3-2	SF4-ER-24-16-3-2
2 x 1	50.80 x 25.40	3.875	98.4	SF1-ER-32-16-3-2	SF4-ER-32-16-3-2
2 x 1 1/2	50.80 x 38.10	3.000	76.2	SF1-ER-32-24-3-2	SF4-ER-32-24-3-2
2 1/2 x 1 1/2	63.50 x 38.10	3.875	98.4	SF1-ER-40-24-3-2	SF4-ER-40-24-3-2
2 1/2 x 2	63.50 x 50.80	3.000	76.2	SF1-ER-40-32-3-2	SF4-ER-40-32-3-2
3 x 1 1/2	76.20 x 38.10	4.750	120.7	SF1-ER-48-24-3-2	SF4-ER-48-24-3-2
3 x 2	76.20 x 50.80	3.875	98.4	SF1-ER-48-32-3-2	SF4-ER-48-32-3-2
3 x 2 1/2	76.20 x 63.50	3.125	79.4	SF1-ER-48-40-3-2	SF4-ER-48-40-3-2
4 x 2	101.60 x 50.80	5.750	146.0	SF1-ER-64-32-3-2	SF4-ER-64-32-3-2
4 x 2 1/2	101.60 x 63.50	4.875	123.8	SF1-ER-64-40-3-2	SF4-ER-64-40-3-2
4 x 3	101.60 x 76.20	4.500	114.3	SF1-ER-64-48-3-2	SF4-ER-64-48-3-2
6 x 3	152.40 x 76.20	8.000	203.2	SF1-ER-96-48-3-2	SF4-ER-96-48-3-2
6 x 4	152.40 x 101.60	6.375	161.9	SF1-ER-96-64-3-2	SF4-ER-96-64-3-2

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

위생 클램프 조인트(Hygienic clamp joint): 콘센트릭 리듀서(Concentric Reducer)

Hygienic Clamp Joint: Concentric Reducer



bpe-direct

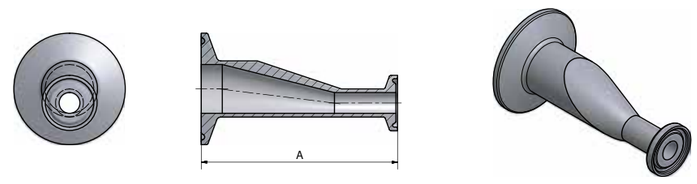
통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	2.625	66.7	SF1-CR-06-04-3-3	SF4-CR-06-04-3-3
1/2 x 1/4	12.70 x 6.35	2.875	73.0	SF1-CR-08-04-3-3	SF4-CR-08-04-3-3
1/2 x 3/8	12.70 x 9.53	2.875	73.0	SF1-CR-08-06-3-3	SF4-CR-08-06-3-3
3/4 x 3/8	19.05 x 9.53	3.000	76.2	SF1-CR-12-06-3-3	SF4-CR-12-06-3-3
3/4 x 1/2	19.05 x 12.70	3.125	79.4	SF1-CR-12-08-3-3	SF4-CR-12-08-3-3
1 x 1/2	25.40 x 12.70	3.500	88.9	SF1-CR-16-08-3-3	SF4-CR-16-08-3-3
1 x 3/4	25.40 x 19.05	3.125	79.4	SF1-CR-16-12-3-3	SF4-CR-16-12-3-3
1 1/2 x 3/4	38.10 x 19.05	4.000	101.6	SF1-CR-24-12-3-3	SF4-CR-24-12-3-3
1 1/2 x 1	38.10 x 25.40	3.500	88.9	SF1-CR-24-16-3-3	SF4-CR-24-16-3-3
2 x 1	50.80 x 25.40	4.375	111.1	SF1-CR-32-16-3-3	SF4-CR-32-16-3-3
2 x 1 1/2	50.80 x 38.10	3.500	88.9	SF1-CR-32-24-3-3	SF4-CR-32-24-3-3
2 1/2 x 1 1/2	63.50 x 38.10	4.375	111.1	SF1-CR-40-24-3-3	SF4-CR-40-24-3-3
2 1/2 x 2	63.50 x 50.80	3.500	88.9	SF1-CR-40-32-3-3	SF4-CR-40-32-3-3
3 x 1 1/2	76.20 x 38.10	5.250	133.4	SF1-CR-48-24-3-3	SF4-CR-48-24-3-3
3 x 2	76.20 x 50.80	4.375	111.1	SF1-CR-48-32-3-3	SF4-CR-48-32-3-3
3 x 2 1/2	76.20 x 63.50	3.625	92.1	SF1-CR-48-40-3-3	SF4-CR-48-40-3-3
4 x 2	101.60 x 50.80	6.250	158.8	SF1-CR-64-32-3-3	SF4-CR-64-32-3-3
4 x 2 1/2	101.60 x 63.50	5.375	136.5	SF1-CR-64-40-3-3	SF4-CR-64-40-3-3
4 x 3	101.60 x 76.20	5.000	127.0	SF1-CR-64-48-3-3	SF4-CR-64-48-3-3
6 x 3	152.40 x 76.20	8.500	215.9	SF1-CR-96-48-3-3	SF4-CR-96-48-3-3
6 x 4	152.40 x 101.60	7.000	177.8	SF1-CR-96-64-3-3	SF4-CR-96-64-3-3

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

DOCKWEILER connecting flow to purity

위생 클램프 조인트(Hygienic clamp joint): 에센트릭 리듀서(Eccentric Reducer)

Hygienic Clamp Joint: Eccentric Reducer



bpe-direct

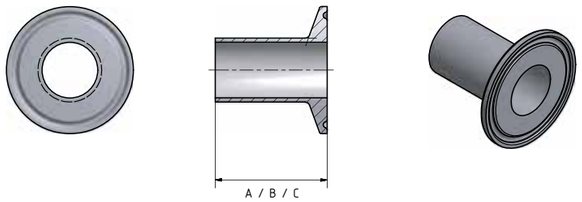
통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
3/8 x 1/4	9.53 x 6.35	2.625	66.7	SF1-ER-06-04-3-3	SF4-ER-06-04-3-3
1/2 x 1/4	12.70 x 6.35	2.875	73.0	SF1-ER-08-04-3-3	SF4-ER-08-04-3-3
1/2 x 3/8	12.70 x 9.53	2.875	73.0	SF1-ER-08-06-3-3	SF4-ER-08-06-3-3
3/4 x 3/8	19.05 x 9.53	3.000	76.2	SF1-ER-12-06-3-3	SF4-ER-12-06-3-3
3/4 x 1/2	19.05 x 12.70	3.125	79.4	SF1-ER-12-08-3-3	SF4-ER-12-08-3-3
1 x 1/2	25.40 x 12.70	3.500	88.9	SF1-ER-16-08-3-3	SF4-ER-16-08-3-3
1 x 3/4	25.40 x 19.05	3.125	79.4	SF1-ER-16-12-3-3	SF4-ER-16-12-3-3
1 1/2 x 3/4	38.10 x 19.05	4.000	101.6	SF1-ER-24-12-3-3	SF4-ER-24-12-3-3
1 1/2 x 1	38.10 x 25.40	3.500	88.9	SF1-ER-24-16-3-3	SF4-ER-24-16-3-3
2 x 1	50.80 x 25.40	4.375	111.1	SF1-ER-32-16-3-3	SF4-ER-32-16-3-3
2 x 1 1/2	50.80 x 38.10	3.500	88.9	SF1-ER-32-24-3-3	SF4-ER-32-24-3-3
2 1/2 x 1 1/2	63.50 x 38.10	4.375	111.1	SF1-ER-40-24-3-3	SF4-ER-40-24-3-3
2 1/2 x 2	63.50 x 50.80	3.500	88.9	SF1-ER-40-32-3-3	SF4-ER-40-32-3-3
3 x 1 1/2	76.20 x 38.10	5.250	133.4	SF1-ER-48-24-3-3	SF4-ER-48-24-3-3
3 x 2	76.20 x 50.80	4.375	111.1	SF1-ER-48-32-3-3	SF4-ER-48-32-3-3
3 x 2 1/2	76.20 x 63.50	3.625	92.1	SF1-ER-48-40-3-3	SF4-ER-48-40-3-3
4 x 2	101.60 x 50.80	6.250	158.8	SF1-ER-64-32-3-3	SF4-ER-64-32-3-3
4 x 2 1/2	101.60 x 63.50	5.375	136.5	SF1-ER-64-40-3-3	SF4-ER-64-40-3-3
4 x 3	101.60 x 76.20	5.000	127.0	SF1-ER-64-48-3-3	SF4-ER-64-48-3-3
6 x 3	152.40 x 76.20	8.500	215.9	SF1-ER-96-48-3-3	SF4-ER-96-48-3-3
6 x 4	152.40 x 101.60	7.000	177.8	SF1-ER-96-64-3-3	SF4-ER-96-64-3-3

요청 시 다른 치수 가능/ 변경될 수 있음. 클램프 치수는 표 DT-4.1.4-1.를 참고하십시오.
Further dimensions on request. Subject to alteration. Clamp dimensions see table DT-4.1.4-1.

페럴 및 캡
FERRULES AND CAPS

bpe-direct

자동 튜브 용접: 페럴
Automatic Tube Weld: Ferrule



bpe-direct

통상 치수 (d) Nominal Size		A		플랜지 치수 Flange Dimensions		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.750	44.5	0.984	25.0	SF1-FA-04-4-1	SF4-FA-04-4-1
3/8	9.53	1.750	44.5	0.984	25.0	SF1-FA-06-4-1	SF4-FA-06-4-1
1/2	12.70	1.750	44.5	0.984	25.0	SF1-FA-08-4-1	SF4-FA-08-4-1
3/4	19.05	1.750	44.5	0.984	25.0	SF1-FA-12-4-1	SF4-FA-12-4-1
1	25.40	1.750	44.5	1.984	50.5	SF1-FA-16-4-1	SF4-FA-16-4-1
1 1/2	38.10	1.750	44.5	1.984	50.5	SF1-FA-24-4-1	SF4-FA-24-4-1
2	50.80	2.250	57.2	2.516	64.0	SF1-FA-32-4-1	SF4-FA-32-4-1
2 1/2	63.50	2.250	57.2	3.047	77.5	SF1-FA-40-4-1	SF4-FA-40-4-1
3	76.20	2.250	57.2	3.579	91.0	SF1-FA-48-4-1	SF4-FA-48-4-1
4	101.60	2.250	57.2	4.682	119.0	SF1-FA-64-4-1	SF4-FA-64-4-1
6	152.40	3.000	76.2	6.570	167.0	SF1-FA-96-4-1	SF4-FA-96-4-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

DOCKWEILER connecting flow to purity

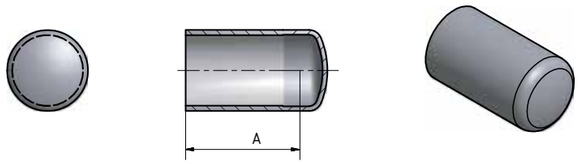
자동 튜브 용접: 페럴
Automatic Tube Weld: Ferrule

통상 치수 (d) Nominal Size		B		클램프 치수 Clamp Dimensions		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	1.130	28.58	0.984	25.0	SF1-FB-04-4-1	SF4-FB-04-4-1
3/8	9.53	1.130	28.58	0.984	25.0	SF1-FB-06-4-1	SF4-FB-06-4-1
1/2	12.70	1.130	28.58	0.984	25.0	SF1-FB-08-4-1	SF4-FB-08-4-1
3/4	19.05	1.130	28.58	0.984	25.0	SF1-FB-12-4-1	SF4-FB-12-4-1
1	25.40	1.130	28.58	1.984	50.5	SF1-FB-16-4-1	SF4-FB-16-4-1
1 1/2	38.10	1.130	28.58	1.984	50.5	SF1-FB-24-4-1	SF4-FB-24-4-1
2	50.80	1.130	28.58	2.516	64.0	SF1-FB-32-4-1	SF4-FB-32-4-1
2 1/2	63.50	1.130	28.58	3.047	77.5	SF1-FB-40-4-1	SF4-FB-40-4-1
3	76.20	1.130	28.58	3.579	91.0	SF1-FB-48-4-1	SF4-FB-48-4-1
4	101.60	1.130	28.58	4.682	119.0	SF1-FB-64-4-1	SF4-FB-64-4-1
6	152.40	1.500	38.1	6.570	167.0	SF1-FB-96-4-1	SF4-FB-96-4-1

통상 치수 (d) Nominal Size		C		클램프 치수 Clamp Dimensions		주문 코드 Order Code	
인치 / Inch	mm	英寸 / Inch	毫米 / mm	英寸 / Inch	毫米 / mm	SF1	SF4
1/4	6.35	0.500	12.7	0.984	25.0	SF1-FC-04-4-1	SF4-FC-04-4-1
3/8	9.53	0.500	12.7	0.984	25.0	SF1-FC-06-4-1	SF4-FC-06-4-1
1/2	12.70	0.500	12.7	0.984	25.0	SF1-FC-08-4-1	SF4-FC-08-4-1
3/4	19.05	0.500	12.7	0.984	25.0	SF1-FC-12-4-1	SF4-FC-12-4-1
1	25.40	0.500	12.7	1.984	50.5	SF1-FC-16-4-1	SF4-FC-16-4-1
1 1/2	38.10	0.500	12.7	1.984	50.5	SF1-FC-24-4-1	SF4-FC-24-4-1
2	50.80	0.500	12.7	2.516	64.0	SF1-FC-32-4-1	SF4-FC-32-4-1
2 1/2	63.50	0.500	12.7	3.047	77.5	SF1-FC-40-4-1	SF4-FC-40-4-1
3	76.20	0.500	12.7	3.579	91.0	SF1-FC-48-4-1	SF4-FC-48-4-1
4	101.60	0.625	15.9	4.682	119.0	SF1-FC-64-4-1	SF4-FC-64-4-1
6	152.40	0.750	19.05	6.570	167.0	SF1-FC-96-4-1	SF4-FC-96-4-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

자동 튜브 용접 : 캡
Automatic Tube Weld: Cap



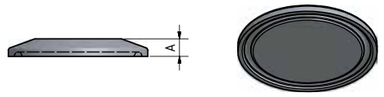
bpe-direct

통상 치수 (d) Nominal Size		A		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/2	12.70	1.500	38.10	SF1-WC-08-5-1	SF4-WC-08-5-1
3/4	19.05	1.500	38.10	SF1-WC-12-5-1	SF4-WC-12-5-1
1	25.40	1.500	38.10	SF1-WC-16-5-1	SF4-WC-16-5-1
1 1/2	38.10	1.500	38.10	SF1-WC-24-5-1	SF4-WC-24-5-1
2	50.80	1.500	38.10	SF1-WC-32-5-1	SF4-WC-32-5-1
2 1/2	63.50	1.500	38.10	SF1-WC-40-5-1	SF4-WC-40-5-1
3	76.20	1.750	44.50	SF1-WC-48-5-1	SF4-WC-48-5-1
4	101.60	2.000	50.80	SF1-WC-64-5-1	SF4-WC-64-5-1
6	152.40	2.500	63.50	SF1-WC-96-5-1	SF4-WC-96-5-1

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

DOCKWEILER
connecting flow to purity

위생 클램프 조인트 : 솔리드 앤드 캡
Hygienic Clamp Joint: Solid End Cap



bpe-direct

통상 치수 (d) Nominal Size		A		플랜지 치수 Flange Dimensions		주문 코드 Order Code	
인치 / Inch	mm	인치 / Inch	mm	인치 / Inch	mm	SF1	SF4
1/4	6.35	0.187	4.7	0.984	25.0	SF1-FTC-04-12-5-2	SF4-FTC-04-12-5-2
3/8	9.53	0.187	4.7	0.984	25.0	SF1-FTC-04-12-5-2	SF4-FTC-04-12-5-2
1/2	12.70	0.187	4.7	0.984	25.0	SF1-FTC-04-12-5-2	SF4-FTC-04-12-5-2
3/4	19.05	0.187	4.7	0.984	25.0	SF1-FTC-04-12-5-2	SF4-FTC-04-12-5-2
1	25.40	0.250	6.4	1.984	50.5	SF1-FTC-16-24-5-2	SF4-FTC-16-24-5-2
1 1/2	38.10	0.250	6.4	1.984	50.5	SF1-FTC-16-24-5-2	SF4-FTC-16-24-5-2
2	50.80	0.250	6.4	2.516	64.0	SF1-FTC-32-5-2	SF4-FTC-32-5-2
2 1/2	63.50	0.250	6.4	3.047	77.5	SF1-FTC-40-5-2	SF4-FTC-40-5-2
3	76.20	0.250	6.4	3.579	91.0	SF1-FTC-48-5-2	SF4-FTC-48-5-2
4	101.60	0.312	7.9	4.682	119.0	SF1-FTC-64-5-2	SF4-FTC-64-5-2
6	152.40	0.437	11.1	6.570	167.0	SF1-FTC-96-5-2	SF4-FTC-96-5-2

요청 시 다른 치수 가능/ 변경될 수 있음.
Further dimensions on request. Subject to alteration.

표준 개스킷

DIN 32676에 따른 모든 표준 위생 개스킷은 FDA 준수 화합물 (compounds)로 몰드에서 성형되며 USP 클래스 VI를 충족합니다.

전체 시스템에서 총 추적성 제공

Dockweiler 개스킷은 깨끗하게 건조되고 영구적인 마크를 갖습니다. 포장이 제거된 후에도 혼합되는 경우가 없습니다.

레이저마킹 정보:

DOCKWEILER / DW-Nr.

Standard Gaskets

All standard sanitary gaskets according to DIN 32676 are moulded from FDA compliant compounds and fulfil USP class VI.

Total traceability for the complete system

Dockweiler gaskets are cleaned, dryed and. permanently marked.
Mix-ups after removal from the packaging are eliminated.

Lasermarking information:

DOCKWEILER / DW-No.

소재
Materials

소재 / Material	PTFE	FKM	PTFE / FKM	EPDM	VMQ	PTFE / 316L	PTFE / EPDM
ISO 1629 / ASTM D1418 에 따른 소재 Material acc. to ISO 1629 / ASTM D1418	폴리테트라플루오로에틸렌 Polytetra-fluoroethylene	과불화 고무 Perfluorinated rubber	FKM 으로 감싸진 PTFE PTFE enveloped FKM	에틸렌프로필렌 다이엔계 고무 Ethylene propylene diene rubber	백금 경화 실리콘 고무 Platinum cured silicone rubber	스테인리스 스틸 316L 및 PTFE 합성물 Composite of stainless steel 316L and PTFE	EPDM 으로 감싸진 PTFE PTFE enveloped EPDM
Trade name	Teflon®	Viton®		Buna®	Silopren®		
통상 치수 (d)* Diameter* *모든 직경이 아님모든 재료에서 사용 가능 *Not all diameters are available in all materials	플랜지 크기 ≤ 25 mm: 테두리 없는 개스킷, 플랜지 크기 ≥ 34 mm: 테두리 있는 개스킷 Flange size ≤ 25 mm: Gasket without Lip, Flange size ≥ 34 mm: Gasket with Lip ISO 13,5 mm – 114,3 mm / Metric 6,00 mm – 154,00 mm 미터법6.00 mm - 154.00 mm / Imperial 1/4" – 6" / 야드법 1/4" – 6"						
온도 편차 Temperature variatons	–	+	0	+	+	+	+
연속 스팀 Continuous steam	+	+	+	+	+	+	+
무극성 용제 Non-polar solvents	+	+	+	–	–	+	+
극성 용제 Polar solvents	+	–	+	–	–	+	+
산 및 활성 산소 Acid and active oxygen	+	+	+	+	+	+	+
酸性 / Acid	+	+	+	+	+	+	+
산 / Alkaline	+	+	+	+	–	+	+
경도/ Hardness	68 Shore A	82 Shore A	45 Shore A	45 Shore A	65 – 75 Shore A	80 Shore A	70 +/- 5 Shore A
밀도 / Density	3,45 g/cm³	1,28 g/cm³	1,9 g/cm³	2,1 g/cm³	1,2 g/cm³	1,85 g/cm³	1,25 g/cm³
압축변형 Compression set	18,5 %	13 %	15 %	10 %	20 %	7 %	5 %
	70 Hour / Std.	24 Hour / Std.	24 Hour / Std.	24 Hour / Std.	24 Hour / Std.	24 Hour / Std.	24 Hour / Std.
	200 °C	175 °C	175 °C	150 °C	175 °C	150 °C	175 °C
	392 °F	347 °F	347 °F	302 °F	347 °F	302 °F	347 °F
온도 범위 Temperature range	-15 to 230 °C	-20 to 210 °C	-60 to 180 °C	-40 to 140 °C	-60 to 200 °C	-70 to 260 °C	-70 to 180 °C
	5 to 446 °F	-4 to 410 °F	-76 to 356 °F	-40 to 284 °F	-76 to 392 °F	-94 to 500 °F	-94 to 356 °F

+ = highly suitable / 매우 적합 0 = suitable / 적합 – = not suitable / 부적합

DOCKWEILER connecting flow to purity

개스킷 / Gaskets

통상 치수 Nominal Size	플랜지 치수 Flange Dimensions	PTFE	FKM	PTFE/FKM	EPDM	VMQ
1/4"	25.00	GK-IMP-04-P	GK-IMP-04-F	GK-IMP-04-FP	GK-IMP-04-E	GK-IMP-04-V
3/8"	25.00	GK-IMP-06-P	GK-IMP-06-F	GK-IMP-06-FP	GK-IMP-06-E	GK-IMP-06-V
1/2"	25.00	GK-IMP-08-P	GK-IMP-08-F	GK-IMP-08-FP	GK-IMP-08-E	GK-IMP-08-V
3/4"	25.00	GK-IMP-12-P	GK-IMP-12-F	GK-IMP-12-FP	GK-IMP-12-E	GK-IMP-12-V
1"	50.50	GK-IMP-16-P	GK-IMP-16-F	GK-IMP-16-FP	GK-IMP-16-E	GK-IMP-16-V
1 1/2"	50.50	GK-IMP-24-P	GK-IMP-24-F	GK-IMP-24-FP	GK-IMP-24-E	GK-IMP-24-V
2"	64.00	GK-IMP-32-P	GK-IMP-32-F	GK-IMP-32-FP	GK-IMP-32-E	GK-IMP-32-V
2 1/2"	77.50	GK-IMP-40-P	GK-IMP-40-F	GK-IMP-40-FP	GK-IMP-40-E	GK-IMP-40-V
3"	91.00	GK-IMP-48-P	GK-IMP-48-F	GK-IMP-48-FP	GK-IMP-48-E	GK-IMP-48-V
4"	119.00	GK-IMP-64-P	GK-IMP-64-F	GK-IMP-64-FP	GK-IMP-64-E	GK-IMP-64-V
6"	167.00	GK-IMP-96-P	GK-IMP-96-F	GK-IMP-96-FP	GK-IMP-96-E	GK-IMP-96-V

다음 개스킷들을 표준 개스킷 이외에 옵션으로 제공됩니다.

The following gaskets are optional available beside the standard gaskets:

SCREEN GASKETS

Screen Gaskets
스크린 개스킷은 주요 멤브레인 필터의 전처리 필터(prefiltration) 인데 공정배기라인에서 수증기의 유착을 막고 주입 및 마감 전 미립자 제거 등을 제공합니다.。

Screen Gaskets
Screen Gaskets provide prefiltration for critical membrane filters, coalescence of water vapour from process exhaust lines, particulate removal before fill and finish and more.

SMART GASKETS

Smart Gasket
스마트 개스킷의 가치는 고순도 제약 시스템에서 멸균율을 확인할 때 입증됩니다.

Smart Gasket
The Smart Gasket values are proven when validating sterility in high purity pharmaceutical systems..

CONTROLLED COMPRESSION

Controlled Compression Gaskets
세심히 조정되는 압축 개스킷은 과도하게 조여지지 않고 클램프 압력을 정확히 조절하며 적절한 위치에 놓인 개스킷이 페럴과 함께 완벽한 표 면 I.D. 씰(seal)을 만들 수 있도록 합니다.

Controlled Compression Gaskets
Controlled Compression Dichtungen regulieren den Klemmdruck und sichern den ordnungsgemäßen Sitz der Dichtung.

ORIFICE PLATES

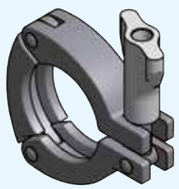
Orifice Plates
오리피스 플레이트는 SIP 절차 중 시스템 성능을 향상시키고 유속을 조정하며 역류의 균형을 맞추고 배압을 동일하게 합니다.

Orifice Plates
Orifice Plates advance your system's performance, adjust flow rates, balance backflow and equalize back pressure during SIP procedures.

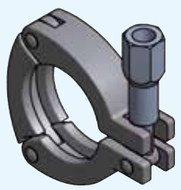
bpe-direct

통상 치수 (d) Nominal Size	플랜지 치수 [mm] Flange Diameter [mm]	ASME BPE에 따른 표준 클램프 Standard Clamp acc. to ASME BPE
1/4"	25.00	CLAMP-04-12
3/8"	25.00	CLAMP-04-12
1/2"	25.00	CLAMP-04-12
3/4"	25.00	CLAMP-04-12
1"	50.50	CLAMP-16-24
1 1/2"	50.50	CLAMP-16-24
2"	64.00	CLAMP-32
2 1/2"	77.50	CLAMP-40
3"	91.00	CLAMP-48
4"	119.00	CLAMP-64
6"	167.00	CLAMP-96

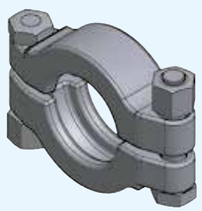
특수 클램프
SPECIAL CLAMPS



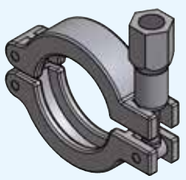
3 세그먼트 클램프
3-SEGMENT-CLAMP



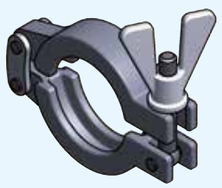
육각형 3 세그먼트 클램프
3-SEGMENT-CLAMP WITH HEXAGON



고압 클램프
HIGH PRESSURE CLAMP

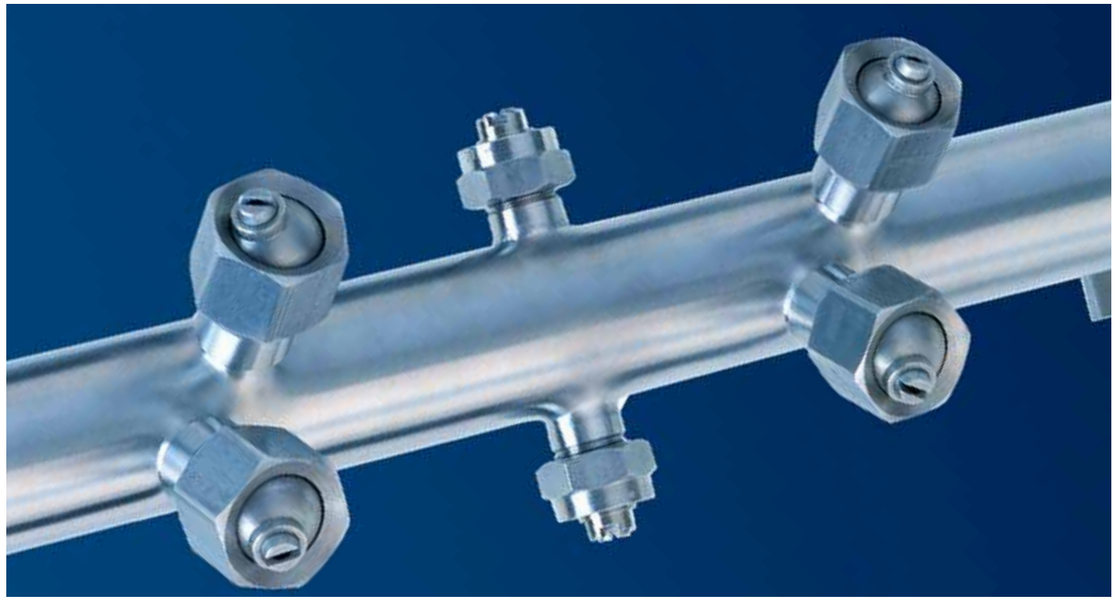


육각형 클램프
CLAMP WITH HEXAGON



안전 클램프
SAFETY CLAMP

추가 제품
ADDITIONAL PRODUCTS



ASME BPE 표준 제품 외에 특수 구성 요소 및 시스템 솔루션.

Special components and system solutions in addition to ASME BPE standard products.

개별 요구 사항에 맞는 CIP 랜스 및 CIP 링

CIP lances and CIP rings matched to the the individual requirements

예를 들어, 실리콘, EPDM 및 PTFE로 만든 CIP 링, CIP 랜스 및 제약 호스가 있습니다.

For example, CIP rings, CIP lances as well as pharmaceutical hoses made of silicone, EPDM and PTFE.

테스트를 거친 품질과 손쉬운 설치를 위한 시스템 구성 요소

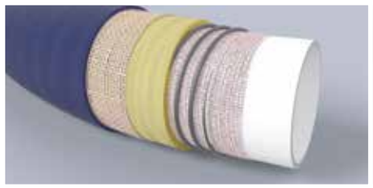
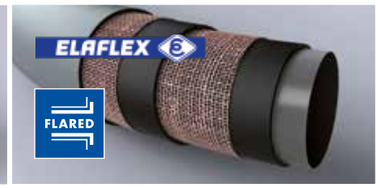
System components with tested quality and for easy installation

제약 원재료 순도에 대한 최고의 요 구 사항을 위한 제약 호스

Pharmaceutical hoses for highest demands for media purity

가장 높은 GMP 표준을 충족하도록 설계된 FLARED 연결

FLARED connection designed to meet the highest GMP standards

유형 / Type	PolyFlow ST	PolyFlow STR	PolyFlow ETR EPDM	PolyFlow PTR OHM	PolyFlow PTR
					
재료 / Material	**백금 경화 실리콘, 브레이드 강화** Platinum-cured silicone, braid-reinforced	**백금 경화 실리콘, 브레이드-스테인레스 스틸 와이어 보강으로 보강** Platinum-cured silicone, braid-reinforced, with stainless steel wire reinforcement	**스테인리스 스틸 와이어 보강으로 브레이드 강화, 외부는 파란색 EPDM, 내부는 식품 등급 흰색 EPDM** Braid-reinforced with stainless steel wire reinforcement, outside blue EPDM, inside food-grade white EPDM	**Teflon®(PTFE) 라이너(검은색), 브레이드 강화(>1“ 및 스테인리스 스틸 와이어 강화), 외부 EPDM, 완전 전기 전도성(Ω/T)** Teflon® (PTFE) liner (black), braid-reinforced (>1“ also stainless steel wire reinforcement), outside EPDM, fully electrically conductive (Ω/T)	**Teflon®(PTFE) 라이너(흰색), 브레이드 강화(>1“ 및 스테인리스 스틸 와이어 강화), 외부 EPDM** Teflon® (PTFE) liner (white), braid-reinforced (>1“ also stainless steel wire reinforcement), outside EPDM
지름 / Diameter	1/4" - 1" *	1/2"- 2" *	3/4" - 2" *	1/2" - 2"	1/2"- 2"
최대 길이 / max. Length	25 m **	40 m	40 m	40 m	40 m
최소 굽힘 반경 / min. Bending radius	40 mm (1/4") - 120 mm (1“)	60 mm (1/2") - 210 mm (2")	120 mm (3/4") - 300 mm (2“)	110 mm (1/2") - 210 mm (2")	110 mm (1/2") - 210 mm (2")
온도 범위 / Temperature Range	- 60° - + 180°C	- 60° - + 200°C	- 30° - + 120°C	- 30° - + 150°C	- 30° - + 150°
일의 압박감 / Working Pressure	6,0 bar (1/4") - 2,5 bar (1")	15 bar (1/4“) - 4 bar (3“)	6.5 bar (3/4") - 4.0 bar (2“)	6 bar (1/2“ - 2“)	16 bar (1/2“ - 2“)
적합성 /Conformity	FDA 21 CFR 177.2600, BhVV Type II, USP Class VI, USP Physiochemical 661, Cytotoxicity, Hemolysis, European Pharmacopeia 3.1.9	FDA 21 CFR 177.2600 USP Class VI, 3-A Sanitary Standard, EC 1935/2004, EC 2023/2006, DM21/03/1973, BfR XV and XXI cat.2, ISO10993-8, -10 and -11	FDA 21 CFR - 177.2600, BGVV Type II, USP Physicochemical 661	FDA 21 CFR 177.1550, FDA 21 CFR 1783297, USP Class VI, EC 1935/2004, 10/2011, 1282/2011, 1183/2011, 202/2014, 2023/2006, Bed.Ggst V, 24.06.2013, LFGB	FDA 21 CFR 177.1550, FDA 21 CFR 1783297, USP Class VI, EC 1935/2004, 10/2011, 1282/2011, 1183/2011, 202/2014, 2023/2006, BedGgstV, 24.06.2013, LFGB

* Other dimensions on request / 요청 시 다른 치수
** From a diameter of 25 mm only 10 m / 직경 25mm에서 불과 10m

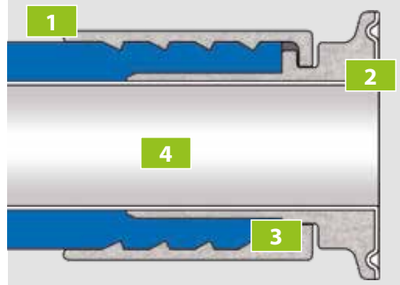
사용 가능한 연결:

- DIN 32676 및 ASME BPE 2019에 따른 TriClamp 연결
- DIN 11864 Form A에 따른 무균 연결
- 오비탈 용접용 용접 끝단
- 추가 연결 및 맞춤형 솔루션 (예: 90° 엘보우) 요청 시
- **플레어형 특수 주름형 호스 피팅으로 인해 데드 스페이스가 없음:** 주름형 호스 피팅 및 플레어형 PTFE 라이너가 있는 PolyFlow PTR 및 PolyFlow PTR OHM 호스. 연결 피팅은 매체와 접촉하지 않습니다. 특수 크림핑이 씰까지 틈이나 데드 스페이스를 허용하지 않기 때문입니다.

Available connections:

- TriClamp connections in accordance with DIN 32676 and ASME BPE 2019
- Aseptic connections in accordance with DIN 11864 Form A
- Welding ends for orbital welding
- Further connections and customized solutions (e.g. 90° Elbow) on request
- **Free of dead space due to specially crimped hose fitting FLARED:** PolyFlow PTR and PolyFlow PTR OHM hoses with crimped hose-fitting and flared PTFE liner. The connection fitting has no contact to the medium, as the special crimping does not allow for any gaps or dead space up to the seal.

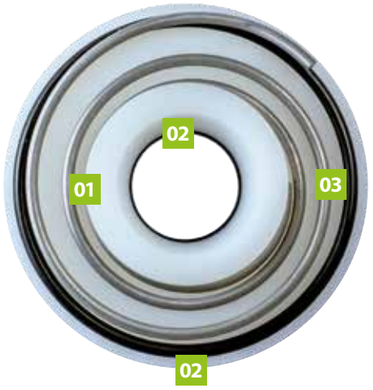
FLARED



ELAFLEX

연결: / Connection:

1. PloyFlow PTR / PloyFlow PTR OHM
2. 호스 피팅 / Hose fitting
3. 특허받은 칼집 사양
   Patented sheath specification
4. PTFE-라이너(Teflon®) / PTFE-Liner (Teflon®)



Components	Materials
01 Basic Body	PVDF
02 O-rings	EPDM
03 Spring	1.4310

클린룸의 벽 및 천장 피드스루용:
벽 개구부의 오염에 대한 최적의 보호.

CleanShut은 클린룸에서 벽 및 천장 피드스루를 만드는 데 사용됩니다. 클린룸 벽은 여러 층으로 구성되어 있습니다. 그들은 두 개의 외부 금속판으로 구성되어 있으며 충전재가 늘어서 있습니다. CleanShut은 스프링이 있는 금속 시트 뒤에 도달하여 하우징을 벽에 가깝게 누릅니다.

클린룸 표준에 따라 두 개의 씰이 피드스루를 닫습니다. 첫 번째 씰은

CleanShut 시스템은 하우징과 클린룸 벽 사이에 밀봉을 제공합니다. 두 번째 봉인은

피드스루의 내부 통로에 위치하여 밀봉합니다. 따라서 이 설계는 추가 실란트 사용을 불필요하게 만듭니다.

CleanShut – 장점 및 이점 요약::

- 간단하고 빠른 설치
- 한쪽에서 설치 가능
- 상대적으로 낮은 설치 비용
- 튀어나온 칼라가 천공된 구멍을 확실하게 밀봉합니다.
- 나사 없이 조립 – 위험 최소화 클린룸 벽 손상
- 돌출 칼라는 설치 중에 추가적인 유연성을 제공합니다.
- 높은 내열성으로 인한 배관 설비의 멸균성
- 제공된 피드스루의 안정성
- GMP 준수 설계로 인해 세척이 용이함
  (외부 Ra ⩽ 0.8 µm)

For wall and ceiling feedthroughs in clean rooms:
Optimal protection against contamination in wall openings.

CleanShut is used to make wall and ceiling feedthroughs in clean rooms. Clean room walls are structured into several layers. They consist of two outer sheets of metal, which are lined with a filling material. CleanShut reaches behind the metal sheet with its spring and presses the housing close to the wall.

Two seals close the feedthrough according to clean-room standards: the first seal is located on the back of the CleanShut system and provides a seal between the housing and the clean room wall. The second seal is located in the inner passage of the feedthrough and seals it off. This design thus makes using additional sealants unnecessary.

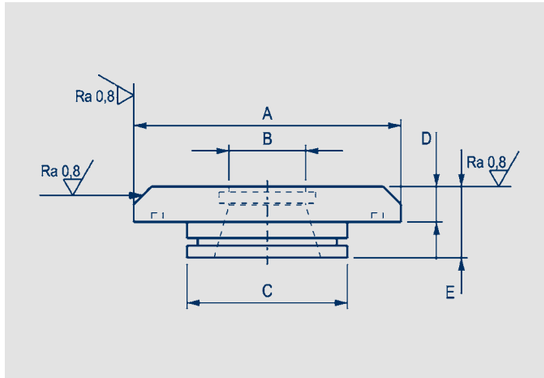
CleanShut – advantages and benefits at a glance:

- simple and quick installation
- installation from just one side possible
- comparatively low installation costs
- the protruding collar seals the drilled hole reliably
- assembly without screws – minimizes the risk of damage to the cleanroom wall
- the protruding collar provides additional flexibility during installation
- sterilizability of the pipe installation due to high heat resistance
- stabilizability of the feedthrough provided
- easy to clean due to GMP-compliant design
  (outer Ra ≤ 0.8 µm)

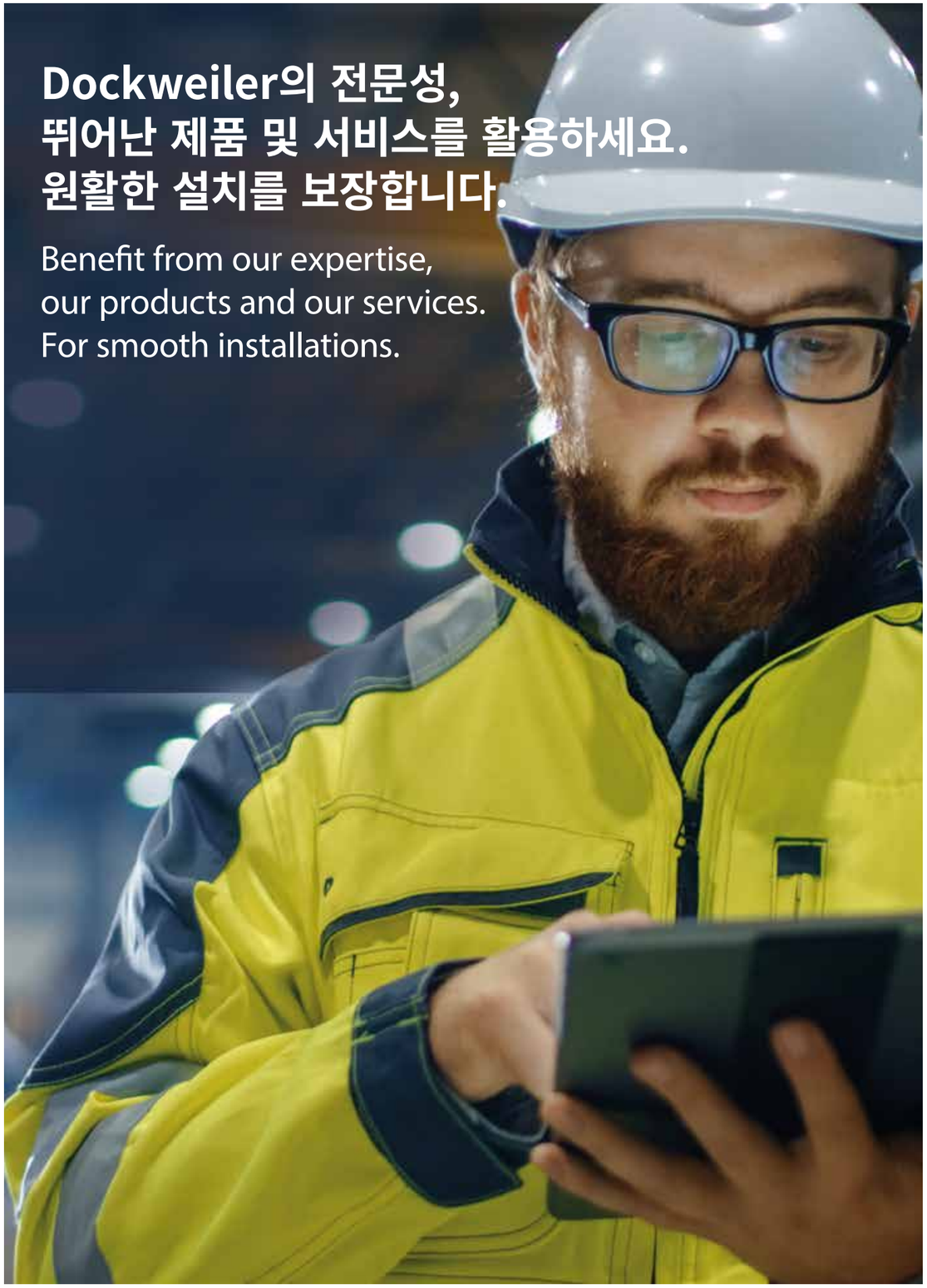
Metric [mm]					
Ø Rohr	Ø A	Ø B	Ø C	D	E
12,00	64,00	12,20	34,00	10,00	18,00
19,00	75,00	19,20	45,00	10,00	18,00
23,00	75,00	19,20	45,00	10,00	18,00
29,00	87,00	29,20	57,00	10,00	18,00
35,00	87,00	35,20	57,00	10,00	18,00
41,00	105,00	41,20	75,00	10,00	20,00
53,00	105,00	53,20	75,00	10,00	20,00
70,00	138,00	70,20	108,00	10,00	22,00
85,00	138,00	85,20	108,00	10,00	22,00
104,00	149,00	104,20	127,00	10,00	22,00

ISO [mm]					
Ø Rohr	Ø A	Ø B	Ø C	D	E
13,50	64,00	13,70	34,00	10,00	18,00
21,30	75,00	21,50	45,00	10,00	18,00
26,90	75,00	27,10	45,00	10,00	18,00
33,70	87,00	33,90	57,00	10,00	18,00
42,40	105,00	42,60	75,00	10,00	20,00
48,30	105,00	48,50	75,00	10,00	20,00
60,30	138,00	60,50	108,00	10,00	22,00
76,10	138,00	76,30	108,00	10,00	22,00
88,90	149,00	89,10	127,00	10,00	22,00

Imperial [mm]					
Ø Rohr	Ø A	Ø B	Ø C	D	E
12,70	64,00	12,90	34,00	10,00	18,00
19,05	75,00	19,25	45,00	10,00	18,00
25,40	75,00	25,60	45,00	10,00	18,00
38,10	105,00	38,30	75,00	10,00	20,00
50,80	105,00	51,00	75,00	10,00	20,00
63,50	138,00	63,70	108,00	10,00	22,00
76,20	138,00	76,40	108,00	10,00	22,00
101,60	149,00	101,80	127,00	10,00	22,00



일반 정보
GENERAL INFORMATION



Dockweiler의 전문성, 뛰어난 제품 및 서비스를 활용하세요. 원활한 설치를 보장합니다.

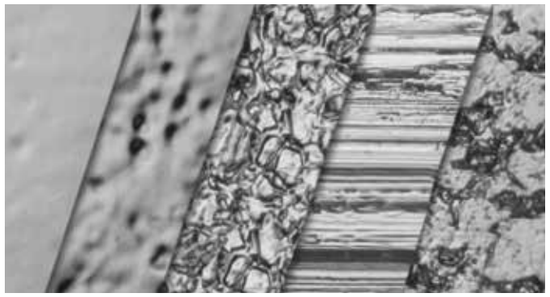
Benefit from our expertise,
our products and our services.
For smooth installations.

대량 재고를 통해 신속한 납기 제공

Large stock for high delivery reliability

고품질 내부 표면을 통해 안전한 설치 보장

Specific inner surfaces for safe installations



Ra 0.13 µm의 최고순도 보장

Highest purity up to Ra 0,13 µm

완벽한 용접 이음매 및 최상의 품질

Weld seams in perfection and ultimate quality

효율 향상을 위한 엔지니어링이 적용된 구성품

Engineerd components for enhanced efficiency

어떠한 경우에도 높은
Dockweiler 품질 보장

Dockweiler quality no matter what

철저한 검사:
구성품당 최대
50건의 테스트

**Outstanding inspection:
up to 50 tests per component**

완벽한 문서화 및 추적성

**End-to-end documentation
and traceability**

검사 증명서 3.1
(모든 중요 정보 포함)

**Consistent 3.1 certificates
with all important information**

손쉬운 문서 관리:
WebCert를 통한 온라인
시스템

**Easy document management:
online with WebCert**

원재료부터 납기까지 최고의 품질 보장

Highest quality from raw material to delivery

ASME BPE

DIN EN ISO 14001

DIN EN ISO 9001

AD 2000 HPO

DGRL 2014/68/EU and
AD 2000 WO

**모든 인증서는 Dockweiler
웹사이트에서 확인할 수 있습니다.**
All certificates are available on our website:

www.dockweiler.com

스테인리스 스틸 요소

스틸은 가장 일반적으로 사용되는 합금 중 하나이며 주로 철로 구성됩니다. 일반적으로 탄소 함량은 2% 미만입니다. 또한 제조 공정으로 인해 생길 수 있는 기타 성분이 포함되거나 특정 특성을 얻기 위해 추가될 수 있습니다.

EN 10020 기준 스테인리스 스틸은 합금 및 비합금 스틸로서, 고순도 레벨을 유지합니다. 예를 들면, 0.025% 이하의 황 및 인 함량 (철에 함유된 성분) 스틸입니다.

스테인리스 스틸의 특징은 10.5%를 초과하는 크롬의 양입니다. 이러한 높은 크롬 함량으로 인해 산화 크롬의 밀도 높은 수동적 보호층이 소재 표면에 생깁니다. "스테인리스 스틸" 이란 용어는 정확한 의미를 전달하지 못할 수 있습니다. 왜냐하면 어떠한 적용 분야에서도 소재에 녹이 없을 수 없기 때문입니다.

해당 용도에 중요한 것은 편리한 소재의 올바른 선택입니다. 다양한 산업 분야에서 부식의 형성을 방지하기 위해 다양한 스틸과 합금이 개발되었습니다. 소재의 적절한 내부식적 용도 요건은 여전히 제조 분야에서 적합한 기준입니다.

용도와 관련하여 소재를 알고 평가하는 것이 중요하며 매체, 농도, 시간, 온도와 같은 공정 파라미터도 알아야 합니다.

Elements in stainless steels

Steel is one of the most commonly used alloys and consists mainly of iron. In general the carbon content is less than 2%. It contains also other components that may emerge due to the manufacturing process or are added to obtain certain characteristics.

Stainless steels according to EN 10020 are alloyed and unalloyed steels with a special purity level like for example steels with a sulphur and phosphorous content (a so-called iron companion) that is not higher than 0.025%.

Stainless steels are characterized by an amount of chromium of more than 10.5%. Due to that high chromium content a protective and dense passive layer of chromium oxide establishes on the material surface. The term "stainless steel" is therefore misleading since materials cannot be stainless in any field of application.

The right choice of the convenient material is crucial for its application. A variety of steels and alloys have been developed to counteract against the possible forms of corrosion in the different industry branches. The requirement for a suitable, corrosion-resistant use of a material is still the appropriate manufacturing.

Regarding the application it is important to know and to assess besides the material also the process parameter like medium, concentration, time and temperature.

타입 Type	AISI	JIS G 3459	약칭 Short name	UNS	C	Mn	P	S	Si	Cr	Ni	Mo	W	V	Co	Ti	Cu	N	PREN
오스테나이트	304		X5CrNi18-10	S30400	0.08	2	0.045	0.03	1	17.5-19.5	8.0-10.5	–	–	–	–	–	–	–	19
Austenite	304L		X2CrNi19-11	S30403	0.03	2	0.045	0.015	1	18.0-20.0	10.0-13.0	–	–	–	–	–	–	–	20
	304L		X2CrNi18-9	S30403	0.03	2	0.045	0.015	1	17.5-19.5	8.0-10.5	–	–	–	–	–	–	–	19
	316L		X2CrNiMo17-12-2	S31603	0.03	2	0.045	0.015	1	16.5-18.5	10.0-14.5	2.00-2.50	–	–	–	–	–	–	23
	316L		X2CrNiMo18-14-3	S31603	0.03	2	0.045	0.015	1	17.0-19.0	12.5-15.0	2.50-3.00	–	–	–	–	–	–	26
		316LTP	X2CrNIMo18-14-3	S31603	0.03	1	0.045	0.003-0.010	1	16.0- 18.0	12.0-14.0	2.00- 3.00	–	–	–	0.02	–	–	26
	316Ti		X6CrNiMoTi17-12-2	S31635	0.08	2	0.045	0.015	1	16.5-18.5	10.0-13.5	2.00-2.50	–	–	–	0.5	–	–	23
슈퍼 오스테나이트	317L		X2CrNiMoN-18-15-4	S31703	0.03	2	0.045	0.03	1	17.5-19.5	13.0-17.0	3.0-4.0	–	–	–	–	–	0.11	29
Super Austenitic	904L		X1NiCrMoCu25-20-5	N08904	0.02	2	0.03	0.01	0.7	19.0-21.0	24.0-26.0	4.0-5.0	–	–	–	–	1.2 - 2.0	0.15	36
	6Mo		X2 NiCrMoCuN20-18-6	S31254	0.02	1	0.03	–	1	19.5-20.5	17.5-18.5	6.0-7.0	–	–	–	–	0.50-1.00	0.18-0.25	42
			AL-6XN	N08904	0.03	2	0.03	0.01	0.5	19.0-20.0	24.0-26.0	6.0-7.0	–	–	–	–	–	0.18	42
Duplex	318LN		X2CrNiMoN22-5-3	S31803	0.03	2	–	–	1	21.0-23.0	4.5-6.5	2.50-3.5	–	–	–	–	–	0.10-0.22	31
Duplex	F53		X2CrNiMoN 25-7-4	S32750	0.02	2	0.035	0.015	1	25	7	4	–	–	–	–	–	0.27	43
	S31254		254 SMO	S31254	0.01	1	0.03	0.01	1	20	18	6.1	–	–	–	–	–	0.2	42
니켈 기반 합금	C22		Hastelloy C-22	N06022	0.01	0.5	–	–	0.08	22	56	13	3	0.35	2.5	0	0	0	46
Nickel based alloy	C276		Hastelloy C-276	N10276	0.01	1	0.025	0.01	0.08	14.5	57	15	3	0.35	2.5	0	0	0	45

내공식지수(PREN)

스틸 PREN = %Cr + 3.3 x %Mo + 16 x %N
니켈 기반 합금 PREN = %Cr + 1.5 x (%Mo + %W + Nb)
내해수성 PREN ⩾ 40

* 재고에서 모든 재료를 사용할 수있는 것은 아닙니다

Pitting Resistance Equivalent (PREN)

Steel PREN = %Cr + 3,3 x %Mo + 16 x %N
Nickel based Alloy PREN = %Cr + 1,5 x (%Mo + %W + Nb)
Seawater resistance PREN ≥ 40

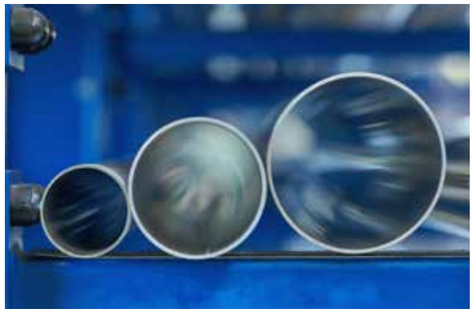
* Not all materials available from stock

DOCKWEILER
connecting flow to purity

이음매 없는 용접 튜브

용접 튜브 는 외경에 비해 벽 두께가 작은 튜브입니다. 스틸이 기계적 성형을 통해 튜브로 굽혀지고 조인트는 용접 처리됩니다.

직경이 약 200 mm이고 벽 두께가 큰 이음매 없는 튜브 는 일반적으로 이음매 없는 상태로 생산됩니다. 연속 주조 공정에서 비철 튜브가 성형되고 즉시 압연에 의해 직경이 감소됩니다. 이음매 없는 튜브는 소성 성형을 통해 생산할 수도 있습니다.



Welded and seamless tubes

Welded tubes are tubes that have a wall thickness that is small in relation to their outside diameter. Steel is bent into a tube by mechanical forming and welded at the joints.

Seamless tubes with diameters of about 200 mm with large wall thicknesses are usually produced seamlessly. In the continuous casting process, a non-ferrous tube is formed and immediately reduced in diameter by rolling. Seamless tubes can also be produced by plastic forming.

스테인리스 스틸의 성분 / Compounds of stainless steel
Fe, Cr, Ni, Mo, eg.

진공 유도 용해 (VIM)[2]
Vacuum Induction Melting (VIM)[2]

진공 아크/재용해(VAR)를 통한 스틸의 정련[2]
Refining the steel by Vacuum Arc / Remelting (VAR)[2]

잉고트의 압연 및 단조
Rolling or forging of ingot

할로우 바 / Hollow bar

- 환원(필거링)
- 그리스 제거
- 열처리

- Reduction (pilgering)
- Degrease
- Heat treatment

- 봉 인발
- 그리스 제거
- 열처리

- Rod draw
- Degrease
- Heat treatment

- 플러그 인발
- 그리스 제거
- 열처리
- 튜브 캘리브레이션

- Plug draw
- Degrease
- Heat treatment
- Calibration of tube

여러 번
several times

와전류 탐상 검사
Eddy current test

최종 세정 및 튜브 전체를 관통하는 블로 폼 와드 처리
Final cleaning and blow foam wads through tube

최종 검사 / Final inspection
치수 및 육안검사 / Dimensional & visual
표면 거칠기 / Surface roughness

이음매 없는 튜브
Seamless tubes
OD = 3.0 – 50.8 mm

스테인리스 스틸의 성분 / Compounds of stainless steel
Fe, Cr, Ni, Mo, eg.

전기 아크로(EF)에서 원재료 용해
Melting of raw material in an Electric Arc Furnace (EF)

아르곤 산소/탈탄(AOD)을 통한 스틸의 정련[1]
Refining the steel by Argon Oxygen / Decarburization (AOD)[1]

열간 및 냉간 압연
Hot and cold rolling

스트립 / Strip

스트립 절단, 튜브 성형, **TIG 용접**
Cutting of strip, forming of tube, **TIG welding**

- 직선 용접 이음매

평활화 (필거링 기계)
어닐링 (유도)
- 튜브 캘리브레이션
- 와전류 탐상 검사

- Smoothening straight weld seam (pilgering machine)
- Annealing (induction)
- Calibration of tube
- Eddy current test

- 플러그 인발
- 그리스 제거
- 열처리
- 튜브 캘리브레이션

- Plug draw
- Degrease
- Heat treatment
- Calibration of tube

2 x

스트립 절단, 튜브 성형, **레이저 용접**
Cutting of strip, forming of tube, **Laser welding**

- 어닐링 (유도로)
- 튜브 캘리브레이션
- 와전류 탐상 검사

- Annealing (induction)
- Calibration of tube
- Eddy current test

화학적 피클링
Chemical pickling

내부 및 외부 표면의 기계적 연마
Mechanical polishing of inside and outside surface

최종 세정 및 튜브 전체를 관통하는 블로 폼 와드 처리
Final cleaning and blow foam wads through tube

최종 검사 / Final inspection
치수 및 육안검사 / Dimensional & visual
표면 거칠기 / Surface roughness

용접 및 재인발 튜브
Welded and redrawn tubes
OD = 12.0 – 63.5 mm

용접 튜브
Welded tubes
OD = 23.0 – 114.3 mm

[1] 또는 AOD 대신 정련에 진공 산소 탈탄(VOD)이 적용됩니다.
[1] Alternatively Vacuum Oxygen Decarburization (VOD) is applied for refining instead of AOD

[2] Ultron vimvar 기본 소재
[2] Base material for Ultron vimvar

세정 공정:
다양한 산업 용도:

다양한 산업 및 용도 분야에 따라서 매체 접촉 표면의 청결도에 대한 요구사항이 다릅니다. 따라서 Dockweiler는 다양한 세정 공정을 제공합니다. ASTM A632, S3 기준 내부 표면 세정 또는 건조 세정 공정부터 가장 높은 수준의 하이테크 초고순도 및 고유한 진공 세정 공정과 이어지는 잔류 가스 분석까지 다양합니다. 이러한 세정 공정을 통해 Dockweiler는 고도로 복잡한 형태 및 모세관 구조의 세정도 보장합니다.

Cleaning Processes:
For various industrial applications

Different industries and application areas have different requirements for the cleanliness of media contact surfaces. Thus Dockweiler offers a variety of different cleaning processes. From cleaning internal surfaces in accordance to ASTM A632, S3 or dry cleaning processes. Up to the most high-tech ultra pure and proprietary vacuum cleaning process with subsequent residual gas analysis. With our cleaning processes we ensure the cleaning of highly complex geometries and even capillary structures.

bpe-direct SF1

↓

압력 호스를 이용한 물 세척 (전기 저항 ≥ 1 MΩ · cm @ 25° C)[1]
Water rinsing with pressure hose (electrical resistance ≥ 1 MΩ · cm at 25° C)[1]

↓

전기화학 연마(ep) 규격 문서 7.4-40/3.1
Electrochemical polishing (ep) Spec. Doc. 7.4-40/3.1

↓

압력 호스를 이용한 물 세척 (전기 저항 @ 25° C ≥ 1 MΩ · cm)
Water rinsing with pressure hose (electrical resistance at 25° C ≥ 1 MΩ · cm)

↓

20 – 50% 질산을 이용한 패시베이션 처리 및 연마 잔유물 제거
Passivation treatment and removal of polishing residues with 20 – 50% nitric acid

↓

질산을 묻힌 와드가 튜브를 통과합니다 (3x)
A nitric acid soaked wad is passed through the tube (3x)

↓

압력 호스를 이용한 물 세척 (전기 저항 @ 25° C ≥ 1 MΩ · cm)
Water rinsing with pressure hose (electrical resistance ≥ 1 MΩ · cm at 25° C)

↓

80° C의 탈이온화수(전기 저항 @ 25° C ≥ 18 MΩ · cm)를 사용한 세척
Rinsing with 80° C hot DI water (el. resistance at 25° C ≥ 18 MΩ · cm)

↓

표면 위에 N_2 6.0을 불어 건조
Dry by blowing N_2 6.0 over the surface

↓

최종 육안검사 및 표면 거칠기 검사
Final inspection visual and surface roughness

↓

튜브의 단부는 PE/PA 포일 및 PE 캡으로 덮습니다[2]
Ends of tube are capped with PE/PA foil und PE caps[2]

↓

튜브는 슬리브(폴리에틸렌 또는 폴리아미드)에 포장됩니다. 끝은 봉인되어 있습니다.
Tubes are packed into sleeves (Polyethylene or Polyamid). The ends are sealed.

↓

bpe-direct SF4

1 If tubes are contaminated with dirt, dust or oil after mechanical treatment, e.g. honing, they are cleaned with an alkaline or acid detergent before any further treatment.

2 If the marking is hardly legible after the frequent cleaning steps, tubes will be marked again.

1 튜브가 호닝 등 기계적 처리 후 이물질, 먼지 또는 오일로 오염된 경우에 추가 처리 전에 알칼리성 또는 산성 세제로 세척합니다.

2 잦은 세정 단계로 표시를 읽기가 어려운 경우에 튜브에 표시를 다시 합니다.

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현지 파트너 및 상세 정보를 확인하세요
Find your local partner and further informations

ASME-KR 11-2023