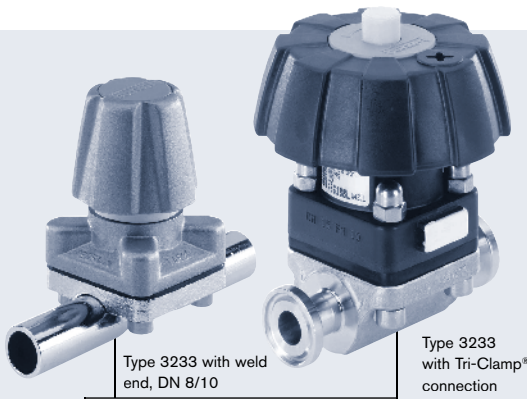

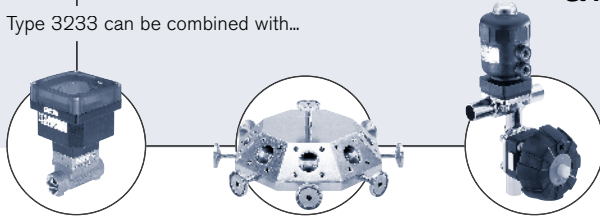


## 2-way Diaphragm Valve, forged stainless steel, weld end and Tri-Clamp® connection – 1/4" – 4"



- Hermetical separation of fluids from the operating mechanism by diaphragm
- Zero dead volume
- Various surface finishes
- Quality certifications FDA/ 
- USP class VI diaphragm
- Higher temperature diaphragms also available

Type 3233 can be combined with...



**Type 8034**

Flow meter

**Multi-Port Block**

**Type 3233/2031**

Tandem valve

The manually-operated diaphragm valve in compact form of the Type 3233 consists of a flow-optimised stainless steel body with various surface finishes, a diaphragm and a manual actuator.

The material combinations are selectable. The diaphragm is both a switch element and a sealing element to the outside. It can be easily replaced. The flow can be continually adjusted with the handwheel.

The valves have no dead volume and can be mounted to be self-draining. This enables high flow capacities and a variety of applications to be realized.

Technical data	
<b>Body materials</b>	Forged stainless steel 316L/1.4435/BN2 Fe < 0.5%/C ≤ 0.03%
<b>Actuator materials</b>	Handwheel and bonnet DN 8-65 Handwheel and bonnet DN 80-100
	PPS, stainless steel Grey cast iron, white epoxy coated
<b>Seal material</b>	EPDM, PTFE/EPDM (FKM on request)
<b>Media</b>	Neutral gases and liquids, high purity, sterile, aggressive or abrasive fluids
<b>Viscosity</b>	No limit
<b>Surface qualities</b> (average roughness)	
internal mechanical polished	Ra ≤ 0.5 µm      Ra < 20 µin
internal electropolished	Ra ≤ 0.4 µm      Ra < 15 µin
internal mirror finished (further see ordering chart)	Ra ≤ 0.25 µm      Ra < 10 µin
<b>Media temperature</b>	
EPDM	14°F to 266°F (-10°C to +130°C)
PTFE/EPDM	14°F to 266°F (-10°C to +130°C)
<b>Ambient temperature</b>	Up to 266°F (+130°C) Briefly to 302°F (+150°C)
<b>Port connections</b>	
Weld ends acc.	•ASME BPE
Tri-Clamp® acc.	•ASME BPE
<b>Installation</b>	On drain angle
<b>Options</b> (On request, not for DN 8/10)	Locking function
<b>Applications</b>	Pharma Biotechnology Food industry

## Technical data

### Cv-values and weight

Port connection		Cv-value water	Max. operating pressure [PSI]	Weight [lb]	
[mm]	[inch]			Handwheel PPS/ Bonnet stainless steel	Handwheel and bonnet PPS
8	1/4"	1.16	150	0.7	0.9
10	3/8"	1.16	150	0.7	0.9
15	1/2"	7.0	150	1.3	1.6
20	3/4"	13.9	150	2.0	2.3
25	1"	18.6	150	4.0	4.0
40	1 1/2"	33.6	150	7.0	8.0
50	2"	58.0	102/150 <sup>2)</sup>	8.0	10
65	2 1/2"	62.6	102/150 <sup>2)</sup>	–	38
80	3"	185.6	72	–	41 <sup>3)</sup>
100	4"	272.0	72	–	66 <sup>3)</sup>

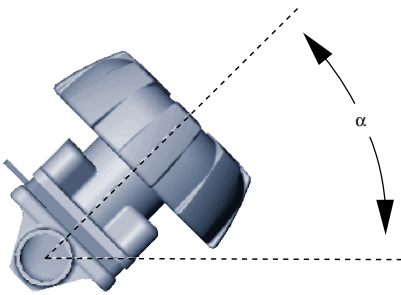
2) See ordering charts

3) Bonnet and handwheel grey cast iron, white epoxy coated

### Flow rate: Cv-value

Measured at 68°F (+20°C), 1 PSI pressure at valve inlet and free outlet.

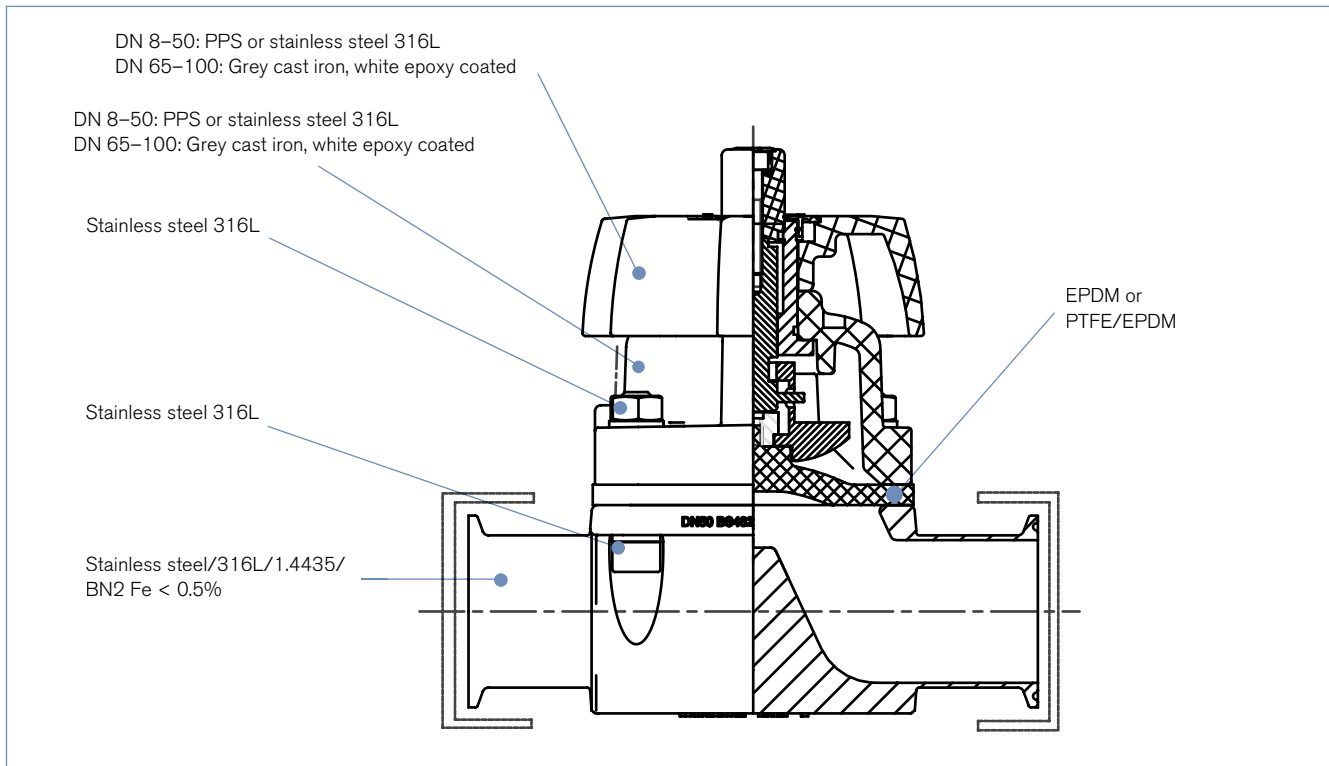
### Installation for self-draining operation



$$\alpha = 15 \text{ up to } 35^\circ$$

For detailed installation angle values, please contact your local Burkert representative.  
Bodies marked at 12:00 position.

## Materials



## Approvals

### Suitable for foodstuffs / sterile applications



▪ The composition of the EPDM and PTFE/EPDM diaphragms corresponds to the *Code of Federal Regulations*, published by the *FDA* (Food and Drug Administration, USA).

▪ The EPDM diaphragms correspond to the *KTW-Recommendation* (Plastics in the Drinking Water Sector), A Manufacturer's Declaration will be supplied on request.



▪ The diaphragm valves are 3-A approved  
(3-A Sanitary Standards Symbol Administrative Council)

## Ordering chart for valves (other versions on request)

## Body with weld end acc. ASME BPE



Port connection		External Ø [mm]	Cv-value water [m³/h]	Max. op. pressure [PSI]	Item no.				
					internal/external:				
[mm]	[inch]				standard Mechanical polished, Ra ≤ 20/250 µin	Electropolished, Ra ≤ 15/125 µin	Mechanical polished, Ra ≤ 20/63 µin	Electropolished, Ra ≤ 15/32 µin	Mirror finished, Ra ≤ 10/10 µin
<b>Diaphragm material EPDM, handwheel PPS/bonnet PPS</b>									
8	1/4"	6.35	1.16	150	447 935	447 936	447 937	447 938	447 939
10	3/8"	9.53	1.16	150	447 940	447 941	447 942	447 943	447 944
15	1/2"	12.70	7.0	150	445 573	445 574	445 575	445 576	445 577
20	3/4"	19.05	13.9	150	445 578	445 579	445 580	445 581	445 582
25	1"	25.40	18.6	150	445 583	445 584	445 585	445 586	445 587
40	1 1/2"	38.10	33.6	150	445 588	445 589	445 590	445 591	445 592
50	2"	50.80	58.0	102	445 593	445 594	445 595	445 596	445 597
<b>Diaphragm material EPDM, handwheel PPS/bonnet stainless steel</b>									
8	1/4"	6.35	1.16	150	447 975	447 976	447 977	447 978	447 979
10	3/8"	9.53	1.16	150	447 980	447 981	447 982	447 983	447 984
15	1/2"	12.70	7.0	150	446 262	446 263	446 264	446 265	446 266
20	3/4"	19.05	12.0	150	446 267	446 268	446 269	446 270	446 271
25	1"	25.40	18.6	150	446 272	446 273	446 274	446 275	446 276
40	1 1/2"	38.10	33.6	150	446 277	446 278	446 279	446 280	446 281
50	2"	50.80	58.0	150	446 282	446 283	446 284	446 285	446 286
<b>Diaphragm material PTFE/EPDM, handwheel PPS/bonnet PPS</b>									
8	1/4"	6.35	1.16	150	447 955	447 956	447 957	447 958	447 959
10	3/8"	9.53	1.16	150	447 960	447 961	447 962	447 963	447 964
15	1/2"	12.70	7.0	150	445 608	445 609	445 610	445 611	445 612
20	3/4"	19.05	13.9	150	445 613	445 614	445 615	445 616	445 617
25	1"	25.40	18.6	150	445 618	445 619	445 620	445 621	445 622
40	1 1/2"	38.10	33.6	150	445 623	445 624	445 625	445 626	445 627
50	2"	50.80	58.0	102	445 628	445 629	445 630	445 631	445 632
<b>Diaphragm material PTFE/EPDM, handwheel PPS/bonnet stainless steel</b>									
8	1/4"	6.35	1.0	150	447 995	447 996	447 997	447 998	447 999
10	3/8"	9.53	1.0	150	448 000	448 001	448 002	448 003	448 004
15	1/2"	12.70	7.0	150	446 297	446 298	446 299	446 300	446 301
20	3/4"	19.05	13.9	150	446 302	446 303	446 304	446 305	446 306
25	1"	25.40	18.6	150	446 307	446 308	446 309	446 310	446 311
40	1 1/2"	38.10	33.6	150	446 312	446 313	446 314	446 315	446 316
50	2"	50.80	58.0	150	446 317	446 318	446 319	446 320	446 321

Ordering chart for valves (other versions on request)

Body with Tri-Clamp® connection acc. ASME BPE SHORT connection



Port connection		External Ø [mm]	Cv-value water [m³/h]	Max. op. pressure [PSI]	Item no.				
[mm]	[inch]				internal/external:				
					standard Mechanical polished, Ra ≤ 20/250 µin	Electropolished, Ra ≤ 15/125 µin	Mechanical polished, Ra ≤ 20/63 µin	Electropolished, Ra ≤ 15/32 µin	Mirror finished, Ra ≤ 10/10 µin
<b>Diaphragm material EPDM, handwheel PPS/bonnet PPS <sup>1)</sup></b>									
8	1/4"	25.0	1.16	150	445 858	445 859	445 860	445 861	445 862
10	3/8"	25.0	1.16	150	445 863	445 864	445 865	445 866	445 867
15	1/2"	25.0	7.0	150	445 868	445 869	445 870	445 871	445 872
20	3/4"	25.0	12.8	150	445 873	445 874	445 875	445 876	445 877
25	1"	50.5	18.6	150	445 878	445 879	445 880	445 881	445 882
40	1 1/2"	50.5	33.6	150	445 883	445 884	445 885	445 886	445 887
50	2"	64.0	58.0	102	445 888	445 889	445 890	445 891	445 892
65	2 1/2"	77.5	62.6	102	551 454	551 455	551 456	551 457	551 458
80	3"	91.0	185.6	72	551 347	551 348	551 349	551 350	551 351
<b>Diaphragm material EPDM, handwheel PPS/bonnet stainless steel</b>									
8	1/4"	25.0	1.16	150	446 510	446 511	446 512	446 513	446 514
10	3/8"	25.0	1.16	150	446 515	446 516	446 517	446 518	446 519
15	1/2"	25.0	7.0	150	446 520	446 521	446 522	446 523	446 524
20	3/4"	25.0	12.8	150	446 525	446 526	446 527	446 528	446 529
25	1"	50.5	18.6	150	446 530	446 531	446 532	446 533	446 534
40	1 1/2"	50.5	33.6	150	446 535	446 536	446 537	446 538	446 539
50	2"	64.0	58.0	150	446 540	446 541	446 542	446 543	446 544
65	2 1/2"	77.5	62.6	150	551 487	551 488	551 489	551 490	551 491
<b>Diaphragm material PTFE/EPDM, handwheel PPS/bonnet PPS <sup>1)</sup></b>									
8	1/4"	25.0	1.16	150	445 823	445 824	445 825	445 826	445 827
10	3/8"	25.0	1.16	150	445 828	445 829	445 830	445 831	445 832
15	1/2"	25.0	7.0	150	445 833	445 834	445 835	445 836	445 837
20	3/4"	25.0	12.8	150	445 838	445 839	445 840	445 841	445 842
25	1"	50.5	18.6	150	445 843	445 844	445 845	445 846	445 847
40	1 1/2"	50.5	33.6	150	445 848	445 849	445 850	445 851	445 852
50	2"	64.0	58.0	102	445 853	445 854	445 855	445 856	445 857
65	2 1/2"	77.5	62.6	102	551 460	551 461	551 462	551 463	550 276
80	3"	91.0	185.6	72	551 377	551 378	551 379	551 380	550 278
<b>Diaphragm material PTFE/EPDM, handwheel PPS/bonnet stainless steel</b>									
8	1/4"	25.0	1.16	150	446 545	446 546	446 547	446 548	446 549
10	3/8"	25.0	1.16	150	446 550	446 551	446 552	446 553	446 554
15	1/2"	25.0	7.0	150	446 555	446 556	446 557	446 558	446 559
20	3/4"	25.0	12.8	150	446 560	446 561	446 562	446 563	446 564
25	1"	50.5	18.6	150	446 565	446 566	446 567	446 568	446 569
40	1 1/2"	50.5	33.6	150	446 570	446 571	446 572	446 573	446 574
50	2"	64.0	58.0	150	446 575	446 576	446 577	446 578	446 579
65	2 1/2"	77.5	62.6	150	551 553	551 554	551 555	551 556	551 492

<sup>1)</sup> DN80 bonnet and handwheel white epoxy coated

► Port connection size equals the orifice diaphragm size except for port connection 65 mm. At port connection 65 mm the orifice diaphragm size equals 50 mm.

## Ordering chart for valves (other versions on request)

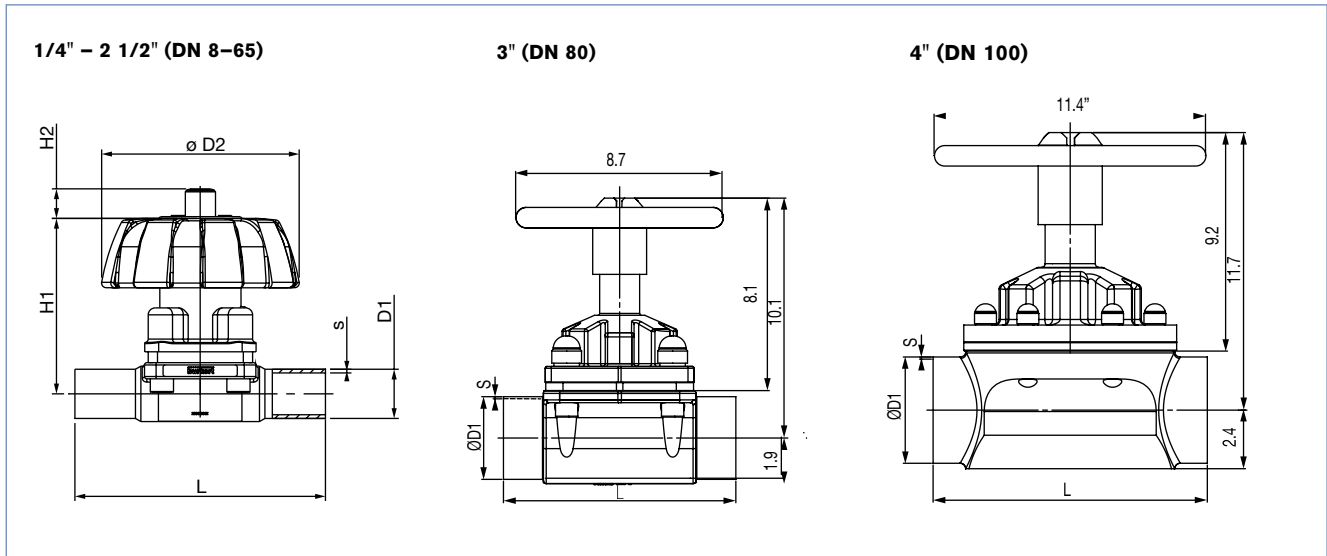
## Body with Tri-Clamp® connection with ASME BPE LONG connection



Port connection		External Ø [mm]	Cv-value water [m³/h]	Max. op. pressure [PSI]	Item no.				
[mm]	[inch]				internal/external:				
					standard Mechanical polished, Ra ≤ 20/250 µm	Electropolished, Ra ≤ 15/125 µm	Mechanical polished, Ra ≤ 20/63 µm	Electropolished, Ra ≤ 15/32 µm	Mirror finished, Ra ≤ 10/10 µm
<b>Diaphragm material EPDM, handwheel PPS/bonnet PPS</b>									
8	1/4"	25.0	1.16	150	445 753	445 754	445 755	445 756	445 757
10	3/8"	25.0	1.16	150	445 758	445 759	445 760	445 761	445 762
15	1/2"	25.0	7.0	150	445 763	445 764	445 765	445 766	445 767
20	3/4"	25.0	12.8	150	445 768	445 769	445 770	445 771	445 772
25	1"	50.5	18.6	150	445 773	445 774	445 775	445 776	445 777
40	1 1/2"	50.5	33.6	150	445 778	445 779	445 780	445 781	445 782
50	2"	64.0	58.0	102	445 783	445 784	445 785	445 786	445 787
<b>Diaphragm material EPDM, handwheel PPS/bonnet stainless steel</b>									
8	1/4"	25.0	1.16	150	446 440	446 441	446 442	446 443	446 444
10	3/8"	25.0	1.16	150	446 445	446 446	446 447	446 448	446 449
15	1/2"	25.0	7.0	150	446 450	446 451	446 452	446 453	446 454
20	3/4"	25.0	12.8	150	446 455	446 456	446 457	446 458	446 459
25	1"	50.5	18.6	150	446 460	446 461	446 462	446 463	446 464
40	1 1/2"	50.5	33.6	150	446 465	446 466	446 467	446 468	446 469
50	2"	64.0	58.0	150	446 470	446 471	446 472	446 473	446 474
<b>Diaphragm material PTFE/EPDM, handwheel PPS/bonnet PPS</b>									
8	1/4"	25.0	1.16	150	445 788	445 789	445 790	445 791	445 792
10	3/8"	25.0	1.16	150	445 793	445 794	445 795	445 796	445 797
15	1/2"	25.0	7.0	150	445 798	445 799	445 800	445 801	445 802
20	3/4"	25.0	12.8	150	445 803	445 804	445 805	445 806	445 807
25	1"	50.5	18.6	150	445 808	445 809	445 810	445 811	445 812
40	1 1/2"	50.5	33.6	150	445 813	445 814	445 815	445 816	445 817
50	2"	64.0	58.0	102	445 818	445 819	445 820	445 821	445 822
<b>Diaphragm material PTFE/EPDM, handwheel PPS/bonnet stainless steel</b>									
8	1/4"	25.0	1.16	150	446 475	446 476	446 477	446 478	446 479
10	3/8"	25.0	1.16	150	446 480	446 481	446 482	446 483	446 484
15	1/2"	25.0	7.0	150	446 485	446 486	446 487	446 488	446 489
20	3/4"	25.0	12.8	150	446 490	446 491	446 492	446 493	446 494
25	1"	50.5	18.6	150	446 495	446 496	446 497	446 498	446 499
40	1 1/2"	50.5	33.6	150	446 500	446 501	446 502	446 503	446 504
50	2"	64.0	58.0	150	446 505	446 506	446 507	446 508	446 509

Dimensions

Body with weld end



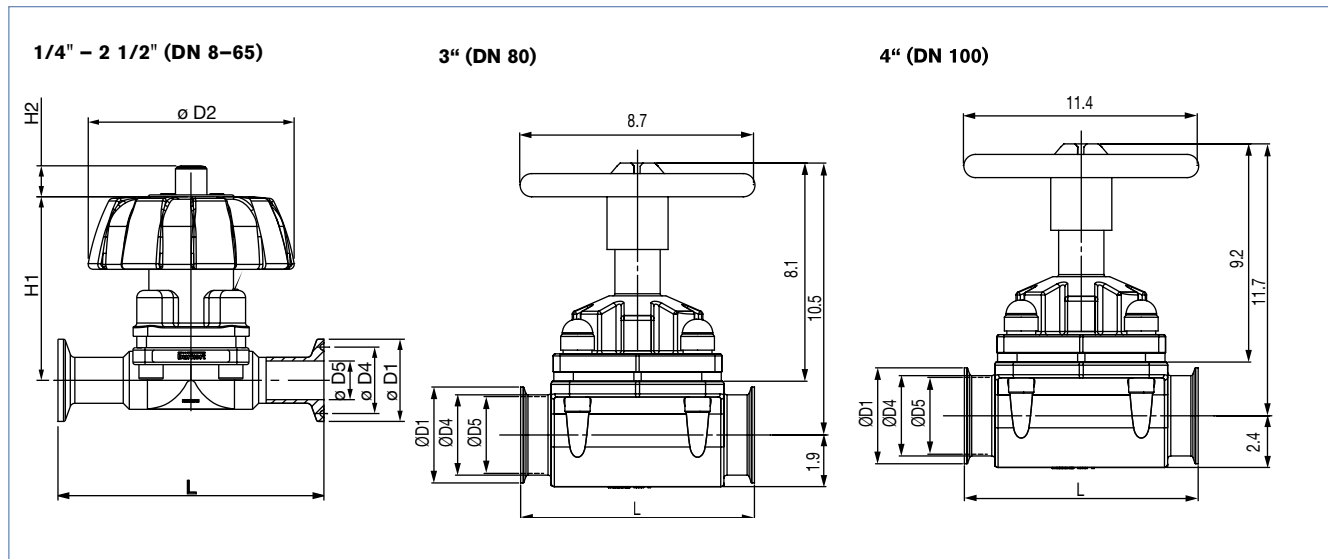
Dimensions acc. ASME BPE [in]

Port connection		ØD2	H1	H2	L	ASME BPE	
[mm]	[inch]					ØD1	s
8	1/4"	35	56	—	78.0	6.35	0.89
10	3/8"	35	56	—	89.0	9.53	0.89
15	1/2"	80	85	7.0	108.0	12.70	1.65
20	3/4"	80	93	11.0	117.0	19.05	1.65
25	1"	80	94	12.0	127.0	25.40	1.65
40	1 1/2"	114	116	19.0	159.0	38.10	1.65
50	2"	114	133	25.0	190.0	50.80	1.65
65	2 1/2"	114	133	25.0	190.0	63.50	1.65
80	3"	--	--	--	250.0	76.15	1.65
100	4"	--	--	--	295.0	101.6	2.11

DTS 1000082561 EN Version: - Status: RL (released | freigegeben | validé) printed: 10.01.2018

## Dimensions

## Body with Tri-Clamp® connection



## Dimensions acc. ASME BPE long connection and short connection [in]

Port connection [mm]	Port connection [inch]	ØD2	H1	Long Conn. L	Short Conn. L	H2	ØD1	ØD4	ØD5
8	1/4"	35	56	78.0	64.5	-	25.0	20.22	3.95
10	3/8"	35	56	89.0	89.0	-	25.0	20.22	7.13
15	1/2"	80	85	108.0	89.0	7.0	25.0	20.22	9.40
20	3/4"	80	93	117.0	102.0	11.0	25.0	20.22	15.75
25	1"	80	94	127.0	114.0	12.0	50.5	43.5	22.20
40	1 1/2"	114	116	159.0	140.0	19.0	50.5	43.5	34.90
50	2"	114	133	190.0	159.0	25.0	64.0	56.5	47.60
65	2 1/2"	114	133	-	190.0	25.0	77.5	70.5	60.2
80	3"	-	-	-	222.0	-	91	83.5	72.9