STAUFF ANGLIA

Pipeline Products for all Industries

Product Information

Stauff Connect Compression Couplings Catalogue Part 2

Custom Design Solutions

Hydraulic Valves

Technical Appendix



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Check Valve
FI-RV
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Male Stud Check Valve (Flow from Stud End)
FI-RVV
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Whitworth Parallel Pipe Thread (BSPP) / Profile Sealing Ring
FI-RVV-...-R-WD
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Metric Parallel Thread / Profile Sealing Ring
FI-RVV-...-M-WD
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Male Stud Check Valve (Flow to Stud End)
FI-RVZ
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Whitworth Parallel Pipe Thread (BSPP) / Profile Sealing Ring
FI-RVZ-...-R-WD
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Metric Parallel Thread / Profile Sealing Ring
FI-RVZ-...-M-WD
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Female Stud Check Valve
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Female Whitworth Parallel Pipe Thread (BSPP)
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Check Valve Installation Kit
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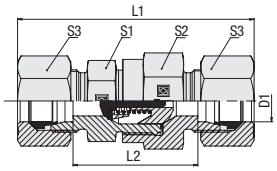
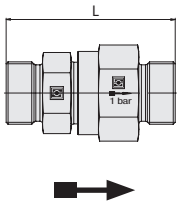
M

Check Valve
Type FI-RV ▪ Series L / S





Standard Opening Pressure: 1 bar / 14.5 PSI



Ordering Codes

***FI-RV*-10*L*-W3*-1*-MS**

* Check Valve		**FI-RV**
* Outside Tube Diameter D1 (in mm)		**-10**
* Series	Light Series	**L**
	Heavy Series	**S**
* Material Code	Steel, zinc/nickel-plated	**-W3**
	Please contact STAUFF for alternative materials and surface finishings.	
* Opening Pressure	1 bar / 14.5 PSI	**1**
	Contact STAUFF for alternative opening pressures.	
* Assembling / Kitting	Valve body only	**—**
	Valve body supplied with cutting rings and union nuts	**-MS**
	Valve body supplied with soft-sealing cutting rings and union nuts	**-MSV**

Connecting Parts


Cutting Ring
Type **FI-DS** Page 26


Soft-Sealing Cutting Ring
Type **FI-WDDS** Page 27


Support Sleeve
Type **FI-VH** Page 28


STAUFF Form Ring
Type **FI-AR** Page 30


Union Nut
Type **FI-M** Page 31


37° Flared Tube Fitting Set
Type **FI-AB** Page 35

Series	Tube OD (mm/in)	PN (bar/PSI)	Dimensions (mm/in)						Weight (kg/lbs) ca.	Ordering Codes[3]
	D1		L	L1[1]	L2	S1	S2	S3	per 100[2]	
L	6	400	52	67	38	22	27	14	11,93	FI-RV-06L-W3-1
	.24	5800	2,05	2.64	1.50	.87	1.06	.55	26.24	
	8	400	52	67	38	22	27	17	12,41	FI-RV-08L-W3-1
	.31	5800	2,05	2.64	1.50	.87	1.06	.67	27.30	
	10	400	52	67	38	22	27	19	11,65	FI-RV-10L-W3-1
	.39	5800	2,05	2.64	1.50	.87	1.06	.75	25.64	
	12	400	53	68	39	22	27	22	12,31	FI-RV-12L-W3-1
	.47	5800	2,09	2.68	1.54	.87	1.06	.87	27.07	
	15	400	58	74	44	27	32	27	18,29	FI-RV-15L-W3-1
	.59	5800	2,28	2.91	1.73	1.06	1.26	1.06	40.25	
	18	400	63	80	48	27	32	32	22,54	FI-RV-18L-W3-1
	.71	5800	2,48	3.15	1.89	1.06	1.26	1.26	49.59	
	22	250	75	92	60	41	46	36	48,21	FI-RV-22L-W3-1
	.87	3625	2,95	3.62	2.36	1.61	1.81	1.42	106.05	
	28	250	81	99	66	41	46	41	57,90	FI-RV-28L-W3-1
	1.10	3625	3,19	3.90	2.60	1.61	1.81	1.61	127.38	
	35	250	92	114	71	60	70	50	129,80	FI-RV-35L-W3-1
	1.38	3625	3,62	4.49	2.80	2.36	2.76	1.97	285.56	
	42	250	87	111	65	60	70	60	122,60	FI-RV-42L-W3-1
	1.65	3625	3,43	4.37	2.56	2.36	2.76	2.36	269.72	
S	6	400	56	71	42	22	27	17	13,12	FI-RV-06S-W3-1
	.24	5800	2,20	2.80	1.65	.87	1.06	.67	28.87	
	8	400	52	67	38	22	27	19	11,98	FI-RV-08S-W3-1
	.31	5800	2,05	2.64	1.50	.87	1.06	.75	26.35	
	10	400	54	71	39	22	27	22	13,20	FI-RV-10S-W3-1
	.39	5800	2,13	2.80	1.54	.87	1.06	.87	29.04	
	12	400	55	72	40	22	27	24	13,61	FI-RV-12S-W3-1
	.47	5800	2,17	2.83	1.57	.87	1.06	.94	29.94	
	14	400	62	81	46	27	32	27	19,98	FI-RV-14S-W3-1
	.55	5800	2,44	3.19	1.81	1.06	1.26	1.06	43.96	
	16	400	65	84	48	27	32	30	21,56	FI-RV-16S-W3-1
	.63	5800	2,56	3.31	1.89	1.06	1.26	1.18	47.44	
	20	400	78	100	57	41	46	36	50,20	FI-RV-20S-W3-1
	.79	5800	3,07	3.94	2.24	1.61	1.81	1.42	110.45	
	25	250	81	105	57	41	46	46	52,60	FI-RV-25S-W3-1
	.98	3625	3,19	4.13	2.24	1.61	1.81	1.81	115.72	
	30	250	91	117	64	50	55	50	80,70	FI-RV-30S-W3-1
	1.18	3625	3,58	4.61	2.52	1.97	2.17	1.97	177.54	
	38	250	99	129	67	60	70	60	136,00	FI-RV-38S-W3-1
	1.50	3625	3,90	5.08	2.64	2.36	2.76	2.36	299.20	

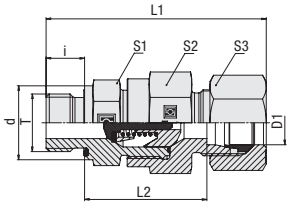
[1] Approximate dimension in assembled condition.
[2] Weight excluding cutting rings and union nuts.
[3] Standard scope of delivery: Valve body only.

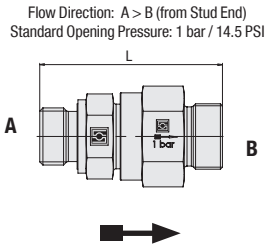
Please note: Internal seals are made of FKM/FPM (Viton®).

In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

Male Stud Check Valve
Type FI-RVV-...-R-WD ▪ Series L / S







Whitworth Parallel Pipe Thread (BSPP)

Profile Sealing Ring

Ordering Codes

***FI-RVV*-10*L*R*-WD*-B*-W3*-1*-MS**

* Male Stud Check Valve (Flow from Stud End)		**FI-RVV**
* Outside Tube Diameter D1 (in mm)		**-10**
* Series	Light Series	**L**
	Heavy Series	**S**
* Thread Type	Whitworth Parallel Pipe Thread (BSPP)	**R**
If required, please indicate special sizes, e.g. R1/8!		
* Seal Type	Profile Sealing Ring	**-WD**
* Seal Material	NBR (Buna-N®)	**-B**
	FKM/FPM (Viton®)	**-V**
	EPDM	**-E**
* Material Code	Steel, zinc/nickel-plated	**-W3**
Please contact STAUFF for alternative materials and surface finishings.		
* Opening Pressure	1 bar / 14.5 PSI	**1**
Contact STAUFF for alternative opening pressures.		
* Assembling / Kitting	Valve body only	**—**
	Valve body supplied with cutting ring and union nut	**-MS**
	Valve body supplied with soft-sealing cutting ring and union nut	**-MSV**

Connecting Parts


Cutting Ring
Type **FI-DS** Page 26


Soft-Sealing Cutting Ring
Type **FI-WDDS** Page 27


Support Sleeve
Type **FI-VH** Page 28


STAUFF Form Ring
Type **FI-AR** Page 30


Union Nut
Type **FI-M** Page 31


37° Flared Tube Fitting Set
Type **FI-AB** Page 35

Spare Parts / Accessories


Profile Sealing Ring
Type **WDG** Page 206

Series	Tube OD (mm/in) D1	PN (bar/PSI)	Dimensions (mm/in) Thread T	d	L	L1[1]	L2	i	S1	S2	S3	Torque (N·m/ft·lb) Thread T	Weight (kg/lbs) ca. per 100[2]	Ordering Codes[3]
L	6	400	G 1/8	13,9	51	59	36	8	22	27	14	18	11,69	FI-RVV-06LR-WD-B-W3-1
	.24	5800		.55	2.01	2.32	1.42	.31	.87	1.06	.55	13.3	25.71	
	8	400	G 1/4	18,9	55	63	36	12	22	27	17	30	12,54	FI-RVV-08LR-WD-B-W3-1
	.31	5800		.74	2.17	2.48	1.42	.47	.87	1.06	.67	22.2	27.58	
	10	400	G 1/4	18,9	53	61	34	12	22	27	19	45	11,40	FI-RVV-10LR-WD-B-W3-1
	.39	5800		.74	2.09	2.40	1.34	.47	.87	1.06	.75	33.3	25.08	
	12	400	G 3/8	21,9	58	66	39	12	22	27	22	70	13,62	FI-RVV-12LR-WD-B-W3-1
	.47	5800		.86	2.28	2.60	1.54	.47	.87	1.06	.87	51.8	29.97	
	15	400	G 1/2	26,9	60	68	41	14	27	32	27	90	19,68	FI-RVV-15LR-WD-B-W3-1
	.59	5800		1.06	2.36	2.68	1.61	.55	1.06	1.26	1.06	66.6	43.30	
	18	400	G 1/2	26,9	67	76	45,5	14	27	32	32	90	22,68	FI-RVV-18LR-WD-B-W3-1
	.71	5800		1.06	2.64	2.99	1.79	.55	1.06	1.26	1.26	66.6	49.89	
	22	250	G 3/4	31,9	77	86	53,5	16	41	46	36	180	46,49	FI-RVV-22LR-WD-B-W3-1
	.87	3625		1.26	3.03	3.39	2.11	.63	1.61	1.81	1.42	133.2	102.28	
	28	250	G 1	39,9	86	95	60,5	18	41	46	41	310	59,70	FI-RVV-28LR-WD-B-W3-1
	1.10	3625		1.57	3.39	3.74	2.38	.71	1.61	1.81	1.61	229.4	131.34	
	35	250	G 1 1/4	49,9	97,5	108,5	67	20	60	70	50	450	132,20	FI-RVV-35LR-WD-B-W3-1
	1.38	3625		1.96	3.84	4.27	2.64	.79	2.36	2.76	1.97	333.0	290.84	
	42	250	G 1 1/2	54,9	97,5	109,5	64,5	22	60	70	60	540	137,40	FI-RVV-42LR-WD-B-W3-1
	1.65	3625		2.16	3.84	4.31	2.54	.87	2.36	2.76	2.36	399.6	302.28	
S	6	400	G 1/4	18,9	57	65	38	12	22	27	17	55	12,95	FI-RVV-06SR-WD-B-W3-1
	.24	5800		.74	2.24	2.56	1.50	.47	.87	1.06	.67	40.7	28.49	
	8	400	G 1/4	18,9	55	63	36	12	22	27	19	55	12,12	FI-RVV-08SR-WD-B-W3-1
	.31	5800		.74	2.17	2.48	1.42	.47	.87	1.06	.75	40.7	26.66	
	10	400	G 3/8	21,9	57	66	37,5	12	22	27	22	80	13,32	FI-RVV-10SR-WD-B-W3-1
	.39	5800		.86	2.24	2.60	1.48	.47	.87	1.06	.87	59.2	29.30	
	12	400	G 3/8	21,9	59	68	39,5	12	22	27	24	80	14,64	FI-RVV-12SR-WD-B-W3-1
	.47	5800		.86	2.32	2.68	1.56	.47	.87	1.06	.94	59.2	32.21	
	14	400	G 1/2	26,9	64	74	42	14	27	32	27	115	20,26	FI-RVV-14SR-WD-B-W3-1
	.55	5800		1.06	2.52	2.91	1.65	.55	1.06	1.26	1.06	85.1	44.57	
	16	400	G 1/2	26,9	67	77	44,5	14	27	32	30	115	21,59	FI-RVV-16SR-WD-B-W3-1
	.63	5800		1.06	2.64	3.03	1.75	.55	1.06	1.26	1.18	85.1	47.50	
	20	400	G 3/4	31,9	79	90	52,5	16	41	46	36	180	50,90	FI-RVV-20SR-WD-B-W3-1
	.79	5800		1.26	3.11	3.54	2.07	.63	1.61	1.81	1.42	133.2	111.98	
	25	250	G 1	39,9	83	95	53	18	41	46	46	310	53,10	FI-RVV-25SR-WD-B-W3-1
	.98	3625		1.57	3.27	3.74	2.09	.71	1.61	1.81	1.81	229.4	116.82	
	30	250	G 1 1/4	49,9	94	107	60,5	20	50	55	50	450	86,00	FI-RVV-30SR-WD-B-W3-1
	1.18	3625		1.96	3.70	4.21	2.38	.79	1.97	2.17	1.97	333.0	189.20	
	38	250	G 1 1/2	54,9	103,5	118,5	65,5	22	60	70	60	540	143,70	FI-RVV-38SR-WD-B-W3-1
	1.50	3625		2.16	4.07	4.67	2.58	.87	2.36	2.76	2.36	399.6	316.14	

[1] Approximate dimension in assembled condition.
[2] Weight excluding cutting ring and union nut.
[3] Standard scope of delivery: Valve body only.

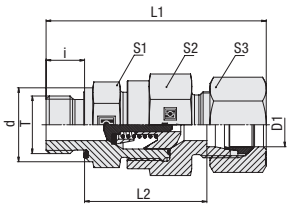
Standard seal material is NBR (Buna-N®).
Please note: Internal seals are made of FKM/FPM (Viton®).

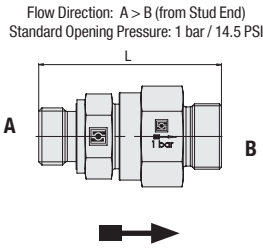
In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

Male stud acc. to ISO 1179-2 (Type E)
Port acc. to ISO 1179-1

Torque recommendations for Steel mating material.

Male Stud Check Valve
Type FI-RVV-...-M-WD ▪ Series L / S







Profile Sealing Ring

Metric Parallel Thread

Series	Tube OD (mm/in) D1	PN (bar/PSI)	Dimensions (mm/in) Thread T	d	L	L1[1]	L2	i	S1	S2	S3	Torque (N-m/ft-lb) Thread T	Weight (kg/lbs) ca. per 100[2]	Ordering Codes[3]
L	6	400	M 10 x 1	13,9	51	59	36	8	22	27	14	18	10,58	FI-RVV-06LM-WD-B-W3-1
	.24	5800		.55	2.01	2.32	1.42	.31	.87	1.06	.55	13.3	23.27	
	8	400	M 12 x 1,5	16,9	55	63	36	12	22	27	17	25	12,28	FI-RVV-08LM-WD-B-W3-1
	.31	5800		.67	2.17	2.48	1.42	.47	.87	1.06	.67	18.5	27.02	
	10	400	M 14 x 1,5	18,9	53	61	34	12	22	27	19	45	11,39	FI-RVV-10LM-WD-B-W3-1
	.39	5800		.74	2.09	2.40	1.34	.47	.87	1.06	.75	33.3	25.06	
	12	400	M 16 x 1,5	21,9	58	66	39	12	22	27	22	55	13,50	FI-RVV-12LM-WD-B-W3-1
	.47	5800		.86	2.28	2.60	1.54	.47	.87	1.06	.87	40.7	29.69	
	15	400	M 18 x 1,5	23,9	60	68	41	12	27	32	27	70	18,42	FI-RVV-15LM-WD-B-W3-1
	.59	5800		.94	2.36	2.68	1.61	.47	1.06	1.26	1.06	51.8	40.52	
	18	400	M 22 x 1,5	26,9	67	76	45,5	14	27	32	32	125	23,09	FI-RVV-18LM-WD-B-W3-1
	.71	5800		1.06	2.64	2.99	1.79	.55	1.06	1.26	1.26	92.5	50.80	
	22	250	M 26 x 1,5	31,9	77	86	53,5	16	41	46	36	180	46,70	FI-RVV-22LM-WD-B-W3-1
	.87	3625		1.26	3.03	3.39	2.11	.63	1.61	1.81	1.42	133.2	102.74	
	28	250	M 33 x 2	39,9	86	95	60,5	18	41	46	41	310	59,70	FI-RVV-28LM-WD-B-W3-1
	1.10	3625		1.57	3.39	3.74	2.38	.71	1.61	1.81	1.61	229.4	131.34	
	35	250	M 42 x 2	49,9	97,5	108,5	67	20	60	70	50	450	132,20	FI-RVV-35LM-WD-B-W3-1
	1.38	3625		1.96	3.84	4.27	2.64	.79	2.36	2.76	1.97	333.0	290.84	
	42	250	M 48 x 2	54,9	97,5	109,5	64,5	22	60	70	60	540	137,20	FI-RVV-42LM-WD-B-W3-1
	1.65	3625		2.16	3.84	4.31	2.54	.87	2.36	2.76	2.36	399.6	301.84	
S	6	400	M 12 x 1,5	16,9	57	65	38	12	22	27	17	35	11,23	FI-RVV-06SM-WD-B-W3-1
	.24	5800		.67	2.24	2.56	1.50	.47	.87	1.06	.67	25.9	24.70	
	8	400	M 14 x 1,5	18,9	55	63	36	12	22	27	19	55	11,55	FI-RVV-08SM-WD-B-W3-1
	.31	5800		.74	2.17	2.48	1.42	.47	.87	1.06	.75	40.7	25.42	
	10	400	M 16 x 1,5	21,9	57	66	37,5	12	22	27	22	70	13,29	FI-RVV-10SM-WD-B-W3-1
	.39	5800		.86	2.24	2.60	1.48	.47	.87	1.06	.87	51.8	29.23	
	12	400	M 18 x 1,5	23,9	59	68	39,5	12	24	27	24	90	15,56	FI-RVV-12SM-WD-B-W3-1
	.47	5800		.94	2.32	2.68	1.56	.47	.94	1.06	.94	66.6	34.22	
	14	400	M 20 x 1,5	25,9	64	74	42	14	27	32	27	125	19,94	FI-RVV-14SM-WD-B-W3-1
	.55	5800		1.02	2.52	2.91	1.65	.55	1.06	1.26	1.06	92.5	43.87	
	16	400	M 22 x 1,5	26,9	67	77	44,5	14	27	32	30	135	21,40	FI-RVV-16SM-WD-B-W3-1
	.63	5800		1.06	2.64	3.03	1.75	.55	1.06	1.26	1.18	99.9	47.08	
	20	400	M 27 x 2	31,9	79	90	52,5	16	41	46	36	180	50,99	FI-RVV-20SM-WD-B-W3-1
	.79	5800		1.26	3.11	3.54	2.07	.63	1.61	1.81	1.42	133.2	112.18	
	25	250	M 33 x 2	39,9	83	95	53	18	41	46	46	310	53,50	FI-RVV-25SM-WD-B-W3-1
	.98	3625		1.57	3.27	3.74	2.09	.71	1.61	1.81	1.81	229.4	117.70	
	30	250	M 42 x 2	49,9	94	107	60,5	20	50	55	50	450	86,80	FI-RVV-30SM-WD-B-W3-1
	1.18	3625		1.96	3.70	4.21	2.38	.79	1.97	2.17	1.97	333.0	190.96	
	38	250	M 48 x 2	54,9	104	119	66	22	60	70	60	540	144,70	FI-RVV-38SM-WD-B-W3-1
	1.50	3625		2.16	4.09	4.69	2.60	.87	2.36	2.76	2.36	399.6	318.34	

[1] Approximate dimension in assembled condition.
[2] Weight excluding cutting ring and union nut.
[3] Standard scope of delivery: Valve body only.

Standard seal material is NBR (Buna-N®).
Please note: Internal seals are made of FKM/FPM (Viton®).

In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

Male stud acc. to ISO 9974-2 (Type E)
Port acc. to ISO 9974-1

Torque recommendations for Steel mating material.

Ordering Codes

***FI-RVV*-10*L*M*-WD*-B*-W3*-1*-MS**

* Male Stud Check Valve (Flow from Stud End)		**FI-RVV**
* Outside Tube Diameter D1 (in mm)		**-10**
* Series	Light Series	**L**
	Heavy Series	**S**
* Thread Type	Metric Parallel Thread	**M**
If required, please indicate special sizes, e.g. M12x1.5!		
* Seal Type	Profile Sealing Ring	**-WD**
* Seal Material	NBR (Buna-N®)	**-B**
	FKM/FPM (Viton®)	**-V**
	EPDM	**-E**
* Material Code	Steel, zinc/nickel-plated	**-W3**
Please contact STAUFF for alternative materials and surface finishings.		
* Opening Pressure	1 bar / 14.5 PSI	**1**
Contact STAUFF for alternative opening pressures.		
* Assembling / Kitting	Fitting body only	**—**
	Valve body supplied with cutting ring and union nut	**-MS**
	Valve body supplied with soft-sealing cutting ring and union nut	**-MSV**

Connecting Parts


Cutting Ring
Type **FI-DS** Page 26


Soft-Sealing Cutting Ring
Type **FI-WDDS** Page 27


Support Sleeve
Type **FI-VH** Page 28


STAUFF Form Ring
Type **FI-AR** Page 30


Union Nut
Type **FI-M** Page 31


37° Flared Tube Fitting Set
Type **FI-AB** Page 35

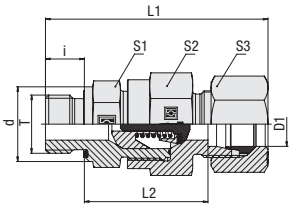
Spare Parts / Accessories

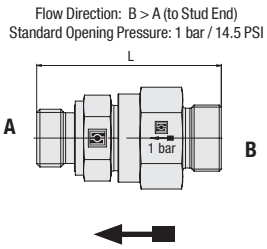

Profile Sealing Ring
Type **WDG** Page 206

M

Male Stud Check Valve
Type FI-RVZ-...-R-WD ▪ Series L / S







Whitworth Parallel Pipe Thread (BSPP)

Profile Sealing Ring

Ordering Codes

***FI-RVZ*-10*L*R*-WD*-B*-W3*-1*-MS**

* Male Stud Check Valve (Flow to Stud End)		**FI-RVZ**
* Outside Tube Diameter D1 (in mm)		**-10**
* Series	Light Series	**L**
	Heavy Series	**S**
* Thread Type	Whitworth Parallel Pipe Thread (BSPP)	**R**
If required, please indicate special sizes, e.g. R1/8!		
* Seal Type	Profile Sealing Ring	**-WD**
* Seal Material	NBR (Buna-N®)	**-B**
	FKM/FPM (Viton®)	**-V**
	EPDM	**-E**
* Material Code	Steel, zinc/nickel-plated	**-W3**
Please contact STAUFF for alternative materials and surface finishings.		
* Opening Pressure	1 bar / 14.5 PSI	**1**
Contact STAUFF for alternative opening pressures.		
* Assembling / Kitting	Valve body only	**—**
	Valve body supplied with cutting ring and union nut	**-MS**
	Valve body supplied with soft-sealing cutting ring and union nut	**-MSV**

Connecting Parts


Cutting Ring
Type **FI-DS** Page 26


Soft-Sealing Cutting Ring
Type **FI-WDDS** Page 27


Support Sleeve
Type **FI-VH** Page 28


STAUFF Form Ring
Type **FI-AR** Page 30


Union Nut
Type **FI-M** Page 31


37° Flared Tube Fitting Set
Type **FI-AB** Page 35

Spare Parts / Accessories


Profile Sealing Ring
Type **WDG** Page 206

Series	Tube OD (mm/in) D1	PN (bar/PSI)	Dimensions (mm/in) Thread T	d	L	L1[1]	L2	i	S1	S2	S3	Torque (N·m/ft-lb) Thread T	Weight (kg/lbs) ca. per 100[2]	Ordering Codes[3]
L	6	400	G 1/8	13,9	51	59	36	8	22	27	14	18	12,07	FI-RVZ-06LR-WD-B-W3-1
	.24	5800		.55	2.01	2.32	1.42	.31	.87	1.06	.55	13.3	26.55	
	8	400	G 1/4	18,9	55	63	36	12	22	27	17	30	12,56	FI-RVZ-08LR-WD-B-W3-1
	.31	5800		.74	2.17	2.48	1.42	.47	.87	1.06	.67	22.2	27.63	
	10	400	G 1/4	18,9	53	61	34	12	22	27	19	45	11,38	FI-RVZ-10LR-WD-B-W3-1
	.39	5800		.74	2.09	2.40	1.34	.47	.87	1.06	.75	33.3	25.04	
	12	400	G 3/8	21,9	58	66	39	12	22	27	22	70	13,64	FI-RVZ-12LR-WD-B-W3-1
	.47	5800		.86	2.28	2.60	1.54	.47	.87	1.06	.87	51.8	30.00	
	15	400	G 1/2	26,9	62	70	41	14	27	32	27	90	19,15	FI-RVZ-15LR-WD-B-W3-1
	.59	5800		1.06	2.44	2.76	1.61	.55	1.06	1.26	1.06	66.6	42.12	
	18	400	G 1/2	26,9	67	76	45,5	14	27	32	32	90	22,67	FI-RVZ-18LR-WD-B-W3-1
	.71	5800		1.06	2.64	2.99	1.79	.55	1.06	1.26	1.26	66.6	49.88	
	22	250	G 3/4	31,9	77	86	53,5	16	46	41	36	180	45,69	FI-RVZ-22LR-WD-B-W3-1
	.87	3625		1.26	3.03	3.39	2.11	.63	1.81	1.61	1.42	133.2	100.53	
	28	250	G 1	39,9	80	89	54,5	18	46	41	41	310	52,60	FI-RVZ-28LR-WD-B-W3-1
	1.10	3625		1.57	3.15	3.50	2.15	.71	1.81	1.61	1.61	229.4	115.72	
	35	250	G 1 1/4	49,9	97,5	108,5	67	20	60	70	50	450	130,70	FI-RVZ-35LR-WD-B-W3-1
	1.38	3625		1.96	3.84	4.27	2.64	.79	2.36	2.76	1.97	333.0	287.54	
	42	250	G 1 1/2	54,9	97,5	109,5	64,5	22	60	70	60	540	137,40	FI-RVZ-42LR-WD-B-W3-1
	1.65	3625		2.16	3.84	4.31	2.54	.87	2.36	2.76	2.36	399.6	302.28	
S	6	400	G 1/4	18,9	57	65	38	12	22	27	17	55	12,92	FI-RVZ-06SR-WD-B-W3-1
	.24	5800		.74	2.24	2.56	1.50	.47	.87	1.06	.67	40.7	28.42	
	8	400	G 1/4	18,9	55	63	36	12	22	27	19	55	12,18	FI-RVZ-08SR-WD-B-W3-1
	.31	5800		.74	2.17	2.48	1.42	.47	.87	1.06	.75	40.7	26.80	
	10	400	G 3/8	21,9	57	66	37,5	12	22	27	22	80	13,30	FI-RVZ-10SR-WD-B-W3-1
	.39	5800		.86	2.24	2.60	1.48	.47	.87	1.06	.87	59.2	29.25	
	12	400	G 3/8	21,9	59	68	39,5	12	22	27	24	80	14,64	FI-RVZ-12SR-WD-B-W3-1
	.47	5800		.86	2.32	2.68	1.56	.47	.87	1.06	.94	59.2	32.20	
	14	400	G 1/2	26,9	64	74	42	14	27	32	27	115	20,23	FI-RVZ-14SR-WD-B-W3-1
	.55	5800		1.06	2.52	2.91	1.65	.55	1.06	1.26	1.06	85.1	44.50	
	16	400	G 1/2	26,9	67	77	44,5	14	27	32	30	115	21,61	FI-RVZ-16SR-WD-B-W3-1
	.63	5800		1.06	2.64	3.03	1.75	.55	1.06	1.26	1.18	85.1	47.55	
	20	400	G 3/4	31,9	79,5	90,5	53	16	46	41	36	180	46,63	FI-RVZ-20SR-WD-B-W3-1
	.79	5800		1.26	3.13	3.56	2.09	.63	1.81	1.61	1.42	133.2	102.59	
	25	250	G 1	39,9	83	95	53	18	46	41	46	310	53,10	FI-RVZ-25SR-WD-B-W3-1
	.98	3625		1.57	3.27	3.74	2.09	.71	1.81	1.61	1.81	229.4	116.82	
	30	250	G 1 1/4	49,9	94	107	60,5	20	50	55	50	450	85,80	FI-RVZ-30SR-WD-B-W3-1
	1.18	3625		1.96	3.70	4.21	2.38	.79	1.97	2.17	1.97	333.0	188.76	
	38	250	G 1 1/2	54,9	103,5	118,5	65,5	22	60	70	60	540	143,40	FI-RVZ-38SR-WD-B-W3-1
	1.50	3625		2.16	4.07	4.67	2.58	.87	2.36	2.76	2.36	399.6	315.48	

[1] Approximate dimension in assembled condition.
[2] Weight excluding cutting ring and union nut.
[3] Standard scope of delivery: Valve body only.

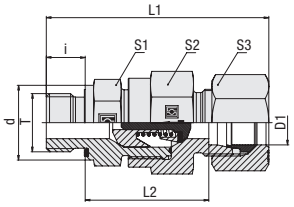
Standard seal material is NBR (Buna-N®).
Please note: Internal seals are made of FKM/FPM (Viton®).

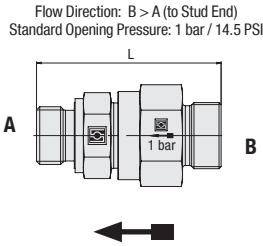
In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

Male stud acc. to ISO 1179-2 (Type E)
Port acc. to ISO 1179-1

Torque recommendations for Steel mating material.

Male Stud Check Valve
Type FI-RVZ-...-M-WD ▪ Series L / S







Profile Sealing Ring

Metric Parallel Thread

Series	Tube OD (mm/in) D1	PN (bar/PSI)	Dimensions (mm/in) Thread T	d	L	L1[1]	L2	i	S1	S2	S3	Torque (N-m/ft-lb) Thread T	Weight (kg/lbs) ca. per 100[2]	Ordering Codes[3]
L	6	400	M 10 x 1	13,9	51	59	36	8	22	27	14	18	12,20	FI-RVZ-06LM-WD-B-W3-1
	.24	5800		.55	2.01	2.32	1.42	.31	.87	1.06	.55	13.3	26.84	
	8	400	M 12 x 1,5	16,9	55	63	36	12	22	27	17	25	12,31	FI-RVZ-08LM-WD-B-W3-1
	.31	5800		.67	2.17	2.48	1.42	.47	.87	1.06	.67	18.5	27.08	
	10	400	M 14 x 1,5	18,9	53	61	34	12	22	27	19	45	11,40	FI-RVZ-10LM-WD-B-W3-1
	.39	5800		.74	2.09	2.40	1.34	.47	.87	1.06	.75	33.3	25.08	
	12	400	M 16 x 1,5	21,9	58	66	39	12	22	27	22	55	14,02	FI-RVZ-12LM-WD-B-W3-1
	.47	5800		.86	2.28	2.60	1.54	.47	.87	1.06	.87	40.7	30.84	
	15	400	M 18 x 1,5	23,9	60	68	41	12	27	32	27	70	19,06	FI-RVZ-15LM-WD-B-W3-1
	.59	5800		.94	2.36	2.68	1.61	.47	1.06	1.26	1.06	51.8	41.92	
	18	400	M 22 x 1,5	26,9	67	76	45,5	14	27	32	32	125	10,27	FI-RVZ-18LM-WD-B-W3-1
	.71	5800		1.06	2.64	2.99	1.79	.55	1.06	1.26	1.26	92.5	22.59	
	22	250	M 26 x 1,5	31,9	78	87	54,5	16	46	41	36	180	46,73	FI-RVZ-22LM-WD-B-W3-1
	.87	3625		1.26	3.07	3.43	2.15	.63	1.81	1.61	1.42	133.2	102.81	
	28	250	M 33 x 2	39,9	80	89	54,5	18	46	41	41	310	52,70	FI-RVZ-28LM-WD-B-W3-1
	1.10	3625		1.57	3.15	3.50	2.15	.71	1.81	1.61	1.61	229.4	115.94	
	35	250	M 42 x 2	49,9	97,5	108,5	67	20	60	70	50	450	132,30	FI-RVZ-35LM-WD-B-W3-1
	1.38	3625		1.96	3.84	4.27	2.64	.79	2.36	2.76	1.97	333.0	291.06	
	42	250	M 48 x 2	54,9	97,5	109,5	64,5	22	60	70	60	540	137,70	FI-RVZ-42LM-WD-B-W3-1
	1.65	3625		2.16	3.84	4.31	2.54	.87	2.36	2.76	2.36	399.6	302.94	
S	6	400	M 12 x 1,5	16,9	57	65	38	12	22	27	17	35	12,66	FI-RVZ-06SM-WD-B-W3-1
	.24	5800		.67	2.24	2.56	1.50	.47	.87	1.06	.67	25.9	27.85	
	8	400	M 14 x 1,5	18,9	55	63	36	12	22	27	19	55	12,21	FI-RVZ-08SM-WD-B-W3-1
	.31	5800		.74	2.17	2.48	1.42	.47	.87	1.06	.75	40.7	26.87	
	10	400	M 16 x 1,5	21,9	57	66	37,5	12	22	27	22	70	6,64	FI-RVZ-10SM-WD-B-W3-1
	.39	5800		.86	2.24	2.60	1.48	.47	.87	1.06	.87	51.8	14.61	
	12	400	M 18 x 1,5	23,9	59	68	39,5	12	24	27	24	90	15,58	FI-RVZ-12SM-WD-B-W3-1
	.47	5800		.94	2.32	2.68	1.56	.47	.94	1.06	.94	66.6	34.28	
	14	400	M 20 x 1,5	25,9	64	74	42	14	27	32	27	125	19,98	FI-RVZ-14SM-WD-B-W3-1
	.55	5800		1.02	2.52	2.91	1.65	.55	1.06	1.26	1.06	92.5	43.96	
	16	400	M 22 x 1,5	26,9	67	77	44,5	14	27	32	30	135	21,94	FI-RVZ-16SM-WD-B-W3-1
	.63	5800		1.06	2.64	3.03	1.75	.55	1.06	1.26	1.18	99.9	48.26	
	20	400	M 27 x 2	31,9	78	89	51,5	16	46	41	36	180	53,51	FI-RVZ-20SM-WD-B-W3-1
	.79	5800		1.26	3.07	3.50	2.03	.63	1.81	1.61	1.42	133.2	117.72	
	25	250	M 33 x 2	39,9	83	95	53	18	46	41	46	310	53,10	FI-RVZ-25SM-WD-B-W3-1
	.98	3625		1.57	3.27	3.74	2.09	.71	1.81	1.61	1.81	229.4	116.82	
	30	250	M 42 x 2	49,9	94	107	60,5	20	50	55	50	450	86,00	FI-RVZ-30SM-WD-B-W3-1
	1.18	3625		1.96	3.70	4.21	2.38	.79	1.97	2.17	1.97	333.0	189.20	
	38	250	M 48 x 2	54,9	103,5	118,5	65,5	22	60	70	60	540	143,90	FI-RVZ-38SM-WD-B-W3-1
	1.50	3625		2.16	4.07	4.67	2.58	.87	2.36	2.76	2.36	399.6	316.58	

[1] Approximate dimension in assembled condition.
[2] Weight excluding cutting ring and union nut.
[3] Standard scope of delivery: Valve body only.

Standard seal material is NBR (Buna-N®).
Please note: Internal seals are made of FKM/FPM (Viton®).

In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

Male stud acc. to ISO 9974-2 (Type E)
Port acc. to ISO 9974-1

Torque recommendations for Steel mating material.

Ordering Codes

***FI-RVZ*-10*L*M*-WD*-B*-W3*-1*-MS**

* Male Stud Check Valve (Flow to Stud End)		**FI-RVZ**
* Outside Tube Diameter D1 (in mm)		**-10**
* Series	Light Series	**L**
	Heavy Series	**S**
* Thread Type	Metric Parallel Thread	**M**
If required, please indicate special sizes, e.g. M12x1.5!		
* Seal Type	Profile Sealing Ring	**-WD**
* Seal Material	NBR (Buna-N®)	**-B**
	FKM/FPM (Viton®)	**-V**
	EPDM	**-E**
* Material Code	Steel, zinc/nickel-plated	**-W3**
Please contact STAUFF for alternative materials and surface finishings.		
* Opening Pressure	1 bar / 14.5 PSI	**1**
Contact STAUFF for alternative opening pressures.		
* Assembling / Kitting	Valve body only	**—**
	Valve body supplied with cutting ring and union nut	**-MS**
	Valve body supplied with soft-sealing cutting ring and union nut	**-MSV**

Connecting Parts


Cutting Ring
Type **FI-DS** Page 26


Soft-Sealing Cutting Ring
Type **FI-WDDS** Page 27


Support Sleeve
Type **FI-VH** Page 28


STAUFF Form Ring
Type **FI-AR** Page 30


Union Nut
Type **FI-M** Page 31


37° Flared Tube Fitting Set
Type **FI-AB** Page 35

Spare Parts / Accessories

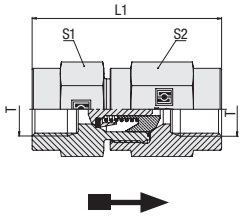

Profile Sealing Ring
Type **WDG** Page 206

M

Female Stud Check Valve
Type FI-RVI-...-R



Standard Opening Pressure: 1 bar / 14.5 PSI



Ordering Codes

***FI-RVI*-R*1/2*-W3*-1**

* Female Stud Check Valve		**FI-RVI**
* Thread Type	Female Whitworth Parallel Pipe Thread (BSPP)	**R**
* Thread Size	acc. to dimension table	**1/2**
Please always indicate thread sizes, e.g. 1/2!		
* Material Code	Steel, zinc/nickel-plated	**-W3**
Please contact STAUFF for alternative materials and surface finishings.		
* Opening Pressure	1 bar / 14.5 PSI	**1**
Contact STAUFF for alternative opening pressures.		

Female Whitworth Parallel Pipe Thread (BSPP)

PN (bar/PSI)	Dimensions (mm/in)				Weight (kg/lbs) ca.	Ordering Codes
	Thread T	L1	S1	S2	per 100	
400	G 1/8	53	22	27	17,72	FI-RVI-R1/8-W3-1
5800		2.09	.87	1.06	38.98	
400	G 1/4	63	22	27	18,60	FI-RVI-R1/4-W3-1
5800		2.48	.87	1.06	40.91	
400	G 3/8	62	24	27	17,69	FI-RVI-R3/8-W3-1
5800		2.44	.94	1.06	38.92	
315	G 1/2	73,5	32	32	34,03	FI-RVI-R1/2-W3-1
4568		2.89	1.26	1.26	74.87	
250	G 3/4	94,5	41	46	75,00	FI-RVI-R3/4-W3-1
3625		3.72	1.61	1.81	165.00	
250	G 1	99,5	46	46	84,34	FI-RVI-R1-W3-1
3625		3.92	1.81	1.81	185.56	
250	G 1 1/4	114,5	60	60	168,10	FI-RVI-R1-1/4-W3-1
3625		4.51	2.36	2.36	369.82	
250	G 1 1/2	118,5	65	70	210,90	FI-RVI-R1-1/2-W3-1
3625		4.67	2.56	2.76	463.98	

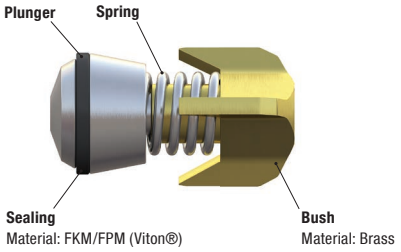
Please note: Internal seals are made of FKM/FPM (Viton®).

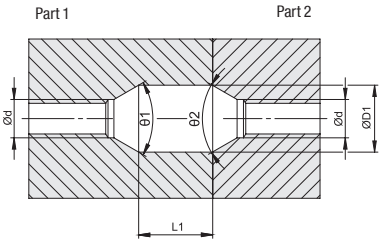
In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

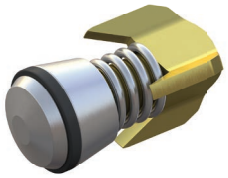
M

Check Valve Installation Kit Type FI-VES ▪ Design A

Standard Opening Pressure: 1 bar / 14.5 PSI



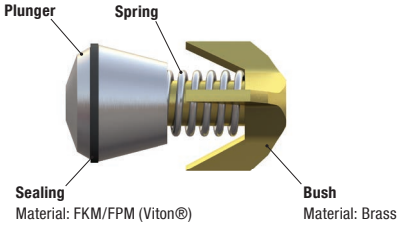


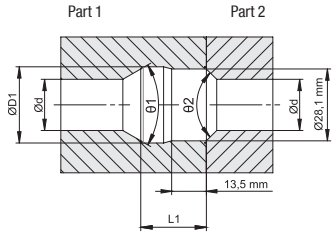


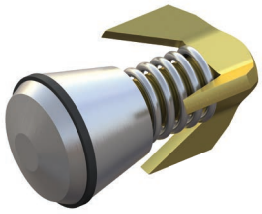
Tube OD (mm/in)				Dimensions (mm/in)					Ordering Codes
				d	D1	L1	θ1	θ2	
6	8	10	12	7,5	13,1	14,5	60	60	FI-VES-NW06-1
.24	.31	.39	.47	.30	.52	.57			
14	15	16	18	11,5	17,6	17	60	60	FI-VES-NW10-1
.55	.59	.63	.71	.45	.69	.67			

Check Valve Installation Kit Type FI-VES ▪ Design B

Standard Opening Pressure: 1 bar / 14.5 PSI



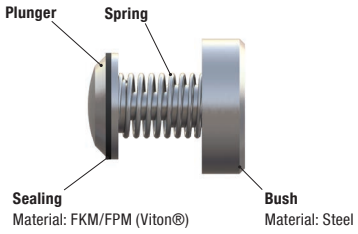


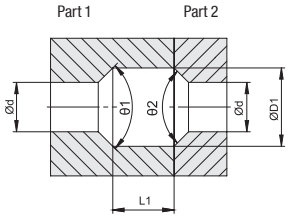


Tube OD (mm/in)				Dimensions (mm/in)					Ordering Codes
				d	D1	L1	θ1	θ2	
20	22	25	28	20	29,8	25,7	60	90	FI-VES-NW16-1
.79	.87	.98	1.10	.79	1.17	1.01			

Check Valve Installation Kit Type FI-VES ▪ Design C

Standard Opening Pressure: 1 bar / 14.5 PSI





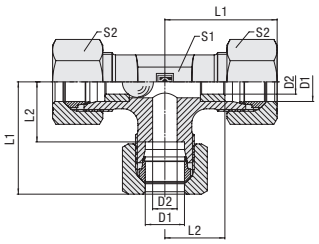


Tube OD (mm/in)			Dimensions (mm/in)					Ordering Codes
			d	D1	L1	θ1	θ2	
30			24	38	33	90	90	FI-VES-NW25-1
1.18			.94	1.50	1.30			
35	38	42	29	29	36	90	90	FI-VES-NW32-1
1.38	1.50	1.65	1.14	1.14	1.42			

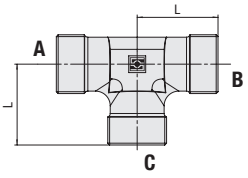
M

Alternating Valve
Type FI-WV ▪ Series L / S





Flow Directions:
A > C (B closed) or B > C (A closed)



Recommended Installation Position

Ordering Codes

FI-WV-10*L*-W3*-MS

* Alternating Valve		**FI-WV**
* Outside Tube Diameter D1 (in mm)		**-10**
* Series	Light Series	**L**
	Heavy Series	**S**
* Material Code	Steel, zinc/nickel-plated	**-W3**
	Please contact STAUFF for alternative materials and surface finishings.	
* Assembling / Kitting	Valve body only	**—**
	Valve body supplied with cutting rings and union nuts	**-MS**
	Valve body supplied with soft-sealing cutting rings and union nuts	**-MSV**

Connecting Parts


Cutting Ring
Type **FI-DS** Page 26


Soft-Sealing Cutting Ring
Type **FI-WDDS** Page 27

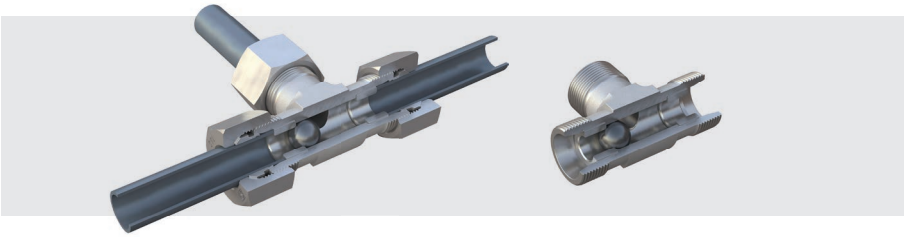

Support Sleeve
Type **FI-VH** Page 28


STAUFF Form Ring
Type **FI-AR** Page 30


Union Nut
Type **FI-M** Page 31


37° Flared Tube Fitting Set
Type **FI-AB** Page 35

Series	Tube OD (mm/in) D1	PN (bar/PSI)	Dimensions (mm/in) D2	L	L1[1]	L2	S1	S2	Weight (kg/lbs) ca. per 100[2]	Ordering Codes[3]
L	8	160	4	21	29	14	14	17	5,50	FI-WV-08L-W3
	.31	2320	.16	.83	1.14	.55	.55	.67	12.09	
	10	160	6	22	30	15	17	19	7,30	FI-WV-10L-W3
	.39	2320	.24	.87	1.18	.59	.67	.75	16.07	
	12	160	8	24	32	17	19	22	10,27	FI-WV-12L-W3
	.47	2320	.31	.94	1.26	.67	.75	.87	22.59	
	15	160	9	28	36	21	19	27	10,95	FI-WV-15L-W3
	.59	2320	.35	1.10	1.42	.83	.75	1.06	24.09	
S	6	160	4	23	31	16	14	17	7,04	FI-WV-06S-W3
	.24	2320	.16	.91	1.22	.63	.55	.67	15.49	
	8	160	4	24	32	17	17	19	9,49	FI-WV-08S-W3
	.31	2320	.16	.94	1.26	.67	.67	.75	20.87	
	10	160	6	25	34	17,5	19	22	12,41	FI-WV-10S-W3
	.39	2320	.24	.98	1.34	.69	.75	.87	27.31	
	12	160	8	29	38	21,5	22	24	17,10	FI-WV-12S-W3
	.47	2320	.31	1.14	1.50	.85	.87	.94	37.62	
	16	160	10	33	43	24,5	24	30	19,60	FI-WV-16S-W3
	.63	2320	.39	1.30	1.69	.96	.94	1.18	43.13	



[1] Approximate dimension in assembled condition.
[2] Weight excluding cutting rings and union nuts.
[3] Standard scope of delivery: Valve body only.

In order to make sure that the valves will be suitable for your particular application, please contact STAUFF with details on media, operating pressure, pressure peaks, operating temperature and the expected frequency of valve actuations.

Do not use with compressed air or gas!

Please note: Alternating valves have been designed as switching devices for hydraulic fluids, where the non-pressurized connection of the valve is automatically closed off and sealed by a moving ball made of steel.

Alternating valves are only suitable for connections that fit directly against the tube end stop of the valve body. Do not use in combination with 24° weld cone fittings, 24° DKO taper fittings and other types of fittings with no direct contact to the tube end stop of the valve body.

M



Custom-Designed Solutions 188

In addition to a complete range of standard components, STAUFF is also able offer individually designed special solutions according to customer's specifications or based on own developments.

Options include tube connectors with non-standard connection types and combinations, in special lengths and jump sizes or with throttle bores as well as distributors and manifolds in single-piece, soldered, brazed and welded construction.

Please do not hesitate to contact STAUFF for further information.



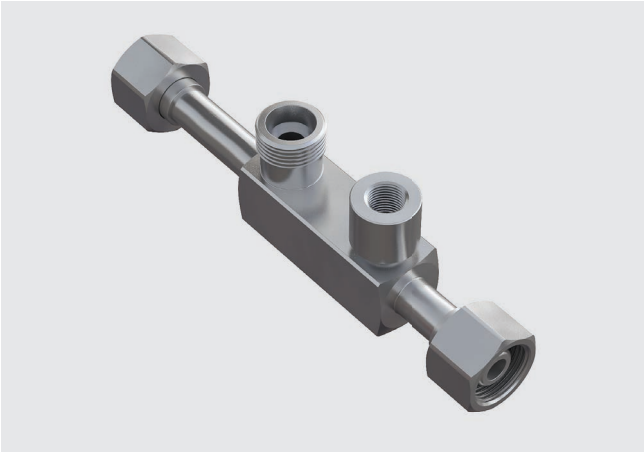


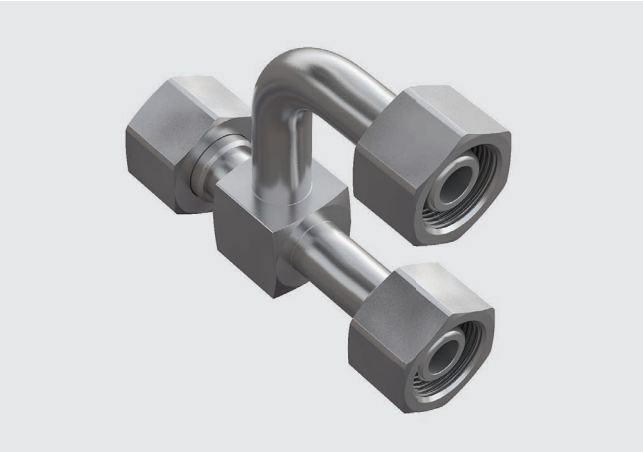












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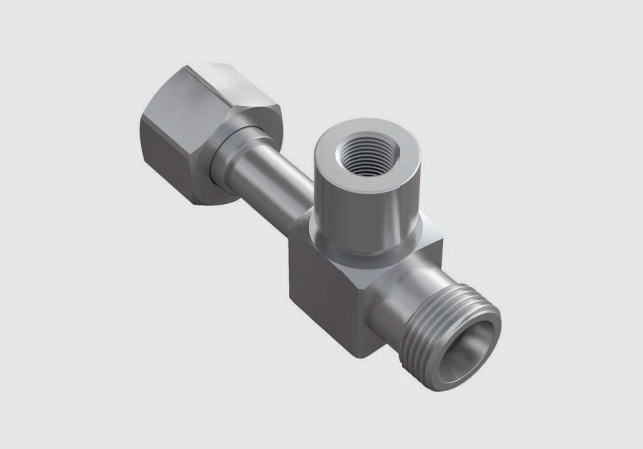

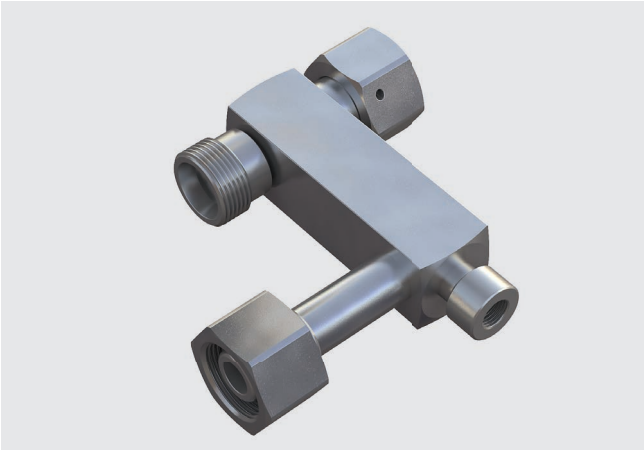

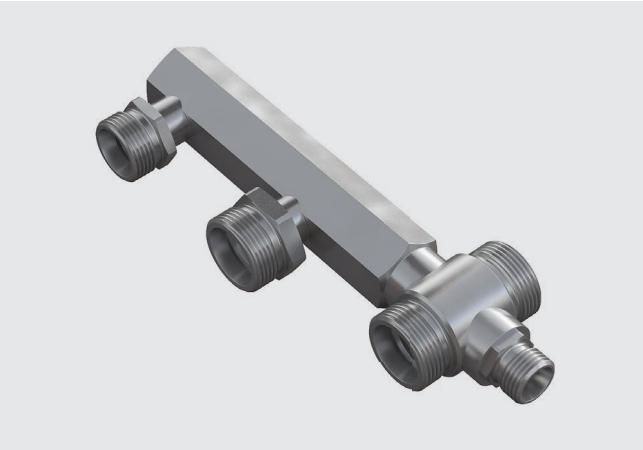

N

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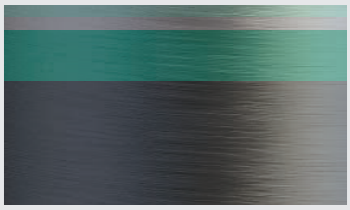
Tube Fitting Materials and Surface Finishings



STAUFF Zinc/Nickel Coating

Fitting bodies of the STAUFF Connect range are usually machined from drawn or forged steel in accordance with DIN 3859-1 (Technical Specification for Tube Fittings).

Union nuts are either cold-pressed or hot-pressed.

Unless otherwise stated, all metal parts of the STAUFF Connect range of tube fittings are made of Steel with standard Zinc/Nickel coating (material code: W3), that offers excellent surface protection far beyond the market standard.

One of the few exceptions, weld fittings are made of Steel, uncoated and oiled (material code: W161).

Alternative surface coatings are available upon request.

Do not hesitate to contact STAUFF for further information.

Main Advantages of the STAUFF Zinc/Nickel Coating

- Premium long-life surface protection against corrosion with more than 1200 hours resistance to red rust / base metal corrosion in the salt-spray test according to DIN EN ISO 9227
- Free of hexavalent chrome Cr(VI)
- ELV compliant according to 2000/53/EC (End of Life Vehicles Directive)
- REACH compliant according to 1907/2006/EC (Registration, Evaluation, Authorisation and Restriction of Chemicals)
- RoHS compliant according to 2002/95/EC (Restrictions of the Use of Hazardous Substances)
- Easily surpassing the requirements of the corrosion protection class K5 (360 hours resistance to white rust / 720 hours resistance to red rust) as defined by the VDMA, the German Engineering Association (VDMA Standard Sheet 24576 „Fluid Power - Requirements and designations for corrosion-protection coatings free of hexavalent chrome“)
- Significantly reduced tendency to corrosion by contact with other metals such as Aluminium and Stainless Steel
- High abrasion resistance due to the ductility / plastic deformability of the coating
- Appealing colour scheme with a bright semi-gloss surface finish – comparable to Stainless Steel
- Surface is paintable with good paint adhesion properties (However, a painting test and, if necessary, degreasing of the surfaces to be painted are highly recommended)
- Little to no risk of triggering allergies, as the Zinc/Nickel base layer with a nickel content of 12-15 % is covered by both a passivation and a sealing layer to avoid the release of nickel and any direct physical contact
- Resistant against all commonly used hydraulic media

Elastomer Seal Materials

Unless otherwise stated, standard elastomer seals are made of NBR (Perbunan®) with a hardness degree of 90 shore A.

Elastomer seals made of NBR (Perbunan® – material code: B) are especially suitable for liquid or gaseous media at operating temperatures that range from -35 °C to +100 °C / -31 °F to +212 °F.

Elastomer seals for applications with higher temperatures or aggressive media, such as FKM/FPM (Viton® – material code: V – operating temperature range from -25 °C to +392 °C / -13 °F to +212 °F) and EPDM (material code: E), are available upon request.

Do not hesitate to contact STAUFF for further information.

The performance of elastomer seals during operation can be negatively affected by various influences. Elastomer seals should be inspected for any kind of damage (cracks, deformation, hardening or softening, swelling, reduced elasticity etc.) or contamination prior to the assembly process and when carrying out service and maintenance work, and should be replaced, if necessary.

Spare seals are available as part of the STAUFF Connect range.

Storage Recommendations

Please observe the following storage recommendations for elastomer seals in accordance with DIN 7716 (Requirements for Storage, Cleaning and Maintenance of Rubber Products):

- Store seals in a dry place, away from draughts, at temperatures not exceeding +25 °C / +77 °F.
- Protect seals from sunlight, ozone and strong artificial lightning during storage.

These recommendations do not only apply for separate elastomer seals, but also for tube fittings with pre-assembled o-rings and seals.

Not following these storage recommendations can cause brittle fracture of elastomer seals and result in leakage!

Perbunan® is a registered trademark of Lanxess Deutschland GmbH.
Viton® is a registered trademark of DuPont Performance Elastomers L.L.C.

R

Pressure and Temperature Ratings

General Information

Unless otherwise stated, all pressure ratings in this product catalogue are indicated in bar and PSI. All temperature ratings are indicated in °C (degree Celsius) and °C (degree Fahrenheit).

Pressure ratings are usually rounded to correspond with standardised pressure ratings, which are internationally recognised and assist to identify and match common sizes of components together.

All tube fittings and other components of the STAUFF Connect range meet or exceed common standardised pressure ratings for mobile and industrial fluid power applications up to nominal pressures of 800 bar / 11600 PSI (depending on series, type and size of the component – pressure reduction factors to be considered).

Pressure ratings are divided into nominal pressures (PN) and permissible operating pressures (PB).

Nominal Pressure (PN)

Nominal pressure (PN) is a term used to describe the pressure that tube fittings and other components are designed to safely withstand, and indicates the maximum operating pressure of tube fittings and other components that should be applied to the component when operating the system under stationary conditions.

During static load tests, burst pressures must be at least 4 times higher than the nominal pressures (safety factor of 4).

Permissible Operating Pressure (PB)

The permissible operating pressure (PB) of a component (as defined in DIN 2401, part 1) is identical to the maximum internal overpressure at regular operating conditions (operating temperature of +120 °C without dynamic loads / pressure peaks) as calculated based on the material in use and considering the permissible operating temperature (TB).

During static load tests, burst pressures must be at least 2,5 times higher than the permissible operating pressures (safety factor of 2,5).

Please note:

The pressure ratings and safety factors as specified are only applicable when strictly following the assembly instructions (e.g. tightening torques for male stud fittings) and only refer to original components of the STAUFF Connect range. Avoid mixing with other brands' products!

If components are exposed to vibrations, dynamic loads or pressure peaks, the pressure ratings must be reduced accordingly in order to keep the same level of safety.

Permissible Operating Temperature (TB)

Unless otherwise stated, the permissible operating temperature (TB) for tube fittings and other components in this product catalogue ranges from -40 °C to +120 °C / -40 °C to +248 °Cin accordance with DIN 3859-1 (Technical Specification for Tube Fittings).

Please observe that the permissible operating temperature may differ for tube fittings and other components that use elastomer seals.

Pressure Reduction Factors

Pressure reduction factors (in percent) have to be considered when intending to use the components at operating temperatures exceeding +120 °C / +248 °F.

Calculation Example

Component — Straight Fitting FI-G-10S-W3-MS made of Steel with a nominal pressure (PN) rating of 800 bar / 11600 PSI

Temperature — +175 °C / +347 °F

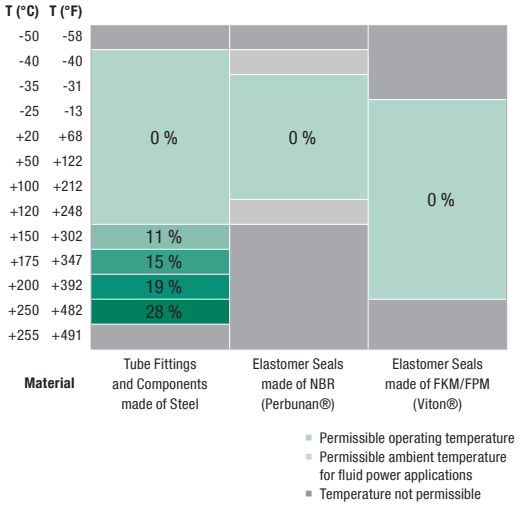
Reduction Factor — 15 %

Reduced Nominal Pressure $PN = \frac{800\ bar}{100\ \%} \times (100\ \% - 15\ \%) = 680\ bar$

$PN = \frac{11600\ PSI}{100\ \%} \times (100\ \% - 15\ \%) = 9860\ PSI$

Please note:

When selecting tubes and other components for your system, any additional potential pressure reduction factors stated by the manufacturers / suppliers have to be considered.



Pressure Reduction Factors

Selection Criteria for Tube

STAUFF recommends to use seamless, cold-drawn and normalized precision steel tubes as specified in DIN EN 10305-4, material E235+N (material number 1.0308+N, formerly St37.4) or material E355 (material number 1.0580, formerly St52.4).

In order to avoid misdeliveries, the tubes have to be ordered from the supplier by specifying the exact outer and inner diameter.

Tube materials and tolerances differing from these recommendations may lead to system faults or leakages and may even result in total breakdowns.

Unless otherwise stated, the pressure / temperature ratings as well as all other operating conditions indicated in this product catalogue do not refer to the actual tube. Specifications made by the respective tube manufacturers / suppliers have to be considered.

R

Calculated Design / Burst Pressures for Tube (bar)

Tube OD (mm)	Tube ID (mm)	Tube Wall (mm)	Calculated Design Pressure (bar) in accordance with DIN 2413 - Load Case I (predominantly static loads, up to +120 °C)		Calculated Design Pressure (bar) in accordance with DIN 2413 - Load Case III (dynamic / pulsating loads, up to +120 °C)		Calculated Burst Pressure (bar) in accordance with ISO 10763	
D1	D2	S	Material E235+N	Material E355	Material E235+N	Material E355	Material E235+N	Material E355
6	4,5	0,75	338	491	303	310	1116	1525
6	4	1	450	655	391	400	1573	2149
6	3	1,5	675	983	551	563	2689	3674
6*	2	2	900	1310	692	708	4263	5823
6*	1,5	2,25	1013	1474	757	774	5379	7347
8	6	1	338	491	303	310	1116	1525
8	5	1,5	506	737	433	443	1824	2491
8	4	2	675	983	551	563	2689	3674
8*	3	2,5	844	1228	659	673	3806	5198
10	8	1	270	393	248	253	866	1183
10	7	1,5	405	590	357	365	1384	1890
10	6	2	540	786	458	468	1982	2707
10	5	2,5	675	983	551	563	2689	3674
10*	4	3	810	1179	638	652	3555	4856
12	10	1	225	328	209	214	707	966
12	9	1,5	338	491	303	310	1116	1525
12	8	2	450	655	391	400	1573	2149
12	7	2,5	563	819	474	484	2091	2857
12	6	3	675	983	551	563	2689	3674
12*	5	3,5	823	1180	624	638	3397	4640
12*	4	4	940	1348	692	708	4263	5823
14	12	1	193	281	181	185	598	817
14	11	1,5	289	421	264	270	936	1278
14	10	2	386	561	342	349	1306	1783
14	9	2,5	482	702	415	425	1714	2342
14	8	3	579	842	485	496	2171	2966
14	7	3,5	705	1011	551	563	2689	3674
15	13	1	180	262	170	174	555	758
15	12	1,5	270	393	248	253	866	1183
15	11	2	360	524	321	329	1203	1644
15	10	2,5	450	655	391	400	1573	2149
15	9	3	540	786	458	468	1982	2707
16	14	1	169	246	160	163	518	708
16	13	1,5	253	368	233	239	806	1100
16	12	2	338	491	303	310	1116	1525
16	11	2,5	422	614	370	378	1454	1986
16	10	3	506	737	433	443	1824	2491
16	8	4	705	1011	551	563	2689	3674
18	16	1	150	218	143	146	457	624
18	15	1,5	225	328	209	214	707	966
18	14	2	300	437	273	279	975	1332
18	13	2,5	375	546	333	341	1263	1725
18	12	3	450	655	391	400	1573	2149
18	10	4	627	899	500	511	2281	3115
20	17	1,5	203	295	190	194	631	861
20	16	2	270	393	248	253	866	1183
20	15	2,5	338	491	303	310	1116	1525
20	14	3	405	590	357	365	1384	1890
20	13	3,5	494	708	408	417	1671	2283
20	12	4	564	809	458	468	1982	2707
20	10	5	705	1011	551	563	2689	3674

R

Calculated Design / Burst Pressures for Tube (bar)

Tube OD (mm)	Tube ID (mm)	Tube Wall (mm)	Calculated Design Pressure (bar) in accordance with DIN 2413 - Load Case I (primary static loads, up to +120 °C)		Calculated Design Pressure (bar) in accordance with DIN 2413 - Load Case III (dynamic loads, up to +120 °C)		Calculated Burst Pressure (bar) in accordance with ISO 10763	
D1	D2	S	Material E235+N	Material E355	Material E235+N	Material E355	Material E235+N	Material E355
22	20	1	123	179	118	121	370	505
22	19	1,5	184	268	173	177	569	777
22	18	2	245	357	227	232	779	1064
22	17	2,5	307	447	278	285	1000	1366
22	16	3	368	536	328	335	1236	1688
22	15	3,5	449	643	376	384	1486	2030
22	14	4	513	735	422	431	1754	2396
25	22	1,5	162	236	154	157	496	678
25	21	2	216	314	201	206	676	924
25	20	2,5	270	393	248	253	866	1183
25	19	3	324	472	292	299	1065	1455
25	18	3,5	395	566	336	343	1275	1741
25	17	4	451	647	378	386	1496	2044
25	16	4,5	508	728	418	428	1732	2365
25	15	5	564	809	458	468	1982	2707
28	25	1,5	145	211	138	141	440	601
28	24	2	193	281	181	185	598	817
28	23	2,5	241	351	223	228	763	1043
28	22	3	289	421	264	270	936	1278
28	21	3,5	353	506	303	310	1116	1525
28	20	4	403	578	342	349	1306	1783
30	26	2	180	262	170	174	555	758
30	25	2,5	225	328	209	214	707	966
30	24	3	270	393	248	253	866	1183
30	23	3,5	329	472	285	291	1031	1408
30	22	4	376	539	321	329	1203	1644
30	20	5	470	674	391	400	1573	2149
30	18	6	564	809	458	468	1982	2707
35	32	1,5	121	173	111	114	348	475
35	31	2	161	231	147	150	471	643
35	30	2,5	201	289	181	185	598	817
35	29	3	242	347	215	220	730	997
35	27	4	322	462	280	286	1007	1375
35	25	5	403	578	342	349	1306	1783
38	34	2	148	213	136	139	432	589
38	33	2,5	186	266	168	171	547	748
38	32	3	223	319	199	203	667	911
38	30	4	297	426	260	265	917	1253
38	28	5	371	532	318	325	1185	1619
38	26	6	445	639	373	382	1472	2011
38	24	7	519	745	427	436	1783	2436
38	22	8	594	851	478	488	2121	2897
42	39	1,5	101	144	93	96	288	393
42	38	2	134	193	123	126	388	530
42	37	2,5	168	241	153	156	492	672
42	36	3	201	289	181	185	598	817
42	34	4	269	385	237	242	820	1120
42	32	5	336	481	290	297		1441

All figures are based on calculations carried out in accordance with DIN 2413 and ISO 10763.

They are intended to assist the user in the pre-selection of the correct tube only, and do not discharge the obligation to carry out own calculations in consideration of the actual conditions of use.

DIN 2413 does not apply to tube sizes marked by * (where D1/D2 > 2).

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Calculated Design / Burst Pressures for Tube (PSI)

Tube OD	Tube ID	Tube Wall	Calculated Design Pressure		Calculated Design Pressure		Calculated Burst Pressure	
(in)	(in)	(in)	(PSI) in accordance with DIN 2413 - Load Case I (primary static loads, up to +248 °F)		(PSI) in accordance with DIN 2413 - Load Case III (dynamic loads, up to +248 °F)		(PSI) in accordance with ISO 10763	
D1	D2	S	**Material E235+N**	**Material E355**	**Material E235+N**	**Material E355**	**Material E235+N**	**Material E355**
.24	.18	.03	4901	7120	4394	4495	16182	22113
.24	.16	.04	6525	9498	5670	5800	22809	31161
.24	.12	.06	9788	14254	7990	8164	38991	53273
.24*	.08	.08	13050	18995	10034	10266	61814	84434
.24*	.06	.09	14689	21373	10977	11223	77996	106532
.31	.24	.04	4901	7120	4394	4495	16182	22113
.31	.20	.06	7337	10687	6279	6424	26448	36120
.31	.16	.08	9788	14254	7990	8164	38991	53273
.31*	.12	.10	12238	17806	9556	9759	55187	75371
.39	.31	.04	3915	5699	3596	3669	12557	17154
.39	.28	.06	5873	8555	5177	5293	20068	27405
.39	.24	.08	7830	11397	6641	6786	28739	39252
.39	.20	.10	9788	14254	7990	8164	38991	53273
.39*	.16	.12	11745	17096	9251	9454	51548	70412
.47	.39	.04	3263	4756	3031	3103	10252	14007
.47	.35	.06	4901	7120	4394	4495	16182	22113
.47	.31	.08	6525	9498	5670	5800	22809	31161
.47	.28	.10	8164	11876	6873	7018	30320	41427
.47	.24	.12	9788	14254	7990	8164	38991	53273
.47*	.20	.14	11934	17110	9048	9251	49257	67280
.47*	.16	.16	13630	19546	10034	10266	61814	84434
.55	.47	.04	2799	4075	2625	2683	8671	11847
.55	.43	.06	4191	6105	3828	3915	13572	18531
.55	.39	.08	5597	8135	4959	5061	18937	25854
.55	.35	.10	6989	10179	6018	6163	24853	33959
.55	.31	.12	8396	12209	7033	7192	31480	43007
.55	.28	.14	10223	14660	7990	8164	38991	53273
.59	.51	.04	2610	3799	2465	2523	8048	10991
.59	.47	.06	3915	5699	3596	3669	12557	17154
.59	.43	.08	5220	7598	4655	4771	17444	23838
.59	.39	.10	6525	9498	5670	5800	22809	31161
.59	.35	.12	7830	11397	6641	6786	28739	39252
.63	.55	.04	2451	3567	2320	2364	7511	10266
.63	.51	.06	3669	5336	3379	3466	11687	15950
.63	.47	.08	4901	7120	4394	4495	16182	22113
.63	.43	.10	6119	8903	5365	5481	21083	28797
.63	.39	.12	7337	10687	6279	6424	26448	36120
.63	.31	.16	10223	14660	7990	8164	38991	53273
.71	.63	.04	2175	3161	2074	2117	6627	9048
.71	.59	.06	3263	4756	3031	3103	10252	14007
.71	.55	.08	4350	6337	3959	4046	14138	19314
.71	.51	.10	5438	7917	4829	4945	18314	25013
.71	.47	.12	6525	9498	5670	5800	22809	31161
.71	.39	.16	9092	13036	7250	7410	33075	45168
.79	.67	.06	2944	4278	2755	2813	9150	12485
.79	.63	.08	3915	5699	3596	3669	12557	17154
.79	.59	.10	4901	7120	4394	4495	16182	22113
.79	.55	.12	5873	8555	5177	5293	20068	27405
.79	.51	.14	7163	10266	5916	6047	24230	33104
.79	.47	.16	8178	11731	6641	6786	28739	39252
.79	.39	.20	10223	14660	7990	8164	38991	53273

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Calculated Design / Burst Pressures for Tube (PSI)

Tube OD	Tube ID	Tube Wall	Calculated Design Pressure		Calculated Design Pressure		Calculated Burst Pressure	
(in)	(in)	(in)	(PSI) in accordance with DIN 2413 - Load Case I (primary static loads, up to +248 °F)		(PSI) in accordance with DIN 2413 - Load Case III (dynamic loads, up to +248 °F)		(PSI) in accordance with ISO 10763	
D1	D2	S	**Material E235+N**	**Material E355**	**Material E235+N**	**Material E355**	**Material E235+N**	**Material E355**
.87	.79	.04	1784	2596	1711	1755	5365	7323
.87	.75	.06	2668	3886	2509	2567	8251	11267
.87	.71	.08	3553	5177	3292	3364	11296	15428
.87	.67	.10	4452	6482	4031	4133	14500	19807
.87	.63	.12	5336	7772	4756	4858	17922	24476
.87	.59	.14	6511	9324	5452	5568	21547	29435
.87	.55	.16	7439	10658	6119	6250	25433	34742
.98	.87	.06	2349	3422	2233	2277	7192	9831
.98	.83	.08	3132	4553	2915	2987	9802	13398
.98	.79	.10	3915	5699	3596	3669	12557	17154
.98	.75	.12	4698	6844	4234	4336	15443	21098
.98	.71	.14	5728	8207	4872	4974	18488	25245
.98	.67	.16	6540	9382	5481	5597	21692	29638
.98	.63	.18	7366	10556	6061	6206	25114	34293
.98	.59	.20	8178	11731	6641	6786	28739	39252
1.10	.98	.06	2103	3060	2001	2045	6380	8715
1.10	.94	.08	2799	4075	2625	2683	8671	11847
1.10	.91	.10	3495	5090	3234	3306	11064	15124
1.10	.87	.12	4191	6105	3828	3915	13572	18531
1.10	.83	.14	5119	7337	4394	4495	16182	22113
1.10	.79	.16	5844	8381	4959	5061	18937	25854
1.18	1.02	.08	2610	3799	2465	2523	8048	10991
1.18	.98	.10	3263	4756	3031	3103	10252	14007
1.18	.94	.12	3915	5699	3596	3669	12557	17154
1.18	.91	.14	4771	6844	4133	4220	14950	20416
1.18	.87	.16	5452	7816	4655	4771	17444	23838
1.18	.79	.20	6815	9773	5670	5800	22809	31161
1.18	.71	.24	8178	11731	6641	6786	28739	39252
1.38	1.26	.06	1755	2509	1610	1653	5046	6888
1.38	1.22	.08	2335	3350	2132	2175	6830	9324
1.38	1.18	.10	2915	4191	2625	2683	8671	11847
1.38	1.14	.12	3509	5032	3118	3190	10585	14457
1.38	1.06	.16	4669	6699	4060	4147	14602	19938
1.38	.98	.20	5844	8381	4959	5061	18937	25854
1.50	1.34	.08	2146	3089	1972	2016	6264	8541
1.50	1.30	.10	2697	3857	2436	2480	7932	10846
1.50	1.26	.12	3234	4626	2886	2944	9672	13210
1.50	1.18	.16	4307	6177	3770	3843	13297	18169
1.50	1.10	.20	5380	7714	4611	4713	17183	23476
1.50	1.02	.24	6453	9266	5409	5539	21344	29160
1.50	.94	.28	7526	10803	6192	6322	25854	35322
1.50	.87	.31	8613	12340	6931	7076	30755	42007
1.65	1.54	.06	1465	2088	1349	1392	4176	5699
1.65	1.50	.08	1943	2799	1784	1827	5626	7685
1.65	1.46	.10	2436	3495	2219	2262	7134	9744
1.65	1.42	.12	2915	4191	2625	2683	8671	11847
1.65	1.34	.16	3901	5583	3437	3509	11890	16240
1.65	1.26	.20	4872	6975	4205	4307		20895

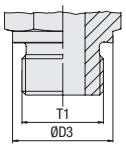
All figures are based on calculations carried out in accordance with DIN 2413 and ISO 10763.

They are intended to assist the user in the pre-selection of the correct tube only, and do not discharge the obligation to carry out own calculations in consideration of the actual conditions of use.

DIN 2413 does not apply to tube sizes marked by * (where D1/D2 > 2).

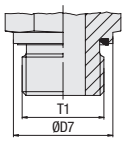
R

Port Dimensions for Fittings with Male Threaded Stud



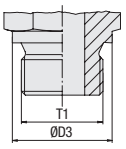
Metallic Sealing Edge

Metric Parallel Thread
DIN 3852-1 (Form B) / ISO 9974-3 (Type B)
Whitworth Parallel Pipe Thread
DIN 3852-2 (Form B) / ISO 1179-4 (Type B)



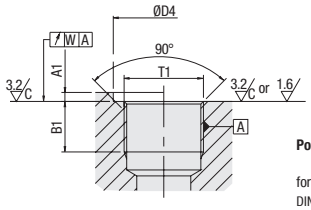
Profile Sealing Ring

Metric Parallel Thread
ISO 9974-2 (Type E)
Whitworth Parallel Pipe Thread
ISO 1179-2 (Type E)



Sealing Surface for Gasket (DIN 7603)

Metric Parallel Thread
DIN 3852-1 (Form A)
Whitworth Parallel Pipe Thread
DIN 3852-2 (Form A)



Port (Parallel Thread)

for Male Studs with Metric Parallel Thread
DIN 3852-1 (Form X) / ISO 9974-1
for Male Studs with Whitworth Parallel Pipe Thread
DIN 3852-2 (Form X) / ISO 1179-1

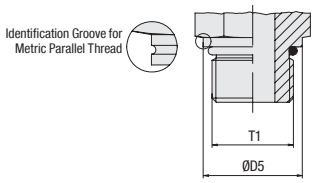
Dimensions
(mm/in)

Thread T1 [1]	D3	D7 $_{-0,2}$	D4 small $_{min}$	D4 wide $_{min}$	A1 $_{max}$	B1 $_{min}$	W
M 8 x 1	12		13	17	1	8	0,1
	.47		.51	.67	.04	.31	.0039
M 10 x 1	14	13,9	15	20	1	8	0,1
	.55	.55	.59	.79	.04	.31	.0039
M 12 x 1,5	17	16,9	18	25	1,5	12	0,1
	.67	.67	.71	.98	.06	.47	.0039
M 14 x 1,5	19	18,9	20	25	1,5	12	0,1
	.75	.74	.79	.98	.06	.47	.0039
M 16 x 1,5	21	21,9	23	28	1,5	12	0,1
	.83	.86	.91	1.10	.06	.47	.0039
M 18 x 1,5	23	23,9	25	30	2	12	0,1
	.91	.94	.98	1.18	.08	.47	.0039
M 20 x 1,5	24	25,9	27	34	2	14	0,1
	.94	1.02	1.06	1.34	.08	.55	.0039
M 22 x 1,5	27	26,9	28	34	2,5	14	0,1
	1.06	1.06	1.10	1.34	.10	.55	.0039
M 26 x 1,5	31	31,9	33	42	2,5	16	0,2
	1.22	1.26	1.30	1.65	.10	.63	.0079
M 27 x 2	32	31,9	33	42	2,5	16	0,2
	1.26	1.26	1.30	1.65	.10	.63	.0079
M 33 x 2	39	39,9	41	47	2,5	18	0,2
	1.54	1.57	1.61	1.85	.10	.71	.0079
M 42 x 2	49	49,9	51	58	2,5	20	0,2
	1.93	1.96	2.01	2.28	.10	.79	.0079
M 48 x 2	55	54,9	56	65	2,5	22	0,2
	2.17	2.16	2.20	2.56	.10	.87	.0079
G 1/8 A	14	13,9	15	19	1	8,5	0,1
	.55	.55	.59	.75	.04	.33	.0039
G 1/4 A	18	18,9	20	25	1,5	12,5	0,1
	.71	.74	.79	.98	.06	.49	.0039
G 3/8 A	22	21,9	23	28	2	12,5	0,1
	.87	.86	.91	1.10	.08	.49	.0039
G 1/2 A	26	26,9	28	34	2,5	15	0,1
	1.02	1.06	1.10	1.34	.10	.59	.0039
G 3/4 A	32	31,9	33	42	2,5	16,5	0,2
	1.26	1.26	1.30	1.65	.10	.65	.0079
G 1 A	39	39,9	41	47	2,5	19	0,2
	1.54	1.57	1.61	1.85	.10	.75	.0079
G 1 1/4 A	49	49,9	51	58	2,5	21,1	0,2
	1.93	1.96	2.01	2.28	.10	.83	.0079
G 1 1/2 A	55	54,9	56	65	2,5	22,5	0,2
	2.17	2.16	2.20	2.56	.10	.89	.0079

[1] Appendix A in the thread description does not apply to (female) threaded ports.

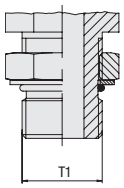
R

Port Dimensions for Fittings with Male Threaded Stud



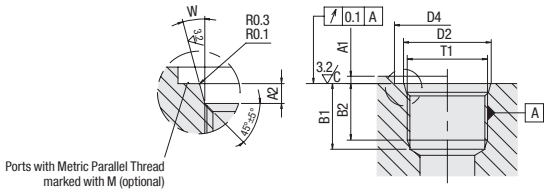
O-Ring without Retaining Ring (Non-Adjustable)

Metric Parallel Thread
ISO 6149-2 /-3
UN/UNF Thread
ISO 11926-2/-3



O-Ring without Retaining Ring (Adjustable)

Metric Parallel Thread
ISO 6149-2 /-3
UN/UNF Thread
ISO 11926-2/-3



Port (Parallel Thread)

for Male Studs with Metric Parallel Thread
ISO 6149-1
for Male Studs with UN/UNF Thread
ISO 11926-1

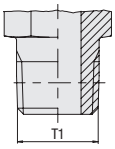
Dimensions
(mm/in)

Thread T1 [1]	D5	D4 small min	D4 wide min	D2 +0,1 (UN/UNF: ±0,05)	A1 max	A2 +0,4	B1 min	B2 min	W ±1°
M 8 x 1	11,8	14	17	9,1	1	1,6	11,5	10	12
	.46	.55	.67	.36	.04	.06	.45	.39	.47
M 10 x 1	13,8	16	20	11,1	1	1,6	11,5	10	12
	.54	.63	.79	.44	.04	.06	.45	.39	.47
M 12 x 1,5	16,8	19	23	13,8	1,5	2,4	14	11,5	15
	.66	.75	.91	.54	.06	.09	.55	.45	.59
M 14 x 1,5	18,8	21	25	15,8	1,5	2,4	14	11,5	15
	.74	.83	.98	.62	.06	.09	.55	.45	.59
M 16 x 1,5	21,8	24	28	17,8	1,5	2,4	15,5	13	15
	.86	.94	1.10	.70	.06	.09	.61	.51	.59
M 18 x 1,5	23,8	26	30	19,8	2	2,4	17	14,5	15
	.94	1.02	1.18	.78	.08	.09	.67	.57	.59
M 22 x 1,5	26,8	29	33	23,8	2	2,4	18	15,5	15
	1.06	1.14	1.30	.94	.08	.09	.71	.61	.59
M 27 x 2	31,8	34	40	29,4	2	3,1	22	19	15
	1.25	1.34	1.57	1.16	.08	.12	.87	.75	.59
M 33 x 2	40,8	43	49	35,4	2,5	3,1	22	19	15
	1.61	1.69	1.93	1.39	.10	.12	.87	.75	.59
M 42 x 2	49,8	52	58	44,4	2,5	3,1	22,5	19,5	15
	1.96	2.05	2.28	1.75	.10	.12	.89	.77	.59
M 48 x 2	54,8	57	63	50,4	2,5	3,1	25	22	15
	2.16	2.24	2.48	1.98	.10	.12	.98	.87	.59
7/16-20 UNF-2A	14,4	21		12,45	1,6	2,4	14	11,5	12
	.57	.83		.49	.06	.09	.55	.45	.47
1/2-20 UNF-2A	16	23		14,05	1,6	2,4	14	11,5	12
	.63	.91		.55	.06	.09	.55	.45	.47
9/16-18 UNF-2A	17,6	25		15,7	1,6	2,5	15,5	12,7	12
	.69	.98		.62	.06	.10	.61	.50	.47
3/4-16 UNF-2A	21,8	30		20,65	2,4	2,5	17,5	14,3	15
	.86	1.18		.81	.09	.10	.69	.56	.59
7/8-14 UNF-2A	25,5	34		24	2,4	2,5	20	16,7	15
	1.00	1.34		.94	.09	.10	.79	.66	.59
1 1/16-12 UN-2A	31,9	41		29,2	2,4	3,3	23	19	15
	1.26	1.61		1.15	.09	.13	.91	.75	.59
1 5/16-12 UN-2A	38,2	49		35,55	3,2	3,3	23	19	15
	1.50	1.93		1.40	.13	.13	.91	.75	.59
1 5/8-12 UN-2A	47,7	58		43,55	3,2	3,3	23	19	15
	1.88	2.28		1.71	.13	.13	.91	.75	.59
1 7/8-12 UN-2A	54,8	65		49,9	3,2	3,3	23	19	15
	2.16	2.56		1.96	.13	.13	.91	.75	.59

[1] Appendix -2B instead of -2A applies for (female) threaded ports.

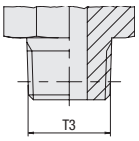
R

Port Dimensions for Fittings with Male Threaded Stud



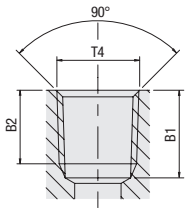
Taper Thread

National Pipe Thread (NPT)
ANSI/ASME B1.20.1-1983



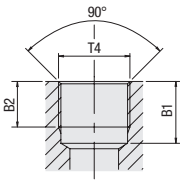
Taper Thread

Metric Taper Thread
DIN 3852-1 (Form C)
Whitworth Taper Pipe Thread
DIN 3852-2 (Form C)



Port (Taper Thread)

for Male Studs with National Pipe NPT Thread
ANSI/ASME B1.20.1-1983



Port (Parallel Thread)

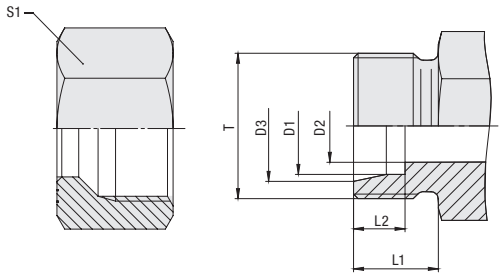
for Male Studs with Metric Taper Thread
DIN 3852-1 (Form Z)
for Male Studs with Whitworth Taper Pipe Thread
DIN 3852-2 (Form Z)

Dimensions
(mm/in)

Thread T1	Thread T3	Thread T4	B1 $_{min}$	B2 $_{min}$
1/8-27 NPT		1/8-27 NPT		6,9
				.27
1/4-18 NPT		1/4-18 NPT		10
				.39
3/8-18 NPT		3/8-18 NPT		10,3
				.41
1/2-14 NPT		1/2-14 NPT		13,6
				.54
3/4-14 NPT		3/4-14 NPT		14,1
				.56
1-11.5 NPT		1-11.5 NPT		16,8
				.66
1 1/4-11.5 NPT		1 1/4-11.5 NPT		17,3
				.68
1 1/2-11.5 NPT		1 1/2-11.5 NPT		17,3
				.68
	M 8 x 1 keg.	M 8 x 1	10	5,5
			.39	.22
	M 10 x 1 keg.	M 10 x 1	10	5,5
			.39	.22
	M 12 x 1,5 keg.	M 12 x 1,5	13,5	8,5
			.53	.33
	M 14 x 1,5 keg.	M 14 x 1,5	13,5	8,5
			.53	.33
	M 16 x 1,5 keg.	M 16 x 1,5	13,5	8,5
			.53	.33
	M 18 x 1,5 keg.	M 18 x 1,5	13,5	8,5
			.53	.33
	M 20 x 1,5 keg.	M 20 x 1,5	15,5	10,5
			.61	.41
	M 22 x 1,5 keg.	M 22 x 1,5	15,5	10,5
			.61	.41
	R 1/8 keg.	Rp 1/8	8,5	5,5
			.33	.22
	R 1/4 keg.	Rp 1/4	12,5	8,5
			.49	.33
	R 3/8 keg.	Rp 3/8	12,5	8,5
			.49	.33
	R 1/2 keg.	Rp 1/2	16,5	10,5
			.65	.41

Suitable liquid / plastic sealant required to achieve leak-tightness.

Dimensions of the 24° Conical Bore / Union Nut



Series	Tube OD (mm/in) D1	Dimensions (mm/in) Thread T	D2	D3	L1	L2	S1
LL	4	M 8 x 1	3	5	8	4	10
	.16		.12	.20	.31	.16	.39
	6	M 10 x 1	4,5	7,5	8	5,5	12
	.24		.18	.30	.31	.22	.47
	8	M 12 x 1	6	9,5	9	5,5	14
	.31		.24	.37	.35	.22	.55
L	6	M 12 x 1,5	4	8,1	10	7	14
	.24		.16	.32	.39	.28	.55
	8	M 14 x 1,5	6	10,1	10	7	17
	.31		.24	.40	.39	.28	.67
	10	M 16 x 1,5	8	12,3	11	7	19
	.39		.31	.48	.43	.28	.75
	12	M 18 x 1,5	10	14,3	11	7	22
	.47		.39	.56	.43	.28	.87
	15	M 22 x 1,5	12	17,3	12	7	27
	.59		.47	.68	.47	.28	1.06
	18	M 26 x 1,5	15	20,3	12	7,5	32
	.71		.59	.80	.47	.30	1.26
	22	M 30 x 2	19	24,3	14	7,5	36
	.87		.75	.96	.55	.30	1.42
	28	M 36 x 2	24	30,3	14	7,5	41
	1.10		.94	1.19	.55	.30	1.61
	35	M 45 x 2	30	38	16	10,5	50
	1.38		1.18	1.50	.63	.41	1.97
	42	M 52 x 2	36	45	16	11	60
	1.65		1.42	1.77	.63	.43	2.36
S	6	M 14 x 1,5	4	8,1	12	7	17
	.24		.16	.32	.47	.28	.67
	8	M 16 x 1,5	5	10,1	12	7	19
	.31		.20	.40	.47	.28	.75
	10	M 18 x 1,5	7	12,3	12	7,5	22
	.39		.28	.48	.47	.30	.87
	12	M 20 x 1,5	8	14,3	12	7,5	24
	.47		.31	.56	.47	.30	.94
	14 [1]	M 22 x 1,5	10	16,3	14	8	27
	.55 [1]		.39	.64	.55	.31	1.06
	16	M 24 x 1,5	12	18,3	14	8,5	30
	.63		.47	.72	.55	.33	1.18
	20	M 30 x 2	16	22,9	16	10,5	36
	.79		.63	.90	.63	.41	1.42
	25	M 36 x 2	20	27,9	18	12	46
	.98		.79	1.10	.71	.47	1.81
	30	M 42 x 2	25	33	20	13,5	50
	1.18		.98	1.30	.79	.53	1.97
	38	M 52 x 2	32	41	22	16	60
	1.50		1.26	1.61	.87	.63	2.36

[1] Tube size is no longer covered by the applicable standard.

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Standard Threads and Widths Across Flats for Fittings with Male Threaded Stud

Series	Tube OD (mm) D1	Male Stud Metric Parallel Thread Thead Size	Width Across Flats	Male Stud Whitworth Parallel Pipe Thread Thead Size	Width Across Flats	Union Nut Metric Parallel Thread Thead Size	Width Across Flats
L	6	M 10 x 1	14	G 1/8	14	M 12 x 1,5	14
	.24		.55		.55		.55
	8	M 12 x 1,5	17	G 1/4	19	M 14 x 1,5	17
	.31		.67		.75		.67
	10	M 14 x 1,5	19	G 1/4	19	M 16 x 1,5	19
	.39		.75		.75		.75
	12	M 16 x 1,5	22	G 3/8	22	M 18 x 1,5	22
	.47		.87		.87		.87
	15	M 18 x 1,5	24	G 1/2	27	M 22 x 1,5	27
	.59		.94		1.06		1.06
	18	M 22 x 1,5	27	G 1/2	27	M 26 x 1,5	32
	.71		1.06		1.06		1.26
	22	M 26 x 1,5 [2]	32	G 3/4	32	M 30 x 2	36
	.87		1.26		1.26		1.42
	28	M 33 x 2	41	G 1	41	M 36 x 2	41
	1.10		1.61		1.61		1.61
	35	M 42 x 2	50	G 1 1/4	50	M 45 x 2	50
	1.38		1.97		1.97		1.97
	42	M 48 x 2	55	G 1 1/2	55	M 52 x 2	60
	1.65		2.17		2.17		2.36
S	6	M 12 x 1,5	17	G 1/4	19	M 14 x 1,5	17
	.24		.67		.75		.67
	8	M 14 x 1,5	19	G 1/4	19	M 16 x 1,5	19
	.31		.75		.75		.75
	10	M 16 x 1,5	22	G 3/8	22	M 18 x 1,5	22
	.39		.87		.87		.87
	12	M 18 x 1,5	24	G 3/8	22	M 20 x 1,5	24
	.47		.94		.87		.94
	14 [1]	M 20 x 1,5	27	G 1/2	27	M 22 x 1,5	27
	.55 [1]		1.06		1.06		1.06
	16	M 22 x 1,5	27	G 1/2	27	M 24 x 1,5	30
	.63		1.06		1.06		1.18
	20	M 27 x 2	32	G 3/4	32	M 30 x 2	36
	.79		1.26		1.26		1.42
	25	M 33 x 2	41	G 1	41	M 36 x 2	46
	.98		1.61		1.61		1.81
	30	M 42 x 2	50	G 1 1/4	50	M 42 x 2	50
	1.18		1.97		1.97		1.97
	38	M 48 x 2	55	G 1 1/2	55	M 52 x 2	60
	1.50		2.17		2.17		2.36

[1] Tube size is no longer covered by the applicable standard.
[2] M 27 x 2 according to ISO 6149.

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DNV·GL

Certificate No:
P-15101
File No:
792.21
Job Id:
262.1-016074-2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe Couplings, Bite and Compression Type

with type designation(s)
FI-GE, FI-WE, FI-TE, FI-LE, FI-G, FI-W, FI-T, FI-K, FI-GS, FI-WS, FI-ES, FI-AS, FI-WAS, FI-SN, FI-GA, FI-MA, FI-EMA, FI-EMAD, FI-RSW, FI-RST, FI-EGED, FI-SNV, FI-REDSD, FI-EWD, FI-ETD, FI-ELD, FI-EGE, FI-REDS, FI-EW, FI-ET, FI-EL

Issued to
Walter Stauffenberg GmbH & Co. KG
Werdohl, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships Pt.4, Ch.6 "Piping Systems"
Det Norske Veritas' Standards for Certification 2.9 No. 5-792.20

Application :

May be used for: Hydraulic- and lubrication oil, fuel oil, compressed air, oxygen (see cert.), steam and condensate, fresh- and sea water

Temperature range:	**See certificate**
Max. working press.:	**100 to 800 bar (see certificate)**
Sizes:	**Tube OD: 4 mm to 42 mm**

This Certificate is valid until **2018-12-31**.
Issued at **Høvik** on **2014-11-28**

DNV GL local station: **Essen Business Support**

Approval Engineer: **Tom Berg-Nielsen**

for **DNV GL**
Digitally Signed By: Saia, Giorgio
Location: DNV GL Høvik, Norway
Signing Date: 2014-11-28

Giorgio Saia on behalf of
Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.
If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million.
In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

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BUREAU VERITAS 1828
BUREAU VERITAS

Marine & Offshore Division

Certificate number: 42033/A0 BV
File number: ACM 135/2756
Product code: 2130H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

WALTER STAUFFENBERG GmbH & CO. KG
Werdohl - GERMANY

for the type of product

SCREW COUPLINGS
PIPE COUPLINGS, BITE AND COMPRESSION Type Series LL/L/S

Requirements:
BUREAU VERITAS Rules for the Classification of Steel Ships
BUREAU VERITAS Rules for the Classification of Offshore Units
BUREAU VERITAS Rules for the Classification of Naval Ships
BUREAU VERITAS Rules for the Classification of Yachts

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 10 Aug 2020

For BUREAU VERITAS,
At BV HAMBURG, on 10 Aug 2015,
Adama Diene

BUREAU VERITAS SURVEYORS AT PARIS 1828 HAMBURG INTERNATIONAL REGISTER

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=bjbnyaxeyn
BV Mod. Ad.E 530 October 2014 This certificate consists of 3 page(s)

R

Lloyd's Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER Walter Stauffenberg
Im Ehrenfeld 4
58791 Werdohl
Germany

DESCRIPTION Carbon steel (C15, C22, St35, S235JR2 and 11SMnPB30K+C) high pressure 24° compression couplings with or without seals sensitive to heat as per Stauff Catalogue 01/2015,

TYPES STAUFF LL (very light gauge), L (light gauge) and S (heavy gauge)

APPLICATION For pressure pipes in the marine, offshore and industrial environment.
Restrictions
- Bulkhead couplings are not to be used on watertight bulkheads, gastight bulkheads and for "A", "B" fire class divisions.
- Couplings with seals sensitive to heat are not acceptable in the following locations :
  1. Starting/control air and CO_2 systems.
  2. Inside machinery spaces of category A or accommodation spaces for :-
     a. Main lines of inert gas systems.
     b. Pipe systems for flammable liquids including corresponding vent and sounding pipes.
  3. Fire main, water spray and sprinkler systems or similar which are not always filled with water.

Certificate No. 15/20081

Issue Date 19 August 2015

Expiry Date 18 August 2020

Sheet 1 of 2

Torsten Schroeder
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

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РОССИЙСКИЙ МОРСКОЙ РЕГИСТР СУДОХОДСТВА
RUSSIAN MARITIME REGISTER OF SHIPPING

6.8.3

СВИДЕТЕЛЬСТВО О ТИПОВОМ ОДОБРЕНИИ
TYPE APPROVAL CERTIFICATE

Изготовитель
Manufacturer: Walter Stauffenberg GmbH & Co. KG GmbH

Адрес
Address: Im Ehrenfeld 4, 58791 Werdohl, Germany.

Изделие*
Product*: Трубные муфтовые и обжимные соединения типов:
FI-GE, FI-WE, FI-TE, FI-LE, FI-G, FI-W, FI-T, FI-K, FI-GS, FI-WS, FI-ES, FI-AS,
FI-WAS, FI-SN, FI-GA, FI-MA, FI-EMA, FI-EMAD, FI-RSW, FI-RST, FI-EGED,
FI-SNV, FI-REDSD, FI-EWD, FI-ETD, FI-ELD, FI-EGE, FI-REDS, FI-EW, FI-ET, FI-EL.

Pipe couplings, bite and compression type:
FI-GE, FI-WE, FI-TE, FI-LE, FI-G, FI-W, FI-T, FI-K, FI-GS, FI-WS, FI-ES, FI-AS,
FI-WAS, FI-SN, FI-GA, FI-MA, FI-EMA, FI-EMAD, FI-RSW, FI-RST, FI-EGED,
FI-SNV, FI-REDSD, FI-EWD, FI-ETD, FI-ELD, FI-EGE, FI-REDS, FI-EW, FI-ET, FI-EL.

Код номенклатуры
Code of nomenclature: 08030710

На основании освидетельствования и проведенных испытаний удостоверяется, что вышеупомянутое(ые) изделие(я) удовлетворяет(ют) требованиям Российского морского регистра судоходства.
This is to certify that on the basis of the survey and tests carried out the above mentioned item(s) complies(ly) with the requirements of Russian Maritime Register of Shipping.

Часть VIII Системы и трубопроводы "Правил классификации и постройки морских судов" (2015).
Part VIII Systems and piping of "Rules for the Classification and construction of Sea-Going Ships" (2015).

Настоящее Свидетельство о типовом одобрении действительно до 18.03.2020
This Type Approval Certificate is valid until

Настоящее Свидетельство о типовом одобрении теряет силу в случаях, установленных в Правилах технического наблюдения за постройкой судов и изготовлением материалов и изделий для судов.
This Type Approval Certificate becomes invalid in cases stipulated in Rules for the Technical Supervision during Construction of Ships and Manufacture of Shipboard Materials and Products.

Дата выдачи
Date of issue: 18.03.2015

№ 15.40023.250

Российский морской регистр судоходства
Russian Maritime Register of Shipping

M.П.
L.S.

(подпись
signature)

Морозов В.В. / V.Morozov
(фамилия, инициалы
name)

*Дополнительную информацию смотри на обороте.
Additional information see overleaf.

R