

THE BUHLMANN EXPERTISE

MORE THAN JUST TUBES: A BROAD ASSORTMENT FOR EVERY NEED

Our range – a brief overview

Carbon steel and alloy steel

- Seamless and welded boiler tubes to DIN / EN
- Seamless tubes to ASTM / ASME
- Heat exchanger tubes
- Low-temperature steel tubes to DIN / EN / ASTM
- Seamless and welded steel pipes for the gas industry
- Commercial grade seamless and welded steel tubes
- Wharf pipes
- Chemical tubes and pipes
- MBS steel mechanical engineering tubes / swivel pipes
- Seamless hydraulic pipes
- Seamless and welded precision steel tubes
- Cylinder tubes
- Elbows to DIN / EN / ASTM
- T-pieces to DIN / EN / ASTM
- Reduction pieces to DIN / EN / ASTM
- Caps to DIN / EN / ASTM
- Fittings turned from solid steel
- Flanges to DIN / EN / ASTM

Special steel

- Seamless and welded special steel tubes to DIN / EN / ASTM
- Heat exchanger tubes
- Heat-resistant tubes to DIN / EN / ASTM
- Elbows to DIN / EN / ASTM
- T-pieces to DIN / EN / ASTM
- Reduction pieces to DIN / EN / ASTM
- Caps to DIN / EN / ASTM
- Flanges to DIN / EN / ASTM

GRP

- Glass-reinforced epoxy resin pipe systems
- Fixed, blind and loose flanges with flange sleeve
- Elbows 90°, 45, 22 1/2° standard
- T-pieces
- Reduction T-pieces
- Weld saddles
- Centred and eccentric reduction pieces
- Saddles for locating points
- Threaded saddles

Valves and fittings

- Steel ball valves made from steel, special steel and special materials
- Non-return valves/caps made from steel, special steel, PTFE and special materials
- Bellows valves made from steel, special steel and special materials
- Condensate drains made from steel, special steel and cast iron
- Sampling valves / systems made from steel, special steel, PTFE-lined

A comprehensive listing of our products can be found in our latest product catalogues, which can be downloaded from our website at www.buhlmann-group.com or requested by post.

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BUHLMANN

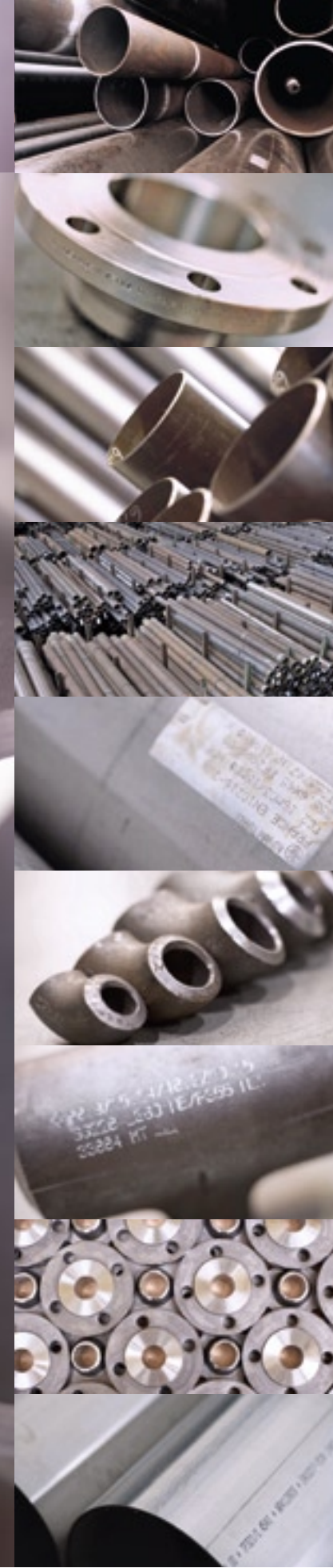
TUBE SOLUTIONS

COMPANY PROFILE, SERVICES AND PRODUCTS

we know how

Power | Chemical | Engineering | Shipyards | Oil & Gas | Projects

ENG



THE BUHLMANN EXPERIENCE

MORE THAN JUST WORLDWIDE: GLOBAL COMPETENCE Our strategy – global presence ensures closeness to the customer

The BUHLMANN GROUP specializes in total solutions to pipeline, plant and power station engineering problems. As a service partner with global operations, the BUHLMANN GROUP advises and supplies companies worldwide in industries, such as energy supply, chemicals, petrochemicals, shipbuilding and mechanical engineering. At the present time, the BUHLMANN GROUP has a presence in 19 locations in 12 countries.

MORE THAN JUST TUBES: MULTIPURPOSE VARIETY Our strength – our comprehensive product portfolio

The BUHLMANN GROUP boasts an extensive, varied range of high-quality steel tubes and connection pieces. The materials employed range from plain carbon steel to high-alloy special steel. The product range is continuously expanding to meet changing demands and requirements.

A key focus of our production is on seamless alloy tubes, special steel tubes, fittings and flanges in compliance with ASTM, DIN and EN standards. Our product portfolio also includes seamless and welded tubes and connection pieces in non-alloy carbon steel. The range is completed by low-temperature tubes, special tubes, fittings and flanges, which are also supplied in special alloys, and also GRP tubes and flanges. The latest additions to the range are valves and fittings in all standard materials.

The two brand lines: BUHLMANN ChemTec and BUHLMANN PowerGen, have been specifically

developed for chemical plant engineering and power station engineering and are manufactured exclusively for the BUHLMANN GROUP. These tubes and pipes can be used as delivered without the need for time-consuming supplementary test procedures – a new benefit offered only by the BUHLMANN GROUP.

MORE THAN JUST STANDARDS: INNOVATIVE SOLUTIONS Our advantage – innovative solutions that benefit customers

As a consulting partner, the BUHLMANN GROUP provides its customers with innovative solutions and versatile project management for pipeline, plant and power station engineering – from project planning, procurement management and supply logistics for the original build to procurement of spare parts. In this way, the BUHLMANN GROUP achieves optimum results in terms of level of performance and customer satisfaction – standards that are repeatedly recognized by “Best Supplier” and similar awards.

MORE THAN JUST DELIVERY: EFFICIENT EXECUTION Our logistics – flexible, fast, efficient

A cost-effective, efficient warehousing and stock-holding system with our own warehouses enables the BUHLMANN GROUP to provide fast, on-demand logistics for a comprehensive “immediate delivery” range. As a powerful logistics partner, the BUHLMANN GROUP uses its own or a logistics service provider’s vehicles, depending on the destination. Deliveries are made directly to the place of use – including the construction site – in accordance with customer instructions.

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Germany | Austria | Finland | France | Great Britain | Italy | Netherlands | Russia | Argentina | China | Singapore | Thailand



COMPARISON TABLE FOR BOILER TUBES, LINE PIPES AND FITTINGS

Product Type	DIN Standard	EN Standard	ASTM/ASME Standard	API Standard	DIN short name	EN short name	EN material number	ASTM/ASME Material	API Material
Seamless carbon steel boiler tubes			A / SA 53 A / SA 53 T&C					Grade B Grade B, galvanized	
	17175	10216-2			St 35.8/I	P235GH TC 1	1.0345		
	17175	10216-2			St 35.8/III	P235GH TC 2	1.0345		
	17175	10216-2	A / SA 106	Spec. 5 L Spec. 5 L	St 45.8/I	P265GH TC 1	1.0425	Grade B	Grade B Grade X 52
			A / SA 106					Grade C	
Seamless pipes for low temperature services	17173	10216-4			TT St 35 N	P215NL TC 1	1.0451		
	17173	10216-4	A / SA 333		TT St 35 V	P255QL TC 1	1.0452	Grade 6	
Seamless alloy steel boiler tubes	17175	10216-2	A / SA 335, A / SA 209 A / SA 335, A / SA 213		15 Mo 3	16 Mo 3	1.5415	Grade P 1 / T 1 Grade P 11 / T 11	
	17175	10216-2	A / SA 335, A / SA 213		13 CrMo 4 4	13 CrMo 4-5	1.7335	Grade P 12 / T 12	
	17175	10216-2	A / SA 335, A / SA 213 A / SA 335, A / SA 213		10 CrMo 9 10	10 CrMo 9-10	1.7380	Grade P 22 / T 22 Grade P 5 / T 5	
	17175 / Vd-TÜV	10216-2			15 NiCuMoNb 5 (WB 36)	15 NiCuMoNb 5-6-4	1.6368		
	17175 / Vd-TÜV	10216-2	A / SA 335, A / SA 213					Grade P 9 / T 9	
	17175 / Vd-TÜV	10216-2	A / SA 335, A / SA 213		X10 CrMoVNb 9 1 X20 CrMoV 12 1	X10 CrMoVNb 9-1 X20 CrMoV 11-1	1.4903 1.4922	Grade P 91 / T 91	
	17175 / Vd-TÜV	10216-2	A / SA 335, A / SA 213		15 CrMoV 510				
Elbows, tees, reducers, caps	2605 / 2615 / 2616 / 2617	10253-2			St 35.8/I	P235GH TC 1	1.0345		
	2605 / 2615 / 2616 / 2617	10253-2			St 35.8/III	P235GH TC 2	1.0345		
	2605	10253-2			St 42.8/I				
				ANSI B 16.9 / ANSI B 16.28 ANSI B 16.9					A / SA 234 WPB A / SA 234 WPC
	2605 / 2615 / 2616 / 2617	10253-2			TT St 35 N	P215NL TC 1	1.0451		
	2605 / 2615 / 2616 / 2617	10253-2			TT St 35 V	P255QL TC 1	1.0452		A / SA 420 WPL 6
	2605 / 2615 / 2616 / 2617	10253-2			15 Mo 3	16 Mo 3	1.5415		A / SA 234 WP 11
	2605 / 2615 / 2616 / 2617	10253-2			13 CrMo 4 4	13 CrMo 4-5	1.7335		
	2605 / 2615 / 2616 / 2617	10253-2			10 CrMo 9 10	10 CrMo 9-10	1.7380		A / SA 234 WP 22 A / SA 234 WP 5
	2605 / 2615 / 2616 / 2617	10253-2			X10 CrMoVNb 9 1	X10 CrMoVNb 9-1	1.4903		A / SA 234 WP 91
Welding neck flanges, blind flanges, slip-on flanges, lap-joint flanges, plain flanges	2642 / 2576 / 2527 / 2632 - 2638 / 2628 - 2629	EN 1092-1	ANSI B 16.5 / 150 lbs - 2500 lbs ANSI B 16.5 / 150 lbs - 2500 lbs		C 22.8	P250GH	1.0460	A / SA 105 A / SA 350 LF 2	
	2527 / 2632 - 2638 / 2628 - 2629	EN 1092-1			15 Mo 3	16 Mo 3	1.5415		A / SA 182 F 11
	2527 / 2632 - 2638 / 2628 - 2629	EN 1092-1			13 CrMo 4 4	13 CrMo 4-5	1.7335		
	2527 / 2632 - 2638 / 2628 - 2629	EN 1092-1			10 CrMo 9 10	10 CrMo 9-10	1.7380		A / SA 182 F 22 A / SA 182 F 5
	2527 / 2632 - 2638 / 2628 - 2629	EN 1092-1			X10 CrMoVNb 9 1	X10 CrMoVNb 9-1	1.4903		A / SA 182 F 91

Inspection certificates 3.1 / 3.2 in accordance with DIN EN 10204 and 3.1 B / 3.1 A / 3.1 C in accordance with DIN 50049
Classification authorities: TÜV / GL / LR / DNV / ABS etc.

GAS INDUSTRY

Pipes:

- Line pipes acc. to EN 10208-2
- Seamless steel tubes for pressure services to EN 10216-3 / EN 10217-3
- Line pipes to API 5 L

Fittings:

- Elbows and fittings made of material to EN 10208-2 / EN 10216-3 and ASTM A 860
- Induction bending BA10/BA20
- Technical delivery conditions and dimensions to DIN 2609 and ASTM A 860 / ANSI B 16.9
- Dimensions to DIN 2605, 2615, 2616 and ANSI B 16.9
- Flanges to DIN / EN and ANSI standards
- Material grades:
L 360 NB / L 360 MB / P 355 NH/NL1 / WPHY52
L 290 NB / L 290 MB / P 355 QH1 / X52
L 245 NB / L 245 MB / WPHY52
- Acid gas restrictions in accordance with customer's specification
- Calculation of wall thickness as per TÜV regulations
- Special components: manufactured in accordance with drawing

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COMPARISON TABLE FOR CARBON STEEL, SEAMLESS AND WELDED

Product Type	DIN Standard	EN Standard	DIN Material	EN Material
Seamless carbon steel tubes	1629	10216-1	St 37.0	P 235 TR1/TR2
	1629/17121	10210-1	St 52.0 / St 52.3	S 355 J2H
		10216-3		P 355 N
		10297-1		E 355
Welded carbon steel tubes	1626	10217-1	St 37.0	P 235 TR1/TR2
	17119/17120	10219	St 37.0	S 235 JRH
Seamless hollow bars for machining	ISO2938		20 MN V 6	
Seamless precision steel tubes	2391	10305-1	St 35 BK	E 235 + C
			St 35 NBK	E 235 + N
Seamless hydraulic steel tubes, black / galvanized	1630/2391	10305-4	St 37.4 NBK	E 235 + N
Seamless carbon steel tubes for pressure services		10216-3		P 355 NL 1
				P 355 NH
		10217-3		P 355 N P 355 NH
Seamless carbon steel line pipe		10208-2		L 245 MB L 290 MB L 360 MB L 290 NB L 360 NB

Inspection certificates 3.1 / 3.2 in accordance with DIN EN 10204 and 3.1 B / 3.1 A / 3.1 C in accordance with DIN 50049; Classification authorities: TÜV / GL / LR / DNV / ABS etc.

COMPARISON TABLE FOR STAINLESS STEEL PIPES AND FITTINGS

Product Type	DIN Standard	EN Standard	ASTM Standard	DIN material number	EN material number	ASTM Material
Seamless stainless steel pipes, AD 2000-W2/-W10	17458 PK 1 + 2	10216-5 TC 1 + 2	A 312	1.4301/1.4306	1.4301/1.4306	TP304/TP304L
	17458 PK 1 + 2	10216-5 TC 1 + 2	A 312	1.4541/1.4878	1.4541	TP321/TP321H
	17458 PK 1 + 2	10216-5 TC 1 + 2	A 312	1.4401/1.4404	1.4401/1.4404	TP316/TP316L
	17458 PK 1 + 2	10216-5 TC 1 + 2		1.4571	1.4571	
		10216-5 TC 1 + 2	A 312		1.4539	N08904
		10216-5 TC 1 + 2	A 312		1.4550	TP347/TP347H
		10216-5 TC 2	A 790		1.4462	S31803
Welded stainless steel pipes, AD 2000-W2/-W10	17457 PK 1 + 2	10217-7 TC 1 + 2		1.4541	1.4541	
	17457 PK 1 + 2	10217-7 TC 1 + 2		1.4571	1.4571	
			A 312			TP304/TP304L
			A 312			TP316/TP316L
Stainless steel elbows, tees, reducers, caps	2605			1.4541		
	2605			1.4571		
	2615			1.4541		
	2615			1.4571		
	2616			1.4541		
	2616			1.4571		
	2617			1.4541		
			1.4571			
			A 403			TP304/TP304L
			A 403			TP316/TP316L
Stainless steel flanges	2642	EN 1092-1		1.4541	1.4541	
	2642	EN 1092-1		1.4571	1.4571	
	2576	EN 1092-1		1.4541	1.4541	
	2576	EN 1092-1		1.4571	1.4571	
	2632 - 2638	EN 1092-1		1.4541	1.4541	
	2632 - 2638	EN 1092-1		1.4571	1.4571	
	2527	EN 1092-1		1.4541	1.4541	
	2527	EN 1092-1		1.4571	1.4571	
				F 182		
			F 182			TP316/TP316L

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