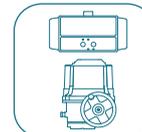
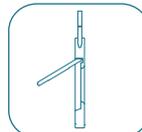
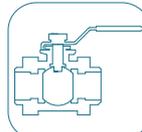
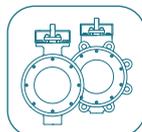


Bellows sealed globe valves

Fig.470B



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General information, bellows design

General information

High-quality casting: Uses German coated sand casting with a 12.5–25µm surface finish and 98% defect-free rate for durability.

Conical sealing design: Prevents impurity buildup, features a self-cleaning effect, and enhances axial sealing force.

Bellows protection: Multi-layer, torsion-resistant bellows withstand pressure and temperature changes, lasting 10,000 cycles.

Dual sealing: Bellows and packing provide extra protection, meeting international sealing standards.

Zero leakage: 100% tested to ISO15848 Class A, ensuring zero emissions.

Versatile discs: Available in throttling, regulating, flat soft sealing, and check-globe designs.



Technical specifications

Design standard:	EN12516, GB/T12224, GB/T12235
Face-to-face:	EN558, GB/T12221
Flange ends:	EN1092-1, GB/T9113
Test & inspection:	API598, EN12266, ASME B16.34

Bellows design

Welded to the valve stem bottom for a secure connection.

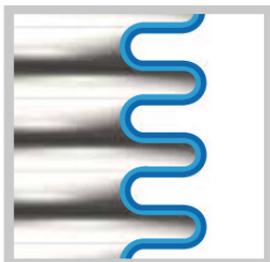
Upper end sealed between the valve body and bonnet.

Metal barrier prevents leakage between fluid and atmosphere.

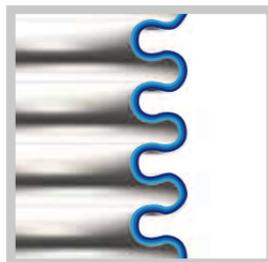
Ensures zero leakage of the valve stem.



U type bellows



Ω type bellows



Bellows component



Bellows with extended length, fatigue, and torsion resistance, ensuring long service life and reliable performance.

High-Performance Metal Bellows

The metal sealing bellows withstand pressure, high temperatures, and corrosion, offering excellent sealing, torsion resistance, and flexibility in axial, radial, and angular deformations.

Design features

Different sealing types



Conical sealing - standard
prevents impurity buildup on the sealing surface. During closure, the self-cleaning effect ensures linear sealing.



Balanced disc seal
The small disc relieves pressure, allowing the large disc to open easily.



Flat soft seal
Prevents sparks during operation and is suitable for gaseous media or corrosive environments.

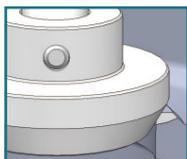
Design features



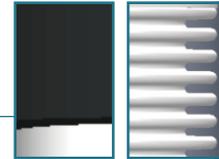
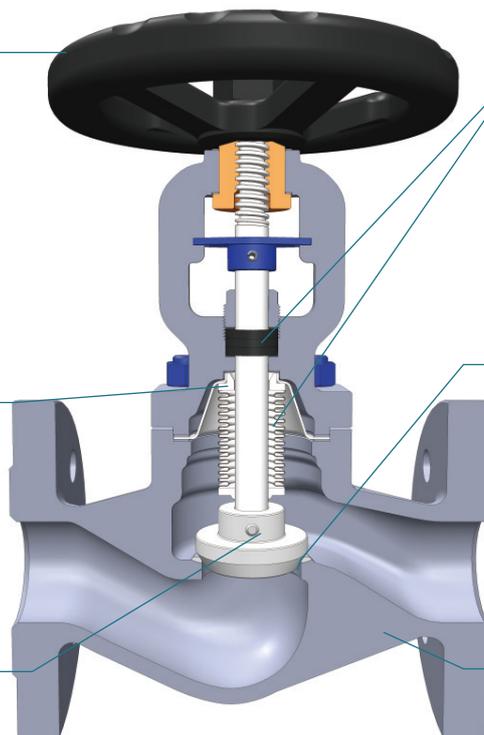
Ergonomic handwheel design with customizable impact handwheel, bevel gear, electric, or pneumatic actuation.



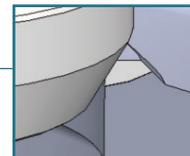
Bellows transition connection for improved welding quality.



Conical or other customized discs.



Dual seal design (bellows + packing) - to prevent leakage, seepage, and drips. Triple sealing available for special applications.



Sealing surface with overlay welded alloy layer, finely ground to a roughness of less than 0.5µm (magnified 10,000 times).



German coated sand casting technology for smooth surfaces with a finish of 12.5–25µm.

** Special devices for large-diameter valves effectively reduce vibration and noise to below 60 dB, extending service life by over 150%.*

Design features - Forged steel valve

Features - forged steel type

Superior structural stability

Compared to castings, the forged steel body offers a more stable structure, higher density, greater strength, and reduced dimensional deviations, ensuring precision and durability.

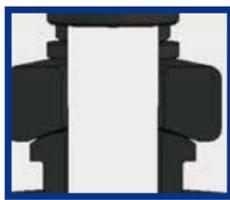
Enhanced strength and corrosion resistance

The forged steel design provides higher stress resistance and longer service life, even in environments prone to stress and intergranular corrosion..

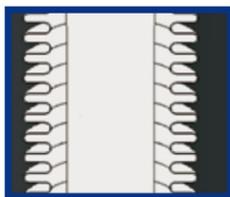
Hot forging for extreme conditions

The hot forging process makes it ideal for high-temperature, high-pressure, toxic, and high-permeability applications, as well as other harsh operating conditions.

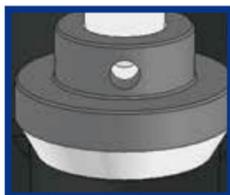
Design features



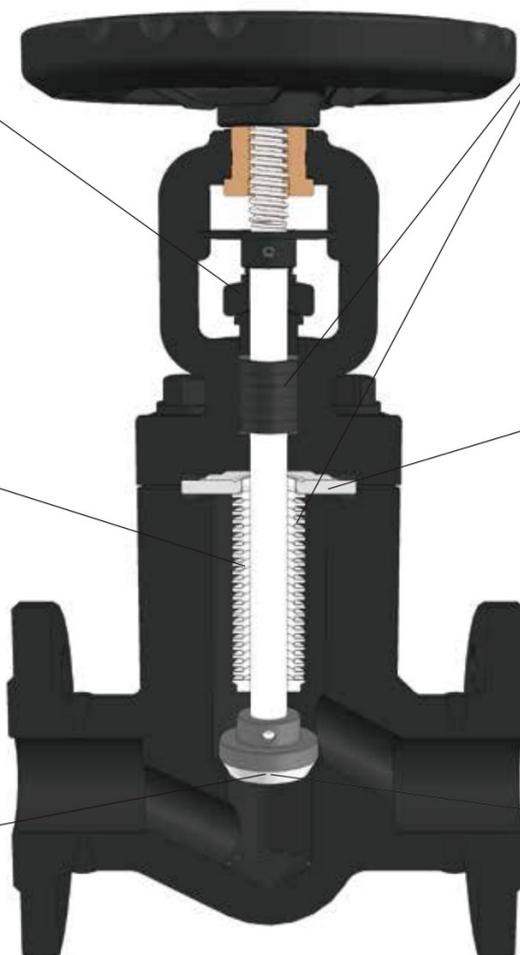
Split packing gland.
Automatic aligning function.



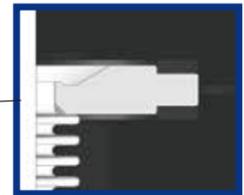
Bellows length is five times the valve stroke for extended durability.
Enhances service life.



Conical or other customized discs.



Dual seal design (bellows + packing)
- to prevent leakage, seepage, and drips.
Triple sealing available for special applications.

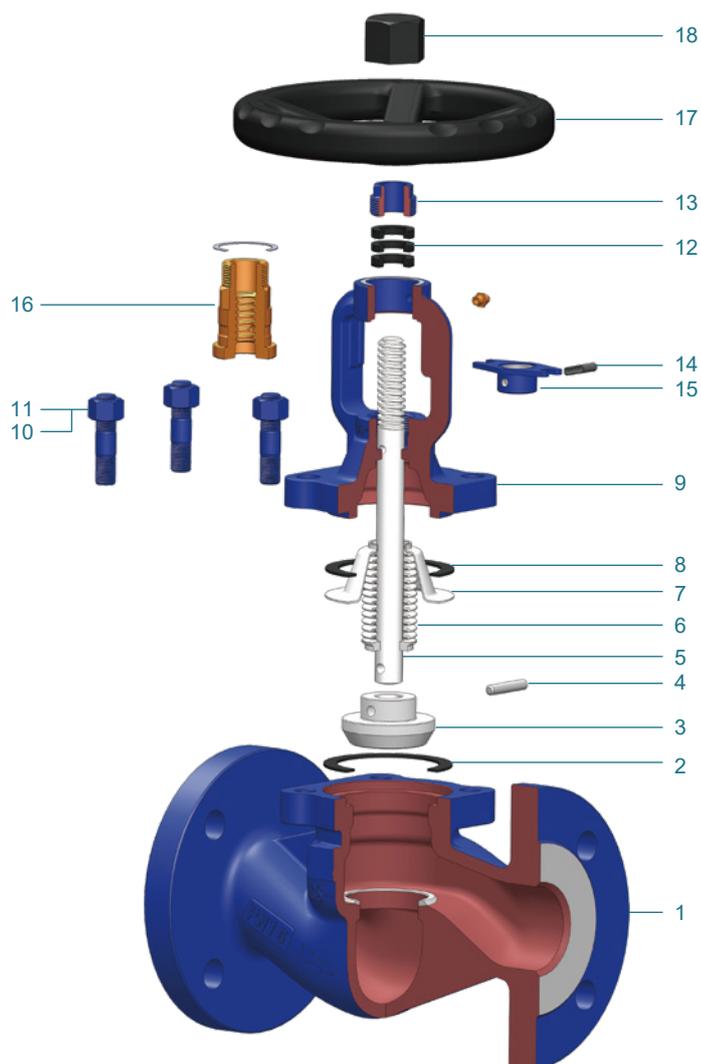


Stainless steel sealing bowl.
Welded to the bellows for enhanced durability.
Ensures zero leakage.



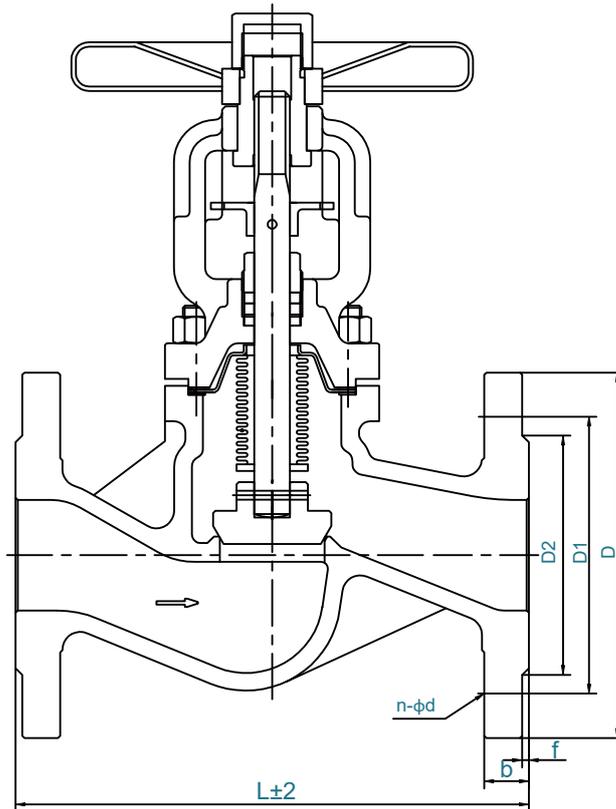
Throttle disc with a streamlined design for precise flow adjustment.
Enhances resistance to water hammer.

Material part list



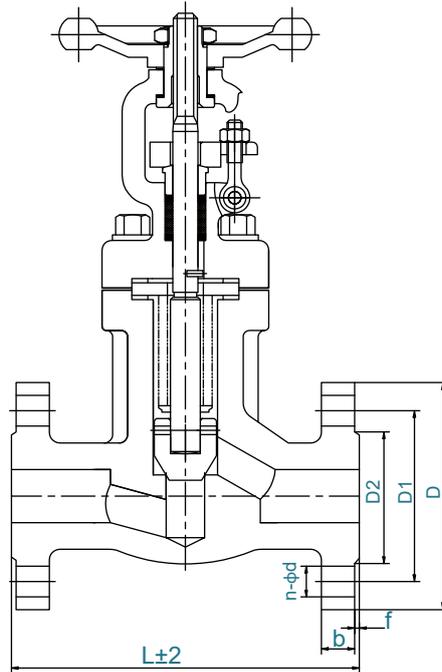
Item No.	Part name	Material
1	Body	GS-C25, A105, WCB, CF8
2	Seat	13CR+STL, A105+STL, A105+STL, F304+STL
3	Disc	13CR+STL, A105+STL, A105+STL, F304+STL
4	Pin	SS304
5	Stem	F304
6	Bellows	SS316Ti
7	Sealing member	SS304
8	Gasket	304+Graphite
9	Bonnet	GS-C25, A105, WCB, CF8
10	Bolt	A193 B7, A193 B8
11	Nut	A194 2H, A194 8
12	Packing	Graphite
13	Gland	13CR, A105, WCB, CF8
14	Pin	65Mn, 1035, SS304
15	Locator	1025, SS304
16	Stem nut	1045, Copper
17	Handwheel	1025, KTH330
18	Cap	A105

Dimensions - PN



DN	INCH	L	D	D1	D2	n-φd	b	f	D	D1	D2	n-φd	b	f	D	D1	D2	n-φd	b	f
			PN16						PN25						PN40					
15	1/2"	130	95	65	45	4-φ14	16	2	95	65	45	4-φ14	16	2	95	65	45	4-φ14	16	2
20	3/4"	150	105	75	58	4-φ14	18	2	105	75	58	4-φ14	18	2	105	75	58	4-φ14	18	2
25	1"	160	115	85	68	4-φ14	18	2	115	85	68	4-φ14	18	2	115	85	68	4-φ14	18	2
32	1 1/4"	180	140	100	78	4-φ18	18	2	140	100	78	4-φ18	18	2	140	100	78	4-φ18	18	2
40	1 1/2"	200	150	110	88	4-φ18	18	3	150	110	88	4-φ18	18	3	150	110	88	4-φ18	18	3
50	2"	230	165	125	102	4-φ18	18	3	165	125	102	4-φ18	20	3	165	125	102	4-φ18	20	3
65	2 1/2"	290	185	145	122	8-φ18	18	3	185	145	122	8-φ18	22	3	185	145	122	8-φ18	22	3
80	3"	310	200	160	138	8-φ18	20	3	200	160	138	8-φ18	24	3	200	160	138	8-φ18	24	3
100	4"	350	220	180	158	8-φ18	20	3	235	190	162	8-φ22	24	3	235	190	162	8-φ22	24	3
125	5"	400	250	210	188	8-φ18	22	3	270	220	188	8-φ26	26	3	270	220	188	8-φ26	26	3
150	6"	480	285	240	212	8-φ22	22	3	300	250	218	8-φ26	28	3	300	250	218	8-φ26	28	3
200	8"	600	340	295	268	12-φ22	24	3	360	310	278	12-φ26	30	3	375	320	285	12-φ30	34	3
250	10"	730	405	355	320	12-φ26	26	3	425	370	335	12-φ30	32	3	450	385	345	12-φ30	38	3
300	12"	850	460	410	378	12-φ26	28	4	485	430	395	16-φ30	34	4	515	450	410	16-φ30	42	4
350	14"	980	520	470	438	16-φ26	30	4	555	490	450	16-φ33	38	4	580	510	465	16-φ33	46	4
400	16"	1100	580	525	490	16-φ30	32	4	620	550	505	16-φ36	40	4	660	585	535	16-φ36	50	4

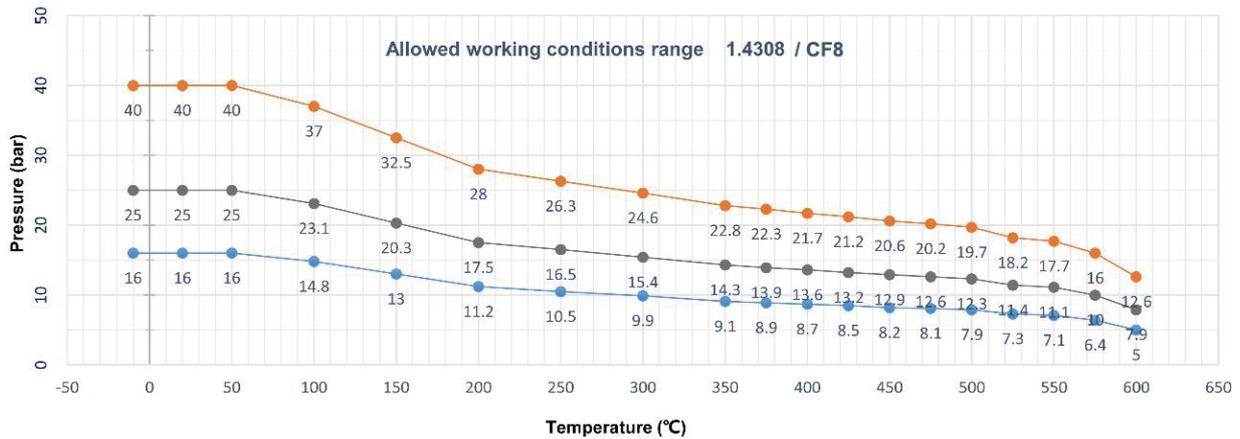
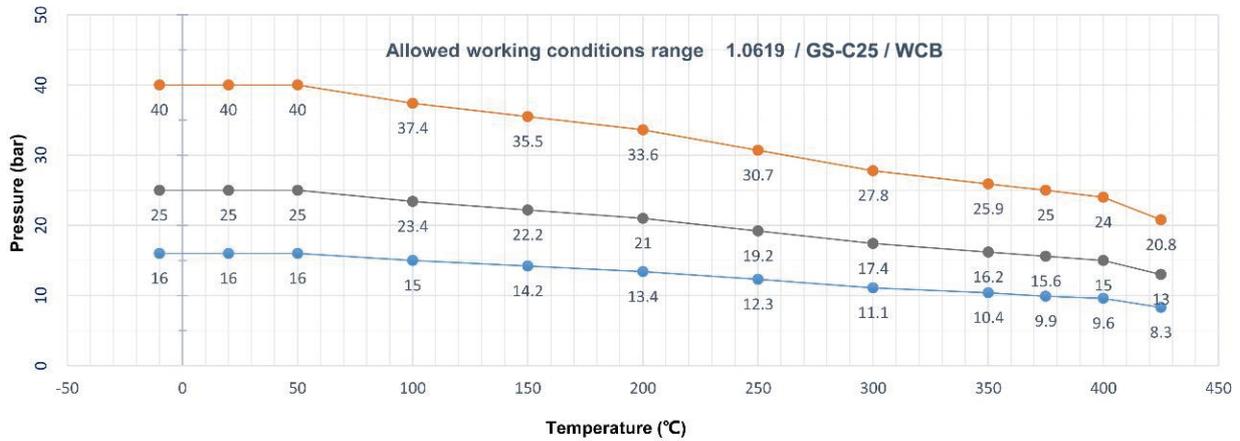
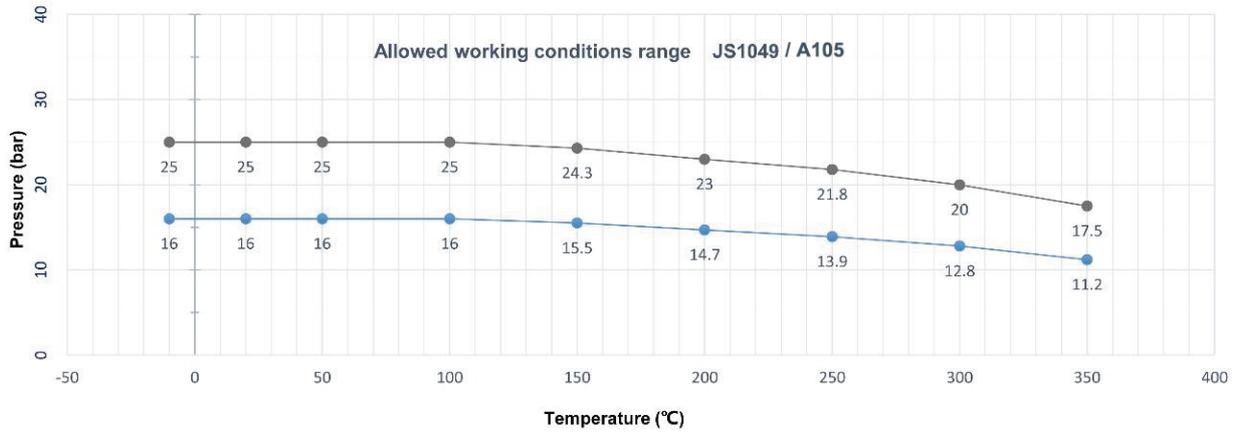
Dimensions - ANSI



DN	INCH	L	D	ANSI150					ANSI300						
				D1	D2	b	f	n-φd	L	D	D1	D2	b	f	n-φd
15	1/2"	108	90	60.3	35	8	2	4-φ16	152	95	66.7	35	12.7	2	4-φ16
20	3/4"	117	100	69.9	43	8.9	2	4-φ16	178	115	82.6	43	14.3	2	4-φ19
25	1"	127	110	79.4	51	9.6	2	4-φ16	203	125	88.9	51	15.9	2	4-φ19
32	1 1/4"	140	115	88.9	63.5	11.2	2	4-φ16	216	135	98.4	63.5	17.5	2	4-φ19
40	1 1/2"	165	125	98.4	73	12.7	2	4-φ16	229	155	114.3	73	19.1	2	4-φ22
50	2"	203	150	120.7	92	14.3	2	4-φ19	267	165	127	92	20.7	2	8-φ19
65	2 1/2"	216	180	139.7	105	15.9	2	4-φ19	292	190	149.2	105	23.9	2	8-φ22
80	3"	241	190	152.4	127	17.5	2	4-φ19	318	210	168.3	127	27	2	8-φ22
100	4"	292	230	190.5	157	22.3	2	8-φ19	356	255	200	157	30.2	2	8-φ22
125	5"	356	255	215.9	186	22.3	2	8-φ22	400	280	235	186	33.4	2	8-φ22
150	6"	406	280	241.3	216	23.9	2	8-φ22	444	320	269.9	216	35	2	12-φ22
200	8"	495	345	298.5	270	29	2	8-φ22	559	380	330	270	42	2	12-φ25
250	10"	622	405	362	324	31	2	12-φ25	622	445	387	324	48	2	16-φ29
300	12"	698	485	432	381	32	2	12-φ25	711	520	451	381	51	2	16-φ32
350	14"	787	535	476	413	35	2	12-φ29	838	585	514.5	413	54	2	20-φ32

DN	INCH	L	D	ANSI600					ANSI900						
				D1	D2	b	f	n-φd	L	D	D1	D2	b	f	n-φd
15	1/2"	165	95	66.7	35	15	6.4	4-φ16	216	120	82.6	35	22.3	7	4-φ22
20	3/4"	190	115	82.5	43	16	6.4	4-φ19	229	130	88.9	43	25.4	7	4-φ22
25	1"	216	125	89	51	18	6.4	4-φ19	254	150	101.6	51	28.6	7	4-φ26
32	1 1/4"	229	135	98.4	63.5	21	6.4	4-φ19	279	160	111.1	63.5	28.6	7	4-φ26
40	1 1/2"	241	155	114.3	73	23	6.4	4-φ22	305	180	123.8	73	31.8	7	4-φ29
50	2"	292	165	127	92	26	6.4	8-φ19	368	215	165.1	92	38.1	7	8-φ26
65	2 1/2"	330	190	149.2	105	29	6.4	8-φ22	-	-	-	-	-	-	-
80	3"	356	210	168.3	127	32	6.4	8-φ22	-	-	-	-	-	-	-
100	4"	432	275	215.9	157	38	6.4	8-φ26	-	-	-	-	-	-	-
125	5"	508	330	266.7	186	45	6.4	8-φ29	-	-	-	-	-	-	-
150	6"	559	355	292.1	216	48	6.4	12-φ29	-	-	-	-	-	-	-
200	8"	660	420	349.2	270	56	6.4	12-φ32	-	-	-	-	-	-	-
250	10"	787	510	431.8	324	64	6.4	16-φ35	-	-	-	-	-	-	-
300	12"	838	560	489	381	67	6.4	20-φ35	-	-	-	-	-	-	-

Pressure temperature curve



Coreline

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