

RIGAU

VANNES RIGAU



Gate - Globe - Check - Strainer - Dual Check



SRI Group



Vannes RIGAU located in Lomme - FRANCE, supplies the French & European power Industries since 1937. In 2005, SUD ROBINETTERIE INDUSTRIE (SRI), the French ball valves manufacturer founded in 1978 in Marseille, FRANCE, bought Vannes RIGAU to broaden their product line of high quality isolation valves to include gate, globe and check valves.

Vannes RIGAU is a qualified supplier for worldwide and national companies including end-users and EPC contractors in oil, gas, and steam applications.

Vannes RIGAU uses the latest technologies like CAO, DAO and structural calculations in the conception, verification, analysis and testing of its products.

Vannes RIGAU is qualified ISO 9001 and PED 97/23 CE module H.



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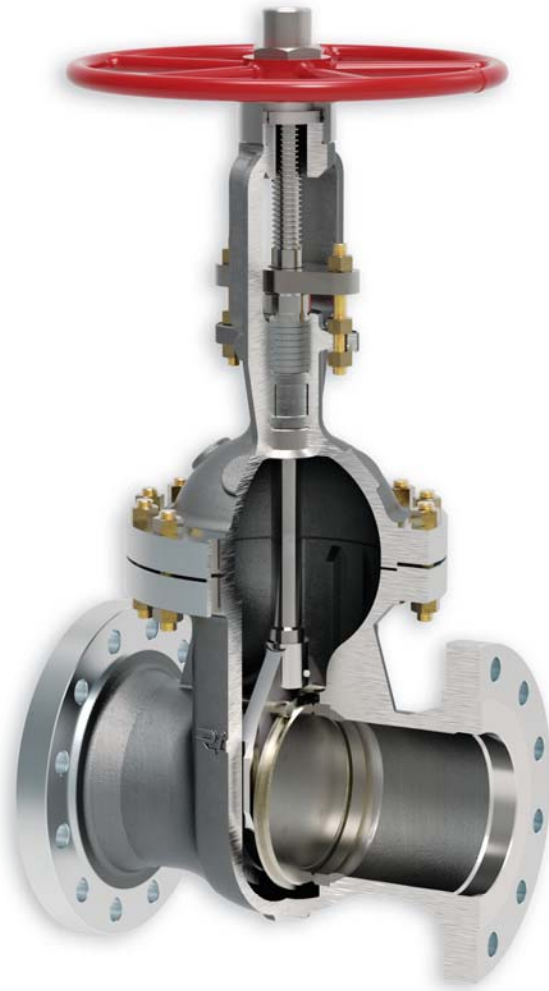
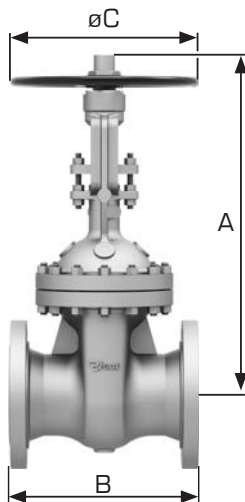
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I. Bolted bonnet

Gate valves are used primarily as on/off valves to release or block a fluid flow, in high temperature applications such as medium pressure saturated steam, or low temperature application.

Gate valves advantages are, low pressure drop, bi-directional, effortless closing system, resistant to thermal stress, good lifetime thanks to slide parallel discs and good sealing whatever pressure service.

A spring is fitted between the discs to provide initial seating force. The disc is also pushed against the seat by the differential pressure thus reducing the operating force at low pressures.



Design Feature

API 600 design and construction	✓
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Connection ends upon request	Optional
Hub ends - Grayloc type	Optional
Manual or actuated operation	Optional
Chain wheel operation	Optional
Bonnet extension upon request	Optional
Locking device	Optional
Transition pup pieces or nipples	Optional
By-pass	Optional
Cavity pressure equalization by manual or actuated valve	Optional
Removable seats	Optional
Welded ends	Optional

Parallel Slide Gate Valve

I. Bolted bonnet - Class 150 to 2500

- All Vannes RIGAU Valves can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

150	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A open	mm	409	495	591	800	1015	1265	1517	1573	1800	1915	2128	2556
	B (RF)		178	203	228.5	266.5	292	330	355.5	381	406.5	432	457	508
	B (RTJ)		191	216	241.5	279.5	305	343	368.5	394	419.5	445	470	521
	B (BW) LP		216	282	305	403	419	457	502	572	610	660	711	813
	∅C		200	250	250	300	400	400	500	500	600	600	800	800
	Weight (RF)		Kg	22	33	47	77	123	195	282	390	510	570	780

300	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A open	mm	442	533	626	888	1086	1309	1587	1654	1801	-	-	-
	B (RF)		216	282	305	403	419	457	502	762	838	914	991	1143
	B (RTJ)		232	298.5	321	419	435	473	517.5	778	854	930.5	1010	1165
	B (BW)		216	282	305	403	419	457	502	762	838	914	991	1143
	∅C		200	250	250	400	400	400	500	500	600	-	-	-
	Weight (RF)		Kg	26	54	75	140	210	310	460	700	900	-	-

600	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A open	mm	442	533	626	1020	1308	1546	1736	1965	2100	-	-	-
	B (RF)		292	356	432	559	660	787	838	889	991	1092	1194	1397
	B (RTJ)		295	358.5	435	562	663.5	790.5	841	892	993.5	1095	1200	1406.5
	B (BW) LP		292	356	432	559	660	787	838	889	991	1092	1194	1397
	∅C		250	250	250	500	500	600	600	800	800	-	-	-
	Weight (RF)		Kg	39	73	102	270	400	660	890	1510	1940	-	-

900	NPS		2	3	4	6	8	10	12	14	16
	A open	mm	556	606	704	978	1154	1340	1521	1955	2062
	B (RF)		368	381	457	610	737	838	965	1029	1130
	B (RTJ)		371	384	460	613	740	841	968	1038	1140
	B (BW) LP		368	381	457	610	737	838	965	1029	1130
	∅C		250	300	400	500	600	600	650	800	1000
	Weight (RF)		Kg	60	101	198	409	734	1079	1642	-

1500	NPS		2	3	4	6	8	10	12	14	16
	A open	mm	561	729	833	1001	1218	1695	2101	2380	2420
	B (RF)		368	470	546	705	832	991	1130	1257	1384
	B (RTJ)		371	473	549	711	841	1000	1147	1277	1407
	B (BW) LP		368	470	546	705	832	991	1130	1257	1384
	∅C		300	400	500	600	700	800	900	-	-
	Weight (RF)		Kg	62	103	201	438	744	1988	3825	-

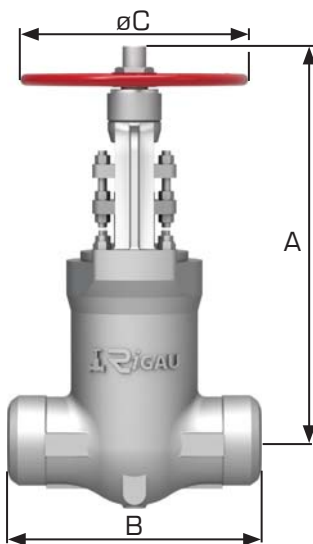
2500	NPS		2	3	4	6	8	10	12
	A open	mm	595	710	840	1017	1365	1525	1745
	B (RF)		451	578	673	914	1022	1270	1422
	B (RTJ)		454	584	683	927	1038	1292	1445
	B (BW) LP		451	578	673	914	1022	1270	1422
	∅C		300	500	500	600	800	-	-

II. Pressure seal bonnet

Gate valves with pressure seal are used primarily as on/off valves to release or block a fluid flow in high temperature and high pressure superheated steam applications.

The main advantage of pressure seal is that pressure inside the valve body compresses the gasket to assure sealing.

In case of high pressure buildup such as water hammer, the bolted bonnet seal contact pressure may drop causing leakage. In the case of pressure seals, the bonnet seal contact pressure remains constant.



Design Feature	
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Connection ends upon request	Optional
Hub ends - Grayloc type	Optional
Manual or actuated operation	Optional
Chain wheel operation	Optional
Locking device	Optional
Transition pup pieces or nipples	Optional
By-pass	Optional
Cavity pressure equalization by manual or actuated valve	Optional
Removable seats	Optional

II. Pressure seal bonnet - Class 600 to 2500

- All Vannes RIGAU Valves can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

600-900	NPS	3/4	1	1 1/2	2	3	4	6	8	10	12	14	16	
	A open	mm	300	300	373	514	698	763	1043	1243	1441	1682	1906	2000
	B (RF)		254	254	305	368	381	457	610	737	838	965	1029	1130
	B (RTJ)		254	254	305	371	384	460	613	740	841	968	1038	1140
	B (BW) SP		140	140	178	216	305	356	508	660	787	914	990	1092
	øC		160	160	160	250	300	400	500	600	600	650	800	1000
	Weight (BW)	Kg	10	10	15	29	66	150	242	370	680	1092	1250	1680

- Face to face RF and RTJ are only for ASME CLASS 900

1500	NPS	3/4	1	1 1/2	2	3	4	6	8	10	12	14	
	A open	mm	300	300	373	514	698	763	1043	1243	1441	1682	2375
	B (RF)		254	254	305	368	470	546	705	832	991	1130	1257
	B (RTJ)		254	254	305	372	473	549	711	842	1000	1147	1277
	B (BW) SP		140	140	178	216	305	406	559	711	863	990	1067
	øC		160	160	160	250	300	400	500	600	600	650	800
	Weight (BW)	Kg	10	10	15	29	66	90	242	425	660	1092	2000

2500	NPS	3/4	1	1 1/2	2	3	4	6	8	10	12	14	
	A open	mm	350	350	402	595	690	840	1017	1220	1690	1850	2305
	B (RF)		273	308	384	451	578	673	914	1022	1270	1422	-
	B (RTJ)		273	308	387	454	584	683	927	1038	1292	1445	-
	B (BW) SP		186	186	232	279	368	457	(660)	762	914	1041	1118
	øC		200	200	200	300	500	500	600	800	-	-	-
	Weight (BW)	Kg	20	20	24	46	102	134	670	760	-	-	-

Vannes Rigau can manufacture full forged pressure seal gate valve:



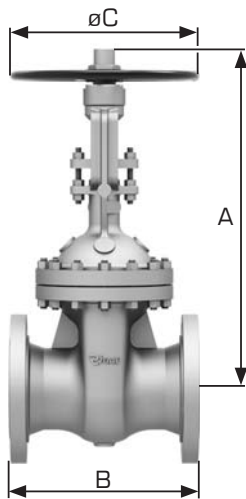
Forged pressure seal on site.

I. Bolted bonnet

Wedge gate valves are the most common valves. They are primarily used as on/off valves to release or block a fluid flow, at low, ambient or high temperature, and in various pressure classes.

Wedge Gate valves advantages are low pressure drop, bi-directional.

Wedge gate valve can be flexible, split, or solid.



Design Feature	
API 600 design and construction	✓
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Connection ends upon request	Optional
Hub ends - Grayloc type	Optional
Manual or actuated operation	Optional
Chain wheel operation	Optional
Bonnet extension upon request	Optional
Locking device	Optional
Transition pup pieces or nipples	Optional
By-pass	Optional
Cavity pressure equalization by manual or actuated valve	Optional
Removable seats	Optional

Flexible Wedge Gate Valve

I. Bolted bonnet - Class 150 to 2500

- All Vannes RIGAU Valves can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

150	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A open	mm	411	488	582	769	1021	1230	1534	1583	1820	1935	2148	2576
	B (RF)		178	203	228.5	266.5	292	330	355.5	381	406.5	432	457	508
	B (RTJ)		191	216	241.5	279.5	305	343	368.5	394	419.5	445	470	521
	∅C		200	250	250	300	400	400	500	500	600	600	800	800
Weight	Kg	25	35	47	80	125	195	282	390	510	570	780	1100	

300	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A open	mm	443	501	620	868	1075	1330	1410	1495	1875	-	-	-
	B (RF)		216	282.5	305	403	419	457	501.5	762	838	914.5	990.5	1143
	B (RTJ)		232	298.5	321	419	435	473	517.5	778	854	930.5	1010	1165
	∅C		200	250	250	400	400	400	500	500	600	-	-	-
Weight	Kg	26	54	75	140	210	310	460	700	900	-	-	-	

600	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A open	mm	442	515	629	1020	1146	1546	1736	1965	2100	-	-	-
	B (RF)		292	355.5	432	559	660.5	787.5	838	889	990.5	1092	1194	1397
	B (RTJ)		295	358.5	435	562	663.5	790.5	841	892	993.5	1095	1200	1406.5
	∅C		250	250	250	500	500	600	600	800	800	-	-	-
Weight	Kg	39	73	102	270	400	660	890	1510	1940	-	-	-	

900	NPS		2	3	4	6	8	10	12	14	16
	A open	mm	556	598	706	983	1163	1350	1528	1940	2002
	B (RF)		368	381	457	610	737	838	965	1029	1130
	B (RTJ)		371	384	460	613	740	841	968	1038	1140
	∅C		250	300	400	500	600	600	700	800	1000
Weight	Kg	60	101	198	409	734	1079	1642	-	-	

1500	NPS		2	3	4	6	8	10	12	14	16
	A open	mm	547	719	832	1006	1219	1692	2130	1980	2062
	B (RF)		368	470	546	705	832	991	1130	1257	1384
	B (RTJ)		371	473	549	711	841	1000	1147	1277	1407
	∅C		300	400	500	600	700	800	1000	-	-
Weight	Kg	62	103	201	438	744	1988	3825	-	-	

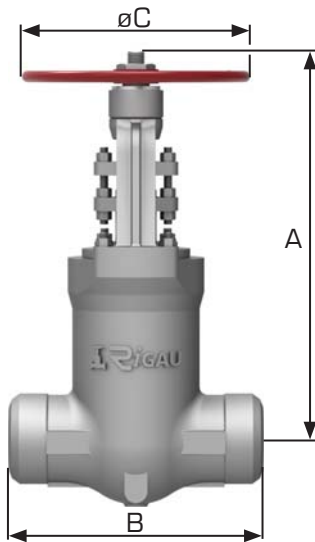
2500	NPS		2	3	4	6	8	10	12
	A open	mm	518	703	887	1102	1358	1525	1739
	B (RF)		451	578	673	914	1022	1270	1422
	B (RTJ)		454	584	683	927	1038	1292	1445
	∅C		300	500	650	650	800	-	-

II. Pressure seal bonnet

Wedge gate valves are the most common valves. They are primarily used as on/off valves to release or block a fluid flow, at low, ambient or high temperature, and in various pressure classes.

The main advantage of pressure seal is that pressure inside the valve body compresses the gasket to assure sealing.

In case of high pressure buildup such as water hammer, the bolted bonnet seal contact pressure may drop causing leakage. In the case of pressure seals, the bonnet seal contact pressure remains constant.



Design Feature

ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Connection ends upon request	Optional
Hub ends - Grayloc type	Optional
Manual or actuated operation	Optional
Chain wheel operation	Optional
Locking device	Optional
Transition pup pieces or nipples	Optional
By-pass	Optional
Cavity pressure equalization by manual or actuated valve	Optional
Removable seats	Optional

II. Pressure seal bonnet - Class 600 to 2500

- All Vannes RIGAU Valves can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

600-900	NPS		3/4	1	1 1/2	2	3	4	6	8	10	12	14	16
	A open	mm	320	320	393	534	718	783	1063	1263	1461	1702	1926	2020
	B (RF)		254	254	305	368	381	457	610	737	838	965	1029	1130
	B (RTJ)		254	254	305	371	384	460	613	740	841	968	1038	1140
	B (BW) SP		140	140	178	216	305	356	508	660	787	914	990	1092
	∅C		160	160	160	250	300	400	500	600	600	650	800	1000
	Weight (BW)		Kg	10	10	15	29	66	150	242	370	680	1092	1250

- Face to face RF and RTJ are only for ASME CLASS 900

1500	NPS		3/4	1	1 1/2	2	3	4	6	8	10	12	14
	A open	mm	320	320	393	534	718	783	1063	1263	1461	1702	2395
	B (RF)		254	254	305	368	470	546	705	832	991	1130	1257
	B (RTJ)		254	254	305	372	473	549	711	842	1000	1147	1277
	B (BW) SP		140	140	178	216	305	406	559	711	863	990	1067
	∅C		160	160	160	250	300	400	500	600	600	650	800
	Weight (BW)		Kg	10	10	15	29	66	90	242	425	660	1092

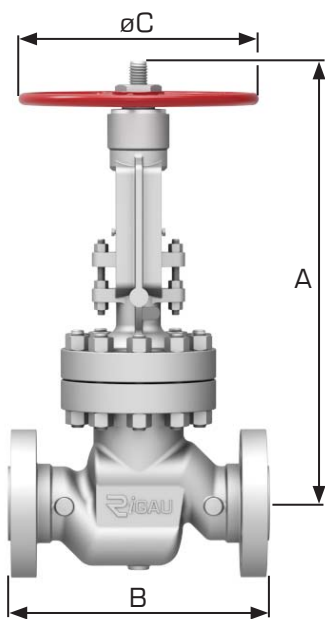
2500	NPS		3/4	1	1 1/2	2	3	4	6	8	10	12	14
	A open	mm	370	370	422	615	710	860	1037	1240	1710	1870	2325
	B (RF)		273	308	384	451	578	673	914	1022	1270	1422	-
	B (RTJ)		273	308	387	454	584	683	927	1038	1292	1445	-
	B (BW) SP		186	186	232	279	368	457	(660)	762	914	1041	1118
	∅C		200	200	200	300	500	500	600	800	-	-	-
	Weight (BW)		Kg	20	20	24	46	102	134	670	760	-	-

I. Bolted bonnet

Globe valves are used for throttling flow, and to release or block a fluid.

The flow pattern through a globe valve involves changes in direction, resulting in flow resistance and causing a high pressure drop. To limit this pressure drop, Vannes RIGAU can also propose «Y» pattern globe valve.

Vannes RIGAU globe valves can be equipped with an actuator and its positioner, in order to be used as a control valve.



Design Feature

BS 1873 design and construction	✓
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Connection ends upon request	Optional
Manual or actuated operation	Optional
Chain wheel operation	Optional
Bonnet extension upon request	Optional
Locking device	Optional
Transition pup pieces or nipples	Optional
Removable seats	Optional
Hub ends - Grayloc type	Optional
Inclined body type	Optional
Bellow seal on stem	Optional

I. Bolted bonnet - Class 150 to 1500

- All Vannes RIGAU Valves can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

150	NPS		2	3	4	6	8	10	12	14	16
	A closed	mm	283	357	404	515	630	744	870	903	1258
	B (RF)		203	241	292	406	495	622	698	787	914
	B (RTJ)		216	254	305	419	508	635	711	800	927
	∅C		250	250	300	400	500	600	800	800	1000
	Weight	Kg	20	38	55	88	137	213	480	619	-

300	NPS		2	3	4	6	8	10	12	14	16
	A closed	mm	352	490	570	585	808	860	1002	1147	1375
	B (RF)		267	318	356	444	533	622	711	838	864
	B (RTJ)		283	334	372	460	549	648	727	854	880
	∅C		250	400	400	500	600	800	800	800	1000
	Weight	Kg	27	55	104	160	295	375	549	913	-

600	NPS		2	3	4	6	8	10	12	14	16
	A closed	mm	333	377	431	670	852	1241	1323	1444	1660
	B (RF - BW)		292	356	432	559	660	787	838	889	991
	B (RTJ)		295	359	435	562	663.5	790.5	841	892	993.5
	∅C		300	400	400	500	600	800	800	800	1000
	Weight (RF)	Kg	35	71	102	253	571	-	-	-	-

900	NPS		2	3	4	6	8	10	12
	A closed	mm	571	605	718	969	1148	1498	1692
	B (RF - BW)		368	381	457	610	737	838	965
	B (RTJ)		371	384	460	613	740	841	968
	∅C		400	500	500	600	800	1000	1000
	Weight (RF)	Kg	75	130	200	490	720	-	-

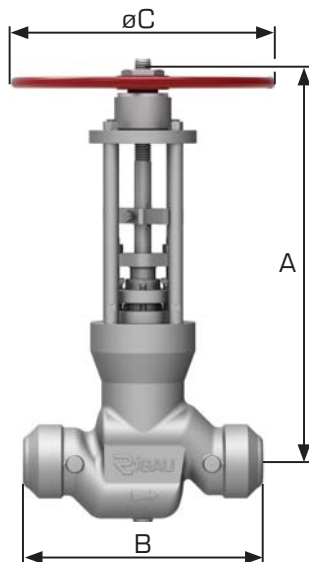
1500	NPS		2	3	4	6	8	10	12
	A closed	mm	571	760	825	968	1038	1655	1742
	B (RF - BW)		368	470	546	705	832	991	1130
	B (RTJ)		371	473	549	711	842	1000	1147
	∅C		400	500	600	800	1000	1000	1000
	Weight (RF)	Kg	89	242	442	529	-	-	-

II. Pressure seal bonnet

Globe valves are used for throttling flow and to release or block a fluid. The flow pattern through a globe valve involves changes in direction, resulting in resistance flow and causing high pressure drop. To limit pressure drop, Vannes RIGAU can also propose «Y» pattern globe valve.

Pressure seals are generally used for high pressure service. This design prevents a water hammer effect that can be a cause of bolted bonnet seal leakage.

Vannes RIGAU globe valves can be equipped with an actuator and its positioner in order to be used as a control valve.



Design Feature

BS 1873 design and construction	✓
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Connection ends upon request	Optional
Manual or actuated operation	Optional
Chain wheel operation	Optional
Bonnet extension upon request	Optional
Locking device	Optional
Transition pup pieces or nipples	Optional
Removable seats	Optional
Inclined body type	Optional
Hub ends - Grayloc type	Optional

II. Pressure seal bonnet - Class 600 to 2500

- All Vannes RIGAU Valves can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

600-900	NPS		2	3	4	6	8	10	12	14	16
	A closed	mm	433	521	637	984	1130	1254	1425	1580	1632
	B (RF - BW)		368	381	457	610	737	838	965	1029	1130
	B (RTJ)		371	384	460	613	740	841	968	1038	1140
	∅C		400	500	500	600	800	1000	1000	1000	1200
	Weight	Kg	55	130	200	370	600	870	1250	-	-

- Face to face RF - BW and RTJ are only for ASME CLASS 900.

1500	NPS		2	3	4	6	8	10	12
	A closed	mm	512	624	780	1030	1325	1525	1696
	B (RF - BW)		368	470	546	705	832	991	1130
	B (RTJ)		371	473	549	711	841	1000	1147
	∅C		400	500	600	800	1000	1000	1000
	Weight	Kg	75	155	280	520	740	1430	-

2500	NPS		2	3	4	6	8	10	12
	A closed	mm	497	545	592	850	1005	1325	1688
	B (RF - BW)		451	578	673	914	1022	1270	1422
	B (RTJ)		454	584	683	927	1038	1292	1445
	∅C		600	600	800	1000	1000	1200	1200

All Vannes RIGAU valves can be equipped with gearbox:

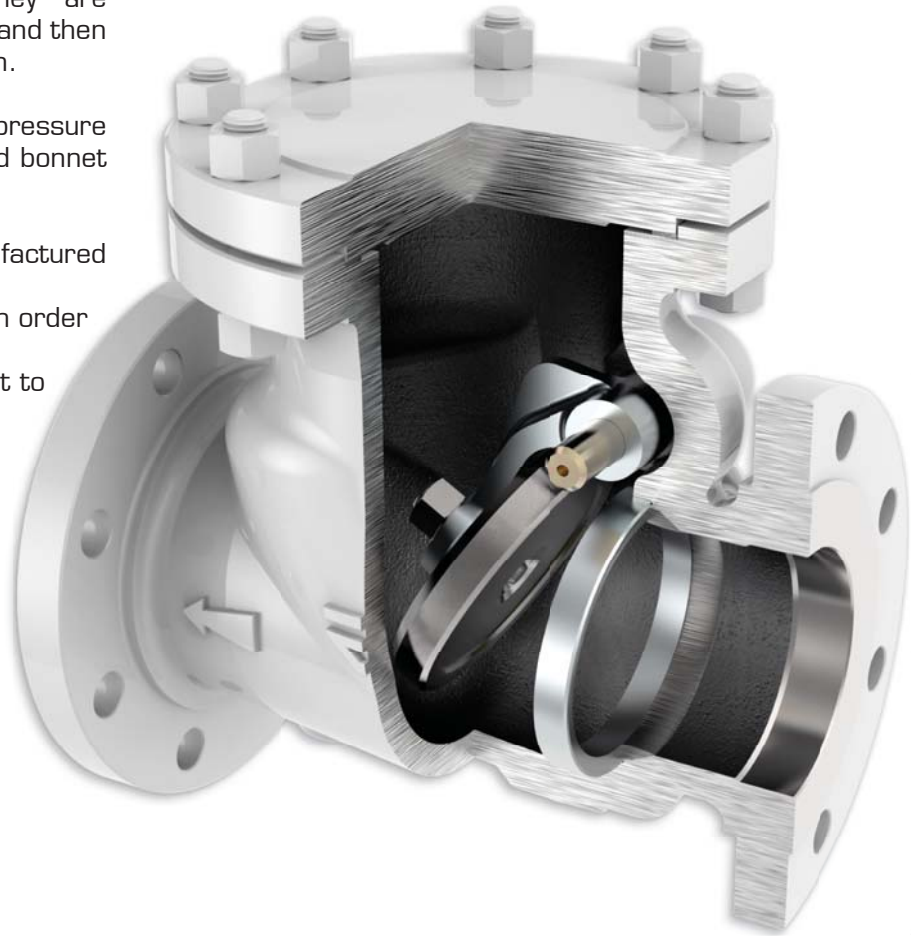
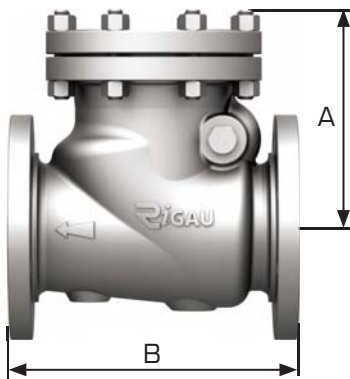


I. Bolted bonnet

Swing check valves are used to protect installations against backflow. They are entirely operated by reaction of flow and then do not require any external actuation.

Bolted bonnet is common for low pressure valves, but Rigau can propose bolted bonnet for high pressure service.

Swing check valves can also be manufactured with a piggable design, They can be fitted with an actuator in order to block the disc in closed position. Or they can be fitted with a dash pot to reduce tilting.



Design Feature

BS 1868 design and construction	✓
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Manual or actuated operation	Optional
Manual or actuated locked position or fail position	Optional
Transition pup pieces or nipples	Optional
Removable seats	Optional
Piggable	Optional
Piston version	Optional
Hub ends - Grayloc type	Optional

Swing Check Valve

I. Bolted bonnet - Class 150 to 2500

- All RIGAU Valves Can be designed and manufactured to any standards or with custom ends.
- For other pressure class & size, please contact us.

150	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A	mm	156	173	205	235	300	355	398	455	495	598	685	750
	B (RF-BW)		203	242	292	406	495	622	698	787	864	978	978	1295
	B (RTJ)		216	254	305	419	508	635	711	800	877	991	991	1308
	Weight (RF)		Kg	20	36	49	86	142	235	410	450	510	545	731

300	NPS		2	3	4	6	8	10	12	14	16	18	20
	A	mm	175	225	235	285	420	470	546	570	656	732	760
	B (RF-BW)		267	318	356	444	533	622	711	838	864	978	1016
	B (RTJ)		283	334	372	460	550	639	727	854	880	994	1036
	Weight (RF)		Kg	25	40	70	125	200	335	448	598	758	997

600	NPS		2	3	4	6	8	10	12	14	16	18	20
	A	mm	165	225	230	300	450	500	629	651	732	772	865
	B (RF-BW)		292	356	432	559	660	787	838	889	991	1092	1194
	B (RTJ)		295	359	435	562	663.5	790.5	841	892	993.5	1095	1200
	Weight (RF)		Kg	20	36	60	120	350	500	550	641	750	-

900	NPS		2	3	4	6	8	10	12	14	16	18	20
	A	mm	323	352	360	470	595	736	800	900	950	1010	1083
	B (RF-BW)		368	381	457	610	737	838	965	1029	1130	1219	1321
	B (RTJ)		371	384	460	613	740	841	968	1038	1140	1232	1334
	Weight (RF)		Kg	40	85	158	341	658	850	950	1450	1750	-

1500	NPS		2	3	4	6	8	10	12
	A	mm	323	352	360	470	595	736	800
	B (RF-BW)		368	470	546	705	832	991	1130
	B (RTJ)		371	473	549	711	841	1000	1147
	Weight (RF)		Kg	-	-	-	-	-	-

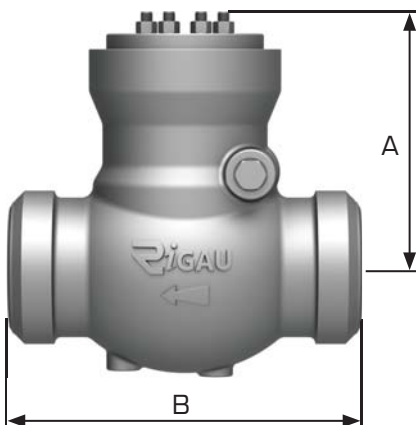
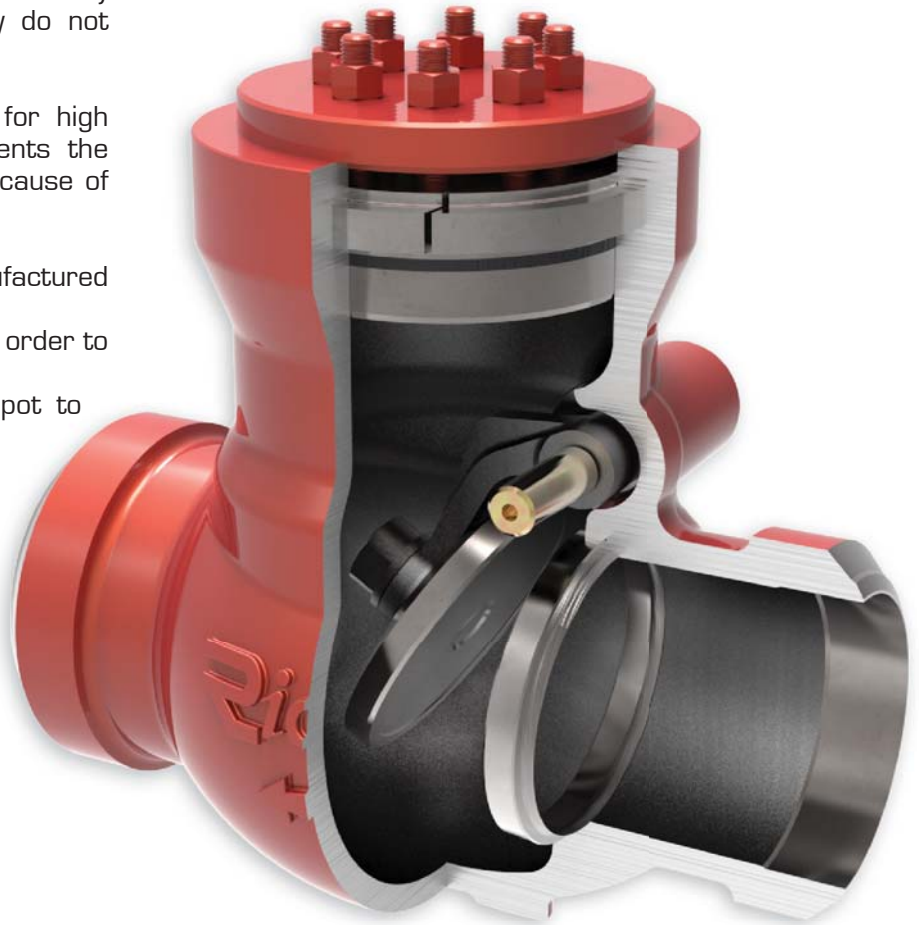
2500	NPS		2	3	4	6	8	10	12
	A	mm	-	-	-	-	-	-	-
	B (RF-BW)		451	578	673	914	1022	1270	1422
	B (RTJ)		454	584	683	927	1038	1292	1445
	Weight (RF)		Kg	-	-	-	-	-	-

II. Pressure seal bonnet

Swing check valves are used to protect installations against backflow. They are entirely operated by flow direction and they do not require an external actuator

Pressure seals are generally used for high pressure service. This design prevents the water hammer effect that can be a cause of bolted bonnet seal leakage.

Swing check valves can also be manufactured with a piggable design, They can be fitted with an actuator in order to block the disc in closed position. Or they can be fitted with a dash pot to reduce tilting.



Design Feature

BS 1868 design and construction	✓
ASME B16.34 design and construction	✓
Face to face as per ASME B16-10	✓
Welded seat	✓
Straight body type	✓
Manual or actuated operation	Optional
Manual or actuated locked position or fail position	Optional
Transition pup pieces or nipples	Optional
Removable seats	Optional
Hub ends - Grayloc type	Optional

II. Pressure seal bonnet - Class 600 to 2500

- All RIGAU Valves Can be designed and manufactured to any standards or with custom ends.
- For other pressure class & size, please contact us.

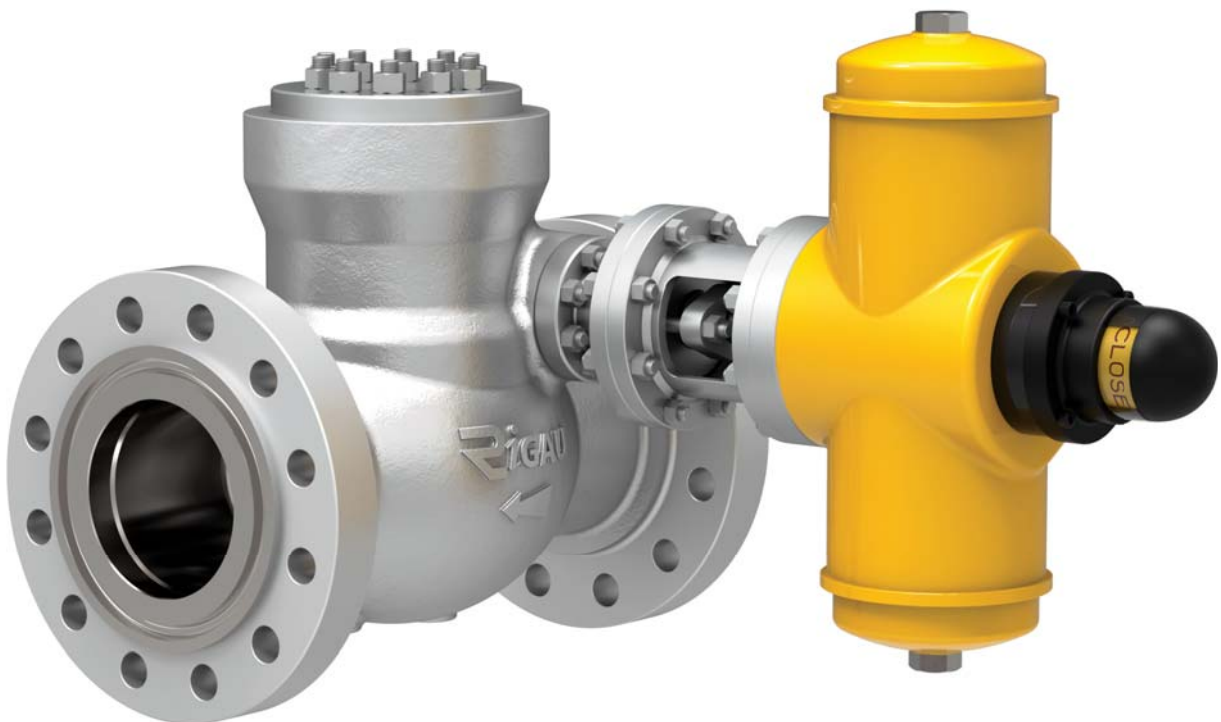
600-900	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A		215	260	310	390	455	510	575	645	715	820	975	1180
	B (RF-BW)	mm	368	381	457	609	737	838	965	1029	1130	1219	1321	1549
	B (RTJ)		371	384	460	613	740	841	968	1038	1140	1232	1334	1569
	Weight (BW)	Kg	34	75	150	220	370	600	700	1250	1550	-	-	-

- Face to face RF - BW and RTJ are only for ASME CLASS 900

1500	NPS		2	3	4	6	8	10	12	14	16	18	20	24
	A		215	285	325	410	470	550	950	-	-	-	-	
	B (RF-BW)	mm	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943
	B (RTJ)		371	473	549	711	841	1000	1147	1276	1407	1559	1686	1972
	Weight (BW)	Kg	-	-	-	-	-	-	-	-	-	-	-	-

2500	NPS		2	3	4	6	8	10	12
	A		255	325	350	450	705	710	1150
	B (RF-BW)	mm	451	578	673	914	1022	1270	1422
	B (RTJ)		454	584	683	927	1038	1292	1445

Actuated swing check valve with pressure seal for steam service:

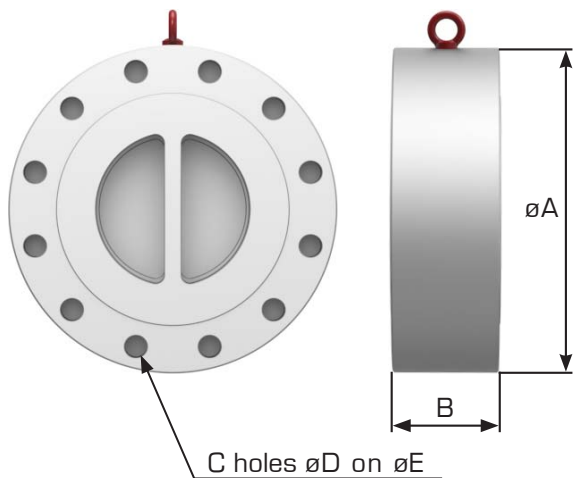


I. Wafer/Flanged/Lug

Dual plate check valves are used to protect installations against backflow. They are entirely operated by reaction of flow and they do not require any external actuation.

The main advantages of dual plate check valves vs swing check valves are: lightweight, short dimensions. Moreover, line shock is reduced or eliminated. Due to the reduced face to face this check valve can be mounted vertically or horizontally thanks to a return spring.

Dual check valve can be designed as wafer, lug or flanged type.



Design Feature

ASME B16.34 design and construction	✓
API 594	✓
Connection ends upon request	Optional
Spring customary setting	Optional

I. Wafer/Flanged/Lug - Class 150 to 2500

- All Vannes RIGAU Valves Can be designed and manufactured to any standards or with customized ends.
- For other pressure class & size, please contact us.

150	NPS	2	3	4	6	8	10	12	14	16	18	20	24
	ØA	152	190	229	279	343	406	483	533	597	635	698	813
	B	60	73	73	98	127	146	181	184	191	203	219	222
	C	4	4	8	8	8	12	12	12	16	16	20	20
	ØD	19	19	19	22.2	22.2	25.4	25.4	28.5	28.5	31.8	31.8	35
	ØE	120.6	152.4	190.5	241.3	298.4	362	431.8	476.2	539.8	577.8	635	749.3
	Weight	Kg	8	14	20	37	74	114	200	246	315	365	468

300	NPS	2	3	4	6	8	10	12	14	16	18	20	24
	ØA	165	210	254	318	381	444	521	584	648	711	775	914
	B	60	73	73	98	127	146	181	222	232	264	292	318
	C	8	8	8	12	12	16	16	20	20	24	24	24
	ØD	19	22.2	22.2	22.2	25.4	28.5	31.8	31.8	35	35	35	41.1
	ØE	127	168.3	200	269.9	330.2	387.4	450.8	514.4	571.5	628.6	685.8	812.8
	Weight	Kg	8.5	17	24.5	50	92	137	234	360	457	616	810

600	NPS	2	3	4	6	8	10	12	14	16	18	20	24
	ØA	165	210	273	356	419	508	559	603	686	743	813	940
	B	60	73	79	136	165	213	229	273	305	362	368	438
	C	8	8	8	12	12	16	20	20	20	20	24	24
	ØD	19	22.2	25.4	28.5	31.8	35	35	38.1	41.1	44.5	44.5	50.8
	ØE	127	168.3	215.9	292.1	349.2	431.8	489	527	603.2	654	723.9	838.2
	Weight	Kg	8	15	28	83	140	264	334	462	674	928	1128

900	NPS	2	3	4	6	8	10	12	14	16	18	20	24
	ØA	216	241	292	381	470	546	610	641	705	787	857	1041
	B	70	83	102	159	206	241	292	356	384	451	451	495
	C	8	8	8	12	12	16	20	20	20	20	20	20
	ØD	25.4	25.4	31.8	31.8	38.1	38.1	38.1	41.3	44.4	50.8	54	66.7
	ØE	165.1	190.5	235	317.5	393.7	469.9	533.4	558.8	616	685.8	749.3	901.7
	Weight	Kg	15	23	42	113	226	355	532	705	915	1334	1580

1500	NPS	2	3	4	6	8	10	12	14	16	18	20	24
	ØA	216	267	311	394	483	584	673	749	826	914	984	1168
	B	70	83	102	159	206	248	305	356	384	468	533	559
	C	8	8	8	12	12	12	16	16	16	16	16	16
	ØD	25.4	31.8	35	38.1	44.5	50.8	53.8	60.5	66.5	73.2	79.2	91.9
	ØE	165.1	203.2	241.3	317.5	393.7	482.6	571.5	635	704.8	774.7	831.8	990.6
	Weight	Kg	15	28	47	119	236	422	680	986	1288	1928	2526

2500	NPS	2	3	4	6	8	10	12
	ØA	235	305	356	483	552	673	762
	B	70	86	105	159	206	254	305
	C	8	8	8	8	12	12	12
	ØD	28.5	35	41.1	53.8	53.8	66.5	73.2
	ØE	171.5	228.6	273	368.3	438.1	539.7	619.1
Weight	Kg	20	41	67	190	316	578	898

I. Y-Type

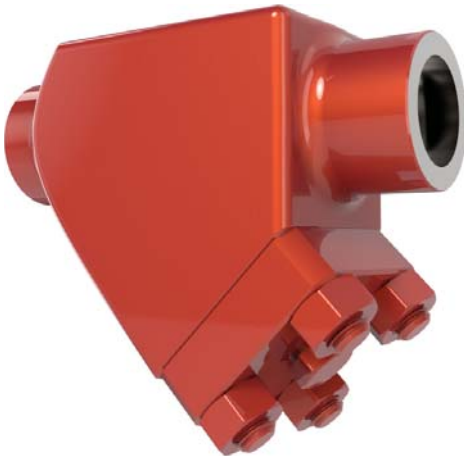
Strainers should be installed upstream to protect an installation from scales and dirt. The larger items fall to the bottom and are held in a basket for later disposal.

On demand, strainers can be made from cast or forged material.

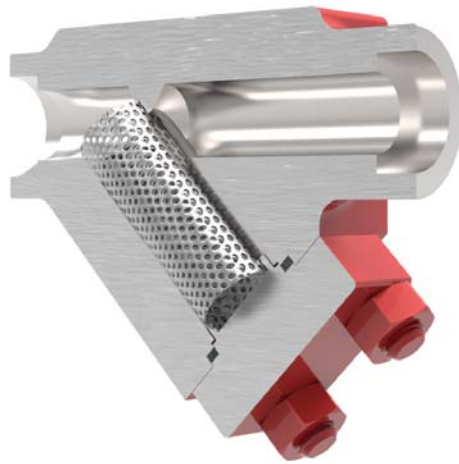
Vannes RIGAU strainers can be customized in order to match your process requirement (pressure drop calculation, filtration size, differential pressure monitoring).



Rigau can manufacture full forged strainer:



Full forged SW strainer

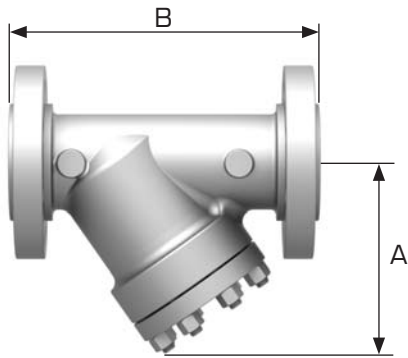


Half section

Design Feature

ASME B16.34 design and construction	✓
Inclined body type (Y-type)	✓
Connection ends upon request	Optional
Hub ends - Grayloc type	Optional
Transition pup pieces or nipples	Optional
Straight body type (T-type)	Optional
Magnetic inserts	Optional
Handle for heavier cover	Optional
Pressure drop control device	Optional

I. Y-type - Class 150 to 1500



- For other pressure class & size, please contact us.
- Strainers can be designed and manufactured to any standards or with customized ends.

150	NPS		1/2	3/4	1	1 1/2	2	3	4	6	8	10
	A	mm	82	82	95	122	180	240	300	350	490	630
	B (RF)		150	150	154	200	275	310	350	458	600	700
	Weight	Kg	4	5	9	15	17	32	40	92	110	240

300	NPS		1/2	3/4	1	1 1/2	2	3	4	6	8	10
	A	mm	82	82	95	122	180	240	300	350	490	630
	B (RF)		150	150	160	206	275	310	350	480	600	700
	Weight	Kg	5	6	11	19	17	36	42	105	139	248

600	NPS		1/2	3/4	1	1 1/2	2	3	4	6	8
	A	mm	82	82	95	122	180	270	380	450	520
	B (RF)		165	191	216	241	292	450	500	630	740
	Weight	Kg	5	6	13	20	27	58	80	140	265

900 -1500	NPS		1/2	3/4	1	1 1/2	2	3	4	6	8
	A	mm	82	82	95	132	175	326	362	475	580
	B		91	135	135	160	305	405	470	630	800
	Weight	Kg	2.7	2.5	3.8	9.9	25	90	130	250	450

For class 900 - 1500 face to face (B) is on SW for NPS 1/2" to 2" and BW for NPS 3" to 8".

Design standards

DESIGN	FACE-TO-FACE	MAST	FIRESAFE	BOLTING
-API 600 - ISO 10434 - Gate valves. -BS1873 - Globe valves -BS1868 - Swing Check valves -API 594 - Dual Check valves -ASME B16.34 - EN12516 - Strainers	ASME B16.10	ASME VIII-1 ASME VIII-2	API 607 - ISO10497	ASME VIII-1 ASME VII-2 ASME B16.34
OTHERS	Materials: ASME II-D Flanges: ASME B16.5, ASME B16.47	Welded ends: ASME B16.25 NDT: ASME B16.34 + ASME V	Sour service: NACE MR0175 - ISO 15156, NACE MR0103	

Material Specification

BODY - BONNET - COVER		TRIM	BOLTING
Carbon steels and low alloyed steels			
Cast	Wrought		
A216 WCB, WCC	A105, A350 LF6 Class 2	Trim 5, Trim 16	A193 B7, B7M - A194 2H, 2HM
A352 LC1, LC3, LCB, LCC	A350 LF1, LF3, LF2 Cl1, A350 LF6 Class 2	Trim 16	A320 L7, L43, L7M - A194 Gr7, 7M
A217 WC1, WC6, WC9, C5, C12A	A182 F1, F11 Class2, F22 Class 3, F5a, F91	Trim 5, Trim 16	A193 B16, B5 - A194 Gr16, 3
Stainless Steels			
A351 CF8, CF3, CF3M, CF8M, CF8C	A182 F304, F304L, F316, F316L, F347	Trim 16	A193 B8, B8M, B8MA - A194 Gr8, 8M, 8MA
Duplex			
A351 CD3MN	A182 F51	Duplex + CoCr Alloy	A193 B8, B8M, B8MA - A194 Gr8, 8M, 8MA
A351 CD3MWCuN	A182 F55, A182 F53	Superduplex + CoCr Alloy	A193 B8, B8M, B8MA - A194 Gr8, 8M, 8MA
Nickel Alloys			
B564 N06625		Nickel Alloy+CoCr Alloy	A193 B8, B8M, B8MA - A194 Gr8, 8M, 8MA B637 N07718

- Other material configuration on demand.



Pressure - Temperature ratings

. According to ASME B16.5

MATERIALS	ASTM A 105 - WCB - WCC					
Temp., °C	150	300	600	900	1500	2500
Up to 38	19.6	51.1	102.1	153.2	255.3	425.5
50	19.2	50.1	100.2	150.4	250.6	417.7
100	17.7	46.6	93.2	139.8	233	388.3
150	15.8	45.1	90.2	135.2	225.4	375.6
200	13.8	43.8	87.6	131.4	219	365
250	12.1	41.9	83.9	125.8	209.7	349.5
300	10.2	39.8	79.6	119.5	199.1	331.8
325	9.3	38.7	77.4	116.1	193.6	322.6
350	8.4	37.6	75.1	112.7	187.8	313
375	7.4	36.4	72.7	109.1	181.8	303.1
400	6.5	34.7	69.4	104.2	173.6	289.3
425	5.5	28.8	57.5	86.3	143.8	239.7
450	4.6	23	46	69	115	191.7
475	3.7	17.4	34.9	52.3	87.2	145.3
500	2.8	11.8	23.5	35.3	58.8	97.9
538	1.4	5.9	11.8	17.7	29.5	49.2

MATERIALS	ASTM A 182 F11 - WC6					
Temp. °C	150	300	600	900	1500	2500
Up to 38	19.8	51.7	103.4	155.1	258.6	430.9
50	19.5	51.7	103.4	155.1	258.6	430.9
100	17.7	51.5	103	154.4	257.4	429
150	15.8	49.7	99.5	149.2	248.7	414.5
200	13.8	48	95.9	143.9	239.8	399.6
250	12.1	46.3	92.7	139	231.8	386.2
300	10.2	42.9	85.7	128.6	214.4	357.1
325	9.3	41.4	82.6	124	206.6	344.3
350	8.4	40.3	80.4	120.7	201.1	335.3
375	7.4	38.9	77.6	116.5	194.1	323.2
400	6.5	36.5	73.3	109.8	183.1	304.9
425	5.5	35.2	70	105.1	175.1	291.6
450	4.6	33.7	67.7	101.4	169	281.8
475	3.7	31.7	63.4	95.1	158.2	263.9
500	2.8	25.7	51.5	77.2	128.6	214.4
538	1.4	14.9	29.8	44.7	74.5	124.1
550	-	12.7	25.4	38.1	63.5	105.9
575	-	8.8	17.6	26.4	44	73.4
600	-	6.1	12.2	18.3	30.5	50.9

MATERIALS	ASTM A 182 F316 - CF8M					
Temp. °C	150	300	600	900	1500	2500
Up to 38	19	49.6	99.3	148.9	248.2	413.7
50	18.4	48.1	96.2	144.3	240.6	400.9
100	16.2	42.2	84.4	126.6	211	351.6
150	14.8	38.5	77	115.5	192.5	320.8
200	13.7	35.7	71.3	107	178.3	297.2
250	12.1	33.4	66.8	100.1	166.9	278.1
300	10.2	31.6	63.2	94.9	158.1	263.5
325	9.3	30.9	61.8	92.7	154.4	257.4
350	8.4	30.3	60.7	91	151.6	252.7
375	7.4	29.9	59.8	89.6	149.4	249
400	6.5	29.4	58.9	88.3	147.2	245.3
425	5.5	29.1	58.3	87.4	145.7	242.9
450	4.6	28.8	57.7	86.5	144.2	240.4
475	3.7	28.7	57.3	86	143.4	238.9
500	2.8	28.2	56.5	84.7	140.9	235
538	1.4	25.2	50	75.2	125.5	208.9
550	-	25	49.8	74.8	124.9	208
575	-	24	47.9	71.8	119.7	199.5
600	-	19.9	39.8	59.7	99.5	165.9
625	-	15.8	31.6	47.4	79.1	131.8
650	-	12.7	25.3	38	63.3	105.5
675	-	10.3	20.6	31	51.6	86
700	-	8.4	16.8	25.1	41.9	69.8

MATERIALS	ASTM A 182 F22 - WC9					
Temp. °C	150	300	600	900	1500	2500
Up to 38	19.8	51.7	103.4	155.1	258.6	430.9
50	19.5	51.7	103.4	155.1	258.6	430.9
100	17.7	51.5	103	154.6	257.6	429.4
150	15.8	50.3	100.3	150.6	250.8	418.2
200	13.8	48.6	97.2	145.8	243.4	405.4
250	12.1	46.3	92.7	139	231.8	386.2
300	10.2	42.9	85.7	128.6	214.4	357.1
325	9.3	41.4	82.6	124	206.6	344.3
350	8.4	40.3	80.4	120.7	201.1	335.3
375	7.4	38.9	77.6	116.5	194.1	323.2
400	6.5	36.5	73.3	109.8	183.1	304.9
425	5.5	35.2	70	105.1	175.1	291.6
450	4.6	33.7	67.7	101.4	169	281.8
475	3.7	31.7	63.4	95.1	158.2	263.9
500	2.8	28.2	56.5	84.7	140.9	235
538	1.4	18.4	36.9	55.3	92.2	153.7
550	-	15.6	31.3	46.9	78.2	130.3
575	-	10.5	21.1	31.6	52.6	87.7
600	-	6.9	13.8	20.7	34.4	57.4



Onshore

Fields

- Oil and Gas Upstream and Downstream activities
- Oil and Gas transportation systems
- Cryogenic processes
- High temperature processes
- Heating systems with saturated steam network
- HP Superheated steam for turbines installations

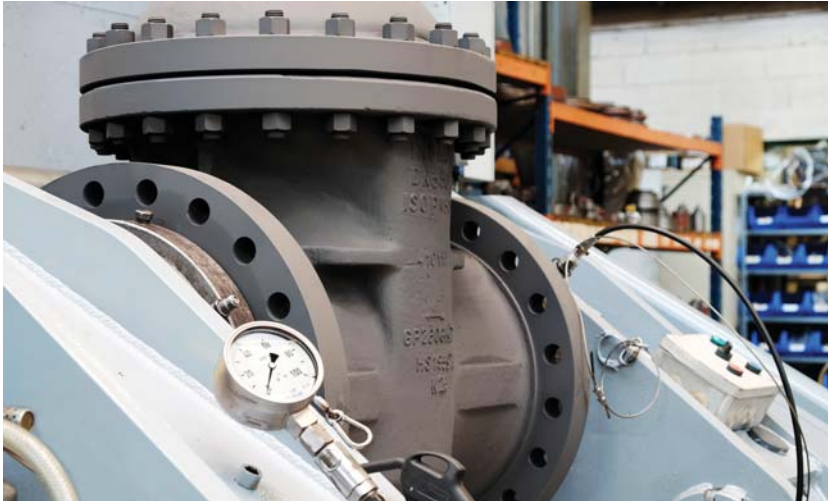


Offshore



Services

- On/off valves manual or remote operated
- Shut down valves and emergency shut down valves with fail position
- Safety Integrity Systems
- Valves for corrosive or erosive services API600
- Cryogenic valves
- Check valves with fail position by actuator for turbine safety
- Pressure regulating globe valve



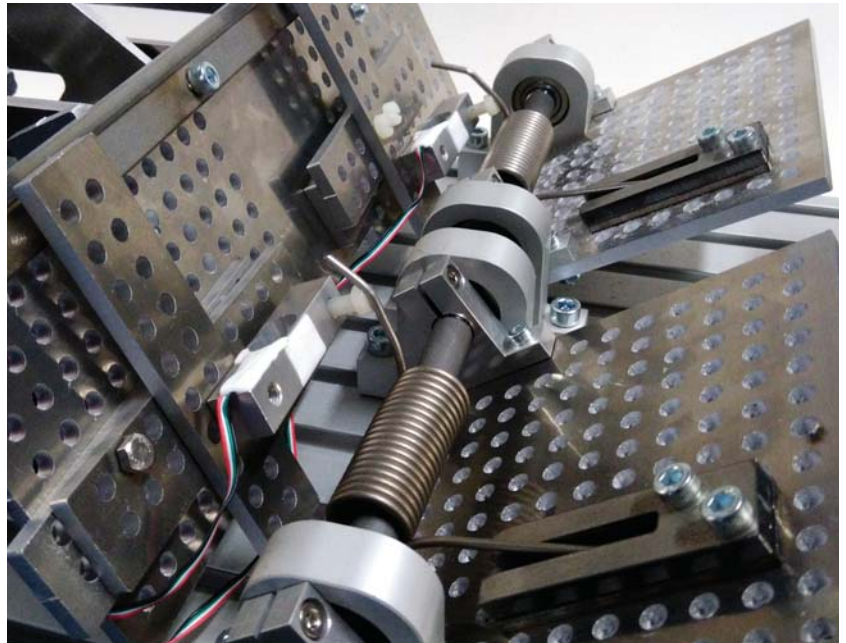
Test Benches

Standard tests

- Hydrostatic body test
- Hydrostatic seat test
- Low pressure air test
- Cavity safety test
- Functional test

Additional tests

- Torque measurements
- Thrust measurements
- High pressure gas test
- PMI (material identification)
- Feritscope
- Usual NDE
- Hardness test
- Destructive test
- 3.2 certificates on all parts
- Spring test



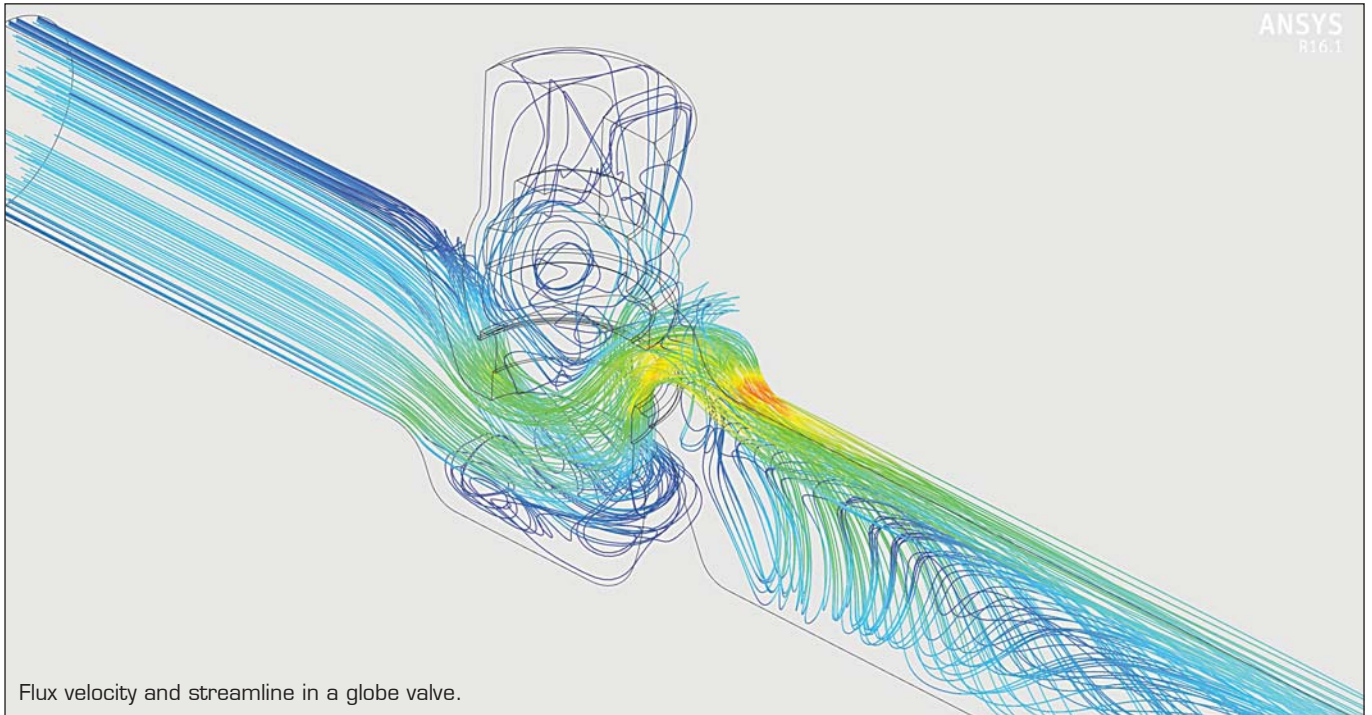
Spring test for dual check valve



CoCr Hardfacing

Certifications

- ISO 9001
- CE-PED 97/23/EC - UE
- CE-ATEX 94/9/EC - UE
- ISO15848



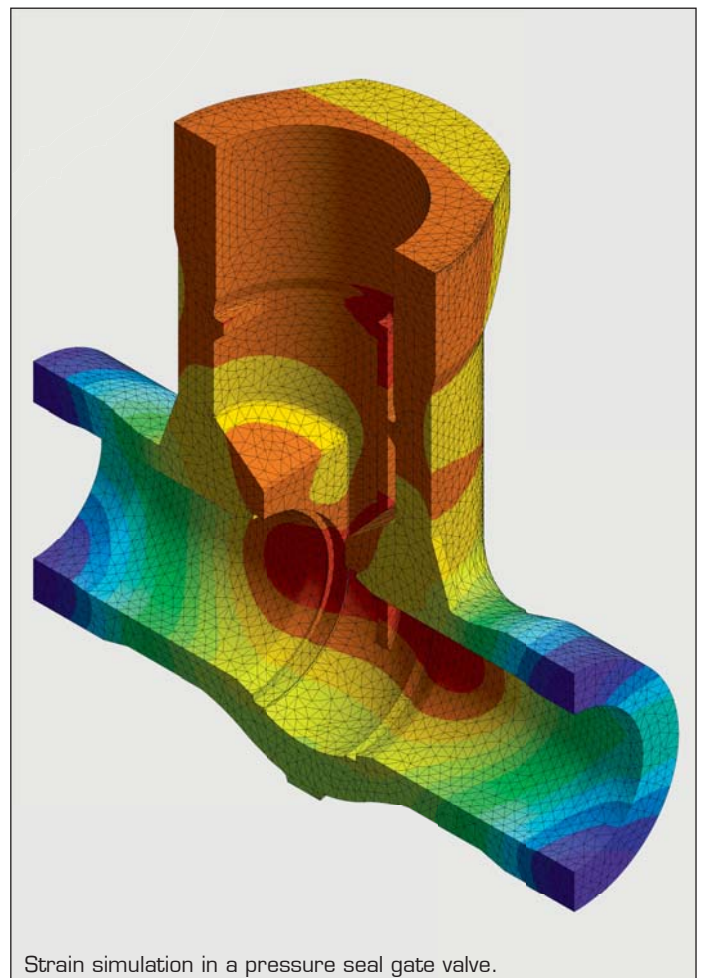
Vannes RIGAU company is equipped with a finite element analysis software : ANSYS Inc. This software can simulate a lot of physics application : thermal, solid mechanics, mechanics of fluid, fluid/structure interaction.

Thermal simulation shows, in stationary situation, how the thermal flux and temperature of parts are distributed. It can be used for cryogenic application for example.

Solid mechanics show stress, strain and mechanical interaction between parts of an assembled system in static application. Vannes RIGAU can examine mechanical interaction between several parts of a valve during several situations, for example in service condition, or in test condition.

Mechanics of fluid show streamline of fluid and pressure drop through the valve (in service condition or to determine flow coefficient C_v or K_v), pressure distribution on different parts of the valve.

Fluid/structure interaction is a compilation of fluid and mechanical analysis. For example, equilibrium position of the disc for a swing check valve can be determined according to service condition (fluid, temperature, flow, pressure, etc.).





Cryogenic

Rigau can adapt its gate and globe valves for cryogenic application. Vannes Rigau selects adequate material (austenitic stainless steel, etc.) for low temperature service (minimum temperature : -196°C).

The bonnet is extended in order to guaranty ambient temperature for the packing.

By-pass



On demand, Vannes Rigau can install by-pass valve (gate, globe, ball, needle or multiport valve). By-pass valve can have several functions :

- Maintain a residual flow when the main valve is close (for example to start a factory),
 - Reduce the difference of pressure between upstream and downstream to operate the main valve and reduce opening torque.
 - Avoid overpressure on valve cavity
- By-pass valves are adapted to fluid pressure, fluid temperature and fluid corrosivity.

Quick opening valve

The use of rack & pinion system allows a quick opening of the valve. It can be fitted with a spring return device.

Quick opening valves can be used for cleaning the installation by steam flushing.



Through conduit

Slab gate valves have two floating seats that permit in-line sealing.

The wedge of expending gate valves is composed by two parts ; when the operator finishes closing the expending gate valve, the two parts of the wedge push on seats and assure in-line sealing.



Counterweight check valve



To adjust opening pressure of the swing check valve, Rigau can install counterweight. Or they can be fitted with a dash pot to reduce tilting.

Y-type globe valve



Globe valves can be delivered with Y-type bodies in order to reduce pressure drop across the valve.

RIGAU

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