KLINGER Denmark

VF-9A SERIES
High Perfrmance
Double Eccentric Butterfly Valves

VF-9 A Series
High Performance
Double-Offset Butterfly Valves

NEW DESIGN

- To meet our customers' requirements of flow control systems and facilitate operations we constantly develop our products. We just created a new, unique design for High Performance Double-Offset Butterfly Valves by improving the materials as well as the mounting structure.
- The Value Group has been providing customers worldwide with flow control systems for 35 years. In order to pursue excellence and meet our customers demand, we produce high quality valves that are suitable for harsh working conditions.
- Value Valves is the only company in Taiwan and one of the few companies in Asia that has been certified with the Safety Integrity Level 3 according to IEC 61508-1 and ISO 9001 by TUV for the VF-9 Series.

PRODUCT CHARACTERISTCE

- Certified with the Pressure Equipment Certification (PED) Module H.
- Body strength according to API 598 and ASME B16.34.
- The anti-blow out design approved with ATEX 94/9/CE Group II Category 2 GD and it's electrically conductive toeliminate the build-up of static electricity.
- The patented seat retainer ring attaches without bolts, allowing an uninterrupted sealing surface.
- Emission test to TA-LUFT, ISO 15848-1, ANSI/ISA-SP-93.
- VF-93_and VF-96 metal seat design for leakage rated at ANSI FCI 70-2-2003 Table 1 CLASS V.
- Certified with the Manufacture License of Special Equipment by People's Republic of China Test TSG D7002.
- All mounting dimensions are in accordance with ISO 5211

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Type	ANSI CLASS	Size	Seat	Temp. range	Application
VF-91 A	150LB	2"~24" (50~600mm)	SOFT SEAT	-100~260℃ (-148~500 ℉)	Soft seat design with temperature limits. Usually applied at temperatures below 260℃ .(500 ℉)
VF-94 A	300LB	2"~24" (50~600mm)			
VF-92 A	150LB	2"~24" (50~600mm)	METAL SEAT +PTFE	-100 ~260℃ (-148~500 ℉)	Fire safe approved per API 607 and ISO 10497.
VF-95 A	300LB	2"~12" (50~300mm)			
VF-93 A	150LB	2"~24" (50~600mm)	METAL SEAT	-29 ~ 500℃ (-20~932 ℉)	Leakage Class IV / V per ANSI FCI 70-2
VF-96 A	300LB	2"~12" (50~300mm)			

ANSI CLASS 300LB: dust proof design prevents the ingress of foreign material into the shaft area.

CERTIFICATE

TÜV Rheinland
PED(H)(97/23/EC: module H)
ATEX 94/9/EC
Fire type-testing requirement ISO 10497
Emission Test ISO 15848-1
SIL3: IEC 61508-1

MIRDC
Valve Fire test API 607
Emission Test ISO 15848-1,ANSI/ISA 93.00.01

National Institute of Hygiene
Hygienic Certificate

TR CU approval available with
- TR CU 032 Certificate - Gas / Liquid
- TR CU 010 Certificate - Gas / Liquid

LR
ABS
CR
TSG D7002-2006

Product

VALUE VALVES

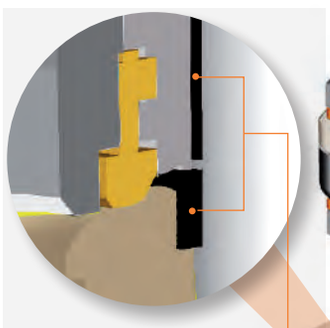
STRUCTURAL ANALYSIS

Design

For flanged end valve, the shaft is positioned at the flange side which reduced the possibility of external leakage caused by the ambient temperature changed.

Easy Maintenance

Design feature of spline connection allows for easy repair and maintenance.

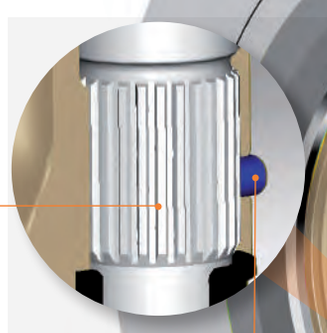


Dust-proof

A set of bushing design prevents the ingress of foreign material into the shaft area leads to shaft jamming.

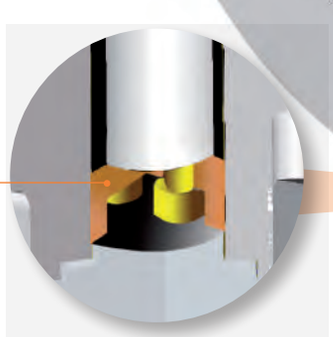
Shaft Strength Upgraded

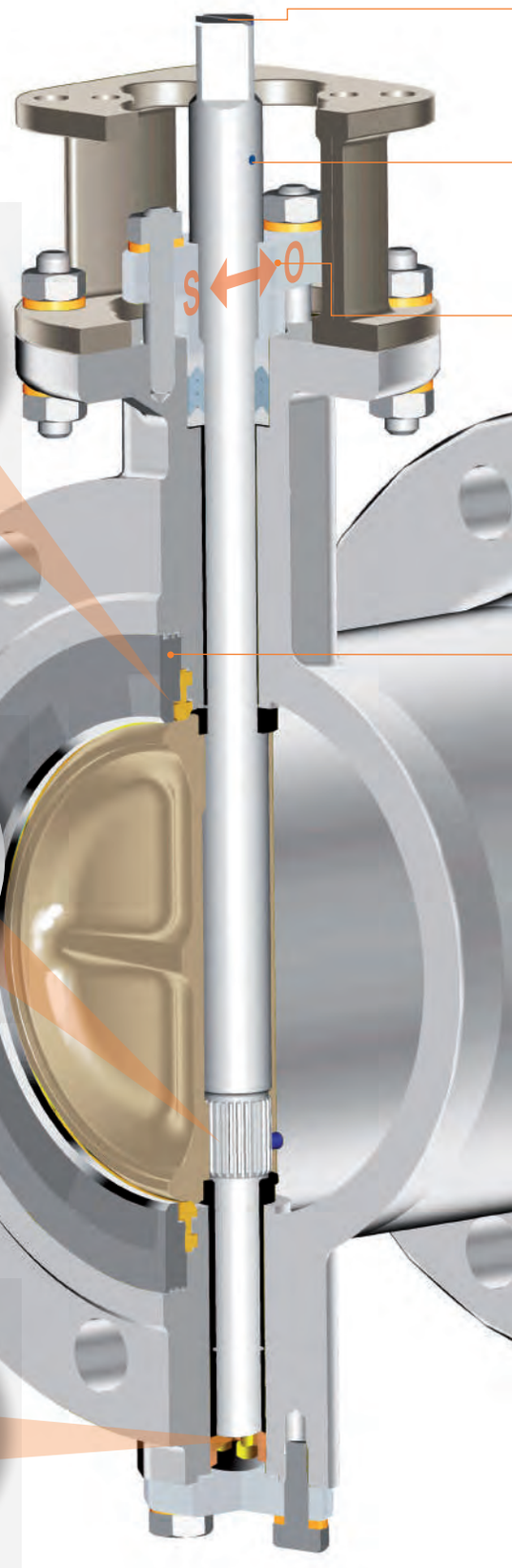
Shaft strength increased by splined shaft without drilling on the shaft for taper pin.



Blow-Out Protection

Both the set bolt of the splined shaft and bottom cover offers reliable blowout protection.





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VF-9_A Series

STRUCTURAL ANALYSIS

Disc Indication

Disc indication marked at the shaft end to clearly identify the disc opening degree at any time.

S ⟷ O

Bi-Directional Shutoff Design

The floating sealing design is self-adjustable, this mechanism provides flawless bubble tight shutoff and provides the life cycles up to 2,000,000 cycles

Value's Patent Design

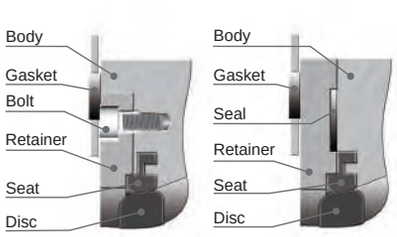
Patented seat and retainer design achieves enlarged sealing surface and reaches 100% tight shutoff.
The valve can be fully closed for a long time without enlarging the soft seat because of the floating retainer design.
At deadend service, retainer side of valve shall be fitted at upstream to reach tight shutoff.

Conventional design

The sealing of flange surface from competitors depends on the gasket only.

Furthermore, the socket bolted retainer design with higher possibility of external leakage due to the narrow sealing surface of gasket from the retainer ring.

When valve with socket bolted retainer design closed for a period of time, the soft seat might be enlarged further leads to internal leakage because of the pressure



Design

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VF-9_A Series

TORQUE CHART (Nm)

Including 30% Safety Factor

VF-91 Series 150LB

Size		Differential pressure (kg/cm²)					
mm	inch	0	5	10	15	20	25
50	2"	13	15	17	20	22	25
65	2.5"	19	22	29	35	41	51
80	3"	26	29	37	44	51	59
100	4"	35	41	51	61	77	85
125	5"	51	64	76	89	105	127
150	6"	62	83	103	118	147	176
200	8"	89	114	147	166	204	242
250	10"	150	211	261	309	394	489
300	12"	196	294	374	539	625	828
350	14"	382	539	784	980	1176	1323
400	16"	573	686	980	1176	1372	1568
450	18"	783	963	1225	1470	1666	1911
500	20"	1000	1411	1764	2058	2470	2822
600	24"	1225	1680	2205	2660	3045	3325

VF-92 Series 150LB

Size		Differential pressure (kg/cm²)					
mm	inch	0	5	10	15	20	25
50	2"	29	32	39	43	49	59
65	2.5"	37	46	61	69	83	97
80	3"	50	61	76	92	107	127
100	4"	76	88	103	118	140	162
125	5"	118	137	170	194	223	242
150	6"	147	196	225	265	294	333
200	8"	176	235	294	353	421	480
250	10"	255	323	421	480	568	647
300	12"	333	470	549	686	862	1009
350	14"	461	725	833	990	1196	1421
400	16"	657	960	1264	1509	1686	1882
450	18"	843	1058	1362	1705	2087	2646
500	20"	1078	1382	1803	2166	2920	3410
600	24"	1274	1617	2225	2783	3783	4704

VF-93 Series 150LB

Size		Differential pressure (kg/cm²)					
mm	inch	0	5	10	15	20	25
50	2"	39	49	59	65	75	82
65	2.5"	46	56	78	102	127	147
80	3"	56	71	88	118	140	167
100	4"	78	102	122	157	178	216
125	5"	108	140	154	182	211	248
150	6"	137	169	199	232	265	319
200	8"	206	255	294	333	372	434
250	10"	265	333	402	470	578	686
300	12"	372	461	559	735	931	1176
350	14"	539	676	843	1019	1245	1421
400	16"	764	990	1225	1490	1764	2058
450	18"	902	1107	1441	1803	2205	2871
500	20"	1294	1411	1882	2352	2940	3410
600	24"	1529	1764	2176	2940	4077	6076

VF-94 Series 300LB

Size		Differential pressure (kg/cm²)						
mm	inch	0	10	15	20	30	40	50
50	2"	13	17	20	22	27	35	54
65	2.5"	19	29	35	41	53	63	75
80	3"	26	37	44	51	76	91	108
100	4"	35	51	61	77	110	131	155
125	5"	51	76	89	105	159	189	224
150	6"	75	109	125	168	228	272	322
200	8"	102	156	199	248	321	384	455
250	10"	206	382	476	583	764	934	1106
300	12"	434	616	704	852	1067	1230	1456
350	14"	461	900	1132	1368	1658	1918	2270
400	16"	695	1227	1524	1712	2102	2461	2912
450	18"	953	1967	2053	2242	2803	3406	4031
500	20"	1576	2990	3018	3221	3842	4524	5353
600	24"	3040	5300	6074	6197	6890	7191	8510

VF-95 Series300LB

Size		Differential pressure (kg/cm²)						
mm	inch	0	10	15	20	30	40	50
50	2"	29	39	43	49	62	78	92
65	2.5"	37	61	69	83	83	90	101
80	3"	50	76	92	107	113	129	145
100	4"	76	103	118	140	150	171	192
125	5"	118	170	194	223	234	267	301
150	6"	144	289	289	337	337	385	433
200	8"	433	458	458	610	610	762	762
250	10"	533	685	685	762	762	1066	1143
300	12"	533	839	914	1066	1066	1143	1312

VF-96 Series 300LB

Size		Differential pressure (kg/cm²)						
mm	inch	0	10	15	20	30	40	50
50	2"	39	59	65	75	110	110	125
65	2.5"	46	78	102	127	130	130	140
80	3"	56	88	118	140	150	163	155
100	4"	78	122	157	178	180	196	223
125	5"	108	154	182	211	211	234	267
150	6"	192	240	240	240	288	337	385
200	8"	381	458	533	533	610	610	761
250	10"	685	991	991	1066	1066	1219	1219
300	12"	761	991	1066	1066	1295	1446	1676

Note: VF-95_ and VF-96_ Series, 14" and up please contact to KLINGER Denmark A/S

Torque Chart

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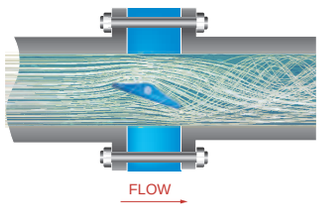
VF-9_A Series

CV FLOW COFFICIENT



VF-91 VF-92 VF-93

ANSI CLASS 150LB | ISO PN 10~PN 25

Size		Percent of Rated Travel									
mm	inch	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2"	4	13	26	39	72	126	153	204	233	160
65	2.5"	7	23	45	66	122	214	258	345	393	259
80	3"	10	34	68	101	185	324	391	523	596	398
100	4"	11	41	72	110	214	375	416	541	575	613
125	5"	17	53	106	157	290	506	611	816	931	980
150	6"	24	77	152	226	417	728	880	1176	1340	1375
200	8"	42	137	271	402	546	765	984	1303	1450	1750
250	10"	125	305	492	583	923	1260	1650	2060	2440	2667
300	12"	170	415	669	965	1300	1755	3059	3454	3849	4366
350	14"	222	506	796	1165	1614	2241	3122	4230	5360	5964
400	16"	315	537	902	1324	1904	2485	3703	5395	6887	7762
450	18"	392	946	1456	2040	2816	3918	5416	7061	8535	9354
500	20"	513	1197	1834	2558	3505	4943	7188	9097	11011	11824
600	24"	845	1861	2752	3911	5501	7664	10840	14424	18347	19862

*Other dimensions please consult with KLINGER Denmark A/S

VF-94 VF-95 VF-96

ANSI CLASS 300LB | ISO PN 40~PN 50

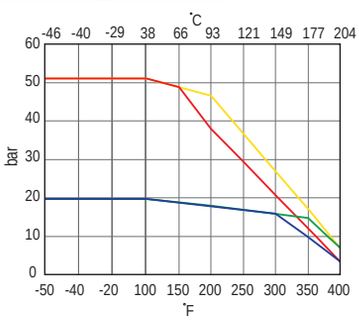
Size		Percent of Rated Travel									
mm	inch	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2"	4	13	26	39	72	126	153	204	233	160
65	2.5"	7	23	45	66	122	214	258	345	393	259
80	3"	10	34	68	101	185	324	391	523	596	398
100	4"	11	41	72	110	214	375	416	541	575	613
125	5"	17	53	106	157	290	506	611	816	931	980
150	6"	21	67	149	217	350	680	800	950	1250	1270
200	8"	34	119	235	369	533	719	970	1227	1331	1631
250	10"	72	213	391	579	804	1058	1436	1870	2313	2492
300	12"	104	297	516	798	1171	1660	2299	2996	3816	3985
350	14"	122	384	678	1042	1527	2106	2893	3824	4580	4792
400	16"	245	476	842	1263	1843	2424	3335	5027	6115	6408
450	18"	310	603	1225	1784	2585	3482	4714	6227	7784	8191
500	20"	382	744	1512	2202	3191	4299	6207	8082	10227	10928
600	24"	550	1072	2178	3172	4596	6190	8938	11638	14726	15736

*Other dimensions please consult with KLINGER Denmark A/S

MATERIAL PRESS./TEMP. RATINGS

Material-
PTFE / RPTFE

- PTFE --150LB
- RPTFE--150LB
- PTFE --300LB
- RPTFE--300LB



unit: bar

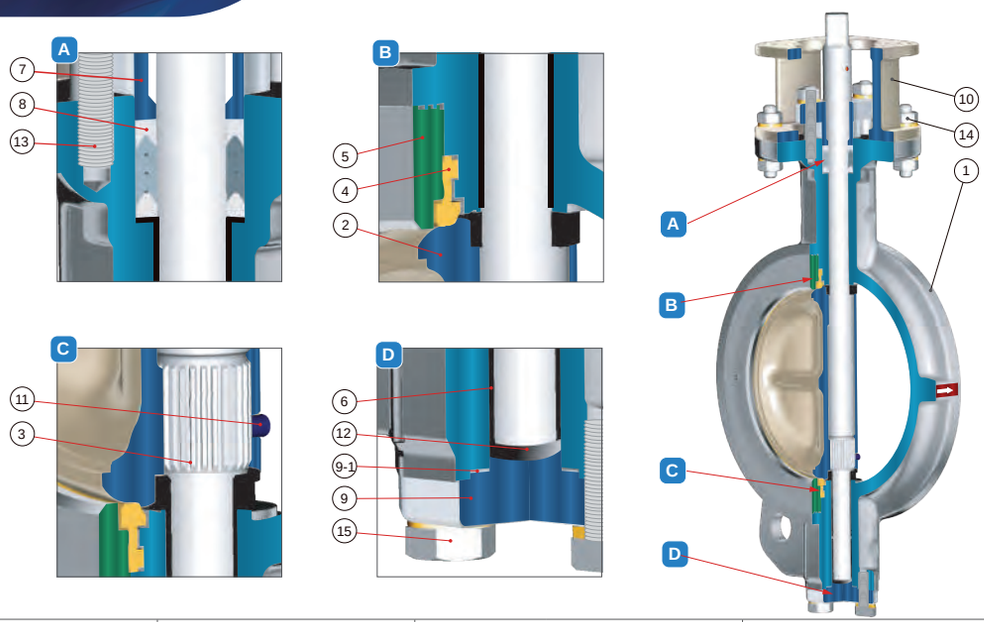
TEMP.		MATERIAL			
		150LB		300LB	
°F	°C	PTFE	RPTFE	PTFE	RPTFE
-50	-46	19.7	19.7	51	51
-40	-40	19.7	19.7	51	51
-20	-29	19.7	19.7	51	51
100	38	19.7	19.7	51	51
150	66	18.8	18.8	48.8	48.8
200	93	17.9	17.9	37.9	46.5
250	121	16.9	16.9	29.3	36.5
300	149	15.9	15.9	20.7	26.9
350	177	9.7	14.8	12.1	17.2
400	204	3.4	6.9	3.4	6.9

VF-91_A Series

SOFT SEAT
Suitable for applications in petrochemical and food industries at ambient temperatures.

ANSI CLASS 150LB I ISO PN 10~PN 25 I JIS 10K 16K 20K

PARTS AND MATERIALS



No.	NAME	MATERIAL	SPECIFICATION		REMARK/SPARE PARTS*
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edge has to be hard chrome plated when equipped RTFE seat.
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SHAFT	STAINLESS STEEL	SUS 304	A182 Gr. F304	Shaft has to be hard chrome plated when equipped with PTFE + Graphite gland packing.
			SUS 316	A182 Gr. F316	
			630SS	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
4	SOFT SEAT	PTFE			-29℃ ~160℃ (-20 ℉ ~320 ℉)
		PTFE+15%GLASS FIBER	RTFE		-29℃ ~180℃ (-20 ℉ ~356 ℉)
		PTFE+15%GRAPHITE	RTFE		-29℃ ~210℃ (-20 ℉ ~410 ℉)
		TFM	TFM		-100℃ ~260℃ (-148 ℉ ~500 ℉)
5	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
6	BUSHING	STAINLESS STEEL+RTFE			*
7	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
8	GLAND PACKING	PTFE			*-29℃ ~160℃ (-20 ℉ ~320 ℉)
		RTFE			*-29℃ ~210℃ (-20 ℉ ~410 ℉)
9	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
9-1	BOTTOM COVER GASKET	PTFE			*
		RPTFE			
10	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	
		CARBON STEEL	SC480	A216 Gr. WCB	
11	STOP STUD	STAINLESS STEEL	SUS 316	A193 Gr. B8M	*
12	LOCK PLATE	RTFE+316SS			*
13	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
14	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
15	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

Remark:
SHAFT (3) - One-Piece design with ISO 5211 square drive.
SOFT SEAT(4) - Pressure assisted to give bi-directional bubble tight shut off at all pressures.
(Valve must be installed with retaining ring upstream for dead end service.)
RETAINER(5) - Patented design of square thread, ensures an un-interupted sealing face.
GLAND PACKING (8) - Multiply Row of Teflon Chevron.
YOKE(10) - Materials A216 Gr. WCB is only available for F16 and below ;
A536 65-45-12 for F25 and above. Investment Cast, per ISO 5211.
LOCK PLATE (12) - Anti blow out shaft and Anti static design
Each materials can provide on different process of customer's requirements.
" * " KLINGER Denmark A/S offer high quality replacement parts for our own product.

Material

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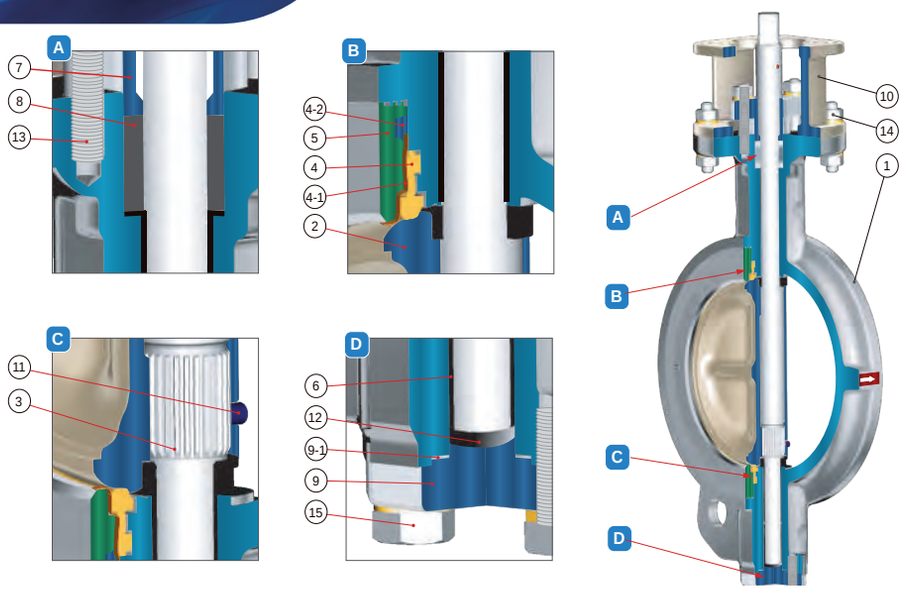
VF-92_A Series

Fire safe Seat - It is used in petrochemical and refining industries and suitable for other applications with high operating temperatures.

ANSI CLASS 150LB I ISO PN 10~PN 25 I JIS 10K 16K 20K

PARTS AND MATERIALS



No.	NAME	MATERIAL	SPECIFICATION		REMARK/SPARE PARTS*
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edge equipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SHAFT	STAINLESS STEEL	SUS 304	A182 Gr. F304	Shaft Equipped With Hard Chrome Plated
			SUS 316	A182 Gr. F316	
			630SS	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
4	SOFT SEAT	PTFE			-29°C ~160°C (-20 °F ~320 °F)
		PTFE+15%GLASS FIBER	RTFE		-29°C ~180°C (-20 °F ~356 °F)
		PTFE+15%GRAPHITE	RTFE		-29°C ~210°C (-20 °F ~410 °F)
		TFM	TFM		-100°C ~260°C (-148 °F ~500 °F)
4-1	METAL SEAT	INCONEL 718	INCONEL	INCONEL	
4-2	GASKET	GRAPHITE			*
5	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
6	BUSHING	STAINLESS STEEL+RTFE			*
7	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
8	GLAND PACKING	GRAPHITE			*
9	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
9-1	BOTTOM COVER GASKET	GRAPHITE			*
10	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	
		CARBON STEEL	SC480	A216 Gr. WCB	
11	STOP STUD	STAINLESS STEEL	SUS 316	A193 Gr. B8M	*
12	LOCK PLATE	RTFE+316SS			*
13	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
14	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
15	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

Remark

SHAFT(3) - One-Piece design with ISO 5211 square drive.

SOFT SEAT (4) - Bi - directional soft seat(4) design for zero leakage in normal operation and a metal-to-metal seal(4-1) after fire, meeting "Fire-safe" requirement. (Valve must be installed with retaining ring upstream for dead end service.)

RETAINER (5) - Patented design of square thread, ensures an un-inrerupted sealing face.

GLAND PACKING (8) - Graphite packing ensures no leakage during fire.

YOKE(10) - Materials A216 Gr. WCB is only available for F16 and below ; A536 65-45-12 for F25 and above. Investment Cast, per ISO 5211.

LOCK PLATE(12) - Anti blow out shaft and Anti static design.

Each materials can provide on different process of customer's requirements.

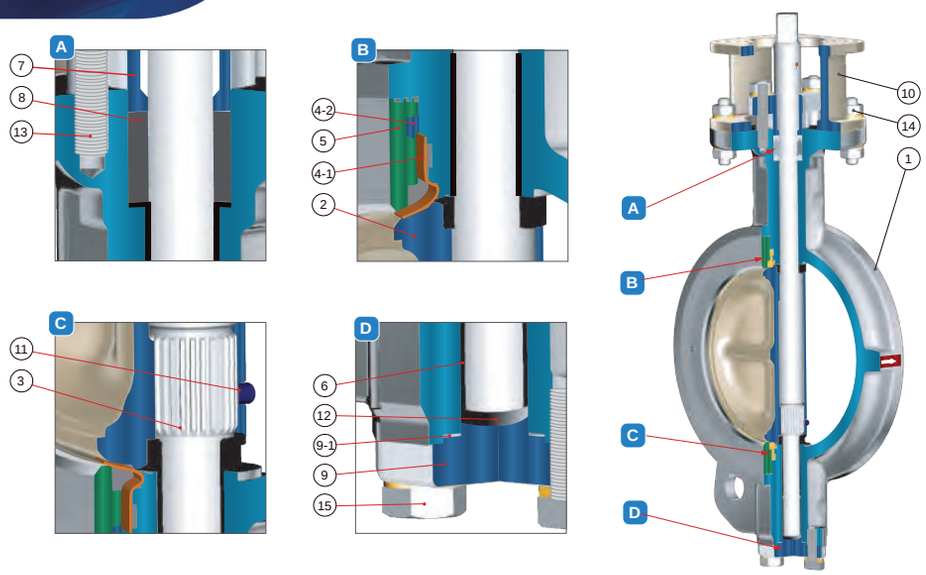
" * " KLINGER Denmark A/S offer high quality replacement parts for our own product.

VF-93_A Series

Metal Seat - Suitable for petrochemical and oil refining industries with high operating temperatures below 500°C (932 °F).

ANSI CLASS 150LB I ISO PN 10~PN 25 I JIS 10K 16K 20K

PARTS AND MATERIALS



No.	NAME	MATERIAL	SPECIFICATION		REMARK/SPARE PARTS*
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edgeequipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SHAFT	STAINLESS STEEL	SUS 304	A182 Gr. F304	Shaft Equipped With Hard Chrome Plated
			SUS 316	A182 Gr. F316	
			630SS	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
4-1	METAL SEAT	INCONEL 718	INCONEL	INCONEL	
4-2	GASKET	GRAPHITE			*
5	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
6	BUSHING	STAINLESS STEEL+RTFE			*
7	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
8	GLAND PACKING	GRAPHITE			*
9	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
9-1	BOTTOM COVER GASKET	GRAPHITE			*
10	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	
		CARBON STEEL	SC480	A216 Gr. WCB	
11	STOP STUD	STAINLESS STEEL	SUS 316	A193 Gr. B8M	*
12	LOCK PLATE	RTFE+316SS			*
13	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
14	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
15	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

SHAFT (3) - One-Piece design with ISO 5211 square drive.
Metal Seat (4-1) - Bi-direction self sealing metal seat design for leakage rated at Class IV per ANSI FCI 70-2 or better.(Retaining ring fixed at upstream when dead end service.)
RETAINER (5) - Patented design of square thread, ensures an un-interupted sealing face.
GLAND PACKING(8) - Graphite packing suit for high temperature service.
YOKE(10) - Materials A216 Gr. WCB is only available for F16 and below ; A536 65-45-12 for F25 and above. Investment Cast, per ISO 5211.
LOCK PLATE(12) - Anti blow out shaft and Anti static design.
Each materials can provide on different process of customer's requirements.
" * " KLINGER Denmark A/S offer high quality replacement parts for our own product.

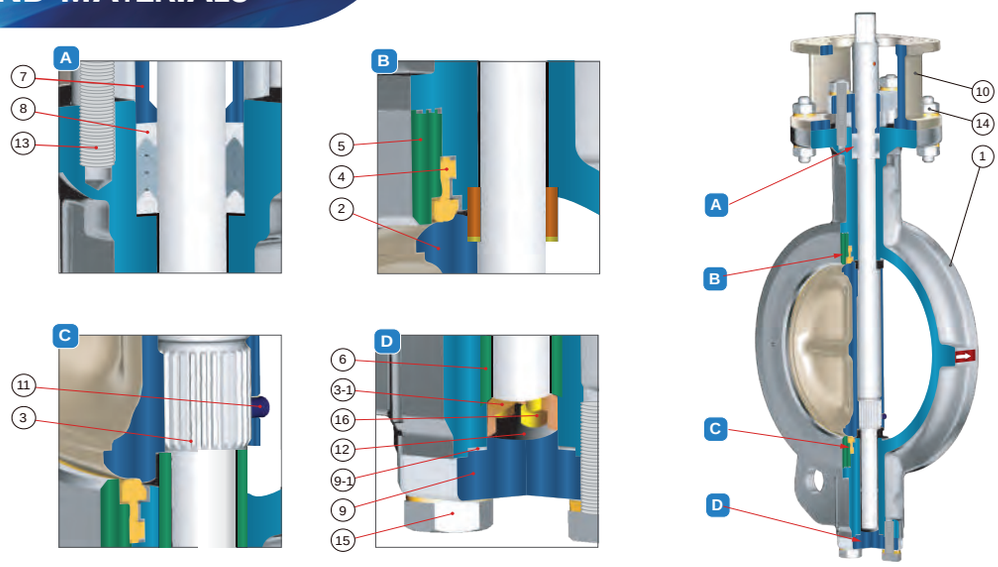
Material

VF-94_A Series

SOFT SEAT
Suitable for applications in petrochemical and food industries at ambient temperatures.

ANSI CLASS 300LB | ISO PN 40~PN 50 | JIS 30K 40K

PARTS AND MATERIALS



No.	NAME	MATERIAL	SPECIFICATION		REMARK/SPARE PARTS*
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edge equipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SHAFT	STAINLESS STEEL	SUS 304	A182 Gr. F304	Shaft Equipped With Hard Chrome Plated
			SUS 316	A182 Gr. F316	
3-1	SHAFT STOP		630SS	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
4	SOFT SEAT	PTFE+15%GLASS FIBER	RTFE		-29℃ ~180℃ (-20 °F ~356 °F)
		PTFE+15%GRAPHITE	RTFE		-29℃ ~210℃ (-20 °F ~410 °F)
		TFM	TFM		-100℃ ~260℃ (-148 °F ~500 °F)
5	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
6	BUSHING	STAINLESS STEEL+RTFE			*
7	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
8	GLAND PACKING	PTFE			*-29℃ ~160℃ (-20 °F ~320 °F)
		RTFE			*-29℃ ~210℃ (-20 °F ~410 °F)
9	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
9-1	BOTTOM COVER GASKET	PTFE			*
		RPFE			
10	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	
		CARBON STEEL	SC480	A216 Gr. WCB	
11	STOP STUD	STAINLESS STEEL	SUS 316	A193 Gr. B8M	*
12	LOCK PLATE	RTFE+316SS			*
13	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
14	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
15	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

Remark
SHAFT (3) - One-Piece design with ISO 5211 square drive and key way drive.
SOFT SEAT (4) - Pressure assisted to give Bi-directional bubble tight shutoff at all pressures.
RETAINER (5) - Patented design of twin threads, ensures an un-inrerupted sealing face.(Valve must be installed with retaining ring upstream for dead end service.)
GLAND PACKING (8)- Multiply Row of Teflon Chevron.
YOKE(10) - Materials A216 Gr. WCB is only available for F16 and below ; A536 65-45-12 for F25 and above. Investment Cast, per ISO 5211.
LOCK PLATE(12)- Anti blow out shaft and Anti static design.
Each materials can provide on different process of customer's requirements.
" * " KLINGER Denmark A/S offer high quality replacement parts for our own product.

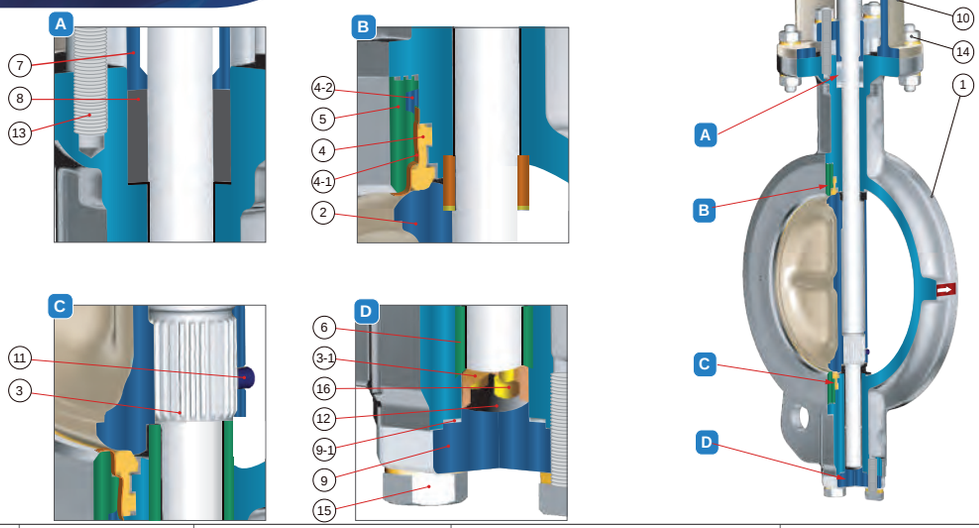
KLINGER Denmark A/S | Nyager 12-14 | DK-2605 Broendby | T +45 43 64 66 11 | www.klinger.dk

VF-95_A Series

Fire safe Seat - It is used in petrochemical and refining industries and suitable for other applications with high operating temperatures.

ANSI CLASS 300LB I ISO PN 40~PN 50 I JIS 30K 40K

PARTS AND MATERIALS



No.	NAME	MATERIAL	SPECIFICATION		REMARK/SPARE PARTS*
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edge equipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SHAFT	STAINLESS STEEL	SUS 304	A182 Gr. F304	Shaft Equipped With Hard Chrome Plated
			SUS 316	A182 Gr. F316	
3-1	STOP SHAFT		630SS	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
4	SOFT SEAT	PTFE+15%GLASS FIBER	RTFE		-29℃ ~180℃ (-20 °F ~356 °F)
		PTFE+15%GRAPHITE	RTFE		-29℃ ~210℃ (-20 °F ~410 °F)
		TFM	TFM		-100℃ ~260℃ (-148 °F ~500 °F)
4-1	METAL SEAT	INCONEL 718	INCONEL	INCONEL	
4-2	GASKET	GRAPHITE			*
5	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
6	BUSHING	STAINLESS STEEL+RTFE			*
7	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
8	GLAND PACKING	GRAPHITE			*
9	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
9-1	BOTTOM COVER GASKET	GRAPHITE			*
10	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	
		CARBON STEEL	SC480	A216 Gr. WCB	
11	STOP STUD	STAINLESS STEEL	SUS 316	A193 Gr. B8M	*
12	LOCK PLATE	RTFE+316SS			*
13	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
14	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
15	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	
16	SOCKET HEAD CAP BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

Remark

SHAFT (3)- One-Piece design with ISO 5211 square drive and key way drive.

SOFT SEAT (4) & METAL SEAT (4-1) - Bi - directional soft seat(4) design for zero leakage in normal operation and a metal-to-metal seal(4-1) after fire, meeting "Fire-safe" requirement. (Valve must be installed with retaining ring upstream for dead end service.)

RETAINER (5) - Patented design of twin threads, ensures an un-inrerupted sealing face.

GLAND PACKING (8) - Adjustable 2 - Piece assemblyapplies even pressure to packing.

YOKE(10) - Materials A216 Gr. WCB is only available for F16 and below ; A536 65-45-12 for F25 and above. Investment Cast, per ISO 5211.

LOCK PLATE(12) - Anti blow out shaft and Anti static design.

Each materials can provide on different process of customer's requirements.

" * " KLINGER Denmark A/S offer high quality replacement parts for our own product.

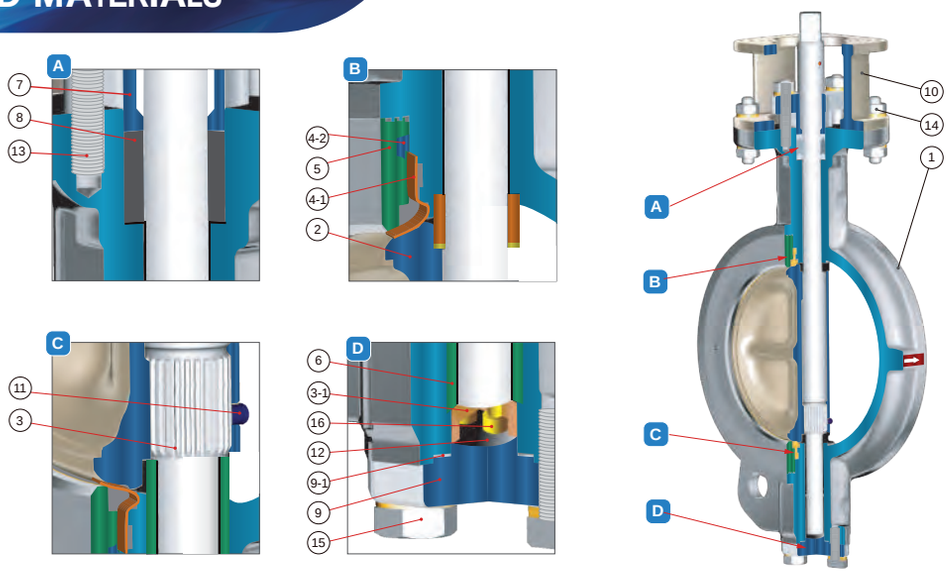
Material

VF-96_A Series

Metal Seat - Suitable for petrochemical and oil refining industries with high operating temperatures below 500°C (932 °F).

ANSI CLASS 300LB I ISO PN 40~PN 50 I JIS 30K 40K

PARTS AND MATERIALS



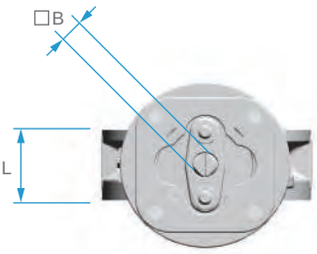
No.	NAME	MATERIAL	SPECIFICATION		REMARK/SPARE PARTS*
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edge equipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SHAFT	STAINLESS STEEL	SUS 304	A182 Gr. F304	Shaft Equipped With Hard Chrome Plated
			SUS 316	A182 Gr. F316	
3-1	SHAFT STOP		630SS	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
4-1	METAL SEAT	INCONEL 718	INCONEL	INCONEL	
4-2	GASKET	GRAPHITE			*
5	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
6	BUSHING	STAINLESS STEEL+RTFE			
7	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
8	GLAND PACKING	GRAPHITE			*
9	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
9-1	BOTTOM COVER GASKET	GRAPHITE			*
10	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	
		CARBON STEEL	SC480	A216 Gr. WCB	
11	STOP STUD	STAINLESS STEEL	SUS 316	A193 Gr. B8M	*
12	LOCK PLATE	RTFE+316SS			*
13	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
14	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
15	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	
16	SOCKET HEAD CAP BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	

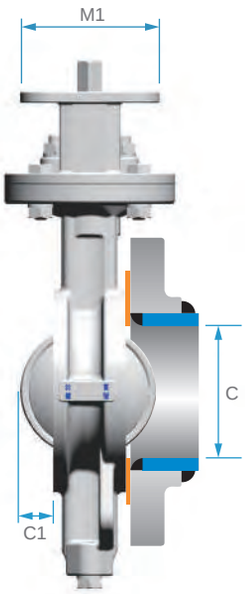
Remark
SHAFT (3)- One-Piece design with ISO 5211 square drive and key way drive.
METAL SEAT(4-1)- Pressure assisted to give Bi - directional bubble tight shutoff at all pressures.(Valve must be installed with retaining ring upstream for dead end service.)
RETAINER (5)- Patented design of twin threads, ensures an un-inrerupted sealing face.
GLAND PACKING (8)- Adjustable 2 - Piece assemblyapplies even pressure to packing.
YOKE(10)- Materials A216 Gr. WCB is only available for F16 and below ; A536 65-45-12 for F25 and above. Investment Cast, per ISO 5211.
LOCK PLATE(12)- Anti blow out shaft and Anti static design.
Each materials can provide on different process of customer's requirements.
" * " KLINGER Denmark A/S offer high quality replacement parts for our own product.

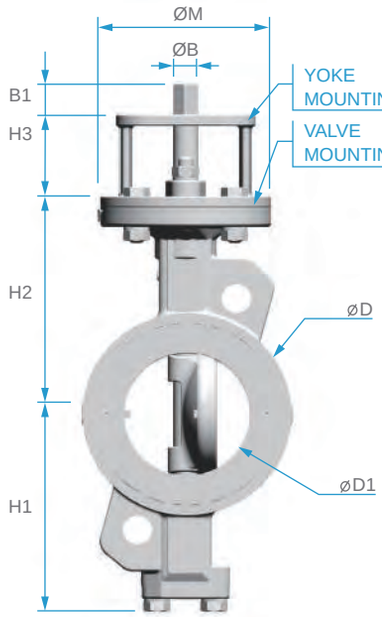
VF-910A VF-920A VF-930A WAFER TYPE

ANSI CLASS 150LB I ISO PN 10~PN 25 I JIS 10K 16K 20K

DIMENSIONS







Note: 6" down

Note: 8" and up

Unit : mm

Size		Face to Face	Dimension							Mounting Flange (ISO 5211)					Shaft End			Suitable Pipe Flange	Weight
										VALVE		YOKE							
mm	inch	L	H1	H2	H3	φD	φD1	C	C1	TYPE	φM	TYPE		M1	φB	□B	B1	★	kg
50	2	43	99	118	60	92	38	19	2	F07	90	F07	F05	70	14	11	18	ABCDEFGK	4
65	2.5	46	111	125	60	108	63	56	15	F07	90	F07	F05	70	14	11	18	ABCDEFGHK	5
80	3	47	128	140	70	126	78	74	22	F10	125	F10	F07	102	18	14	23	ABCDEFGHK	8
100	4	53	150	157	70	153	95	86	25	F10	125	F10	F07	102	18	14	23	ABCDEFGHK	10
125	5	57	163	170	70	184	118	112	36	F10	125	F10	F07	102	22	17	23	ABCDEFGHK	13
150	6	56	176	185	70	212	143	138	49	F10	125	F10	F07	102	22	17	23	ABCDEFGHK	14
200	8	62	206	220	80	268	188	182	68	F12	150	F12	F10	125	25	19	28	ABCDEFGHK	25
250	10	68	238	260	80	326	236	230	89	F12	150	F12	F10	125	28	22	28	ABCDEFGHK	33
300	12	78	269	290	100	375	282	275	106	F14	175	F14	F12	160	35	27	37	ABCDEFGHK	48
350	14	78/92	306	326	100	416	322	314	125	F14	175	F14	F12	160	36	27	37	ABCDEFGHK	64
400	16	102	342	370	120	476	371	361	140	F16	210	F16	F14	195	48	36	47	ABCDEFGHK	102
450	18	114	370	395	120	534	418	406	157	F16	210	F16	F14	195	48	36	47	ABCDEFGHK	129
500	20	127	397	430	120	588	466	453	177	F16	210	F16	F14	195	60	46	56	ABCDEFGHK	123
600	24	154	455	490	150	692	570	550	210	F25	300	F16	-	300	60	46	56	ABCDEFGK	273
600	24	154	455	490	150	692	570	550	210	F25	300	F25	-	300	60	46	56	ABCDEFGK	276
★	A : ASME 150LB B : ISO PN10 C : ISOPN16 D : ISO PN20 E : ISO PN25 F : JIS 10K G : JIS 16K H : 20K K :B.S.10 TABLE E																	Inside Pipe Diameter > C	

*Other dimensions please consult with KLINGER Denmark A/S

Dimension

VF-913A VF-923A VF-933A LUG TYPE

ANSI CLASS 150LB I ISO PN 10~PN 25 I JIS 10K 16K 20K

DIMENSIONS

Unit : mm

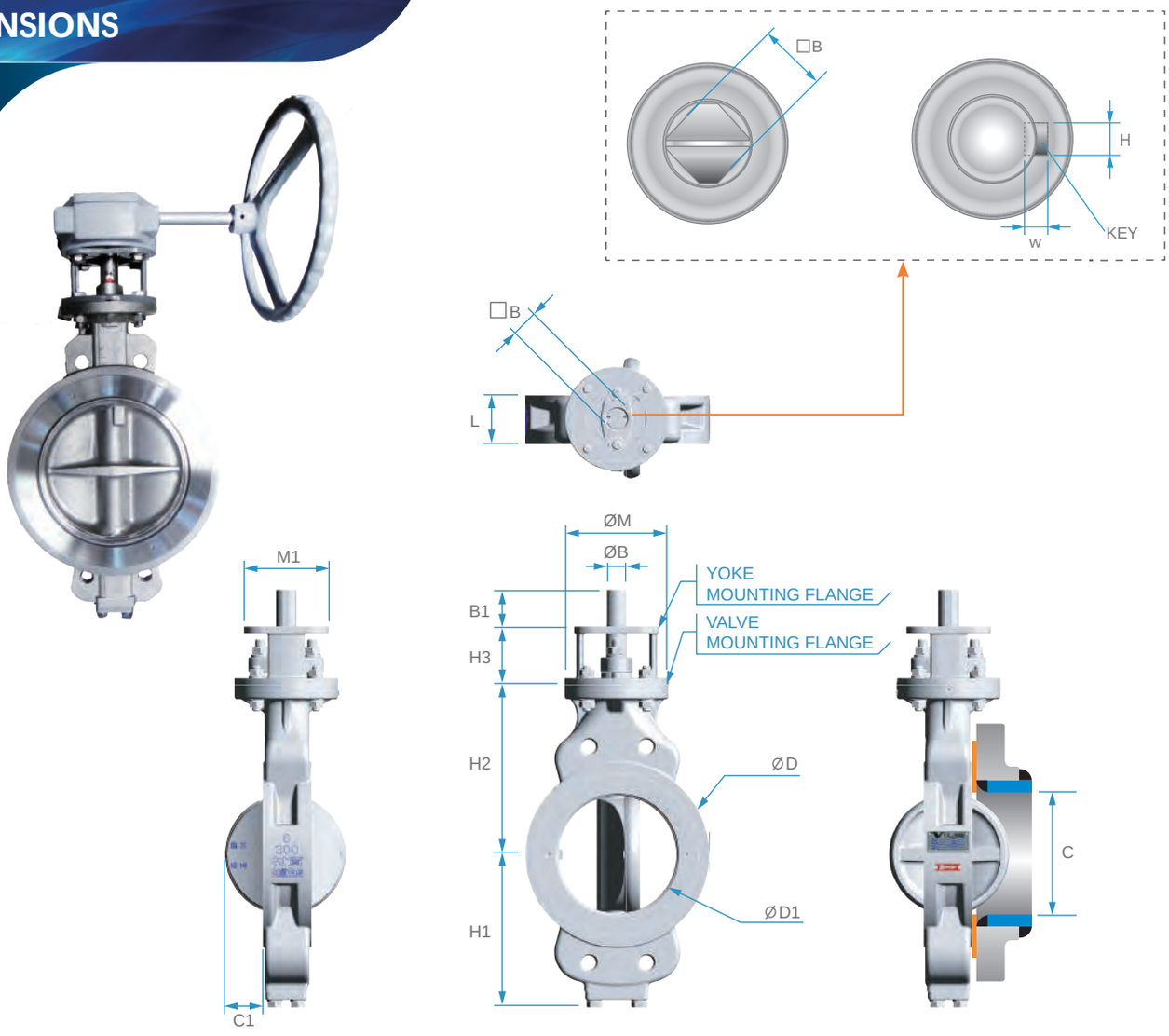
Size		Face to Face	Dimension							Mounting Flange (ISO 5211)					Shaft end			Suitable Pipe Flange	Weight
										VALVE		YOKE							
mm	inch	L	H1	H2	H3	φD	φD1	C	C1	TYPE	φM	TYPE		M1	φB	□B	B1	★	kg
50	2	43	99	118	60	92	38	19	2	F07	90	F07	F05	70	14	11	18	ABCDEFK	5
65	2.5	46	111	125	60	108	63	56	15	F07	90	F07	F05	70	14	11	18	ABCDEFGHK	9
80	3	47	128	140	70	126	78	74	22	F10	125	F10	F07	102	18	14	23	ABCDEFGHK	10
100	4	53	150	157	70	153	95	86	25	F10	125	F10	F07	102	18	14	23	ABCDEFGHK	16
125	5	57	163	170	70	184	118	112	36	F10	125	F10	F07	102	22	17	23	ABCDEFGHK	19
150	6	56	176	185	70	212	143	138	49	F10	125	F10	F07	102	22	17	23	ABCDEFGHK	20
200	8	62	206	220	80	268	188	182	68	F12	150	F12	F10	125	25	19	28	ABCDEFGHK	33
250	10	68	238	260	80	326	236	230	89	F12	150	F12	F10	125	28	22	28	ABCDEFGHK	47
300	12	78	269	290	100	375	282	275	106	F14	175	F14	F12	160	35	27	37	ABCDEFGHK	77
350	14	78/92	306	326	100	416	322	314	125	F14	175	F14	F12	160	36	27	37	ABCDEFGHK	90
400	16	102	342	370	120	476	371	361	140	F16	210	F16	F14	195	48	36	47	ABCDEFGHK	138
450	18	114	370	395	120	534	418	406	157	F16	210	F16	F14	195	48	36	47	ABCDEFGHK	164
500	20	127	397	430	120	588	466	453	177	F16	210	F16	F14	195	60	46	56	ABCDEFGHK	189
600	24	154	455	490	150	692	570	550	210	F25	300	F16	-	300	60	46	56	ABCDE	367
600	24	154	455	490	150	692	570	550	210	F25	300	F25	-	300	60	46	56	ABCDE	370
★	A : ASME 150LB B : ISO PN10 C : ISOPN16 D : ISO PN20 E : ISO PN25 F : JIS 10K G : JIS 16K H : 20K K : B.S.10 TABLE E																	Inside Pipe Diameter > C	

*Other dimensionsplease consult with KLINGER Denmark A/S

VF-940A VF-950A VF-960A WAFER TYPE

ANSI CLASS 300LB I ISO PN 40~PN 50 I JIS 30K 40K

DIMENSIONS



Unit : mm

Size		Face to Face	Dimensions							Mounting Flange (ISO 5211)					Shaft End				Suitable Pipe Flange	Weight
										VALVE		YOKE								
mm	Inch	L	H1	H2	H3	φD	φD1	C	C1	Type	φM	Type		M1	φB	□B	B1	KEY(HxW)	★	kg
50	2	43	99	118	60	92	38	19	2	F07	90	F07	F05	70	14	11	18	-	LMN	4
65	2.5	46	111	125	60	108	63	56	15	F07	90	F07	F05	70	14	11	18	-	LMN	5
80	3	47	128	140	70	126	78	74	22	F10	125	F10	F07	102	18	14	23	-	LMNO	8
100	4	53	150	157	70	153	95	86	25	F10	125	F10	F07	102	18	14	23	-	LMNO	9
125	5	57	163	170	70	184	118	112	36	F10	125	F10	F07	102	22	17	23	-	LMN	12
150	6	59	185	205	70	222	145	132	42	F10	125	F10	F07	102	25	-	45	8*8	LMNO	24
200	8	73	230	260	80	268	186	177	61	F12	150	F12	F10	125	32	-	55	8*8	LMNO	37
250	10	83	266	295	100	326	233	225	79	F14	175	F14	F12	160	38	-	60	10*8	LMN	54
300	12	92	300	325	100	381	280	270	98	F14	175	F14	F12	160	45	-	65	12*8	LMNOP	76
350	14	117	330	365	120	416	318	303	105	F16	210	F16	F14	195	50	-	80	16*10	LMN	109
400	16	133	368	400	120	482	370	350	122	F16	210	F16	F14	195	60	-	80	18*12	LMNOP	134
450	18	149	385	440	120	550	413	403	137	F16	210	F16	F14	195	65	-	80	18*12	LMN	213
500	20	159	427	470	150	592	466	443	157	F25	300	F25	-	300	75	-	110	20*12	LMN	276
600	24	181	516	563	150	725	566	541	196	F30	350	F30	-	350	80	-	120	24*16	LMN	451
★	L : ASME 300LB M : ISO PN40 N:ISO PN50 O : JIS 30K P : JIS 40K																		Inside Pipe Diameter > C	

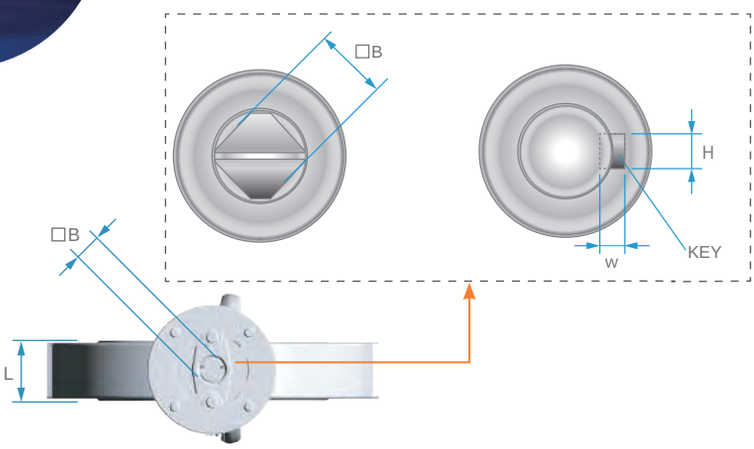
Note: VF-95_ and VF-96_ Series, 14" and above please contact to KLINGER Denmark A/S

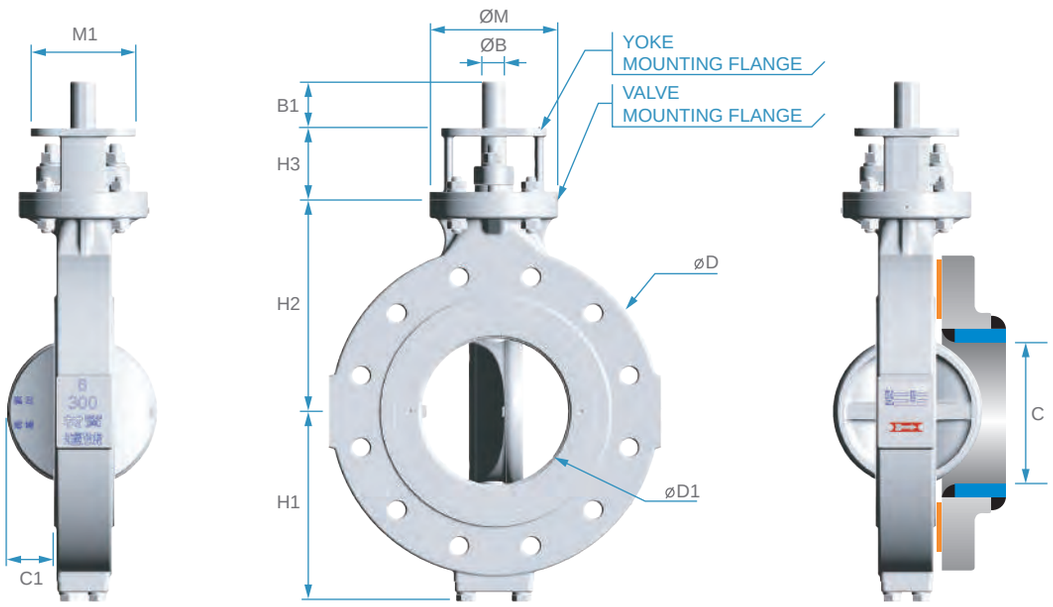
Dimension

VF-943A VF-953A VF-963A LUG TYPE

ANSI CLASS 300LB I ISO PN 40~PN 50 I JIS 30K 40K

DIMENSIONS





Dimension

Unit : mm

Size		Face to Face	Dimensions							Mounting Flange (ISO 5211)					Shaft End				Suitable Pipe Flange	Weight
										VALVE		YOKE								
mm	Inch	L	H1	H2	H3	φD	φD1	C	C1	Type	φM	Type		M1	φB	□B	B1	KEY(HxW)	★	kg
50	2	43	99	118	60	92	38	19	2	F07	90	F07	F05	70	14	11	18	-	LMN	6
65	2.5	46	111	125	60	188	63	56	15	F07	90	F07	F05	70	14	11	18	-	LMN	7
80	3	47	128	140	70	210	78	74	22	F10	125	F10	F07	102	18	14	23	-	LMN	11
100	4	53	150	157	70	240	95	86	25	F10	125	F10	F07	102	18	14	23	-	LMN	14
125	5	57	163	170	70	275	118	112	36	F10	125	F10	F07	102	22	17	23	-	LMN	18
150	6	59	185	205	70	320	145	132	42	F10	125	F10	F07	102	25	-	45	8*8	LMN	35
200	8	73	230	260	80	381	185	177	61	F12	150	F12	F10	125	32	-	55	8*8	LMNO	57
250	10	83	266	295	100	445	233	225	79	F14	175	F14	F12	160	38	-	60	10*8	LMN	90
300	12	92	300	325	100	521	280	270	98	F14	175	F14	F12	160	45	-	65	12*8	LMNOP	139
350	14	117	330	365	120	585	318	303	105	F16	210	F16	F14	195	50	-	80	16*10	LMN	205
400	16	133	368	400	120	650	370	350	122	F16	210	F16	F14	195	60	-	80	18*12	LMN	209
450	18	149	385	440	120	712	413	403	137	F16	210	F16	F14	195	65	-	80	18*12	LMN	291
500	20	159	427	470	150	775	466	443	157	F25	300	F25	-	300	75	-	110	20*12	LMN	496
600	24	181	516	563	150	915	566	541	196	F30	350	F30	-	350	80	-	120	24*16	LMN	643
★	L : ASME 300LB M : ISO PN40 N:ISO PN50 O : JIS 30K P : JIS 40K																	Inside Pipe Diameter > C		

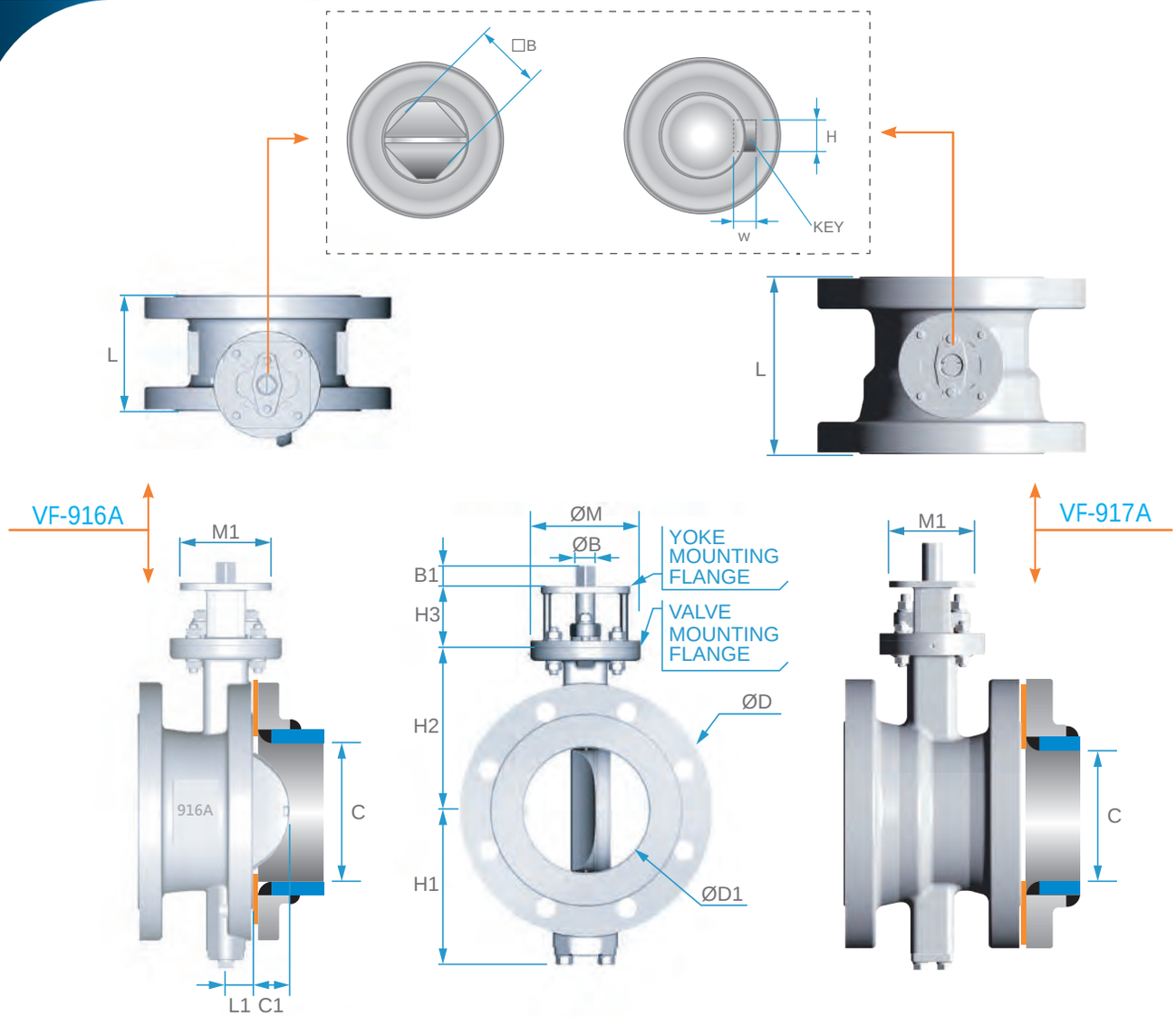
Note: VF-95_ and VF-96_ Series, 14" and above please contact to KLINGER Denmark A/S

VF-916A VF-917A FLANGE TYPE

I ISO PN 10~PN 25 I JIS 10K 16K 20K

ANSI CLASS 150LB

DIMENSIONS



Unit : mm

Size		Face to Face		Dimensions								Mounting Flange (ISO 5211)					Shaft End			Suitable Pipe Flange	Weight (kg)	
		L										VALVE		YOKE								
mm	inch	916	917	H1	H2	H3	φD	φD1	C1	C	L1	Type	φM	TYPE		M1	φB	□B	B1	★	916	917
80	3	114	180	128	140	70	190	78	17.5	70	26	F10	125	F10	F07	102	18	14	23	ABCE	12	15
100	4	127	190	150	157	70	230	104	25	89	27	F10	125	F10	F07	102	18	14	23	ABCDFGHK	20	23
125	5	140	200	163	170	70	255	125	33	112	31	F10	125	F10	F07	102	22	17	23	ABCDFK	24	28
150	6	140	210	176	185	70	280	150	45	138	31	F10	125	F10	F07	102	22	17	23	ABCDEF	32	34
200	8	152	230	206	220	80	345	200	65	183	33	F12	150	F12	F10	125	25	19	28	ABCDFGHK	48	56
250	10	165	250	238	260	80	405	255	85	232	36	F12	150	F12	F10	125	28	22	28	ABCDFK	66	72
300	12	178	270	269	290	100	485	300	104	278	41	F14	175	F14	F12	160	35	27	37	ABCDEFGHK	101	118
350	14	190	290	306	326	100	535	340	123	316	40	F14	175	F14	F12	160	36	27	37	ABCDFK	123	148
400	16	216	310	342	370	120	595	390	136	363	53	F16	210	F16	F14	195	48	36	47	ABCDFK	179	214
450	18	222	330	370	395	120	635	440	154	409	59	F16	210	F16	F14	195	48	36	47	ABCDF	205	238
500	20	229	350	397	430	120	700	480	169	454	68	F16	210	F16	F14	195	60	46	56	ABCDF	218	293
600	24	267	390	455	490	150	815	590	211	556	77	F25	300	F25	-	300	60	46	56	ABCDF	440	455
★	A : ASME 150LB B : ISO PN10 C : ISOPN16 D : ISO PN20 E : ISO PN25 F : JIS 10K G : JIS 16K H : 20K K : B.S.10 TABLE E Inside Pipe Diameter > C																					

*Other dimensions please consult with KLINGER Denmark A/S

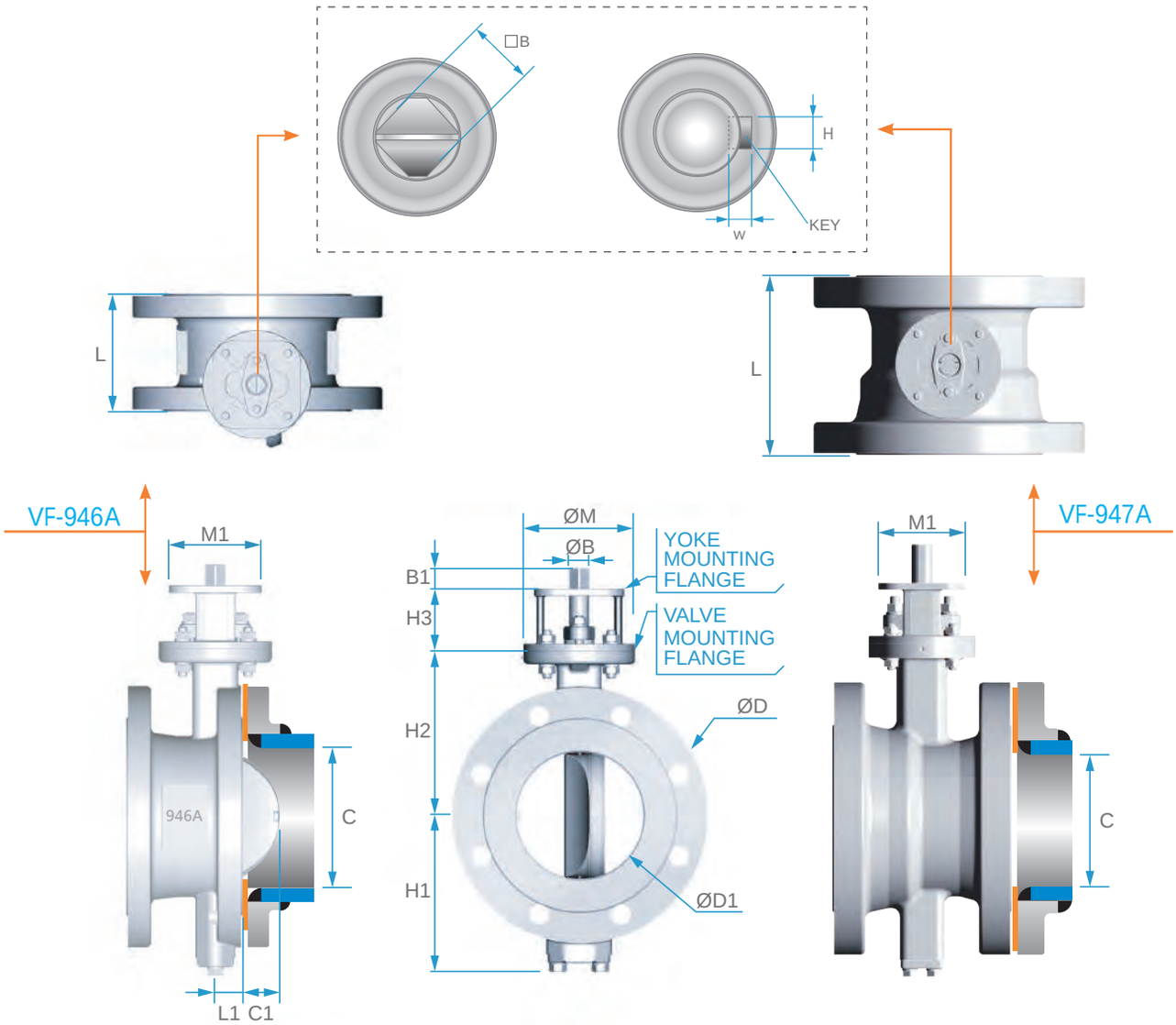
Dimension

VF-946A VF-947A FLANGE TYPE

ISO PN 40~PN 50 I JIS 30K 40K

ANSI CLASS 300LB I

DIMENSIONS



Unit : mm

Size		Face to Face L		Dimensions								Mounting Flange (ISO 5211) VALVE		Mounting Flange (ISO 5211) YOKE			Shaft End				Suitable Pipe Flange	Weight (kg)	
mm	inch	946	947	H1	H2	H3	φD	φD1	C1	C	L1	Type	φM	TYPE		M1	φB	□B	KEY(HxW)	B1	★	946	947
80	3	114	180	121	140	70	214	78	17.5	70	26	F10	125	F10	F07	102	18	14	-	23	LM	17	19
100	4	127	190	150	157	70	254	104	25	89	27	F10	125	F10	F07	102	18	14	-	23	LMO	23	33
125	5	140	200	163	170	70	280	125	33	112	31	F10	125	F10	F07	102	22	17	-	23	LMO	36	41
150	6	140	210	185	205	70	318	150	132	42	30	F10	125	F10	F07	102	25	-	8*8	45	L	52	57
200	8	152	230	230	260	80	385	200	177	61	37	F12	150	F12	F10	125	30	-	8*8	55	LMO	74	91
250	10	165	250	266	295	100	445	255	225	79	42	F14	175	F14	F12	160	35	-	10*8	60	LO	116	136
300	12	178	270	300	325	100	521	300	270	98	46	F14	175	F14	F12	160	38	-	12*8	65	LMO	167	185
350	14	190	290	330	365	120	585	340	303	105	59	F16	210	F16	F14	195	48	-	16*10	80	LMO	227	254
400	16	216	310	368	400	120	648	390	359	122	67	F16	210	F16	F14	195	60	-	18*12	80	L	296	317
450	18	222	330	385	440	120	712	438	403	137	75	F16	210	F16	F14	195	70	-	18*12	90	LMO	375	444
500	20	229	350	427	470	150	775	485	443	157	80	F25	300	F25	-	300	80	-	20*12	110	LMO	463	558
600	24	267	390	516	563	150	915	590	541	196	91	F30	350	F30	-	350	90	-	24*16	120	LMO	667	822
★	L : ASME 300LB M : ISO PN40 N : ISO PN50 O : JIS 30K P : JIS 40K																				Inside Pipe Diameter > C		

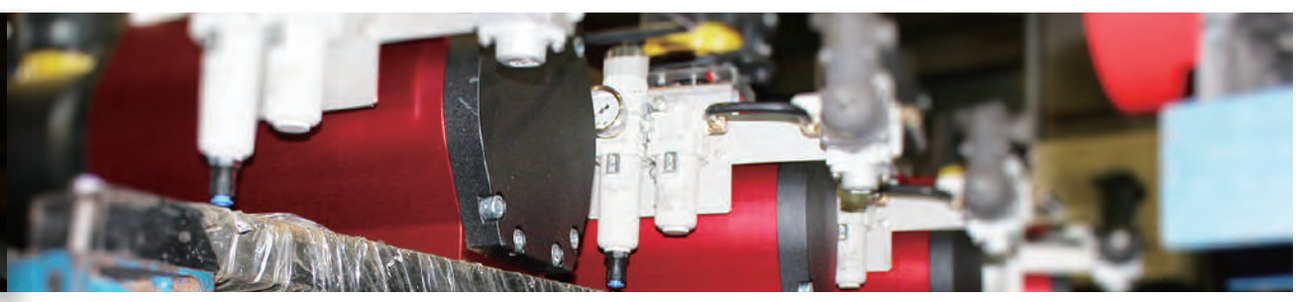
*Other dimensions please consult with KLINGER Denmark A/S

SPECIAL OFFER

The VF-9 series can be customized according to customer's requirements. For more details please contact us:
info@klinger.dk

APPLICABLE STANDARDS

End Connection: Wafer , Lugged , Flanged
Wall Thickness: ASME B16.34
Mounting Flange: ISO 5211
Design & Pressure: ASME B16.34, 16.5
Face to Face: API 609, ISO 5752
Pressure Test: ISO 5208, API 598,
Fire Safe Approval: API 607, ISO 10497
Fugitive Emission Approval:
ANSI/ISA-SP-93, TA-Luft, ISO15848-1/-2
Marketing: MSS-SP-25
EX certificate: ATEX 94/9/CE Group II Category 2 GD
Leakage Class: ANSI FCI 70-2-2003 Table 1 CLASS V,
ISO 5208 Rate A, ANSI/ISA-SP-93
Safety Integrity Level 3(SIL3) : IEC61508-1
Flange Connections:
ASME B16.5 Class 150/300, ASME B16.47 Class 150/300
(Other flange connections are available upon demand)
Information provided is not contractual, data may be changed without notice.



General Ordering Information

		TYPE	PRESSURE RATING	END CONNECTION	A TYPE		SPECIAL OFFER		SIZE		BODY	DISC	SHAFT		SEAT		FLANGE DRILLING		OPERATOR
VF	-	9	X	X	A	-	X	-	X	-	X	X	X	-	X	-	X	-	X

PRESSURE RATING		
1	150LB	Soft Seat
2		Soft Seat+ Metal Seat
3		Metal Seat
4	300LB	Soft Seat
5		Soft Seat+ Metal Seat
6		Metal Seat

END CONNECTION	
0	WAFER
3	LUG
6	FLANGE (SHORT)
7	FLANGE (LONG)

OPERATOR	
N	BARE SHAFT
G	GEAR BOX
P	PNEUMATIC
E	ELECTRIC
H	HYDRAULIC
L	LEVER

FLANGE DRILLING		
A	150 LB	ASME B16.5 150LB
B		ISO 7005-1 PN10
C		ISO 7005-1 PN16
D		ISO 7005-1 PN20
E		ISO 7005-1 PN25
F		JIS 10K
G		JIS 16K
H		JIS 20K
K		B.S. 10 Table E
L	300 LB	ASME B16.5 300LB
M		ISO 7005-1 PN40
N		ISO 7005-1 PN50
O		JIS 30K
P		JIS 40K

SIZE	mm
02	50
025	65
03	80
04	100
05	125
06	150
08	200
10	250
12	300
14	350
16	400
18	450
20	500
24	600

SPECIAL OFFER	
N	NONE
E	EMISSION
P	INTERAL POLLISHED
L	CRYOGENIC (VF-930) -100 ~50˚C (-148 ˚F ~122 ˚F)
H	WORK TEMP. (VF-930) 350˚C ~500˚C (662 ˚F ~932 ˚F)
J	JACKET
0	OTHERS

BODY		DISC		SHAFT	
WB	WCB	13	CF8	34	A182 F304
13	CF8	14	CF8M	36	A182 F316
14	CF8M	0	OTHER	63	A564 630
0	OTHER			XM	XM-19
				0	OTHER

SEAT	
P	PTFE (VF-91_ ONLY)
PG	PTFE+15%GRAPHITE (VF-91_ 94_)
PGF	PTFE+15%GLASS FIBER (VF-91_ 94_)
PI	PTFE+INCONEL (VF-92_)
PGI	PTFE+15%GRAPHITE+INCONEL (VF-92_95_)
PFI	PTFE+15%FIBER+INCONEL (VF-92_ 95_)
I	INCONEL (VF-93_ 96_)
T	TFM(VF-91_ 94_)
TI	TFM+INCONEL(VF-92_ 95)
U	UPE(VF-91_ 94_)

OTHER MATERIALS					
BODY		DISC		SHAFT	
LB	LCB	3L	CF3	IN	INCONEL
42	WC6	6L	CF3M	MO	MONEL
3L	CF3	8M	CG8M	HA	HASTALLOY
6L	CF3M	7L	CG3M	20	ALLOY 20
8M	CG8M	IN	INCONEL	TI	Ti
7L	CG3M	MO	MONEL	TT	316Ti
IN	INCONEL	HA	HASTELLOY	D3	S32750
MO	MONEL	20	ALLOY20		
HA	HASTELLOY	TI	Ti		
20	ALLOY20	TT	316Ti		
TI	Ti	5A	CE3MN		
TT	316Ti				
5A	CE3MN				

Note: Example VF-910A-E-08-WB13XM-P-F-N
shall be a:
High Performance Butterfly Valve(9)˚
ANSI 150LB Teflon Seat(1)˚ Wafer Type(0)˚
Emission(E)˚ DN200(08)˚
WCB Body(WB)˚ CF8 Disc(13)˚
Shaft in XM-19(XM)˚ Seat in PTFE(P)˚
Flange Drilling in JIS10K(F)˚ Bare Shaft(N)
* For any other special offers, please contact KLINGER Denmark A/S