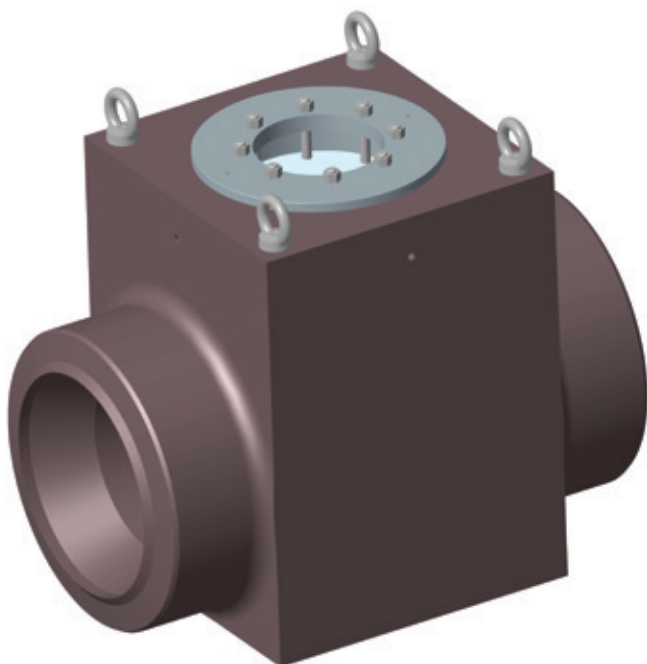


SEMPPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES

SWING CHECK CONFIGURATION FIG. 6042 - 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

Pressure seal forged check valves recommended to prevent flow reversal in severe applications



FEATURES

- High quality forged materials to guarantee pressure envelope integrity, to conform with ASME and DIN standards.
- Designed to comply with ASME B16.34, API 600, ISO, DIN, TRD, VGB, TRB, PED.
- CE mark 100% Compliance with European Pressure Equipment Directive 2014/68/EU.
- Advanced pressure seal design and pure graphite gasket rings to ensure high tightness and to comply with the Health, Safety and Environment requirements for fugitive emissions control.
- Supplied as swing check and tilting disc configurations.
- Slam-free operation offered by tilting disc configuration.
- Special constructions/materials, screw down check valve configuration - all available upon request.

GENERAL APPLICATION

Specifically thought to satisfy the requirements of the power industry, the Sempell Raisteam high pressure forged check valves are also indicated for use in any high temperature application (i.e. chemical, petrochemical, offshore plants).

TECHNICAL DATA

Sizes:	DN 50 - DN 750 (NPS 2 - NPS 30)
Pressure ratings:	ASME Class 900 to 4500 DIN PN 160 to PN 720
Body materials:	forged carbon steels, alloys steels and stainless steels. All in compliance with ASME and DIN standards
Temperature [°C]:	-46 to + 650
Connections standards	
Flanges:	ASME B16.5.
Buttweld:	ASME B16.25, DIN 2448
Other connections on request.	

SEMPPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES

SWING CHECK CONFIGURATION FIG. 6042 – 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

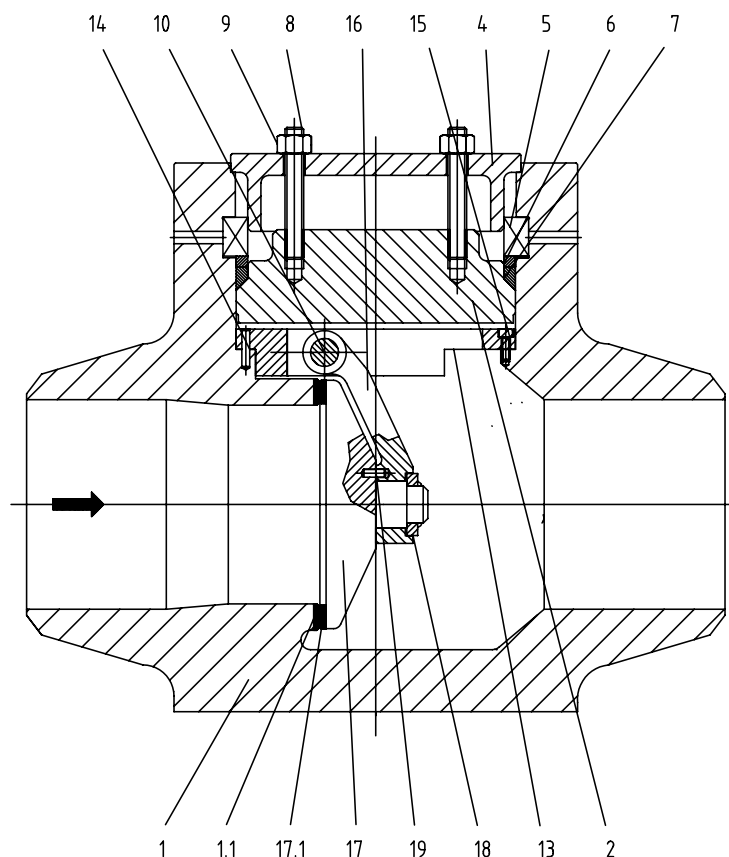
FIGURE 6042 TO 6045

Fig.	Range class	PN
6042	601 - 900	[09] 110 - 160
6043	901 - 1500	[15] 161 - 250
6044	1501 - 2500	[25] 251 - 500
6045	2501 - 4500	[45] 501 - 720

TRIM MATERIAL TO API 600

	Body	Disc	
	Seat surface	Seating surface	Hinge pin
Item	1.1	17.1	10
1	13% Cr	13% Cr	13% Cr
5	Stellite	Stellite	13% Cr
8	Stellite	13% Cr	13% Cr
12	F316/Stellite	F316/Stellite	F316

SWING CHECK VALVES



MATERIAL SPECIFICATIONS

	41	42	43	44	45	46	47	48	49
	-20°C - 425°C	-46°C - 425°C	200°C - 540°C	250°C - 550°C	400°C - 575°C	500°C - 650°C	38°C - 450°C	130°C - 650°C	500°C - 650°C
	A105 1.0460	LF2 TT5 1.0411	F1 15Mo3 1.5415	F12 13CrMo44 1.7335	F22 10CrMo910 1.7380	F91 P91 1.4903	15NiCuMoNb5 1.6368	X6CrNiNb1810 1.4550	F92 P92 1.4901
1 Body	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
2 Bonnet	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
4 Safety ring	A105	A105	A105	A105	A105	A105	A105	A105	A105
5 Segment ring	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
6 Ring	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
7 Gasket	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite	Pure graphite
8 Bolts	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7
9 Nuts	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H
13 Plate	A105 1.0460	LF2 TT5	F12 13CrMo44	F12 13CrMo44	F22 10CrMo910	F22 10CrMo910	A105 C22.8	F316 X6CrNiNb1810	F22 10CrMo910
14 Pins	13Cr	13Cr	13Cr	13Cr	13Cr	13Cr	13Cr	F316	13Cr
15 Socket screw	F316	F316	F316	F316	F316	F316	F316	F316	F316
16 Hinge	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F22 10CrMo910	A105 C22.8	F316 X6CrNiNb1810	F22 10CrMo910
17 Disc	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	A105 C22.8	F92
18 Ring	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	A105 C22.8	A105 C22.8	F92
19 Pin	13Cr	13Cr	13Cr	13Cr	13Cr	13Cr	13Cr	F316	13Cr

SEPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES SWING CHECK CONFIGURATION FIG. 6042 - 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

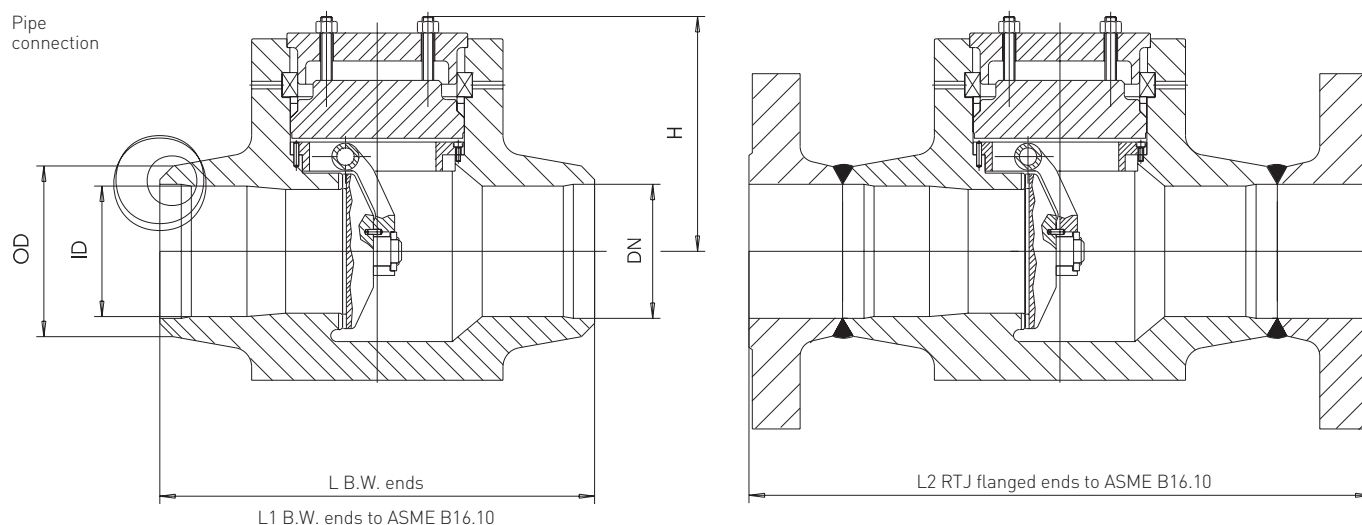


FIG. 6042 - RANGE ASME CL. 601 - 900/PRESSURE RATING (09) 110 - 160

DN	NPS	L	L ₁	L ₂	H	Pipe connection		Weight (kg)		
						OD max	ID min	BW	BW2	FL
50	2	216	R	R	110	80	50	40	R	R
65	2½	216	254	R	120	80	50	43	R	R
80	3	305	305	384	145	100	65	55	60	75
100	4	325	356	460	172	150	92	80	86	140
125	5	375	432	R	200	180	115	110	R	R
150	6	450	508	613	230	200	134	160	175	205
175 x 150	7 x 6	450	508	613	230	200	138	160	175	205
175	7	520	660	R	260	240	159	210	R	R
200 x 175	8 x 7	520	660	R	260	240	159	210	R	R
200	8	575	660	740	295	265	180	270	295	380
250 x 200	10 x 8	575	660	740	295	265	180	270	295	380
250	10	725	787	841	370	300	222	470	510	580
300 x 250	12 x 10	725	787	841	370	300	222	470	510	580
300	12	750	914	968	410	345	264	680	740	785
350 x 300	14 x 12	750	914	968	410	345	264	680	740	785
350	14	850	991	1038	450	365	290	870	940	1120
400 x 350	16 x 14	850	991	1038	450	365	290	870	940	1120
400	16	950	1092	1140	500	380	310	1150	1250	1400
450 x 400	18 x 16	950	1092	1140	500	380	310	1150	1250	1400
450	18	1050	R	1232	R	R	R	R	R	R
500 x 450	20 x 18	1050	R	1232	R	R	R	R	R	R
500	20	R	R	R	R	R	R	R	R	R
600 x 500	24 x 20	R	R	R	R	R	R	R	R	R

NOTES

1. All dimensions are in mm.
2. BW: weight for butt weld ends type (Sempell standard).
3. BW2: weight for butt weld ASME ends type.
4. FL: weight for flanged ends type.
5. R: available on request.
6. dN = connection pipe size.
7. d1N = MAX connection pipe size using same project.

SEMPPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES SWING CHECK CONFIGURATION FIG. 6042 - 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

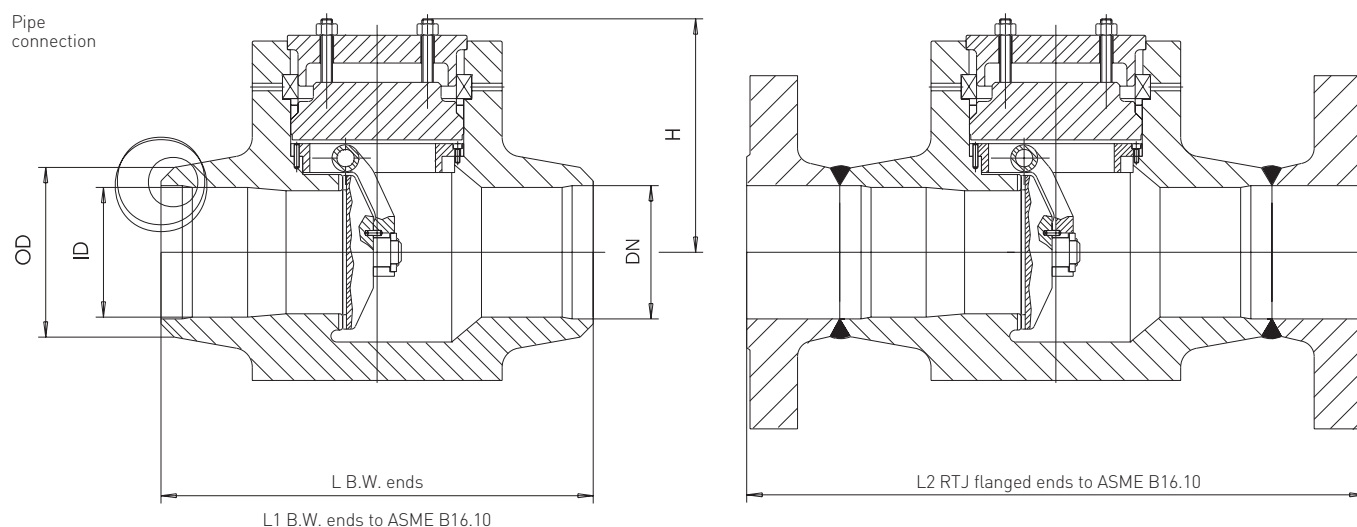


FIG. 6043 - RANGE ASME CL. 901 - 1500/PRESSURE RATING (15) 161 - 250

DN	NPS	L	L ₁	L ₂	H	Pipe connection		Weight (kg)		
						OD max	ID min	BW	BW2	FL
50	2	216	216	371	110	90	49	40	42	62
65	2½	216	254	422	120	90	49	45	49	71
80	3	305	305	473	145	110	66	55	63	102
100	4	350	406	549	172	160	88	80	95	148
125	5	400	483	R	200	195	121	110	R	R
150	6	475	559	711	230	225	128	160	190	282
175 x 150	7 x 6	475	559	711	230	225	128	160	190	282
175	7	660	711	R	250	260	153	210	R	R
200 x 175	8 x 7	660	711	R	250	260	153	210	R	R
200	8	625	711	841	295	290	167	270	320	490
250 x 200	10 x 8	625	711	841	295	290	167	270	320	490
250	10	725	864	1000	370	330	200	470	545	800
300 x 250	12 x 10	725	864	1000	370	330	200	470	545	800
300	12	800	991	1146	425	375	240	680	760	1100
350 x 300	14 x 12	800	991	1146	425	375	240	680	760	1100
350	14	950	1067	1276	470	400	265	970	1140	1600
400 x 350	16 x 14	950	1067	1276	470	400	265	970	1140	1600
400	16	1000	1194	1407	520	425	285	1300	1460	2450
450 x 400	18 x 16	1000	1194	1407	520	425	285	1300	1460	2450
450	18	1050	R	R	R	450	350	R	R	R
500 x 450	20 x 18	1050	R	R	R	450	350	R	R	R
500	20	R	R	R	R	R	R	R	R	R
600 x 500	24 x 20	R	R	R	R	R	R	R	R	R

NOTES

1. All dimensions are in mm.
2. BW: weight for butt weld ends type [Sempell standard].
3. BW2: weight for butt weld ASME ends type.
4. FL: weight for flanged ends type.
5. R: available on request.
6. dN = connection pipe size.
7. d1N = MAX connection pipe size using same project.

SEMPPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES SWING CHECK CONFIGURATION FIG. 6042 - 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

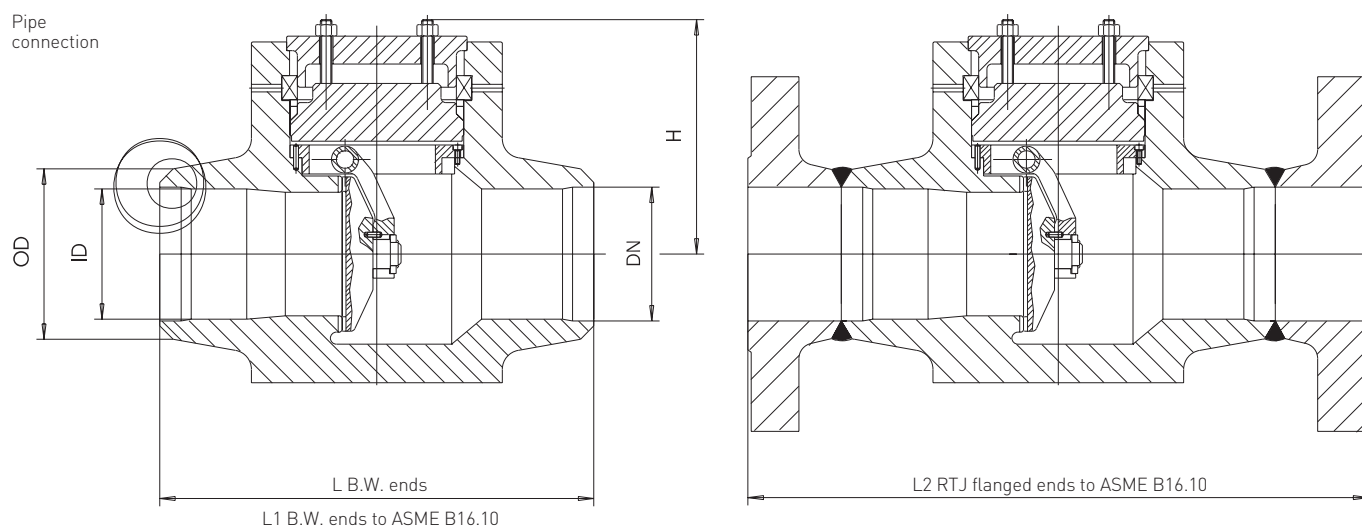


FIG. 6044 - RANGE ASME CL. 1501 - 2500/PRESSURE RATING (25) 251 - 500

DN d _{1N} x d _N	NPS d _{1N} x d _N	L	L ₁	L ₂	H	Pipe connection		Weight (kg)		
						OD max	ID min	BW	BW2	FL
50	2	216	279	454	110	93	45	60	65	100
65	2½	216	330	514	120	93	45	65	77	135
80	3	305	368	584	145	115	62	70	105	180
100	4	406	457	683	172	165	77	100	140	260
125	5	450	533	R	200	200	98	120	R	R
150	6	559	610	927	230	230	112	180	280	530
175 x 150	7 x 6	559	610	927	230	230	112	180	280	530
175	7	650	762	R	275	270	135	250	R	R
200 x 175	8 x 7	650	762	R	275	270	135	250	R	R
200	8	711	762	1038	310	300	153	280	345	1050
250 x 200	10 x 8	711	762	1038	310	300	153	280	345	1050
250	10	725	914	1292	390	350	188	530	620	1500
300 x 250	12 x 10	725	914	1292	390	350	188	530	620	1500
300	12	800	1041	1445	450	400	210	1080	1230	1900
350 x 300	14 x 12	800	1041	1445	450	400	210	1080	1230	1900
350	14	925	1118	R	500	430	250	1100	1300	R
400 x 350	16 x 14	925	1118	R	500	430	250	1100	1300	R
400	16	1025	1245	R	535	455	275	1400	1650	R
450 x 400	18 x 16	1025	1245	R	535	455	275	1400	1650	R
450	18	R	R	R	R	R	R	R	R	R
500 x 450	20 x 18	R	R	R	R	R	R	R	R	R
500	20	R	R	R	R	R	R	R	R	R
600 x 500	24 x 20	R	R	R	R	R	R	R	R	R

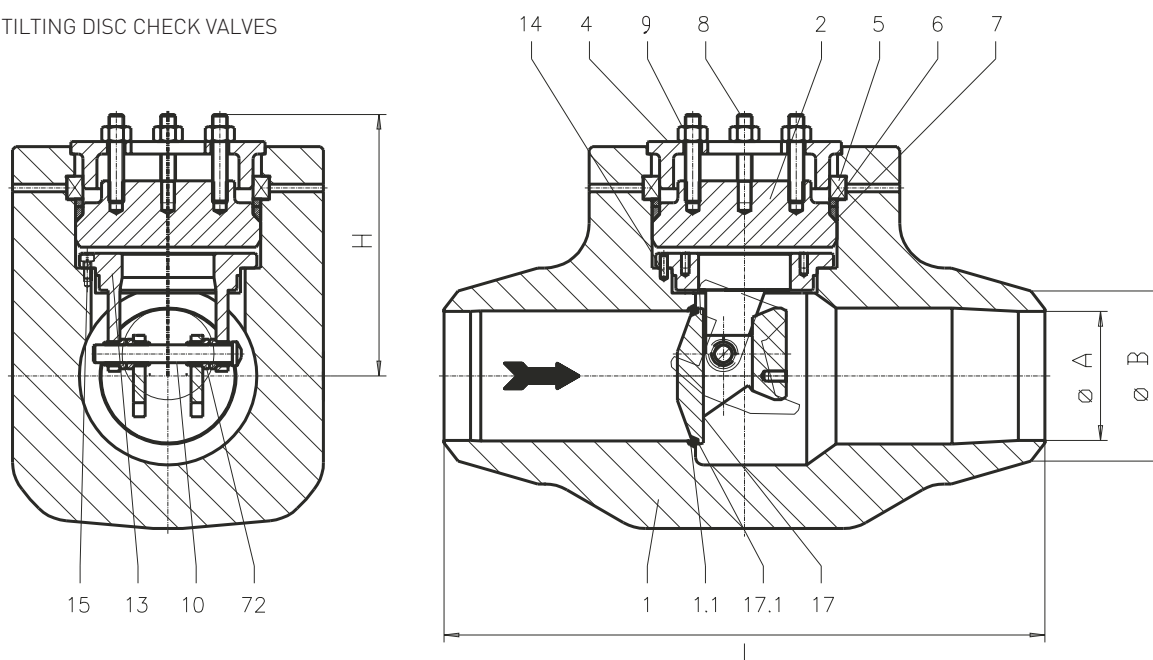
NOTES

1. All dimensions are in mm.
2. BW: weight for buttweld ends type (Sempell standard).
3. BW2: weight for buttweld ASME ends type.
4. FL: weight for flanged ends type.
5. R: available on request.
6. dN = connection pipe size.
7. d1N = MAX connection pipe size using same project.

SEPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES

SWING CHECK CONFIGURATION FIG. 6042 - 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

11 TILTING DISC CHECK VALVES



MATERIAL SPECIFICATIONS

	41 -20°C - 425°C	42 -46°C - 425°C	43 200°C - 540°C	44 250°C - 550°C F12	45 400°C - 575°C F22	46 500°C - 650°C	47 38°C - 450°C	48 130°C - 650°C F316	49 500°C - 650°C
Item	A105 1.0460	LF2 TT5 1.0411	F1 15Mo3 1.5415	13CrMo44 1.7335	10CrMo910 1.7380	F91 P91 1.4903	15NiCuMoNb5 1.6368	X6CrNiNb1810 1.4550	F92 P92 1.4901
1 Body	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
2 Bonnet	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
4 Safety ring	A105	A105	A105	A105	A105	A105	A105	A105	A105
5 Segment ring	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
6 Ring	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
7 Gasket	Pure Graphite	Pure Graphite	Pure Graphite	Pure Graphite	Pure Graphite	Pure Graphite	Pure Graphite	Pure Graphite	Pure Graphite
8 Bolts	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7	A193 B7
9 Nuts	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H	A194 2H
13 Plate	A105 1.0460	LF2 TT5	F12 13CrMo44	F12 13CrMo44	F22 10CrMo910	F22 10CrMo910	A105 C22.8	F316 X6CrNiNb1810	F22 10CrMo910
14 Pins	13Cr	13Cr	13Cr	13Cr	13Cr	13Cr	13Cr	F316	13Cr
15 Socket screw	F316	F316	F316	F316	F316	F316	F316	F316	F316
17 Disc	A105 1.0460	LF2 TT5	F1 15Mo3	F12 13CrMo44	F22 10CrMo910	F91	15NiCuMoNb5	F316 X6CrNiNb1810	F92
18 Guiding bush	F6A	F6A	F6A	F6A	F6A	F6A	F6A	F316 X6CrNiNb1810	F6A

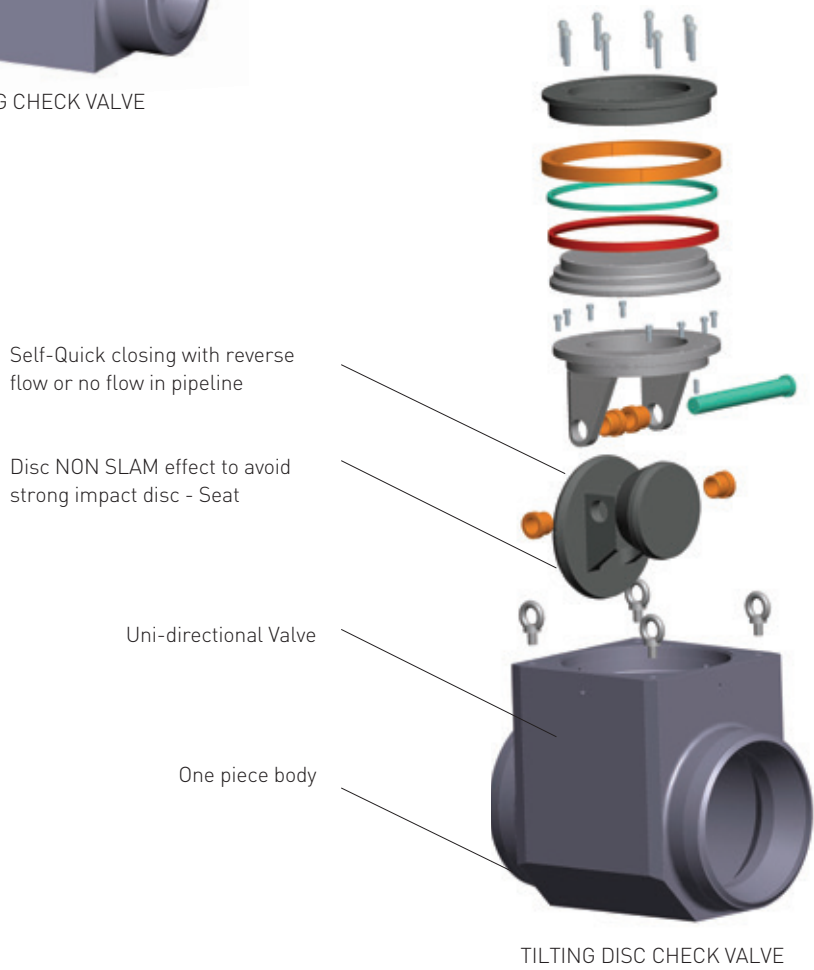
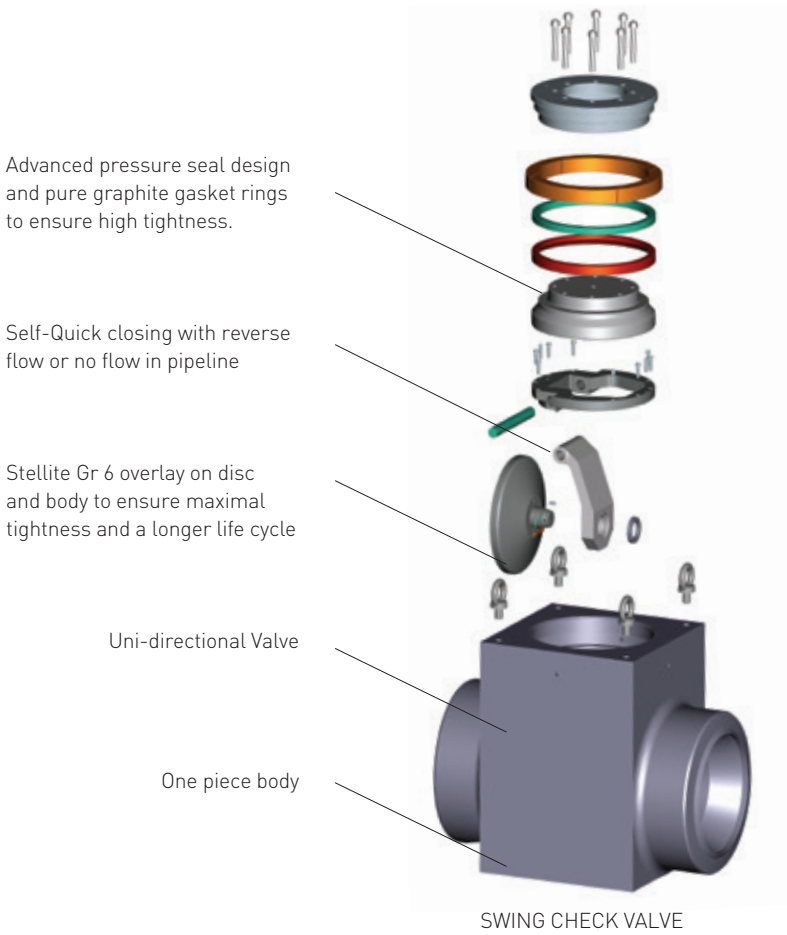
FIG. 6142 TO 6145

Fig.	Range class	PN
6142	601 - 900	(09) 110 - 160
6143	901 - 1500	(15) 161 - 250
6144	1501 - 2500	(25) 251 - 500
6145	2501 - 4500	(45) 501 - 720

TRIM MATERIAL TO API 600

Item	Body seat surface 1.1	Disc seating surface 17.1	Hinge pin 10
1	13% Cr	13% Cr	13% Cr
5	Stellite	Stellite	13% Cr
12	F316/Stellite	F316	F316

SEMPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES



SEMPPELL RAISTEAM PRESSURE SEAL FORGED CHECK VALVES

SWING CHECK CONFIGURATION FIG. 6042 - 6045 AND TILTING DISK CONFIGURATION FIG. 6142 - 6145

SELECTION GUIDE

Example:	8C	0	09	12	21	AA	H	D
Valve type								
8C Swing check								
8F Tilting disc								
Valve configuration								
0 Basic								
Valve rating								
09 RANGE ASME 601 - 900 / PN 110 - 160								
15 RANGE ASME 901 - 1500 / PN 161 - 250								
25 RANGE ASME 1501 - 2500 / PN 251 - 500								
45 RANGE ASME 2501 - 4500 / PN 501 - 720								
Nominal valve size DN (NPS)								
02 50 [2]		08 200 [8]		22 550 [22]				
25 65 [2½]		10 250 [10]		24 600 [24]				
03 80 [3]		12 300 [12]		26 650 [26]				
04 100 [4]		14 350 [14]		28 700 [28]				
05 125 [5]		16 400 [16]		30 750 [30]				
06 150 [6]		18 450 [18]						
07 175 [7]		20 500 [20]						
Body material								
00 A105		08 A182 F22/1.7380						
DC 1.0460		21 A182 F91/1.4903						
DQ 1.6368/15NiCuMoNb5		22 A182 F92						
D4 1.5415		11 A182 F316/1.4550						
07 A182 F12/1.7335								
Trim								
AA Stellite/stellite								
Pipe connection								
A Flanged per ASME B16.5						H Weld end ASME B16.25		
B Flanged per ASME B16.47 "A"						J Weld end EN 12267		
D Flanged per ASME B16.47 "B"						K Weld end ISO 9692		
Standard valve operation								
N None								

FIGURE NUMBER

Example:	I	II	III	IV	V	VI	VII
To ASME	6	04	3	8"	44	5	BW
To ISO	6	04	3	200	44	5	BW
I 6 High pressure forged valve valve							
II Type of valve							
04 Swing check valve							
III Range class							
2 601 - 900 / Pressure rating (PN 110 - 160)							
3 901 - 1500 / Pressure rating (PN 161 - 250)							
4 1501 - 2500 / Pressure rating (PN 251 - 500)							
5 2501 - 4500 / Pressure rating (PN 501 - 720)							
IV Connection pipe ends inches (mm)							
V Material specification							
Please refer to page 2 and 6							
VI Type of trim							
Please refer to separate page for every valve type according to point V							
VII BW Butt Weld ends							
FR Flanges RTJ							
BWS Butt Weld ends Special							