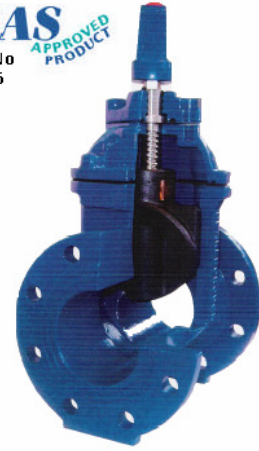


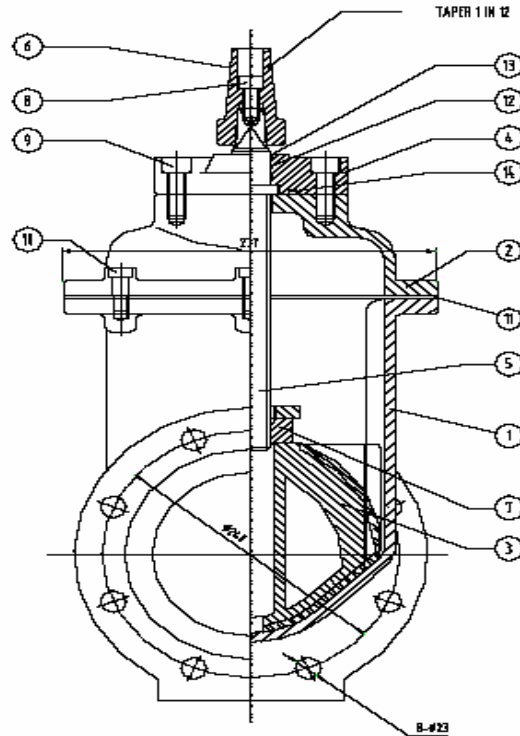
Nairobi Ironmongers Ltd.
www.nil1949.com info@nil1949.com

MATERIAL DATA SHEET

WRAS
Listing No
0712306
APPROVED
PRODUCT

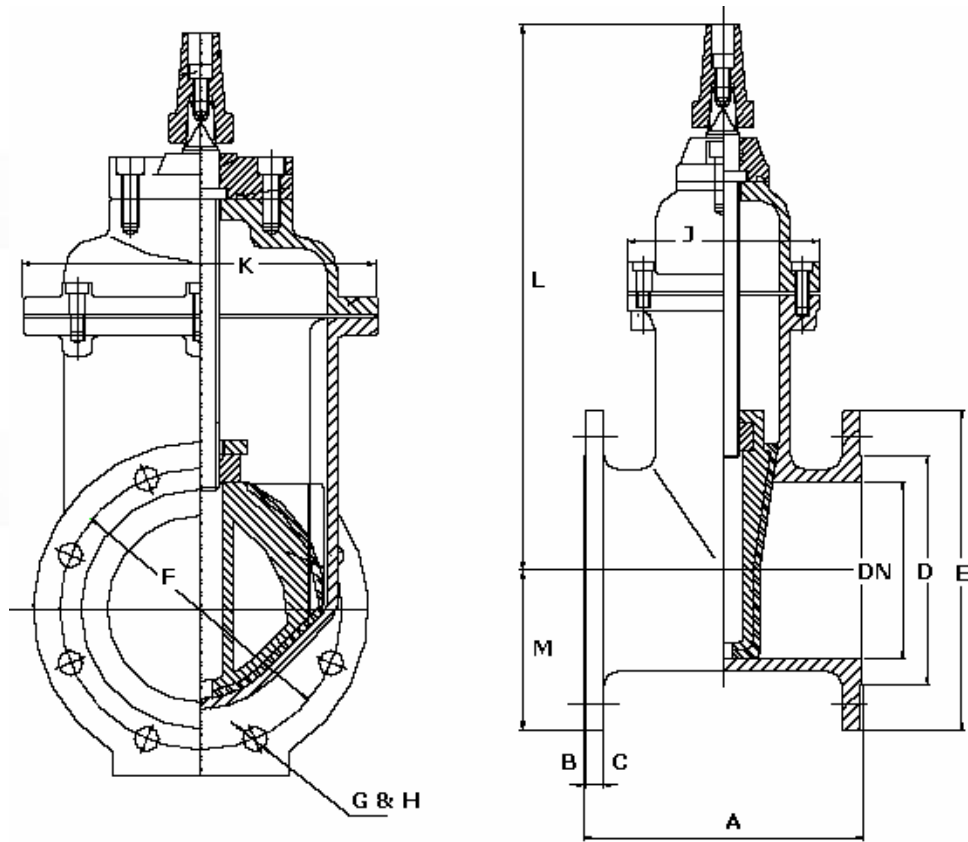


S/No	DESCRIPTION	INFORMATION
1	MANUFACTURER	
	a. COMPANY	Richards Manufacturing (Sin) Pte Ltd
	b. COUNTRY	Singapore
	c. BRAND	RICHARDS
2	PRODUCT	
	a. TYPE	Wedge Gate Valve
	b. STANDARDS / CODE	BS5163 / ISO5752 / DIN3352 F4 / DIN3352 F5 / AWWA C515
	c. TYPE OF CONNECTION	Double Flange / Double Socket / Double Spigot
	d. PRESSURE RATING	PN 10 / PN 16 / PN20 / PN25
	e. CONFIGURATION	Non Rising Spindle / Rising Spindle (OS&Y)
f. CLOSURE DIRECTION	Clockwise to Close (CTC) / Clockwise to Open (CTO)	
3	FINISHING	
	a. APPLICATION	Fusion Bonding
	b. MATERIAL	Non Toxic Epoxy Powder
	c. THICKNESS	Min 250 Microns
d. COLOUR	RAL 5005 - Blue	
4	HYDROSTATIC TESTING	
	a. STANDARDS	BS 5163 / ANSI Class 125 / Class 150
	b. BODY	1.5 times Pressure Ratings
c. SEAT	1.1 times Pressure Ratings (Both Directions)	
5	ACCESSORIES	
	a. CAP TOP	Cast Iron - Epoxy coated (Standard Item)
	b. HANDWHEEL	Cast Iron - Epoxy coated
	c. TEE KEY	Cast Iron - Bitumen coated (Standard Item - 1 metre)
	d. GEARBOX	Cast Iron - Epoxy coated - Spur & Bevel
e. SURFACE BOX	Cast Iron - Bitumen coated	



REF	DESCRIPTION	MATERIAL	MATERIAL REF
1	BODY	DUCTILE IRON	BS 2789 ENGJL500-7 / GGG50 / ASTM A536
2	BONNET	DUCTILE IRON	BS 2789 ENGJL500-7 / GGG50 / ASTM A537
3	WEDGE	DUCTILE IRON	BS 2789 ENGJL500-7 / GGG50 / ASTM A536
	ENCAPSULATION	EPDM	
4	HOUSING	DUCTILE IRON	BS 2789 ENGJL500-7 / GGG50 / ASTM A537
5	SPINDLE	STAINLESS STEEL	BS 970 Gr 304 / CR13%
6	CAP TOP	CAST IRON	BS 2789 ENGJL 250-10 / GGG25 / ASTM A126
7	NUT-TO-WEDGE	BRASS	BS 2872 CZ 132
8	CONNECTING BOLTS	GALVANIZED STEEL	BS 4168 PT1
9	CONNECTING BOLTS	GALVANIZED STEEL	BS 4168 PT1
10	CONNECTING BOLTS	GALVANIZED STEEL	BS 4168 PT1
11	BODY GASKET	NITRILE	BS 4518
12	O-RING	NITRILE	BS 4518
13	WIPER RING	NITRILE	BS 4518
14	COVER JOINT	NITRILE	BS 4518

Richards Manufacturing (Sin) Pte Ltd



BS5163 PN10

DN	A	B	C	D	E	F	G	H	J	K	L	M
50	178	3	16	99	165	125	4	19	91	109	274	82.5
65	190	3	16	118	185	145	4	19	91	109	274	87.5
80	203	3	16	132	200	160	8	19	112	160	315	100
100	229	3	16	156	220	180	8	19	121	184	350	110
150	267	3	16	211	285	240	8	23	172	277	441	142.5
200	292	3	17	266	340	295	8	23	215	339	542	170
250	330	3	19	319	405	350	12	23	247	407	536	200
300	356	4	20.5	370	460	400	12	23	280	468	709	227.5
350	381	4	20.5	429	520	460	16	23	290	588	891	260
400	406	4	20.5	480	580	515	16	28	304	632	979	290
450	432	4	21.5	530	640	565	20	28	322	692	1050	320
500	457	4	22.5	582	715	620	20	28	341	746	1141	357.5
600	508	5	25	682	1070	720	20	31	389	864	1320	420

Richards Manufacturing (Sin) Pte Ltd

BS5163 PN16

DN	A	B	C	D	E	F	G	H	J	K	L	M
50	178	3	16	99	165	125	4	19	91	109	274	82.5
65	190	3	16	118	185	145	4	19	91	109	274	87.5
80	203	3	16	132	200	160	8	19	112	160	315	100
100	229	3	16	156	220	180	8	19	121	184	350	110
150	267	3	16	211	285	240	8	23	172	277	441	142.5
200	292	3	17	266	340	295	12	23	215	339	542	170
250	330	3	19	319	405	350	12	28	247	407	536	200
300	356	4	20.5	370	460	400	12	28	280	468	709	227.5
350	381	4	20.5	429	520	460	16	28	290	588	891	260
400	406	4	20.5	480	580	515	16	31	304	632	979	290
450	432	4	21.5	530	640	565	20	31	322	692	1050	320
500	457	4	22.5	582	715	620	20	34	341	746	1141	357.5
600	508	5	25	682	1070	720	20	37	389	864	1320	420



Richards Manufacturing (Sin) Pte Ltd

DIN3352 F4 PN10

DN	A	B	C	D	E	F	G	H	J	K	L	M
40	140	3	16	84	150	110	4	19	91	109	274	75.5
50	150	3	16	99	165	125	4	19	91	109	274	82.5
65	170	3	16	118	185	145	4	19	91	109	274	87.5
80	180	3	16	132	200	160	8	19	112	160	315	100
100	190	3	16	156	220	180	8	19	121	184	350	110
125	200	3	16	184	250	210	8	19	121	184	350	125
150	210	3	16	211	285	240	8	23	172	277	441	142.5
200	230	3	17	266	340	295	8	23	215	339	542	170
250	250	3	19	319	405	355	12	23	247	407	536	200
300	270	4	20.5	370	455	410	12	23	280	468	709	227.5
350	290	4	22.5	429	520	470	16	23	290	588	891	260
400	310	4	24	480	580	525	16	28	304	632	979	290
450	330	4	26	530	640	585	20	28	322	692	1050	320
500	350	4	27.5	582	715	650	20	28	341	746	1141	357.5
600	390	5	31	682	840	770	20	31	389	864	1320	420

DIN3352 F4 PN16

DN	A	B	C	D	E	F	G	H	J	K	L	M
40	140	3	16	84	150	110	4	19	91	109	274	75.5
50	150	3	16	99	165	125	4	19	91	109	274	82.5
65	170	3	16	118	185	145	4	19	91	109	274	87.5
80	180	3	16	132	200	160	8	19	112	160	315	100
100	190	3	16	156	220	180	8	19	121	184	350	110
125	200	3	16	184	250	210	8	19	121	184	350	125
150	210	3	16	211	285	240	8	23	172	277	441	142.5
200	230	3	17	266	340	295	12	23	215	339	542	170
250	250	3	19	319	405	355	12	28	247	407	536	200
300	270	4	20.5	370	455	410	12	28	280	468	709	227.5
350	290	4	22.5	429	520	470	16	28	290	588	891	260
400	310	4	24	480	580	525	16	31	304	632	979	290
450	330	4	26	530	640	585	20	31	322	692	1050	320
500	350	4	27.5	582	715	650	20	34	341	746	1141	357.5
600	390	5	31	682	840	770	20	37	389	864	1320	420

Richards Manufacturing (Sin) Pte Ltd

DIN3352 F5 PN10

DN	A	B	C	D	E	F	G	H	J	K	L	M
40	240	3	16	84	150	110	4	19	91	109	274	75.5
50	250	3	16	99	165	125	4	19	91	109	274	82.5
65	270	3	16	118	185	145	4	19	91	109	274	87.5
80	280	3	16	132	200	160	8	19	112	160	315	100
100	300	3	16	156	220	180	8	19	121	184	350	110
125	325	3	16	184	250	210	8	19	121	184	350	125
150	350	3	16	211	285	240	8	23	172	277	441	142.5
200	400	3	17	266	340	295	8	23	215	339	542	170
250	450	3	19	319	405	355	12	23	247	407	536	200
300	500	4	20.5	370	455	410	12	23	280	468	709	227.5
350	550	4	22.5	429	520	470	16	23	290	588	891	260
400	600	4	24	480	580	525	16	28	304	632	979	290
450	650	4	26	530	640	585	20	28	322	692	1050	320
500	700	4	27.5	582	715	650	20	28	341	746	1141	357.5
600	800	5	31	682	840	770	20	31	389	864	1320	420

DIN3352 F5 PN16

DN	A	B	C	D	E	F	G	H	J	K	L	M
40	240	3	16	84	150	110	4	19	91	109	274	75.5
50	250	3	16	99	165	125	4	19	91	109	274	82.5
65	270	3	16	118	185	145	4	19	91	109	274	87.5
80	280	3	16	132	200	160	8	19	112	160	315	100
100	300	3	16	156	220	180	8	19	121	184	350	110
125	325	3	16	184	250	210	8	19	121	184	350	125
150	350	3	16	211	285	240	8	23	172	277	441	142.5
200	400	3	17	266	340	295	12	23	215	339	542	170
250	450	3	19	319	405	355	12	28	247	407	536	200
300	500	4	20.5	370	455	410	12	28	280	468	709	227.5
350	550	4	22.5	429	520	470	16	28	290	588	891	260
400	600	4	24	480	580	525	16	31	304	632	979	290
450	650	4	26	530	640	585	20	31	322	692	1050	320
500	700	4	27.5	582	715	650	20	34	341	746	1141	357.5
600	800	5	31	682	840	770	20	37	389	864	1320	420

Richards Manufacturing (Sin) Pte Ltd

AWWA C509 / C515 Class 125

DN	A	B	C	D	E	F	G	H	J	K	L	M
50	178	1.6	15.9	92.1	152.4	120.7	4	19.05	91	109	274	76.2
80	203	1.6	19.1	127	190.5	152.4	4	19.05	112	160	315	95.3
100	229	1.6	23.8	157.2	228.6	190.5	8	19.05	121	184	350	114.3
150	267	1.6	25.4	215.9	279.4	241.5	8	22.23	172	277	441	139.7
200	292	1.6	28.6	269.9	342.9	298.5	8	22.23	215	339	542	171.5
250	330	1.6	30.2	323.9	406.4	362	12	25.4	247	407	636	203.2
300	356	1.6	31.8	381	482.6	431.8	12	25.4	280	468	709	241.3
350	381	1.6	34.9	412.8	533.4	476.3	12	28.58	290	568	891	266.7
400	406	1.6	36.5	469.9	596.9	539.8	16	28.58	304	632	979	298.5

AWWA C509 / C515 Class 150

DN	A	B	C	D	E	F	G	H	J	K	L	M
50	178	1.6	15.9	92.1	152.4	120.7	4	19.05	91	109	274	76.2
80	203	1.6	19.1	127	190.5	152.4	4	19.05	112	160	315	95.3
100	229	1.6	23.8	157.2	228.6	190.5	8	19.05	121	184	350	114.3
150	267	1.6	25.4	215.9	279.4	241.5	8	22.23	172	277	441	139.7
200	292	1.6	28.6	269.9	342.9	298.5	8	22.23	215	339	542	171.5
250	330	1.6	30.2	323.9	406.4	362	12	25.4	247	407	636	203.2
300	356	1.6	31.8	381	482.6	431.8	12	25.4	280	468	709	241.3
350	381	1.6	34.9	412.8	533.4	476.3	12	28.58	290	568	891	266.7
400	406	1.6	36.5	469.9	596.9	539.8	16	28.58	304	632	979	298.5

Packing / Unpacking

- The valves are wrapped in polyester paper before packing horizontally or vertically into the wooden crate.
- Caution must be exercised when unpacking to prevent damaging of paint coating.
- DO NOT overturn the crates to unpack.
- In the event of paint peel-off during transportation, apply suitable paint immediately to prevent rust.
- Paint code RAL 5005.

Warehousing Before Use

- All valves are to be kept in the up-right standing or laying position.
- All valves are to be kept in dry area with temperature between 10° to 40°
- All valves are to be kept in the fully close position during storage.
- DO NOT stack the valves one on top of the other as this may damage the spindle assembly.
- DO NOT place heavy objects on top of the spindle assembly.
- DO NOT keep the valves under direct sunlight to prevent de-colouration of paint coat and damage to EPDM wedge.
- DO NOT apply heat to valves as this will damage the paint coat and EPDM wedge.

Maintenance Instruction

- The valves are designed to be maintenance free. Greasing of valves before use is not necessary.
- It is recommended that all moving parts be inspected on a six (6) months basis.



Installation Instruction

- All valves are to be cleaned with clean water prior to installation. DO NOT attempt to use chemical additives to clean the valves as this may damage the paint coat and EPDM wedge of the valves.
- Before installation, use a handwheel to turn the valves to fully open and then fully close position, as indicated on the valves. If the valves cannot be turned, inform the local distributor immediately for replacement. DO NOT exert extensive force on valves if it cannot be opened or closed freely.
- DO NOT over-torque the valves as this will cause rupture to the EPDM wedge and damage to the spindle assembly.
- The valves are recommended to be installed in the upright orientation for best result.
- Make sure that the flange drillings are inline and parallel and the correct distance apart to minimize straining of the valve body.
- Use only bolts, nuts and washers of suitable size for connection to the pipeline.
- Exercise care while installing the valves to prevent damage to the paint coating. All damaged paint coating must be painted immediately to prevent rust.
- After installation, all bolts and nuts on the valves must be further tighten as this may be loosen during transportation.
- DO NOT dismantle the valve parts as it will affect the water-tight integrity.
- DO NOT use hard objects to hit the valves.

Repair Instruction

- For repair of valves, please contact your local agents.
- O-rings can be replaced through opening the housing of the valves.
- Wedge and spindle assembly can be replaced through the bonnet of the valves. When replacing the wedge and spindle assembly, make sure that the valves are properly isolated without pressure.
- Proper tools must be used to open the valves.



Richards Manufacturing (Sin) Pte Ltd

Warranty

All components of **RICHARDS™** valves and fittings are made of first class materials and are warranted for a period of twelve (12) months from the date of delivery to be free from defects in material and workmanship (but not against reasonable wear and tear, damage caused by misuse, abrasion, corrosion, negligence, accident, faulty installation or by dispensing material incompatible with the valve) under normal use and to perform the service for which they are intended in a thoroughly reliable and efficient manner when properly installed and serviced.

During this period, Richards Manufacturing (Sin) Pte Ltd will, at its discretion, repair or replace any part or parts which prove to be thus defective if returned to Richards Manufacturing (Sin) Pte Ltd, at customer's cost, and this shall be the sole remedy available under this warranty. No claims will be allowed for labour, transportation or other incidental costs. This warranty extends only to persons or organizations that purchase

Richards Manufacturing (Sin) Pte Ltd's products directly from Richards Manufacturing (Sin) Pte Ltd or from one of its worldwide approved distributors.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THIS LETTER OF WARRANTY HEREOF. IN NO EVENT IS RICHARDS MANUFACTURING (SIN) PTE LTD RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.

Richards Manufacturing (Sin) Pte Ltd thank you for buying our quality product.

