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FINAL REPORT

Report ID : 298841

Report Information

Submitting Organisation :	00121312 : Arad Ltd
Account :	142320 : Arad Ltd
AWQC Reference :	142320-2020-CSR-1 : Prod Test: PD 1/2", 3/4" Concentric Water Meter
Project Reference :	PT-4367
Product Designation :	PD 1/2", 3/4" Concentric Plastic Water Meter Type
Composition of Product :	Polyamide Polymer Body (see attachments for composition of materials).
Product Manufacturer :	Arad Ltd., Kibbutz Dalia, ISRAEL.
Use of Product :	In-Line/Concentric Water Meter.
Sample Selection:	As provided by the submitting organisation.
Testing Requested :	**AS/NZS 4020 TESTING OF PRODUCTS FOR USE IN CONTACT WITH DRINKING WATER**
Product Type :	Composite
Samples :	Samples were prepared and controlled as described in Appendix A of AS/NZS 4020:2018
Extracts :	Extracts were prepared as described in Appendix/Clause C, D, E, F, G, H, 6.8.
Project Completion Date :	18-Dec-2020
Project Comment :	The results presented herein demonstrate compliance of PD 1/2", 3/4" Concentric Plastic Water Meter Type to AS/NZS 4020 when tested at the 'in-the-product' exposure with a 0.1 scaling factor at 20°C ± 2°C.

THE RESULTS STATED IN THIS REPORT RELATE TO THE SAMPLE OF THE PRODUCT SUBMITTED FOR TESTING. ANY CHANGES IN THE MATERIAL FORMULATION, PROCESS OF MANUFACTURE, THE METHOD OF APPLICATION, OR THE SURFACE AREA-TO-VOLUME RATIO IN THE END USE, COULD AFFECT THE SUITABILITY OF THE PRODUCT FOR USE IN CONTACT WITH DRINKING WATER

Michael Glasson
APPROVED SIGNATORY

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Summary of Results

APPENDIX/CLAUSE	RESULTS
C – Taste	Passed at the in-the-product exposure with a scaling factor of 0.1 applied.
D – Appearance	Passed at the in-the-product exposure with a scaling factor of 0.1 applied.
E – Growth of Aquatic Micro-organisms	Passed when tested at the in-use exposure.
F – Cytotoxic Activity	Passed at the in-the-product exposure with a scaling factor of 0.1 applied.
G – Mutagenic Activity	Passed at the in-the-product exposure with a scaling factor of 0.1 applied.
H – Metals	Passed at the in-the-product exposure with a scaling factor of 0.1 applied.
6.8 – Organic Compounds	Passed at the in-the-product exposure with a scaling factor of 0.1 applied.

Test Methods

Test(s) in Appendix	AWQC Test Method	Reference Method
C	T0320-01	AS/NZS 4020:2018
D	TO029-01 & TO018-01	APHA 2120c & APHA 2130b
E	TO014-03	APHA 4500 O G
F	TM-001	AS/NZS 4020:2018
G	TM-002	AS/NZS 4020:2018
H	TIC-006	EPA 200.8

Organic Test Methods

Test(s) in Clause	Test Method	Reference Method
Clause 6.8	TMZ-M36	USEPA524.2
	EP239	USEPA521
	EP132-LL	USEPA_SW846-8270D
	EP075C	USEPA_SW846-8270D
	EP075ASIM	USEPA_SW846-8270D

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Summary Comment : Not applicable.

CLAUSE 6.2 Taste

Sample Description	The meter was tested at the in-the-product exposure. Each meter held approximately 150 mL of water. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.
Extraction Temperature	20°C ± 2°C.
Test Method	Taste (Appendix C)
Test Information	
Scaling Factor	A scaling factor of 0.1 was applied.
Results	Not detected.
Evaluation	The product passed the requirements of clause 6.2 when tested at the in-the-product exposure with a scaling factor of 0.1 applied.
Number of Samples	2.
Test Comment	Not applicable.

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CLAUSE 6.3 Appearance

Sample Description The meter was tested at the in-the-product exposure. Each meter held approximately 150 mL of water. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Appearance (Appendix D)

Scaling Factor A scaling factor of 0.1 was applied.

Results

	Test (- Blank)	Maximum Allowed	Units
Colour	<1	5	HU
Turbidity	<0.1	0.5	NTU

Evaluation The product passed the requirements of clause 6.3 when tested at the in-the-product exposure with a scaling factor of 0.1 applied.

Number of Samples 1.

Test Comment Not applicable.

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Andrew Ford
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CLAUSE 6.4 Growth of Aquatic Micro-organisms

Sample Description The non-metallic components were immersed at the in-use exposure. The surface area was in the range 1000 mm2 per Litre and 15,000 mm2 per Litre. Extracts were prepared using 1000 mL volumes of test water.

Test Method Growth of Aquatic Micro-organisms (Appendix E)

Inoculum The volume of the inoculum was 600 mL

Scaling Factor Not applicable.

Results

Mean Dissolved Oxygen	Control	7.5	mg/L
Mean Dissolved Oxygen Difference	Positive Reference	5.7	mg/L
	Negative Reference	0.3	mg/L
	Test	0.60	mg/L

Evaluation The product passed the requirements of clause 6.4 when tested at the in-use exposure.

Number of Samples 1.

Test Comment Not applicable.

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CLAUSE 6.5 Cytotoxic Activity

Sample Description	The meter was tested at the in-the-product exposure. Each meter held approximately 150 mL of water. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.
Extraction Temperature	20°C ± 2°C.
Test Method	Cytotoxic Activity (Appendix F)
Scaling Factor	A scaling factor of 0.1 was applied.
Results	Non-cytotoxic.
Evaluation	The product passed the requirements of clause 6.5 when tested at the in-the-product exposure with a scaling factor of 0.1 applied.
Number of Samples	1.
Test Comment	The test extracts and blank extracts were used to prepare nutrient growth medium and subsequently used to grow a cell line (ATCC Number CCL 81) in the analysis. In addition zinc sulphate (0.4 mmol) was used for the positive control in the analysis.

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CLAUSE 6.6 Mutagenic Activity

Sample Description The meter was tested at the in-the-product exposure. Each meter held approximately 150 mL of water. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Mutagenic Activity (Appendix G)

Scaling Factor A scaling factor of 0.1 was applied.

Results

Bacteria Strain	S9	Number of Revertants per Plate: Blank	Sample Extract	Positive Controls	
Salmonella typhimurium TA98	-	29, 26, 29	30, 15, 24	3894, 4301, 4158	NPD (20µg)
Mean ± Standard deviation		28.0 ± 1.7	23.0 ± 7.5	4117.7 ± 206.5	
	+	39, 41, 28	30, 29, 32	3243, 3764, 3081	2-AF (20µg)
Mean ± Standard deviation		36.0 ± 7.0	30.3 ± 1.5	3362.7 ± 356.9	
Salmonella typhimurium TA102	-	404, 475, 455	406, 437, 446	3466, 2473, 2518	Mitomycin C(10µg)
Mean ± Standard deviation		444.7 ± 36.6	429.7 ± 21.0	2819.0 ± 560.8	
	+	572, 584, 584	543, 543, 547	2029, 1856, 2071	
Mean ± Standard deviation		580.0 ± 6.9	544.3 ± 2.3	1985.3 ± 114.0	

Comments S9 was used as the metabolic activator. NPD (4-nitro-o-phenylenediamine) and Mitomycin C are specific positive controls for strains TA98 - and TA102 (- and +) respectively, while 2-AF (2-aminofluorene) when used in conjunction with S9 is a positive control for TA98+.

Evaluation The product passed the requirements of clause 6.6 when tested at the in-the-product exposure with a scaling factor of 0.1 applied.

Number of Samples 1.

Test Comment Not applicable.

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CLAUSE 6.7 Metals

Sample Description
The meter was tested at the in-the-product exposure. Each meter held approximately 150 mL of water. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature
20°C ± 2°C.

Test Method
Metals (Appendix H)

Scaling Factor
A scaling factor of 0.1 was applied.

Method of Analysis
All methods used to determine concentrations of metals are based on those described in the US EPA method 200.8 Determination of Trace elements in Waters and Wastes by Inductively Coupled Plasma - Mass Spectrometry. The methods have been adapted for the instrumentation in use at the Australian Water Quality Centre.
Concentration of the metals described in Table 2 of the AS/NZS 4020:2018 are determined as follows:
Aluminium, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium and Silver by Inductively Coupled Plasma Mass Spectrometry.

Results

	Limit of Reporting mg/L	Blank mg/L	Test 1 mg/L	Test 2 mg/L	Max Allowed mg/L
Final Extract					
Aluminium	0.001	0.008	0.010	0.010	0.2
Antimony	0.0005	<0.0005	<0.0005	0.0010	0.003
Arsenic	0.0003	<0.0003	<0.0003	<0.0003	0.01
Barium	0.0005	<0.0005	0.0007	0.0006	0.7
Boron	0.020	<0.020	<0.020	<0.020	1.4
Cadmium	0.0001	<0.0001	<0.0001	<0.0001	0.002
Chromium	0.0001	<0.0001	0.0001	<0.0001	0.05
Copper	0.0001	<0.0001	0.0001	<0.0001	2.0
Iron	0.0005	<0.0005	0.0023	<0.0005	0.3
Lead	0.0001	<0.0001	<0.0001	<0.0001	0.01
Manganese	0.0001	<0.0001	0.0001	<0.0001	0.1
Mercury	0.00003	<0.00003	<0.00003	0.00004	0.001
Molybdenum	0.0001	<0.0001	<0.0001	<0.0001	0.05
Nickel	0.0001	<0.0001	<0.0001	<0.0001	0.02
Selenium	0.0001	<0.0001	<0.0001	<0.0001	0.01
Silver	0.00003	<0.00003	<0.00003	<0.00003	0.1

Evaluation
The product passed the requirements of clause 6.7 when tested at the in-the-product exposure with a scaling factor of 0.1 applied.

Number of Samples
1.

Test Comment
Not applicable.

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CLAUSE 6.8 Organic Compounds

Sample Description The meter was tested at the in-the-product exposure. Each meter held approximately 150 mL of water. Extracts were prepared using 1000 mL volumes of 50 mg/L hardness water.

Extraction Temperature 20°C ± 2°C.

Test Method Organic Compounds (Clause 6.8). Max Allowed values are taken from the Australian Drinking Water Guidelines and Drinking-water Standards for New Zealand. Please note, some reported compounds have no guideline value.

Scaling Factor A scaling factor of 0.1 wa

Results

Organic Compound Nitrosamines	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2032950	ES2032950	
1-Nitrosopiperidine (NPip)	<0.003	<0.003	
1-Nitrosopyrrolidine (NPyr)	<0.01	<0.01	
Nitrosomorpholine (NMor)	<0.003	<0.003	
N-Nitrosodiethylamine (NDEA)	<0.01	<0.03	
N-Nitrosodimethylamine (NDMA)	0.004	0.043	0.1 µg/L
N-Nitrosodi-n-propylamine (NDPA)	<0.003	<0.003	
N-Nitrosomethylethylamine (NMEA)	<0.003	<0.003	

Organic Compound Phenols	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2032950	ES2032950	
2 4 5-trichlorophenol	<1.0	<1.0	
2 4 6-trichlorophenol	<1.0	<1.0	20 µg/L
2 4-dichlorophenol	<1.0	<1.0	200 µg/L
2 4-dimethylphenol	<1.0	<1.0	
2 6-dichlorophenol	<1.0	<1.0	
2-chlorophenol	<1.0	<1.0	300 µg/L
2-nitrophenol	<1.0	<1.0	
4-chloro-3-methylphenol	<1.0	<1.0	
m+p cresol	<2.0	<2.0	
o-cresol	<1.0	<1.0	
pentachlorophenol	<2.0	<2.0	9 µg/L
phenol	<1.0	<1.0	

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Organic Compound Phthalate Esters	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2032950	ES2032950	
Bis(2-ethylhexyl) phthalate	<10	<10	10 µg/L
Butyl benzyl phthalate	<2	<2	
Di(2-ethylhexyl) adipate	<2	<2	
Diethyl phthalate	<2	<2	
Dimethyl phthalate	<2	<2	
Di-n-butyl phthalate	<2	<2	
Di-n-octyl phthalate	<2	<2	

Organic Compound Polycyclic Aromatic Hydrocarbons	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2032950	ES2032950	
Acenaphthene	<0.02	<0.02	
Acenaphthylene	<0.02	<0.02	
Anthracene	<0.02	<0.02	
Benzo(a)anthracene	<0.02	<0.02	
Benzo(a)pyrene	<0.005	<0.005	0.01 µg/L
Benzo(a)pyrene TEQ	<0.005	<0.005	
Benzo(b+j)fluoranthene	<0.02	<0.02	
Benzo(ghi)perylene	<0.02	<0.02	
Benzo(k)fluoranthene	<0.02	<0.02	
Chrysene	<0.02	<0.02	
Dibenzo(a-h)anthracene	<0.02	<0.02	
Fluoranthene	<0.02	<0.02	
Fluorene	<0.02	<0.02	
Indeno(123-cd)pyrene	<0.02	<0.02	
Naphthalene	<0.02	<0.02	
PAH - Total	<0.005	<0.005	
Phenanthrene	<0.02	<0.02	
Pyrene	<0.02	<0.02	

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Organic Compound **Volatile Organic Compounds GCMS**	Blank µg/L	Test µg/L	Max Allowed
1 1 1 2-Tetrachloroethane	<1	<1	
1 1 1-Trichloroethane	<1	<1	
1 1 2 2-Tetrachloroethane	<1	<1	
1 1 2-Trichloroethane	<1	<1	
1 1-Dichloropropene	<1	<1	
1 2 3-Trichlorobenzene	<1	<1	
1 2 3-Trichloropropane	<1	<1	
1 2 4-Trichlorobenzene	<1	<1	
1 2 4-Trimethylbenzene	<1	<1	
1 2-Dibromo-3-chloropropane	<1	<1	1 µg/L
1 2-Dibromoethane	<1	<1	1 µg/L
1 2-Dichlorobenzene	<1	<1	1500 µg/L
1 2-Dichloroethane	<1	<1	3 µg/L
1 2-Dichloropropane	<1	<1	
1 3 5-Trimethylbenzene	<1	<1	
1 3-Dichlorobenzene	<1	<1	
1 3-Dichloropropane	<1	<1	
1 4-Dichlorobenzene	<1	<1	40 µg/L
1,1-Dichloroethane	<1	<1	
1,1-Dichloroethene	<1	<1	30 µg/L
2,2-Dichloropropane	<1	<1	
2-Chlorotoluene	<1	<1	
4-Chlorotoluene	<1	<1	
4-Isopropyltoluene	<1	<1	
Benzene	<1	<1	1 µg/L
Bromobenzene	<1	<1	
Bromochloromethane	<1	<1	
Bromodichloromethane	<1	<1	60 µg/L
Bromoform	<1	<1	100 µg/L
Bromomethane	<4	<4	
Carbon tetrachloride	<1	<1	3 µg/L
Chlorobenzene	<1	<1	300 µg/L
Chloroethane	<4	<4	
Chloroform	<1	<1	400 µg/L
Chloromethane	<4	<4	
cis-1 3-Dichloropropene	<1	<1	
cis-1,2-Dichloroethene	<1	<1	
Dibromochloromethane	<1	<1	150 µg/L
Dibromomethane	<1	<1	
Dichlorodifluoromethane	<1	<1	
Dichloromethane	<4	<4	4 µg/L
Ethylbenzene	<1	<1	300 µg/L
Hexachlorobutadiene	<0.7	<0.7	0.7 µg/L
Isopropylbenzene	<1	<1	
m+p-Xylenes - Total	<2	<2	

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Organic Compound **Volatile Organic Compounds GCMS**	Blank µg/L	Test µg/L	Max Allowed
Naphthalene	<1	<1	
n-Butylbenzene	<1	<1	
n-Propylbenzene	<1	<1	
o-Xylene	<1	<1	
sec-Butylbenzene	<1	<1	
Styrene	<1	<1	30 µg/L
tert-Butylbenzene	<1	<1	
Tetrachloroethene	<1	<1	50 µg/L
Toluene	<1	<1	800 µg/L
Total 1 2-dichloroethene	<2	<2	60 µg/L
Total 1 3-dichloropropene	<2	<2	20 µg/L
Total Trichlorobenzene	<2	<2	30 µg/L
Total Xylene	<3	<3	600 µg/L
trans-1 3-Dichloropropene	<1	<1	
trans-1,2-Dichloroethene	<1	<1	
Trichloroethene	<1	<1	
Trichlorofluoromethane	<1	<1	
Trihalomethanes - Total	<4	<4	250 µg/L
Vinyl chloride	<0.3	<0.3	0.3 µg/L

Evaluation The product passed the requirements of clause 6.8 when tested at the in-the-product exposure with a scaling factor of 0.1 applied.

Number of Samples 1.

Test Comment Not applicable.

Qiong Huang

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Item No.	Cat. No.	Description	QTY	Remarks	REV.
		P 1/2", 3/4" Qn=1.6; 2.5 Concentric Plastic			
	11300607	P 1/2 Q3-1.6 m3 concentric plastic			
1	20600030	O-ring ISO-3601 2-235 ID-78.97 W-3.53 NBR70 NSF61 WRAS	1		
2	20601030	O-ring ISO-3601 2-229 ID-59.92 W-3.53 NBR 50 WRAS	1		
3	20606730	O-ring ISO-3601 2-226 ID-50.30 W-3.53 NBR 70 WRAS	1		
4	20627409	Outlet gasket PD 1/2 UK	1		
5	20912509	Register chamber housing PD 1/2 concentric	1		
6	24631109	Adaptor PD 1/2 GLADIATOR- Manifold version	1		
7	31500009	Body PD 1/2 GLADIATOR- Manifold version	1		
8	54301088	Measuring chamber PD 1/2 high B	1		

Australian Water Quality Centre

Report Number 298841

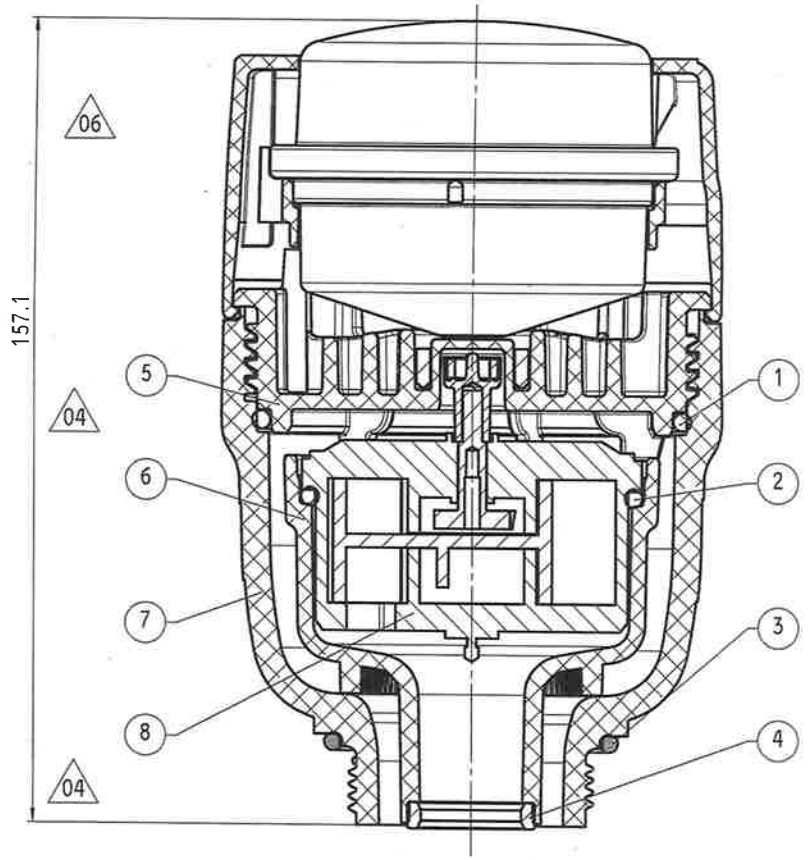
Date 21/12/2020

Document reviewed by MICHAEL GLASSON

Signature M Glasson

20600110	O-ring PARKER 2-151 ID-75 87 W-2 62 NBR 70 NSF61
20814609	O-ring ID-9 5 W-1 5 NBR 70
21380209	Regulator screw 1/2
25441909	Strainer 17 CHF
34121539	Body M 1/2 165x17 PAD blue
20830809	Chamber gasket 1/2 - 1
20911009	Register chamber housing M
21604909	Measuring chamber N1 5 GFN2 2X5
23090109	Magnet ring 8 1x3 5 C1123
23730109	Vane wheel M stone pinkC
24900709	Sapphire bearing 2 6
20911009	Register chamber housing M
21604909	Measuring chamber N1 5 GFN2 2X5
23090109	Magnet ring 8 1x3 5 C1123
23730109	Vane wheel M stone pinkC
20600110	O-ring PARKER 2-151 ID-75 87 W-2 62 NBR 70 NSF61
[illegible]	Chamber gasket 1/2 - 1
20911029	Register chamber housing M 1/2-3/4 India
[illegible]	Regulator screw 1/2
21607120	Measuring chamber M N2 5 10X5 with hole
23090209	Magnet ring 4POL 8 1x3 5
23724509	Vane wheel M India
24900709	Sapphire bearing 2 6
24900709	Sapphire bearing 2.6
25441309	Strainer 21
[illegible]	Vane wheel shaft M 1 L=4 5
28830120	Pivot carbide tip L=25
28830120	Pivot carbide tip L=25
28511509	Impeller bushing BL/FAM 1C
28511509	Impeller bushing BL/FAM 1C
29900056	POWDER EPOXY COATING BLUE
34149119	Body SLB 190x21 arrows O1B blue epoxy assy
20600110	O-ring PARKER 2-151 ID-75 87 W-2 62 NBR 70 NSF61
23149609	Flow diversion ring H 10
25441509	Strainer M 1
34151419-EZ	Body M 1 260x30 blue assy
21380809	Regulator screw M 1 symmetrical
34151409	Body M 1 260x30
[illegible]	Register chamber housing
[illegible]	Measuring chamber M N3 5-N5
[illegible]	Magnet ring 4POLE 8 1x3.5
[illegible]	Vane wheel straight M 1 blue
[illegible]	Sapphire bearing 2 6
20910809	Register chamber housing
[illegible]	Measuring chamber M N3 5-N5
[illegible]	Magnet ring 4POLE 8 1x3 5
23723909	Vane wheel straight M 1 blue
20600110	O-ring PARKER 2-151 ID-75 87 W-2 62 NBR 70 NSF61
[illegible]	O-ring PARKER 2-226 ID-47 [illegible] EPDM 70 WRAS
20814609	O-ring ID-9 5 W-1.5 NBR 70
20911709	Register chamber housing M 1 1/2 PPS
21080709	Regulator cap screw 3/4
21614709	Measuring chamber M 1 1/2
23090209	Magnet ring 4POLE 6 1x3 5
23723209	Vane wheel M 1 1/2
24901409	Sapphire bearing 2 6 SV
24902509	Upper bearing M 1 1/2
25440809	Strainer M 1 1/2
25440909	Masterbatch PA6 black
25442109	Basket strainer M 1 1/2
[illegible]	Vane wheel shaft [illegible] M 1 1/2
28830109	FAM measuring chamber pivot carbide tip
28510909	Impeller bushing M 1 1/2
[illegible]	Epoxy powder RAL5017 blue
[illegible]	Body M 1 1/2 blue epoxy [illegible]
[illegible]	O-ring PARKER [illegible] NBR 70 NSF61
[illegible]	O-ring [illegible] NBR 70 NSF61
[illegible]	Regulator screw M 1 1/2 2
[illegible]	Strainer MS 2
[illegible]	Body MS 2 brass modified
[illegible]	Magnet ring 8 1x3 5 C1123
[illegible]	Measuring chamber MS 2 grooves [illegible]
[illegible]	Register housing [illegible] 2 M
[illegible]	Measuring chamber M 2 grooves
[illegible]	Magnet ring [illegible] 8 1x3 5 C1126
[illegible]	Vane wheel grooves M 2 32 7
[illegible]	Sapphire bearing 2.6 SV
[illegible]	Upper bearing M 2
[illegible]	Basket strainer M 2 grooves
[illegible]	Vane wheel shaft M 2
[illegible]	Measuring chamber pivot carbide tip
[illegible]	Impeller bushing M 2
[illegible]	Body INLINE PD15 1/2 110 BSP
[illegible]	Body INLINE PD15 1/2 110 NPSM
[illegible]	Body INLINE PD15 1/2 115 BSP
[illegible]	Body INLINE PD15 1/2 115 NPSM
[illegible]	Body INLINE PD15 7/8x3/4 115 BSP
[illegible]	Body INLINE PD15 1/2 134 BSP
[illegible]	Body INLINE PD15 1/2 165 BSP
[illegible]	Body INLINE PD15 1/2 165 NPSM
[illegible]	Body INLINE PD15 1/2 170 BSP
[illegible]	Body INLINE PD15 1/2 170 NPSM
[illegible]	Body INLINE PD15 1/2 190 BSP
[illegible]	Body INLINE PD15 1/2 190 NPSM
[illegible]	Finger strainer PD15 1/2 INLINE
[illegible]	Measuring chamber PD 1/2 EU A
[illegible]	Cover PD 1/2 INLINE EU
[illegible]	O-ring ID-71 W-3 EPDM 70 WRAS
[illegible]	O-ring PARKER 2-147 [illegible] W-2 62 EPDM 50 WRAS
[illegible]	O-ring PARKER 2-124 ID-31 42 W-2 62 EPDM 50 WRAS
[illegible]	Adaptor PD 1/2 INLINE EU
[illegible]	Adjusting ring measuring chamber PD 1/2 EU
[illegible]	Spacer ring inline body 1/2-5/8 PD
[illegible]	Check valve gasket 1/2 EPDM D W A
[illegible]	Non return valve body 1/2
[illegible]	Basket strainer PD 1/2 JANZ
[illegible]	BODY INLINE PD15 3/4 110 BSP EU
[illegible]	BODY INLINE PD15 3/4 110 NPSM EU
[illegible]	BODY INLINE PD15 3/4 115 BSP EU
[illegible]	BODY INLINE PD15 3/4 115 NPSM EU
[illegible]	BODY INLINE PD15 3/4 134 BSP EU
[illegible]	BODY INLINE PD15 3/4 165 BSP EU
[illegible]	BODY INLINE PD15 3/4 165 NPSM EU
[illegible]	BODY INLINE PD15 3/4 170 BSP EU
[illegible]	BODY INLINE PD15 3/4 170 NPSM EU
[illegible]	BODY INLINE PD15 3/4 190 BSP EU
[illegible]	BODY INLINE PD15 3/4 190 NPSM EU
[illegible]	FINGER STRAINER PD 1/2-3/4 INLINE
[illegible]	MEASURING CHAMBER PD 1/2 EU A
[illegible]	COVER PD 1/2 INLINE EU
[illegible]	O-RING ID-71 W-3 EPDM 70 WRAS
[illegible]	O-RING PARKER 2-147 [illegible] W-2 62 EPDM 50 WRAS
[illegible]	O-RING PARKER 2-124 ID-31 42 W-2 62 EPDM 50 WRAS
[illegible]	ADAPTOR PD 1/2 INLINE EU
[illegible]	M C ADJUSTING RING PD 1/2 EU
[illegible]	Spacer ring inline body 3/4 PD
[illegible]	Check valve gasket 3/4 EPDM D W A
[illegible]	Check valve body 3/4
[illegible]	BASKET STRAINER PD1/2 JANZ
[illegible]	BODY INLINE PD20 3/4 110 BSP EU
[illegible]	BODY INLINE PD20 3/4 110 NPSM EU
[illegible]	BODY INLINE PD20 3/4 115 BSP EU
[illegible]	BODY INLINE PD20 3/4 115 NPSM EU
[illegible]	BODY INLINE PD20 3/4 134 BSP EU
[illegible]	BODY INLINE PD20 3/4 134 NPSM EU
[illegible]	BODY INLINE PD20 3/4 165 BSP EU
[illegible]	BODY INLINE PD20 3/4 165 NPSM EU
[illegible]	BODY INLINE PD20 3/4 170 BSP EU
[illegible]	BODY INLINE PD20 3/4 170 NPSM EU
[illegible]	BODY INLINE PD20 3/4 190 BSP EU
[illegible]	BODY INLINE PD20 3/4 190 NPSM EU
[illegible]	FINGER STRAINER PD20 3/4 INLINE
[illegible]	MEASURING CHAMBER PD 1/2 EU B
[illegible]	Body INLINE PD20 3/4 152 BSP Q=4
[illegible]	Body INLINE PD20 3/4 154 BSP Q=4
[illegible]	Body INLINE PD20 3/4 165 BSP Q=4
[illegible]	Body INLINE PD20 3/4 170 BSP Q=4
[illegible]	Body INLINE PD20 3/4 190 BSP Q=4
[illegible]	Body INLINE PD20 3/4 190 NPSM Q=4
[illegible]	Adaptor PD20 3/4 Q=4 INLINE
[illegible]	Cover PD20 3/4 Q=4 INLINE
[illegible]	Finger strainer PD20 3/4 Q=4 INLINE
[illegible]	Measuring chamber PD 3/4 Q=4 B
[illegible]	Basket strainer PD 3/4 JANZ
[illegible]	Measuring chamber adjusting ring PD20 3/4 Q=4
[illegible]	O-ring ID-80 W-3 EPDM 70
[illegible]	O-RING ID-63 [illegible] W-[illegible] EPDM 50
[illegible]	O-ring ID-82 W-3 5 EPDM 50
[illegible]	Body INLINE PD15 3/4 134 NPSM
[illegible]	O-ring ISO-3601 2-235 ID 78 97 W-3 53 NBR70 NSF61 WRAS
[illegible]	O-ring ISO-3601 [illegible] W-3 53 NBR 50 WRAS
[illegible]	O-ring ISO-3601 [illegible] W-3 53 NBR 70 WRAS
[illegible]	Outlet gasket PD 1/2 UK
[illegible]	Register chamber housing PD 1/2 GLADIATOR
[illegible]	Register chamber housing PD 1/2 GLADIATOR
[illegible]	Adaptor PD 1/2 GLADIATOR- Manifold version
[illegible]	Adaptor PD 1/2 GLADIATOR- Manifold version
[illegible]	Body PD 1/2 GLADIATOR- Manifold version
[illegible]	Body PD 1/2 GLADIATOR- Manifold version
[illegible]	Measuring chamber PD 1/2 JANZ A
[illegible]	Register chamber housing PD 1/2 GLADIATOR SD
[illegible]	Measuring chamber PD 1/2 high red B
[illegible]	Thread cap 3/4 21
[illegible]	Measuring chamber PD 3/4 Q=4 B assy
[illegible]	Body INLINE PD15 1/2 154 AU
[illegible]	Body INLINE PD15 1/2 154 AU improved
[illegible]	Wave spring ring PD20 Q3=4
[illegible]	Body INLINE PD15 1/2 152 AU
[illegible]	Body INLINE PD15 1/2 152 AU improved
[illegible]	Spacer Ring 3/4 inline Conic PD
[illegible]	O-ring ID-64 W-1 5 EPDM 70
[illegible]	O-ring ID-60 W-3 EPDM 70
[illegible]	O-ring ID-57 W-3 5 S 50 DWA
23161609	Wave spring ring PD20 Q3=4
23162309	Measuring chamber adjusting ring PD20 3/4 Q=4
[illegible]	Adaptor PD20 3/4 Q=4 INLINE
[illegible]	Cover PD20 3/4 Q=4 QV-4 FWA INLINE
25444109	Basket strainer PD 3/4 JANZ
31137639	Body INLINE PD20 140 Q=4 QV-4 FWA for WRV AU
54301189	Measuring chamber PD 3/4 Q=4 B
[illegible]	Check valve QF20-DN20

REV.	DESCRIPTION	REFERENCE	DATE	APPROVED
04	UPDATE DATA TABLE & DWG, CHANGE CAT.No. from 11201909DWA, NAME	ECO A14000182	30/03/2014	Ulyana
05	UPDATE TABLE ,ADD P3/4", CHANGE NAME	ECO A15000622	27/08/2015	Ulyana
06	Updated item 5+8 in TABLE & DWG,Change CAT. No. from 11201955DWA	A19000517	10/11/2019	Dar Segal



04 06

Item No.	Cat. No.	Description	QTY	Remarks	REV.
	11300607	P 1/2", 3/4" Qn=1.6; 2.5 Concentric Plastic P 1/2 Q3-1.6 m3 concentric plastic			
1	20600030	O-ring ISO-3601 2-235 ID-78.97 W-3.53 NBR70 NSF61 WRAS	1		
2	20601030	O-ring ISO-3601 2-229 ID-59.92 W-3.53 NBR 50 WRAS	1		
3	20606730	O-ring ISO-3601 2-226 ID-50.30 W-3.53 NBR 70 WRAS	1		
4	20627409	Outlet gasket PD 1/2 UK	1		
5	20912509	Register chamber housing PD 1/2 concentric	1		
6	24631109	Adaptor PD 1/2 GLADIATOR- Manifold version	1		
7	31500009	Body PD 1/2 GLADIATOR- Manifold version	1		
8	54301088	Measuring chamber PD 1/2 high B	1		

ARAD Water Measuring Technologies
ENGINEERING DEPARTMENT
Approved For Production
Approved By: Ilonka Y
Date: 11/11/2019

WEIGHT [g] :

MATERIAL [generic name] :

	NAME	DATE
DRAWN	Raya	18/09/08
DESIGNED	Tamir B.	10/09/08
CHECKED	Shauli M.	23/04/09
APPROVED	Yossi B.	23/04/09

NAME 05 04 P 1/2", P3/4" CONCENTRIC PLASTIC DW
WRAS DRINKING WATER APPROVAL

PROD.PROC. ASSY

A3

ISO 2768	0.5-6	6-30	30-120	120-400	400-1000	ANGULAR
TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±30'

SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS

DR 1

CAT.NO./REV. 06 04 1 13 006 55DWA/06

SCALE 1:1

ARAD Water Measuring Technologies

Dwg: C:\AradVault\Domestic\PD_PD_CONCENTRIC\PD_CONCENTRIC POLYMER\PD15-20_CONCENTRIC_Q1.6-2.5\11300655DWA_P 1^2, P 3^4 Concentric Plastic
Model: C:\AradVault\Domestic\PD_PD_CONCENTRIC\PD_CONCENTRIC POLYMER\PD15-20_CONCENTRIC_Q1.6-2.5\11300809_P-3G-A Q3-1.6 m3 concentric plastic
Model Rev: B

A B C D E F G H J K L M N P Q R S T U V W X Y Z