

ams

Certificate of Analysis

Page 1 of 17 Analytical Report: AAO10848 Eurofins Sample Number: NJ21AA0159-2 Version: 1



WILO AUSTRALIA PTY LTD 2/29 ALEXANDRA PLACE QLD 4172 QLD, AU Client Account Number: A00493572L0P Eurofins Quote Number: XC8UPH19011202

Eurofins Sample Number NJ21AA0159-2

Original Received Date: Description:

16-Dec-2020 "Stratos-Z 30/1-12, Yonos MAXO-Z 30/0.5-12" Product Range: "Stratos PARA-Z 25/1-12" "Stratos PARA-Z 30/1-12" 1 Unit(s)

Containers Submitted:

Analysis

AS/NZS 4020:2018 Compliance Testing

Refer to Attachment # 1

Method: AS/NZS 4020, Appendix A and in-house method TMP 191100 & TMP 191101 Analysis Date: 15-Jan-2021

Supplemental Information

Samples were tested as received. Specifications (if) reported are as provided by the client.

Accredited for compliance with ISO/IEC 17025:2017. NATA Accreditation Number 15773.

Contracted Company: Eurofins ams Laboratories (Sydney)

8, Rachael Close, Silverwater, NSW 2128 Australia amslabs@eurofins.com

TGA Licence No: MI-15112007-LI-002191-11 APVMA Licence No: 6139 Questions about this report should be directed to your project manager or the general email listed above.

1. <u>SAMPLE INFORMATION:</u>

Methodology: AS/NZS 4020, Appendix A and in-house method TMP-191100 & TMP-191101

Cross Reference No.:	Not Applicable
Interim Reporting:	Not Applicable
Batch No./ Manufacturing Date:	Information not Provided
Product Manufacturer:	WILO SE WILOPARK 1, 44263 DORTMUND, GERMANY
Sampling Organisation:	Wilo Australia Pty. Ltd.
General Composition:	Refer to Section 9
Product Use:	In-Line
Temperature Range:	(0 - 65)°C
Previous Testing:	Not Applicable
Sample selection for tests:	As provided by the Submitting Organisation

Sample storage conditions:	Prepared and controlled as per AS/NZS 4020, Appendix A
Extracts:	Prepared as per AS/NZS 4020, Appendices C, D, E, F, G & H
Testing procedure:	Testing is based on the recommended 'in-the-product' exposure with a scaling factor of 0.1 (1/10) applied at (65 ± 2) °C to cover a cold and hot water application up to ~65°C. Due to Metals passing at an evaluated exposure of 0.01 (1/100), Taste test only was conducted at 'in-the-product' exposure with a scaling factor of 0.1 (1/10) applied at (65 ± 2)°C
	Refer to Section 9 for product details.
Volume retention:	~200mL

2. <u>SUMMARY OF RESULTS</u>:

APPENDIX	RESULTS			
C - TASTE (CLAUSE 6.2)	PASSED at 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied			
D – APPEARANCE (COLOUR AND TURBIDITY) (CLAUSE 6.3)	PASSED at 'in-the-product' exposure with a scaling factor of 0.1 (1/10) applied			
D – APPEARANCE (ORGANIC COMPOUNDS) (CLAUSE 6.8)	PASSED at 'in-the-product' exposure with a scaling factor of 0.1 (1/10) applied			
E - GROWTH OF AQUATIC MICRO- ORGANISMS (CLAUSE 6.4)	PASSED at 'total immersion' exposure			
F - CYTOTOXIC ACTIVITY (CLAUSE 6.5)	PASSED at 'in-the-product' exposure with a scaling factor of 0.1 (1/10) applied			
G - MUTAGENIC ACTIVITY (CLAUSE 6.6)	PASSED at 'in-the-product' exposure with a scaling factor of 0.1 (1/10) applied			
H - METALS (CLAUSE 6.7)	PASSED at an evaluated 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied *			

* NOTE: Quantitative evaluation based on sample result, test scaling factor and AS/NZS 4020 test specification.

Based on completion and evaluation of all tests on 30/04/2021, the product, Stratos-Z 30/1-12, Yonos MAXO-Z 30/0.5-12"; <u>fully complied</u> with the test requirements of AS/NZS 4020:2018 to cover a cold and hot water application up to ~65°C, at the recommended 'in-the-product' exposure with a scaling factor of 0.01 (1/100) applied at (65 ± 2)°C.

Testing although determined by the relevant product Standard, is generally recognised for up to 5 years by the certifying body, providing the testing procedures remain the same, and the background information on all wetted parts and the product are adequately documented. Also, the results stated in the report relate to the samples of the product submitted for testing. Any changes in the material formulation and supplier/manufacturer of all wetted items, the 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, and re-testing may be required before this actual time frame, governed by the completion and evaluation date.

3. <u>TASTE:</u>

Methodology: AS/NZS 4020, *Appendix C* and in-house method TMP-191130.

Exposure: 'in-the-product'

Extraction temperature: (65 ± 2)°C **Scaling factor:** 0.01 (1/100) **Number of Panellists:** 5

No. of samples for Chlorine-free extract: 1 No.

No. of samples for Chlorinated extract: 1

Description	Extract	Test Water	Taste	Taste Description	Test Dilution
			(+ / -)	(No. of tasters)	*(Taste
					intensity)
Test Blank	First 24h	Chlorine-free	-	_	-
	Final 9-day	Chlorine-free	NA	NA	NA
Sample	First 24h	Chlorine-free	_	_	-
	Final 9-day	Chlorine-free	NA	NA	NA
Test Blank	First 24h	Chlorinated	_	_	-
	Final 9-day	Chlorinated	NA	NA	NA
Sample	First 24h	Chlorinated	_	_	_
	Final 9-day	Chlorinated	NA	NA	NA

+ Taste detected — No taste detected NA Not applicable

AS/NZS 4020 test requirement: Minimum of 4 tasters with no discernible taste at the first 1/2 dilution.

Figure in brackets is the number of panellists detecting a taste at this dilution.

Note:

- Tasters are given a 14-point scale to describe its intensity, with minimum of 1 as extremely weak, and maximum of >14 as extremely strong. An average of all tasters represents taste intensity.
- 2. First extract becomes final extract.

EVALUATION:

On the basis of these results the samples of this product referred to in this report <u>have complied</u> with the test requirements of AS/NZS 4020:2018, Taste; *Appendix C*.

NA Not applicable

4.A. APPEARANCE: COLOUR AND TURBIDITY

Methodology: AS/NZS 4020, *Appendix D* and in-house methods TMP-191140 and TMP-191106.

Exposure: 'in-the-product'

Extraction temperature: $(65 \pm 2)^{\circ}$ C **Scaling factor:** 0.1 (1/10)

No. of samples tested: 1

	a) TRUE	COLOUR:	b) TURBIDITY:		
	Hazer	n Units	Nephelometric Turbidity Units		
	(П	0)	17)	0)	
	First 24h	Final 9-day	First 24h	Final 9-day	
Sample					
Extract	2.2	NA	0.23	NA	
pH (24h) = 6.00					
Test					
Blank	2.2	NA	0.12	NA	
pH (24h) = 6.06					
FINAL RESULT	<2	NA	0.11	NA	
AS/NZS 4020		1		1	
Test sample	≤5		≤0.5		
requirements			_555		

< = less than

First extract becomes final extract

For test a), test extractions were performed by Eurofins |ams. The test extracts were subsequently subcontracted to Eurofins |Environment Testing for assessment (NATA Accreditation No. 1261), Report No. 769395-W-V3. In-house Method based on APHA 2120 B.

 \leq = less than or equal to

EVALUATION:

On the basis of these results the samples of this product referred to in this report <u>have complied</u> with the test requirements of AS/NZS 4020:2018, Appearance (Colour & Turbidity); *Appendix D*.

4.B. <u>APPEARANCE: ORGANIC COMPOUNDS</u>

Methodology: AS/NZS 4020, *Appendix D* and in-house methods TMP-191140 and TMP-191106. Refer to Section 4.A for testing conditions (Exposure, Extraction temperature, Scaling factor & No. of Samples tested)

Organic Compound	Drinking Water	Limit of	Test	Sample	FINAL
	Guideline Maximum	Reporting	Blank	Extract	RESULT
	Allowable	mg/L	mg/L	mg/L	mg/L (ppm)
	Concentration	(ppm)	(ppm)	(ppm)	
	mg/L				
	(ppm)				
¹ Benzene	0.001*	0.001	<0.001	<0.001	<0.001
¹ Bromodichloromethane	0.06**	0.001	0.002	<0.001	<0.001
¹ Carbon tetrachloride	0.003*	0.001	<0.001	<0.001	<0.001
¹ Chlorobenzene	0.3*	0.00001	<0.00001	<0.00001	<0.00001
¹ 1,2-dichlorobenzene	1.5*	0.0005	<0.0005	<0.0005	<0.0005
¹ 1,4-dichlorobenzene	0.04*	0.0005	<0.0005	<0.0005	<0.0005
¹ 1,2-dichloroethane	0.003*	0.00001	<0.00001	<0.00001	<0.00001
¹ 1,1-dichloroethene	0.03*	0.001	<0.001	<0.001	<0.001
¹ Cis 1,2-dichloroethene	0.06*	0.00001	<0.00001	<0.00001	< 0.00001
¹ Trans 1,2-dichloroethene	0.06*	0.001	< 0.001	< 0.001	<0.001
¹ Dibromochloromethane	0.15**	0.001	<0.001	<0.001	< 0.001
¹ Dichloromethane	0.004*	0.00002	0.00009	0.00016	0.00007
(methylene chloride)					
¹ 1,4-dioxane	0.05**	0.00005	<0.00005	<0.00005	<0.00005
¹ Epichlorohydrin	0.0005*	0.0004	< 0.0004	<0.0004	<0.0004
¹ Ethylbenzene	0.3*	0.001	< 0.001	< 0.001	< 0.001
¹ Hexachlorobutadiene	0.0007*	0.0005	< 0.0005	<0.0005	<0.0005
² N-Nitrosodimethylamine	0.0001*	0.00001	0.000039	<0.00001	<0.00001
(NDMA)					
¹ Plasticisers di(2-	0.009**	0.0005	<0.0005	<0.0005	<0.0005
ethylhexyl) (Phthalate)					
¹ Benzo-(a)-pyrene (PAHs)	0.00001*	0.00001	<0.00001	<0.00001	<0.00001
¹ Styrene (Vinylbenzene)	0.03*	0.001	<0.001	<0.001	<0.001
¹ Tetrachloroethene	0.05*	0.00002	<0.00002	<0.00002	<0.00002
¹ Toluene	0.8*	0.001	< 0.001	<0.001	<0.001
¹ Trichlorobenzenes	0.03*	0.0005	<0.0005	<0.0005	<0.0005
¹ Trichloroethene	0.02**	0.00001	<0.00001	<0.00001	<0.00001
¹ Vinyl chloride	0.0003*	0.00005	<0.00005	<0.00005	<0.00005
¹ Xylene	0.6*	0.003	< 0.003	< 0.003	< 0.003

*Australian Drinking Water Guideline **NZ Drinking Water Guideline

¹ Test extractions were performed by Eurofins |ams. The test extracts were subsequently subcontracted to Eurofins | Environment Testing, NATA Accreditation No. 1261, Report No. 769394-W. In-house Method based on USEPA 522, 8260D & 8270E.

¹ (Epichlorohydrin) Test extractions were performed by Eurofins |ams. The test extracts were subsequently subcontracted to Eurofins | Eaton, ANSI-ASQ National Accreditation Board/ANAB Accreditation No. AT 1807, Report No. 923488. In-house Method based on USEPA 524.2 Modified.

²Test extractions were performed by Eurofins |ams. The test extracts were subsequently subcontracted to Sydney Water, NATA Accreditation No. 63, Report No. 238330. In-house Method based on USEPA 521.

EVALUATION: On the basis of these results the samples of this product referred to in this report <u>have</u> complied with the test requirements of AS/NZS 4020:2018, Appearance (Organic Compounds); Appendix D.

5. <u>GROWTH OF AQUATIC MICRO-ORGANISMS:</u>

Methodology: AS/NZS 4020, *Appendix E* and in-house method TMP-191150.

Incubation temperature: $(30 \pm 1)^{\circ}C$

Exposure: 'total immersion'

No. of Samples: 1

Component Name	Testing Exposure	Inoculum (mL)	* MEAN DISSOLVED OXYGEN DIFFERENCE (MDOD) in mg/L
i) Impeller (Part # 3)	1 / 1L	100	0.65
ii) EPDM Bellow (Part # 4.2) +	1 of each / 1L	100	0.89
Suction Ring (Part # 2C) + O-			
ring (Part # 8) + O-ring (Part #			
19) + Rubber Sleeve (Part #			
14) + Radial Bearing (Part # 6)			
+ Radial Bearing (Part # 17)			
iii) Can (Part # 16)	1/1L	100	0.74
Negative Reference Control	~15,000mm²/1L	100	0.52
(glass plate)			
Positive Reference Control	~15,000mm²/1L	100	5.77
(paraffin waxed glass plate)			
Test Blank	Blank / 1L	100	7.20 in mg/L as mean
			dissolved oxygen

NA = Not applicable

* Difference from test blank and represents mean of five readings (weeks 5, 5 ½, 6, 6 ½ & 7) AS/NZS 4020 test sample requirements: Less than or equal to 2.4 for MDOD

EVALUATION:

On the basis of these results the samples of this product referred to in this report <u>have complied</u> with the test requirements of AS/NZS 4020:2018, , Growth of Aquatic Micro-organisms; *Appendix E*.

6. <u>CYTOTOXIC ACTIVITY:</u>

Methodology: AS/NZS 4020, *Appendix F* and in-house method TMP-191160.

Exposure: 'in-the-product'

Extraction temperature: (65 ± 2)°C	Scaling factor: 0.1 (1/10)
Extracts: 24h, 48h & 72h	No. of samples tested: 1

The test sample extracts from the product, as well as the test blank (test water) were used to prepare a nutrient growth medium, subsequently utilised to grow a monkey kidney cell line (VERO ATCC CCL 81).

Microscopic Examination	DescriptionTest Sample Extract (24h, 48h and 72h)			
Cell Morphology:	Satisfactory	Satisfactory		
Monolayer: Confluence/Healthy Growth as ~%	100%	100%		

Cytotoxicity was detected with Zinc Sulphate, used as a positive control and analysed at 0.4mM of Zinc. Water for Irrigation was included with the test blank as negative control.

AS/NZS 4020 test sample requirements: 1) Non-cytotoxic response- confluent monolayer similar to test blank.

2) Cytotoxic response- irregularly shaped cells & cell death similar to positive control 0.4mM Zinc Sulphate.

EVALUATION:

On the basis of these results the samples of this product referred to in this report <u>have complied</u> with the test requirements of AS/NZS 4020:2018, Cytotoxic Activity; *Appendix F*.

7. <u>MUTAGENIC ACTIVITY:</u>

Methodology: AS/NZS 4020, Appendix G and in-house method TMP-191170.Exposure: 'in-the-product'Extraction temperature: (65 ± 2)°CScaling factor: 0.1 (1/10)Extract: 24hNo. of samples tested: 1

	Salmonella		Ctd		Salmonella		Ctd
	typnimurium		Sla		typnimurium		510
-S9	TA98	Mean	Deviation	+ S9	TA98	Mean	Deviation
-ve c	22			-ve c	45		
	17	18	4		37	41	4
	15				42		
2,4-DNPH	299			2-AA	91		
	302	305	8		89	92	3
	314				95		
T.BLK	22			T.BLK	40		
	23	21	3		41	40	2
	18				38		
Sample	21			Sample	31		
	22	22	2		45	40	8
	24				43		

	Salmonella typhimurium		Std		Salmonella typhimurium		Std
-S9	TA102	Mean	Deviation	+ S9	TA102	Mean	Deviation
-ve c	899			-ve c	780		
	760	850	78		820	814	31
	890				842		
2,4-DNPH	980			Benzo(a)pyrene	1020		
	990	985	5		1122	1127	110
	986				1240		
T.BLK	916			T.BLK	920		
	712	853	123		940	940	20
	932				960		
Sample	464			Sample	780		
	848	704	209		766	763	19
	800				742		

+ S9 = * Metabolic Activator

NA = Not applicable

> = greater than

2,4-DNPH = 2, 4-dinitrophenylhydrazine

2-AA = 2-aminoanthracene

-ve c = Negative Control

AS/NZS 4020 test sample requirements: (The differences in the mean number of revertants between either of the negative controls and test sample extracts should not exceed two standard deviations (for triplicate analysis)).

Positive response: If mean revertants for sample extract outside the range of spontaneous revertants for test strain.

EVALUATION:

On the basis of these results the samples of this product referred to in this report have complied with

the test requirements of AS/NZS 4020:2018, Mutagenic Activity; Appendix G.

8. <u>METALS:</u>

Methodology: AS/NZS 4020, *Appendix H* and in-house methods TMP-191180 and TMP-191230. **Exposure:** 'in-the-product' **Extraction temperature:** $(65 \pm 2)^{\circ}$ C **Scaling factor:** 0.1 (1/10)

Extracts: 24	n & 9-day	No. of sample	es for I: 1	No. of samples for II: 1			
Element	AS/NZS 4020: Maximum Allowable Concentration mg/L (ppm)	Limit of Reporting mg/L (ppm)	Test Blank mg/L (ppm)	Sample Extract I mg/L (ppm)	Sample Extract II mg/L (ppm)	FINAL RESULT I mg/L (ppm)	FINAL RESULT II mg/L (ppm)
Aluminium ¹ (Al)	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony ¹ (Sb)	0.003	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic ¹ (As)	0.01	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium ¹ (Ba)	0.7	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron ¹ (B)	1.4	0.05	0.24	<0.05	<0.05	<0.05	<0.05
Cadmium ¹ (Cd)	0.002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium ¹ (Cr)	0.05	0.001	<0.001	0.001	0.001	0.001	0.001
Copper ¹ (Cu)	2	0.001	0.004	0.032	0.034	0.028	0.030
lron ¹ (Fe)	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Lead ¹ (Pb) a) First 24h: b) Final 9-day:	0.01	0.001	a) <0.001 b) <0.001	a) 0.074 b) 0.052	a) 0.050 b) 0.057	a) 0.074 b) 0.052	a) 0.050 b) 0.057
Manganese ¹ (Mn)	0.1	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury ¹ (Hg)	0.001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum ¹ (Mo)	0.05	0.002	<0.002	0.003	<0.002	0.003	<0.002
Nickel ¹ (Ni)	0.02	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium ¹ (Se)	0.01	0.001	<0.001	0.002	<0.001	0.002	<0.001
Silver ¹ (Ag)	0.1	0.001	<0.001	<0.001	<0.001	<0.001	<0.001

< = less than mg/L = milligram per litre ¹ = ICPMS – In-house Method Code: LTM-MET 3040 First extract becomes final extract. NA = Not applicable

Test extractions were performed by Eurofins |ams. The test extracts were subsequently subcontracted to Eurofins |Environment Testing for assessment (NATA Accreditation No. 1261), Report Nos. 769395-W-V3 & 771826-W. In-house Method based on US EPA Method 3010A & US EPA Method 6020B.

8. METALS CONT.

Evaluated Exposure = <u>Highest 9-day Sample result x Maximum scaling factor allowed in AS/NZS 4020</u> for Lead Test Scaling Factor = (0.057 x 0.01) / 0.1

= 0.0057mg/L

EVALUATION:

The results <u>have not complied</u> at the testing exposure but on final calculation of evaluated exposure, the samples of this product referred to in this report <u>have complied</u> with the test requirements of AS/NZS 4020:2018, Metals; *Appendix H*, at an evaluated 'in the-product' exposure with a scaling factor of 0.01 (1/100) applied.

9.I. PHOTO OF TEST SAMPLE:



9.II. BILL OF MATERIAL (BOM) PRODUCT:

				Pump Des	ignation - Ratio of V	Wetted Surface Area to Volu	ime (cm2 per 1ml	4)	
Position	Designation	Material	Stratos Z 25/1-8 Yonos MAXO-Z 25/0.5-7 Yonos MAXO-Z 25/0.5-10	Stratos PARA-Z 25/1-8	Stratos PARA-Z 25/1-11	Stratos-Z 30/1-8 Yonos MAXO-Z 30/0.5-7	Stratos PARA-Z 30/1-8	Stratos PARA-Z 30/1-11	Stratos PARA-Z 25/1-12
		Volume (mL) ->	250	250	220	250	250	220	280
1	Pump Housing	CC499K	1.2141	1.2141	1.1793	1.2141	1.2141	1.1793	1.6431
2	Suction Gasket/Casing Suction Ring	1.4301 1.4307	0.0000	0.0000	0.0515	0.0000	0.0000	0.0515	0.0000
2a	Cap Gasket - Impeller (1)	1.4301	0.1205	0.1205	0.0000	0.1205	0.1205	0.0000	0.1075
2b	Cap Gasket - Impeller (2)	1.4301	0.0854	0.0854	0.0000	0.0854	0.0854	0.0000	0.0763
2c	Suction Ring	WITCOM PPS 2016-167	0.0794	0.0794	0.0000	0.0794	0.0794	0.0000	0.0709
	Incoller	NORYL FE 1630 PW	0.0000	0.0000	0.6233	0.0000	0.0000	0.6233	0.0000
1	mperer	Fortron 1140L6 SF3001	0.7722	0.7722	0.0000	0.7722	0.7722	0.0000	0.6895
Ba	Insert - Impeller	CW612N CW617N	0.0060	0.0060	0.0068	0.0060	0.0060	0.0068	0.0054
4	Mechanical Seal		•	•	•	•	•	•	•
4a	Spring for Mechanical Seal	1.4404	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4b	Frame for Mechanical Seal	1.4301	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4c	Ceramic Ring for Mechanical Seal	SCC-950F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		E 7518 E 7581							
4d	O-Ring for Mechanical Seal (sm)	70 EPDM 331 7 FP 1197	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40	O-Ring for Mechanical Seal (Ig)	EP856	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4.1	Rotary Seal Ring	SCC-950F	0.0405	0.0405	0.0460	0.0405	0.0405	0.0460	0.0362
4.2	EPDM Bellow	E 7518 E 7581	0.0566	0.0566	0.0643	0.0566	0.0566	0.0643	0.0506
4.2	factor .	/U EPDM 551	0.0357	0.0357	0.0202	0.0357	0.0257	0.0303	0.0220
4.5	Spring	1.4501	0.025/	0.0257	0.0292	0.025/	0.0257	0.0292	0.0250
4.4	King	1.4301	0.0123	0.0123	0.0140	0.0123	0.0123	0.0140	0.0110
4.42	Locking Ring	1.4301	0.0212	0.0212	0.0241	0.0212	0.0212	0.0241	0.0189
4.4b 5	Collar Endshield	1.4301 CW612N	0.0505	0.0505	0.05/2	0.0305	0.0505	0.05/2	0.0449
6	Radial Bearing (1)	HPC835	0.0672	0.0672	0.0764	0.0672	0.0672	0.0764	0.0741
		EK2239							
7	Filter Plate	1.4301 E 7518	0.1200	0.1200	0.1364	0.1200	0.1200	0.1364	0.2143
, v	o kiig	E 7581	0.000	0.0402	0.040	0.0402	0.0402	0.0407	0.0400
9	Filter Plug	1.4301	0.0800	0.0800	0.0909	0.0800	0.0800	0.0909	0.0714
10	Shaft	1.4122	0.1733	0.1733	0.1969	0.1733	0.1733	0.1969	0.1661
11	Sleeve	1.4301	0.1574	0.1574	0.1788	0.1574	0.1574	0.1788	0.1888
12	Sleeve Cover (1)	1.4301	0.0363	0.0363	0.0413	0.0363	0.0363	0.0413	0.0448
13	Sleeve Cover (2)	1.4301	0.0367	0.0367	0.0417	0.0367	0.0367	0.0417	0.0448
14	Rubber Sleeve	E 7518 E 7581	0.0776	0.0776	0.0882	0.0776	0.0776	0.0882	0.0812
15	Thrust Plate	Rapox Brown C795 T195	0.0431	0.0431	0.0490	0.0431	0.0431	0.0490	0.0502
16	CAN	Fortron 1140L6 SF3001	0.2467	0.2467	0.2803	0.2467	0.2467	0.2803	0.2645
17	Radial Bearing (2)	HPC835 EK2239	0.0510	0.0510	0.0580	0.0510	0.0510	0.0580	0.0514
18	Insert	CW612N CW617N	0.0695	0.0695	0.0789	0.0695	0.0695	0.0789	0.1770
19	O-Ring	E 7518 E 7581 70 EPDM 331 7 EP 1197	0.1166	0.1166	0.1324	0.1166	0.1166	0.1324	0.0966
20	Admission Slide (?)	1.4301	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

9.II. BILL OF MATERIAL (BOM) PRODUCT CONT.:

Note Degrado Series 20141 Series 201411 Series 20141									
Vene (cl) 200 200 2000	Position	Designation	Material	Stratos-Z 30/1-12 Yonos MAXO-Z 30/0.5-12	Stratos PARA-Z 30/1-12	Stratos-Z 40/1-8 Yonos MAXO-Z 40/0.5-8	Stratos-Z 40/1-12 Yonos MAXO-Z 40/0.5-12	Stratos-Z 50/1-9 Yonos MAXO-Z 50/0.5-9	Stratos-Z 65/1-12 Yonos MAXO-Z 65/0.5-12
1 Party Marg Color 1450 1450 1472 1176 1176 1080 0.998 2 Sofing Sate Care Sat			Volume (mL) ->	280	280	490	640	820	1350
2 Sation Gate: Experiency 1.003 1.000 0.	1	Pump Housing	CC499K	1.6431	1.6431	1.2214	1.0786	1.0608	0.9969
D Description 1.33 0.075 <t< th=""><th>2</th><th>Suction Gasket/Casing Suction Ring</th><th>1.4301 1.4307</th><th>0.0000</th><th>0.0000</th><th>0.0000</th><th>0.0000</th><th>0.0000</th><th>0.0000</th></t<>	2	Suction Gasket/Casing Suction Ring	1.4301 1.4307	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Bo Constant-Impair (1) 1.031 0.015 0.013 0.0131 0	2a	Cap Gasket - Impeller (1)	1.4301	0.1075	0.1075	0.0668	0.0689	0.0538	0.0387
12 Schen Ring MIXIN RESUBSION 0.0115 0.0155 0.0155 0.0155 0.0105 3 Inpert IMMESTATI 0.005 0.005 0.005 0.000 0.	2b	Cap Gasket - Impeller (2)	1.4301	0.0763	0.0763	0.0288	0.0533	0.0416	0.0290
Implet MORE #1897/F 0.000	2c	Suction Ring	WITCOM PPS 2016-167	0.0709	0.0709	0.0466	0.0506	0.0395	0.0289
Image: Provide 1988 2000 0.685 0.835 0.835 0.837 0.636 0.000 3s isert-implet: 0.6821 0.005 0.005 0.002 0.003 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.004 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 </th <th>3</th> <th>Impeller</th> <th>NORYL FE 1630 PW</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.2681</th>	3	Impeller	NORYL FE 1630 PW	0.0000	0.0000	0.0000	0.0000	0.0000	0.2681
3. sect-impelier CMSIN CMSIN 0.005 0.005 0.0031 0			Fortron 1140L6 SF3001	0.6895	0.6895	0.3205	0.3478	0.2801	0.0000
4 Mechanical Sail 1 0 1 0 0 0 4s Series functional Sail 1.432 0.000 </th <th>Ba</th> <th>Insert - Impeller</th> <th>CW612N CW617N</th> <th>0.0054</th> <th>0.0054</th> <th>0.0031</th> <th>0.0023</th> <th>0.0018</th> <th>0.0022</th>	Ba	Insert - Impeller	CW612N CW617N	0.0054	0.0054	0.0031	0.0023	0.0018	0.0022
4. Description Mechanical Scal 1.044 0.000 0.0000	- 4	Mechanical Seal	•	•	•	-		-	
By Theme for Mechanical Seal 1.331 0.000 0.000 0.000 0.000 0.0015 0.0121 0.0131 44 Center Ring for Mechanical Seal (m) 77.318 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0001	4a	Spring for Mechanical Seal	1.4404	0.0000	0.0000	0.0000	0.0272	0.0212	0.0377
4c Consist ing for Mechanical Scal SCA397 0.000 0.000 0.000 0.0015 0.0120 0.0131 4d Orling for Mechanical Scal (m) 178 1137 0.000 <	4b	Frame for Mechanical Seal	1.4301	0.0000	0.0000	0.0000	0.0275	0.0215	0.0235
44 0-Ring for Mechanical Seal (pn) F. 758 NO EPOIN 331 7 P 1477 0.000 0.000 0.000 0.0055 0.004 0.005 4.0 Ming for Mechanical Seal (pn) 7P 1477 0.000 0.000 0.000 0.000 0.000 0.0055 0.004 0.0055 0.004 0.0055 0.004 0.0055 0.004 0.0055 <th>40</th> <th>Ceramic Ring for Mechanical Seal</th> <th>SCC-950F</th> <th>0.0000</th> <th>0.0000</th> <th>0.0000</th> <th>0.0154</th> <th>0.0120</th> <th>0.0135</th>	40	Ceramic Ring for Mechanical Seal	SCC-950F	0.0000	0.0000	0.0000	0.0154	0.0120	0.0135
44 Offing for Mechanical Seal (pm) E. 784. TO PM 331 76 P 1197 0.0000			E 7518						
AD DRVM 331 (78) 197 Additional Seal (g) PR55 0.0000	4d	O-Ring for Mechanical Seal (sm)	E 7581	0.0000	0.0000	0.0000	0.0056	0.0044	0.0053
Image: constraint list (g) PES55 0.000 0			70 EPDM 331						
Le Description D0000 D0000 <thd0000< th=""> D0000 D0000 <</thd0000<>			7 EP 1197	0.0000	0.0000	0.0000	0.0001	0.0017	0.0050
La Distry Distry <thdistry< th=""> <thdistry< th=""></thdistry<></thdistry<>	46	O-King for Mechanical Seal (ig)	EP856	0.000	0.000	0.0000	1000.0	0.004/	0.0039
4.2 PDM Below E 7581 70 EP0M 331 0.056 0.056 0.029 0.000 0.000 0.000 4.3 Spirig 1.401 0.0230 0.0230 0.0131 0.000 0.000 0.000 4.4 Ikoing Ring 1.4301 0.0119 0.0120 0.0000 0.000 0.000 4.4 Ikoing Ring 1.4301 0.0119 0.0120 0.0000 0.0000 0.000 4.4 Ikoing Ring 1.4301 0.0448 0.0427 0.0100 0.0000 0.0000 4.4 Ikoing Ring 1.4301 0.0448 0.0427 0.1311 0.103 0.166 6 Radial Rewing (1) EV2339 0.0741 0.0742 0.0422 0.0595 0.0445 0.0574 7 Filter Alag 1.4301 0.0741 0.0742 0.0272 0.022 0.012 0.012 9 Filter Alag E 7581 0.0440 0.0445 0.0556 0.0300 0.0244 0.014 0.0445	4.1	Kotary seal King	500-950F	0.0302	0.0002	0.0207	0.0000	0.000	0.0000
	42	CODA & Dallan	E /010 E 7504	0.0506	0.0505	0.0390	0.0000	0.0000	0.0000
Als Spring 14301 0.023 0.0331 0.0000 0.0000 4.4 Bing 1.4301 0.0110 0.0159 0.0000 0.0000 0.0000 4.4 Bing 1.4301 0.0119 0.0159 0.0100 0.0000 0.0000 0.0000 4.45 Collar 1.4301 0.0449 0.0157 0.0000 0.0000 0.0000 5 Endrheid C/W817N 0.2497 0.1427 0.1311 0.1023 0.1666 6 Radial Bearing (1) HPC335 0.0741 0.0449 0.0422 0.056 0.0455 0.054 7 Filme Plaze 1.4301 0.2143 0.1224 0.2344 0.1829 0.370 8 O-Ring E.7511 0.0460 0.0074 0.0272 0.0212 0.013 9 Filme Plaze 1.4301 0.0714 0.0402 0.0131 0.0244 0.014 10 Start 1.4401 0.0410 0.0445 0.0131<	4.2	CPOW DEIOW	70 EDDA4 331	0.0500	0.0000	0.0205	0.0000	0.000	0.0000
	43	Sorie	1.4301	0.0230	0.0230	0.0131	0.0000	0.0000	0.0000
-0. -0.002 0.018 0.018 0.010 0.000 0.000 0.000 4.4 Locing King 1.4301 0.018 0.018 0.010 0.000 0.000 0.000 4.4 Locing King 1.4301 0.0449 0.0427 0.000 0.000 0.000 5 Excisite CV612/N 0.2497 0.1427 0.1311 0.1023 0.166 6 Radial Bearing (1) HPCE35 0.0741 0.0741 0.0423 0.0596 0.0465 0.054 7 Filter Fluxe 1.4301 0.2143 0.1222 0.2344 0.1223 0.0596 0.0465 0.054 9 Filter Flug 1.4301 0.0714 0.0714 0.0274 0.0272 0.0212 0.019 9 Filter Flug 1.4301 0.0460 0.0460 0.0131 0.0244 0.014 10 Seath 1.4122 0.1661 0.0541 0.0255 0.0300 0.0234 0.079 <td< th=""><th>44</th><th>Rine</th><th>1 4301</th><th>0.0110</th><th>0.0110</th><th>0.0063</th><th>0.0000</th><th>0.0000</th><th>0.0000</th></td<>	44	Rine	1 4301	0.0110	0.0110	0.0063	0.0000	0.0000	0.0000
4.8 Colar 1.301 0.0449 0.0459 0.000 0.000 0.000 5 Endhield CW612N CW612N 0.2497 0.2497 0.1427 0.1311 0.103 0.166 6 Radia Bearing (J) HC0335 0.0741 0.0443 0.0596 0.0465 0.054 7 Fiter Plate 1.4301 0.2143 0.1224 0.2344 0.129 0.370 6 OrRing E 7511 0.0490 0.0420 0.0274 0.0272 0.0212 0.019 9 Fiter Plag 1.4301 0.0714 0.0468 0.0313 0.0244 0.014 10 Seath 1.4322 0.1661 0.1661 0.0498 0.1176 0.0818 0.077 12 Seene Cover(1) 1.4301 0.0446 0.0044 0.0256 0.0500 0.0234 0.0508 13 Seene Cover(2) 1.4301 0.0444 0.0445 0.0256 0.0500 0.0234 0.0508 14	4.4a	Lockine Rine	1.4301	0.0189	0.0189	0.0108	0.0000	0.0000	0.0000
5 Endnield CW612N CW617N 0.2497 0.2497 0.1427 0.1311 0.1033 0.166 6 Radial Bearing (1) HPC035 EX239 0.0741 0.0741 0.0423 0.0596 0.0455 0.0547 7 Fitter Plate 1.4301 0.2143 0.124 0.2234 0.0232 0.0272 0.0212 0.013 8 O-Ring E 7518 0.0480 0.0480 0.0427 0.0272 0.0212 0.0212 0.019 9 Fitter Plag 1.4301 0.0140 0.0140 0.0274 0.0272 0.0212 0.0212 0.019 9 Fitter Plag 1.4301 0.0480 0.0480 0.0274 0.0272 0.0212 0.0212 0.011 10 Start 1.4301 0.0485 0.1318 0.0313 0.0244 0.014 11 Searce 1.4301 0.0445 0.0255 0.0300 0.0234 0.0300 12 Searce E 7518 0.0612 0.0452	4.4b	Collar	1.4301	0.0449	0.0449	0.0257	0.0000	0.0000	0.0000
S CMB17N CL397 CL		Contraction of the second s	CW612N	0.2407	0.2407	0.1177	0.1311	0 1022	0.4550
6 Radial Bearing [1] HPG835 E12239 0.0741 0.0741 0.0423 0.0596 0.0465 0.0544 7 Fitter Plate 1.4301 0.2143 0.1243 0.1242 0.2341 0.1224 0.2341 0.1224 0.0455 0.054 8 O-Ring E.7518 0.0480 0.0440 0.0274 0.0272 0.0212 0.019 9 Fitter Plag 1.4301 0.0714 0.0704 0.0400 0.0313 0.0244 0.014 10 Shaft 1.4122 0.1661 0.0640 0.0313 0.0244 0.014 11 Secore 1.4301 0.0448 0.0256 0.0300 0.0234 0.030 12 Secore Cover (2) 1.4301 0.0448 0.0256 0.0300 0.0234 0.030 13 Secore Cover (2) 1.4301 0.0440 0.0442 0.0245 0.030 0.0234 0.030 14 Rubber Siecve E.7518 0.0502 0.0451 0.0451		chashiela	CW617N	0.2497	0.2497	0.1427	0.1511	0.1025	0.1009
7 Fitter Plate 1.4301 0.2143 0.1224 0.2344 0.1029 0.370 8 0-Ring E 7518 0.0480 0.0480 0.0274 0.0272 0.0212 0.019 9 Fitter Plug 1.4301 0.0714 0.0714 0.0406 0.0313 0.0244 0.0114 10 Shaft 1.4322 0.1661 0.0949 0.1176 0.0916 0.1141 11 Seare 1.4301 0.0480 0.0445 0.00256 0.0300 0.0324 0.0312 12 Seare Cover (1) 1.4301 0.0448 0.0445 0.0256 0.0300 0.0324 0.030 13 Seare Cover (2) 1.4301 0.0444 0.0445 0.0256 0.0300 0.0324 0.030 14 Rubber Sleave E 7518 0.0612 0.0612 0.0452 0.0300 0.0234 0.030 15 Thruxt Plate Rapox Brown C795 0.0502 0.0502 0.0265 0.0330 0.0297	6	Radial Bearing (1)	HPC835 EK2239	0.0741	0.0741	0.0423	0.0596	0.0465	0.0547
8 O-Ring E 7518 E 7581 0.0490 0.0490 0.0274 0.0272 0.0212 0.019 9 Fiter Plug 1.4301 0.0714 0.0400 0.0313 0.0244 0.014 10 Shift 1.4301 0.0714 0.0406 0.0313 0.0244 0.014 11 Steve 1.4301 0.1661 0.1661 0.0494 0.1176 0.0916 0.073 12 Steve Cover (1) 1.4301 0.0446 0.0446 0.0256 0.0300 0.0234 0.030 13 Steve Cover (2) 1.4301 0.0446 0.0446 0.0256 0.0300 0.0234 0.030 14 Rubber Steve E 7518 0.0612 0.0612 0.0446 0.0334 0.0255 0.0300 14 Rubber Steve E 7518 0.0502 0.0502 0.0277 0.0360 0.0297 0.0444 15 Thrut Plate Rapox Brown C/95 0.0502 0.0514 0.0294 0.0425 0.0333	7	Filter Plate	1.4301	0.2143	0.2143	0.1224	0.2344	0.1829	0.3704
Berning E 758.1 COURSE COURSE <thcourse< th=""> <thcourse< th=""> <thcourse< <="" th=""><th></th><th>0.85-</th><th>E 7518</th><th>0.0490</th><th>0.0490</th><th>0.0374</th><th>0.0373</th><th>0.0313</th><th>0.0100</th></thcourse<></thcourse<></thcourse<>		0.85-	E 7518	0.0490	0.0490	0.0374	0.0373	0.0313	0.0100
9 Filter Plug 1.4301 0.0714 0.0406 0.0313 0.0244 0.014 10 Shaft 1.4122 0.1661 0.0641 0.0949 0.1176 0.0918 0.114 11 Siexe 1.4301 0.1888 0.1079 0.1174 0.0916 0.079 12 Siexe Cover (1) 1.4301 0.0448 0.0446 0.0256 0.0300 0.0234 0.030 13 Siexe Cover (2) 1.4301 0.0448 0.0446 0.0256 0.0300 0.0234 0.030 14 Rubber Siexe E 7518 0.0612 0.0812 0.0464 0.0314 0.0245 0.030 15 Thrust Plate Rapox Brown C795 0.0502 0.0502 0.0267 0.0300 0.0297 0.044 16 CAN Fortron 114016 5F3001 0.2645 0.1511 0.1931 0.1507 0.206 17 Radial Bearing (2) HPC635 0.0514 0.024 0.0426 0.0333 0.056 <	•	0-king	E 7581	0.0460	0.0480	0.02/4	0.0272	0.0212	0.0198
10 Shaft 1.4122 0.1661 0.0949 0.1176 0.0918 0.114 11 Sieeve 1.4301 0.1888 0.1079 0.1174 0.0918 0.079 12 Sieeve Cover (1) 1.4301 0.0448 0.0448 0.0256 0.0300 0.0234 0.030 13 Sieeve Cover (2) 1.4301 0.0448 0.0448 0.0256 0.0300 0.0234 0.030 14 Rubber Sieeve E 7518 0.0612 0.0612 0.0446 0.0304 0.0245 0.038 15 Thrust Plate Rapox Brown C795 0.0502 0.0502 0.0287 0.0390 0.0297 0.044 16 CAN Fortron 114016 SF3001 0.2645 0.1511 0.1931 0.1507 0.206 17 Radial Bearing (2) HPC635 E K2239 0.0514 0.0514 0.0294 0.0426 0.0333 0.036 18 Incert CW612N CW617N 0.1770 0.1770 0.0552 0.0577 0.0455 <th>9</th> <th>Filter Plug</th> <th>1.4301</th> <th>0.0714</th> <th>0.0714</th> <th>0.0408</th> <th>0.0313</th> <th>0.0244</th> <th>0.0148</th>	9	Filter Plug	1.4301	0.0714	0.0714	0.0408	0.0313	0.0244	0.0148
11 Steeve 1.4301 0.1888 0.1079 0.1174 0.0916 0.078 12 Steeve Cover (1) 1.4301 0.0448 0.0256 0.0300 0.0234 0.0300 13 Steeve Cover (2) 1.4301 0.0448 0.0448 0.0256 0.0300 0.0234 0.0300 14 Rubber Steeve E 7518 0.0612 0.0612 0.0464 0.0314 0.0245 0.038 15 Thrust Plate Rapox Brown C795 0.0502 0.0502 0.0287 0.0380 0.0297 0.0444 16 CAN Fortron 1140L5 \$F3001 0.2645 0.1511 0.1931 0.1507 0.2065 17 Radial Bearing (2) HPC835 0.0514 0.0514 0.0294 0.0426 0.0333 0.0366 18 Insert CW612N 0.1770 0.11770 0.1011 0.0621 0.0455 0.0512 19 O-Ring E 7518 0.0966 0.0956 0.0552 0.0577 0.0450	10	Shaft	1.4122	0.1661	0.1661	0.0949	0.1176	0.0918	0.1149
12 Sieve Cover (1) 1.4301 0.0448 0.0448 0.0256 0.0300 0.0234 0.030 13 Sieve Cover (2) 1.4301 0.0448 0.0448 0.0256 0.0300 0.0234 0.030 14 Rubber Sieeve E 7518 0.0612 0.0612 0.0448 0.0344 0.0314 0.0236 0.030 15 Thrust Plate Rapox Brown C795 0.0502 0.0502 0.0267 0.0360 0.0297 0.0444 16 CAN Fortron 1140L6 SF3001 0.2645 0.1511 0.1931 0.1507 0.2066 17 Radial Bearing (2) HPC835 0.0514 0.0514 0.0294 0.0426 0.0333 0.0366 18 Insert CW612N 0.1770 0.1101 0.0621 0.0485 0.0512 19 O-Ring E 7518 0.0966 0.0956 0.0552 0.0577 0.0450 0.031	- 11	Sleeve	1.4301	0.1888	0.1888	0.1079	0.1174	0.0916	0.0780
13 Sieve Cover (2) 1.4301 0.0448 0.0448 0.0256 0.0300 0.0234 0.030 14 Rubber Sleeve E 7518 0.0612 0.0612 0.0454 0.0314 0.0245 0.038 15 Thrust Plate Rapor Brown C795 0.0502 0.0502 0.0267 0.0380 0.0297 0.0444 16 CAN Fortron 1140L6 SF3001 0.2645 0.1511 0.1931 0.1507 0.2066 17 Radial Bearing (2) HPC835 0.0514 0.0514 0.0294 0.0426 0.0333 0.0366 18 Insert CW612N 0.1770 0.1770 0.1011 0.0621 0.0485 0.0512 19 O-Ring E 7518 E 7518 0.0966 0.09552 0.0577 0.0450 0.0314	12	Sleeve Cover (1)	1.4301	0.0448	0.0448	0.0256	0.0300	0.0234	0.0308
14 Rubber Sleeve E 7513 E 7551 0.0612 0.0612 0.0464 0.0314 0.0245 0.038 15 Thrust Plate Rapox Brown C795 T195 0.0502 0.0502 0.0267 0.0380 0.0297 0.044 16 CAN Fortron 1140L6 SF3001 0.2645 0.1511 0.1931 0.1507 0.2066 17 Radial Bearing (2) HPC835 EK2239 0.0514 0.0514 0.0294 0.0426 0.0333 0.0366 18 Insert CW612N CW617N 0.1770 0.1770 0.1011 0.0621 0.0485 0.0514 19 O-Ring E 7518 F 7561 0.0966 0.0956 0.0552 0.0577 0.0450 0.031	13	Sieeve Cover (2)	1.4301	0.0448	0.0448	0.0256	0.0300	0.0234	0.0308
15 Thrust Plate Rapox Brown C795 T195 0.0502 0.0502 0.0287 0.0380 0.0297 0.044 16 CAN Fortron 1140L6 \$F3001 0.2645 0.2645 0.1511 0.1931 0.1507 0.2066 17 Radial Bearing (2) HPC835 EK2239 0.0514 0.0514 0.0294 0.0426 0.0333 0.0366 18 Insert CW612N CW617N 0.1770 0.1770 0.1011 0.0621 0.0455 0.0512 19 O-Ring E 7518 F 7581 0.0966 0.0966 0.0552 0.0577 0.0450 0.031	14	Rubber Sleeve	E 7518 E 7581	0.0812	0.0812	0.0464	0.0314	0.0245	0.0386
16 CAN Fortron 1140L6 \$F3001 0.2645 0.1511 0.1931 0.1507 0.206 17 Radial Bearing (2) HPC635 EK2239 0.0514 0.0514 0.0294 0.0426 0.0333 0.036 18 Insert CW612N CW617N 0.1770 0.1770 0.1011 0.0621 0.0485 0.052 19 O-Ring T518 E 7561 0.0966 0.0966 0.0552 0.0577 0.0450 0.031	15	Thrust Plate	Rapox Brown C795 T195	0.0502	0.0502	0.0287	0.0380	0.0297	0.0447
17 Radial Bearing (2) HPG835 EK2239 0.0514 0.0514 0.0294 0.0426 0.0333 0.0366 18 Insert CW612N CW617N 0.1770 0.1770 0.1011 0.0621 0.0485 0.0552 19 O-Ring E 7518 E 7561 0.0966 0.0966 0.0552 0.0577 0.0450 0.031	16	CAN	Fortron 1140L6 SF3001	0.2645	0.2645	0.1511	0.1931	0.1507	0.2068
Insert CW612N CW617N 0.1770 0.1770 0.1011 0.0621 0.0485 0.052 19 O-Ring 70 EPOM 331 0.0966 0.0956 0.0552 0.0577 0.0450 0.031	17	Radial Bearing (2)	HPC835 FK2239	0.0514	0.0514	0.0294	0.0426	0.0333	0.0361
E CW01/N E F <th>18</th> <th>Insert</th> <th>CW612N</th> <th>0.1770</th> <th>0.1770</th> <th>0.1011</th> <th>0.0621</th> <th>0.0485</th> <th>0.0524</th>	18	Insert	CW612N	0.1770	0.1770	0.1011	0.0621	0.0485	0.0524
E 7501 0.0966 0.0966 0.0552 0.0577 0.0450 0.031			CW61/N						
19 O-Ring 0.0966 0.0966 0.0552 0.0577 0.0450 0.031			E /518 E 7591						
70 LPUNI JJ1	19	O-Ring	70 EDDA4 221	0.0966	0.0966	0.0552	0.0577	0.0450	0.0319
7 FD 1107			7 FD 1107						
20 Admission Slide (?) 1.4301 0.0000 0.0000 0.0000 0.0535 0.0418 0.059	20	Admission Slide (?)	1,4301	0,0000	0.0000	0.0000	0.0535	0.0418	0.0592

9.III. INTERNAL SPECIFICATIONS FOR PUMP BODY:

WRITTEN AUTHORIZATIOM.

	• #	Designati Designati	on: Brace mater	al ccaner	!'	Replacemen	t for:	Page / Pages:
И	ЛО	Reu	prass mater	Idl: CC499K		XXXXX	XX.XX	1/3
						Number:	2163	191.1
I	Red B	ras	s mate	erial CC th pum	:499 iped	K f	or u edia	se in
tem	arks:							
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+								
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ND.	TN-NO.	DATE	PREPARED BY:	SIGN.	DATE	REL	EASED:	SIGN.

9.III. INTERNAL SPECIFICATIONS FOR PUMP BODY CONT.:

Designation:	Replacement for:	Page / Pages:
Red Brass material: CC499K	XXXXXXX.XX	2/3
VVILO	Number: 21631	91.1
Material		
CC499K (CuSn5Zn5Pb2-C)		
Material according to EN 1982. In case of drinking requirements need to be fulfilled, for example in Germany to imperative. This can be only reached by using materials Bundesamt) which is based on the 4MS ¹ list, this list is particular the chemical composition of the material has requirements of the UBA composition list of accepted metal material composition has to be documented by a certificate the elements which might exceed 0.02 % have to be included.	water application he fulfilment of D listed in the UBA a legal binding to be in complia lic materials (Tab 3.1. according to ed in this report.	ns, additional IN 50930-6 is A-list (Umwelt document. In ance with the ole N° 1). The EN 10204. All
Cu Sn Zn Pb $84D\% - 88D\% / 4D\% - 6D\% / 4D\% - 6D\% / 0.2\% - 3D$ Impurities (% (m/m)): Fe P S Sb $\leq 0.30\% / \leq 0.04\% / \leq 0.04\% / \leq 0.10\%$ Each other impurity < 0.02\% Composition range which has to be full	Ni 0% 0,1%-0,60%	of CC499K in
arinking water as defined in the UBA composition materials ^I	in list of accepted	i metallic
¹ France, Germany, the Netherlands and the United Kingdom framework of the 4MS Common Approach as laid down in th (January 2011). This common approach aims for convergence national approval schemes for materials and products in com The 4MS have adopted Part A of this document as a common the concept of accepting metallic materials in their national is subject to revisions agreed by the 4MS. Part B of this document includes a Composition List of metal of the 4MS following the procedure described in Part A, this by the UBA. In a second version which will be published soo will be included in the UBA-list. Further information may be obtained from any of the compe Bundesministerium für Gesundheit (Deutschland) Ministère du Travail, de l'Emploi et de la Santé (France) Ministerie van Infrastructuur en Milieu (Nederland) Department for Environment, Food and Bural Affairs (United	h (4MS) work toge e Declaration of I ce of the respective tact with drinking n basis for implem regulations. The d lic materials acce list was publishe n, further alloys of tent authorities of Kingdom)	ether in the ntent ve water, nenting locument pted in all d in Germany of the 4MS-list f the 4MS.

9.III. INTERNAL SPECIFICATIONS FOR PUMP BODY CONT.:

	Designatio	n:	Replacement for:	Page / Pages:
will	Red B	rass material: CC499K	XXXXXXX.XX	3/3
			Number: 2163	3191.1
Cracks				
The delivered	parts have	e to be free of cracks which can b	be detected in a l	light microscop
at to times n	laginincación			
Tightness				
Parts designe there is no di	ed for press fferent spec	sure containing elements have to cification in the drawing.	be pressure tigh	t upto 13 bar
Cleanliness				
The parts have be removed be or tumble grin	ve to be cle by a suitable nding.	eaned from any contamination. Es e cleaning process. Scale has to b	specially producti be removed by e.	on aids have t .g. shot blastin
Process Cha	nges			
The release on material sum	of a part ref	subcontractors are an important	part of this pr	ocess chain
The release of material supp anything chan to be tested.	of a part ref pliers and nges, Wilo h	subcontractors are an important has to be informed about it. If neo	essary, new initia	al samples hav
The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo M	subcontractors are an important has to be informed about it. If nec	part of this pr essary, new initia	ocess chain. al samples hav
The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo h	subcontractors are an important nas to be informed about it. If neo	essary, new initia	al samples hav
The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo M	subcontractors are an important has to be informed about it. If nec	part of this pr essary, new initia	ocess chain. al samples hav
The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo M	ers to a certain process chain. As subcontractors are an important has to be informed about it. If nec	part of this pressary, new initia	al samples hav
The release of material sup; anything char to be tested.	of a part ref pliers and nges, Wilo b	ers to a certain process chain. As subcontractors are an important has to be informed about it. If nec	part of this pr essary, new initia	al samples hav
The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo M	ers to a certain process chain. As subcontractors are an important has to be informed about it. If nec	part of this pressary, new initia	al samples hav
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The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo M	ers to a certain process chain. As subcontractors are an important has to be informed about it. If neo	part of this pr essary, new initia	al samples hav
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The release of material supp anything char to be tested.	of a part ref pliers and nges, Wilo M	ers to a certain process chain. As subcontractors are an important has to be informed about it. If nec	part of this pr essary, new initia	al samples hav