



Testroof Engineering and Certification Co., Ltd.

İnönü Mah. Kayışdağı Cad. No: 150/3 Ataşehir / İstanbul /TURKEY

Turkish branch of;

LL-C (Certification) Czech Republic s. r. o.
Pobřežní 620/3 186 00 Praha 8 Czech Republic

TEST REPORT No. 17-0169/01

Product: Sanitary Food & Liquid Pumps

Model(s): Lobe Pumps : *FDP-A-25, FDP-A-40, FDP-B-40, FDP-A-50, FDP-B-50, FDP-B-65, FDP-C-65, FDP-C-80, FDP-D-100, FDP-D-125*
Twin Screw: *FTS*

Brand Name: Flussmann

Verification to: 2006/42/EC EN 13951:2012
2014/35/EU EN ISO 12100:2010
EN 60204-1:2006/AC:2010

Customer: **Marfil Group Sp. z o.o. spółka komandytowa**
Ul. Chełmżyńska 70
04-247 Warsaw / Poland

Manufacturer: **Marfil Group Sp. z o.o. spółka komandytowa**
Ul. Chełmżyńska 70
04-247 Warsaw / Poland

Date of issue: 2017-06-16

Distribution list: 1x TESTROOF
1x Producer
1x LL-C





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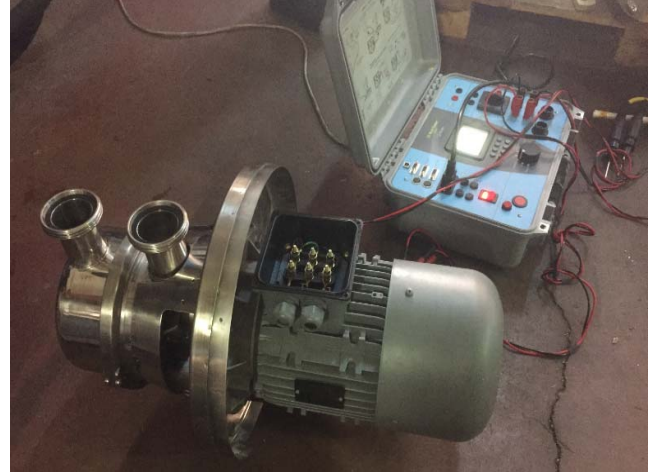
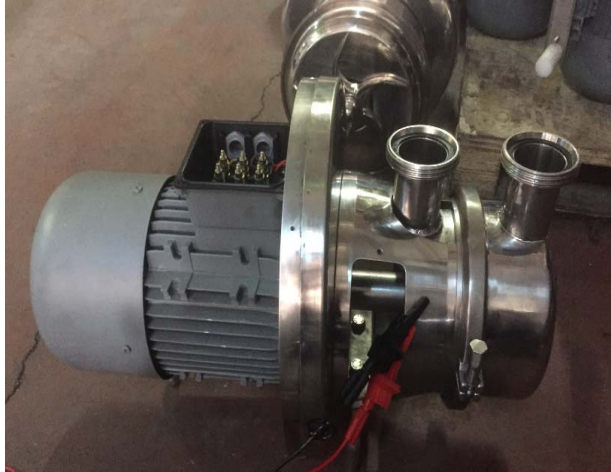
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I. Description of product

Sanitary Food & Liquid Pumps are suitable for use in the food-processing pharmaceutical and chemical industries.



II. Tested sample

- number of samples: 1
- date of submission: 2017-06-15
- Model No.: FDP-B-40

Inspection, tests and evaluations were performed in. *Birlik Sanayi Sitesi 2. Cd. No:40 34520 Beylikdüzü İstanbul / Turkey* by testing engineer Ergün Cengiz

Tests were carried out by means of the measuring equipment with the valid calibration.

The variants (*FDP-A-25, FDP-A-40, FDP-B-40, FDP-A-50, FDP-B-50, FDP-B-65, FDP-C-65, FDP-C-80, FDP-D-100, FDP-D-125, FTS, Twin Screw: FTS*) were analyzed and verified similar to the tested one (same construction, components and enclosure). The difference has no impact on the safety characteristics, then the result of this test report are valid for all models.

III. Results of tests and examination

The results of tests and examination are given in the Particular protocols which is the part of this Test report:

- Particular protocol No. 17-0169/01/T1
- Particular protocol No. 17-0169/01/T2
- Particular protocol No. 17-0169/01/T3
- Particular protocol No. 17-0169/01/T4
- Particular protocol No. 17-0169/01/T5





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IV. The list of used basis

- Particular protocol No. 17-0169/01/T1
- Particular protocol No. 17-0169/01/T2
- Particular protocol No. 17-0169/01/T3
- Particular protocol No. 17-0169/01/T4
- Particular protocol No. 17-0169/01/T5
- EN 60204-1:2006 Safety of machinery — Electrical equipment of machines — General Requirements
- EN ISO 12100:2010 Safety of machinery. General principles for design. Risk assessment and risk reduction
- EN 13857:2008 Safety of machinery. Safety distances to prevent hazard zones being reached by upper and lower limbs

The persons stated below are accountable for the accuracy of the above-specified data:

Elec. Eng. Ergün CENGİZ
Test Engineer

Murat KOÇAŞ
Manager of Testing Department





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Particular protocol No:	17-0169/01/T1	Page1/1		
Inspection according to :	EN 60204-1:2006/AC:2010 Clause 18.2			
Product/Model No :	Lobe Pump / FDP-B-40			
Examination Engineer:	Ergün Cengiz			
Date of Inspection:	2017-06-15			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	A-16002764	08/2017	

Requirement (*): EN 60204-1:2006 Continuity of the protective bonding circuit test. The measured voltage between the PE terminal and the points of test is not to exceed the values given in table.

Minimum effective protective conductor cross-sectional area of the branch under test (mm ²)	Maximum measured voltage drop (values are given for a test current of 10 A) (V)
1,0	3,3
1,5	2,6
2,5	1,9
4,0	1,4
6,0	1,0

Method: Verify the continuity of the protective bonding circuit by injecting a current of at least 10 A at 50 Hz or 60 Hz derived from a PELV source. The tests are to be made between the PE terminal (see 5.2) and relevant points that are part of the protective bonding circuit;

Test Results

Used On	CSA (mm ²)	Measured Current (A)	Measured Voltage Drop (V)	Measured Resistance (Ω)
Flansh	1,5	12,2	0,303	0,028
Control Panel	1,5	12,2	0,268	0,023
Under Side	1,5	12,2	0,411	0,035

Status: The measured resistance between the PE terminal and the points of test not to exceed the values given in standard.

Uncertainty of measure: It was not required.

Examination Engineer:
Name: Eng. Ergün Cengiz
Signature:

Control:
Eng. M. KOÇAS



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Particular protocol No:	17-0169/01/T2	Page1/1		
Inspection according to :	EN 60204-1:2006/AC:2010 Clause 18.3			
Product/Model No :	Lobe Pump / FDP-B-40			
Examination Engineer:	Ergün Cengiz			
Date of Inspection:	2017-06-15			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	A-16002764	08/2017	

Requirement (*):EN 60204-1:2006, Clause 18.3 Insulation resistance tests

The insulation resistance measured at 500 V d.c. between the power circuit conductors and the protective bonding circuit is to be not less than 1 M Ω .

Method: The test may be made on individual sections of the complete electrical installation.

Test Results :

Used On (500 V)	Measured insulation resistance (M Ω) / Number of measure	
	1	2
L1-Metal	999,9	999,9
L2-Metal	999,9	999,9
L3-Metal	999,9	999,9
L1-L2	999,9	999,9
L2-L3	999,9	999,9
L1-L3	999,9	999,9
N-Metal	999,9	999,9

Status: The measured insulation resistance are not less than 1 M Ω .

Uncertainty of measure: It was not required.

Examination Engineer:
Name : Eng. Ergün Cengiz
Signature:

Control:
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Particular protocol No:	17-0169/01/T3	Page1/1		
Inspection according to :	EN 60204-1:2006/AC:2010 Clause 18.4			
Product/Model No :	Lobe Pump / FDP-B-40			
Examination Engineer:	Ergün Cengiz			
Date of Inspection:	2017-06-15			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
CE Multitester MI 2094	NFS1428001	A-16002764	08/2017	

Requirement (*):EN 60204-1:2006, Clause 18.4 Voltage Test

The electrical equipment shall withstand a test voltage applied for a period of at least one second between the conductors of all circuits and the protective bonding circuit, except for those circuits intended to operate at or below PELV voltages.

Method: Rated Voltage applied to electrical installation, Components that are not rated to withstand the test voltage shall be disconnected during testing.

Test Results :

Used On (1000V)	Current in test circuit(mA) / Number of Measure		
	1	2	3
L1-PE	0.1	0.0	0.0
L2-PE	0.2	0.2	0.1
L3-PE	0.1	0.1	0.0
L1-L2	0.4	0.4	0.5
L2-L3	1.0	1.0	1.0
L1-L3	0.6	0.6	0.6

Status : The electrical equipment has withstood the test voltage.

Uncertainty of measure: It was not required.

Examination Engineer:
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Signature:

Control:
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Particular protocol No:	17-0169/01/T4	Page:1/2		
Inspection according to :	EN 349:1993+A1:2008 Clause 4.2-Table 1			
Product/Model No :	Lobe Pump / FDP-B-40			
Examination Engineer:	Ergün Cengiz			
Date of Inspection:	2017-06-15			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
Tape Measure	NFS0153002	996.TES.02	2017/08	

Requirement (*): EN 349:1993 Clause 4.2-Table 1 Safety measures. The measured dimensions between the and the two points of test is not to exceed the values given in table.

Method: Verify the safety dimensions of openings is used tape measure.

Part of Human Body	Max. Safety Distance	dimensions in mm	dimensions in mm	
			Comments	Evaulation
Body	500		All movable parts has been protected. Protective Sheet has been provided to avoid access to the movable parts Ok	
Head	300			N/A
Leg	180			N/A
Foot	120			N/A
Toe	50			N/A

Examination Engineer:
Name : Eng. Ergün Cengiz
Signature:

Control:
Eng. M. KOCAS



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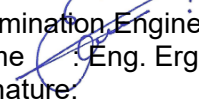
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Particular protocol No:	17-0169/01/T4	Page:2/2		
Inspection according to :	EN 349:1993+A1:2008 Clause 4.2-Table 1			
Product/Model No :	Lobe Pump / FDP-B-40			
Examination Engineer:	Ergün Cengiz			
Date of Inspection:	2017-06-15			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
Tape Measure	NFS0153002	996.TES.02	2017/08	

Requirement (*): EN 349:1993 Clause 4.2-Table 1 Safety measures. The measured dimensions between the and the two points of test is not to exceed the values given in table.

Method: Verify the safety dimensions of openings is used tape measure.

Part of Body	Safety Distance		Comments	Evaulation
Arm	120			N/A
Hand, Wrist,Punch	100		Moving Parts has been protected.	Ok
Finger	25			Ok

Examination Engineer:
Name : Eng. Ergün Cengiz
Signature: 

Control:
Eng. M. KOCAS 



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Particular protocol No:	17-0169/01/T5	Page:1/1		
Inspection according to :	EN 13857:2008 Clause 4.2.4-Table 4			
Product/Model No :	Lobe Pump / FDP-B-40			
Examination Engineer:	Ergün Cengiz			
Date of Inspection:	2017-06-15			
Measuring instruments:				
Designation	Evidentiary Number	Number of calibration protocol	Period of validity	Comment
Tape Measure	NFS0153002	996.TES.02	2017/08	

Requirement (*): EN 13857:2008 Clause 4.2.4-Table 4 Reaching Though Openings. The measured dimensions between the and the two points of test is not to exceed the values given in table 4.

Method: Verify the safety dimensions of openings is used tape measure.

Part of Human Body	Dimension in mm	Safety Distance sr				Comments	Evaluation
		Openings	Slot	Square	Round		
Fingertip		$e \leq 4$	$e \geq 2$	$e \geq 2$	$e \geq 2$		Ok
		$4 < e \leq 6$	≥ 10	≥ 5	≥ 5		Ok
Finger up to knuckle joint or hand		$6 < e \leq 8$	≥ 20	≥ 15	≥ 5		Ok
		$8 < e \leq 10$	≥ 80	≥ 25	≥ 20		Ok
		$10 < e \leq 12$	≥ 100	≥ 80	≥ 80		Ok
		$12 < e \leq 20$	≥ 120	≥ 120	≥ 120		Ok
Arm up junction with shoulder		$20 < e \leq 30$	≥ 850 *1)	≥ 120	≥ 120		Ok
		$30 < e \leq 40$	≥ 850	≥ 200	≥ 120	All movable parts has been protected.	N/A
		$40 < e \leq 120$	≥ 850	≥ 850	≥ 850		N/A

1) If length of the slot opening is ≤ 65 mm , the thumb will act as a stop, and the safety distance can be reduced to 200 mm.

Examination Engineer:
Name: Eng. Ergün Cengiz
Signature:

Control:
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