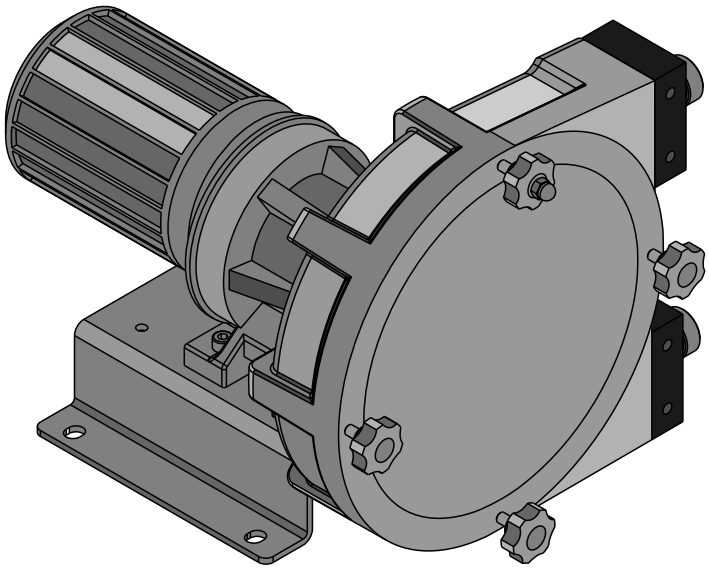
Operating instructions

DULCO®flex DFBa
Peristaltic Pump

EN



Please carefully read these operating instructions before use. · Do not discard.
The operator shall be liable for any damage caused by installation or operating errors.
The latest version of the operating instructions are available on our homepage.

General non-discriminatory approach

In order to make it easier to read, this document uses the male form in grammatical structures but with an implied neutral sense. It is aimed equally at both men and women. We kindly ask female readers for their understanding in this simplification of the text.

Supplementary information

Please read the supplementary information in its entirety.

Information

This provides important information relating to the correct operation of the unit or is intended to make your work easier.

Safety Information

The safety information includes detailed descriptions of the hazardous situation, see ↳ *Chapter 1.1 'Explanation of the safety information' on page 4*

The following symbols are used to highlight instructions, links, lists, results and other elements in this document:

Tab. 1: More symbols

Symbol	Description
1. ▶	Action, step by step
⇨	Outcome of an action
↳	Links to elements or sections of these instructions or other applicable documents
■	List without set order
[Button]	Display element (e.g. indicators) Operating element (e.g. button, switch)
'Display /GUI'	Screen elements (e.g. buttons, assignment of function keys)
`CODE`	Presentation of software elements and/or texts

Table of contents

1 Introduction ... 4
1.1 Explanation of the safety information ... 4
1.2 Users' qualifications ... 5
1.3 Identity code ... 7
1.3.1 Identity Code for DULCO®flex DFBa 010 ... 7
1.3.2 Identity Code for DULCO®flex DFBa 013 ... 9
1.3.3 Identity Code for DULCO®flex DFBa 016 ... 11
1.3.4 Identity Code for DULCO®flex DFBa 019 ... 13
1.3.5 Identity Code for DULCO®flex DFBa 022 ... 15
2 Safety and responsibility ... 17
2.1 General safety information ... 17
3 Functional description ... 20
3.1 Construction ... 20
3.2 Overview of the Device ... 21
4 Transport, storage, assembly and Installation ... 22
4.1 Transport ... 22
4.2 Storage ... 22
4.3 Assembly ... 22
4.3.1 Ambient conditions ... 23
4.3.2 Alignment of the suction side ... 23
4.3.3 Alignment of the discharge side ... 24
4.3.4 Adjusting the roller pressure ... 24
4.3.5 Performance curves ... 27
5 Commissioning ... 31
5.1 Testing prior to commissioning the pump ... 31
6 Operating the DFBa ... 32
7 Maintenance, repair, malfunctions, disposal and spare parts ... 33
7.1 Maintenance ... 33
7.2 Exchanging the pump hoses ... 33
7.3 Troubleshooting ... 34
7.4 Disposal of Used Parts ... 36
7.5 Spare parts ... 37
8 Technical data for DFBa ... 45
8.1 Dimensions DFBa 010 / 013 ... 45
8.2 Dimensions DFBa 016 / 019 ... 46
8.3 Dimensions DFBa 022 ... 47
9 DFBa technical appendices ... 48
9.1 EC Declaration of Conformity for Machinery ... 48
10 Index ... 49

1 Introduction

These operating instructions provide information on the technical data and functions of the DULCO®flex peristaltic pump from the DFBa product range.

1.1 Explanation of the safety information

Introduction

These operating instructions provide information on the technical data and functions of the product. These operating instructions provide detailed safety information and are provided as clear step-by-step instructions.

The safety information and notes are categorised according to the following scheme. A number of different symbols are used to denote different situations. The symbols shown here serve only as examples.

DANGER!

Nature and source of the danger

Consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger

Danger!

– Denotes an immediate threatening danger. If this is disregarded, it will result in fatal or very serious injuries.

WARNING!

Nature and source of the danger

Possible consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger

Warning!

– Denotes a possibly hazardous situation. If this is disregarded, it could result in fatal or very serious injuries.

CAUTION!

Nature and source of the danger

Possible consequence: Slight or minor injuries, material damage.

Measure to be taken to avoid this danger

Caution!

– Denotes a possibly hazardous situation. If this is disregarded, it could result in slight or minor injuries. May also be used as a warning about material damage.

NOTICE!

Nature and source of the danger

Damage to the product or its surroundings

Measure to be taken to avoid this danger

Note!

– Denotes a possibly damaging situation. If this is disregarded, the product or an object in its vicinity could be damaged.

Type of information

Hints on use and additional information

Source of the information, additional measures

Information!

– *Denotes hints on use and other useful information. It does not indicate a hazardous or damaging situation.*

1.2 Users' qualifications

WARNING!

Danger of injury with inadequately qualified personnel!

The operator of the plant / device is responsible for ensuring that the qualifications are fulfilled.

If inadequately qualified personnel work on the unit or loiter in the hazard zone of the unit, this could result in dangers that could cause serious injuries and material damage.

– All work on the unit should therefore only be conducted by qualified personnel.
– Unqualified personnel should be kept away from the hazard zone

Training	Definition
Instructed personnel	An instructed person is deemed to be a person who has been instructed and, if required, trained in the tasks assigned to him/her and possible dangers that could result from improper behaviour, as well as having been instructed in the required protective equipment and protective measures.
Trained user	A trained user is a person who fulfils the requirements made of an instructed person and who has also received additional training specific to the system from ProMinent or another authorised distribution partner.
Trained qualified personnel	A qualified employee is deemed to be a person who is able to assess the tasks assigned to him and recognize possible hazards based on his/her training, knowledge and experience, as well as knowledge of pertinent regulations. The assessment of a person's technical training can also be based on several years of work in the relevant field.

Training	Definition
Electrician	Electricians are deemed to be people, who are able to complete work on electrical systems and recognize and avoid possible hazards independently based on his/her technical training and experience, as well as knowledge of pertinent standards and regulations. Electricians should be specifically trained for the working environment in which the are employed and know the relevant standards and regulations. Electricians must comply with the provisions of the applicable statutory directives on accident prevention.
Customer Service department	Customer Service department refers to service technicians, who have received proven training and have been authorised by ProMinent to work on the system.

Note for the system operator

The pertinent accident prevention regulations, as well as all other generally acknowledged safety regulations, must be adhered to!

1.3 Identity code

Device identification / Identity code

1.3.1 Identity Code for DULCO®flex DFBa 010

Identity code					
DFBa	DULCO®flex DFBa 010				
		Type			
	010	DFBa 010, 0.023 l/revolution			
			Power end/drive		
		000	Pump without power end/drive		
			Reduction gear system / 3 x 230 / 400 VAC		
		A10	0.12 kW, 15 rpm, 21 l/h, 8 bar		
		A11	0.12 kW, 20 rpm, 28 l/h, 8 bar		
		A12	0.18 kW, 29 rpm, 40 l/h, 6 bar		
		A13	0.18 kW, 46 rpm, 64 l/h, 4 bar		
		A14	0.25 kW, 57 rpm, 79 l/h, 4 bar		
		A15	0.25 kW, 70 rpm, 97 l/h, 2 bar		
			Manual adjustment gears / 3 x 230 / 400 VAC		
		A21	0.12 kW, 3 ... 16 rpm, 4 ... 22 l/h, 8 bar		
		A22	0.25 kW, 5 ... 29 rpm, 7 ... 40 l/h, 6 bar		
		A23	0.25 kW, 10 ... 53 rpm, 14 ... 73 l/h, 4 bar		
		A24	0.25 kW, 15 ... 80 rpm, 21 ... 110 l/h, 2 bar		
			Gear motor with integrated frequency converter / 1x 230 VAC		
		A31	0.37 kW, 9 ... 34 rpm, 12 ... 47 l/h, 20 ... 75 Hz, 6 bar		
		A32	0.37 kW, 16 ... 60 rpm, 22 ... 83 l/h, 20 ... 75 Hz, 4 bar		
			Gear motor (external frequency converter required) / 3 x 230 / 400 VAC		
		A41	0.18 kW, 1 ... 34 rpm, 1 ... 47 l/h, 3 ... 75 Hz, 6 bar		
		A42	0.18 kW, 2 ... 44 rpm, 3 ... 60 l/h, 3 ... 75 Hz, 4 bar		
		A43	0.25 kW, 3 ... 69 rpm, 4 ... 95 l/h, 3 ... 75 Hz, 4 bar		
				Hose material	
			0	NR	
			B	NBR	
			E	EPDM	
			R	NR-A	
			N	Norprene® (max. 2 bar)	
			A	NBR-A	
			H	Hypalon®	
					Hydraulic connector

Identity code														
DFBa	DULCO®flex DFBa 010													
				A	VA BSP 3/8"									
				B	VA NPT 3/8"									
				C	PP BSP 3/8"									
				D	PVDF BSP 3/8"									
				E	PVDF NPT 3/8"									
				F	PVC NPT 3/8"									
				G	Tri-Clamp, VA, 1/2"									
				H	DIN 11851, VA NW10									
						Base plate								
					0	Base plate, lacquered steel								
					1	Base plate, stainless steel								
					2	Portable unit + lacquered steel base plate								
					3	Portable unit + stainless steel base plate								
							Leakage sensor							
						0	without leakage sensor							
						L	with leakage sensor							
						M	with leakage sensor and relay output							
								Rotor						
							0	Rotor with 2 rollers						
									Batch control					
								0	No batch control					
								C	With batch control					
										Special version				
									0	Standard				
									H	Housing Halar® coated				
											Vacuum system			
										0	none			
												Approvals		
											01	CE mark		
											02	CE + EU 1935/2004		

1.3.2 Identity Code for DULCO®flex DFBa 013

Identity code					
DFBa	DULCO®flex DFBa 013				
		Type			
	013	DFBa 013, 0.039 l/revolution			
			Power end/drive		
		000	Pump without power end/drive		
			Reduction gear system / 3 x 230 / 400 VAC		
		B10	0.12 kW, 15 rpm, 35 l/h, 8 bar		
		B11	0.12 kW, 20 rpm, 46 l/h, 8 bar		
		B12	0.18 kW, 29 rpm, 67 l/h, 6 bar		
		B13	0.18 kW, 46 rpm, 107 l/h, 4 bar		
		B14	0.25 kW, 57 rpm, 133 l/h, 4 bar		
		B15	0.25 kW, 70 rpm, 163 l/h, 2 bar		
			Manual adjustment gears / 3 x 230 / 400 VAC		
		B21	0.12 kW, 3 ... 16 rpm, 7 ... 37 l/h, 8 bar		
		B22	0.25 kW, 5 ... 29 rpm, 11 ... 67 l/h, 6 bar		
		B23	0.25 kW, 10 ... 53 rpm, 23 ... 124 l/h, 4 bar		
		B24	0.25 kW, 15 ... 80 rpm, 35 ... 187 l/h, 2 bar		
			Gear motor with integrated frequency converter / 1 x 230 VAC		
		B31	0.37 kW, 9 ... 34 rpm, 21 ... 79 l/h, 20 ... 75 Hz, 6 bar		
		B32	0.37 kW, 16 ... 60 rpm, 37 ... 140 l/h, 20 ... 75 Hz, 4 bar		
			Gear motor (external frequency converter required) / 3 x 230 / 400 VAC		
		B41	0.18 kW, 1 ... 34 rpm, 2 ... 78 l/h, 3 ... 75 Hz, 6 bar		
		B42	0.18 kW, 2 ... 44 rpm, 5 ... 100 l/h, 3 ... 75 Hz, 4 bar		
		B43	0.25 kW, 3 ... 69 rpm, 7 ... 157 l/h, 3 ... 75 Hz, 4 bar		
				Hose material	
				0	NR
				B	NBR
				E	EPDM
				R	NR-A
				N	Norprene® (max. 2 bar)
				A	NBR-A
				H	Hypalon®
					Hydraulic connector
				A	VA BSP 3/8"
				B	VA NPT 3/8"
				C	PP BSP 3/8"

Identity code														
DFBa	DULCO®flex DFBa 013													
				D	PVDF BSP 3/8"									
				E	PVDF NPT 3/8"									
				F	PVC NPT 3/8"									
				G	Tri-Clamp, VA, 1/2"									
				H	DIN 11851, VA NW15									
						Base plate								
					0	Base plate, lacquered steel								
					1	Base plate, stainless steel								
					2	Portable unit + lacquered steel base plate								
					3	Portable unit + stainless steel base plate								
							Leakage sensor							
						0	without leakage sensor							
						L	with leakage sensor							
						M	with leakage sensor and relay output							
								Rotor						
							0	Rotor with 2 rollers						
									Batch control					
								0	No batch control					
								C	With batch control					
										Special version				
									0	Standard				
									H	Housing Halar® coated				
											Vacuum system			
										0	none			
												Approvals		
											01	CE mark		
											02	CE + EU 1935/2004		

1.3.3 Identity Code for DULCO®flex DFBa 016

Identity code					
DFBa	DULCO®flex DFBa 016				
		Type			
	016	DFBa 016, 0.092 l/revolution			
			Power end/drive		
		000	Pump without power end/drive		
			Reduction gear system / 3 x 230 / 400 VAC		
		C10	0.18 kW, 14 rpm, 77 l/h, 8 bar		
		C11	0.18 kW, 20 rpm, 110 l/h, 8 bar		
		C12	0.25 kW, 32 rpm, 176 l/h, 4 bar		
		C13	0.25 kW, 46 rpm, 253 l/h, 4 bar		
		C14	0.37 kW, 57 rpm, 314 l/h, 4 bar		
		C15	0.37 kW, 70 rpm, 386 l/h, 2 bar		
			Manual adjustment gears / 3 x 230 / 400 VAC		
		C21	0.37 kW, 8 ... 50 rpm, 44 ... 276 l/h, 4 bar		
		C22	0.37 kW, 10 ... 61 rpm, 55 ... 336 l/h, 2 bar		
		C23	0.37 kW, 16 ... 91 rpm, 88 ... 502 l/h, 1 bar		
			Gear motor with integrated frequency converter / 1 x 230 VAC		
		C31	0.37 kW, 9 ... 34 rpm, 49 ... 187 l/h, 20 ... 75 Hz, 4 bar		
		C32	0.37 kW, 16 ... 60 rpm, 88 ... 331 l/h, 20 ... 75 Hz, 2 bar		
			Gear motor (external frequency converter required) / 3 x 230 / 400 VAC		
		C41	0.25 kW, 1 ... 34 rpm, 5 ... 188 l/h, 3 ... 75 Hz, 4 bar		
		C42	0.25 kW, 2 ... 48 rpm, 11 ... 265 l/h, 3 ... 75 Hz, 4 bar		
		C43	0.37 kW, 3 ... 69 rpm, 16 ... 381 l/h, 3 ... 75 Hz, 2 bar		
				Hose material	
			0	NR	
			B	NBR	
			E	EPDM	
			R	NR-A	
			N	Norprene® (max. 2 bar)	
			A	NBR-A	
			H	Hypalon®	
					Hydraulic connector
				A	VA BSP 3/4"
				B	VA NPT 3/4"
				C	PP BSP 3/4"
				D	PVDF BSP 3/4"

Identity code																
DFBa	DULCO®flex DFBa 016															
				E	PVDF NPT 3/4"											
				F	PVC NPT 3/4"											
				G	Tri-clamp, VA, 1"											
				H	DIN 11851, VA NW 20											
						Base plate										
					0	Base plate, lacquered steel										
					1	Base plate, stainless steel										
					2	Portable unit + lacquered steel base plate										
					3	Portable unit + stainless steel base plate										
							Leakage sensor									
						0	without leakage sensor									
						L	with leakage sensor									
						M	with leakage sensor and relay output									
								Rotor								
							0	Rotor with 2 rollers								
									Batch control							
								0	No batch control							
								C	With batch control							
										Special version						
									0	Standard						
									H	Housing Halar® coated						
											Vacuum system					
										0	none					
												Approvals				
											01	CE mark				
											02	CE + EU 1935/2004				

1.3.4 Identity Code for DULCO®flex DFBa 019

Identity code						
DFBa	DULCO®flex DFBa 019					
		Type				
	019	DFBa 019, 0.123 l/revolution				
			Power end/drive			
		000	Pump without power end/drive			
			Reduction gear system / 3 x 230 / 400 VAC			
		D10	0.18 kW, 15 rpm, 110 l/h, 2 bar			
		D11	0.18 kW, 20 rpm, 148 l/h, 2 bar			
		D12	0.25 kW, 32 rpm, 236 l/h, 2 bar			
		D13	0.25 kW, 46 rpm, 339 l/h, 2 bar			
		D14	0.37 kW, 57 rpm, 421 l/h, 2 bar			
		D15	0.37 kW, 70 rpm, 517 l/h, 2 bar			
			Manual adjustment gears / 3 x 230 / 400 VAC			
		D21	0.37 kW, 8 ... 50 rpm, 59 ... 369 l/h, 2 bar			
		D22	0.37 kW, 10 ... 61 rpm, 74 ... 450 l/h, 2 bar			
		D23	0.37 kW, 16 ... 91 rpm, 118 ... 671 l/h, 2 bar			
			Gear motor with integrated frequency converter / 1 x 230 VAC			
		D31	0.37 kW, 9 ... 34 rpm, 66 ... 251 l/h, 20 ... 75 Hz, 2 bar			
		D32	0.37 kW, 16 ... 60 rpm, 118 ... 443 l/h, 20 ... 75 Hz, 2 bar			
			Gear motor (external frequency converter required) / 3 x 230 / 400 VAC			
		D41	0.25 kW, 1 ... 34 rpm, 7 ... 251 l/h, 3 ... 75 Hz, 2 bar			
		D42	0.25 kW, 2 ... 48 rpm, 15 ... 354 l/h, 3 ... 75 Hz, 2 bar			
		D43	0.37 kW, 3 ... 69 rpm, 22 ... 509 l/h, 3 ... 75 Hz, 2 bar			
				Hose material		
			0	Norprene® (max. 2 bar)		
			T	TYGON® (max. 2 bar)		
					Hydraulic connector	
				A	VA BSP 1"	
				B	VA NPT 1"	
				C	PP BSP 1"	
				D	PVDF BSP 1"	
				E	PVDF NPT 1"	
				F	PVC NPT 1"	
				G	Tri-clamp, VA, 1"	
				H	DIN 11851, VA NW 25	
						Base plate

Identity code														
DFBa	DULCO®flex DFBa 019													
					0	Base plate, lacquered steel								
					1	Base plate, stainless steel								
					2	Portable unit + lacquered steel base plate								
					3	Portable unit + stainless steel base plate								
							Leakage sensor							
						0	without leakage sensor							
						L	with leakage sensor							
						M	with leakage sensor and relay output							
								Rotor						
							0	Rotor with 2 rollers						
									Batch control					
								0	No batch control					
								C	With batch control					
										Special version				
									0	Standard				
									H	Housing Halar® coated				
											Vacuum system			
										0	none			
												Approvals		
											01	CE mark		
											02	CE + EU 1935/2004		

1.3.5 Identity Code for DULCO®flex DFBa 022

Identity code					
DFBa	DULCO®flex DFBa 022				
		Type			
	022	DFBa 022, 0.246 l/revolution			
			Power end/drive		
		000	Pump without power end/drive		
			Reduction gear system / 3 x 230 / 400 VAC		
		E10	0.25 kW, 17 rpm, 251 l/h, 8 bar		
		E11	0.37 kW, 23 rpm, 339 l/h, 8 bar		
		E12	0.55 kW, 38 rpm, 561 l/h, 4 bar		
		E13	0.55 kW, 45 rpm, 664 l/h, 4 bar		
		E14	0.55 kW, 54 rpm, 797 l/h, 2 bar		
		E15	0.75 kW, 66 rpm, 974 l/h, 2 bar		
			Manual adjustment gears / 3 x 230 / 400 VAC		
		E21	0.37 kW, 4.0 ... 20.0 rpm, 59 ... 295 l/h, 8 bar		
		E22	0.55 kW, 6 ... 32 rpm, 89 ... 472 l/h, 4 bar		
		E23	0.75 kW, 9 ... 48 rpm, 133 ... 708 l/h, 2 bar		
			Gear motor with integrated frequency converter / 3 x 400 VAC		
		E31	0.55 kW, 12 ... 44 rpm, 177 ... 649 l/h, 20 ... 75 Hz, 4 bar		
		E32	0.75 kW, 18 ... 67 rpm, 266 ... 989 l/h, 20 ... 75 Hz, 2 bar		
			Gear motor (external frequency converter required) / 3 x 230 / 400 VAC		
		E41	0.55 kW, 2 ... 44 rpm, 30 ... 649 l/h, 3 ... 75 Hz, 4 bar		
		E42	0.75 kW, 2 ... 57 rpm, 30 ... 841 l/h, 3 ... 75 Hz, 4 bar		
		E43	1.10 kW, 3 ... 81 rpm, 44 ... 1196 l/h, 3 ... 75 Hz, 2 bar		
				Hose material	
			0	NR	
			B	NBR	
			E	EPDM	
			R	NR-A	
			N	Norprene® (max. 2 bar)	
			A	NBR-A	
			H	Hypalon®	
					Hydraulic connector
				A	VA BSP 1"
				B	VA NPT 1"
				C	PP BSP 1"
				D	PVDF BSP 1"

Identity code																
DFBa	DULCO®flex DFBa 022															
				E	PVDF NPT 1"											
				F	PVC NPT 1"											
				G	Tri-clamp, VA, 1"											
				H	DIN 11851, VA NW 25											
						Base plate										
					0	Base plate, lacquered steel										
					1	Base plate, stainless steel										
					2	Portable unit + lacquered steel base plate										
					3	Portable unit + stainless steel base plate										
							Leakage sensor									
						0	without leakage sensor									
						L	with leakage sensor									
						M	with leakage sensor and relay output									
								Rotor								
							0	Rotor with 2 rollers								
									Batch control							
								0	No batch control							
								C	With batch control							
										Special version						
									0	Standard						
									H	Housing Halar® coated						
											Vacuum system					
										0	none					
												Approvals				
											01	CE mark				
											02	CE + EU 1935/2004				

2 Safety and responsibility

2.1 General safety information

WARNING!

Live parts

Possible consequence: Fatal or very serious injuries

- Measure: The device must be disconnected from the power supply before it is opened
- Isolate damaged, faulty or manipulated devices from the mains in order to de-energise.

WARNING!

Emergency stop switch

Possible consequence: Fatal or very serious injuries

An emergency stop switch is to be connected for the entire plant. This should enable the entire plant to be shut down in the event on an emergency in such a way that the overall plant can be brought into a safe condition.

WARNING!

Unauthorised access

Possible consequence: Fatal or very serious injuries

- Measure: Ensure that there can be no unauthorised access to the unit

WARNING!

Hazardous media / contamination of persons and equipment

Possible consequence: Fatal or very serious injuries. material damage

- Ensure that the pump hoses are resistance against the media being conveyed
- Always observe the the safety data sheets for the media to be conveyed. The system operator must ensure that these safety data sheets are available and that they are kept up-to-date
- The safety data sheets for the media being conveyed are always decisive for initiating counter measures in the event of leakage to the media being conveyed
- Observe the general restrictions in relation to viscosity limits, chemical resistance and density
- Always switch the pump off before exchanging the pump hose

WARNING!

Correct and proper use

Possible consequence: Fatal or very serious injuries

- The unit is not intended to convey or regulate gaseous or solid media
- Do not exceed the rated pressure, speed or temperature for the pump
- The unit may only be used in accordance with the technical data and specifications provided in these operating instructions and in the operating instructions for the individual components
- The system is not designed for use in areas at risk from explosion
- Only switch the pump on if it has been properly fastened to the floor
- Only switch the pump on if it the front cover has been attached.

WARNING!

Operational lifetime of the pump hoses

Possible consequence: Fatal or very serious injuries

The operational lifetime of the pump hoses cannot be precisely specified. For this reason, the possibility of fracture and consequential leakage of liquids must be accounted for. If the hose rupture alarm (optional) is fitted, then the pump can be stopped and / or an electrical valve can be actuated.

In addition, you must avoid particles from untight hoses being introduced into the media being conveyeed. This can be achieved e.g. by means of filtration, a hose rupture alarm or other means suitable for the respective process.

CAUTION!

CIP cleaning

In the event of CIP cleaning, it is necessary to obtain information from the manufacturer about correct installation of the pump (a special installation is required), as well as regarding the compatibility of the cleaning agents with the pump hoses of the pump and the other hydraulic connections.

Cleaning should be undertaken at the recommended maximum temperature.

CAUTION!

Direction of rotation / flow direction

Possible consequence: Material damage right through to destruction of the unit

- The pump's direction of rotation in relation to the desired flow direction must be checked prior to every start.

CAUTION!

Environmental influences

Possible consequence: Material damage right through to destruction of the unit

- The device is not suitable for outdoor operation
- Take suitable measures to protect the device from environmental influences such as:
  - UV rays
  - Moisture
  - Frost, etc.

3 Functional description

Brief functional description

The package contents supplied with the DULCO®flex DFBa is selectable via the identcode.

The DULCO®flex DFBa is a displacement pump. The feed chemical is conveyed by the rotor squeezing the hose in the direction of flow. No valves are needed for this. This ensures gentle handling of the metered media.

The DULCO®flex DFBa has been designed for safe and uncomplicated operation, as well as straightforward maintenance.

The DULCO®flex DFBa can be used for many different media. However, this pump type is often the optimal solution for abrasive, shear-sensitive and viscose media.

Typical areas of use include processes where only a low discharge pressure is required (max. 8 bar).

3.1 Construction

Main modules:

- Drive Unit
- Housing
- Base frame

The pump housing is closed off with a screwed front cover in order to avoid the risk of injury.

The motor serves to drive the rotor. Rollers at the ends of the rotor serve to press the pump hose against the pump housing.

The rotary movement of the rotors alternately press and relax the rollers in relation to the pump hose. This serves to suck the media in and convey it into the metering line.

3.2 Overview of the Device

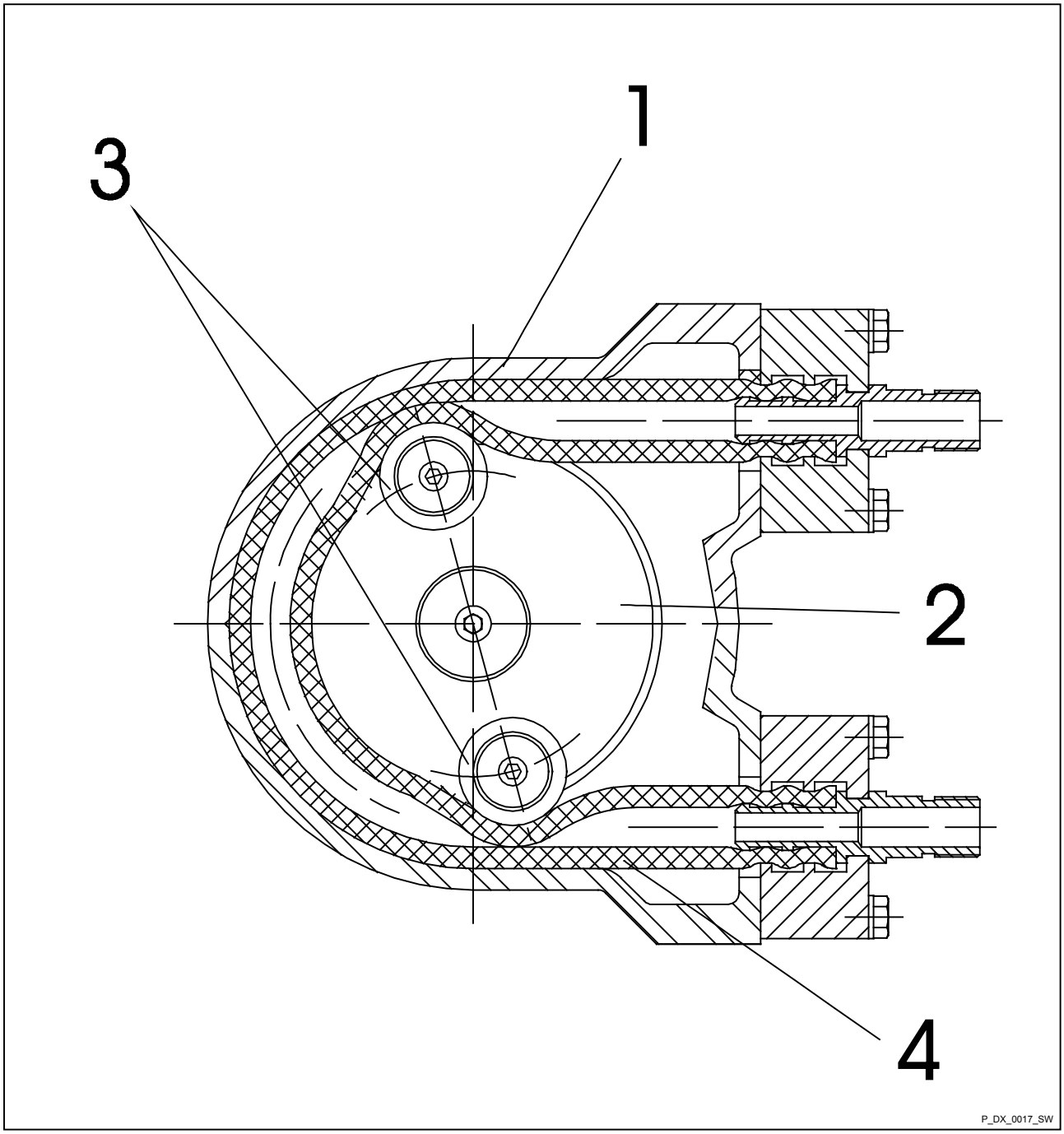


Fig. 1: Diagram of functional principle

1 Housing
2 Rotor
3 Rollers
4 Hose

4 Transport, storage, assembly and Installation

- **User qualification, transport and storage:** trained user, see *Chapter 1.2 'Users' qualifications' on page 5*
- **User qualification, installation:** trained qualified personnel, see *Chapter 1.2 'Users' qualifications' on page 5*
- **User qualification, electrical installation:** Electrical technician, see *Chapter 1.2 'Users' qualifications' on page 5*

WARNING!

Danger from hazardous substances!

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.

4.1 Transport

Transport

- The pump is protected by means of cardboard packaging
- The packaging materials can be recycled
- Consider the ambient conditions

4.2 Storage

Storage

- Remove the pump hose from the housing during storage
- With storage lasting longer than 60 days, protect the coupling surfaces (terminals, reducing adaptors, motors) with appropriate antioxidant agents
- Consider the ambient conditions

4.3 Assembly

CAUTION!

Possible consequence: Slight or minor injuries. Material damage.

Carry out the assembly work before the electrical installation!

Note the permissible ambient conditions!

4.3.1 Ambient conditions

NOTICE!

Ambient conditions

Possible consequence: Damage to property and increased wear and tear

Install in the following order. If the pump is to be installed outdoors, protect it against sunlight and the influences of the weather.

When positioning the pump, ensure that there is sufficient room for access for all types of maintenance work.

There are limit values for temperature and pressure, depending on the type of hose selected. These limit values are described in the following:

Tab. 2: Limit values for hose temperature and pressure

Material Hose	min. temp. (°C) Feed chemical	max. temp. (°C) Feed chemical	min. temp. (°C) Environment	max. pressure (bar)
NR	-20	80	-40	8
NBR	-10	80	-40	8
EPDM	-10	80	-40	8
NR-A	-10	80	-40	8
NBR-A	-10	80	-40	8
NORPRENE®	-40	120	-40	2
TYGON®	-10	70	-40	2
HYPALON®	-10	80	-40	8

Also observe the general safety information, see *Chapter 2.1 'General safety information' on page 17*

4.3.2 Alignment of the suction side

The pump is to be positioned as near as possible to the liquid container, so that the suction side is kept as short and straight as possible.

The suction line must be absolutely airtight and made of a suitable material, so that it is not squeezed together under vacuum.

The diameter must correspond to the rated diameter of the pump hose. A larger diameter is recommended in the event of viscose liquids.

The pump is self-priming and does not require an admission valve. The pump is reversible and the suction connection can therefore comprise of one of two options. Normally the option is selected which is best suited to the physical conditions of the installation.

It is recommended to use a flexible transition between two fixed pipes and the hydraulic connection of the pump, in order to avoid the transmission of vibrations.

4.3.3 Alignment of the discharge side

The discharge line is to be kept as straight and short as possible, in order to avoid performance reduction.

The diameter must correspond to the rated diameter of the pump hose. Bei viskosen Flüssigkeiten wird ein größerer Durchmesser empfohlen.

It is recommended to use a flexible transition between two fixed pipes and the hydraulic connection of the pump, in order to avoid the transmission of vibrations.

4.3.4 Adjusting the roller pressure

The peristaltic pump is equipped with spacer plates (6) to adjust the precise pressure distance to the roller (9) (dependent on speed and operating pressure).

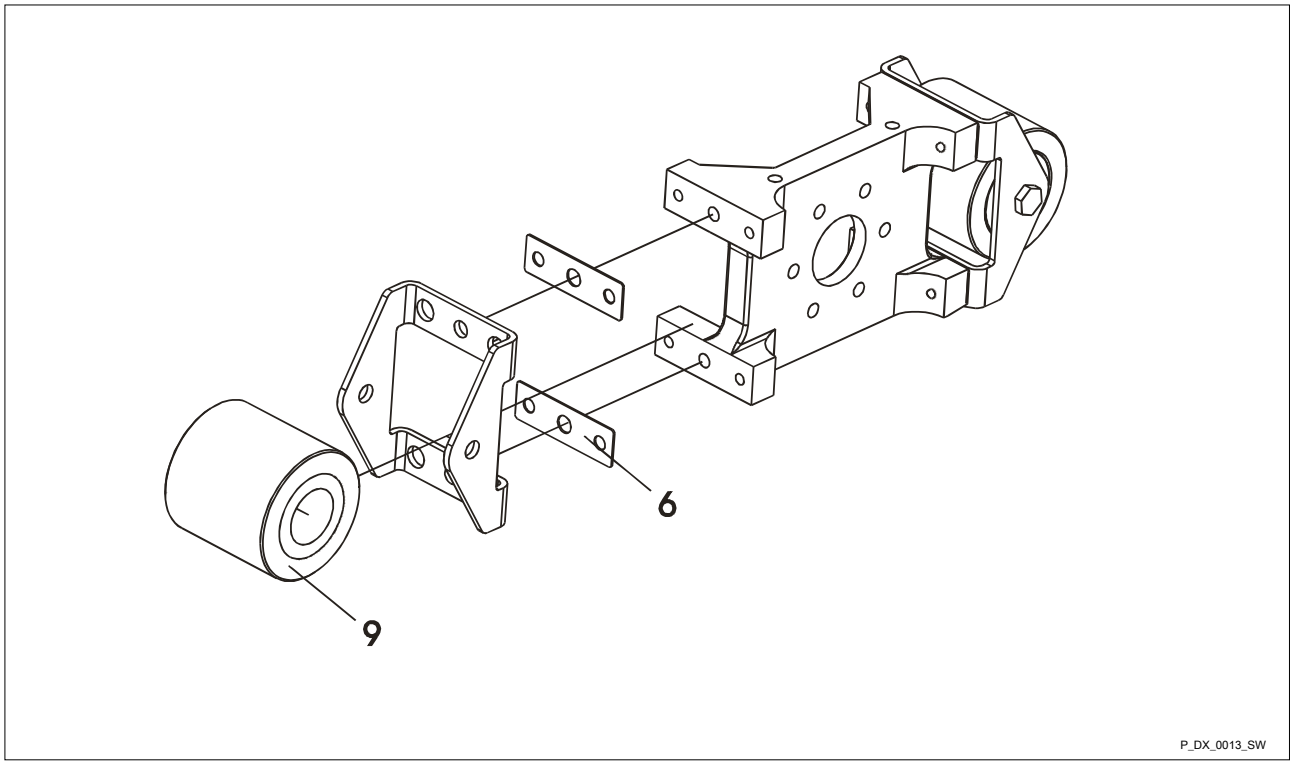


Fig. 2: Space plates / roller

6 Spacer plates
9 Roller

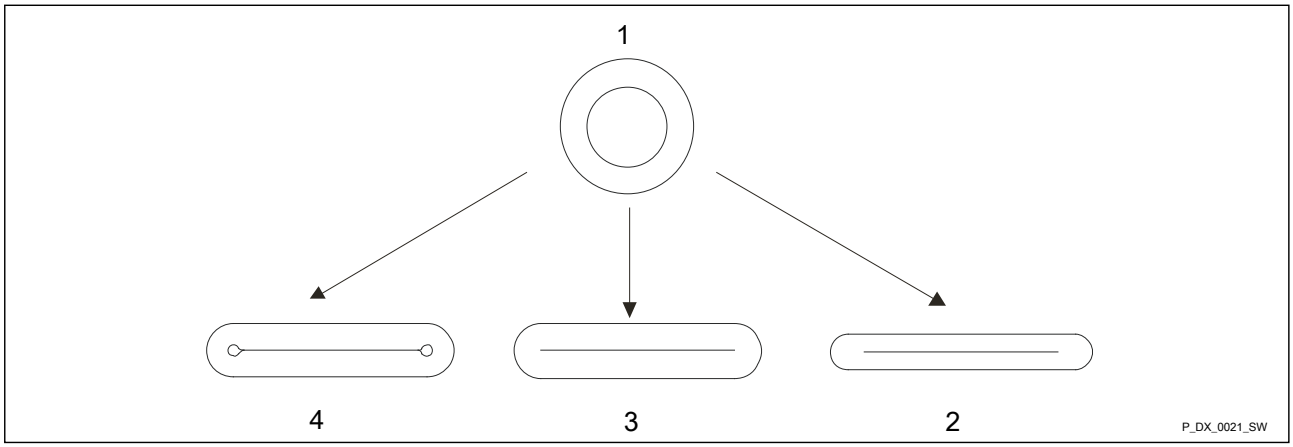


Fig. 3: Squeezing the hose

1 Normal shape of hose
2 Excessive squeezing (increased wear and tear on the pump and hose)
3 Perfect squeezing
4 Insufficient squeezing (medium backflowing in the cavity will destroy the hose within a short period of time)

The spacer plates are factory-fitted. You can adapt the number of spacer plates to the actual operating conditions in accordance with the following table.

Tab. 3: DFBa 010 / Number of spacer plates of 0.5 mm thickness (except Norprene® and TYGON®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	1	1	1	1	1
2.0	1	1	1	1	1
4.0 *	2	1	1	1	1
6.0	2	2	2		
8.0	3	2			
* Delivery state					

Tab. 4: DFBa 010 / Number of spacer plates of 0.5 mm thickness (Norprene® and TYGON®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	5	5	5	5	5
2.0 *	5	5	5	5	5
* Delivery state					

Tab. 5: DFBa 013 / Number of spacer plates of 0.5 mm thickness (except Norprene® and TYGON®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	1	1	1	1	1
2.0	1	1	1	1	1
4.0 *	2	1	1	1	1
6.0	2	2	2		
8.0	3	2			
* Delivery state					

Tab. 6: DFBa 013 / Number of spacer plates of 0.5 mm thickness (Norprene® and TYGON)®:

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	5	5	5	5	5
2.0*	5	5	5	5	5
* Delivery state					

Tab. 7: DFBa 016 / Number of spacer plates of 0.5 mm thickness (except Norprene® and TYGON®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	1	1	1	1	1
2.0	1	1	1	1	1
4.0 *	2	1	1	1	1
6.0	2	2	2		
8.0	3	3			
* Delivery state					

Tab. 8: DFBa 016 / Number of spacer plates of 0.5 mm thickness (Norprene® and TYGON®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	9	9	9	9	9
2.0 *	9	9	9	9	9
* Delivery state					

Tab. 9: DFBa 019 / Number of spacer plates of 0.5 mm thickness (Norprene® and TYGON®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	5	5	5	5	5
2.0 *	5	5	5	5	5
* Delivery state					

Tab. 10: DFBa 022 / Number of spacer plates of 0.5 mm thickness (except Norprene®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	2	2	1	1	1
2.0	2	2	2	2	2
4.0 *	3	3	2	2	2
6.0	3	3	3		
8.0	4	3			
* Delivery state					

Tab. 11: DFBa 022 / Number of spacer plates of 0.5 mm thickness (except Norprene®):

rpm	0-19	20-39	40-59	60-79	80-99
bar					
0.5	12	12	12	12	12
2.0 *	12	12	12	12	12
* Delivery state					

4.3.5 Performance curves

NOTICE!

Maximum pressure under continuous operation

The dotted line indicates the limit for maximum pressure under continuous operation

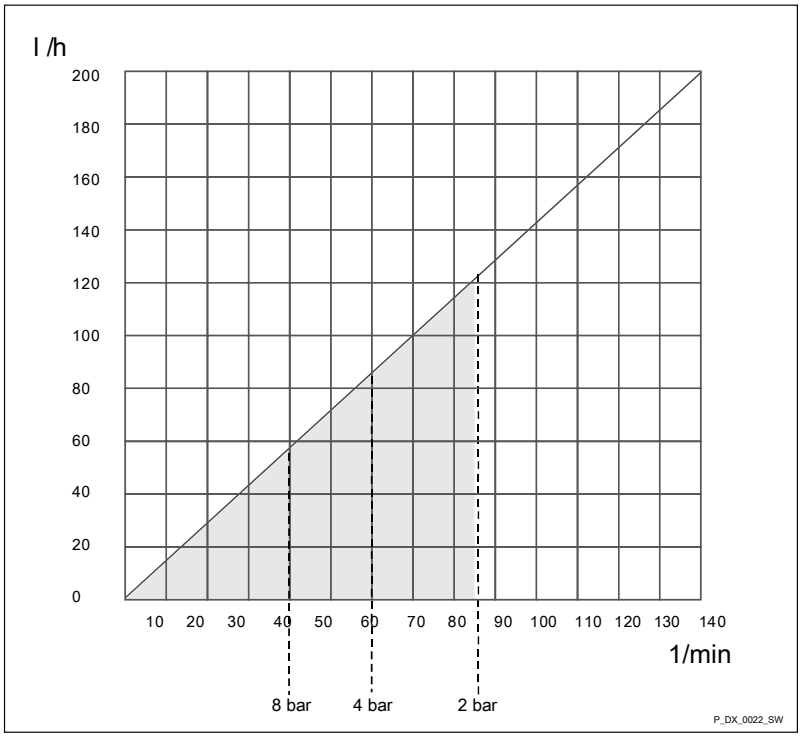


Fig. 4: DFBa 10

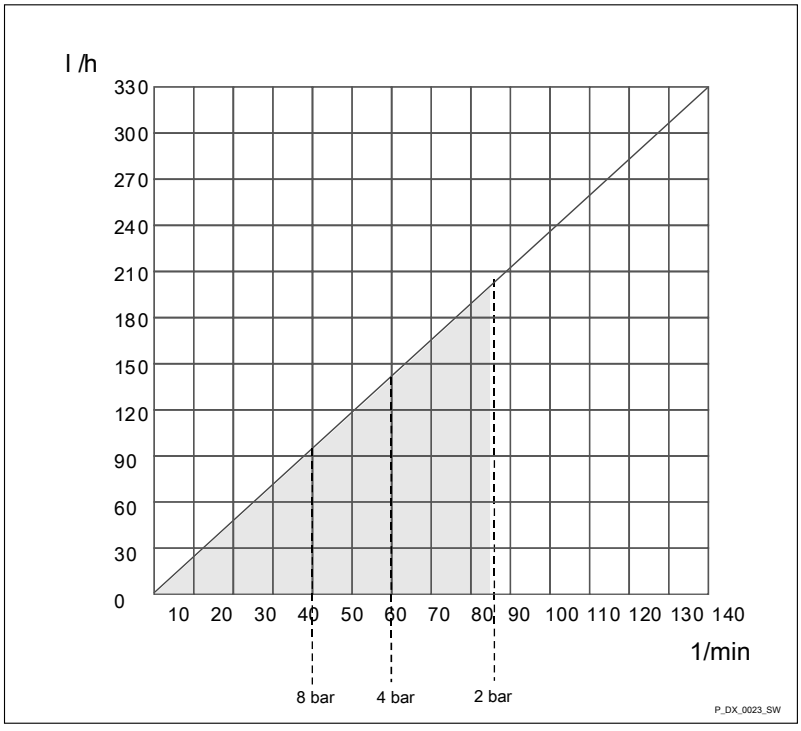


Fig. 5: DFBa 013

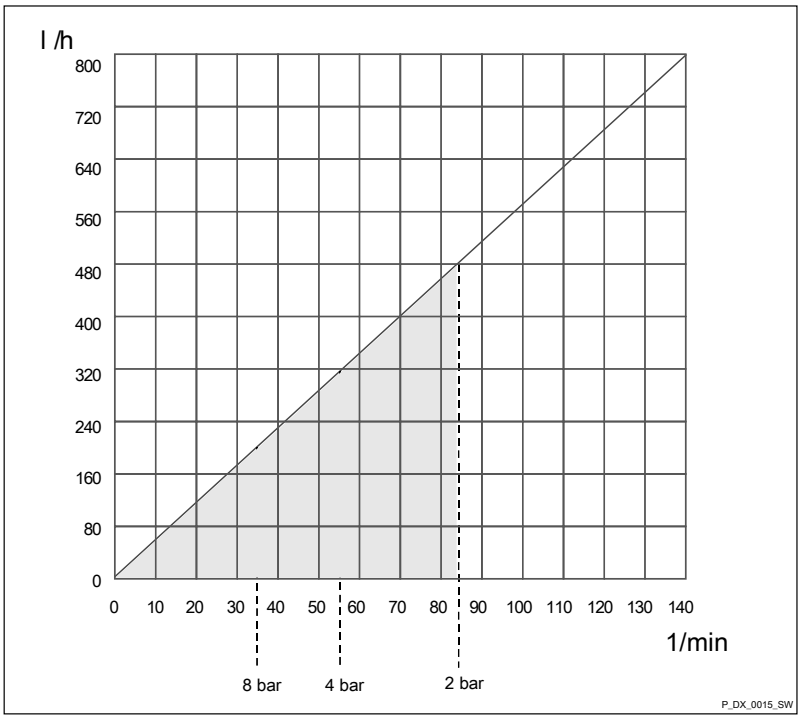


Fig. 6: DFBa 016

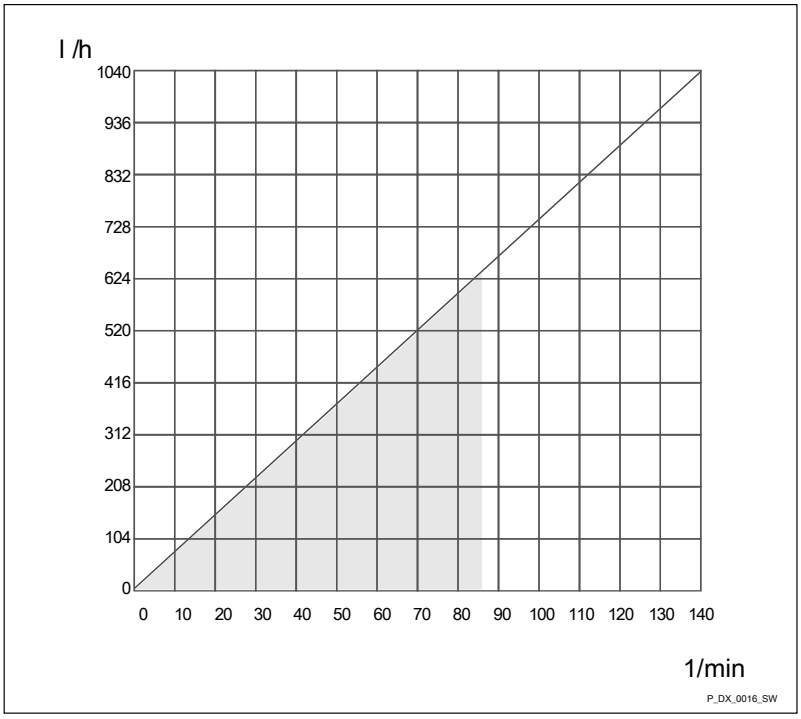


Fig. 7: DFBa 019

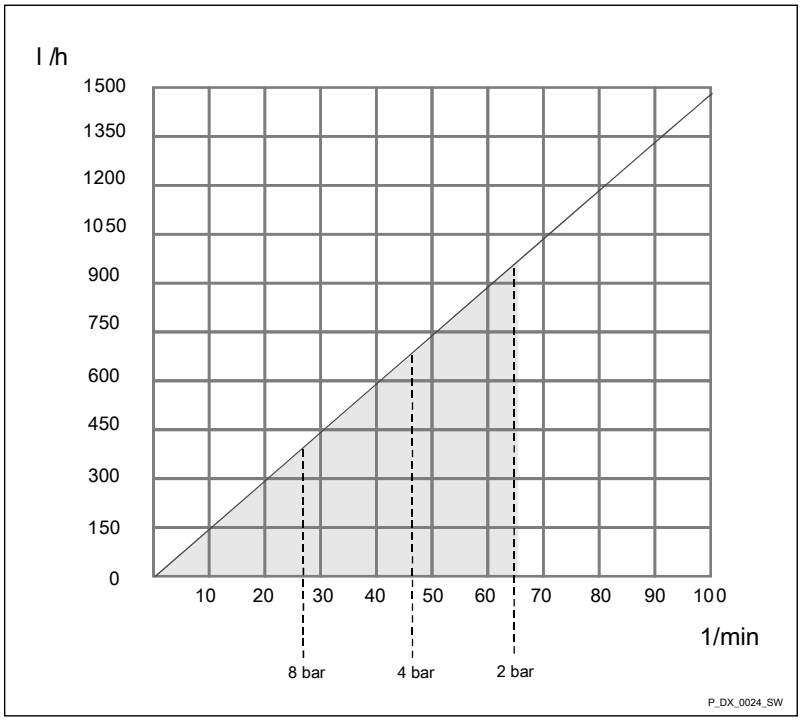


Fig. 8: DFBa 022

5 Commissioning

- **User qualification, commissioning:** trained user, see *Chapter 1.2 'Users' qualifications' on page 5*

5.1 Testing prior to commissioning the pump

The following tests are to be carried out:

- Ensure that the pump has not been damaged during transportation or storage. Immediately report any damage to the supplier
- Check that the mains voltage is suitable for the motor
- Ensure that the hose is suitable for the fluid to be conveyed and that it is not damaged
- Make sure that the temperature of the liquid does not exceed the recommended temperature range
- Only switch the pump on if it the front cover has been properly attached
- Check that the rollers are correctly fitted and fastened
- Check that the hose and rollers are sufficiently lubricated
- Check that the thermal overload protection (not included in the delivery scope) corresponds to the value specified on the motor type plate
- Check whether the direction of rotation is correctly adjusted
- Check that the optional electrical components are connected and are working properly
- Install a manometer in the pressure line if the back-pressure value is unknown
- Check the operating instructions in order to ensure that the flow values, pressures and power consumption of the motor do not exceed the rated values
- Install a pressure relief valve in the pressure line in order to protect the pump in the event that a valve is unintentionally closed off or the line is blocked in another way.

6 Operating the DFBa

- **User qualification, operation:** instructed persons, see
  ↳ *Chapter 1.2 'Users' qualifications' on page 5*

The peristaltic pump is to be fully integrated into the customer's designated plant and is then controlled by this plant. It is not possible to operate the pump directly.

7 Maintenance, repair, malfunctions, disposal and spare parts

- **User qualification, maintenance and disposal:** instructed personnel, see *Chapter 1.2 'Users' qualifications' on page 5*
- **User qualification, repair and troubleshooting:** trained user, see *Chapter 1.2 'Users' qualifications' on page 5*

WARNING!

Danger from hazardous substances!

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.

7.1 Maintenance

CAUTION!

Disconnect the pump from the mains

Possible consequence: Personal injury

You may only carry out work on the pump after it has previously been switched off and disconnected from the mains.

Lubrication

- Check that the rollers and the hose are sufficiently lubricated
  - Check every 200 operating hours
- Check whether the oil level is correct for the step-down gears
  - Exchange the oil at regular intervals in accordance with the step-down gear maintenance manual.

7.2 Exchanging the pump hoses

Exchanging the pump hoses - dismantling

1. Close off all valves, in order to prevent leakage of the feed chemical
2. Dismantle the pump hoses from both discharge and suction sides
3. Remove the front cover
4. Remove a roller incl. the spacer plate (the roller that is not touching the pump hose)
5. Turn the rotor with the help of the motor so that the remaining roller is not pressing against the pump hose

6. Remove the pressure flange from the pump housing
7. Remove the pump hose to be exchanged
8. Dismantle the hydraulic connections from both pump hose ends

Exchanging the pump hoses - installation

1. Clean the interior surfaces of the pump housing
2. Lubricate the internal surfaces of the pump housing at the contact surfaces to the pump hose
3. Check the rollers. Ensure that the roller surfaces are not damaged
4. Attach the hydraulic connections at both hose ends with the help of the pressure flange
5. Lay the pump hose into the pump housing
6. Lubricate the pump hose and the rollers
7. Fasten the pressure flange to the pump casing
8. Turn the rotor with the help of the motor so that the remaining roller presses against the pump hose
9. Re-attach the second roller with spacer plates back onto the rotor
10. Attach the front cover to the pump housing
11. Mount the pump hoses from both discharge and suction sides
12. Open all of the valves

7.3 Troubleshooting

Problem	Possible cause	Solution
Increased pump temperature	Pump hose has no lubricant	Lubricate pump hose
	Increased product temperature	Reduce product temperature
	Insufficient or poor suction conditions	Check suction line for blockages
	Pump speed too high	Reduce pump speed
Reduced flow or pressure	Valves on discharge and or suction side completely or partially closed	Open valves
	Pump hose insufficiently compressed	Check roller fastening
	Pump hose rupture (the product leaks out into the housing)	Exchange pump hose
	Partial blockage of the suction line	Clean pipe
	Insufficient product quantity in storage container	Fill storage container or exchange pump
	Insufficient diameter on the suction side	Increase the diameter on the suctions side, as far as possible
	Suction line too long	Shorten the suction line, as far as possible

Problem	Possible cause	Solution
	High viscosity of medium	Reduce viscosity, as far as possible
	Air introduction in the suction connections	Check connections and accessories for air tightness
Vibrations on pumps and pipelines	The pipes are not correctly fastened	Fasten pipes correctly (e.g. wall brackets)
	Pump speed too high	Reduce pump speed
	Insufficient nominal width of the pipes	Increase nominal width
	Pump base plate loose	Fasten base plate
	Pulsation dampers insufficient or missing	Install pulsation dampers on suction and / or discharge side.
Short operational lifetime of the hoses	Chemical exposure	Check the compatibility of the hose with the liquid being conveyed, the cleaning fluid and the lubricant
	High pump speed	Reduce pump speed
	High conveying temperature	Reduce product temperature
	High operating pressure	Reduce operating pressure
	Pump cavitations	Check the suction conditions
Pump hose pulled into the pump housing	High inlet pressure (> 3 bar)	Reduce inlet pressure
	Pump hose filled with deposits	Clean or replace the pump hose
	Holder (pressure flange) insufficiently tightened	Re-tighten holder (pressure flange)
The pump does not start up	Insufficient motor performance	Check motor and replace if necessary
	Insufficient output from frequency converter	The frequency converter must match the motor
		Check voltage. Start occurs at minimum 10 Hz
	Blockage in the pump	Check if the suction or discharge side is blocked. Rectify blockage

7.4 Disposal of Used Parts

WARNING!

Danger from hazardous substances!

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.

WARNING!

Danger from feed chemicals

Possible consequence: Fatal or serious injuries

In the event that damage to the pump hose contaminates the pump with the feed chemical, decontaminate it with suitable agents (refer to the material safety data sheet for the feed chemical).

NOTICE!

The used part can only be accepted with a completed Declaration of Decontamination

(also available as a download: www.prominent.com)

A signed "Declaration of Decontamination" is required by law and in order to protect our staff, before your order can be processed.

Ensure that it is attached to the outside of the package. Otherwise we are unable to accept your delivery.

NOTICE!

Regulations governing the disposal of used parts

– Note the national regulations and legal standards that currently apply in your country

Remove and dispose of the pump hose on site before returning the pump to ProMinent Dosiertechnik GmbH, Heidelberg/Germany.

ProMinent GmbH, Heidelberg//Germany will take back clean used parts.

7.5 Spare parts

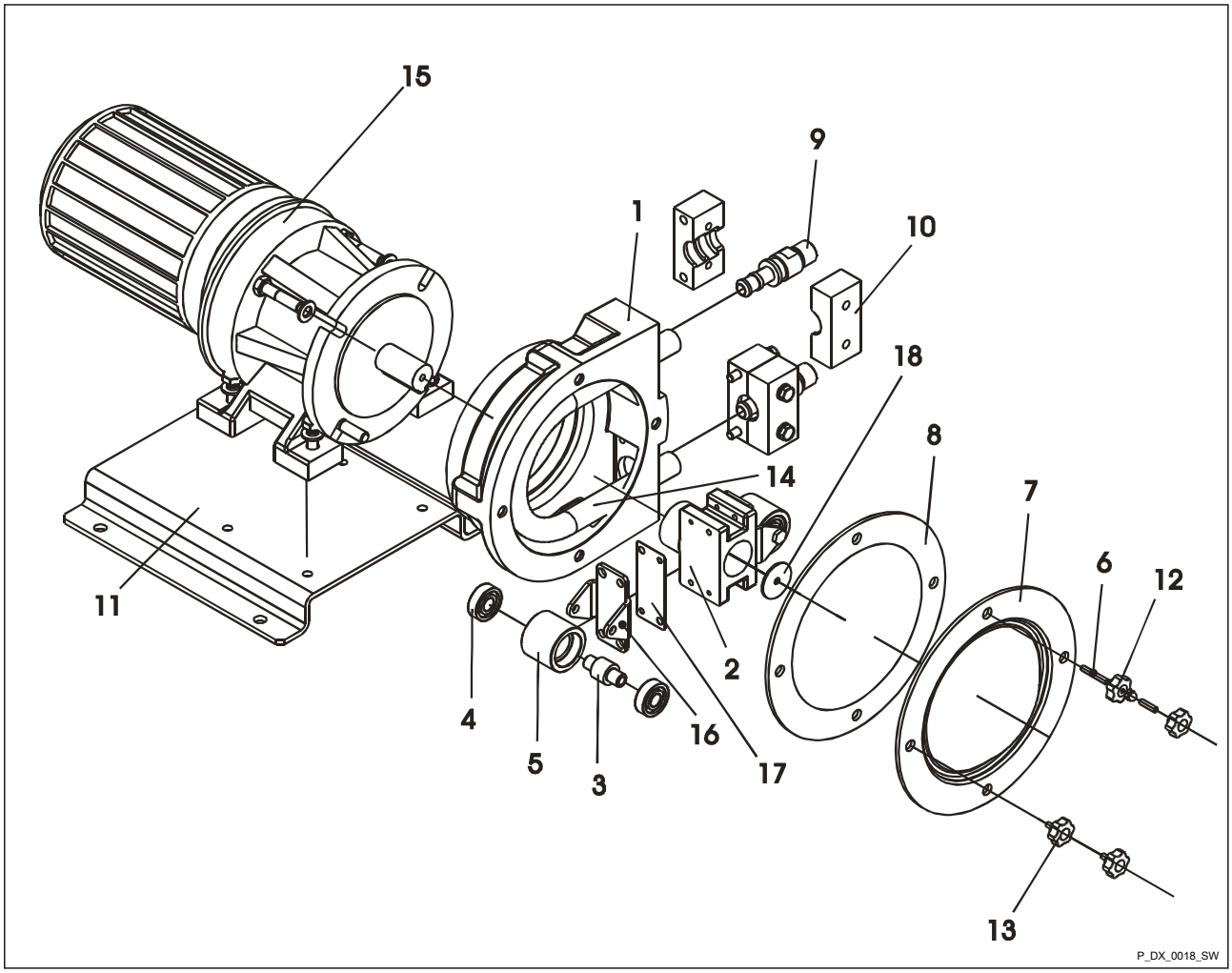


Fig. 9: Exploded view of spare parts for DFBa 010/013

DFBa 010 see Fig. 9				
Item	**Description**	**Quantity**	**Reference**	**Part number**
1	Pump housing	1	102.01.01	
2	Rotor (2 rollers)	1	102.01.03	
3	Rotor shaft	2	102.01.04	
4	Roller ball bearings	4	102.01.02	
5	Roller ⌀35	2	102.01.09	
6	Long bolt	1	102.00.07	
	Short bolt	3	102.00.14	
7	Front cover	1	102.01.08	
8	Front cover seal	1	102.01.05	
9	Connector VA-BSP	2	102.00.10	
	Connector PP-BSP	2	102.00.15	
	Connector PVDF-BSP	2	102.00.16	

DFBa 010
see Fig. 9

Item	Description	Quantity	Reference	Part number
	Connector VA-NPT	2	102.00.17	
	Connector PP-NPT	2	102.00.18	
	Connector PVDF-NPT	2	102.00.19	
	DIN connector	2	102.00.20	
	SMS connector	2	102.00.21	
	Connector TRI-CLAMP	2	102.00.22	
10	Pressure flange, standard	2	102.00.11	
	Pressure flange, thermoplastic hose	2	102.00.23	
11	Base plate	1	102.00.12	
	Base plate, stainless steel	1	102.00.24	
12	Nut	1	102.00.25	
13	Box nut	3	102.00.26	
14	Pump hose NR	1	102.00.27	1037150
	Pump hose NBR	1	102.00.28	1037151
	Pump hose EPDM	1	102.00.30	1037152
	Pump hose NR-A	1	102.00.32	1037153
	Pump hose NBR-A	1	102.00.29	1037154
	Pump hose NORPRENE®	1	102.00.31	1037155
	Pump hose HYPALON®	1	102.00.33	1037156
15	Power end/drive	1		
16	Roller holder	2	102.01.06	
17	Spacer plate		102.01.07	
18	Rotor washer	1	102.01.10	

DFBa 013
see Fig. 9

Item	Description	Quantity	Reference	Part number
1	Pump housing	1	102.01.01	
2	Rotor (2 rollers)	1	102.01.03	
3	Rotor shaft	2	102.01.04	
4	Roller ball bearings	4	102.01.02	
5	Roller ⌀35	2	102.01.09	
6	Long bolt	1	102.00.07	
	Short bolt	3	102.00.14	
7	Front cover	1	102.01.08	

DFBa 013 see Fig. 9				
Item	**Description**	**Quantity**	**Reference**	**Part number**
8	Front cover seal	1	102.01.05	
9	Connector VA-BSP	2	103.00.10	
	Connector PP-BSP	2	103.00.15	
	Connector PVDF-BSP	2	103.00.16	
	Connector VA-NPT	2	103.00.17	
	Connector PP-NPT	2	103.00.18	
	Connector PVDF-NPT	2	103.00.19	
	DIN connector	2	103.00.20	
	SMS connector	2	103.00.21	
	Connector TRI-CLAMP 3/4"	2	103.00.22	
10	Pressure flange, standard	2	103.00.11	
	Pressure flange, thermoplastic hose	2	102.00.11	
11	Base plate	1	102.00.12	
	Base plate, stainless steel	1	102.00.24	
12	Nut	1	102.00.25	
13	Box nut	3	102.00.26	
14	Pump hose NR	1	103.00.27	1037157
	Pump hose NBR	1	103.00.28	1037158
	Pump hose EPDM	1	103.00.30	1037159
	Pump hose NR-A	1	103.00.33	1037160
	Pump hose NBR-A	1	103.00.29	1037161
	Pump hose NORPRENE®	1	103.00.31	1037162
	Pump hose HYPALON®	1	103.00.32	1037163
15	Power end/drive	1		
16	Roller holder	2	102.01.06	
17	Spacer plate		102.01.07	
18	Rotor washer	1	102.01.10	

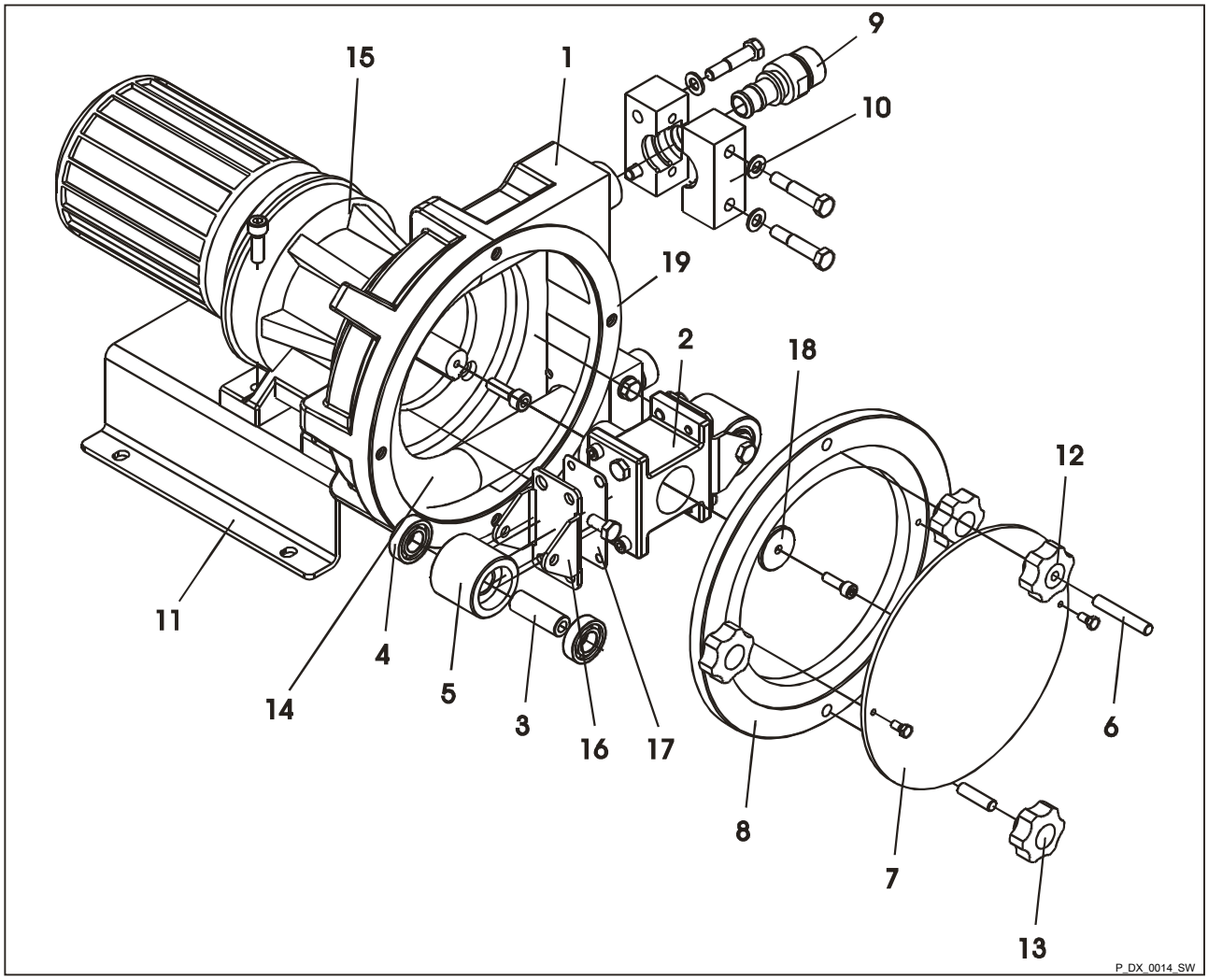


Fig. 10: Exploded view of spare parts for DFBa 016/019

DFBa 16 see Fig. 10				
Item	**Description**	**Quantity**	**Reference**	**Part number**
1	Pump housing	1	101.03.01	
2	Rotor	1	101.02.03	
3	Rotor shaft	2	101.01.04	
4	Roller ball bearings	4	101.01.36	
5	Roller ⌀45	2	105.01.07	
6	Long bolt	1	102.00.07	
	Short bolt	3	102.00.14	
7	Front cover	1	101.00.12	
8	Front cover seal	1	101.00.11	
9	Connector VA-BSP	2	101.00.13	
	Connector PP-BSP	2	101.00.14	
	Connector PVDF-BSP	2	101.00.15	

DFBa 16 see Fig. 10				
Item	**Description**	**Quantity**	**Reference**	**Part number**
	Connector VA-NPT	2	101.00.16	
	Connector PP-NPT	2	101.00.17	
	Connector PVDF-NPT	2	101.00.18	
	DIN connector	2	101.00.19	
	SMS connector	2	101.00.20	
	Connector TRI-CLAMP	2	101.00.21	
10	Pressure flange, standard	2	101.03.22	
	Pressure flange, thermoplastic hose	2	101.03.23	
11	Base plate	1	101.00.24	
	Base plate, stainless steel	1	101.00.25	
12	Nut	1	102.00.25	
13	Box nut	3	102.00.26	
14	Pump hose NR	1	101.00.26	1037164
	Pump hose NBR	1	101.00.27	1037165
	Pump hose EPDM	1	101.00.28	1037166
	Pump hose NR-A	1	101.00.31	1037167
	Pump hose NBR-A	1	101.00.32	1037168
	Pump hose NORPREN®	1	101.00.30	1037169
	Pump hose HYPALON®	1	101.00.33	1037171
15	Power end/drive	1		
16	Roller holder	2	101.02.34	
17	Spacer plate		101.02.35	
18	Rotor washer	1	101.02.13	
19	Cover seal	1	101.02.40	

DFBa 019 see Fig. 10				
Item	**Description**	**Quantity**	**Reference**	**Part number**
1	Pump housing	1	101.03.01	
2	Rotor	1	101.02.03	
3	Rotor shaft	2	101.01.04	
4	Roller ball bearings	4	101.01.36	
5	Roller D45	2	105.01.07	
6	Long bolt	1	102.00.07	
	Short bolt	3	102.00.14	

DFBa 019 see Fig. 10				
Item	**Description**	**Quantity**	**Reference**	**Part number**
7	Front cover	1	101.00.12	
8	Front cover seal	1	101.00.11	
9	Connector VA-BSP	2	105.00.13	
	Connector PP-BSP	2	105.00.14	
	Connector PVDF-BSP	2	105.00.15	
	Connector VA-NPT	2	105.00.16	
	Connector PP-NPT	2	105.00.17	
	Connector PVDF-NPT	2	105.00.18	
	DIN connector	2	105.00.19	
	SMS connector	2	105.00.20	
	Connector TRI-CLAMP	2	105.00.21	
10	Pressure flange, standard	2	101.03.22	
11	Base plate	1	101.00.24	
	Base plate, stainless steel	1	101.00.25	
12	Nut	1	102.00.25	
13	Box nut	3	102.00.26	
14	Pump hose TYGON®	1	105.00.26	1037172
	Pump hose NORPREN®	1	105.00.27	1037173
15	Power end/drive	1		
16	Roller holder	2	101.02.34	
17	Spacer plate		101.02.35	
18	Rotor washer	1	101.02.13	
19	Cover seal	1	101.02.40	

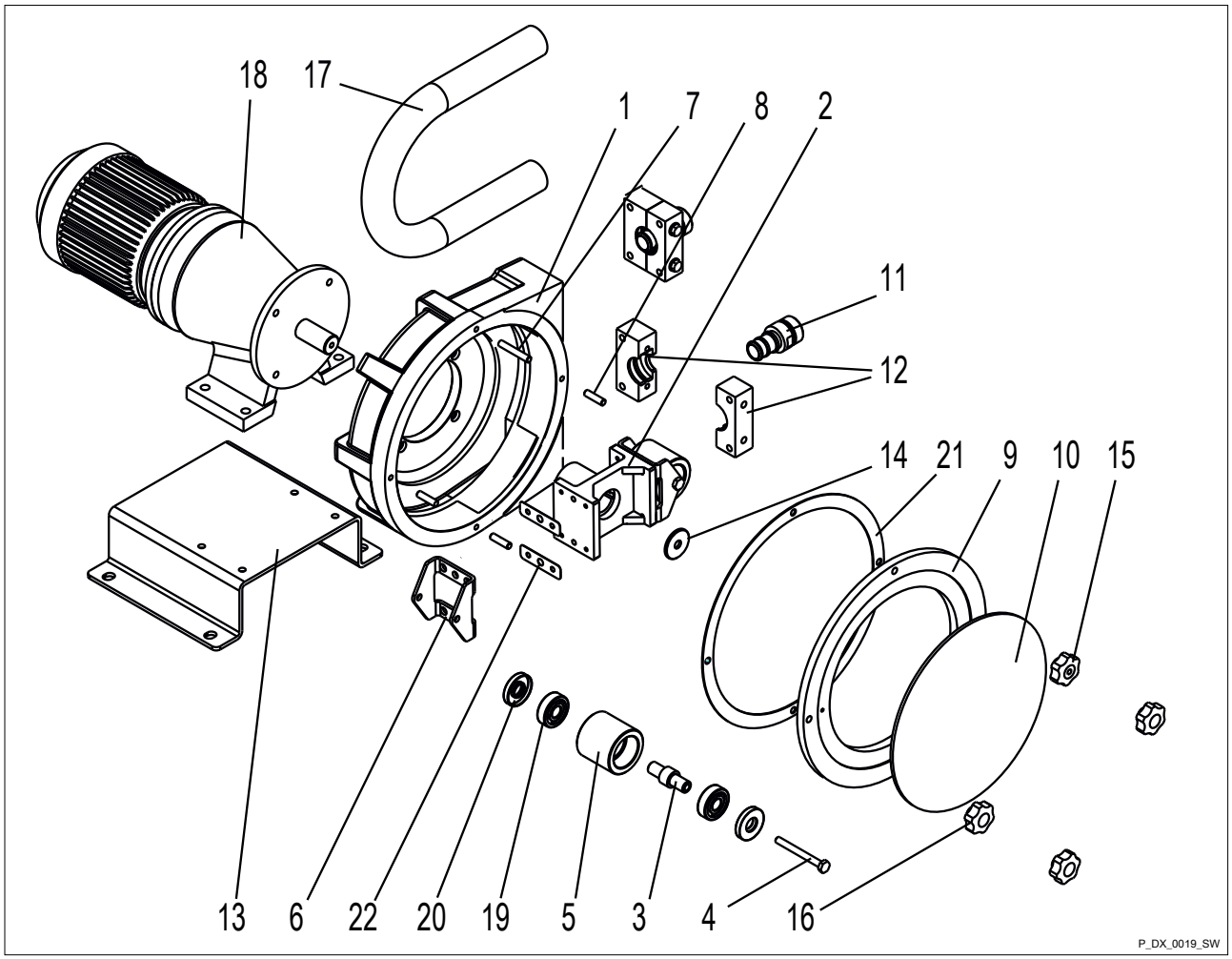


Fig. 11: Exploded view of spare parts for DFBa 22

DFBa 022 see Fig. 11				
Item	**Description**	**Quantity**	**Reference**	**Part number**
1	Pump housing	1	113.00.01	
2	Rotor	1	113.00.02	
3	Rotor shaft	2	113.00.03	
4	Rotor shaft screw	2	113.00.04	
5	Standard roller	2	113.00.05	
6	Take-up roller	2	113.00.07	
7	Long bolt	1	102.00.07	
8	Short bolt	3	102.00.14	
9	Front cover seal	1	113.00.08	
10	Front cover	1	113.00.09	
11	Connector VA-BSP	2	113.00.10	
	Connector PP-BSP	2	113.00.11	
	Connector PVDF-BSP	2	113.00.12	

DFBa 022 see Fig. 11				
Item	**Description**	**Quantity**	**Reference**	**Part number**
	Connector VA-NPT	2	113.00.13	
	Connector PP-NPT	2	113.00.14	
	Connector PVDF-NPT	2	113.00.15	
	DIN connector	2	113.00.16	
	SMS connector	2	113.00.17	
	Connector TRI-CLAMP	2	113.00.18	
12	Pressure flange, standard	2	113.00.19	
	Pressure flange, thermoplastic hose	2	113.00.20	
13	Base plate	1	113.00.21	
	Base plate, stainless steel	1	113.00.22	
14	Rotor washer	1	113.00.23	
15	Nut	1	102.00.25	
16	Box nut	3	102.00.26	
17	Pump hose NR	1	113.00.24	1037175
	Pump hose NBR	1	113.00.25	1037176
	Pump hose EPDM	1	113.00.27	1037178
	Pump hose NR-A	1	113.00.29	1037179
	Pump hose NBR-A	1	113.00.26	1037180
	Pump hose NORPREN®	1	113.00.28	1037181
	Pump hose HYPALON®	1	113.00.30	1037182
18	Power end/drive	1		
19	Roller bearing	4	113.00.31	
20	Seal roller bearing	4	113.00.32	
21	Seal, front cover	1	113.00.36	
22	Spacer plate	1	113.00.33	

Lubricant				
Item	**Description**	**Quantity**	**Reference**	**Part number**
1	0.5 kg silicone grease for DULCO®flex DFBa	1		1037255
2	1.0 kg silicone grease for DULCO®flex DFBa	1		1037256

8 Technical data for DFBa

Type DFBa	Feed rate in l/revolution	P max. in bar	Pump capacity at max. pressure in l/h	Rollers/ Shoes	Hose interior ⌀ in mm	Solids max. ⌀ in mm	Weight without power end/drive in kg	Connector DN
010	0.023	8	28	Rollers	10	2.5	6	3/8"
013	0.039	8	46	Rollers	13	3.3	6	3/8"
016	0.092	8	110	Rollers	16	4.0	13	3/4"
019	0.123	2	517	Rollers	19	4.8	13	1"
022	0.246	8	339	Rollers	22	5.5	22	1"

8.1 Dimensions DFBa 010 / 013

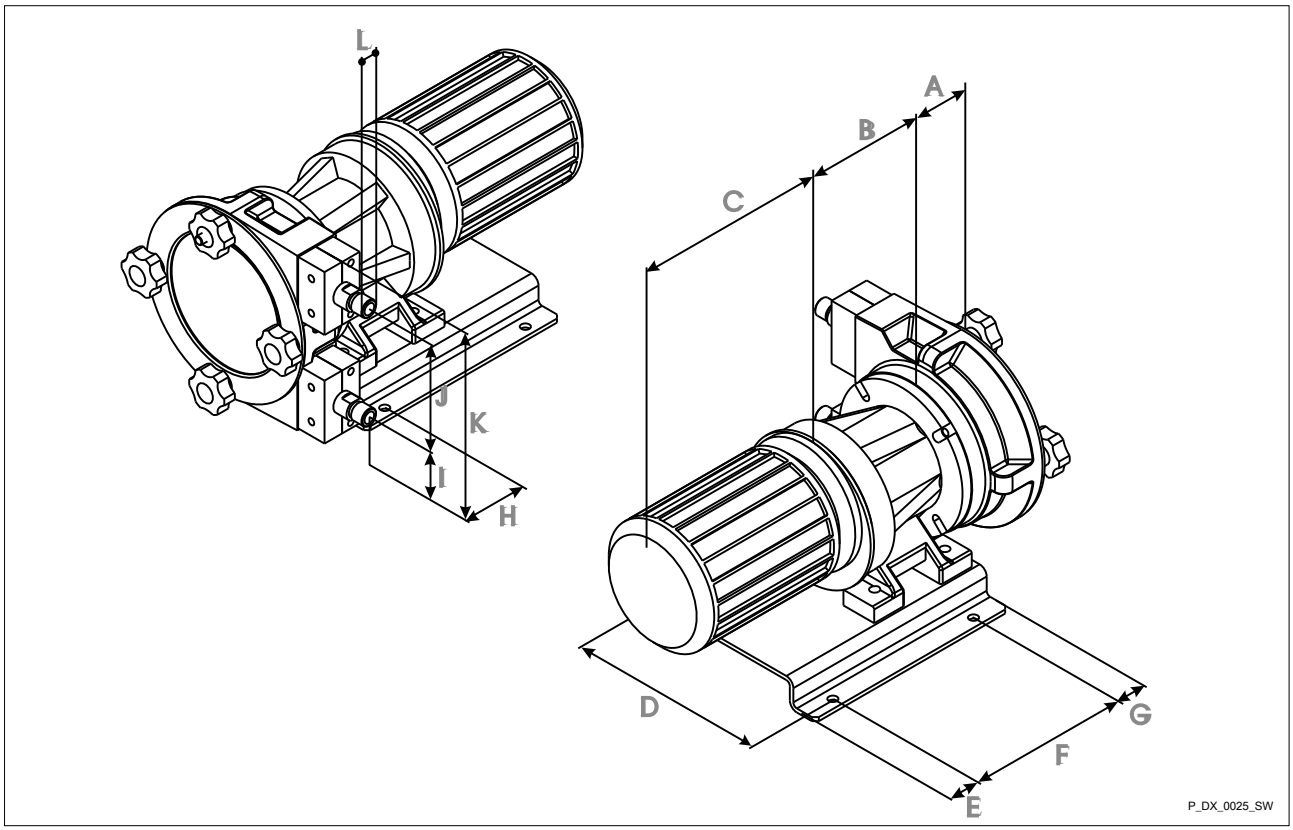


Fig. 12: Dimensions DFBa 010 / 013

A 70 mm
B *
C *
D 190 mm
E 30 mm
F 160 mm
G 30 mm
H 61 mm
I 60 mm
J 115 mm
K 210 mm
R 3/8" BSP
* Dependent on selected drive

8.2 Dimensions DFBa 016 / 019

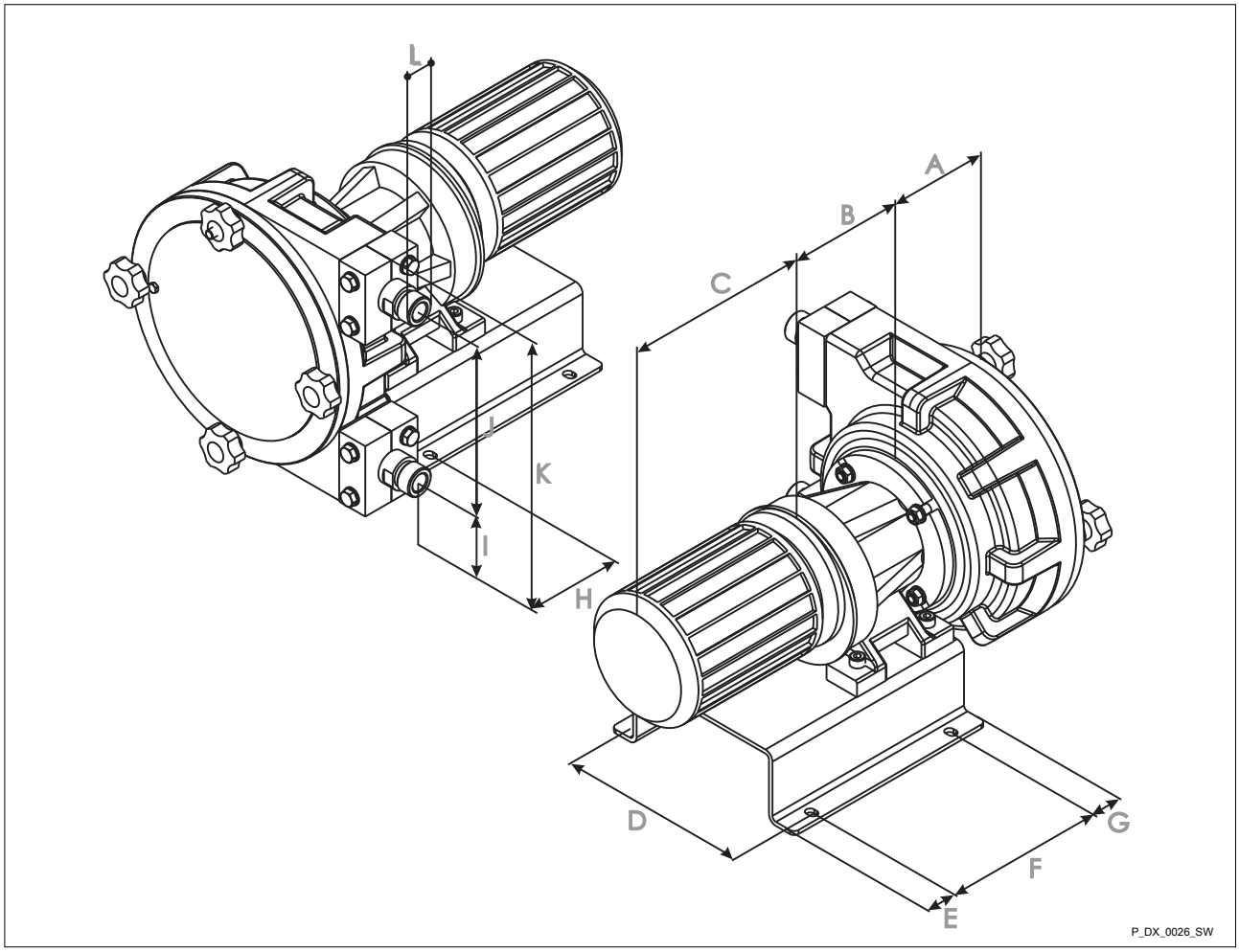


Fig. 13: Dimensions DFBa 016 / 019

A 119 mm
B *
C *
D 190 mm
E 30 mm
F 160 mm
G 30 mm
H 75 mm
I 60 mm
J 170 mm
K 265 mm
L 3/4" BSP (016) / 1" BSP (019)
* Dependent on selected drive

8.3 Dimensions DFBa 022

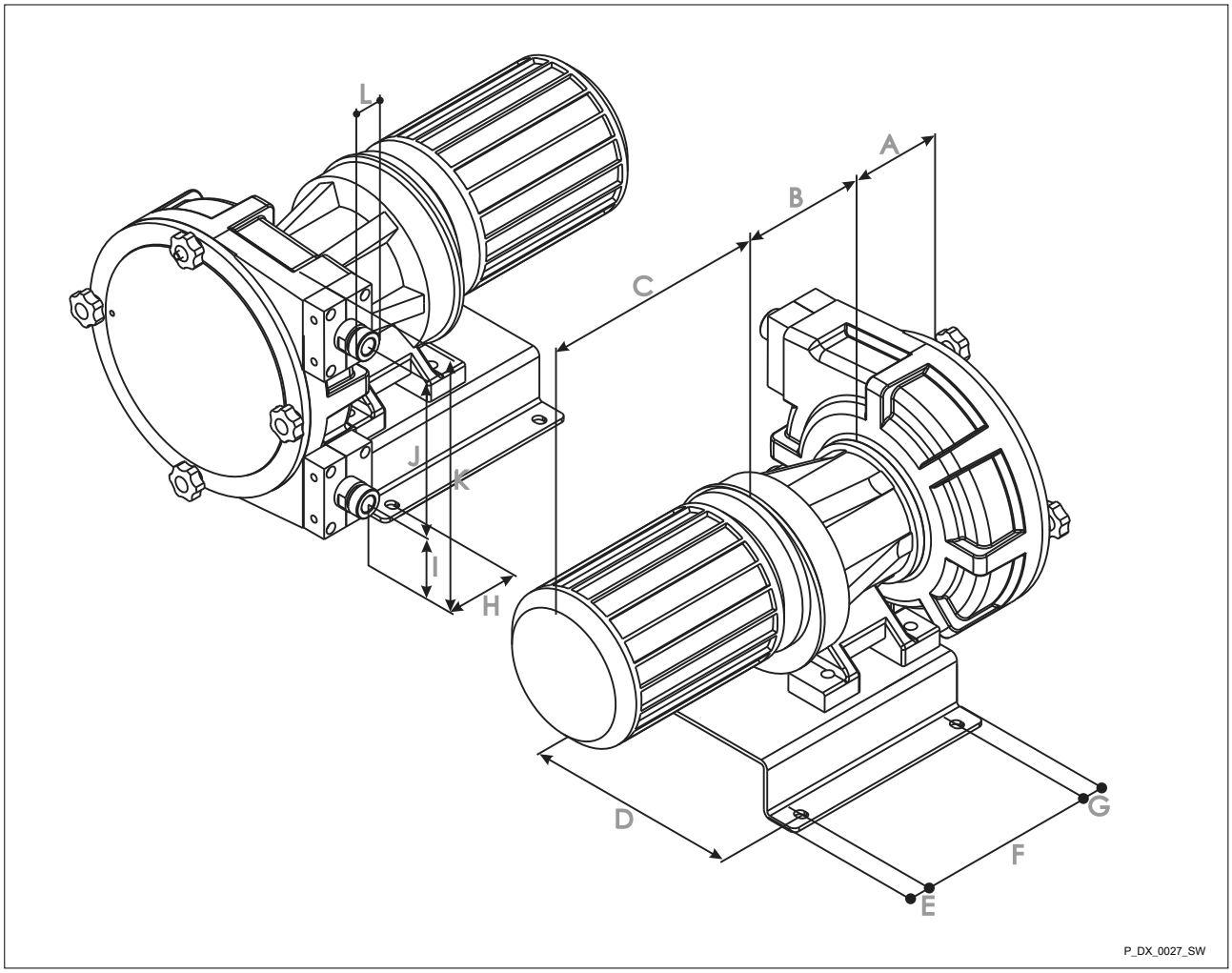


Fig. 14: Dimensions DFBa 022

A 110 mm
B *
C *
D 245 mm
E 25 mm
F 175 mm
G 25 mm
H 95 mm
I 85 mm
J 210 mm
K 355 mm
L 1" BSP
* Dependent on selected drive

9 DFBa technical appendices

9.1 EC Declaration of Conformity for Machinery

In accordance with DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Appendix I, BASIC HEALTH AND SAFETY REQUIREMENTS, section 1.7.4.2. C.

We,

- ProMinent GmbH
- Im Schuhmachergewann 5 - 11
- D - 69123 Heidelberg,

hereby declare that the product specified in the following, complies with the relevant basic health and safety requirements of the EC Directive, on the basis of its functional concept and design and in the version distributed by us. Any modification to the product not approved by us will invalidate this declaration.

Tab. 12: Extract from the EC Declaration of Conformity

Designation of the product:	Peristaltic pump, DULCOflex
Product type:	DFAa ..., DFBa ..., DFCa ..., DFDa ...,
Serial number:	see nameplate on the unit
Relevant EC directives:	EC Machinery Directive (2006/42/EC) EC EMC Directive (2004/108/EC) Compliance with the protection targets of the Low Voltage Directive 2006/95/EC according to Appendix I, No. 1.5.1 of the Machinery Directive 2006/42/EC
Harmonised standards applied, in particular:	EN 809 EN ISO 12100-1 EN ISO 12100-2 EN 60204-1 EN 60034-1 EN 60034-5 EN 60034-7 EN 61000-6-1 EN 61000-6-2
Date:	16.03.2010

The EC Declaration of Conformity is available to download on our homepage.

10 Index

A

Action, step by step 2
Applied harmonised standards 48

B

Backflowing medium 25

C

CE 48
Correct and proper use 18
Counter measures 18

D

Declaration of Conformity 48
Designation of the product 48
Displacement pump 20
Disposal 36

E

Emergency stop switch 17

F

Functional principle 21

G

General non-discriminatory approach 2

L

Links to elements or sections of these instructions or other applicable documents 2
Live parts 17

M

More symbols 2

N

Non-discriminatory approach 2

R

Relevant EC directives 48
Rollers 25

S

Safety data sheet 18
Safety information 4, 17
Serial number 48
Spacer plates 25
Squeezing the hose 25

U

Unauthorised access 17
Users' qualifications 5

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